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AN ASSESSMENT OF THE CURRENT RELEVANCE OF THE THEORY OF COMPARATIVE ADVANTAGE TO AGRICULTURAL PRODUCTION AND TRADE

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The Theory of Comparative Cost

A VERY large part of classical, neo-classical and modern theory of international trade is based on the doctrine of Comparative Cost or Comparative Advantage as originally presented in Chapter VII of David Ricardo's *Principles of Political Economy* (first edition 1817). Ricardo's celebrated wine and cloth example is still quoted in almost every western textbook or treatise on international trade.

It runs as follows: in England a gallon of wine costs 120 hours of work and a yard of cloth 100 hours of work, while in Portugal the cost is 80 and 90 hours respectively for wine and cloth. Portugal thus has an absolute advantage over England in the production of both commodities. But it has a *comparatively* greater advantage in wine than in cloth, for without trade a gallon of wine costs only 0·88 (80/90) yards of cloth in Portugal, while in England the price is 1·2 (120/100). Conversely, cloth is comparatively cheap in England. When trade is opened, transportation cost aside, a common international price of wine in terms of cloth intermediate between the high price in England and the low price in Portugal, say of one yard of cloth per gallon of wine, will result. It is clear that at these 'terms of trade' (1 : 1) both countries will make a profit: for each 1·2 yards of cloth which it exports England receives 1·2 gallons of wine in exchange while at home it gives up the production of only 1 gallon. And Portugal receives for each gallon of wine 1 yard of cloth while it gives up only 0·88 yards.

This example is, of course, greatly oversimplified, but in the classical and modern literature the simplifying assumptions have been gradually replaced by more realistic ones and thus the theory has become, or so it is hoped, a more adequate model of the real world. The labour theory of value underlying Ricardo's model has been dropped and the modern theory of general equilibrium substituted.

The theory has been generalized for any number of commodities and countries, transportation cost was introduced and the law of increasing (or decreasing) cost has taken the place of constant labour cost. In the Heckscher–Ohlin version the theory of international trade is stated in terms of many factors of production: many different grades of labour, a great variety of land, climate and other natural resources, capital, entrepreneurship, &c.[1] Dynamic factors, growth and development, changes in technology and in factor supply have been introduced, and with the help of the principles of modern welfare economics the precise meaning and limitations of the statement that with trade every country is, or at least can be, better off than without trade have been defined and clarified. On a more technical level, modern mathematical and econometric methods of analysis, including linear programming, input–output analysis and activity analysis have been systematically applied. While in the old classical theory the doctrine of comparative cost occupied a special place outside and apart from the general body of the classical theory—because of the inapplicability of the labour theory of value to international trade in view of the absence of mobility of labour as between countries—today the theory of international trade and the doctrine of comparative cost have been completely assimilated into the general body of economic theory.[2]

Thus a complicated theoretical structure, or system of interrelated structures, has been created. But the family resemblance of the modern version or versions with their Ricardian prototype is unmistakable, just as a modern Cadillac or Rolls Royce belongs to the same family as the Model T Ford.

It is true that the free-trade conclusion which the classical writers drew from the theory of comparative cost has been more and more qualified by modern writers. But it should be remembered that even the early classical writers were aware that there exist exceptions from the rule that free trade is the best policy. Thus the theoretical validity of the infant-industry and terms-of-trade argument for a certain amount of protection was clearly recognized by John Stuart Mill or even earlier. In the modern theory the exceptions from the rule have become more numerous and far-reaching.

[1] It is now generally agreed that there is no conflict between comparative cost and the Heckscher–Ohlin theory—each being a special case of general equilibrium theory. The Heckscher–Ohlin theory is on the whole more general because it recognizes a multitude of factors, but on the other hand it assumes that factors are qualitatively the same in different countries, which is emphatically not true in all cases.

[2] In this process of assimilation the theory of international trade has often forged ahead and has been the instigator and inventor of new analytical instruments which were then taken over by general economic theory.

It is interesting to observe that in the Socialist countries in Eastern Europe, including the U.S.S.R., more and more attention is given to the advisability of using the principle of comparative cost, or something coming close to it, for the ordering of international trade of the centrally planned countries among themselves as well as between them and the rest of the world, instead of the less-efficient methods now in use.[1]

In the following analysis I shall, however, confine myself to the conditions of the Western world and reference will be made only to the Western literature.

The Basic Postulates of the Theory of Comparative Cost

The logic of the comparative-cost theory, if properly stated, is unassailable. Any rationally and efficiently organized economy, whether of the individualistic-market type or centrally planned, would organize its international trade in accordance with the canons of comparative cost. In other words, the theory is correct on its own assumptions and those who reject it must do so on the ground that the assumptions are not sufficiently descriptive of the real world.

As I said above, in the original Ricardian statement the model was greatly oversimplified, but the simplifications were progressively and drastically reduced by the work of many theorists of international trade during the almost 150 years since the appearance of Ricardo's *Principles*.

But no theory, however complicated and refined, can offer more than a simplified or idealized picture of the infinite complexities of the real world. Some deviations of the assumptions from the facts are unavoidable but the assumptions must not be wildly unrealistic, if the theory is to have explanatory value.

What are, then, the specific assumptions of the theory of comparative cost? It is not, as is often maintained, completely free mobility of all factors of production inside each country or even free mobility of labour as implied by the Ricardian example. Clearly, many factors of production are not mobile and even labour's occupational and geographic mobility is severely restricted, especially in the short run. Hence a theory that assumed perfect mobility of all factors between regions and industries would be hopelessly unrealistic. In point of fact, however, there always exists a certain degree of mobility of factors of production. An economy completely lacking the capability

[1] For a good discussion of this trend see Alan A. Brown, 'Centrally-Planned Foreign Trade and Economic Efficiency', *The American Economist*, vol. v, no. 2 (Nov. 1961).

of reallocating factors of production (complete immobility of factors) is difficult to visualize. It would be an economy capable of producing only one single combination of goods (the production-possibility curve having shrunk to a single point). But the theory would be applicable to that strange world.[1]

What the theory really assumes is competition and flexibility of prices and wages—in the ideal case *perfect* competition implying perfect flexibility of prices. The other basic assumption is absence of 'external economies' and 'diseconomies' in the broad sense. It can be shown that under these assumptions market prices of commodities are equal to the marginal cost of production; factor prices (including wages) are equal to the marginal productivity of the factor; factors that can move, fetch the same price (receive the same wage) in each occupation (allowing for cost of transfer and factor preference for work in different occupations); and lastly and most importantly commodity prices and private (marginal) cost reflect faithfully social cost usually interpreted as social opportunity cost.[2] If one unit of Commodity A has the same value (at market prices) as four units of Commodity B, the society can produce four units of B if it gives up one unit of A or vice versa. It should be observed that the assumption of perfect competition implies wage flexibility and assures full employment. This is now generally recognized even by most Keynesian writers.

Deviations from the Ideal Conditions

Now it is clear that the 'ideal' assumptions—perfect competition and absence of external economies—are never fully realized. There always exist monopolies, oligopolies and other types of imperfections of competition, wage rigidity, price inflexibility and the like as well as external economies and diseconomies. But the mere reference to the large number and pervasiveness of those 'impurities' does not invalidate the theory. This is true especially in view of the fact that international trade is likely to diminish or reduce some of the imperfections. The industrial or business monopolies and oligopolies tend to be undermined by freer trade; free trade is the best anti-monopoly

[1] It would be the theory of barter with fixed quantities of goods, which has been worked out long ago and is part and parcel of general economic theory.

[2] It complicates things, but does not change anything essential, if instead of 'social opportunity' cost we say 'real' cost, as some writers insist. What they have in mind is that allowance must be made also for certain imponderables, such as differential 'attractiveness' or 'irksomeness' of work in different industries which would find expression in wage differentials even for perfectly mobile labour of identical skill.

policy. Only if those imperfections are large, persistent and not distributed at random do they become fatal for the theory.

I shall now discuss the concrete types of deviations from the assumed 'ideal conditions' that have been mentioned in the literature as making the theory of comparative cost inapplicable to agricultural production and trade. I shall discuss these under the headings 'Monopolies and oligopolies in industry', 'Adverse trend in terms of trade', 'Disguised unemployment', 'Technological external economies', and 'Dynamic external economies'. Since a large part of world trade consists of an exchange of agricultural (or more generally, primary) products, those deviations or aberrations may occur either in the agricultural or in the industrial sector.

In one very important respect conditions in agriculture are especially favourable for the applicability of the theory of comparative cost. What I have in mind is that in agriculture, more than in any other producing sector, free competition between a large number of comparatively small producing units is still the rule, except where governments enforce prices higher (or occasionally lower) than the free competitive market price. But the economics of farm price support schemes or any other types of government-managed or controlled agriculture and their impact on international trade is not the subject of the present paper.

Monopolies and Oligopolies in Industry

It is often asserted that agricultural exporters are as a rule faced with monopolistic or oligopolistic sellers of finished manufactures. This is said to be one of the reasons of the alleged fact that the terms of trade of less-developed countries have shown a secular tendency to deteriorate. Whether such a tendency really exists, I shall discuss later. At this point, I am only concerned with the assertion that business or labour monopolies keep prices of manufactured goods artificially high. This theory has been expounded in numerous publications of the U.N. Economic Commission for Latin America (E.C.L.A.) and has been repeated many times.[1] In the E.C.L.A. publication the argument is that pricing policies of employers and pressures from labour unions in industries in the industrial countries keep prices up in the face of declining cost due to technological progress.

[1] See, for example, *The Economic Development of Latin America and its Principal Problems*, E.C.L.A., New York, 1950, *passim*; or N. Kaldor, 'Stabilizing the Terms of Trade of Underdeveloped Countries' (mimeographed paper submitted to Rio de Janeiro Conference organized by Yale University, Jan. 1963).

