

# Rational Inattention to Discrete Choices: A New Foundation for the Multinomial Logit Model<sup>†</sup>

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## Abstract

Often, individuals must choose among discrete alternatives with imperfect information about their values, such as selecting a job candidate, a vehicle or a university. Before choosing, they may have an opportunity to study the options, but doing so is costly. This costly information acquisition creates new choices such as the number of and types of questions to ask the job candidates. We model these situations using the tools of the rational inattention approach to information frictions (Sims, 2003). We find that the decision maker's optimal strategy results in choosing probabilistically exactly in line with the multinomial logit model. This provides a new interpretation for a workhorse model of discrete choice theory. We also study cases for which the multinomial logit is not applicable, in particular when two options are duplicates. In such cases, our model generates a generalization of the logit formula, which is free of the limitations of the standard logit.

## Abstract

Vsichni musí občas vybírat mezi diskrétními alternativami, jako vybrat kandidáta na zaměstnání, dopravní prostředek nebo vhodnou školu. Před výběrem mohou prozkoumat jednotlivě možnosti, což je však nákladné. V tomto článku modelujeme tento proces pomocí teorie rational inattention (Sims, 2003). Zjistili jsme, že takto racionálně nepozorný agent vybírá mezi jednotlivými nabídkami přesně podle logit modelu. Náš model tedy poskytuje novou interpretaci pro logit, ale i opravuje jeho nedostatky.

Keywords: rational inattention, discrete choice, logit model.

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