Application to the Mentoring Program to Support NSF Grant

Applicant : Jean-Baptiste Tondji

Contact Information :

The University of Texas Rio Grande Valley

Robert C. Vackar College of Business and Entrepreneurship

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Research field of interest:

Microeconomic theory, Political economy, and Economics of organizations

List of past grants:

1. RFF Retrospective Studies of Regulatory Performance Project (CO-PI)
    a. sponsoring organization: Resources for the future
    b. status: Not funded
2. Operating Grant: Addressing the Wider Health Impacts of COVID-19 2021-11-08 (CO-PI).
    a. sponsoring organization: Canadian Institutes of Health Research
    b. status: Not funded

Contact of senior administrator:

Professor Michael Abebe
Associate Dean for Research and Faculty
Robert C. Vackar College of Business & Entrepreneurship
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Jean-Baptiste Tondji

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ADDRESS

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ACADEMIC POSITIONS

The University of Texas Rio Grande Valley

Assistant Professor, Department of Economics, *Sep. 2018–present*

University of Ottawa

Visiting Assistant Professor, Department of Economics, *July - August 2023*

Visiting Researcher, Department of Economics, *July - August 2019*

EDUCATION

Ph.D., Economics, University of Ottawa, 2018

M.Sc., Mathematics, University of Yaounde I, 2009

M.A., Education, *É*cole Normale Sup*é*rieure of Yaounde, 2008

B.Sc., Mathematics, *É*cole Normale Sup*é*rieure of Yaounde and University of Yaounde I, 2006

RESEARCH

INTERESTS

Microeconomic Theory, Political Economy, and The Economics of Organizations

REFEREED PUBLICATIONS

" Justice, Inclusion, and Incentives,"
(with Ghislain J. Demeze, and Roland Pongou),
Accepted at *The Journal of Theoretical Politics*

"Robust Contracts in Common Agency,"
(with Keler Marku, and Sergio Ocampo)
Forthcoming at *The Rand Journal of Economics*.

"Optimal Interventions in Networks during a Pandemic,"
(with Roland Pongou and Guy Tchuente)
Journal of Population Economics, 2023, 36 (2), 847–883.

"Supermajority Politics: Equilibrium Range, Policy Diversity,
Utilitarian Welfare, and Political Compromise,"
(with Aseem K. Mahajan and Roland Pongou)
European Journal of Operational Research, 2023, 307 (2), 963–974.

"Vaccine and Inclusion,"
(with Zephirin Nganmeni, Bertrand Tchantcho, and Roland Pongou)
Journal of Public Economic Theory, 2022, 24(5), 1101–1123.

"Laissez-faire, Social Networks, and Race in a Pandemic"
(with Roland Pongou and Guy Tchuente)

AEA Papers and Proceedings, 2022, 112:325-29.

"Overconfidence and Welfare in a Differentiated Duopoly"
Managerial and Decision Economics, 2022, 43(3), 751–767.

"An Index of Unfairness,"
(with Victor Aguiar, Roland Pongou, and Roberto Serrano)
Handbook of the Shapley value, E. Algava et al. (eds.), Chapman and Hall/CRC Press, Taylor & Francis, 2019, pp. 31–48.

"On the Dynamic Analysis of Cournot-Bertrand Equilibria,"
(with Aggey Semenov)
Economics Letters, 2019, 183 (108549), 1-5.

"Valuing Inputs Under Supply Uncertainty: The Bayesian Shapley Value,"
(with Roland Pongou)
Games and Economic Behavior, 2018, 108, 206-224.

"A Non-Parametric Test of the Axioms of the Shapley Value with Limited Data,"
(with Victor Aguiar and Roland Pongou)
Games and Economic Behavior, 2018, 111, 41-63.

WORKING PAPERS

"The Reciprocity Set,"
(with Roland Pongou),
Revised and Resubmitted to *Journal of Mathematical Economics*

"Emission Control and Offsets under Net-Zero Commitments"
Under review

"Profits, Pandemics, and Lockdown Effectiveness in Nursing Home Networks,"
(with Roland Pongou, Ghislain Junior Sidie, and Guy Tchuente),

"Vaccine, Profit, and Race in a Health Crisis: Evidence from U.S. Nursing Homes,"
(with Roland Pongou, Ghislain Junior Sidie, and Guy Tchuente),