Thus the fruits of progress are not passed on to the consumer but are absorbed by rising wages and profits.

This argument confuses absolute and relative prices. It is, of course, true that progress usually takes the form of rising money wages and stable price levels (or rising price levels and faster rising wages) rather than stable money wages and falling prices. But this is a statement concerning the overall price level, including prices of primary materials and agricultural products, and is quite compatible with competition. It does not prove anything concerning *relative* prices of industrial goods and agricultural products (or primary products).

Kaldor says flatly 'that the underdeveloped countries are confronted by monopolistic markets in their purchases of manufactured goods, where prices are kept at higher than competitive levels by international private cartels or simply by the absence of price competition among producers operating in imperfect markets'.[1] The author does not give any evidence or quote sources where such evidence could be found. Complaints can, of course, be cited, mainly of earlier periods, about international cartels in certain industrial sectors. Few such complaints have been heard, however, in recent years for the simple reason that international competition in the field of industrial products of every description (consumer goods as well as capital equipment) has become exceedingly keen. While during the immediate post-war years the U.S. had a 'monopoly'—I put it in quotes because U.S. industry never acted or had a chance to act monopolistically—for the quick delivery of many industrial products, today it has to compete with industries in a dozen Western European countries, in Japan, for some products with industries in Russia, Czechoslovakia, East Germany, and in a few cases with the rising industries in some of the developing countries themselves.

To summarize, there is a lot of competition in industrial products in international markets.[2] Less-developed countries (and for that matter developed countries) do suffer, however, from high, often exorbitantly high, monopoly prices charged by highly protected and in most cases extremely inefficient domestic industries, both private and government operated. It would be easy to cite examples of scores of industrial products (including shipping services) produced and sold in less-developed countries at costs and prices several times as

[1] Loc. cit., p. 11.

[2] This is strikingly proved by the low prices at which all sorts of industrial products are available in every one of the few free trade oases around the world—such as Hong Kong, Gibraltar, and some international airports.

high as the prices at which the same or better quality products (or services) could be obtained from abroad.

Adverse Trend in Terms of Trade

I now come to the alleged secular tendency of the terms of trade to deteriorate for agricultural and primary products which in the literature is often referred to as the 'Prebisch–Singer thesis'.[1] If such a secular trend really existed, it would not necessarily be in contradiction to the theory of comparative cost. It would represent a continuing change in the comparative-cost situation and if this change does not come all of a sudden but goes on gradually it is not clear why producers should not gradually adjust to it.

It is a fact, however, that the authors of the theory that such a tendency exists regard it as a criticism of the classical theory. They evidently assume, although that is not made quite clear let alone proved, that private producers not only do not foresee such changes but for one reason or the other also fail to adjust, or adjust only incompletely and belatedly after the change has occurred. Policy makers, on the other hand, alerted by their economic advisers, are assumed to foresee well in advance such changes, their speed and magnitude, and to be able to take the necessary (protectionist) measures for speedy and correct adjustment.

The main reason for the change in the terms of trade (apart from the alleged monopolistic structure of the markets of industrial products mentioned above) is the operation of 'Engel's Law' which states that the percentage of consumer income spent on food is a decreasing function of income.

It is very interesting to observe that there exists a school of thought that teaches the exact opposite of the Prebisch–Singer doctrine—namely, that the terms of trade must inexorably turn against the *industrial* countries because of the operation of the law of diminishing returns in agriculture (and extractive industries). This theory goes back to Ricardo (and earlier writers) and has had a strange fascination for British economists. A. Marshall and J. M. Keynes greatly worried about the British terms of trade and in our time Austin Robinson has taken up the theme.[2]

[1] Paul Prebisch is the author of the E.C.L.A. pamphlet quoted above. The just-mentioned pamphlet was largely based on *Relative Prices of Exports and Imports of Underdeveloped Countries*, U.N., 1949. These two U.N. documents are the basic sources of the theory.

[2] A large part of the literature was recently reviewed by T. Morgan, 'Trends in Terms of Trade and Their Repercussions on Primary Producers', in *International Trade Theory in a Developing World*, ed. by Roy Harrod, International Economic Association, London,

It hardly needs lengthy arguing that Ricardo's pessimism and Marshall's and Keynes's worries (not to mention Jevons's forebodings of disaster) have proved entirely groundless. But the opposite view—the Prebisch–Singer thesis—is equally untenable. Modern research has clearly demonstrated that no secular tendency one way or the other can be found in the statistical record.[1]

The latest careful, statistical analysis of price trends in international trade is contained in Robert E. Lipsey's important book, *Price and Quantity Trends in the Foreign Trade of the U.S.*[2] This study, carried out with the extreme care about the reliability of the basic data, statistical methods and theoretical analysis which one expects from a National Bureau publication, reaches the following conclusion:

> Two widely held beliefs regarding net barter terms of trade found no confirmation in the data for the United States. One is that there has been a substantial long-term improvement in the terms of trade of developed countries, including the United States; the other, that there has been a significant long-term deterioration in the terms of trade of primary as compared to manufactured products. Although there have been very large swings in U.S. terms of trade since 1879, no long-run trend has emerged. The average level of U.S. terms of trade since World War II has been almost the same as before World War I.[3]

Lipsey goes on to say that the U.S. 'terms of trade have been improving quite steadily since 1951'. This reflects a deterioration of the

1963, pp. 52–95. Robinson's paper (not mentioned by Morgan), 'The Changing Structure of the British Economy', appeared in the *Economic Journal*, Sept. 1954. The most extreme position was taken by W. S. Jevons in his gloomy book *The Coal Question. An Enquiry Concerning the Progress of the Nation and the Probable Exhaustion of the Coal Mines*, 1st ed., London, 1865. (See esp. chapter xiii of the 3rd ed., edited by A. W. Flux, London, 1906.) Keynes related that Jevons had the courage of his convictions. He 'laid in such large stores not only of writing-paper, but also of thick brown packing-paper, that even to-day [1936], more than fifty years after his death, his children have not used up the stock he left behind him of the latter; though his purchases seem to have been more in the nature of a speculation than for his personal use, since his own notes were mostly written on the backs of old envelopes and odd scraps of paper, of which the proper place was the waste-paper basket'. Keynes's *Essays in Biography*, new edition, with three additional essays edited by Geoffrey Keynes, New York, 1951, p. 266.

[1] See esp. C. P. Kindleberger, *The Terms of Trade: A European Case Study*, New York, 1956; P. T. Ellsworth, 'The Terms of Trade between Primary Producing and Industrial Countries', *Inter-American Affairs*, summer 1956; T. Morgan, 'The Long Run Terms of Trade between Agriculture and Manufacturing', *Econometrica*, 1957. I myself have attempted to review the whole problem and to give a comprehensive criticism of the Prebisch thesis in 'Terms of Trade and Economic Development', in *Economic Development for Latin America*, edited by H. S. Ellis, International Economic Association, London, 1961, pp. 275–303, and in *International Trade and Economic Development*, National Bank of Egypt, Cairo, 1959.

[2] A Study by the National Bureau of Economic Research, New York, published by Princeton University Press, 1963.

[3] Ibid., p. 76.

terms of trade of the less-developed countries.[1] This deterioration is regrettable but it has not been catastrophic as was the deterioration during the Great Depression of the 1930's. It does *not* constitute a trend but a reaction to the exceptionally favourable terms which prevailed as a consequence of the Korean War and massive American stockpiling in the early 1950's, and had come to an end in 1962.

Let me summarize: no secular tendency for the terms of trade to move one way or the other has become visible so far and there is no theoretical presumption that it will in the future. But even if it did happen, it would imply no more than a change in the pattern of the comparative cost which may be detrimental for certain countries, but would by itself not abrogate or contradict the theory of comparative cost.

Disguised Unemployment

If it were true that in many countries there exist large masses of agricultural disguised unemployment or surplus labour, we would have a serious deviation from the 'ideal conditions' postulated by the comparative cost doctrine.

The idea of disguised unemployment was probably introduced for the first time into the theory of development of backward countries by Professor P. N. Rosenstein-Rodan in his famous article 'Problems of Industrialization of Eastern and South Eastern Europe' and was then taken over and elaborated by Ragnar Nurkse in his celebrated book, *Problems of Capital Formation in Underdeveloped Countries*.[2] These writers claim that in the densely populated countries of south-eastern Europe and south-east Asia and Egypt 20–25 per cent. of the labour force could be removed from the land without causing any reduction in output even assuming that there does not occur a simultaneous improvement in the methods of production such as increased application of capital (machinery, fertilizers, &c.), improved skills and knowledge of the farmer, change in social structure, pattern of ownership and so on. This proviso is important because with these improvements it is of course always possible to increase output per worker. Disguised unemployment thus means zero marginal productivity of labour. This implies an inefficient distribution of the labour force and means that market prices do not accurately reflect

[1] For details see *World Economic Survey 1962*, Part 1, *The Developing Countries in World Trade*, United Nations, 1963.

[2] Rosenstein-Rodan's paper appeared in the *Economic Journal*, June–Sept. 1943, and has been reprinted many times. Nurkse's book was published in Oxford by Blackwell. 1953.

social cost. Concretely, if there exists disguised unemployment in agriculture, it follows that in the market agricultural products are overpriced and industrial products underpriced. Very often the conclusion is then drawn that any measure that artificially stimulates industry (import restrictions, direct subsidies, government operation of industry at a deficit) will bring about an increase in industrial production without causing any decline in agricultural output. This seemingly impossible feat is said to be accomplished by drawing disguised unemployed from agriculture into productive employment in industry.

