Did Ricardo Really Have a Law of Comparative Advantage? A Comparison of Ricardo’s Version and the Modern Version

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Abstract: This article compares Ricardo’s statements on the Law of Comparative Advantage (LCA) with modern versions. It interprets Ricardo’s LCA as a practical guide or as a piece of useful commercial advice for commodity traders, and argues that, contrary to modern versions, Ricardo’s LCA does not constitute a logical basis for international specialisation of production. It contends that Ricardo’s case for international specialisation is based on absolute advantage, not comparative advantage. It concludes that, if ‘LCA’ is taken to mean the LCA as found in modern textbooks, then Ricardo did not have a Law of Comparative Advantage.

1 Introduction

Histories of economics frequently refer to ‘Ricardo’s Law of Comparative Advantage’ in eulogistic terms. Angell (1926, p. 67) said that Ricardo’s ‘formulation of the principle of comparative costs was an intellectual tour de force of unusual brilliance’. More recently the law of comparative advantage (LCA) has been described as the ‘deepest and most beautiful result in all of economics’ (Findlay 1987, p. 574), as ‘one of the more remarkable stories in the history of economic thought’, and as one of the ‘most fundamental laws’ of economics. It has been claimed that ‘No law is more subtle yet more obvious on deep reflection’, and that Ricardo’s ‘proof’ of it is ‘elegant, simple, and sublime’ (Ruffin 2002, pp. 742, 746). Shaikh, considerably less inclined to eulogistic extravagance, nevertheless pays tribute to the role and longevity of the LCA:

There is no proposition so central to orthodox theories of international trade as the so-called Law of Comparative Costs… Even the relentless search of neoclassical economics for a state of perfect triviality has not emptied this particular principle of its content. (Shaikh 1980, p. 204)

The purpose of this article is to compare Ricardo’s statements with modern versions of the LCA, and to ask whether Ricardo really had a Law of Comparative Advantage in the modern sense. The article presents the view that, whereas the modern LCA is used to support the case for international specialisation in production (supplementing the case based on absolute advantage), the words of Ricardo on comparative advantage do not necessarily lead to an argument for international specialisation. Ricardo did indeed argue for international specialisation, but his argument seems to be a consequence of a Law of Absolute Advantage (LAA), not his LCA. The article therefore concludes that, if the LCA is understood in its modern sense, incorporating an implication for international specialisation, then Ricardo did not have an LCA, and the expression ‘Ricardo’s Law of Comparative Advantage’ is a misnomer and a misinterpretation of Ricardo.
If Ricardo’s version of the LCA does not support and was not intended to support the case for international specialisation of production, what was its intention? The proposition advanced in this article is that Ricardo’s version of the LCA was intended as a practical guide or a piece of commercial advice for commodity traders, not as a prestigious law designed to govern the deployment of the world’s productive activities.

2 The Extent and Clarity of Ricardo’s Writings on the LCA

By comparison with the amount of attention given to the LCA in modern literature, the amount of Ricardo’s own writing on this subject is very limited. The index to the eleven volumes of Ricardo’s Works and Correspondence (hereafter, WC) contains only one entry under the heading ‘Comparative costs and foreign trade’, namely, Volume I, On the Principles of Political Economy and Taxation, Chapter VII, ‘On Foreign Trade’, pp. 133-41. In these nine pages (out of a total of 429 pages in the Principles) only about six paragraphs, amounting to about 520 words or one and two-thirds pages, contain material directly connected with the LCA.

The six paragraphs are scattered through pages 133-41, not collected together in a continuous account and not given a distinct sub-heading.

Viner (1955) argued that, although the principal source of Ricardo’s views on the LCA is Chapter VII of the Principles (1817), an additional small but important source is a brief note by Ricardo in his Notes on Malthus (WC, Volume II). Malthus in his Principles of Political Economy (1820) had said:

The rapid increase of the United States of America, taken as a whole, has undoubtedly been aided very greatly by foreign commerce, and particularly by the power of selling raw produce, obtained with little labour, for European commodities which have cost much labour.

(Malthus 1820, p. 259)

And Ricardo responded in Note 259:

It can be of no consequence to America, whether the commodities she obtains in return for her own, cost Europeans much, or little labour, all she is interested in, is that they shall cost her less labour by purchasing than by manufacturing them herself. (Ricardo, WC, II, p. 383)

Viner interpreted this comment by Ricardo as an ‘explicit statement’ of the doctrine of comparative costs, that is, an explicit statement that ‘imports could be profitable even though the commodity imported could be produced at less cost at home than abroad’ (Viner 1955, p. 441).

Academic merit is of course not to be measured by the number of words, but if Ricardo had thought that his writings on this subject were as important as many subsequent writers have thought, and if in his own mind he had endowed it with semi-religious esteem as they have done, then he surely would have written more.

Also, if he had thought that he was announcing a momentous and canonical law of economics, he surely would have taken much more care with its presentation. As some commentators (for example, Chipman 1965) have noted, Ricardo’s presentation is somewhat deficient in clarity and consistency. The version given in the first edition (1817) of his Principles remained substantially unchanged in later editions (1819, 1823), with no improvements in clarity and no resolution of inconsistencies.

The brief and unpretentious nature of Ricardo’s statements on the LCA suggests, despite the accolades of future disciples, that he himself regarded his
views on this question as common knowledge, at least amongst bullion and commodity traders, and did not claim or pretend that he was announcing the discovery of a new universal law of economics.

