

# Monotone Comparative Statics of Characteristic Demand

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## Abstract

This study deals with comparative statics of the consumer's demand. According to Lancaster [1966, *Journal of Political Economy*], a utility function should be defined on the set of all characteristics that affect well-being of the consumer and these characteristics should be derived by consuming commodities. We show the sufficient condition for monotone comparative statics of the demand for characteristics and investigate the properties of the demand for commodities by considering the relationship between characteristics and commodities. We do not restrict the domain of a utility function and price systems, that is, the set of characteristics, to the Euclidean space. In particular, we allow discrete choice and nonlinear price systems. This theory enables us to predict the properties of the demand for the commodities that are not present in the market, such as new commodities. Our sufficient condition on a direct utility function can be characterized by the properties of the welfare variations for the change in the level of characteristics, which are more transparent and easier to verify. Further, the results of this study are derived by employing a new mathematical technique, which can be regarded as the generalization of the lattice theoretical comparative statics.

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**Keywords:** Monotone comparative statics; Characteristic demand; Consumer theory; Welfare variation; Value order.

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