

# The neoclassical axioms placed on individual preferences economics essay



Critical Analysis of the Neo Classical consumption theories of Marshallian Utility analysis and Hicksian Indifference analysis. In place of the concept of 'utility' by Alfred Marshall, the indifference curve technique has introduced the term 'preferences'; instead of the cardinal number system, which is said to measure the strength of a consumer's desire, the indifference curve substituted ordinal number system of first, second, third etc., to indicate the consumer's scale of preferences. The concept of marginal utility has been replaced by the marginal rate of substitution. And against the Marshallian 'proportionality rule' to describe the consumer's equilibrium, indifference curve technique has advanced the equality between the marginal rate of substitution and the price ratio.

### Unrealistic

The Marshallian assumption of cardinal measurement of utility is very restrictive. It demands too much from the human mind. Utility is a mental phenomenon and the precision in the measurement of utility assumed by Marshall is unrealistic. It is criticised that new theory of indifference analysis only jumps from the "frying pan of the difficulty of measuring utility into the fire of the unreality of assuming consumer's complete knowledge of all his scales of preferences or indifference map". The indifference curve technique envisages a consumer who thinks of innumerable possible combinations of goods and his relative preferences for them.

### Absurd

Indifference curves include even the most ridiculous combinations which may be far removed from a consumer's habitual combinations. For example,  
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while it may be perfectly sensible to compare whether three pairs of shoes and six shirts would give him as much satisfaction as two pairs of shoes and seven shirts

### Introspective

Both the approaches of Marshallian Utility analysis and indifference curve technique are based on the psychological or introspective method. The law of diminishing marginal utility, which is psychological in nature lies at the bottom of law of demand. Indifference curve too is based on introspection. This technique is criticised as introspective and hence Samuelson introduced behaviourist method of devising demand theory.

### Relation of Transitivity objected

Armstrong has criticised the relation of transitivity involved in indifference curve technique. According to him, the consumer's indifference arises from his inability to perceive the difference between alternative combinations of goods. This is due to the fact that the difference is too slight to be noticed. If that is true, the relation of indifference become non-transitive. This knocks the bottom out of the whole system of indifference curve analysis.

### Limited empirical Nature

In Hicks-Allen theory, indifference curves are based on hypothetical experimentation. They are based on imaginary indifference curves, although attempts have been made recently to derive them experimentally.

The theory of Revealed Preference is associated with the name of Paul Samuelson and the theory is called the behaviourist ordinal utility theory. Instead of the unrealistic assumptions that the consumers operate with a complete and consistent scales of preferences set out in the form of indifference curves, most economists now prefer to analyse situations in which their hypothesis can be tested. Both Marshallian utility analysis and Allen-Hicksian indifference curve technique apply the introspective method or the subjective method. But Samuelson's revealed preference theory makes use of hypotheses which are observable and testable. There is thus a shift from the psychological to behaviouristic explanation of consumer behaviour.

According to the revealed preference theory, the consumer is supposed to reveal the nature of his preferences. He shows the goods he would prefer to purchase in a given situation even though he may not be able to show his scale of preferences on an indifference map. Thus, in a theory of revealed preference, it is unnecessary to assume that the consumers can describe their preferences on indifference map. This is the most important merit of the revealed theory. Also, as Sir John Hicks observes, revealed preference theory lends itself to use by econometricians.

### Axioms of Revealed Preferences

#### Rationality

It is assumed that the consumer is rational or ideal. That is, the consumer seeks to maximise his satisfaction from the resources he has. He will choose a combination of goods which he seems most satisfying. i. e., which he

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prefers the most. In one set of market conditions, he selects one combination and his choices will be different under different market situations.

### Consistency

It is also assumed that the consumer's choices are consistent. The choices of actual consumers may not be consistent but those of the ideal or rational consumer may be supposed to be consistent. This consistency implies means, for instance, that if a particular combination of goods P is better than Q combination and Q is better than R, then P must also be assumed to be better than R.

### Transitivity

Transitivity ensures that there should be no such circular relationship. That is if P is better than Q and Q is better than R, then R will never be better than P or Q will never be better than P.

### Positive Income Elasticity of Demand

Another very important assumption underlying revealed preference theory is that the income-elasticity of demand of the consumer must always be positive. That is, if his income increases, his demand for the commodity must also increase; it should not remain the same (i. e., zero elasticity) and it should not also decrease (i. e., negative elasticity) as it happens in the case of inferior goods.