Maneschi (1998a, 1998b) and Aldrich (2004) have argued that the principle of comparative advantage did not originate with Ricardo; that it was well known before Adam Smith; and that other authors besides Ricardo, notably Torrens, contributed to its development. Aldrich downgrades Ricardo’s role, saying that ‘Ricardo had not appreciated there was a principle worth developing’ (2004, p. 379).

An interesting contributor to the LCA, and probably a precursor of Ricardo, was the author of an anonymous eleven-page pamphlet entitled *A Letter on the True Principles of Advantageous Exportation. In Refutation of Certain Popular Notions of that Subject*, London, 1818. Although it was published in the year following Ricardo’s *Principles* of 1817, the author seems to have been unaware of Ricardo’s comments on the LCA, and the pamphlet was possibly composed before 1817. It contains a remarkably clear statement of the principle now known as the Law of Comparative Advantage, although the author does not use that term; and, even more remarkably for the time, it expresses the principle in algebraic terms. Of particular significance for the theme of this present article is the fact that the pamphlet presents the principle of comparative advantage as a well-known piece of practical advice for those engaged in commodity trading, not as a universal law that should govern the geographical location of the world’s productive activities.

The pamphlet was reprinted by Plant (1933), who described it as ‘a formal, generalised statement of the main principle [of comparative advantage] by an obvious master of precise theoretical exposition’, and expressed surprise that it had ‘completely escaped the attention of economists’. Plant would have been even more surprised to learn that, seventy years after his 1933 reprint, the pamphlet continues to escape the general attention of economists. In Plant’s estimation, the author of this pamphlet ‘should take his place with Ricardo, J.S. Mill, Longfield, Mangoldt and Edgeworth as one of the outstanding exponents of the theory of international trade in the nineteenth century’.

It is strange that this 1818 pamphlet does not contain any reference to Ricardo’s *Principles* of 1817. One possible explanation of this omission is that despite being familiar with ‘the pamphlets and dissertations of the day’, the author remained unaware of Ricardo’s 1817 views on this topic. But another possible explanation is that the pamphlet was composed (but not published) before Ricardo’s *Principles* was published. The tone of the author’s opening remarks suggests that he would not have borrowed Ricardo’s ideas without acknowledgement. He specifically asks the editor not to publish his ideas if these ideas have already been published by others. In some respects – for example, in the use of algebra – the author introduces elements that are not found in Ricardo’s *Principles* and that could be considered as analytically superior to Ricardo’s treatment of comparative advantage.

The question of who can claim the honour of priority in conceptualisation and publication – whether the honour should go to the author, or Ricardo, or Torrens, or someone else – is of course interesting. But of greater significance is what *Advantageous Exportation* does not say. It does not say that the principle of comparative advantage is a ‘law’ that governs, or should be allowed to govern, economic policy on the international dispersion of the world’s productive activities. It does not claim to demonstrate to political economists or to governments what
commodities should be produced at home and what should be imported. The apparent intention of the author of *Advantageous Exportation* was merely to provide practical advice on how to make profits in commodity trading. The author does not claim originality or exclusivity. He speaks as if what he is saying is common knowledge amongst commodity traders.

The existence of this pamphlet thus lends credence to the view that Ricardo was also aware that what he was saying on the LCA was common knowledge.8

3 The Matrix of the ‘Four Magic Numbers’

With regard to the LCA, the key passages in Ricardo’s Chapter VII are:

England may be so circumstanced, that to produce the cloth may require the labour of 100 men for one year; and if she attempted to make the wine, it might require the labour of 120 men for the same time. England would therefore find it her interest to import wine, and to purchase it by the exportation of cloth.

To produce the wine in Portugal, might require only the labour of 80 men for one year, and to produce the cloth in the same country, might require the labour of 90 men for the same time. It would therefore be advantageous for her to export wine in exchange for cloth. This exchange might even take place, notwithstanding that the commodity imported by Portugal could be produced there with less labour than in England. Though she could make the cloth with the labour of 90 men, she would import it from a country where it required the labour of 100 men to produce it, because it would be advantageous to her rather to employ her capital in the production of wine, for which she would obtain more cloth from England, than she could produce by diverting a portion of her capital from the cultivation of vines to the manufacture of cloth. (Ricardo, *WC*, I, p. 135)

This example is customarily summarised in the following matrix of what Samuelson has called ‘the four magic numbers’:

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>100</td>
<td>120</td>
</tr>
<tr>
<td>P</td>
<td>90</td>
<td>80</td>
</tr>
</tbody>
</table>

where E and P are England and Portugal; C and W are cloth and wine; and the numerals are the costs of production in labour units. In determining which good (cloth or wine) should be exported and which imported from each nation, and how much profit can be made, the LCA proceeds by comparing cost ratios.9

4 Calculation of the Cost Ratios

An important point of difference between Ricardo’s LCA and the modern LCA concerns the method of calculating the cost ratios. Should the ratios be the cloth/wine ratios within each of the two countries, or the cloth/cloth ratio and the wine/wine ratio between the two countries? These two ratio systems could be described as the same-nation-different-goods ratio (SNDG) and the different-nations-same-good ratio (DNSG). Are we meant to compare 100/120 with 90/80, or are we meant to compare 100/90 with 120/80?
J.E. Cairnes (Some Leading Principles of Political Economy Newly Explained, 1874) was of the opinion that the ratios that should be compared in the LCA are the SNDG ratios:

when it is said that international trade depends on a difference in the comparative, not in the absolute, cost of producing commodities, the costs compared, it must be carefully noted, are the costs in each country of the commodities which are the subjects of exchange, not the different costs of the same commodity in the exchanging countries. Thus, if coal and wine be the subjects of a trade between England and France, the comparative costs on which the trade depends are the comparative costs of coal and wine in France as compared with the comparative costs of the same articles in England.