It should be observed that the policy conclusion that import competing industries can be developed without any reduction in output in the export sector or elsewhere would be incorrect even if there really existed much disguised unemployment in agriculture. The reason is that an industry cannot be operated with unskilled labour alone—it also needs capital and skilled labour, which are always scarce in less-developed countries.[1]

But does disguised unemployment really exist in large quantities? It is fair to say, I believe, that under the cumulative impact of empirical and theoretical criticism, the early enthusiasm that even in the absence of major social changes and improvements in agriculture large masses of labour can be transferred to industry without curtailing agricultural output has largely evaporated.[2] Viner has subjected the theory to a searching criticism and has expressed 'pronounced skepticism as to the existence on a *large scale* anywhere of this phenomenon *if it is taken* literally as usually defined, namely, the existence of zero marginal productivity of labour'.[3] Theodore Schultz has declared flatly that he knew of no evidence for any poor country that would suggest that a transfer of even a small fraction, say 5 per cent., of the labour force from agriculture to industry could

[1] This shows clearly that depression unemployment in developed countries is entirely different from the so-called disguised unemployment in less-developed countries.

[2] Typical of the disillusionment even among the early supporters of the theory is a remark by B. Higgins: 'The early easy optimism about transferring the disguised unemployed from agriculture to industry has disappeared. It is recognized that in many underdeveloped countries static disguised unemployment in agriculture is at a very low level. Substantial numbers could not be released from agriculture without a drop in production, unless the average size of holdings is increased and some degree of mechanization introduced.' See 'Prospects for an International Economy', in *World Politics*, Apr. 1957, p. 466.

[3] *Stability and Progress in the World Economy*, The First Congress of the International Economic Association, London, 1958, p. 50. Italics in original. See also his earlier article, 'Some Reflections on the Concept of Disguised Unemployment', in *Contribuições à análise do desenvolvimento econômico, Essays in Honor of Eugenio Gudin*, Rio de Janeiro, 1957.

be made without reducing output.[1] Berdj Kenadjian has carefully checked the original studies on which Rosenstein-Rodan's estimates of 25–30 per cent of surplus labour in eastern Europe were based as well as other statistical 'measures' of disguised unemployment and has found them entirely inadequate and defective.[2]

What remains then of the theory of disguised unemployment? No more than the less exciting, non-paradoxical and well-known fact that the average and marginal productivity of labour in agriculture in poor countries is exceedingly low, often lower or even much lower than in industry. It is probably also true in many cases that the difference in productivity and efficiency as between industry and agriculture is greater in backward than in highly developed countries.[3]

The gradual rise of productivity and efficiency in agriculture is, of course, an essential aspect of economic development and there is sometimes scope for large and occasionally even spectacular improvements resulting from comparatively small investments in material or human capital.

As far as the theory of comparative cost is concerned, all this means is that the pattern of comparative cost changes and may be changed by policy measures. The dynamic aspects and alleged shortcomings of the theory of comparative cost in the context of a changing world are discussed in the next but one section.

Technological External Economies

External economies and diseconomies are a catch-all for all those influences flowing from the expansion or contraction of one firm or industry to other firms or industries of which the market for one reason or the other does not take any or sufficient cognizance—non-market interactions for short. Thus the existence of 'externalities' signifies a 'market failure' and a deviation from the ideal conditions postulated by the pure model of comparative cost.

[1] 'The Role of Government in Promoting Economic Growth', in L. D. White, ed., *The State of the Social Sciences*, Chicago, 1956. See also his *Transforming Traditional Agriculture*, chapter 4, 'The Doctrine of Agricultural Labor of Zero Value', New Haven, Conn., 1964.

[2] B. Kenadjian, 'Disguised Unemployment in Underdeveloped Countries', unpublished Ph.D. dissertation, Harvard University, 1957. A small part of this thesis was published under the same title in *Zeitschrift für Nationalökonomie*, vol. xxi, pp. 216–23 (Vienna, 1961). One of the basic mistakes of almost all statistical measures of disguised unemployment is that they make no or insufficient allowance for the extreme seasonality of agriculture. See also Yong Sam Cho, *'Disguised Unemployment' in Underdeveloped Areas*, with special reference to South Korean agriculture, University of California Press, Berkeley, 1963.

[3] The comparative backwardness of agriculture under primitive conditions was one of the main tenets of Friedrich List.

External economies play a great role in modern development theory and practice and have come to cover a great variety of circumstances, some trivial, some important. Only the important cases and distinctions can be mentioned here.[1]

Viner distinguishes between what he calls 'technological' and 'pecuniary' external economies. According to him, pecuniary external economies do not constitute a deviation from the ideal conditions because they are reflected in market prices. The modern writers mentioned above claim that in the dynamic context pecuniary external economies become 'real', i.e. represent a market failure.[2]

Let me first discuss the technological external economies which the modern writers tend to interpret as a 'static' concept and then the so-called 'dynamic' external economies. Examples of external economies can be found in agriculture as well as in industry, but it is generally assumed that the latter are more important. The often-quoted case of bees and apples is an example of an agricultural external economy. The apple-grower provides food for bees and the bees pollinate the apple blossoms. But since the apple-grower cannot charge a bee for nectar in the blossoms or the beekeeper for the services of his bees, these valuable services find no expression in market prices. The example is not well taken. The apple-grower may well hit on the bright idea of keeping his own bees. More important is the case of a possible change in climate through deforestation or the creation of a dust bowl through excessive ploughing. Other examples of external diseconomies are the pollution of the air and water from factories. These surely are matters of importance which may have international implications (if the respective industries happen to be export or import industries) and may affect the comparative cost situation. But these conditions are usually dealt with by special administrative or legislative action and need not be further considered here.

The most important case of an external economy is, in my opinion,

[1] The concept was first introduced by A. Marshall in his *Principles*. Viner discussed it from the international trade standpoint in his *Studies in the Theory of International Trade*, New York, 1937. The most influential modern writings are P. N. Rosenstein-Rodan, 'Problems of Industrialization of Eastern and South Eastern Europe', the *Economic Journal*, June–Sept. 1943 (variously reprinted); 'Notes on the "Big Push" ', in *Economic Development for Latin America*, International Economic Association, London, 1961; and Tibor Scitovsky, 'Two Concepts of External Economies', *Journal of Political Economy*, Apr. 1954, reprinted in *The Economics of Underdevelopment, A Series of Articles and Papers*, edited by A. N. Agarwala and P. Singh, Oxford University Press, 1958.

[2] It should be observed that the definitions of these various concepts are not quite precise and uniform. In particular, it is not clear whether Rosenstein-Rodan and Scitovsky use the term 'pecuniary' in the same sense as Viner, although they refer to him. But this is not the occasion to go into this matter at greater length.

the creation of a skilled labour force in the broad sense, including supervisory and entrepreneurial labour. This case refers to industry and constitutes the basis of the well-known infant industry argument for protection.

The argument runs as follows : an efficient industry depends largely on the existence of an efficient labour force of different levels of skill and accomplishment. Less-developed countries are short of that vital resource, even if it were true that there existed a large reservoir of disguised unemployment of unskilled labour in agriculture or elsewhere. But unskilled and inefficient labour can be trained. To some extent this can be accomplished by public education and to some extent through the initiative of private producers. But the training of unskilled labour is a lengthy and costly process and for the private producer it is a risky investment, because the skill of workers is not appropriable; there are no mortgages on labour, as Rosenstein-Rodan puts it. Once the worker has acquired higher skill he will ask for a higher wage commensurate with his increased marginal productivity, or he may quit and take a job elsewhere. It is therefore justifiable for the government to subsidize industry either directly by grants or indirectly by means of import duties so as to enable the protected industries to employ initially inefficient and therefore expensive labour in the expectation that eventually an efficient, skilled labour force will be trained which will enable the industry after some time, possibly as long as a generation, to stand up to foreign competition. The process is best described as an investment in human beings, implying, as every type of investment does, a temporary sacrifice. The temporary burden stems from the fact that the products in question could be obtained more cheaply from abroad, so long as domestic labour has not reached a sufficient level of efficiency and skill.

This, to repeat, is the familiar argument for infant industry protection which has been accepted, in principle, by J. S. Mill, Marshall, Taussig and other neo-classical writers. There remains, of course, a host of debatable questions and disagreements concerning scope, importance, practical application, dangers of misapplication and misuse, &c., which cannot be discussed here. But the possibility or even likelihood of such situations existing has been admitted even by many free trade economists and to the extent to which it is valid, it can be construed as a deviation from the ideal conditions postulated by the comparative cost theory; in other words, as a factor causing a divergence of private and social cost. Private costs in these cases can be said to be 'too high' because they do not make allowance for this kind of external economy.

Dynamic External Economies

I now come to what Rosenstein-Rodan and Scitovsky and following them many modern theorists and practitioners of economic development regard as the most important kind of external economies. I follow Scitovsky's presentation, which is as good as any, and has had a great influence on development theory.[1]

One reason 'for the inapplicability of general equilibrium theory [which includes the theory of comparative cost] to the problems of investment is that the former is static or equilibrium theory, whereas the allocation of investment funds is not a static problem at all'. Thus, if industry A invests and expands, it is bound to have pecuniary repercussions on any or all of the following industries: (1) on industries which produce intermediate goods (machinery, materials, &c.) used by A; (2) through cheapening of A's own products, on industries which use A's products as intermediate goods; (3) on industries on whose products factors used in A spend their additional income; (4) on industries 'whose product is complementary in use to the product of A', &c.[2] Producers are unaware or are not interested in these pecuniary external economies or diseconomies to which their investments give rise and hence 'private profitability understates social profitability'.[3] 'These limitations can be fully removed only by simultaneous expansion' of all industries. Only 'complete integration of all industries', that is to say comprehensive central planning, would 'eliminate all divergences between private profits and public benefit'. The 'argument can be restated' as follows: 'In the market economy prices are the signalling device that informs each person of other people's economic decision' and thus guides production and investment decisions. 'Market prices, however, reflect the economic situation as it is and not as it will be. For this reason they are more useful for coordinating current production decisions . . . than . . . for coordinating investment decisions, which have delayed effects . . . and should be governed . . . by what the future economic situation is

[1] The following quotations are from *The Economics of Underdevelopment, A Series of Articles and Papers*, pp. 303–6.

