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15. The ‘institutional factor’ in the theory of international trade: new vs. old trade theories*

Sergio Parrinello

INTRODUCTION

In the development of the pure theory of international trade, from the late 1960s up to the present day, the following directions of theoretical work appear prominent. Until the late 1970s we find:

1. The dimensional issue:
 - a. beyond the dimensions of the $2 \times 2 \times 2$ model;¹
 - b. reappraisal and criticism of the Heckscher–Ohlin, Samuelson, Rybczynsky theorems from the point of view of capital theory.²
2. Theories with exogenous limits imposed on distributive variables and equilibrium unemployment:
 - a. neo-Marxian and neo-Ricardian models.³
 - b. neoclassical models in which rigidities in distributive variables are subsumed under the theory of ‘market distortions’.⁴

After the 1970s other main directions emerged and can be grouped under the following headings:

3. Trade theory with external economies, increasing returns, imperfect competition, location-agglomeration theory.⁵
4. Trade theory in which the ‘institutional factor’ is assumed to be endogenous.⁶

A terminological clarification is necessary. In this paper (3) and (4) are called the ‘new trade theory’, although in the current literature this expression is used to denote mainly (3). ‘Old trade theories’ include both Ricardo’s classical approach and Heckscher–Ohlin’s neoclassical trade theory. Furthermore the term ‘institutional factor’ will be used as a catch-all term to encompass concepts such as institutions, social norms, laws, rules, standards, conventions, customs *and* political agencies.

The new trade theory represents novel perspectives compared with the old trade theories and at the same time it constitutes a resumption of Adam Smith's and Ohlin's ideas. Increasing returns and different institutional arrangements or different causes of such arrangements explain international specialization and trade flows even between countries which are identical in terms of factor endowments, technology and preferences for private goods. In this context the pattern of trade – even in the weak sense of a chain of exportable/importable goods cut somewhere by reciprocal demand – cannot be determined by a comparison of two isolated countries. Comparative advantage can be affected by historical accidents and become a solution to a general political-economic equilibrium system. As a consequence, the institutional factor appears as a crucial element in a non-purely-verbal distinction between theories of interregional trade and theories of international trade. This distinction is acknowledged in the non-analytical discourse of the old trade theories, but it is seldom revealed in the formal models by which such theories are formulated. The new trade theory has the merit of dealing with this hidden factor explicitly.

This paper presents: (1) a reappraisal of some ideas of Smith, Ricardo and Ohlin which anticipate the role assigned to the institutional factor in the new theory; (2) a critical assessment of how this factor is modelled in the trade theory in which the 'institutional factor' is assumed to be endogenous (see (4) above); (3) a general evaluation of the progress brought about by the new trade theory; and (4) an indication of how the same factor can be treated according to (2a) above and in the light of the old trade theories.

THE INSTITUTIONAL FACTOR IN THE OLD TRADE THEORIES: SMITH, RICARDO AND OHLIN REVISITED

Kindleberger (1978) has emphasized the concept of *magistracy* that is found in Adam Smith with regard to the theory of international trade. In Smith, magistracy means three distinct functions performed by the government: (1) protection of society from violence and injustice by other societies, (2) protection of each member of society from similar hostile behaviour by other members of the same society, and (3) the supply of public works. According to Kindleberger the main point inspired by the Smithian concept of magistracy is that:

there is no necessary connection between free trade and laissez-faire . . . Law and order are complements to foreign trade . . . To permit the competition and free trade . . . some institutions may be necessary to protect a country from the most untoward effects of competition from abroad . . . At a more fundamental level, the difference between interregional and international trade explored by Ohlin lies in the existence within a nation of a government that tempers the wind to the shorn lamb through

various redistribution devices, while in international trade such mechanisms (for example, foreign aid) are rudimentary, if they do in fact exist . . . One intangible public good or institution is the state itself. (Kindleberger, 1978: 3, 5 emphasis added).

