Ricardian Foreign Trade Theory in the Light of the Classical Revival

VIVIAN CHARLES WALSH

I. Introduction

Foreign trade theorists during the neoclassical period often presumed (for purposes of contrast with their own models) what they believed to be classical or "Ricardian" models. In these supposedly Ricardian models, trade took place between two countries in terms of commodities produced by means of the services of a single "given resource," labor. The contrast intended was with post-Heckscher/Ohlin models, in which commodities were produced by a number of given resources, in Walrasian style. The Walrasian concept of production by means of factor services was taken to characterize both models.

Since the classical revival in the mid-twentieth century, these mistakes are less forgivable. Admittedly, it is a well known characteristic of economic science that new theory is usually (and for good reason) first worked out for a simple closed model, and only later extended to open models, where two or more economies interact. But modern classical theory has now been applied to foreign trade by (among others) the late Oskar Morgenstern and Professor Gerald L. Thompson. Thus the fundamental work on modern classical models of John von Neumann in the nineteen-thirties, importantly generalized by Professors John G. Kenneth, Oskar Morgenstern and Gerald L. Thompson in 1956, and the fundamental developments of Professor Joan Robinson in 1956, and of Mr. Piero Sraffa in 1960, and the work of Professors Pierangelo Garegnani, Luigi Pasinetti, Kenneth Arrow, Paul Samuelson, and John von Neumann. See also his "Changes in the Rate of Profit and Switches of Techniques," and other papers in "Preludes in Capital Theory: A Symposium," Quarterly Journal of Economics, 80 (1966), pp. 503-87.

*Graduate Faculty, New School for Social Research; State University of New York, Buffalo, Buffalo. 1976-
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II. A Sketch of the Minimum Structure for a Modern Classical Reproduction System

It will be enough for present purposes to characterize a wide class of linear models for modern classical theory. Only the assumptions about production will be given, since this is the bone of contention.

Let A, then, be a square matrix of per unit input requirements, the columns measuring inputs into each sector. Let B be a matrix of outputs for unit level of intensity of a process, each row measuring the outputs from a given process. Let Y be a column vector of gross total outputs. Then one may define T to be a convex, polyhedral cone such that:

\[ T = \{ (B - A)Y : Y \geq 0 \} \]

Then \( R^*_2 \) be the non-negative orthant of \( n \)-dimensional Euclidean space. Then one can say that there is a "modern classical reproduction structure" just in case:

**Axion 1:** There exists a cone, \( T \).

**Axion 2:** \( T \) has a non-empty intersection with \( R^*_2 \).

**Axion 3:** \( A^\prime \) is weakly positive.

A "modern classical reproduction structure," it will be seen, is being characterized as a system which produces commodities by means of commodities, and has available an at least viable linear technology, and where no positive output can be obtained without some positive input.

Readers of Morgenstern and Thompson will notice that, while Axion 2 above is somewhat in the same spirit as Morgenstern and Thompson's first axon, their axon set as a whole differs from and is more restrictive than that presented here. This results from the fact that their axioms are designed to cast their theory in a form which allows the application, in its subsequent development, of the solution methods of the theory of matrix, games. This procedure was perfectly appropriate for their purposes, but has been avoided here so as to make the family resemblance of the modern classical structure to Ricardo stand out more clearly in the absence of possibly confusing traditions.