[2] Repercussion (1) is what development theorists and economic historians now often call 'backward linkage', (2) is 'forward linkage', (3) and (4) one might call 'lateral or horizontal linkage'.

[3] It should not be overlooked that in the case of *dis*economies private profitability overstates social profitability. This is important because it precludes the easy *a priori* conclusion, which often creeps in, to the effect that although we may not know the magnitude of the external effects, we know at least their direction, namely, that private profitability *understates* social benefits, which would imply that some protection is always good.

expected to be. . . . Hence the belief that there is need either for centralized investment planning or some additional communication system to supplement the pricing system as a signalling device'.

This analysis rests, in my opinion, on a misunderstanding of the working of a dynamic, decentralized market economy. It ignores the functions of the entrepreneur in the market economy and understates his capability to foresee the consequences of his actions, it misinterprets the role of equilibrium theory (including the theory of comparative cost) and greatly overestimates the help that dynamic theorizing and programming can give to development policy.

Economists usually define the entrepreneur as the innovator who introduces new processes or new products, pushes into new territories (e.g. the builder of a railroad), or taps new demand (by reducing the price), or makes use of cheap labour supplies (by setting up a factory in the country). If he introduces an entirely new product, he obviously cannot be guided by the current price because there does not exist any. If he produces a cheaper or better version of an existing product, he cannot possibly assume that the existing price will remain unchanged, he must try to guess the future price and take into consideration reactions of rivals, imitators, producers of competing or complementary products.

The interrelations, interactions and repercussions in a modern economy are, of course, tremendously complicated and if we did not have 200 years of capitalist development to look back to, we might well doubt the possibility of such a complex system having been created and functioning largely by the unplanned interactions of millions of independent individuals and firms.

True, any innovation, large or small, in fact any adaptation to a change, carries uncertainties and risks with it. The distinction between current production and investment decisions is one of degree only. It is therefore misleading to say that equilibrium theory applies to current production and not to investment—it applies to both or to neither. Some risk is unavoidable and the bolder the innovation, the more durable the capital equipment involved, the greater is the risk and uncertainty.[1] If the entrepreneur has misjudged his chances, he will suffer losses which will force him to retrench or to try to correct his mistakes. If he has judged right, he will make profits; this will encourage him to go on and will induce others to imitate the innovator. The innovational process and entrepreneurial

[1] Forward markets, insurances and other devices distribute risks and shift them from the weak, the timid, the inexperienced, to the strong, the venturesome and knowledgeable—but cannot eliminate them altogether.

role in it has been vividly described and trenchantly analysed especially by Schumpeter.[1] The competitive process with its system of rewards and penalties provides a severe test for any entrepreneur, in fact for every producer, and separates unmercifully success from failure. But the equilibrium theory of the competitive mechanism, whether static or dynamic, is not, and is not meant to be, operational in the sense of being capable of guiding the entrepreneur to profitable new ventures. It is not a substitute for entrepreneurial qualities —vision, judgement, drive and persuasiveness, and for that matter does not enable the managers in centrally planned economies to function efficiently without those qualities.

Trade Theory versus Growth Theory

It has become fashionable to compare trade theory and growth theory and to assert that contradictory conclusions and advice for development policy can be derived from these two approaches.[2]

According to Chenery, 'Growth theory contains at least four basic assumptions about the underdeveloped economies that differ strongly from those underlying the comparative cost doctrine: (1) factor prices do not necessarily reflect opportunity costs with any accuracy; (2) the quantity and quality of factors of production may change substantially over time, in part as a result of the production process itself; (3) economies of scale relative to the size of existing markets are important in a number of sectors of production; (4) complementarity among commodities is dominant in both producer and consumer demand.'[3]

In my opinion, the contrast between trade theory and growth theory is greatly overdrawn in the quoted passage. Of course, the pure comparative cost model has to be qualified to allow for deviations from the ideal assumptions, especially for the existence of external economies (the real ones, not the imaginary ones!). If that is done, there still remains enough room for differences of emphasis and judgement of magnitude and of likelihood of this or that happening either in concrete cases or in general—differences between individual trade theorists and growth theorists; but there is no basic conflict between growth theory and trade theory as such.

[1] Let me recall the fact that Karl Marx himself has described the innovational and developmental power of the free enterprise system, of the *bourgeoisie* as he often calls it, in truly dithyrambic language, especially in the *Communist Manifesto*.

[2] See especially Hollis B. Chenery, 'Comparative Advantage and Development Policy', in *The American Economic Review*, Mar. 1961; and Joseph E. Haring, 'Dynamic Trade Theory and Growth in Poor Countries', in *Kyklos*, vol. xvi (1963), fasc. 3. In these two papers, a large part of the literature is reviewed.

[3] Loc. cit., pp. 21–22. Echoed by Haring, loc. cit., p. 376.

Let me go through the four differences listed by Chenery.

(1) Seems to relate to the existence of disguised unemployment. Realistically this reduces, as we have seen, to the proposition that in poor countries productivity of labour is especially low in agriculture, but that by appropriate measures, which practically always involve more or less heavy investment (i.e. waiting), methods of production can be improved and labour can be trained and made more efficient. As far as international trade is concerned, the case is fully covered by the external economy–infant industry qualification of the comparative cost theory.

(2) This assumption is not in contradiction to the theory of comparative cost. That the pattern of comparative cost changes over time because the quality and quantity of factors change is obvious, and classical theorists, especially J. S. Mill, have stressed that trade itself, 'the production process itself' in Chenery's words, tends to change the quality of factors. This again is implied in the infant industry theory. The possibility should not be overlooked, however, that the export industries may be the most promising 'learners'. In that case a trade subsidy rather than a trade restriction would be indicated.

(3) The importance of scale relative to the size of market has been a standard argument for freer trade with trade theorists beginning at least with Adam Smith. Practically all later writers mention it along with comparative cost proper.

(4) Clearly refers to the so-called dynamic pecuniary external economies. This theory was discussed in the preceding section and was found wanting.

On one important issue growth theorists have split. Rosenstein-Rodan (loc. cit.) and R. Nurkse have derived (from assumption 4) the postulate or theory of 'balanced growth' to the effect that development policies must aim at developing all or many industries at the same time. This becomes the theory of the 'big push', if the assumption of minimum size of efficient plant in each industry is added. Others have put forward the theory of 'unbalanced' growth.[1]

Chenery points out that the balanced-growth theory holds only if we assume 'an elastic supply of either capital or labour'. 'If we assumed fixed investment resources instead of an elastic supply, the

[1] The literature is reviewed by Chenery and Haring. Nurkse's views were first put forward in his famous book, *Problems of Capital Formation in Underdeveloped Countries*, Oxford, 1953. His mature thinking on the issue is contained in two papers, 'Balanced and Unbalanced Growth' (1957), and in posthumous remarks on 'Unbalanced Growth' (1959). (See his Collected Essays, *Equilibrium and Growth in the World Economy*, edited by G. Haberler and R. M. Stern, Cambridge, Mass., 1961, pp. 241–81.) In these later writings, Nurkse considerably toned down his earlier somewhat dogmatic statement.

same set of factors provide an argument for concentrated or unbalanced growth.'[1] In the first sentence the 'either-or' should be replaced by 'and'. As I have pointed out elsewhere the theory of balanced growth 'is contradicted by the patent fact that industrial advance is usually limited by lack of capital, including "social framework investments", insufficient supply of entrepreneurship, of skilled, trained and disciplined labour and not by insufficient demand'.[2] Put differently, the balanced-growth theory says or implies that there is not enough investment for the reason that private producers underestimate their investment opportunities because they are unaware of the external pecuniary economies which they would enjoy if they all expanded production simultaneously. If this were the major difficulty we would be lucky indeed; for it would be easy to stimulate investment by means of easier money, which is always possible in poor countries where money is invariably tight. Unfortunately, the real trouble is not insufficient *demand* for investment funds due to the small size of the market, but insufficient *supply* of capital, in other words, insufficient saving; this deficiency is not so easy to correct.[3]

Finally, let me stress once more a very important source of disagreement between economists (rather than between trade and growth theory) that is rarely brought out into the open.[4] Many or most classical or neo-classical theorists had an implicit faith in the efficiency of the competitive-market system and assumed that private entrepreneurs are aware of, and try to guess and anticipate, indirect effects and repercussions of their collective actions. No one, of course, assumes perfect foresight—losses, crises, depressions, and the business cycle itself are strong reminders that foresight is imperfect and mistakes are wellnigh unavoidable. Public policy can and should try to reduce ignorance by spreading information and making markets 'transparent'; it should mitigate the consequences of miscalculations by counteracting deflationary shocks, by increasing the mobility of factors of production, and by promoting the flexibility of the economy to adapt to new circumstances, especially by counteracting price and wage rigidity.

On the other hand, many modern writers on growth and develop-

[1] Loc. cit., p. 21.

[2] Critical Observations on Some Current Notions in the Theory of Economic Development', *L'industria, Revista di economica politica*, ed. by F. di Fenizio, Milan, 1957, p. 376. (Reprinted in *Readings in Economic Development*, ed. by T. Morgan, G. W. Betz, and N. K. Choudhry, Belmont, California, 1963, pp. 231–9.)