I agree with this view. I agree less with the criticism that Kindleberger addresses to Smith: ‘It was perhaps the fallacy of misplaced concreteness that led Adam Smith to separate out “roads, bridges, canals and harbours” from public or collective goods such as law, order, justice, weights and measures, and stable money’ (Kindleberger, 1978: 7; see also Kindleberger (1983)). Of course, the distinction between tangible and intangible public goods does not justify as such a separate treatment of public works and what I call the institutional factor. Both categories are public goods according to the standard characterization centred on the lack of rivalry and of excludability. The important difference between the two lies in their different responses to a changing environment. The extent to which public works adapt to external changes is not different from that which pertains to private fixed capital and mainly reflects technical conditions. By contrast, social norms and laws are subjected to special inertia because of coordination and enforcement problems.

With regard to Ricardo I wish to reiterate a position already presented by Negishi (1985) and Parrinello (1988a), according to which the textbook Ricardian model is a misinterpretation of Ricardo’s trade theory. In fact, the Ricardian model is constructed as a special case of a neoclassical model of international trade: only one immobile factor, labour, and fixed labour coefficients whose differences across the trading countries are interpreted as differences in technologies. By contrast Ricardo’s own theory of comparative advantage can be founded on differences in the production sets which depend on different institutions and in principle are consistent with the assumption of a uniform technology. Furthermore that theory does not rule out international movements of capital and labour. We read in Ricardo, as (passage already quoted in Negishi 1985):

Experience, however, shows that the fancied or real insecurity of capital, when not under the immediate control of its owner, together with the natural disinclination which every man has to quit the country of his birth and connections, and intrust himself, with all his habits fixed, to a strange government and new laws, check the emigration of capital. These feelings, which I should be sorry to see weakened, induce most men of property to be satisfied with a low rate of profits in their own country, rather than seek a more advantageous employment for their wealth in foreign nations. [Ricardo, 1951: 136–7].

Therefore, capital and labour movements can be limited, but not prevented, by differences in the internal institutional factors and this limitation resolves itself into differences in the rate of profit. In Ricardo this feature adds to the

role of that factor in explaining the differences in the subsistence real wages in the trading countries. Hence, the important feature of Ricardo's theory of international trade is that the institutional factor is a source of intercountry differences in the distributive variables which can explain the existence of comparative advantage even in the presence of uniform tastes and uniform technical knowledge across countries.

As to Ohlin's contribution, many passages of the new appendix⁷ found in the revised 1968 edition of his 1933 book and in his 1979 article show that, contrary to the vulgar interpretation, his preferred approach, the Walras–Cassel general equilibrium ('mutual interdependence' in his words) theory, includes among the givens not only the traditional factor endowments, technology and preferences, but also the institutional factor. It also appears that Ohlin's scientific program in the field of trade theory is not confined to the explanation of the pattern of trade in terms of the $2 \times 2 \times 2$ factor proportions model, but that he aims to apply the general equilibrium approach to that theory and to enrich the latter by giving it an institutional content. In fact, he recommends us to go beyond the simple H–O model and to take into account, besides tariffs and quotas, also the *internal* institutional factor in order to explain international trade. We read (Ohlin, 1968: 309, italics added):

Besides the costs for the use of certain quantities of the factors of production – quantities needed for production and transportation – the costs of production also include *taxes and social welfare fees*, many of which bear an important relation to international trade and yet are not included in general systems. It has long been a mystery to me why existing accounts of international trade pay so little attention to these problems. So many books and articles discuss the impact of a certain type of taxation, viz., tariffs levied at the border when goods are imported, yet they devote no space to the question of *how other kinds of taxation* can affect trade.