III. What It Really Means to Call Ricardo's Foreign Trade Theory "Classical"

Everyone, including the great intellectual historians of the neoclassical period, has always called Ricardo's foreign trade theory "classical," but different theories have been meant by the use of that predicate. In this paper, what is meant by saying that Ricardo's theory is "classical" are all consequences of treating Ricardo's system as a model for the theory of a classical reproduction system. These consequences include: 1. commodities are divided into "necessaries" and "luxuries" 2. necessaries are used in the production of every commodity, luxuries in the production of none (except possibly themselves) 3. labor is a "given resource," it is available in return for a certain quantity of corn and other necessities 4. manufactured necessaries are available at constant cost 5. the role of trade in Ricardo is the import of agricultural necessaries (corn) for absolutely less (corn) than they cost at home. The purpose of this is to raise the rate of profit 6. the import of a luxury (such as wine) has no interest for Ricardo, since it has no effect on the rate of profit — there is no evidence that Ricardo was interested in what neoclassical economists mean by "gains from trade." Since Ricardo believed (correctly) that England had an absolute advantage in manufactures and that other countries (such as Poland and America) had an absolute advantage in the production of corn, the theory has absorbed his lifelong interest was one of absolute advantage. To eyes used to the work that has grown out of von Neumann and Sraffa, this is all very "classical." But it is not the usual picture of Ricardo.

Perhaps the first application of the post-Sraffian point of view to the interpretation of Ricardo's foreign trade theory was made by Professor Joan Robinson, in her Reflections on the Theory of International Trade, in 1974. Even she, however, chose to organize her treatment of Ricardo's trade theory around the short passage on comparative advantage in the Principles of Political Economy and Taxation. She wrote:

"The propositions which are taught as the orthodoxy of international trade are founded on the case which Ricardo made against protection. The development of the theory, in the narrow channel that was appropriate to Ricardo's demonstration of the principle of comparative advantage."

It is indeed true that orthodox neoclassical foreign trade theory has always interpreted Ricardo as if his one example of comparative advantage was in fact his theory of foreign trade. The spirit of Robinson's essay, however, is quite inconsistent with this neoclassical view, as it is only natural since the neoclassical interpretation wholly misses Ricardo's classicism, as well as misinterpreting his lifelong views on foreign trade. What is essentially new in her interpretation comes to the surface when she begins to discuss growth:

A lower real cost of producing wine in England does not affect the rate of profit on capital, it only increases the purchasing power of profit incomes. The whole advantage goes to the drinker of wine. What Ricardo was really concerned about was to abolish the corn laws so as to lower the real cost of wage goods and raise the rate of profits. This rise in profits is not at the expense of wages, for the..."
commodity wage is fixed in any case. An increase in profits leads to an increase in the rate of accumulation and so of the growth of employment, national income and wealth. This was the desideratum of the whole argument.14

Here we have it: Ricardo's fundamental contribution to classical theory was his analysis of what determines the rate of profit, and his foreign trade writings, from beginning to end, are concerned with the effects of free trade in corn on the rate of profit-with the influence of a low price of corn on the profits of stock. Robinson remarks that "Ricardo's theory of profits was not well understood until Pierre Sraffa disintegrated the simple 'corn' model..."15 The essence of this is that "when corn is the only wage good, and the corn-wage rate is given, the rate of profit on capital is determined by the technical conditions of production of corn."16 Unfortunately, "Ricardo himself never quite succeeded in reformulating his theory of profits when the real wage consisted of a number of different commodities, produced by various techniques, but we know from Sraffa and von Neumann that there is no difficulty in doing so."17

The essential idea is embodied in the distinction made by Ricardo between "necessary" and "luxuries." He is perfectly precise and explicit about this.

It has been my endeavour to show throughout this work, that the rate of profits can never be increased but by a fall in wages, and that there can be no permanent fall of wages but in consequence of a fall of the necessaries on which wages are expended. If, therefore, by the extension of foreign trade, or by improvements in machinery, the food and necessaries of the labourer can be brought to market at a reduced price, profits will rise. If instead of growing our own corn, or manufacturing the clothing and other necessaries of the labourer, we discover a new market from which we can supply ourselves with these commodities at a cheaper price, wages will fall and profits rise; but if the commodities obtained at a cheaper rate, by the extension of foreign commerce, or by the improvement of machinery, be exclusively the necessaries consumed by the rich, no alteration will take place in the rate of profits. The rate of wages would not be affected, although wine, velvets, silks, and other expensive commodities should fall 50 per cent, and consequently profits would continue unaltered.18