England might be able to raise coal at one-half the amount of labour and abstinence needed in France; but this alone would not render it profitable for France to obtain her coal from England.\textsuperscript{10}

Transferring those remarks to Ricardo’s example, Cairnes was in effect saying that the cost of cloth in England should be compared with the cost of wine in England, not with the cost of cloth in Portugal; and the cost of wine in Portugal should be compared with the cost of cloth in Portugal, not with the cost of wine in England.

But Viner, commenting on Cairnes, said that either system of ratios would do, as they lead to the same result:

\text{it is unessential whether the cost ratios which are compared are the ratios between the costs of producing different commodities within the same countries [that is, the SNDG ratios] or the ratios between the costs of producing the same commodities in different countries [that is, DNSG ratios].}^{11}

Replacing Ricardo’s numbers with letters, Viner gave the matrix:

\[
\begin{array}{ccc}
C & W \\
E & m & n \\
P & r & s \\
\end{array}
\]

Trade would be profitable only if the price ratios are not equal; that is, using the SNDG ratios, only if \( \frac{m}{n} < \frac{r}{s} \), or if \( \frac{m}{n} > \frac{r}{s} \); or using the DNSG ratios, only if \( \frac{m}{r} < \frac{n}{s} \), or if \( \frac{m}{r} > \frac{n}{s} \). But if \( \frac{m}{n} > \frac{r}{s} \), then obviously \( \frac{m}{r} > \frac{n}{s} \).

Viner also argued (1955, p. 439) that the first method [SNDG] ‘will ordinarily be found much more convenient to use’ because ‘the units used in the measurement of cost need not be identical or even comparable in the two countries’.\textsuperscript{12} Thus, if real costs per unit are measured in the labour units of each country, then in England it is possible to make a meaningful comparison between the 100 English-labour units (ELU) required to produce a unit of cloth and the 120 ELU required to produce a unit of wine. It is not necessary, as Viner said, to know whether English labour units are comparable to Portuguese-labour units (PLU).

But, although the choice of method for comparing cost ratios has no effect on the direction and outcome of trade, it can sometimes give rise to different explanations of the trading process and to different policy prescriptions. If the DNSG method is chosen, trading profits are said to occur because of differences between nations in productive efficiency, and a policy of geographical specialisation in production, with free trade, is recommended. If the SNDG method
is chosen, trading profits occur irrespective of productive efficiency and, as will be argued below, irrespective of whether the trade is free or is protected by tariffs.

Which of the two ratio systems did Ricardo use? Unfortunately, the textual evidence is unclear. In the two paragraphs from p. 135 of the Principles, quoted above, Ricardo appears to have been thinking of DNSG ratios when he referred to a commodity being produced in Portugal ‘with less labour than in England’, and when he compared the labour cost of cloth in England (90 men) with the labour cost of cloth in Portugal (100 men). But immediately prior to these two paragraphs, he had said:

The quantity of wine which she shall give in exchange for the cloth of England, is not determined by the respective quantities of labour devoted to the production of each, as it would be, if both commodities were manufactured in England, or both in Portugal. (Ricardo, WC, I, pp. 134-5)

thus implying that it is not appropriate to use the DNSG ratios.

A possible preference for the SNDG ratios might also be implicit in Ricardo’s Note 259 in his Notes on Malthus, as quoted above:

It can be of no consequence to America, whether the commodities she obtains in return for her own, cost Europeans much, or little labour, all she is interested in, is that they shall cost her less labour by purchasing than by manufacturing them herself. (Ricardo, WC, II, p. 383)

In saying that it is of ‘no consequence’ to the profitability of America’s trade with Europe whether the labour cost in Europe of the goods imported from Europe is greater or less than the labour cost in America of the goods exported to Europe, Ricardo seems to have been saying that labour costs in America cannot be meaningfully compared with labour costs in Europe, presumably because an American-labour unit is quite different from a European-labour unit, and because there is no common standard of comparison, no common measure of value. His Note 259 thus seems to have been comparing SNDG ratios rather than DNSG ratios; that is, comparing the labour cost of cloth in England with the labour cost of wine in England (where the labour units for cloth and wine are comparable), and comparing the labour cost of cloth in Portugal with the labour cost of wine in Portugal (where the labour units for cloth and wine are comparable); rather than comparing the labour cost of cloth in England with the labour cost of wine in Portugal (given that the labour units of the two countries are not comparable), and comparing the labour cost of wine in England with the labour cost of wine in Portugal (for the same reason).

Given the conflicting textual evidence, it is difficult to obtain a clear and consistent understanding of Ricardo’s view on the appropriate method of comparing cost ratios. But the question has important policy implications. If Ricardo did in fact regard the SNDG ratios as preferable to the DNSG ratios, then it will be argued below that the LCA of Ricardo does not provide a justification for a policy of international specialisation in production.

5 Ricardo on the Gains from Trade

Another difference between Ricardo’s LCA and the modern LCA can be seen on the question of how the gains from trade are divided between the two nations. Viner (1955, p. 446) noted that William Ellis in 1825 and James Mill in 1826 stated that the gains from trade would be equally divided. The modern view is that the sharing
of the benefits received by Portugal and England in Ricardo’s example will depend on the exchange rate between cloth and wine. Gains will occur if exchanges are made between limiting ratios, and will be shared between the traders according to the strength of their reciprocal demands.

