VII

SAMUELSON'S ORDINAL REVEALED PREFERENCE THEORY

Marshall's theory of the consumer like Hicks, as have discussed, has relied heavily on the psychological introspection of the consumer. For Marshall, the quantitative concept of utility and its subjective diminishingness account for the introspection while to Hicks, introspection is due to the assumption of the consumer's knowledge of his indifference map. Such psychological assumptions, in Samuelson's view, are unscientific and unnecessary for the pure theory of the consumer,[1] which in his opinion, can be explained purely on the market behaviour of the consumer alone. Samuelson's theory is, therefore, a behaviourist theory, and it is also an ordinalist theory in that, not only the quantitative concept of utility is discredited, the word 'utility' is removed entirely from his terminology of the consumer. Samuelson's stand, therefore, represents a revolt against Marshallian absolute measurability of utility and against Hicksian introspective indifference.

His main criticism of Hicks, is that the indifference analysis demands too much knowledge of the individual's preferences to be realistic. The most important contribution of his behaviourist theory is the proof that the indifference curve and its convex characteristic can be derived purely by observation of the individual. The contrast with Hicks lies here, for according to Samuelson, preferences are revealed once a choice is made, while to Hicks, it may or may not reveal preference. For example, as shown in the diagram, if

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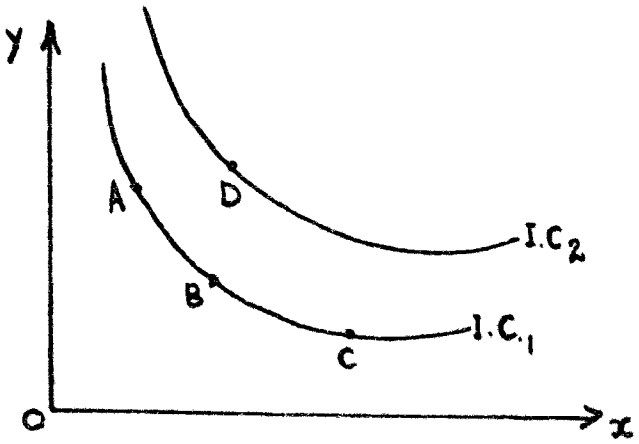
[1] P.A. Samuelson, "A Note on the Pure Theory of Consumer Behaviour", Economica, 1938, p.61.



given the 4 different bundles of goods, A,B,C, and D, the consumer is seen to choose point D, then D, since it is on a higher indifference curve, is revealed to be preferred to points A,B, and C. There is no difference of view here, between Hicks and Samuelson. But if the consumer is given the choice between the 3 combinations, A,B and C and is observed to choose point C, then in Samuelson's view, C is revealed to be preferred to A or B, while in Hicks' view, A, B and C are equally preferred situations as they all lie on the same indifference curve. Thus, the Samuelsonian analysis does not allow the introspective indifference of Hicks.

A great merit of the theory is that it relies on very few assumptions, fewer than Hicks or Marshall's, and yet is able to state a workable theory of the consumer. In the derivation of the indifference or behaviour curve[2], the assumptions made are :

(i) that during the period of observation, Changes in tastes do not take place and

(ii) that acts of choice are governed by 2-term consistency, i.e. if 2 bundles of goods, A and B are equally expensive, then when A is revealed to be preferred to B, the individual must on no occasion choose B rather than A, unless B has become relatively cheaper or A is unavailable or has become relatively more expensive.

