Asymmetric preferences for road safety: evidence from a stated choice experiment among car drivers

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Abstract

Recent research has proposed fitting responses from discrete choice experiments to asymmetric value functions consistent with prospect theory, taking into account respondents' reference points in their valuation of choice attributes. Previous studies have mainly concentrated on travel time and cost attributes, while evidence regarding road safety attributes is very limited.

This paper investigates the implicit utility of a road safety attribute, defined as the number of casualties per year in alternative car trip choices, when safety improves or deteriorates. Using appropriate statistical tests we are able to reject symmetric preferences for losses and gains in the level of safety and estimate a sigmoid value function that exhibits loss aversion and diminishing sensitivity. This adds an interesting psychological dimension to the preference of road safety. Possible implications of this finding for policy making are discussed.