Schumpeter also believed that Ricardo had argued that the gains from trade are always shared equally, but Schumpeter regarded this as a weakness or even as an error in Ricardo’s thinking, or as an unjustified and arbitrary assumption: ‘Ricardo and his immediate followers did not worry about this but glibly assumed that the advantage would be halved – which may have spelled error but also may have been merely carelessness’ (Schumpeter 1954, pp. 607-8). However, Ricardo’s four magic numbers can be interpreted in a way that shows that, when trade is conducted using the technique of comparative advantage, the gains from trade must necessarily be shared equally between England and Portugal. In England the ratio of the cost of cloth to the cost of wine is 100/120 = 5/6. In Portugal the ratio is 90/80 = 1.125. Thus, relative to wine, cloth is cheaper in England than in Portugal. Therefore, it would be profitable to export cloth from England to Portugal, and in return to import wine from Portugal into England. A unit of cloth in England costs 100 ELU. When exported to Portugal it is worth 90 PLU and will exchange in Portugal for 90/80 = 1.125 units of wine, which if exported to England will be worth 1.125 × 120 = 135 ELU. The investment of 100 ELU in England has thus increased to 135 ELU, or a profit of 35%.

Conversely, if wine worth 80 PLU in Portugal is exported to England, it will be worth 120 ELU and can be exchanged in England for 120/100 = 1.2 units of cloth, which when exported to Portugal will be worth 1.2 × 90 = 108 PLU, making a profit of 28 on 80 PLU, or 35%.

Thus, according to this interpretation, England and Portugal gain by exactly the same percentage (35%), and Ricardo is absolved of the charges of glib assumption, error and carelessness; and the modern interpretation, as outlined by (for example) Schumpeter, is seen as a misinterpretation.

The result can be shown algebraically. Substituting symbols for the numbers in Ricardo’s example:

$$\begin{align*}
C & \quad W \\
E & \quad q \quad r \\
P & \quad s \quad t
\end{align*}$$

A unit of cloth purchased in England for \(q\) ELU is exported to Portugal. In Portugal, one unit of cloth exchanges for \(s/t\) units of wine. Therefore, the unit of cloth from England will exchange for \(s/t\) units of wine in Portugal, which are exported to England. In England one unit of wine is worth \(r\) ELU. Therefore, the \(s/t\) units of wine imported from Portugal will be worth in England \(r(s/t)\) ELU. The initial investment of \(q\) ELU for the unit of cloth in England will thus have increased in value in the ratio of \(r(s/t)/q = sr/qt\). Using Ricardo’s numbers, the ratio will be \(90 \times 120)/(100 \times 80) = 10800/8000 = 1.35\).

Conversely, a unit of wine purchased in Portugal for \(t\) PLU is exported to England, where it exchanges for \(r/q\) units of cloth. These are exported back to Portugal, where they will be worth \(s(r/q)\) PLU. The initial investment of \(t\) PLU for the unit of wine in Portugal will thus have increased in value in the ratio \(s(r/q)/t = sr/qt\), or again, using Ricardo’s numbers, a ratio of 1.35, thus showing that the profits are exactly the same for both countries.
The actual size of the profit will of course depend on the sizes of the two ratios but, whatever the size of the profit, it will be the same whether the transaction begins with the export of English cloth or with the export of Portuguese wine.

This difference of opinion about how the gains are shared would seem to substantiate the claim that there is a significant conceptual gap between this interpretation of Ricardo’s version of the LCA and the modern version.

6 A Puzzling Footnote

The following footnote occurs on p. 36 of Ricardo’s Principles:

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. Two men can both make shoes and hats, and one is superior to the other in both employments; but in making hats, he can only exceed his competitor by one-fifth or 20 per cent., and in making shoes he can excel him by one-third or 33 per cent.; – will it not be for the interest of both, that the superior man should employ himself exclusively in making shoes, and the inferior man in making hats?

(Ricardo, WC, I, p. 136)

The first sentence is a statement of the LCA. It argues that it can be profitable for country A to import some of its corn requirement from country B even though the cost (in labour) of producing corn in A is less than in B. In so doing, it establishes the distinction between comparative advantage and absolute advantage. In this respect, it links Ricardo’s LCA with modern versions of the LCA, and, to that extent, is a counter-argument to the theme of this article.

But several features of this footnote are puzzling, and tend to differentiate the Ricardo version from the modern version. Firstly, by referring to commodities being manufactured in one country ‘with much less labour’ than in her neighbours, and to corn being grown ‘with less labour’ in the importing country than in the exporting country, Ricardo was saying that the labour-cost units for each commodity can be compared between the two countries. In other words, he was making comparisons of the DNSG kind (different nations, same goods), thus contradicting his own statement two pages earlier that such comparisons do not determine international exchanges, namely:

The quantity of wine which she [Portugal] shall give in exchange for the cloth of England, is not determined by the respective quantities of labour devoted to the production of each, as it would be, if both commodities were manufactured in England, or both in Portugal.

(Ricardo, WC, I, pp. 134-5)

If Portuguese labour is different from English labour, and if there is no accepted way of translating one into the other, then from the fact that the production of a good requires \( x \) units of Portuguese labour and \( y \) units of English labour, nothing can be deduced about the relative productive efficiency of the two countries.