IN PROGRESS

"Popularity and Resource Allocation,"
(with Zephirin Nganmeni, Bertrand Tchantcho, and Roland Pongou),

"Brand Authenticity, Market Profits, and Welfare"

"Centralized vs. Decentralized Production in Networks"
(with Hector Galindo-Silva and Guy Tchuente)

"Resource Allocation in Spatial Networks,"
(with Zephirin Nganmeni, Bertrand Tchantcho, and Roland Pongou),

"Political Design meets Policy Complexity"
(with Roland Pongou)

"Locating an Optimal Site for a Controversial Facility"

"Setting Priority in Allocating Goods"
(with Zephirin Nganmeni, Roland Pongou, and Bertrand Tchantcho)

"Overlapping Generation Structures and Pandemics in Networks"
(with Roland Pongou, Guy Tchuente, and Teegawende H. Zeida)

HONORS

2023 – NSF Diversity Initiative for Tenure in Economics (DITE) Fellow

2021 – The Pan-African Scientific Research Council (PASRC) Junior Fellow

GRANTS

2023 Faculty Travel Support Program - Office of Faculty Success & Diversity - UTRGV

2021, 2022, 2023 Robert C. Vackar College of Business & Entrepreneurship Summer Research Grant

2019–2021 Robert C. Vackar College of Business & Entrepreneurship Summer Research Support

2021 Fee waiver scholarship for the 78th Annual Midwest Political Science Association Conference

TALKS

2024 Scheduled: ASSA Meeting (San Antonio)

2023 Political Economy Theory Lunch, Stanford Graduate School of Business (virtual), Africa Meeting of the Econometric Society (Kenya), AERE Summer Conference (Portland, Maine); DITE (Duke University), Scheduled: Texas Economic Theory Camp (Texas A&M), Mathematical Approaches to Political Economy (Yaounde I), Center for Studies and Research in Economics and Management (Yaounde II); Texas Economic Theory Camp (A&M)

2022 Texas Economic Theory Camp, Virtual: MPSA 79th Annual Conference, ASSA Annual Meeting (Panel and Poster session), UTRGV Economic Seminar Series

2021 Virtual: EEA-ESEM Virtual 2021, The Pan-African Scientific Research Council, MPSA 78th Annual Conference, UTRGV Economics and Finance Seminars Series, Asian Meeting of the Econometric Society, China Meeting of the Econometric Society, Africa Meeting of the Econometric Society (ENSEA Abidjan), Canadian Economic Association, International Conference on Social Choice and Voting Theory (Kellogg Center for Philosophy, Politics, and Economics)

2020 Virtual: Delhi Winter School of Economics and The Econometric Society, Lab on Applied Rationality and Institutions (LARI, uOttawa)

2019 Texas Economic Theory Camp (UT Austin), UTRGV Economics and Finance Seminars Series

2018 Texas Economic Theory Camp (SMU Texas), Canadian Economics Association (Mc-Gill), UTRGV (Dept. Economics and Finance), Sao Paulo School of Economics—Fundação Getulio Vargas (Sao Paulo), Brown Bag Seminars (Dept. of Economics, Carleton U)

2017 Ottawa Microeconomic Theory Workshop (uOttawa), African Meeting of the Econometric Society (Algiers), Canadian Economics Association (Antigonish, Nova Scotia), Société Canadienne de Science Économique (uOttawa), Inaugural Conference Ottawa-Carleton Graduate School of Economics (Poster, uOttawa-Carleton)

2016 University of Cergy-Pontoise, THEMA, Departement of Economics (Cergy-Pontoise, France), Canadian Economics Association (uOttawa)

2015 Summer Institute for Economic Research, African School of Economics (Benin)

TEACHING

The University of Texas Rio Grande Valley

Ph.D.: Seminar in Economic Theory

MBA: Managerial Economics

Undergraduate: Principles of Microeconomics, Microeconomic Theory, Introduction to Game Theory, Mathematical Economics

University of Ottawa

Masters: Microeconomic Theory

Undergraduate: Principles of Microeconomics, Microeconomic Theory, Probability and Statistics for Economists, Mathematical Economics

CERTIFICATES 2023 QUALITY MATTERS (QM) – The University of Texas Rio Grande Valley

SERVICES

The University of Texas Rio Grande Valley

College (RVCOBE):

2023 – Faculty Annual Performance Evaluation Task-force

2021 – PH.D Committee Member

2022 Faculty Awards Committee

2019 - 2022 Committee Member, *Accreditation Committee*

Economics Department (RCVCOBE):

