Sraffa and his reasons against ‘marginism’

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Premise

• Sraffa’s criticism of the use made of marginal method in economics (or ‘marginism’ as he often called it) is a constant element in his thought
• his reasons against it remained fairly unchanged from the 1920s to the 1960s
• first, from the unpublished papers, we investigate the reasons why he believed that marginalist method did not satisfy scientific criteria we take a look at Sraffa’s conception of science
• secondly, we review the relevant published writings to find out any further clues to his arguments and criticism
• conclusions
Measurement of economic magnitudes

• Preoccupation with measures recurring in numerous contexts in Sraffa:
• objection, well into 1929, to the labour theory of value, since the ‘amount of labour’ has no precise meaning given as labour differs in quality
• Ricardo’s invariant measure of value
• standard commodity in PCMC
• objections to measurement of capital in value terms
• quest of a criterion for measurement valid in **theoretical** (as oppose to statistical) analysis.
Two types of measurement

One should emphasize the distinction between two types of measurement. First there was the one in which the statisticians were mainly interested. Second, there was measurement in theory. The statisticians’ measures were only approximate and provided a suitable field for work in solving index number problems. The theoretical measures required absolute precision. Any imperfections in these theoretical measures were not merely upsetting, but knocked down the whole theoretical basis (Contribution to Corfù Conference, 1958)
Marginism not scientific: it employs unmeasurable and unobservable entities

- For Sraffa there are three types of magnitudes in economics:
  - those that are directly measurable in production and consumption processes (acres of land, tons of grain, etc.);
  - the purely subjective magnitudes (such as sacrifice or utility), which are not observable and cannot be measured;
  - magnitudes - such as marginal productivity - which can be brought about by experiment only.
- all marginal magnitudes share the nature of being a sequence of mutually exclusive alternatives (i.e. we cannot observe \( n \) and \( n+1 \) units of factors at the same time)
Counterfactuals?

- marginal magnitudes are not propositions regarding happenings that cannot be subjected to experiment (i.e. counterfactuals: what would have happened to European history if Napoleon had won at Waterloo)
- the experiment of measuring production upon adding the $n+1$th factor can be carried out, but it cannot be claimed that the variation in production observed thanks to the experiment measures the marginal productivity (*ceteris paribus* do not hold)
- What is the nature of experiment?
Nature and outcome of the experiment

- By means of the experiment measurement is made of the product obtained with $n+1$ units as compared with that obtained in different circumstances in the preceding instance with $n$ units.
- but what do we measure?
- only the difference between two average products, obtained in circumstances other than those obtaining before.
- no grounds to conclude that the marginal variation is the contribution of the marginal unit.
Not a genuine calculation

But while the former [the average product] can be discovered by observation, the marginal product can only be found by comparing two successive average products, which are incompatible and can exist only in different circumstances and at different times.

The question is, are the potential, hypothetical returns which would be obtained by additional doses part of the existing situation? (D3/12/46) [post 1955]
Against marginism in the published writings

- Sraffa (1925, 1926 and PCMC)
- **1925**: two particular arguments, one taken up in *Production of Commodities*, the other dealt with in a footnote
- distinction in Wicksteed between margins that he calls ‘spurious’, which depend on the varying productivity of heterogeneous doses of a factor, and ‘pure’ margins, in which the marginal productivity depends not on the nature of each single dose of the factor, all being homogeneous, but on the overall number used
- example is Ricardian definition of extensive and intensive rent. The former arises from the different fertility of lands which can all be simultaneously cultivated, while the latter is the outcome of application of successive identical doses of capital and labour to the same plot of land.
Wicksteed’s distinction

• In Preface to PCMC Sraffa acknowledges that Wicksteed’s distinction is not groundless, although Sraffa reverses Wicksteed position
• Only ‘spurious’ margins – which Wicksteed wanted to exclude from economic analysis - that can find a place in Sraffa’s theory, because they are observable given the objective fact of their existence.

• Caution is necessary, however, to avoid mistaking spurious ‘margins’ for the genuine article. Instances will be met in these pages which at first sight may be indistinguishable from examples of marginal production; but the sure sign of their spuriousness is the absence of the requisite kind of change.

(Sraffa 1960: v)
The “requisite type of change”

• in the 1925 article Sraffa denied the foundation that Wicksteed had given to his distinction between spurious and pure margins

• decreasing marginal productivity not a physical law deriving from the technical conditions of production, but results from the rational behaviour of the economic agent. It is he/she who decides to use techniques or factors of production in decreasing order of productivity

• As Sraffa wrote in the notes written in preparation of the 1925 article, it is like ordering a row of soldiers according to their different height or arranging soldiers of the same height on the steps of a stair. In both cases the decreasing order is the result of a choice (D1/40).
Change of difference?

• A crucial element in Sraffa’s rethinking between 1925 and PCMC was the distinction between change and difference:

• The fundamental difference is that the extensive (different qualities of land) is truly a purely timeless, or geometrical representation: all the different lands exist simultaneously, at one instant, they and their products can be ascertained, distinguished and measured at one instant, without changing anything in the present arrangements. On the contrary, the intensive (successive doses of capital and labour on a piece of land) diminishing returns do not exist at any one instant. We can only find these diminishing returns by change, or movement: that is to say, we require time (D3/12/13/23(2)) [Summer 1929]
Final considerations I

- The reasons Sraffa brought against marginism were numerous and grew on him as from the late 1920s.
- Over the years Sraffa refined and honed his critique as the focus of his analysis shifted towards construction of his own theory, which did not require marginal magnitudes to determine prices.
- *Production of Commodities* demonstrates the non-necessity of marginal analysis by constructing a counter-example.
PCMC only the ‘prelude’ to the critique proper, is was to follow.

One of the many drafts of the Preface, bearing the date of 14 December 1957, makes so much quite clear:

The sketch now submitted to the public has grown out of a projected critique of the marginal theory of production and distribution, to which it was to serve as foundation. It has however seemed better to publish this material by itself so that it may be judged on its own merits. The critique may, or may not, follow later. (D3/12/46/29)

Production of Commodities never meant to be an alternative to neoclassical analysis, i.e. competing with it in terms of scope and generality.

It was meant to show, as in other approaches (from input-output analysis to game theory) that we can do without it.