Another puzzling feature of this footnote is that, whereas the first sentence refers to countries, the second sentence refers to two men, without specifying that they are operating in different countries, or are using different currencies.
This second sentence has been described as a ‘tremendous footnote’ in which Ricardo ‘applied the theory’ (Ruffin 2002, p. 740). But it is doubtful whether the shoes-and-hats example in the second sentence of this footnote is relevant for a theory of comparative advantage. It seems merely to be showing the advantages of specialisation, in an absolute sense. It neither supports the LCA nor opposes it. Ricardo’s use of the term ‘his competitor’ suggests that in this example Ricardo had in mind a situation where the two men are selling their products into a market, and are competing with one another for sales to third parties, rather than a situation where the two men are trading shoes and hats between themselves. If the superior man can exceed the inferior man by one-third in the production of shoes, and by one-fifth in the production of hats, it is clearly to the advantage of the superior man to concentrate exclusively on making and selling shoes, and for the inferior man to concentrate on hats. But Ricardo in this footnote does not discuss the process whereby the superior man profits by producing shoes, selling them to the inferior man, receiving in return hats made by the inferior man; and does not show how the inferior man profits by producing hats, selling them to the superior man, receiving in return shoes made by the superior man. This second sentence of the footnote on p. 136 of Ricardo’s Principles thus appears to be not relevant to the LCA. It does not suggest a pattern of events similar to the pattern implied by the matrix of ‘the four magic numbers’, and therefore does not support a link between Ricardo’s LCA and modern versions of the LCA. It does not support a recommendation for international specialisation of production.

7 Schumpeter on the Gains from Trade

Schumpeter (1954, p. 607) expressed Ricardo’s matrix as follows: ‘[Trade is profitable] if wine and cloth exchange on any terms between the limits of one unit of English cloth for 9/8 of a unit of Portuguese wine and one unit of English cloth for 5/6 units of Portuguese wine’, and if one unit of English cloth exchanges for 9/8 of a unit of Portuguese wine ‘all the advantage goes to England, and Portugal is no better off than she would be without trade’.

His conclusion that all the advantages go to England and none to Portugal appears to have been reached in the following way. Using Ricardo’s matrix, a trader buys one unit of English cloth for 100 ELU, and sends it to Portugal, where he sells it to a Portuguese trader for 9/8 units of Portuguese wine, which when sent to England will be worth 9/8 × 120 = 135 ELU, giving the exporter a profit of 35 on 100 ELU. But when the Portuguese trader receives one unit of English cloth in exchange for his 9/8 units of Portuguese wine, it will be worth only 90 PLU. He is no better off than if he had exchanged 9/8 units of Portuguese wine for one unit of cloth produced in Portugal at a cost of 90 PLU per unit, without being involved in foreign trade. Thus Schumpeter concluded that all the advantage of the trade goes to England, and none to Portugal.

But according to the interpretation of Ricardo’s matrix given above, the percentage profit from selling English cloth to Portugal and the percentage profit from selling Portuguese wine to England must be equal, because if there is a comparative advantage in one commodity, there must be an equal comparative advantage in the other. This means that if the percentage profit on the first transaction is 35%, the percentage profit on the second must also be 35%; and if the profit on the second is zero, the profit on the first must also be zero. On the logic of this interpretation of Ricardo’s matrix, it is mathematically impossible to have a
situation where, on any particular transaction, all the profit goes to England and none to Portugal, or vice versa.

Schumpeter’s argument appears to presuppose that the trading is a simultaneous bartering process, with the English trader selling cloth to a Portuguese trader, and the Portuguese trader simultaneously selling wine to the English trader, and the sale of one being conditional on the sale of the other. As Schumpeter said, there would be no initiative for a Portuguese trader to engage in such a barter when the exchange rate is one unit of English cloth for one and one-eighth units of Portuguese wine.

But the trading situation encountered by commodity traders would not necessarily involve simultaneous bartering. The unit of English cloth could be exchanged for a sum of money equivalent to 90 PLU, rather than for Portuguese wine; and if the seller of English cloth, who is now in possession of money equivalent to 90 PLU, wishes to buy Portuguese wine, one and one-eighth units of Portuguese wine could be exchanged for the money equivalent of 90 PLU, rather than for English cloth.

According to the interpretation of Ricardo’s LCA offered in this article, traders of English cloth and Portuguese wine will receive the same percentage profit, whatever the terms of trade between the two commodities, whereas Schumpeter and other modern commentators say that the benefits can be unequal, even to the point of one trader getting all the benefit and the other trader getting nothing. To the extent that Schumpeter’s interpretation of the LCA has survived in the modern version, these differences between Schumpeter’s interpretation and the interpretation offered in this article provide further grounds for concluding that Ricardo did not have a law of comparative advantage, as it is currently understood.

8 Sraffa on the Gains from Trade

In commenting on Ricardo’s ‘England would give the produce of the labour of 100 men, for the produce of the labour of 80’, Sraffa (1929-30, p. 541) concluded that when England exports cloth and Portugal exports wine, England ‘gains the labour of 20 Englishmen’ and Portugal ‘gains the labour of 10 Portuguese’:

England gives the cloth produced by 100 Englishmen in exchange for the wine produced by 80 Portuguese; and since this quantity could only have been produced by 120 Englishmen, she gains the labour of 20 Englishmen. Portugal gives the wine produced by 80 Portuguese for the cloth produced by 100 Englishmen; the production of this cloth would have required the labour of 90 Portuguese, and therefore Portugal gains the labour of 10 Portuguese.

Sraffa thus argued that, according to Ricardo, both countries gain. He rejected the view proposed by John Stuart Mill (1844, pp. 5-6) – and repeated by Torrens (1857, pp. xv-xvi) and Einaudi (1929-30) – that Ricardo had incorrectly asserted that one country obtained the entire benefit. According to Sraffa, the error occurred in John Stuart Mill’s interpretation of Ricardo.