Given these very simple assumptions, the indifference

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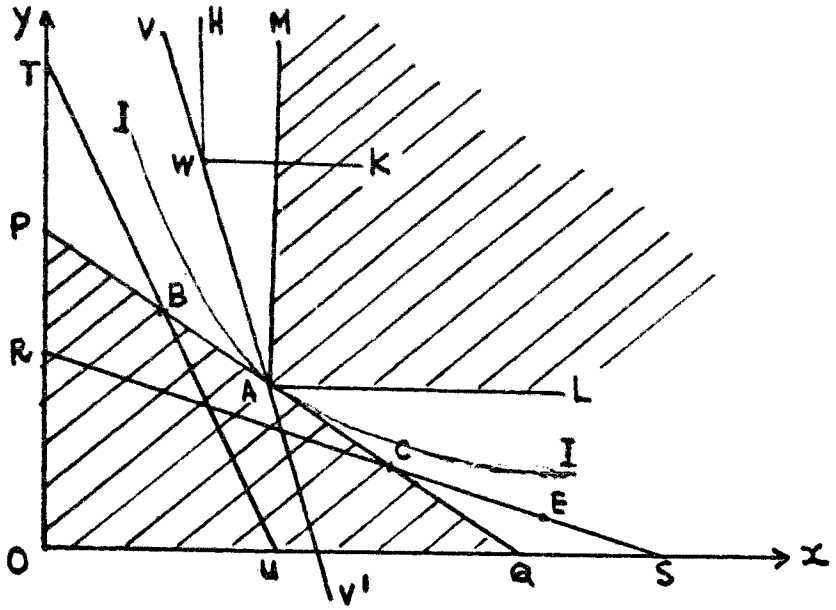
[2]I.M.D. Little, "A Reformulation of the Theory of Consumer Behaviour", Oxford Economic Papers, 1949. The term 'behaviour Curve' is so named by Little.

curve which is actually the limiting loci of revealed preference, can be derived not from introspection but on pure behaviourism.

Thus, from the diagram, if PQ is the budget line, then points A, B, and C are the different combinations of good x and y which are equally expensive. When A is purchased, it is revealed to be preferred to B and C.



Any other point on PQ or within the area OPQ will, therefore, be revealed inferior to A. However, any point within MAL will be preferred to A because it is possible to have more of one or of both x and y. The area MAL is not attainable due to the budget constraint while no points within OPQ are preferable to A. It follows, therefore, that near the neighbourhood of A, the indifference curve must have a negative slope and must be convexed to the origin, in order not to enter the area MAL or OPQ. The unshaded region or zone of ignorance can be narrowed down successively by taking different price lines, for example, RS and TU through positions C and B. Consider price line RS, where C is chosen. Therefore, C is revealed to be preferred to E. Since A is preferred to C, therefore, A is preferred to E and the triangle QCS can be eliminated as inferior. Similarly for price line TU, the area TRP can be removed.

Thus, as more and more observations are made, the

zone of ignorance can be reduced upward. In the same way, it can be reduced downward. For example, a price line VV' may be drawn through A. If the individual is observed to choose W, therefore, W is revealed to be preferred to A, and the area HWK can be removed as preferred to A. If this process is continued indefinitely, the points of reduction from the upper and lower area will finally converge and this will give the exact shape of the indifference curve II, provided, of course, it is possible to make many observations.

This illustration shows rather parodoxically, that merely through observations of the market behaviour of the consumer, his indifference pattern can be established. The great merit of indifference curves derived in this manner, is that they are absolutely free from any association with cardinalism implied in the marginal rate of substitution, which is the main setback of Hicks' system of indifference curves.

However, there are several limitations in the theory. The first concerns what is known as the integrability problem. Samuelson's theory, if based on a 2-dimensional model is able to avoid the complication, for the indifference curve can then be described by differential equations as there are then only 2 variables, good x and good y. But in a multi-dimensional model with more than 2 variables, then the whole theory becomes very complicated.

Another limitation is that, since methodologically, it assumes that every act of choice is a revealed preference, the theory breaks down in situations similar to the theory of games, where the use of strategy precludes an individual from revealing his true preference. Perhaps, one of the most serious objections to the theory, is that it reduces all market phenomena down to that of pure behaviourism. As a result, it is unsuitable in tackling problems in economic dynamics, where subjective anticipations and speculations about future conditions play a highly important role.[3]

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[3] L.C. Robbins, Op. Cit. p.102.