

Bach Dong-Xuan

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Education

Université Paris 1 Panthéon-Sorbonne and PSE

Ph.D in Applied Mathematics

2023

Thesis: Essays in Intergenerational Choice and Aggregation of Expert Opinions

Advisors: Philippe Bich and Bertrand Wigniolle

Jury: Jean-Marc Tallon, Federico Echenique, Marcus Pivato, Xiangyu Qu, Eric Danan, Youcef Askoura

Paris School of Economics

Analysis and Policy in Economics (APE) (with highest honors)

2019

National Economics University, Vietnam

Bachelor in Auditing

2016

Fields of interest

Intertemporal choice, Decision theory, Aggregation of preferences

Job Market Paper

Dynamic choices, temporal invariance and variational discounting

(with Philippe Bich)

There is no universally agreed-upon discount rate for the evaluation of policies and projects with significant and long-lasting effects. This paper presents a novel approach that provides a robust solution for addressing the diversity of discount rates. This approach recommends considering all discount rates but aims to assign varying degrees of importance to these rates in the decision-making process. Furthermore, we introduce a general criterion capable of accommodating situations where it is feasible not to discount future utilities. This criterion encompasses and extends various existing criteria in the literature.

Working papers

Prudent aggregation of quasi-hyperbolic experts (Revise and resubmit, Economic Theory)

(with Philippe Bich and Bertrand Wigniolle)

Consider a group of economists evaluating a long-term project by using quasi-hyperbolic rules. The parameters (discount rates and present bias) used by each economist may differ, which implies different policy recommendations. Then a policy maker has to choose a socially efficient aggregation from these recommendations. Our paper axiomatizes the aggregation process when the social planner adopts some “prudent” behavior. When there is no present bias, we recover Chambers and Echenique (2018)’s aggregation result of maxmin exponential preferences. To prove our main result, we provide some intertemporal variational representation results of interest for their own sake.

Aggregation of misspecified experts (Revise and resubmit, Economic Theory)

We investigate how a cautious decision maker might aggregate opinions from experts who are concerned with model misspecification. We use Cerreia-Vioglio et al. (2022)’s criterion to account for

concerns related to model misspecification. Under a Pareto-type axiom and a cautious axiom, the decision maker, whose preference falls within the class of variational preferences proposed by Maccheroni, Marinacci and Rustichini (2006), also takes model misspecification into account. The decision maker regards all the experts' structured models as her most accurate approximations of the correct model and penalizes unstructured models less than any expert.

Unanimity of two selves in decision making

(with Pierre Bardier and Van Quy Nguyen)

We propose a new model of incomplete preferences under uncertainty, called unanimous dual-self preferences, in which act f is considered more desirable than act g when, and only when, both the evaluation of an optimistic self, computed as the utility attained in a best-case scenario, and that of a pessimistic self, computed as the utility attained in a worst-case scenario, rank f above g . Our comparison criterion involve multiple priors, as the best and worst cases are determined among sets of probability distributions, and is, generically, less conservative than that in Bewley preferences (Bewley (2002)) and twofold multi-prior preferences (Echenique et al. (2022)), the two ambiguity models that are closest to ours.

Work in Progress

1. **Weitzman Discounting** with Xiangyu Qu
2. **The formation of general equilibrium networks under risk** with Antoine Mandel and Van Quy Nguyen

Conferences and Seminars

2023: Science of Decision Making @ HKU (Hong Kong)

2022: European Workshop on Economic Theory (XXX EWET, Warsaw); Society for Social Choice and Welfare (Mexico); Time, Uncertainties and Strategies VIII (Paris)

2021: Time, Uncertainties and Strategies VII (Paris)

2021: Seminar Theory, Organisation and Markets (TOM) (PSE); Seminar Economic Theory (MSE)

Teaching

2023: TA Microeconomics 3: Information (Master)

Université Paris 1 Panthéon-Sorbonne

2022: TA Optimization (Master), TA Microeconomics: Uncertainty and Information (Undergraduate)

Université Paris 1 Panthéon-Sorbonne

2021: TA Microeconomics 1 (Master), TA Microeconomics: Uncertainty and Information (Undergraduate)

Université Paris 1 Panthéon-Sorbonne

2020: TA Microeconomics 1 (Master 1), TA Linear Algebra and Optimization (Undergraduate)

Université Paris 1 Panthéon-Sorbonne

Refereeing

Journal of Mathematical Economics

Honors and Awards

2017: Excellence Master QEM Scholarship

2015: The first prize in Vietnamese Mathematical Olympiad for University Students

2014: The first prize in Vietnamese Mathematical Olympiad for University Students

2013: The second prize in Vietnamese Mathematical Olympiad for University Students

Skills

Software: MATLAB, L^AT_EX

Languages: Vietnamese (Mother tongue), English (Fluent), French (Basic)

References

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