However, the interpretation of Ricardo proposed in this article differs from the one given by Sraffa, in two respects. First, as argued above, England gains the labour of 35 English men, not 20; and Portugal gains the labour of 28 Portuguese men, not 10. Secondly, on Sraffa’s interpretation, although both countries benefit, they do not benefit equally – England gains the labour of 20 English men on an outlay of 100, or a gain of 20%; and Portugal gains the labour of 10 Portuguese
men on an outlay of 80, or a gain of 12.5%. But according to the alternative interpretation of this article, the gain for each is 35%.

A difficulty with Sraffa’s interpretation is that it does not take all the data into consideration. Thus, when England sells cloth to Portugal, only three amounts in the matrix (100, 80, 120) are relevant to Sraffa’s conclusion. The fact that the cost of a unit of cloth in Portugal is 90 PLU is not factored into Sraffa’s argument. His argument would reach the same conclusion whatever the cost of cloth in Portugal might be. For example, it would lead to the unacceptable conclusion that, if the cost of cloth in Portugal were 66.67 PLU, trade would be profitable even though the cost ratios are equal. \(^{15}\) Trade based on the technique of comparative advantage is profitable only if the cost ratios are not equal.

### 9 Comparative Advantage, Free Trade and Protection

A significant difference between Ricardo’s LCA and modern versions of the LCA concerns their implications for free trade. Anwar Shaikh (1980, pp. 206-7) has observed:

The law of comparative costs, whatever its form, has always been associated with the advocacy of free trade. Ricardo’s own development of this principle was in fact part of his polemic against the corn laws....and from that time onward free traders of all kinds have based their own arguments on those of Ricardo.

There is no doubt that Ricardo was in favour of free international trade, that he opposed protection, and that, invoking the principle of absolute advantage, he supported and encouraged a policy of international specialisation under which countries would produce at home the goods that could be produced more cheaply than equivalent imported goods, but would import goods that could be obtained more cheaply than equivalent home-produced goods. He supplemented the absolute-advantage argument with the comparative-advantage argument, showing that trade can be profitable between two countries even if the two commodities are both dearer in one country than in the other.

A tariff on imported goods will reduce the size of the profits obtainable using the technique of comparative advantage (as well as the benefits obtainable by using absolute advantage), and the profits could be entirely eliminated if the level of the tariff is sufficiently high.

As argued above, if the matrix of costs per unit is

\[
\begin{array}{ccc}
E & 100 & 120 \\
P & 90 & 80 \\
\end{array}
\]

or

\[
\begin{array}{ccc}
C & W \\
q & r \\
s & t \\
\end{array}
\]

a comparative-advantage transaction that begins with the export of one unit of wine from Portugal will result in a revenue equal to \(sr/q\) or 108 PLU. But if a tariff of \(x\) ELU is charged on each unit of Portuguese wine imported into England, the return on the transaction will be \(s(r-x)/q\). The transaction will be profitable if

\[
\frac{s(r-x)}{q} > t
\]

or

\[
x < \frac{(sr-tq)}{s}
\]
that is, using Ricardo’s figures,

\[
    \text{if } x < 31.11 \text{ ELU per unit of wine}
\]

The same profitability limit to the tariff applies to a comparative-advantage transaction that begins with the export of cloth from England. Ricardo’s LCA thus shows the upper limit beyond which a tariff will render trade unprofitable. But it also shows that trade can be profitable as long as the tariff is below that upper limit. In that sense, the guidance it provides is just as useful under protectionism as under free trade.

10 The LCA: a Law that Determines the International Location of Production? Or a Guide for the Successful Commodity Trader?

The following statements from Ricardo’s *Principles* incorporate the idea that unrestricted foreign trade will affect the location of industry and will lead to international specialisation in production:

Under a system of perfectly free commerce, each country naturally devotes its capital and labour to such employments as are most beneficial to each. This pursuit of individual *advantage* is admirably connected with the universal good of the whole. By stimulating industry, by rewarding ingenuity, and by using most efficaciously the peculiar powers bestowed by nature, it distributes labour most effectively and economically: while, by increasing the general mass of productions, it diffuses general benefit, and binds together by one common tie of interest and intercourse, the universal society of nations throughout the civilized world. It is this principle which determines that wine shall be made in France and Portugal, that corn shall be grown in America and Poland, and that hardware and other goods shall be manufactured in England. (Ricardo, *WC*, I, pp. 133-4)

But this eulogy of free trade, and of the *laissez-faire* notion of the harmony of interests between the individual and society, does not necessarily require as its premise the LCA. A recognition of the advantages of trade based on absolute advantage would be a sufficient premise.

Some commentators appear to assume that, because Ricardo’s Chapter 7, ‘On Foreign Trade’, includes statements that refer to the LCA, therefore the whole of Chapter 7 is concerned with the LCA, and that, for example, statements predicting and advocating international specialisation in the location of industry must have been intended by Ricardo as policy consequences of the LCA. The interpretation being offered here is that only a small section of Chapter 7 refers to the LCA; the bulk of Chapter 7 refers to absolute advantage. One of the difficulties in interpreting Ricardo’s LCA – and I believe one of the reasons for misinterpretation – is that his comments on comparative advantage are mixed in with his comments on absolute advantage in Chapter 7, without any clearly signposted separation.

