substitutes. Whatever the importance of complements may be, it should be recognized that they play no part in Marshall's theory of consumer demand. It also follows that there can be no grounds for alleging that his work contains an inconsistency in regard to them.

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Marshall, Consumer Surplus, and the Marginal Utility of Money

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The major theoretical objections to Marshall's consumer surplus measure are those which follow from the unreasonable assumption and implications of constant marginal utility of money which is required for the measure to be meaningful. Samuelson showed in his Foundations that constancy must refer to something like real income rather than nominal income and then demonstrated that it would also imply unitary price elasticity of demand for any commodity, a relationship that simply does not hold in real markets. But although we recognize that this violation of reality compromises the constancy assumption, it is often argued that marginal utility is approximately constant for small changes in income, and that the zero income effect which follows from a price fall and logically requires that assumption is argued to be approximately correct much of the time; thus the implied constancy can be accepted after all and, with it, the consumer surplus measure of welfare gain.

In this note we will argue, to the contrary, that Marshall did not hold, and did not need, the assumption of constant marginal utility of money and that consumer surplus is not a good measure of welfare gain. Moreover, I suspect that Marshall would agree with this criticism on empirical grounds.

In order that the "Marshallian consumer surplus," the area under the market demand curve between prices p₁ and p₂, be an acceptable measure of the change in social welfare accompanying the price change it is necessary that the marginal utility of money (income) be constant. This is the case for two reasons: (i) To compare his own welfare before and after changes in price and consumption each individual consumer must have an unvarying measure denominated in a fixed unit, the utility of one extra dollar; and (ii) The market demand curve sums individual demand curves horizontally. Thus, if the area under the curve is to be a meaningful measure of welfare change, the utility of each dollar of difference between the demand price for any infra-marginal unit of consumption and the equilibrium market price must be the same for any two individuals. Since their incomes may be very different, this can be the case only if the utility of each extra dollar is constant for all levels of income, i.e., if the marginal utility of money is constant.

The notion of constant marginal utility of money conflicts with our basic postulate that the utility of any commodity increases at a decreasing rate as the volume of that commodity increases, i.e., that the marginal utility is decreasing. Accordingly, Marshall is faulted for holding to this assumption; indeed, many project evaluation manuals and studies fault Marshall for holding this unreasonable assumption (and its implied zero income effect on consumption of a good following a price change) to argue that, in the example at hand, marginal utility does not decrease very much and the income effect is small so that the measuring rod is virtually constant and
there is no possibility of double counting. Frequently there is an appeal to a well-known passage from Hicks.2

But the distinction that Marshall did not accept the constancy hypothesis, either for an individual or for consumers at different income levels. Since this conflicts with the usual view of things I would like to offer the following citations testifying to this view. But first some differences in terminology which have drawn too little attention should be mentioned.

Marshall employed three terms to mean two different things: on the one hand he used "marginal value of money" (1826 p. 109) and "marginal degree of utility of money" (p. 691) to mean what we call "marginal utility of money." ("m" is the amount of money or general purchasing power at a person's disposal at any time, and m represents its total utility to him, then du/dm represents the marginal degree of utility to him." (p. 690). On the other hand, "If a be the total utility of an amount of x of a commodity to a given person at a given time, then marginal utility is measured by du/dx. (p. 690). Thus, Marshall's marginal utility of money is the marginal degree of utility of money multiplied by a differential.

Perhaps the clearest statement of behaviour of margina degree of utility is on p. 690:

"“Every increase in its means diminishes the marginal degree of utility of money to him [i.e. our marginal utility]; that is, du/dm is always the basic tenet! He believed that, for the most part, there was little to be gained from introducing such refinements as would be required to allow for inconstant marginal utility for a broad range of commodities, a position not very different from Hicks' both accept the "Marshallian triangle" as a measure of welfare change for an individual consumer, but as is clear from the last quotation, only so long as constancy is reasonable.

We have so far focused on the implications of constancy and non-constancy for the individual consumer and the use of the Marshallian triangle to infer changes in his welfare (even though Marshall sometimes placed the apodictic after the "x" as in the last citation). What of constancy and the community?

