Recurrence in Sraffa's Standard Commodity

Mario De Marchi

IRCrES – CNR

Correspondence

Mario De Marchi

IRCrES – CNR

Abstract

A suggestion is made here for partially correcting one flaw commonly attributed to the economic thought of Smith. Overcoming this problem may perhaps pave a new way to define Sraffa's Standard Commodity.

Introduction

One crucial idea put forward by Adam Smith (1994) is usually deemed as incorrect:

the proposition according to which every commodity's price might entirely be reduced to incomes paid for its production. .

This thesis is normally rejected by arguing that, as far as the reduction of price into incomes goes, a residual made up by quantity means of production multiplied by their prices would always inevitably remain, whereby no such reduction could ever be completed..

Herein we are going to prove that:

just in the case of Piero Sraffa's 'Standard Commodity' (from now onwards 'S.C.') such difficulty disappears, and from this circumstance a novel way for re-defining the S.C. might perhaps be found out.

Proof

The S.C. has always been considered the answer to a problem posed by David Ricardo of finding out an ideal measure of relative prices - insofar the value of this commodity be invariable (given that it will possess the proportion between work and means of production for which when distribution changes the variations in sums paid for such work and means of production will offset each other).

But, the S.C., surprisingly, also appears to be an instrument to prove (A) in a highly significant theoretical context. The key for this lies in the quintessential feature Sraffa attributed to the S.C. : namely, the recurrent nature of the proportion between each layer of product and the previous layer of means of production encountered in the reduction of the final price: indeed, he defines such characteristic as the only necessary property of the S.C. : < … there is in effect only one condition, that of 'recurrence' > (Idem, 1960, p.16); this assertion appears suddenly within the usually seamless reasoning presented in Production of Commodities by Means of Commodities, with a twist that should have seriously puzzled most readers but seems to have been noticed by very few, if anyone.

The recurrence entails that the succession of terms worked out by reducing S.C.'s price into the incomes paid in the past for its production will be a regular one. More in detail, being 'r' the rate of profit and 'ζ' the rate of decrease between each layer of means of production and the next - and assuming, as Sraffa does, that the wage 'w' be paid post factum - then the 'V' sum of the succession's terms, i.e. the series from which the S.C.'s value is determined, amounts to::

(1) $V = w\,((1 + r)\,(1 + \zeta)) + w\,((1 + r)\,(1 + \zeta))^2 + w\,((1 + r)\,(1 + \zeta))^3 + \ldots$

From which we obtain, after a simple calculation, that we can reduce the whole S.C.'s price into incomes reduction to a finite sequence of conceptual-mathematical steps (indeed a very short sequence: essentially just calculating the limit to which V as the nth mathematical exponent in equation (1) tends to infinity), whose result is::

(2) $V = ((1 + \zeta)\,/\,(\zeta - r))\,w$

From equation (2) we conclude that (I) is satisfied in the case of the S.C. This is a result of extreme interest, since if w is given, then (2) is sufficient to determine the rate of profit corresponding to each V.

Conclusion

If, say, for a given w, V increased towards the infinity, then r would tend to a maximum ζ.

Besides, if we divide both sides of (2) by w, then we obtain the amount of labor the S.C. commands, namely:

(3) $(1 + \zeta)\,/\,(\zeta - r)$

That is a unit of measure of prices expressed through commanded labor, which varies along with r but is independent from the prices. This

result might be reached regardless of the reasoning about a "rate of profit for which all the industries are on the 'ideal' proportion between work and means of proportion" - the proportion searched for by David Ricardo:

One might instead have searched for a commodity (the only one) whose price be entirely reduced to a sum of incomes paid for its production, leaving no residual of means of production.

References

1. Smith A. An Inquiry Into the Nature and Causes of the Wealth of Nations. New York: The Modern Library. 1994.

2. Sraffa P. Production of Commodities by Means of Commodities. Cambridge: Cambridge University Press. 1960.