### Strong Ordering

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A distinguishing feature of Samuelson's revealed preference theory is that of Strong Ordering. In a strong ordering, each item in a consumer's scheme of purchases is assigned a definite place or number and at each number there is only one item so that the consumer definitely reveals his preferences. For instance, a consumer reveals his preference when he is observed to choose, say Q combination of goods in preference to all others and he rejects the rest, In other words, choice reveals preference by choosing one combination and rejecting others, the consumer has shown his definite preference.

As indifference advocates in Weak Ordering there may be some items which cannot be arranged in order or preference, so that the consumer is unable to indicate which items he prefers to which. As the combinations of goods on the same indifference curve are concerned because they represent the same level of satisfaction. Since they are equally satisfactory, the consumer can not reveal his preference. The conventional indifference curve is an illustration of weak ordering because all points on the same indifference curve are equally preferred to represent a non-ordered group. The assumption underlying the indifference curve technique, viz., that a consumer is capable of ordering all conceivable alternatives indicated by several points on the indifference curve, appeared obviously to be unrealistic.

Samuelson, therefore, rules out the possibility of weak ordering. By revealing the preference, the behaviour of the consumer is reflected. That is how the revealed preference theory derives a demand theorem from the actual observed behaviour of the consumer. The axiom of strong ordering “

provides the necessary operational link between observed choice behaviour  
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and the behaviourist's welfare conclusions". Thus, the relation of indifference is rejected on operational grounds.

### Demand Theorem

By revealed preference hypothesis, Samuelson has tried to demonstrate inverse relationship between price and the amount demanded by assuming income elasticity of demand to be positive.

Samuelson state the demand theorem under the title " Fundamental Theorem of Consumption Theory" as " any good (simple or composite) that is known always to increase in demand when income alone rises must definitely shrink in demand when its proce alone rises". In this proposition, income elasticity of demand has been assumed to be positive.

This theorem can be illustrated by the following diagram.

In this diagram consumer's income in terms of good X is shown by OB and in terms of good Y by OA. If he spends his entire income on these two goods X and Y, AB is the price line. It is assumed that the consumer choose the combination represented by Q on the price line AB as giving him the maximum satisfaction.

If the price of X rises, then the new price line will be AC by contracting the demand of X from OB to OC.

In this situation, Q which put the consumer in equilibrium before, becomes now beyond his reach. In order to achieve the same combination of Q, consumer is compensated with an extra income to overcome the higher

price resistance and new Price line DE parallel to AC but passing through Q is drawn.

CE amount money is needed to attain this new price line and this extra money is called as 'Over Compensation Effect' by Samuelson. Since Q combination becomes available, he will not choose any combination lower than Q (i. e., QE part of DE) If he selects Q, it means that he selects the same amount the goods X and Y as before. If he chooses any combination above Q on QD portion of DE, it means that he selects less amount of good X and more amount of good Y. This shows the substitution effect of the price rise.

#### Merits of Revealed Preference Theory

There is no doubt that it is an improvement on the Marshallian utility analysis and Hicks-Allen indifference curve technique.

It is behaviouristic and draws the demand theorem from the actually observed behaviour of the consumer. On the other hand, both Marshallian Utility analysis and the Hicks-Allen indifference curve techniques are introspective and give psychological explanation of consumer theory. The revealed preference theory studies not an ideal or imaginary consumer and hence, it is more scientific and realistic. Behaviourism has the great advantage of treating the things based on observation and it will never be wrong.

Revealed Preference analysis steers clear of the dubious assumptions upon which the earlier theories were based. Both Marshallian Utility analysis and indifference technique were based on the utility maximisation principle



which is more restrictive and difficult to be realised. On the other hand, Revealed Preference theory steers clear of the utility maximisation principle and uses instead the consistency principle to derive the demand theorem. Consistency axiom is less restrictive and more realistic.

Indifference analysis is based on the assumption of continuity while Revealed Preference theory does not assume continuity. Indifference curve is continuous in the sense that it depicts all conceivable combinations some of which may be so unrealistic as to be ridiculous. That is why Prof. Samuelson gave up the assumption of continuity. Although price line is drawn continuously, yet no continuity is actually involved because the theory is based on the actually observed choice of the consumer from among such combinations as are actually available in the given price-income situation.

Conclusion

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With all the flaws in the revealed preference theory, it is to be admitted that this theory is superior to other demand theories in that it applies a scientific and behaviouristic method to consumer's demand. By waving out the assumption of continuity and utility maximisation, the consumer theory put forward by Samuelson has become less restrictive and his enunciation of the preference hypothesis makes a valuable contribution.