Part of the popularity which readers of Marshall have sometimes found vexatious is caused by his numerous qualifications concerning behaviour of consumers—that the middle-income or rich individual may have different tastes etc.

For example, the marginal utility of insurance is recognized to be different for a rich man and a poor man (p. 81) "the richer a man becomes the less is the marginal utility of money to him." (p. 81); demand schedules are presented for rich, middle class, and poor consumers (p. 88); a "pound's worth of satisfaction to an ordinary poor man is a much greater thing than a pound's worth of satisfaction to an ordinary rich man" (p. 108); "the marginal utility of a thing to anyone diminishes with every increase in the amount of it he already has" (p. 79). The importance of this inconsistency for the interpretation of the community's surplus is that the area under the market demand curve does not in general measure the welfare change for the community.

Marshall explicitly and emphatically recognized this point but it has been given negligible attention, while the assumption of virtual constancy under a price change for the individual consumer has often been taken as equivalent to constancy between consumers or for any one individual in all different income levels. On the other hand, a situation might arise in which the market demand curve and the related Marshallian surplus is acceptable for measuring welfare change. In this case consumer surplus can be used to guide decisions. But we should be careful not to treat the exceptions as the rule, the fact that such a case is possible does not mean that the construct is generally useful for this purpose, as Marshall recognized. Thus, if the Marshallian hallucination is interpretation of the area between p, q, and p, under the market demand curve as the welfare gain following a price change, we would conclude that Marshall was not a Marshallian.4

were on the commodity following the price change must be unchanged, i.e., its price elasticity must be unity. This last result—that the difference be zero—is implied that which Marshall called the "marginal utility of money" be zero even though the marginal degree (or marginal utility, du/dm) be positive.

"Or, in a quite different, Tom Kempa, training more professional, perspective one might accept Marshall: Someone should write a book on the Marshallian triangle in the economics of Marshall." It may be appropriate here to question another tradition in the work of an earlier writer, Jules Dupont, whose writings have taken as one of the first formulations of the price-marginal cost equalization rule. In an earlier article (Absebier, 1978) we showed that for

No project (a paradigm) the definition of marginal cost (long-run or short-run) was particularly simple, the bridge being part of an interregional network for which the definition of marginal cost is especially difficult, there being so many dimensions (regional distribution, wage distribution, engineering specifications—size, turning radius, etc.—traffic volume) with respect to which cost may be measured. Therefore, Dupont's bridge and the like were taken help for anything as complex as a road network. But the point to make here, by analogy with the suggestion that Marshall was not a Marshallian in his treatment of the market demand curve and consumer surplus, is that Dupont was not a "Dupontian" in all of his price recommendations. Thus, while he recommended that peddlers should be allowed to crow as long as his
References


...and price exceeded the cost he would impose on society whether or not the financial recovery for the bridge should be fully compensatory, he also argued that certain fixed costs should be recovered even though they are completely unrelated to the passage of traffic and vary instead, with time (as does maintenance) or not at all (interest on capital). (Dupuit, p. 40.) It would clearly be more efficient to pay for these elements through local contributions (general taxes or a special levy), as is usually argued in the modern theory of public finance, (but not through inter-regional transfers if income distribution is not explicitly wanted for this situation.)

Announcements

The Eighth Annual Convention of The Eastern Economic Association will be held at the University of Maryland, MD on April 29, 30 and May 1, 1982. Please contact Dr. T. S. Saini, Bloomsburg State College, Bloomsburg, PA 17815 for information.

A study and enrichment tour of Egypt and Israel is being planned for the early 1982 summer vacation period. Departure from New York City will be around May 18 and return to New York City will be around June 3rd. If you should be interested in joining this tour, please contact Dr. Ingrid Ruma, Professor of Economics at Temple University, Philadelphia, Pa or Prof. A. Taylor, Professor of Economics at Wilkes College, Wilkes-Barre, Pa. 18766, phone (717) 824-4651 ext. 306 (office) or (717) 288-9687 (home).

The purpose of this announcement is to determine the extent of interest in such a tour. Information concerning cost and itinerary will be available later. The tour is expected to qualify for a federal income tax deduction.

The editor regrets that rising costs make it impossible to provide authors with free offprints. These will now be made available at a nominal charge.