This is precisely Sraffa's distinction between basic and non-basic commodities. A commodity is basic if it enters, directly or indirectly, into the production of all others. It is non-basic if it is a luxury: such commodities as "are not used, whether as instruments of production or as articles of subsistence, in the production of others."19 Sraffa adds:

These products have no part in the determination of the system. Their role is purely passive. It is an invention where to reduce by half the quantity of each of the means of production which are required to produce a unit of a 'luxury' commodity of this type, the commodity itself would be halved in price, but there would be no further consequences; the price relations of the other products and the rate of profit would remain unaffected. But if such a change occurred in the production of a commodity of the opposite type, which does enter the means of production, all prices would be altered and the rate of profit would be changed.20

In Ricardo, wage goods, the "necessaries" of the laborer, are basics, as are seed in agriculture, iron for ploughs, and the manufactured inputs into manufacturing. "Wine, velvets, silks and other expensive commodities," on the other hand, are non-basics. Ricardo's theory of profit, and hence of the advantages of importing cheaper corn, "depend entirely on this structure. This concept of the existence of a self-reproducing productive structure is fundamental to the care of classical political economy. Sraffa tellingly remarks that "we shall assume throughout that any system contains at least one basic product.21 " The definition of T in section 2, above, together with Axions 1, which it will be recalled, adopts the existence of such a cone as an assumption of the theory, are in the spirit of Sraffa's remark just quoted. Axion 2, which requires that the technology be at least visible, is equally fundamental. A classical reproduction structure may use any surplus over necessary inputs either for growth or for the production of non-basics, but the production of these non-basics does not in any way determine the fundamental characteristics of the reproduction technology. As Ricardo rightly saw, changes in the cost of producing or importing non-basics like wine have no effect upon the rate of profit, which is determined by the reproduction conditions for basics.

None of these concepts can be defined within the mathematical structure of a post-Walrasian (Herckscher/Ohlin) general equilibrium system, where commodities are produced by means of the services of one or more given resources. In such a system, the inputs (the factor services) are parameters of the model, unlike a classical reproduction system in which the input mix and the output mix are both variables of the model and contain the same basic commodities. Hence the possibility of subtracting A from B (see the definition of T, section 2, above). At equilibrium, a post-Walrasian (Heckscher/Ohlin) general equilibrium system shows zero profits in the price relations of the model. In a classical reproduction system, on the contrary, if surplus shows in long run equilibrium in the quantity relations of the model, then its dual, profit, will appear in the dual price relations, being earned at a uniform rate on the value of capital in each sector.

How, in the light of all this, could Ricardo's foreign trade theory have been understood by the intellectual historians of the neoclassical period—seeing Ricardo, as they had to, through post-Walrasian eyes? Ricardo's views on foreign trade, throughout his life, concern the effects of the cheap import of a basic (corn) upon the level of the uniform rate of profit. The concepts crucial to the argument are not defined in post-Walrasian theory.

IV. The Historical Evidence

The famous passage in his Principles where Ricardo plays with the idea of comparative advantage (it was in the air in his day) runs for about two pages, and is only too well known. Let us set against this questionable couple of pages everything else that Ricardo wrote, from the beginning of his career to its end, concerning foreign trade. This was no inconceivable output. What must be grasped is that Ricardo's essential idea on foreign trade (that allowing cheap corn into England will raise the rate of profit and encourage accumulation) was inextricably embedded in everything he wrote on political economy, from the point where he first referred to his theory of profits in a letter to Malthus of the 17th August, 1813, to up to his essay On Protection to Agriculture, of 1822. This concern over the possibility of cheap corn shows again and again throughout the Ricardo/Smith correspondence, and it is the whole subject of the argument in Ricardo's first major work on foreign trade theory, the Essay on the Influence of a Low Price of Corn on the Profits of Stock.22 In the overwhelming majority of treatments of what they take to be Ricardo's foreign trade theory, this substantial essay is virtually ignored by the neoclassical intellectual historians. But than the theoretical force of its more than thirty pages of sustained argument cannot be fitted into the formal structure of their model.