Despite this wide focus, Ohlin stretched too far the notion of factor proportions as the unique determinant of the pattern of foreign trade. In particular, he seems to claim that intercountry differences in the institutional factor (and differences in technology as well) can be *resolved* into differences in factor proportions. In Ohlin's (1979) article we read:

The character of legislation and regulations about social rules of behaviour, for example, hours of work per week, *exercises an influence on factor proportions*. Highly important also are the systems of taxation and subsidies – their features and levels – as well as the system of social-insurance payments. *More work is needed to illuminate the development of the supply of factors of production in each country*, not only their movement between countries . . . *One should perhaps count British political administration as one of the important 'factors of production' exported to the colonies – an export that provided relatively favourable conditions for economic development. We economists have perhaps used an unduly narrow definition of the factors of production* and failed to distinguish between the different qualities of

labour that are required for economic development . . . In one way or another, the behaviour of institutions like trade unions may exercise an important influence on costs and trade. (Ohlin's, 1979: 5–11, emphasis added)

It is clear from the above passages that Ohlin's perspective is much wider than the narrow scope of the H–O model with which his name is usually associated. However, it is not clear whether Ohlin is suggesting that institutions should be included in trade theory as a special additional factor of production, besides and on the same grounds as the typical neoclassical factors (labour and capital with or without land), or instead he is saying that the endowments of such traditional factors, measured so to speak in efficiency units, should be assumed to depend on the institutional factor. In any case a certain tension is encountered in the choice of the hypotheses if we pursue such an extension of the H–O model. We should take into account that the 'feasibility' of technical processes reflects not only the technical knowledge but also the 'institutional factor' of the country: social norms, standards, laws, rules and conventions determine, jointly with technical knowledge, which processes are feasible and which are not (Parrinello, 1988b). Even if, following the H–O model, technical knowledge is assumed to be evenly diffused across the two countries, the set of feasible processes can be different because the institutional factor and the endowment of other public goods can be different. If the government, which is assumed to be their provider, is a *representative* government, the assumption of differences in the institutional factors across countries can hardly be disjointed from the assumption of different preferences in the two countries, related to different cultures and lifestyles. Of course, we might choose the assumption that preferences for private goods are the same and independent of the amounts of public goods available, whereas preferences for public goods are different, and then, if public goods are assumed to be exogenous in the model, we might go on to assume uniform preferences across countries. But this asymmetric procedure appears to be a purely ad hoc device.

Hence the assumption of specific institutional factors in the trading countries is at odds with the assumption of a uniform technology and uniform preferences that characterizes the Heckscher–Ohlin–Samuelson approach.

THE ' INSTITUTIONAL FACTOR' IN THE NEW TRADE THEORY

The new trade theory seems to be a theoretical body which is more unified in the field of increasing returns and imperfect competition than in its institutional extension. In fact, the contributions of Grossman and Helpman (1991), Helpman and Krugman (1986) and Krugman (1990, 1991) appear to be

complementary to the neoclassical tradition. By contrast, the focus of the new trade theory on the 'institutional factor' appears rather eclectic and it is difficult to find a unifying feature in this field of analysis beyond the treatment of this factor as a public or collective good.

I will first illustrate by means of a simple adaptation of Jones's (1971) model the distinction between the notion of an exogenous and an endogenous institutional factor in the neoclassical theory of international trade. Admittedly, this formulation is a sort of straw man whose role here is simply to point out some weaknesses of the neo-institutional approach of the type advocated by Posner (1972) and North and Thomas (1973), when applied to the theory of international trade.⁸

Assume a closed economy in which the quantities X_1, X_2 of two goods are produced only by labour. Let a_1, a_2 be the amounts of labour per unit of output in the two industries. The institutional factor is represented by a public good which enhances the productivity of labour in the two private industries. The quantity of this good is measured by the amount of labour, L_p , used to produce the good itself. Let

$$a_1 = a_1(L_p), a_2 = a_2(L_p) \quad (1)$$

be the labour coefficient functions, both decreasing with L_p . A uniform nominal wage rate w rules in the economy and a uniform tax rate per unit of employment, t , is raised in each industry. Assuming zero profits, we can write the following general equilibrium model, composed of the price equations under perfect competition,