[3] A case can, of course, be made for compulsory saving. But this is something else again.

[4] It is, for example, not openly faced although clearly implied in the articles of Chenery and Haring.

ment, even those who are not out-and-out critics of the individualistic market economy and advocates of compulsory central planning assume, implicitly more often than explicitly, that the planners with the aid of modern methods of economic analysis can foresee all the indirect effects of expansion and thus avoid mistakes and losses much better than the competitive market.

This surely raises weighty and complicated problems which cannot be further discussed here. If there were time, I would argue that the market system, wherever it was given a chance, has done amazingly well. Forty years ago, when the world had little experience with comprehensive central planning, it was understandable that comparisons were invariably made between the *actual* market system with all its faults and imperfections (including those introduced by faulty government interference) on the one hand and an *ideal* type of planned system on the other. Today, this procedure can no longer be justified. We must compare the two systems as they actually are and not the ideal type of one and an actual example of the other. I believe that in such a fair comparison the free market economy comes off quite well.

One more remark to forestall a possible misunderstanding. This is not meant to be a plea for *laissez-faire*. Even in a free market economy there is obviously plenty of work left for the government to provide indispensable services in the field of education, health, maintenance of law and order, communication, &c., as well as to assure the smooth functioning of the competitive market including monetary arrangements.

Summary and Conclusions

The classical principle of 'comparative advantage' has become an integral part of the modern equilibrium theory of international trade. Like every theory, it presents but a simplified and idealized model of the infinitely complex real world. The basic assumptions of the comparative-cost theory are stated and the possible deviations of the real world from the 'ideal' conditions are then discussed under the following headings: 'Monopolies and oligopolies in industry', 'Adverse trend in terms of trade', 'Disguised unemployment', 'Technological external economies', 'Dynamic external economies', and 'Trade theory versus growth theory'. The conclusion is reached that—numerous, small, unsystematic and hence unimportant deviations from the 'ideal' conditions aside—the theory requires one major qualification. Allowance must be made for that type of external economy on which the infant industry argument for protection is based: the training of a skilled labour force in the broad sense, including the 'learning process' of supervisory and entrepreneurial labour. Policies to achieve this aim can be aptly described as 'investment in human beings' implying, as every investment does, a temporary sacrifice.

The extremely popular theory that the so-called 'pecuniary' external economies which, as Viner has shown, do not constitute a divergence between social and private cost, become 'real' and do represent such a divergence in 'dynamic contexts', in particular whenever investment decisions are involved, is critically examined and found invalid.

It has become fashionable to see a sharp conflict between trade theory and growth theory and to assert that contradictory conclusions concerning development policy can be derived from these two approaches. It is argued in the present paper that the conflict disappears if trade theory is qualified or amended so as to take into account the possibility of the external economies mentioned above.

Thus the overall conclusion is that the theory of comparative advantage applies to the modern world, including modern agriculture.

D. K. BRITTON, *Nottingham University*, *U.K.*

A year ago a group of distinguished economists met at Bellagio, Lake Como, to discuss how international trade might be reorganized in order to provide opportunities for a more rapid growth of income in the under-developed world. The proceedings of that conference have now been published in a book entitled *New Directions for World Trade* and I thought it significant in relation to today's discussion that I could find only one passing reference to comparative advantage or comparative cost in those proceedings. Implicitly, at least, the doctrine had very little relevance to the problem which the economists had set themselves.

We have had other indications from experts that the doctrine may no longer be very helpful in current discussions. Gerda Blau has written that 'the old values governing a code for trade which were based, at least in principle, on full reciprocity of bargaining and non-discrimination, even as between such unequal trading partners as the high-income and low-income countries, are in the process of crumbling, but no new values have as yet been securely put in their place'. An earlier warning came from Ragner Nurkse in his Wicksell lecture of 1959, when he reminded us that 'it is inevitable that economic thought should lag behind the facts of economic history' because we are all, to some extent, the prisoners of our conceptions or preconceptions and we cannot refer them immediately to the newly emerging facts of history. Nurkse said that 'the 19th century model of world trade is one which many of us still tend to carry in our minds as something like the normal or the ideal. As it recedes in time it appears more and more clearly to have been the product of very peculiar circumstances.' I therefore think that there was a heavy onus on Professor Haberler, in preparing his paper for us today, to come back again to these problems with a strong argument for the continuing relevance of the doctrine of comparative advantage.

His paper is disarming at a number of points. On page 17 he says that 'the theory has become, or so it is hoped, a *more* adequate model of the real world'; but even there, I think, we see a suspicion in Professor Haberler's mind that the model may still not be adequate, even if it is more adequate than it was. On page 18 he says that 'the theory of international trade and the doctrine of comparative cost have been completely assimilated into the general body of economic theory'. The implication is that anyone who challenges the doctrine is challenging the whole apparatus of economic theory; but we are concerned here with the relevance of the doctrine to present patterns of agricultural production and trade, and not with the validity of the doctrine on its own assumptions. I find it a matter of keen disappointment that Professor Haberler has not pursued the point he makes on page 19 that the test of the theory is its *explanatory value*. If he had pursued that point on our behalf I feel that he would have had to look at the present and emerging patterns of trade in agricultural products to satisfy himself and us that they were conforming with the indications of the doctrine. In other words, I was looking for some kind of statistical verification that the exchanges now going on or expected to go on in the coming years bear some relation to comparative costs and comparative advantages in the respective countries. It we pursue that line of thought I think we would have to expect that some countries today would be planning to increase their food imports or to cut down their food exports; because if the theory indicates that, for some, agriculture is at a relative advantage and therefore should be extended, it must indicate that, for others, agriculture is at a relative disadvantage and should be deliberately contracted. Can we find evidence, either statistical or in policy statements, of recognition of such a situation? Professor Haberler has been content, I would say, to examine some of the major assumptions of the theory without empirical evidence where agriculture is concerned.

Would the assumptions have stood up to a more searching examination? On page 19, Professor Haberler claims that in the real world 'there always exists a certain degree of mobility of factors of production'. We cannot disagree, but the point for us, as agricultural economists, is whether in our industry the relative immobility of some of the resources has not grossly affected the relevance of the theory to our sector. Do men move to places where wages are highest? If we have evidence that they do not, to my mind this is some indication of a certain irrelevance in the doctrine.

On page 21 I had an even greater surprise and more profound misgivings when I read that 'the economics of farm price support schemes or any other types of government-managed or controlled agriculture and their impact on international trade is not the subject of the present paper'. Here I was reminded of a well-known story in England of one of our literary men, G. K. Chesterton, who on one of his travels found himself in a rather obscure English town, thinking he had to give a lecture there. Nobody seemed to be expecting him and he sent a telegram to his wife saying, 'I am in Market Harborough. Where ought I to be?' I thought that at this point in his paper Professor Haberler should have written to those responsible for organizing this Conference saying, 'I am dealing with a model of the economic world which precludes government action in connexion with agriculture. What ought I to be doing?'

On page 23, there is a reference to Engel's law. I am not clear whether Professor Haberler is attributing this statement about Engel's law to the Prebisch–Singer school or whether this is a continuation of his own argument, but in either case it seems to me that Engel's law has not much relevance here. Engel's law, as I understand it, is a statement about demand. The operation of the law need not cause changes in the terms of trade. The fact that people will spend proportionately less of their increasing incomes on food does not necessarily work to the detriment of the terms of trade regarding agricultural products. The terms of trade will depend as much on factors operating on the supply side as on the volume of demand.

Again, I have to take issue with Professor Haberler about his examination of another assumption or statement regarding agriculture, namely the extent of disguised unemployment. I think that some of our colleagues, including particularly Professor Dovring at Illinois, have attempted to give quantitative evidence of the disguised unemployment in agriculture. I cannot accept that, as is suggested in footnote 2 of page 27, the extreme seasonality of agriculture can justify most of the apparent labour surplus. One can accept that a combine harvester may be justified on a farm even if it is only needed on a few days in the year, but I think we must resist the suggestion that the farm worker is so unadaptable, so specific in his capabilities, that it is defensible that he should remain in agriculture simply because he is needed for a few days in the year. We have to justify the rest of the year for a farm worker more than we have to in the case of a machine. Secondly, in connexion with the same point regarding unemployment, I am not convinced by the argument that substantial numbers could not be released from agriculture without a drop in production. What is the evidence of European statistics about this? In every country in Europe employment in agriculture has been steadily going down, while agricultural production has been steadily going up. Now, you may say, this is not a fair comparison, because farmers are moving on to new production functions all the time. But this is their habitual response to the situation. Faced with evidence, perhaps, of comparative advantage moving against them, they transfer some of their resources, they switch, they develop, they move to a new production function and thereby they can maintain their output, or increase it even, with declining resources. It is true that I quote European data and these are not necessarily applicable to the under-developed countries which Professor Haberler had in mind in making this statement. But, after all, there are degrees of under-development in Europe, and in all these countries we can detect this phenomenon of declining labour force and increasing output going on simultaneously. Surely some simple advances in mechanization could have the same kind of effect in any country.

Coming to the final section dealing with the reconciliation of static theory and dynamic theory, again I must say that I am not happy with the conclusions reached in the paper. It is commonplace now to say that in the nineteenth century the pace of change was altogether slower than it is today, so that any industry had time to make structural adjustments before the demand picture had changed too rapidly. I am not at all sure that we can make such assumptions now. It may well be that by the time a sector such as the agricultural sector has painfully adapted itself to what it thinks is the current demand situation, that situation has moved on to a new position and much of the frustration and difficulty of the change would prove to be unjustified in the event. We are having to adapt to changes in a situation which we can only see for much less than a generation ahead. Was the nineteenth-century farmer in the same situation? If it is not poaching, Mr. President, I should like to try to make a link here between this paper and that by Mr. Lamartine Yates (which will come later), with whose point of view I am in full sympathy, when he suggests that in matters of agricultural policy it is seldom possible to strike the balance of advantage. The reason is that the dynamic situation is on top of us all the time, and the adjustment is to a situation which vanishes even as we adjust to it.