Again when Ricardo wrote the "Advertizement to the Third Edition"23 of his Principles,
on March 26th, 1821, he devoted more than half of this brief but significant statement to stressing the great importance of "leaving unrestricted the importation of foreign corn.

This same theme is heard throughout the chapters of the Principles specifically concerned with aspects of foreign trade. Incidentally, there are four such chapters, not one, as overworked modern mathematical model builders, who possibly took their Ricardo from foreign trade textbooks, seem inclined to imagine.

In Chapter XIX, "On Sudden Changes in the Channels of Trade," the entire argument is a vivid defense of the free importation of corn. In Chapter XXVII, "Bounties on Exportation and Prohibitions of Importation," the argument begins with corn, considers the laborer's necessities in the light of the views of Smith, and discusses the divergent interests of country gentlemen and manufacturers with respect to the import of corn. In Chapter XXV, "On Colonial Trade," his concern is to sort out the effects of regulations of trade with colonies upon the rate of profit. Always the classical concern about the importance, for a country with an absolute advantage in manufacturing, of being able to import freely an important basic from countries such as Poland or America with an absolute advantage in corn. Always the argument turns on the effect on the rate of profit and hence on the accumulation of capital. Always it is about long run general equilibrium properties of a classical reproduction system, generating a surplus.

What about Chapter VII, "On Foreign Trade," whose title appears to have led lazy readers to assume that it is the only treatment of foreign trade in the Principles?

Of the 22 pages, the first seven are devoted to Ricardo's great theme, the relation of profits and the cost of necessities (see our note 18 above). As he points out, it has been his endeavor "throughout this work." Then comes the two-page comparative cost example, of which more anon; finally the remaining 13 pages of the chapter are devoted to Ricardo's version of the quantity theory of money. He returns again to his great theme in the two later essays, in the Funding System, and especially in the essay On Protection to Agriculture.

V. The Comparative Cost Example

How should we regard the couple of pages devoted to a comparative cost example in the Principles? The most original suggestions so far seem to be those contained in a recent paper, "James Mill and the early development of comparative advantage," by Professor William O. Thwaites. Having pointed out that Ricardo was interested simply in the free import of corn, and that this "does not require any involve comparative advantage," Thwaites remarks:

In view of Ricardo's very brief and almost casual treatment of comparative costs, it seems doubtful whether his concern with the doctrine was serious. Certainly it did not fit in easily with the Ricardian theoretic structure of trade and development. Could it be that the idea for its inclusion in the chapter came from James Mill, being yet another, albeit more important instance of his direct influence on Ricardo?

Thwaites marshalls most interesting evidence for this thesis, which the reader should examine for himself. He notes the oddity of Ricardo's example—Portugal supposedly more efficient than England in both wine and cloth. We may remember that any Britisher who had followed with interest the Duke of Wellington's campaigns there would know how awkward Portugal was! And then the commodities chosen: cloth and wine—everywhere else Ricardo wrote about the importance of cheap corn, and specifically stressed the unimportance of importing a cheap non-basic, like wine or silk.

Thwaites draws attention to the footnote which Ricardo appended to his comparative cost example. Ricardo had written:

It will appear then, that a country possessing very considerable advantages in machinery and skill, and which may therefore be enabled to manufacture commodities with much less labour than her neighbours, may, in return for such commodities, import a portion of the corn required for its consumption, even if its land were more fertile, and corn could be grown with less labour than in the country from which it was imported.

This note is surely conclusive. The theory of comparative cost was in the air, so Ricardo was willing to use it in a Reidactio ad absurdum argument against the supporters of the corn laws given England's crushing superiority in manufactures, it would pay her to import corn even if she had a (smaller) absolute superiority in corn production. But everyone knew England to be absolutely inferior to Poland and other countries in corn, so it must be even more in her interest to allow in foreign corn. The footnote shows him returning after a brief exercise of fancy (signalled by the


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