$$\begin{aligned} p_1 &= (w + t)a_1 \\ p_2 &= (w + t)a_2 \end{aligned} \quad (2)$$

the budget equation of the private sector,

$$p_1 X_1 + p_2 X_2 = (w + t)(L - L_p) \quad (3)$$

where L is the given total labour supply, and the budget equation of the public sector,

$$t(a_1 X_1 + a_2 X_2) = w L_p \quad (4)$$

The preferences of the representative consumer are described by the utility function

$$U = U(X_1/L, X_2/L).$$

For simplicity the public good is supposed not to enter into the utility function.

Assuming that in equilibrium both goods are consumed, the optimal consumption condition is:

$$\frac{U_1}{U_2} = \frac{p_1}{p_2} \quad (5)$$

where U_i is the marginal utility of good i .

A case of an exogenous institutional factor is represented by a given amount of the public good L_p . For example, L_p can measure the degree of security, or an industrial standard, or a law which imposes a certain weekly working time. Under suitable conditions of concavity imposed on function (1) and on the utility function U , equations (1)–(5) can determine the equilibrium values of relative prices p_i/w , labour productivities $1/a_i$, quantities X_i , $i = 1, 2$, the allocation of the labour force between the amount L_p and the amounts employed in the private industries, and the tax rate t .

By contrast, a simple example of an endogenous institutional factor consists in assuming that the amount of the public good, L_p , is provided by the government as a public choice. In the ideal case in which the objective function of the government coincides with the utility function of the representative consumer, a ‘political economy’ equilibrium is found by the value of L_p that solves the problem

$$\begin{aligned} & \text{MAX } U(X_1/L, X_2/L). \\ & L_p \\ & \text{s.t. (1),(2),(3),(4),(5).} \end{aligned}$$

In this maximization problem L_p does not appear in the objective function, but only in the constraints (1), (3), (4). The interpretation of the solution is straightforward. Since equilibrium is associated with full employment, there is a trade-off between the amount of labour (employed in the private sector), which directly affects utility through the production of consumption goods, and the amount of labour (employed in the public sector), which affects consumer utility only indirectly, by increasing the productivity of labour in the two industries. It is important for the theory of international trade whether or not the two functions $a_1 = a_1(L_p)$, $a_2 = a_2(L_p)$ possess the same elasticity at each amount L_p . In general they will not. Then the equilibrium of two closed economies with different amounts of the public good L_p can be accompanied with different equilibrium relative prices, p_1/p_2 , although the labour coefficient functions (1) are the same in the two countries.

Suppose now that the economy is a small economy and that it opens to foreign trade of private goods at a fixed world price, $P = P_1/P_2$. Without

special assumptions we cannot predict the good in which the country will specialize from the comparison between the autarky price p_1/p_2 and the world price P . The government intervention might subvert the comparative advantage at the autarky level of L_p by changing the amount of the public input in order to achieve the highest utility of the representative consumer. We can say that the endogenous institutional factor brings about *endogenous* comparative advantages.

This case of an endogenous institutional factor has been chosen to illustrate some difficulties rather than to suggest an appealing direction for further research. The choice of the objective function of the government, the amount of information attributed to it and the measure of the public good (if the institutional factor is a law, what could be meant by *the amount* of law, measured by a continuous variable such as L_p ?) are preliminary problems for this approach. I shall by-pass such problems. Furthermore I shall neglect the strategy problem that we encounter if we assume a two-country model where each country is not 'small'. In this case we meet a strategy problem which involves the two governments (see Krugman, (1986) and game theory would be the common tool of analysis.⁹

