

# Tie-breaking or Not: A Choice Function Approach

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## Abstract

This paper considers a new axiom of a choice function called *equal treatment of individuals in an indifference class (ETI)* in the context of matching problems. We first show that when a choice function satisfies ETI and other two commonly-used axioms, substitutability and the Law of Aggregate Demand (LAD), it must either always accept or reject the individuals for whom ETI applies, irrespective of the choice set considered. This strong necessary condition implies general incompatibility with another axiom, acceptance. We then study the degree of violation of acceptance: (i) when ETI, substitutability, and LAD are required, the degree of violation depends on the sum of the size of all indifference classes for which ETI applies, but (ii) when LAD is replaced by consistency, it is characterized by the size of a certain indifference class.

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