Fixed Coefficients of Production and the Marginal Productivity Theory

THE theory of marginal productivity has already been discussed to such an extent that a new paper dealing with the subject seems from the beginning to be superfluous, but, at the same time, the many controversies of the matter plead to the contrary.[1]

It is far from my intention to criticise the opinions expressed by many eminent economists; my purpose is rather to see if it is not possible to modify the theory of marginal productivity in such a way as to include in it also the case of constant coefficients of production and to draw the immediate conclusions, in the hope that these may throw some light upon the controversial opinions.

The first main objection to the classical theory of marginal productivity was raised by Pareto, namely, the possible existence of factors of production that are fixed.[2] Pareto himself admits that in this case the marginal productivity theory "cannot be applied without corrections." But he apparently renounced this idea and furnished an entirely different solution of the problem.[3]

In the approach to the problem, there is a great difference between the classical theory and that proposed by Pareto: the marginal productivity theory arises from the consideration of a single producer; Pareto's theory considers the economic universe as a whole. The former is analytical, the latter synthetic.

There is no doubt that this generalisation constitutes a great improvement and that the conclusions thus reached are an important scientific advantage. A certain methodological drawback, however, may be found in it. Pareto's theory enables one to reach but one single conclusion, viz. there is a point of equilibrium which, in a static state, the whole system tends toward and finally reaches.[4] His formulae are bound, because of their generality, to be rather complicated, and this complication prevents the economist from finding an economic interpretation, the most usual method in economics being that of analysis and not of synthesis.

In the second place, Pareto's method, because of its generality, does not require any further examination of the nature of the different factors of

[1] The most recent, being raised by H. Schultz and J. R. Hicks:
H. Schultz, "Marginal Productivity and the General Pricing Process," *Journal of Political Economy*, vol. xxxvii, No. 5, October 1929.
J. R. Hicks, "Marginal Productivity and the Principle of Variation," *Economica*, vol. xii, No. 35, February, 1932.
H. Schultz, "Marginal Productivity and the Lausanne School," *Economica*, vol. xii, No. 37, August, 1932.
J. R. Hicks, "A Reply," *ibid.*

[2] *Cours*, vol. ii, section 717.

[3] *Manuel d'Economie Politique*, pp. 631, *et seq.* *Economie Mathématique*, Encyclopédie des Sciences Mathématiques, tomes I, vol. 4, fasc. 4.

[4] One might sometimes feel that this conclusion does not go much beyond our hypothesis that everything is connected with everything else. But this would not be logically justified.