Finally, I think we have to re-examine the assumption that nations are nowadays prompted only by the *mutual advantage* argument when they engage in international trade. Do we not begin to see a mutual responsibility across frontiers acting as a driving force in trade, as well as simply a conviction of mutual advantage? I think those of you who want to take up in the discussion the impact of government action—which Professor Haberler has not touched upon at all—could well begin with this point: the recognition in international trade arrangements of mutual responsibility as well as of mutual advantage.

ROGER SAVARY, *International Federation of Agricultural Producers, Paris, France*

One of our eminent colleagues who is also one of my friends, was telling me yesterday that the most frequently stolen books in the library of his university were Professor Haberler's works on international trade: that is how the younger generation pays its compliments to genius. But I think that this has also another meaning: the theories so eloquently put forward and defended by Professor Haberler seem to give our youth the illusion that there exists *one* economic truth, and that this truth has been discovered once for all. Those doctrines may lead our youth to believe that, provided you have mastered the theory of comparative relative costs and the theory of general equilibrium, you will be able to understand everything that happens in this world and to be the mentor of the statesmen governing it. Alas, I do not believe in the existence of such an absolute truth; after some thirty years of interest and activity in this field, I am no more convinced of that view than I was at the beginning.

Is the theory of comparative relative costs *the* truth, or is it—as some economists are inclined to think—a psychological weapon invented by exporting countries in need of expanding their markets and to be used in economic warfare?

I should not like to have to answer this question: I am sure that this doctrine contains a large proportion of truth; but I think that there are many other sides to international economic problems which must be taken into account before we can dare to put forward principles or formulate and apply economic policies. A pretty society game might be played—in an economic society, of course—on the childish pattern of 'Port and home-spun'. Following this small-scale pattern, the question might be put to the players, 'What is the outcome of the exchange forecast by that theory?' Who, in the last instance, is going to gain from this exchange? What economic or social balance would result from this operation? That would be nothing more than a society game; it would not prove much, but it would be entertaining. Isn't it curious that Ricardo should have chosen Portugal and the United Kingdom for his model? We can well ask now, after one century and a half, which of the two countries has progressed more quickly in its economic development: the seller of Port or the seller of cloth? The lesson should not be forgotten by those countries in the early stages of economic development to which Ricardo's doctrine is being preached.

It would be easy, of course, to go on talking in this strain and—as most of you know better than I do—to go deeper into the criticism of the doctrine of comparative relative costs. This has been done hundreds of times, in all books of economic theory. Such a doctrine does not pay sufficient attention to transfer costs; it does not take into account the risks of excessive specialization—of this pest of far too many economies based on primary production—on only one kind of export, whether coffee or cotton or sugar. It is precisely in this situation, in which there is a maximum of comparative relative advantages, that the production and export potential must be cared for and exploited to its utmost. This doctrine envisages full employment for such a country's labour force, in spite of its being far from homogeneous in technical and managerial abilities. But this is just theory, very 'sophisticated' theory, as Professor Haberler would say. This doctrine discounts the yearning towards a diversified economy which is a common feature of countries trying to establish their economic and political independence.

No doubt the original, elementary doctrine was in due course thoroughly refined: one and a half centuries have produced hundreds, perhaps thousands, of economists who worked on Ricardo's model and ended up by giving it a more coherent shape, more in harmony with the general economic picture of the world. Thus, unavoidably, the striking power and psychological impact of the theory of comparative advantages got lost through these successive refinements: that is what we have just heard from Professor Britton. Is it not rather unfair to suggest that the economic mechanism of the world is accounted for by an extremely simple theory, accessible to a ten-year-old child, and then add that the simplification is not valid unless account is taken of this and that and the other? At what point does the list of corrections and additions make us lose sight of the original theory? Professor Haberler does, indeed, say that the theory of infant industries has for a long time become an integral part of the doctrine of comparative relative costs. But then, if these two theories have really been integrated one into the other, we may well be in agreement; provided, of course, that we define 'infant industry'. Does 'infant' mean that, in such and such a country, nobody has even started producing such and such a cloth? Or that this or that industry has produced the cloth but with old techniques needing modernization? Why shouldn't ageing industries deserve the same protection as 'infant' industries to enable them to be renewed, rejuvenated, and to become competitive? This is just one example; if the door is opened for the one exception of infant industries, how many exceptions will be allowed in?

Mr. President, I shall not press further this rather superficial criticism of that doctrine: I only wanted to bring back, tentatively, on to a more accessible level the most interesting debate opened by the two professors who spoke before me.

In order to carry on this discussion, I should like now to say a few words on the criticism of criticisms, formulated by Professor Haberler, and launch myself into a criticism of his criticism of criticisms.

To start with, and in order not to exceed the time allotted to me, I shall pass by some astonishing statements which literally shook me when I first read them: did Professor Haberler really mean what he wrote? Reading and rereading his paper in the course of several weeks, I had to conclude that Professor Haberler *does* want to say what I had read in his words the first time.

He tells us that monopoly is not practised on the international market; not, at least, to what our President would call a 'statistically significant' extent. To pretend that there is a lively international competition in consequence of the fact that Japanese and American transistors are sold in Hong Kong at lower prices than inside the producer countries, is postulating a rather daring principle. If there is any industrial competition at all, either in national or in international markets, this competition is affecting the province of prices to an ever diminishing degree. It is exercized in many other ways: publicity, expensive conditioning of products, conditioning of consumers, &c. Where international marketing of heavy industrial goods is concerned

—and this is what developing countries have in mind when terms of exchange are mentioned—a kind of competition exists which often follows morally objectionable paths without reducing the price that buying countries will have to pay in the end for the acquired equipment.

Professor Haberler goes on to tell us that—true as it may be that the benefits of increased productivity are not passed on to the consumers—this rule applies to primary producers as much as to producers of manufactured goods. I disagree. And Professor Haberler disagreed too when he reminded us, a few lines before, that the number of competitors on agricultural and primary product markets is much larger than in manufactured goods markets, and that, consequently, competition is much keener and price controls much more difficult to impose.

Further on—and this will be my last point—Professor Haberler speaks of under-employment in agriculture. I have followed with great interest Professor Britton's very valuable criticism on this subject: he has forestalled my own criticism. There is something paradoxical here. It may be true (but is it?) that, in many under-developed countries, the low agricultural productivity rate makes it necessary to have a big labour force in order that all the goods which can be consumed or marketed should be produced. But how can we deny the evident proofs of agricultural under-employment? And it is even more paradoxical if one tries to avoid the issue by having recourse to the seasonal character of certain kinds of work.

Our President tells me that I have only one minute at my disposal. This suits me well, because I have now come to my conclusion. I believe that the doctrine of comparative relative advantages, masterfully summarized for us by Professor Haberler, remains valid. It represents, perhaps, one of the most beautiful constructions in the field of economic theory. But just because of this we must regard it with some circumspection. It would be wonderful indeed if one and only one line of action could provide happiness for everybody. Still, this doctrine contains, undoubtedly, a large part of truth which it would be unjust and unwise to forget. But to whom can it apply? I can think of two classes of countries which can benefit from taking it seriously: the primary production countries which enter the path of industrialization; and the countries which gave birth to the most ancient agricultural civilizations and want to remain agricultural. Both these classes of countries ought to remember that a theory of comparative relative advantages exists. It was, therefore, wise to recall its existence in this congress. But I think—and I conclude as I began—that this doctrine is very far from giving a complete and satisfactory answer to the most urgent questions facing the statesmen of our time.

R. Bićanić, *Zagreb University*, *Yugoslavia*

The paper which we are discussing is written on a high level of theory; nevertheless, it could have wide implications on the low level of politics. I should like to draw attention to some of its implications.

First, comparative advantages for some mean comparative disadvantages for others. Both are reconciled (or concealed) when included in a general theory of equilibrium of this kind. Equilibrium assumes a set of equations; what does this set represent; what is the space unit (a country, region, the world); the time period (five years, ten years, a generation or more); the instruments by which this equilibrium can be reached? We are not willing to accept the marginal costs of the firm as criteria for the equilibrium but ask that the full cost (including the social costs) in the macro-economic sense should be taken instead. On the policy level, it is easy to say that all gain by comparative advantage. But the questions which interest us when dealing with comparative costs in agriculture are: who gains, what kind of gain, and how much of it? We expected to get some guidance on this matter from Professor Haberler's theoretical approach.

My second point refers to the economic process which, in this paper, is reduced to trade mechanism while other mechanisms of the economic process (household, firm, administration, planning) are eliminated. In this way no theory of economic development is considered necessary and the optimal economic growth can be attained through income distribution by the trade mechanism. Does this mean that on the policy level all problems of economic growth can and should be solved by trade? It is said that free trade is the best anti-monopoly policy. It could also be said that free trade is the best monopoly policy. This depends, of course, in both cases on the set of elasticities. This is of particular importance for agriculture, as agriculture is far from being a field of free competition; its market is full of imperfections at all levels.

My third objection deals with the market system. It is stated (page 35) that 'the market system whenever it was given a chance has done amazingly well'. One could say the same about planning, that it has done amazingly well, whenever given a chance. The problem is twofold (*a*) by whom was the chance given or taken away and (*b*) will the achievements of the past be continued in the future in view of modern technical development (changed capital coefficients, increased indivisibility of capital, intensive integration as opposed to the centralization process, &c.)?