Still assuming that the above difficulties can be circumvented, a basic problem remains and derives from a too bold application of the method of equilibrium for explaining institutions and institutional change. What is the notion of such economic-political equilibrium? Some questionable features of such equilibrium have been indicated by Field (1981) and Basu, Jones and Schlicht (1987) in their critical assessment of the neo-institutionalism advocated by North and Thomas (1973). They convincingly argue that we should reject the extreme approach, according to which the causal variables of the changes in the institutional factor can be reduced only to changes in economic parameters: endowments, technologies and preferences via price changes, with the exclusion of non-economic variables. The criticism points out that some basic rules cannot be explained in this way and must be taken as exogenous with respect to the economic process. The weakness of the approach should not be attributed to the (legitimate) aspiration of explaining institutions and policy, but to the kind of economic explanation based exclusively on the principle of rational choice and competitive selection.

Yet, even without taking such a narrow economic position, the new trade theory with endogenous institutions is questionable, because it deals with the institutional factor as if all features of this factor could be subsumed under the familiar notion of public good, of which national defence, lighthouses and technical knowledge are typical examples. This simplistic reduction neglects the fact that institutions, rules, customs and so on, besides being non-rival and non-excludable to a certain extent, possess special features which bring about an asymmetry between the explanation of their emergence and the explanation

of their persistence. Economic theory can offer plausible explanations of why an already established institutional setting persists in the face of a change in the environment and why this setting can become suboptimal even if it was initially optimal; but it does not offer a satisfactory explanation of why that setting emerged rather than others. Historical, instead of structural, explanation, and inertia, hysteresis and path dependency are prevailing in this area of enquiry (see Akerlof, (1976). Pervasive indeterminacy of equilibrium, conceived as a terminal point of a dynamic process, would be combined with pervasive multiple equilibria in a Walrasian sense.

SOME CONCLUSIONS ON PROGRESS

In Krugman's words:

The 'new' trade, growth, and business cycle theories of the past decade have suggested to us a world view of economics that is very different from that of most pre-1980 theory. Pervasive increasing returns and imperfect competition; multiple equilibria everywhere; and often decisive role for history, accident, and perhaps sheer self-fulfilling prophecy: these are the kind of ideas that are now becoming popular. (Krugman, 1991: 8–9)

This statement of the specific analytical features of the new theory seems to announce progress in the theory of international trade and to apply to the comprehensive field that includes both streams (3) and (4) as mentioned in the introduction. Can we share this view? Let us first dismiss some criticism pertaining to certain easy claims of theoretical novelty and then let us focus on a specific criterion of progress.

First, let us leave aside the criticism that tends to downgrade the contribution of the New Theory because its main ideas can already be found in the old economists. The argument that Smith, Ricardo, Ohlin and others¹⁰ anticipated the role of increasing returns, of history and of the institutional factor in trade theory is not a conclusive criticism as such. Second, we should be tolerant of terminology that exaggerates the novelty of the theory itself. For instance, some representatives of the theory state, as a novel feature, that comparative advantages are *endogenous* in the new trade theory, without reminding us that these advantages are also endogenous in the old H–O–S model, albeit for different reasons.¹¹ Third, we do not insist on the fact that multiple equilibria and dynamic indeterminacy of equilibrium had already been recognized as non-exceptional features of general equilibrium theories before the 1980 theory.

Instead, let us turn our attention to a more substantial problem concerning the progress of the new trade theory. If the pure theory of international trade

means a theory that explains why *some trade exists*, then progress exists because that theory adds some further 'causes' of trade to the old kit of inter-country differences in factor proportions, technology and preferences. However, the pure theory of international trade aims *to explain* not just the existence of *some* trade, *but the pattern of international trade*. Is there any progress in the theory of the pattern of trade? The answer depends on which notion of explanation the theory is supposed to serve.

If explanation means prediction, then one main feature of the new theory is the lack of a general theorem that allows one to predict the pattern of trade on the basis of the structural givens of the trading countries. A similar limitation was already clear before the emergence of the new models of trade. In particular, the debate on the dimensional issue related to the theory of capital has shown that the pattern of trade in the multi-commodity case cannot be causally determined, on the basis of factor proportions, in the absence of special assumptions. At least the meaning of the traditional theorems has to be changed and the change weakens the predictive role of their original versions. Instead of *causal relations* between exogenous features of the economies and the pattern of trade, the new interpretation can establish only *correlations* between the latter and other endogenous variables (see Metcalf and Steedman, 1981).

