AN EXTENSION OF THE BASIC THEOREMS OF CLASSICAL WELFARE ECONOMICS

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1. Summary

The classical theorem of welfare economics on the relation between the price system and the achievement of optimal economic welfare is reviewed from the viewpoint of convex set theory. It is found that the theorem can be extended to cover the cases where the social optima are of the nature of corner maxima, and also where there are points of saturation in the preference fields of the members of the society. The first point is related to an item in the Hicks-Kuznets discussion of real national income. The assumptions underlying the analysis are briefly reviewed and criticized.

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2. Introduction

In regard to the distribution of a fixed stock of goods among a number of individuals, classical welfare economics asserts that a necessary and sufficient condition for the distribution to be optimal (in the sense that no other distribution will make everyone better off, according to his utility scale) is that the marginal rate of substitution between any two commodities be the same for every individual.[1] Similarly, a necessary and sufficient condition for optimal production from given resources (in the sense that no other organization of production will yield greater quantities of every commodity) is stated to be that the marginal rate of transformation for every pair of commodities be the same for all firms in the economy.[2]

Let it be assumed that for each consumer and each firm there is no divergence between social and private benefits or costs, that is, a given act of consumption or production yields neither satisfaction nor loss to any member of the society other

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[1] By marginal rate of substitution between any commodity A and commodity B is meant the additional amount of commodity A needed to keep an individual as well off as he was before losing one unit of B, the amounts of all other commodities being held constant. If the preference scale for commodity bundles is expressed by means of a utility indicator, then the marginal rate of substitution between A and B equals the marginal utility of A divided by the marginal utility of B. See, for example, [8, pp. 19–20].

[2] The marginal rate of transformation between commodities A and B is the amount by which the output of A can be increased when the output of B is decreased by one unit, all other outputs remaining constant. In this definition, an input is regarded as a negative output. See [8, pp. 79–81].