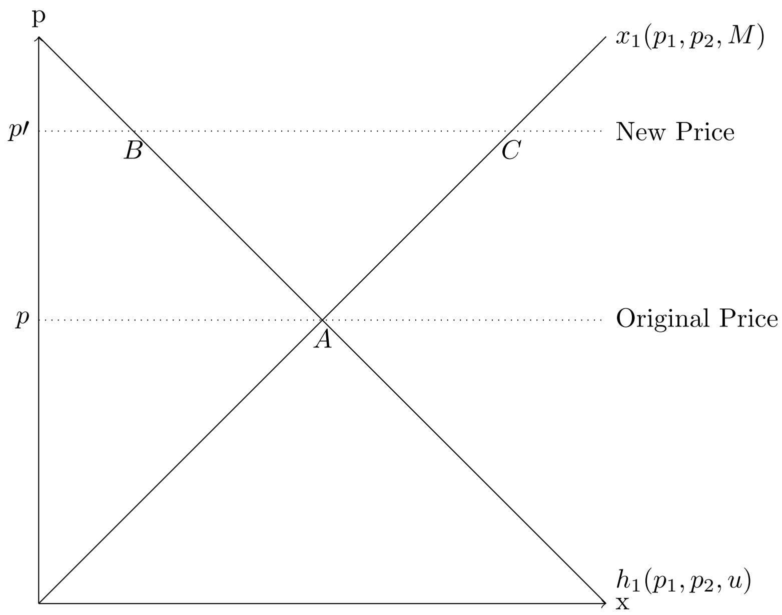
Marshallian demand and hicksian demand

Consider the following graph of Marshallian and Hicksian Demand for a Giffen good. Determine if, for the price $p\prime$, an individual with the Marshallian Demand obtains greater utility than with the Hicksian Demand.



Solution

The Hicksian demand maintains the same utility along the curve. Therefore, at points A and B, the utility is the same. On the other hand, the Marshallian demand aims to maximize utility given the prices and income. Facing a price increase, the individual demands more of good x_1, but because they have less purchasing power, the available baskets decrease and therefore the utility is necessarily less or equal than before. The Hicksian demand adjusts the income in such a way that the individual has the same utility as at point A. What is happening here is that the individual with Hicksian demand maintains the same utility and therefore is not negatively affected by the increase in p_1. At point B, then, the individual has greater utility than at point C.