We conclude that the new theory enriches the theory of international trade because it analyses the role of additional causes of trade, but at the cost of increasing the number of factors responsible for the indeterminacy of the pattern of trade. From this perspective the assessment of progress in the new trade theory cannot be separated from the assessment of Ohlin's research programme that recommends extending the theory of international trade along the Walras–Cassel guidelines and to including also the institutional factor; and in turn the assessment of the Ohlin–Samuelson research programme, as Blaug (1992) has already pointed out, cannot be separated from the assessment of the modern general equilibrium programme. Then, if explanation of trade means prediction of the pattern of trade, progress by the new trade theory is very limited indeed. The new theory shares the lack of predictive content of the general equilibrium theory for an integrated economy, in which the existence of multiple equilibria and path dependency becomes the rule, in so far as it imposes no testable restrictions on the pattern of exchange and specialization among many agents. 'Almost anything might happen as regards the pattern of international trade' is the motto that can be written at the end of the above quotation from Krugman.

This negative evaluation of the new theory must be suspended if we abandon the instrumentalist position centred on the equation that explanation equals prediction, and we want instead to use the theory to understand historical patterns of international trade. In this different perspective, which is close

to the hermeneutic tradition,¹² the new trade theory might cast some light. We must wait and see whether simulations, ex post predictions and understanding of international economic history can be usefully carried out on the basis of the new theory and whether the formal models of the new theory are more useful for this purpose than the non formalized ideas found in predecessors like Smith, Ricardo and Ohlin. The paucity so far of this kind of investigation makes premature the assessment of progress according to this different criterion.

My argument suggests that trade theorists should retreat to the safer ground in which the theory of international trade takes into account the existence of different *exogenous* institutional factors in the trading countries, on which the comparative advantages depend. The explanation of such differences should be left over to the historical narrative instead of being a rational choice of public goods.¹³ In the next section I will argue that the institutional factor can usefully be modelled as an *exogenous* source of comparative advantage and that a non-Walrasian theory of international trade is better apt to embed such a factor, compared with the Heckscher–Ohlin–Samuelson tradition.

THE EXOGENOUS INSTITUTIONAL FACTOR IN A NON-WALRASIAN APPROACH

A basic non-Walrasian trade approach (called the NW approach from now on) has already been adopted in some models of international trade (see Emmanuel, 1969; Parrinello, 1970; Steedman, 1979; Negishi, 1985). Assume a two-country world economy in which many goods are produced with the aid of the same goods and labour. In the simplest case, given sets of linear processes with no joint production are available in the two countries. The processes may be different across countries and constant returns to scale prevail everywhere. The apostrophe denotes the symbol attached to one of the two countries. The typical closure of the NW model consists in assuming the real wages, w and w' , as given in the two countries; and imposing a given relation between the corresponding rates of profits, r and r' . In the simple case a fixed proportion $r = cr'$ (see also Negishi, 1985) is assumed with c a positive parameter reflecting a *compensating profit rate differential* related to different risks of investment and obstacles to capital movements across the two countries. In this model capital is mobile across countries, subject to the limitation of this differential. Furthermore, since in principle each commodity is produced and can be used as a means of production in combination with labour, the NW approach inherently represents a theory in which the number of inputs is greater than the number of products. The international long-period equilibrium is ultimately determined on the basis of the same logic underlying

the choice of techniques within an integrated economy. Equilibrium is associated with a uniform wage rate and a uniform profit rate in each country, but these rates can differ across countries. It is also compatible with involuntary unemployment and with capital and labour movements across the two countries within the limits of balanced trade and the differentials in the distributive variables. With regard to capital movements, we can envisage a 'multinational' class of capitalists who can freely invest in both countries. The model should be slightly revised and reinterpreted if we adopt Ricardo's idea that each country has its own capitalists who are more reluctant to move their capital abroad than at home. In this case the two classes of capitalists may have different propensities to invest abroad because of different idiosyncrasies about foreign institutions, cultures and languages existing abroad.¹⁴