The custom of discussing the LCA in terms of trade between countries – a custom fostered by Ricardo – encourages policy recommendations for territorial specialisation, especially when the argument is based on DNSG ratios instead of SNDG ratios. For example, if the labour cost of a unit of wine in Portugal is 80, and its labour cost in England is 120, Portugal is said to be the more efficient in wine production, and the economic policy recommendation is that wine production should be concentrated in Portugal.
In the interpretation given in this article, Ricardo’s LCA makes a comparison between SNDG ratios, that is, between the ratio of the price of commodity A and the price of commodity B in country X, and the ratio of the price of commodity A and the price of commodity B in country Y, and concludes that, if the two ratios are unequal, then profitable trade is possible, using the comparative advantage method. The validity of this conclusion does not depend on a comparison between the price (or cost of production) of commodity A in country X and the price (or cost of production) of commodity A in country Y. In other words, the conclusion does not depend on the efficiency of producing commodity A in country X compared to the efficiency of producing commodity A in country Y; nor on the efficiency of producing commodity B in X compared to the efficiency of producing commodity B in Y. It follows therefore that if Ricardo’s LCA is not concerned with the relative costs of production of commodity A in X and Y, and if a comparison between the relative costs of production in X and Y is not a prerequisite for the validity of Ricardo’s LCA, then from Ricardo’s LCA nothing can be legitimately concluded, on grounds of productive efficiency, about whether commodity A should be produced in country X or in country Y, or about which country should specialise in A and which country in B.

The advantages go in the first instance to the merchants, and there is no reason for the merchant who undertakes an international transaction to be a resident of either of the countries involved. A trader who initiates a profitable export of English cloth, for example, and/or an import of Portuguese wine, need not be resident in either England or Portugal and need not be either English or Portuguese. He could be either English or Portuguese or Russian or Persian or Polish. Moreover, the validity of Ricardo’s arithmetic is not dependent on there being two traders. The two trades could be conducted by the one trader, and could even be conducted simultaneously. It would also be possible for profitable trading to occur without any English cloth leaving England or any Portuguese wine leaving Portugal.

If international trade is looked at from the point of view of the middleman or speculator or commodity dealer, the important issue is not where the goods are produced, but how much profit can be made by trading the goods. It is of little consequence to the trader whether wine is cheaper to produce in Portugal or in England. The possibility of profitable trade exists whenever the SNDG ratios are different, irrespective of where the goods are produced. Ricardo’s LCA thus takes on a different meaning when considered from the perspective of an individual trader or speculator, instead of being considered as a universal law guiding the international location of production.

Post-Ricardo renditions usually discuss the LCA in the context of a situation where countries X and Y both produce commodities A and B, and both seek to obtain their desired quantities of A and B by Specialising in the production of one and obtaining the other by exchange. Ricardo’s comments, however, do not seem to be limited to trade conducted in that way. His comments and his arithmetic are also relevant to a situation where a trader seeks to profit by buying goods in country X, exporting them from X to buy different goods in country Y, exporting those different goods from Y to X, and exchanging them in X for more of the original goods than were started with. This approach seems to be what Ricardo had in mind when he said: If by the purchase of English goods to the amount of 1000l., a merchant can obtain a quantity of foreign goods, which he can sell in the English market for 1,200l., he will obtain 20 per cent. profit by such employment of his capital. (Ricardo, WC, I, p. 128)
There is no reference here to two merchants who are both negotiating to obtain their desired quantities of two kinds of goods. Ricardo here seems to have been concerned here with ‘a merchant’ (not necessarily English) whose aim is to obtain profits, not goods.

11 Conclusion

The interpretation offered in this article is that Ricardo’s version of the LCA does not lead to any conclusions regarding the location of industry; it has no bearing on which commodities should be produced in which countries. It is simply a rule that shows merchants how to make money in trade.

The conclusion therefore is that Ricardo’s LCA is quite different from the standard modern version of the LCA; and that, if ‘LCA’ is taken to mean the LCA as found in modern textbooks, then Ricardo did not have an LCA. The conclusion remains tentative, given that Ricardo’s own words on the subject are not as clear and consistent as they might have been. However, there seems to be sufficient textual evidence to raise serious doubts about attributing the modern version of the LCA to Ricardo, especially if the modern version is presented as an argument for free trade and the geographical specialisation of production.

Ricardo’s LCA is conventionally used to support the case for international specialisation in production, in combination with the argument based on absolute advantage. Its arithmetical examples, especially when expressed algebraically, seem to add an aura of vigour and certainty to the case for specialisation. The conclusion of this article is that Ricardo’s LCA does not provide an argument for specialisation; and that the idea that the case for specialisation is based on arguments based on absolute advantage, which are far less certain, as they require a judgemental evaluation of the welfare claims of conflicting sectional interests. Removing Ricardo’s LCA diminishes the sense of absolute certainty often conveyed by arguments for international specialisation in the location of industry.

If this conclusion is valid, it leads on to another question – one that is too large to be considered on this occasion – namely, at what stage and for what reason and under whose influence was Ricardo’s LCA superseded by the modern LCA? Is it at all significant that the transmutation appears to have coincided with the development of British political imperialism and economic hegemony?

Notes

1 The expressions ‘comparative advantage(s)’ and ‘comparative cost(s)’ are used interchangeably in this article.
2 Ruffin (2002, p. 734) calculates that Ricardo devoted 973 words to explaining the LCA, and that, of these, 485 were concerned with the importance of factor immobility.
3 See also the review of Maneschi (1998b) by Bliss (2000, p. 695).
In describing this anonymous pamphlet as ‘obscure’, Blaug (1968, p. 127) was presumably referring only to its rarity and provenance, not its contents.