I agree with the paper that reduction of ignorance is the necessary factor in economic policy, in the fields of both private and of public activity. I also agree that planners cannot foresee all indirect effects of expansion. But why should we assume as a matter of course that the non-planners can see better than the planners?

The effects of centralized authoritarian planning are such that nowadays on the policy level we are witnessing an ever increasing number of market elements built into the planning mechanism. On the other hand, many countries where in the past the market mechanism has done amazingly well are now introducing planning in their own countries on an increasing scale. The methods of the planning and market mechanisms are changing. There are attempts to construct a theory of polycentric planning to express these tendencies.

RUTH COHEN, *University of Cambridge, U.K.*

Professor Haberler's broad conclusion is that the theory of comparative advantage applies to the modern world, including modern agriculture; but he does not say in what sense it applies. His implication, however, is clearly not that it applies to what does happen at present, but rather to what ought to happen, and that policy should be left broadly to '*laissez faire*'. I do not believe that economic theory supports this argument for developing countries as against those already developed. For this there are a number of reasons but in the time available to me I must concentrate on two. First, it seems to me that Professor Haberler greatly under-emphasizes the importance of the argument he does accept as an exception, that is to say, the 'infant industry' argument. The whole case of those who argue for intervention in development can really be let in through the 'infant industry' gap, because once a few industrial countries exist, free trade prevents or very seriously hinders others from following. It seems to me misleading to quote the development of the first industrial countries; they had no already established industrial countries with which to compete.

There is a second basic difficulty in that the theory of comparative advantages is only a partial theory; it does not in any way indicate the desirable or feasible level of investment. Professor Haberler appears to dispute this as he says that perfect competition implies wage flexibility and assures full employment. But if unemployment is due to a deficiency of the means of production, Walras himself showed us that this theory implied a zero wage. Clearly, it is not a very valid theory and we need something else to determine the value of the variables and the position of equilibrium. Once this is accepted, so many exceptions come in that, in the problems of development as a whole, the theory of comparative advantage seems to me to be left with very little validity. I think, therefore, that it is a pity that Professor Haberler has concentrated on these points, since obviously the theory has a great deal to contribute towards the problem of welfare when one is thinking of comparative production of different goods from countries at the same stage of development. There are a number of other points in which, I think, he has misinterpreted the findings of economic theory; but time does not permit me to mention them.

G. Gaetani-D'Aragona, *University of Naples, Italy*

Professor Haberler's paper gives a list of solid arguments for supporting the assumption that old established patterns which rely heavily on agricultural and raw material exports, by many of the under-developed countries, are not *per se* detrimental to economic development. The logical consequence of a full acceptance of Professor Haberler's arguments is a criticism of the efforts of many countries of Asia, Africa, and South America to switch resources from agricultural to industrial production; namely, towards building up the productive structure for capital goods of industrial origin.

I think that some criticism can be made, however, not on any of Professor Haberler's specific arguments but on the over-emphasis, or under-emphasis that he has given to some of them in supporting the applicability of his thesis to the real world.

For instance, one of the arguments in favour of rapid industrialization that has been recognized as valid by Professor Haberler, namely external economies of a dynamic nature, has such overwhelming weight as to put in a secondary position the other arguments which work against industrialization and which he has so ably exposed.

In this respect, the stronger activation of many of the industrial subsectors and of the tertiary sector that can be obtained by switching resources to the production of capital goods of industrial origin, compared with the weaker result obtained by concentrating on agriculture, can be abundantly demonstrated by a careful analysis of input–output tables that have been constructed in recent years for the over-all economies of many countries.

Secondly, Professor Haberler correctly states that the main bottleneck in economic development must be found in an inadequate supply of productive factors, not in a lack of demand. Allied to this point and to my previous argument for the under-developed countries, there appears to be another reason for not relying heavily on agricultural exports, even if apparently corresponding to international comparative advantage. It is the need to remove the potential obstacle to orderly development that can be represented by a shortage, among the main factors in development, of a constant flow of capital goods of industrial origin. The latter argument in favour of switching resources to the industrial sector, even if apparently conflicting with the theory of comparative advantage, has shown itself to be particularly effective in the last twelve years (1951–63), a period of heavy annual fluctuations of the terms of trade between agriculture and industry. Furthermore, price uncertainty tends to reduce the average expected prices received by the exporting country for the sale of agricultural exports.

A third point of criticism can be made of Professor Haberler's exposition. We do not criticize the over-all index of the terms of trade. In my opinion, however, it is extended over too many and too different raw products of the non-industrial sector as Professor Haberler uses it in denying a long-term deterioration of agricultural export prices. However, it is quite evident that a different picture emerges if we use a subdivision of price trends by categories of commodities and raw materials; for instance, the price index of agricultural products of vegetable origin versus the price index of agricultural goods of animal origin, or the price index of minerals, such as tin, versus the price index of natural rubber. This distinction would show a less favourable trend, over the long term, for prices of commodities of vegetable origin—products that have been prevalently exported by many of the under-developed countries in the last decade.

A fourth point of criticism is connected with the negative attitude taken by Professor Haberler to the extent of the distorting effect on real competition between industries that can be blamed on the oligopolistic structure of heavy industries in the world markets. One cannot deny that many recent developments of the post-war period (the trade liberalization movement, the progress of economic integration in Western Europe) have reduced the monopolistic position, on the national markets, of some of the heavier industries, However, if we wish to explain the efforts of under-developed countries to reduce the over-all negative terms-of-trade situation through rapid industrialization, it is necessary to judge whether the prices of productive factors in the industrial sector, particularly labour prices, tend to reach levels far above their marginal productivity; and, in addition, whether those prices in the industrial sector tend to differ from their marginal productivity values to a greater extent than do those in the agricultural sector.

The greater impact of trade unionism among industrial workers, and the less competitive situation even in international markets in some of the heavier industries as compared with the agricultural sector, can explain the more stable prices in the long run for industrial goods compared with those of agricultural commodities. This situation strengthens the validity of the economic theories that are at the basis of government efforts in under-developed countries towards substantial investments to build up the productive structure of heavy industries; even if those efforts are apparently contrary to what would be suggested, by a specific application of the comparative advantage theory, if it were applied on the basis of market prices.

C. VON DIETZE, *Albert-Ludwigs Universität, Freiburg, Germany*

I doubt whether Professor Haberler's knowledge of agricultural economic problems is really as small as he states in his paper. I should like to offer him some help on two items which require a certain amount of knowledge of agricultural economics and which were referred to by Professor Britton. In his polemics against Professor Haberler, Professor Britton asked him to quote those states which favour food imports in reflection of the distribution of comparative costs. Professor Britton did not take into account that Professor Haberler spoke not only of food, but of agricultural products in general. About two-thirds of all agricultural products imported by the Federal Republic of Germany are free from protectionist taxes or other levies. If we confined ourselves to food, especially to food production in Europe or Germany, the situation would look different. The second item I want to refer to is disguised unemployment in agriculture. The example of the farm worker who can be used only for a few days to work the combine harvester and cannot be employed for the rest of the year seems to me neither instructive nor convincing. There is no such case. The problem of disguised labour as discussed here applies mainly to countries and production levels where the combine harvester is not yet known. I cannot help feeling that Professor Britton refers too much to the special case of British agriculture—especially in that for about a hundred years there has been an absolute decline in the number of those employed in British agriculture. This, probably, is connected with the larger-sized farms which use hired labour. On the European continent, where the family farm system prevails, the number of people employed in agriculture did not decline until about 1925. In less-developed countries this number increases and will probably continue to increase in future.

S. J. J. DE SWARDT, *Department of Agricultural Economics and Marketing, Pretoria, South Africa*

I find Professor Haberler's paper an excellent survey, and I think nobody can disagree with the importance in our own time of the principle of comparative advantage which he has stated so well. There are two points, however, where he has interjected ideas with which I do not agree; but perhaps this is because I have not understood him completely.

The first point was also raised by Professor Britton with respect to the hidden under-employment in some agricultural areas—and we are dealing here with depressed agricultural areas.

Professor Haberler made reference to low productivity as though it were just another name for this hidden under-employment. If he is going to give it that name, then I am prepared to go along with him. I think that we cannot deny the presence either of hidden under-employment or of very low productivity in some agricultural areas. It is very important in these cases to find the best alternative use for the labour of the people there. And this is where we come to my next point. He gives the impression that economic planning tends to lessen the importance of the entrepreneur. Now if that is his intention I want to disagree with him fundamentally, because I do not think that these two concepts are opposed to one another. I like to regard them as complementary. Towards the end of his observations he referred to planning in a planned economy, and I have an impression that he included planning in free (western) economies. I do not see that in a free enterprise economy planning excludes, or lessens one bit, the importance of the entrepreneur. We should see them more as complementary to one another than as mutually exclusive. With the rapid changes which are taking place today even the entrepreneur is becoming confused. It is in the interest of all, therefore, that someone in authority with large resources for analysing information should make the information and the results of the analyses available to enterpreneurs, and indicate policy. One may say that planning has nothing to do with policy, but these two are knit so closely together in a modern free economy that planning must have a part in governmental policy. It is difficult to say where policy ends and planning begins. I do not see that the one really excludes the other and I should be happy to hear from Professor Haberler that he does not exclude the necessity of economic planning in a free economy.

L. O. af Heurlin, *Hămeenkylă, Finland*

We must remember that the theory of comparative advantage has a property of comparative disadvantage. It is impossible, in practice, to enlarge the theory to cover several products and countries. If, for example, we have ten products and ten countries we have more than 3,600,000 combinations or 10! of these products between these countries.

