

THE ALLEGEDLY INVARIABLE VALUE OF  
SRAFFA'S STANDARD COMMODITY

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It is a common opinion that Sraffa's standard commodity is closely related to Ricardo's invariable standard of value.<sup>1</sup> I want to examine a single aspect of that idea, the contention that the standard commodity is invariable in value, as Ricardo's standard was meant to be. Although I shall not take sides on the contention itself, I shall try to show that Sraffa's own proof of the invariability of the standard commodity is defective.

If two goods alter their relative values, which is the one whose value has changed absolutely? Many economists would be inclined to dismiss such a question as senseless. Value, they would say, is a relative matter, and the notion of absolute value is meaningless. It seems to me, however, that neither Ricardo's nor Sraffa's conception of absolute value need upset even the most fastidious of economists. It has to do with causes, the causes of changes in relative value. Suppose that bread and milk have altered in their relative value, and the cause of the change is something that has happened to milk alone. Perhaps there has been an improvement in milk technology, but everything to do with bread is just as it was before. Then it is entirely natural to say that the relative value has altered because of a change in the value of milk, not of bread. That, surely, is not offensive to common sense.<sup>2</sup>

When Ricardo first asks whether a commodity has changed in absolute value (in Section 1 of Chapter 1 of the Principles) he assumes for simplicity that the cause of any alteration in relative value can indeed be traced to one or other of the commodities involved. He takes it that things exchange in proportion to the labour embodied in them. Therefore,

<sup>1</sup> See: Piero Sraffa, Production of Commodities by Means of Commodities, Cambridge University Press, 1973, Chapters 3 and 4; and David Ricardo, The Principles of Political Economy and Taxation, Chapter 1, and "Absolute Value and Exchangeable Value", both in Works and Correspondence of David Ricardo (Piero Sraffa ed.), Cambridge University Press, 1951-73, Vols. I and IV respectively.

<sup>2</sup> Compare J.S. Mill, Principles of Political Economy, Book 3, Chapter 1, § 3.

relative prices can alter only if some commodity is produced in a new way, and then we can say that that commodity has changed its absolute value. An invariable standard of value is simply some product whose production method never varies. If anything changes in value relative to the standard, the cause of the change must be some alteration in the way this thing is produced; its absolute value has changed.

Relative values, however, can alter for another reason. A fall in the wage (with the rise in the profit rate that goes with it) can affect relative values even without any variation in the way goods are made. A reduction in the wage is likely to raise the value of products which require in their production a low ratio of labour to capital, relative to those with a higher ratio. Now, when two products change in relative value because of this cause, the cause cannot, at least at first sight, be located in one product or the other. So, if we adopt Ricardo's common sense notion of absolute value, we cannot say that there has been a change in the absolute value of one product or the other. Changes of relative value which are not identifiable as changes in absolute value Ricardo found a problem, and they led him to say that there could be no such thing as an ideal standard of absolute value. Certainly, when two products alter their relative price owing to this cause, Ricardo never undertook to fix the source of the alteration in one or other of them.

That, though, is exactly what Sraffa attempted. He did not concern himself with changes in production techniques, but concentrated exclusively on Ricardo's second cause of movements in relative values. Sraffa claims that when relative values are altered because of alterations in the wage and profit rate, the standard commodity maintains its value while others change around it. The cause does not operate on the standard commodity itself.

It is true that, as wages fell, such a commodity would be no less susceptible than any other to rise or fall in price relative to other individual commodities; but we should know for certain that any such fluctuations would originate exclusively in the peculiarities of production of the commodity which was being compared with it, and not in its own. (§ 23.)

Sraffa tries to justify this claim in Chapter III. First of all he offers a special explanation of why a change in the wage makes price changes necessary. 'Suppose,' he says, 'that prices did remain unchanged when the wage was reduced and a rate of profits emerged.' (§ 16). There will then be some industries, the ones that use a lot of labour in proportion to their means of production (means of production are measured by their value (§ 22)), which will save more by the wage reduction than they have to pay out in increased profits. These, then, will have a 'surplus'. Industries with a low ratio of labour to means of production will have a 'deficit'. The only reason why prices need to change is to eliminate these surpluses and deficits. The 'net result, and ... complete justification of the price changes remains the simple one of redressing the balance in each industry. They fully achieve that object, but it could not be achieved with anything less' (§ 20).

There will be a critical proportion of labour to means of production which will lead neither to a surplus nor a deficit. A commodity produced with this proportion will be in 'balance' even before any alterations in prices; the saving on the wage bill will be just enough to pay the increased profit (§ 17). Such a commodity will have no need to change its price to restore the industry's equilibrium. To be more precise, for this to be true we require not only that the commodity's own industry is in balance, but also those which produce its means of production 'taken as an aggregate', and the ones producing their means of production, and so on. In Sraffa's terminology, the balancing proportion of labour to means of production must 'recur' in all the 'layers' of production (§ 21). Otherwise our commodity might find the cost of its means of production changing and have to adjust its own price as a result. But, for a product which has the balancing

ratio and for which the ratio recurs in all the layers of its production, if its price changes relative to some other product, the cause of the change must be located in the other product, not in itself.