How can a model of the type described above be extended to deal with the exogenous 'institutional factor' and how will such extensions perform in comparison with the extension of the Walrasian model within the same field? A *natural* feature of the NW approach which includes the 'institutional factor' is that the set of production processes and individual tastes can be assumed to be different across countries. We say 'natural' because such a model is not constructed for the sake of demonstration of theorems which relate the pattern of trade to the economic structure of the isolated countries. In addition, to the extent that the institutional factor is *produced*, its production process should be represented by means of a time-phased analysis. Of course, an important difference exists between such a process and the processes in the private sector. The former absorbs private inputs and perhaps benefits from other public inputs, but no price equation with a uniform profit rate should be associated with this process. This special 'production' process should be assumed to be activated *exogenously* in so far as it is not governed by competition and profit-seeking behaviour. Then different private production processes can be assumed to correspond to different quantities of public goods *in each country*. Such representation implies that differences in the institutional factor across countries bring about differences in comparative advantages and affect the pattern of trade specialization in so far as they do not equally affect the productivity across industries.

A certain caution is required in making assumptions for extending the NW approach through the inclusion of the institutional factor. I will suggest two warnings. First, *equilibrium* in the NW approach is compatible with unemployment and with labour mobility across countries. In particular, unemployed workers from one country can move to the other country even under the prospect of remaining unemployed, if the social norms, for example, unemployment benefits, are more favourable in one country than in the other. In general, labour movements can occur not just because they are induced by capital movements, but because people can *vote also with their feet*. If the

institutional factor should be related to the action of a representative government, a certain indeterminism in the equilibrium solution would be unavoidable in the absence of further assumptions which put a limit on the changes in the composition of the population of each country and in the corresponding political consensus for different institutional factors. This kind of indeterminism adds to that encountered in the absence of public goods in a one-country model. In fact equilibrium unemployment with given wages can be associated with the presence of a labour force which is homogeneous in terms of efficiency but heterogeneous in terms of tastes: in this case it is indifferent for a firm to hire certain workers instead of others, but the composition of the social product depends on the composition of aggregate demand, the latter being affected by which workers are actually employed and which remain unemployed.

The second warning is more fundamental because it concerns the limitations of the comparative statics that is usually performed to examine the gains and the losses from trade. Such comparative analysis must imply a *comparative institutional analysis*. In particular, we must avoid what Södersten (1980) called 'the flaw in Ricardo's argument', but which indeed reflects Ricardo's implicit value judgment without flaw. The point is well known: in the absence of a redistribution policy there is no guarantee that moving from autarky to free trade will not harm some group of consumers. In Södersten's words:

the doctrine of free trade was one of the cornerstones of economic liberalism. We have now arrived at the slightly paradoxical situation that this doctrine can be saved only if a policy of intervention is pursued concomitantly with it. Hence it follows that economic liberalism in the sense of letting market conditions determine production and consumption, can be justified on welfare grounds without reservation, only if redistribution goes with it. (Södersten, 1970: 22)