Gottfried Haberler (*in reply*)

My paper has been subjected to rather severe criticism both by the scheduled discussants and from the floor. This is, of course, the purpose of a conference like this. I welcome the critical remarks and appreciate the opportunity to reply. I am afraid, however, that I shall not be able to discuss at sufficient length all the points that have been raised because to do so I would have to speak for hours. Let me take up those remarks which I think I have correctly understood and where I believe that I can clarify my position.

One type of criticism which I find in most contributions is that I have not discussed certain problems which the critic would have liked to see discussed. The topic which was assigned to me covers a large area and if I had discussed every aspect I would have had to write a long book and not a short paper. For example, the problem of how much planning is compatible with a basically free, individualistic, economy was raised by several speakers. I did mention planning in my paper. Perhaps I did not make it clear enough, though it should have been clear from the context, that I meant comprehensive central planning. I would not, of course, deny that every businessman has to plan, and large enterprises have to plan on a large scale. Economics deals with rational behaviour and that implies planning by each consumer and producer. And it goes without saying that the government, too, has to plan its own administration and policy. I thought I had made it clear, but let me repeat it, that I did not want to recommend a *laissez-faire* policy either in the domestic or in the foreign trade area. Even in the most 'liberal' countries—liberal in the original European non-socialist sense, which is almost the opposite of the current American usage—the Government has vast tasks in the area of general administration of law and order, in health, education, and other things. All that requires planning, in other words, rationally ordering and carefully preparing these activities. But central planning, telling the private sector what it has to do in considerable detail, is something else again. The precise delimitation of the private and public sector raises many problems on which reasonable men may well disagree. These I did not try to discuss.

Comparative cost theory does not imply a 100 per cent. free trade policy. There are theoretically valid arguments for protection if there exist important monopolies, if there is widespread unemployment and if the existence of external economies can be proved. These things I could not discuss in detail although they are hinted at in my paper. Contrary to what was said by at least one discussant from the floor, it can be demonstrated that unemployment has much to do with wage rigidity. This problem again I could not take up in my paper, but I hope I may be allowed to mention that I have discussed it extensively elsewhere.

Let me now take up some of Professor Britton's points. He said that in the Proceedings of the Bellagio Conference, published under the title *New Directions of World Trade* there is only one passing reference to comparative advantage. One is tempted to reply—the worse for that Conference! But that would be unfair because the careful reader will find implicit reference to comparative cost in many places even though the words 'comparative cost' may appear only once. Gerda Blau's remark, quoted by Professor Britton, permits many different interpretations which are by no means incompatible with acceptance of the comparative cost doctrine. Contrary to what Professor Britton says, Ragnar Nurkse did not reject the theory of comparative cost. This can be verified by looking up the reference to it in his collected essays, *Equilibrium and Growth in the World Economy.*[1] He was not an out-and-out *laissez faire* advocate. But this, as explained above, does not imply a denial of the comparative cost principle.

Professor Britton was looking in my paper for an empirical verification of the comparative cost theory. (I did not give any but I can refer him to the well-known articles by Sir Donald MacDougall, 'British and American Exports: A Study Suggested by the Theory of Comparative Cost'.[2] He asked whether we can find evidence, either

[1] Edited by G. Haberler, Harvard University Press, Cambridge, Mass. 1961.

[2] Part I, *Economic Journal*, Dec. 1951; Part II, *Economic Journal*, Sept. 1952. See also Bela Balassa, 'An Empirical Demonstration of the Classical Comparative Cost Theory', *Review of Economics and Statistics*, vol. 45, 1963, p. 231 and the reference there to the literature, old and new.

statistical or in policy statements, that some countries today are planning to increase their food imports or to cut down their food exports; for there must exist some countries for which the comparative cost situation must indicate such a change. I fail to see the relevance of this test. Even if there are countries which believe in comparative cost, they need not be planning to increase food imports, &c. They may want to leave that decision to market forces. It is true, of course, that most countries pursue protectionist policies and counteract the changes which the comparative cost situation would lead one to expect. But what has that got to do with the validity of the comparative cost theory? Is the theory that smoking is bad for health disproved by the existence of millions of smokers? He also asked whether 'immobility of some of the resources [in agriculture] has not grossly affected the relevance of the theory to our sector'. Lurking behind this somewhat obscure remark seems to be the seemingly ineradicable misconception that the theory postulates perfect mobility of all factors. That land or more generally natural resources are immobile (or better 'specific') is obvious and has important implications but does not in the least make the theory inapplicable or irrelevant.

Professor Britton is surprised that I did not discuss in my paper 'price support schemes and other types of government-controlled agriculture and their impact on international trade'. I wonder how many other areas he expected me to discuss in a short paper. But it is, of course, not true, as he seems to believe, that the theory of comparative cost 'precludes government actions in connection with agriculture'. It seems not to occur to him that the theory may throw some light on what the government could do and on the probable consequences of some of its actions. On Engels's law Professor Britton misunderstood me. What he says is quite right. Engels's law does not necessarily work 'to the detriment of the terms of trade regarding agricultural products'. I was criticizing others and am glad to have Professor Britton's support.

As far as disguised unemployment is concerned, I am afraid there is a real disagreement which cannot be resolved in the space available. The fact that in Europe 'employment in agriculture has been steadily going down while agricultural production has been steadily going up' proves just as little as the same development in the U.S. and many other countries. That output can rise, if more capital is invested, better methods are employed, &c., even though input of labour has gone down, is obvious. But the theory of disguised unemployment states that *without* changes in technology, &c. some labour can be withdrawn without reducing output. To interpret the theory of disguised unemployment to mean that labour can be withdrawn from agriculture (and industry) without reducing output, if and when input of capital is increased and technology is improved, reduces it to a triviality. In that sense, every worker is partially a 'disguised unemployed' because ten years hence he will produce more while working fewer hours because new capital will then be available and methods of production improved. Professor Britton is in sympathy with Mr. Yates's paper. I, too, like much of it and could quote some of his findings (e.g. those on the terms of trade) in support of my own paper. Professor Britton quotes Mr. Yates as saying that 'in matters of agricultural policy it is seldom possible to strike the balance of advantage'. If that is true *ex post* after many of the facts have become available, how can planners and policy makers hope to figure out *ex ante* what the balance of advantage will be? The moral seems to be that they have to rely to a large extent on theoretical presumptions such as those which the theory of comparative cost can provide. At the end of his remarks Professor Britton questioned whether nations are nowadays 'prompted only by mutual advantage arguments when they engage in international trade'. He then urges them to recognize 'mutual responsibility as well as mutual advantage'. The implication and the relevance of this vague statement are not clear to me. The theory of comparative cost *per se* does not make any statement on what the motivation of policy is or should be. But surely it can help to evaluate the probable consequence of government actions and thus make them more rational and responsible.

I now come to M. Savary's very interesting and eloquent remarks. M. Savary pays compliments to the theory of comparative cost. He says that it 'remains valid', but he makes it abundantly clear that he really thinks it is no good. He even hints that it may be just a psychological weapon invented by the exporting countries in need of expanding their markets. Why not say openly that the exporting countries are the industrial countries which use the theory in 'economic warfare' against the less developed countries? This is, of course, the modern version, propounded by many non-Marxists, of the Marxian theory of class warfare applied to the international relation between the rich and the poor countries. These views I have discussed and criticized. If M. Savary had something else in mind, why did he not tell us what it was?

Referring to Ricardo's example of England and Portugal exchanging wine and cloth, he asks 'what has happened during the next century and a half to the sellers of Port and the sellers of cloth?' The implication is that the sellers of industrial products have done well and the sellers of agricultural products have sadly lagged behind, and that the deplorable outcome is somehow in contradiction to the theory of comparative cost. But is this not a little too simple? Is the seller of Port not also much better off than he was? Is the difference between the two countries greater now than it was in Ricardo's time? Has Portugal followed free-trade policies? Today her tariff is one of the highest. What was it during the intervening years? I don't know. Has M. Savary made a study of all that? If he has, it is a pity he does not tell us. If he has not, why the oblique hint? He has also spoken of risks of excessive specialization and 'the yearning for a diversified economy'. The implication is that these legitimate concerns are neglected by the comparative cost theory. In point of fact the theory does not compel anybody to neglect these things. But it may help to put a price tag on such yearnings and to evaluate the cost of avoiding the risks of specialization. This could be a very useful contribution.

M. Savary asks whether it is not unfair to suggest that the economic mechanism of the world is accounted for by an extremely simple theory—such as the comparative cost doctrine. He realizes, of course, that the theory has become very complicated indeed and that it recognizes the validity, in principle, of the theory of infant industry protection. He then asks where to draw the line—why should not ageing industries deserve the same protection as infant industries? The general application to all industries, infant and ageing industries alike, makes nonsense of the argument. Is it not a little unscrupulous to suggest such a generalization? M. Savary was startled by my statement that there is much competition in international markets of industrial products. If he lived in the U.S. he would not find it startling that there can be keen competition even between such giant firms as the producers of automobiles. And the sight of innumerable Renaults, Volkswagens, and Citroëns on the American roads would make him appreciate even more keenly the power of competition under free trade and the benefits it bestows on the consumer. But is it necessary to go to America to appreciate all that? Has not the Common Market injected much more competition into the cartellized economies of Europe than there used to be? Is it so difficult to visualize that with freer trade all-round competition could be further enhanced and the consumer served better? I am surprised by M. Savary's implicit denial of these facts of modern European and American life! Finally, M. Savary speaks of 'the evident proofs of agricultural under-employment'. I wish he had told us what they are. What I can see is low, extremely low, productivity, but that is not the same thing as disguised unemployment. Now, I am not an agricultural economist and I may have missed something. That is why I quoted Professor Theodore Schultz who cannot see 'the evident proof' either.