The commodity produced by such an industry would be under no necessity, arising from the conditions of production of the industry itself, either to rise or fall in value relative to any other commodity when wages rose or fell; for, as we have seen, a necessity of this sort can originate only from a potential deficit or surplus and an industry operating under the conditions described would ipso facto be in balance. (§ 21).

Sraffa goes on to say that, although there is unlikely to be any actual industry in balance and with the balancing proportion recurring, production of the standard commodity as a composite fulfills the conditions.

The argument, then, in summary, is that production of the standard commodity has the balancing proportion of labour to means of production, that this proportion recurs in its layers of production, and that therefore alterations in the wage do not affect its price per se. They can only affect other prices relative to it. In Ricardo's sense, its value is invariable. This would sound very convincing but for two points which Sraffa seems to have missed: 1) The standard commodity does not necessarily have the balancing proportion. 2) The balancing proportion is itself a relative concept since it depends on the way the wage is measured. It is less sharply defined than we were led to believe.

These points I shall demonstrate by means of an example, adopting Sraffa's own notation (see §§ 10-12). Consider an economy with this production system:

$$\begin{array}{lcl} 25 \text{ alfalfa} + 2/3 \text{ labour} & \rightarrow & 100 \text{ alfalfa} \\ 75 \text{ alfalfa} + 1/3 \text{ labour} & \rightarrow & 75 \text{ bread.} \end{array}$$

(The unit of labour is the economy's total labour force; bread and alfalfa are measured in tons.) The standard commodity in this system consists just of alfalfa, since its only means of production is itself. The economy's net product is 75 tons of bread. The equations relating prices

( $p_a$  and  $p_b$ ), the wage ( $w$ ), and the profit rate ( $r$ ) are (§ 11):

$$25 p_a (1 + r) + (2/3) w = 100 p_a$$

$$75 p_a (1 + r) + (1/3) w = 75 p_b.$$

1) Sraffa himself at this point in the book treated the net product as the numeraire (§§ 12, 13), so let

$$75 p_b = 1.$$

From this and the above equations it follows that when  $w = 1$ ,  $r = 0$  and  $p_a = 2/225$ . When  $w$  falls to  $3/4$ ,  $r$  becomes  $1/3$ . Now, as Sraffa asks us to do (§§ 15-16), we consider the situation when  $w$  falls from 1 to  $3/4$  and  $r$  emerges as  $1/3$  but prices stay as they were originally. Which will be a surplus industry and which a deficit industry? Well, the bread industry will actually be in deficit, but the important thing is that the alfalfa industry has a surplus. Its receipts, with alfalfa at the old price, are  $100(2/225)$ , which is  $8/9$ . Its costs, including wages and profits at the new rates, are  $25(2/225)(1 + 1/3) + (2/3)(3/4)$ , which is  $43/54$ , less than  $8/9$ . But alfalfa, remember, is the standard commodity, so the standard commodity turns out not to be in balance.

2) If, on the other hand, we were to pick alfalfa as the numeraire and set, say,  $p_a = 1$ , we would find that when  $w = 225/2$ ,  $r = 0$  and  $p_b = 3/2$ . Then, when  $w$  falls to 100,  $r$  becomes  $1/3$ . It is easy to check that when  $w = 100$  and  $r = 1/3$  the alfalfa industry is in balance, having neither a surplus nor a deficit, at the original price  $p_b = 3/2$ . Thus, alfalfa has been changed from a surplus to a balanced industry just by a change of numeraire.

I conclude, then, that if Sraffa's standard commodity is invariable in value, Sraffa himself has not proved it.

I should say, however, what will already have struck many readers, that there seems to be a chance of resuscitating the argument by refining the definition of a balanced industry. What leads to the difficulty I have mentioned is this. To a particular profit rate there corresponds a particular

wage in terms of alfalfa, a particular wage in terms of bread, and a particular price ratio of alfalfa to bread. If we fix the bread-wage but evaluate alfalfa relative to bread at the 'wrong' price ratio (the ratio corresponding to a different profit rate), then the alfalfa-wage will be 'wrong', not the one that goes with the given profit rate. Now, to decide whether an industry is in balance, we need to know whether, after some fall in the wage and rise in the profit rate, the saving on wages covers the extra payment required by capitalists. But, it might be said, that can only be decided properly if the new wage we base our calculations on is genuinely the one that corresponds to the new profit rate; otherwise we have miscalculated the saving on wages. We ought, therefore, in deciding if, say, the alfalfa industry is in balance to have the alfalfa-wage correct, which requires us to adopt alfalfa as the numeraire. We should redefine a balanced industry as one that is in balance when its own product is numeraire. Now, it is true (as the above example illustrates) that standard commodity production is balanced when the standard commodity is numeraire, and this might constitute a valid reason for saying that the standard commodity's value is invariable. I myself see some difficulties with this revised argument, and I do not want to pass judgment on it.