This argument can be used in the current debate about increasing globalization. It suggests that the comparative statics analysis used to prove the welfare properties of international trade must be constrained in a certain sense. We should assume not only a given assortment of techniques (whose choice is endogenous), but also a given assortment of institutional settings which limits the number of states of the economy which the trade theorist can compare in his comparative statics. The exogenous institutional factor associated with such states must belong to the given institutional feasible set. This set should be chosen on the basis of historical investigation and separate analyses offered by other social sciences. From this point of view, the usual comparative analysis of a closed versus an open economy can lead to arbitrary conclusions, either because free trade might not bring about gains in a non-ambiguous sense or because such comparison would not be allowed because one or even both terms of reference (for example, the closed versus the open economy)

might not belong to the feasible institutional set. For example, the complete absence of tariffs with no other compensating public intervention might not be feasible. In particular, with regard to marginal analysis, the partial derivative of the equilibrium value of a certain endogenous variable (for example, the real wage rate), relative to a certain institutional variable (for example, the amount of a tariff), becomes undefined, if the change in the latter, under the *ceteris paribus* clause, is infeasible. Marginal changes in individual institutional variables might not be allowed. Only a cluster of changes in institutional variables might be possible.

NOTES

- * The author wishes to thank Ian Steedman for his linguistic revision of this draft and comments, under the usual exemption from responsibility.
1. See Jones and Scheinkman (1977), Deardorff (1980), Ethier (1984).
 2. See Steedman (1979), Smith (1984).
 3. See Emmanuel (1969), Parrinello (1970, (1988a), Steedman and Metcalfe (1972), Negishi (1985, 1989).
 4. See Brecher (1974) and others.
 5. See Lovasy (1941), Lancaster (1980), Helpman and Krugman (1986), Krugman (1990, 1995), Grossman and Helpman (1991).
 6. See Lindbeck (1976), Casella and Feinstein (1990), Clarida and Findlay (1991), Bhagwati and Hudec (1996).
 7. In this appendix Ohlin anticipates one of the main results of the new trade theory under item (3) above: 'Even in a case where the endowment of factors is the same in various countries, trade is possible between them – as well as between regions within each country – because specialization and large-scale operations entail advantages' (Ohlin, 1933, 1968: 309).
 8. Recent developments of that approach can be found in the works of Casella and Feinstein (1990), Clarida and Findlay (1991) and Casella (1996), and the following model does not do justice to some interesting insights of the latter contributions.
 9. In this regard, recent contributions apply the theory of clubs in order to answer the following interesting question related to the current perspective of globalization and harmonization of norms across the trading countries:

Without setting preconditions for free trade, without formal treaties between governments, would trade itself lead individuals to establish similar standards? ... If some convergence occurs, does it need to be inefficient, as in many 'race to the bottom' arguments, or can it be the appropriate response to the changed allocations caused by trade flows? (Casella, 1996: 120).
 10. In Chapter 13, Meardon has rightly emphasized the anticipatory role played by Myrdal (1957) through his idea of cumulative causation. We can add also the name of Kaldor for his path-breaking role in respect to the new trade theory.
 11. A different issue is that in the new trade theory the comparative advantages of two countries cannot be determined by comparing the equilibrium states of the two isolated economies.
 12. Elsewhere (Parrinello 1999) I have dealt with the distinct roles that can be assigned to economic theories on the basis of the two notions of explanation, that is, prediction and understanding.
 13. Schumpeter (1961: 4–5) writes: 'when we succeed in finding a definite causal relation between two phenomena, our problem is solved if the one which plays the 'causal' role is non-economic. We have then accomplished what we, as economists, are capable of in the

case in question and we must give place to other disciplines. If, on the other hand, the causal factor is itself economic in nature, we must continue our explanatory efforts until we ground upon a non-economic bottom.'

The supporters of the recent neo-institutionalist models of trade with endogenous government might agree with Schumpeter's position either because their 'political economy' is supposed to be a discipline different from economics or because they believe that explaining government behaviour *à la* North has not yet trespassed on the borders of economic explanation and therefore is a legitimate extension. Whatever position they take in this respect, there remains the criticism of the dubious notion of 'equilibrium institutions' underlying the neo-institutional approach.

14. In this case we should take into account that the compensating profit rate differentials can be different between the two classes of capitalists. Then, a specific fixed c coefficient is assumed to apply to each class, and international investments will be ruled by the class with the lowest c .

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