Plant (1933, p. 41). A less flattering verdict was given by Viner (1955, p. 485): ‘As Plant points out, the author’s exposition, much of it algebraic, is of excellent quality. Unfortunately, however, the algebra is wasted on the exposition of a fallacy’ (Viner 1955, p. 485). Viner’s criticism would appear to be too sweeping. It referred to the following paragraph:

Observe; it matters nothing whether the article, thus comparatively cheaper, be really cheaper or dearer than in the other market; but only that it should be cheaper, if paid for in that other article. As for example, silk stockings, bought with brandy in England, may be cheaper than in France; though perhaps, absolutely, silk stockings may be as cheap in France as in England, or cheaper (in Plant 1933, p. 45; Viner 1955, p. 485; original italics).

The author’s discussion of an article that is ‘really cheaper or dearer than in the other market’ appears to refer to a situation where the prices of a commodity in the two countries are directly comparable, because the monetary units in the two countries either are the same or are convertible into one another by means of a common currency unit at the prevailing rate of exchange (see Viner 1955, p. 314). In that situation, as Viner argued, trade will be profitable when there are differences in absolute prices; profitability does not depend on differences in comparative prices. As Viner noted (1955, p. 485): ‘why not export the money, which would appear less troublesome as well as more profitable?’ Viner would thus appear to be justified in declaring that, on this particular point, the author has committed a ‘fallacy’. However, this particular point occupies only one small paragraph. Viner’s criticism was not explicitly restricted to that point, but appears to condemn the entire work as a fallacy. Viner did not show in what respects the rest of the work is fallacious.

There is the additional problem of explaining why, if the author was familiar with the writers on political economy, he did not refer to Torrens, given that some modern commentators have claimed that Torrens had formulated the idea of comparative advantage before Ricardo published his Principles in 1817.

The author asks the editor to ‘look into the pamphlets and dissertations of the day, and see if there be any tolerably clear exposition of my principle already before the public: – if there should, suppress the observations I now send you’ (in Plant 1933, p. 43).

In arguing that Ricardo’s comments on the LCA were common knowledge amongst commodity traders, and that he did not announce them as a new insight or as a momentous theoretical innovation that should guide the future deployment of the word’s productive activities, it is not being suggested that his comments were unimportant, or that he regarded them as unimportant. As a guide to the successful conduct of commodity trading, they should obviously not be ignored.

Following Ricardo’s practice of identifying labour-cost of production with exchange value or price, the ratios could be described as either ‘labour-cost ratios’ or ‘cost ratios’ or ‘value ratios’.

Cairnes (1874, pp. 373-4). Cairnes’s references to ‘costs’ in the first sentence of this quotation were criticised by Viner: ‘It is not costs at all which are directly to be compared, but ratios between costs’ (1955, pp. 438-9; original italics; see also Wu 1939, p. 157). Viner’s criticism seems somewhat harsh. Cairnes’s references to ‘comparative costs’ imply ‘ratios’ even though the term is not used. Cairnes’s recognition of the difference between comparative costs and absolute costs is clearly evident also in his comment: ‘The one condition, therefore at once essential to, and also sufficient for, the existence of international trade is a difference in the comparative, as contra-distinguished from the absolute, cost of producing the quantities exchanged’ (Cairnes 1874, p. 310; quoted by Wu 1939, p. 157).
11 Viner (1955, pp. 438-9); see also Blaug (1968, p. 127): ‘it does not matter whether we compare the cost ratios of producing the same good in different countries or of producing different goods within the same country’; and Gomes (1987, p. 138): ‘it does not matter whether we compare the cost ratios of the different commodities within the same countries or the cost ratios of the same commodities in the different countries’.

12 Angell (1926, p. 372) puts the point more firmly: ‘How can we possibly pass from quantities of labor in one country to quantities of labor in the other?’

13 If this second sentence was intended by Ricardo to form part of his exposition of the LCA, then it implies that his LCA was not intended as a law exclusively related to international trade, and that the trading principles applicable to international trade are also applicable to intranational trade. But that would appear to contradict the following statement three pages earlier in the Principles, as quoted above: ‘The same rule which regulates the relative value of commodities in one country, does not regulate the relative value of the commodities exchanged between two or more countries’ (Ricardo, WC, I, p. 133).

14 Schumpeter (1954, p. 607). See also J.S. Mill (1909, p. 587): ‘We know that the limits, within which the variation [of the exchange rate] is confined, are the ratio between the costs of production in the one country, and the ratio between their costs of production in the other’.

15 The ratio of cloth to wine in Portugal would be 66.67/80 = 100/120, equal to the ratio of cloth to wine in England (100/120).

16 The converse is also true, namely, if the two ratios are equal, then profitable trade (using the comparative advantage method) is not possible. Bhagwati (1967, p. 76) has shown that profitable trade is possible when the cost or productivity ratios are equal. But the argument of the present paper is that the profitability that exists when the ratios are equal stems from the operation of absolute advantage, not comparative advantage. Equality of the ratios removes the possibility of profits derived from comparative advantage, but does not remove the possibility of profits derived from absolute advantage.

17 The countries of the merchants, as well as the merchants themselves, benefit, given that the merchants are part of the countries. Ricardo, in this context, did not suggest any contradiction between the interests of merchants and the interests of countries.

18 The possibility will of course be affected by costs such as transport, insurance, and commissions, and by government charges such as tariffs and taxes.

References