2019 - 2022 Committee Chair, *AACSB assurance of learning (AOL)-Economics*

Committee Member, *Search Committee-Economics*

Committee Co-Chair, *ECON/Finance Seminars & Brown Bag Series*

2019 - 2021 *Committee Member*, PhD Comprehensive Exam, PhD Admission

2018 - 2019 Committee Member, *AACSB assurance of learning (AOL)-Economics*

PROFESSION

Editorial Work

Referee for: Games and Economic Behavior, Computers & Operations Research, Journal of Public Economic Theory, Mathematical Reviews, Journal of Computational and Applied Mathematics, Managerial Decision Economics, SAGE Open, Energy, Frontiers in Nutrition, NSF Proposal (Expert Reviewer), Contemporary Mathematics, Finance Research Letters, Economics and Human Biology

Conferences and Workshops

Member of the Scientific Committee

2023 African Meeting of the Econometric Society (Kenya)

Reviewer

2023 AERE Summer Conference (Portland, Maine)

AERE – SEA Conference (New Orleans Marriott)

Session Chair & Moderator

2021 Société Canadienne de Science Économique Congress,
Presidential Plenary Address (Virtual)

EEA-ESEM Virtual

International Conference on Social Choice and Voting Theory (Virtual)

Canadian Economics Association (SFU, Virtual)

MPSA 78th Annual Conference (Virtual)

2017 African Meeting of the Econometric Society (Algiers)

Canadian Economics Association (Antigonish, Nova Scotia)

Memberships in Professional Associations

American Economic Association, Econometric Society, National Economic Association

Association of Environmental and Resource Economists

Jean-Baptiste Tondji

Policy Complexity and Political Design

Motivation

In "Du Contrat Social: Ou, Principes du Droit Politique," Jean-Jacques Rousseau argued that:

"There are two general rules. First, the more the grave and important the questions discussed the nearer should the opinion that is to prevail approach to unanimity. Second, the more the matter in hand calls for speed, the smaller the prescribed difference in the number of votes may be allowed to become: when an immediate decision has to be reached, a majority of one should suffice." (Rousseau, 1762, n.d.)

The evidence suggests that several democratic assemblies follow Rousseau's principles. The supermajority required to enact policies in legislative bodies varies widely. For instance, the U.S. House of Representatives may impeach a federal official by a simple majority vote, whereas their removal from office requires a two-thirds majority in the Senate. The United Nations Security Council requires the approval of a three-fifths supermajority of all of its members on substantive matters, whereas procedural matters require a simple majority of those present and voting. The European Union applies the unanimity rule for particularly "sensitive" issues and either a simple or a qualified majority rule for "technical" matters.

The quote by Rousseau and these real-world examples suggest that the *a-priori complexity* or *importance* of a decision should dictate the size of a majority that can approve such a decision in an assembly. Let us consider an assembly consisting of n members and $\alpha \in (0, 1]$ a proportion of n and assume there is a function I that maps any decision d in the assembly to its *a-priori complexity* or *importance* level, I_d, with I_d, a finite and real number. Rousseau's principles suggest that α should be an increasing and monotonic function of I_d, ranging from $\alpha = 0.5$ (majority) to $\alpha = 1$ (unanimity). The natural question is whether a theoretical explanation supports such a statement. The answer must be yes since many real-world examples illustrate this conjecture. However, my knowledge of the literature on political design and policy complexity from the lens of social decisions says that the latter is true only in static (or one-shot) decision mechanisms. While such procedures are used in real-life institutions, several legislative assemblies in classical and contemporary democracies employ dynamic or sequential procedures, wherein a proposed action on the floor generally goes through a sequence of amendments before its final adoption. The literature analyzing the relationship between the decision complexity level and the approval majority's size in dynamic settings is limited.

Research questions

Motivated by these observations, I aim to explore whether policy complexity predicts the size of the approval majority in dynamic deliberative democracies. Contributing to this line of thought has practical implications for sustaining the design and functioning of political institutions. The theoretical model will involve policy design, deliberative voting protocols, and policy complexity. My approach will highlight three desired properties in political economies: the expected social dimensionality of policies, the inclusive feature of the deliberative voting process, and the timing in reaching legislative decisions. I aim to bring the theoretical results to the data and assess their robustness and relevance in informing political design and policy decisions in developed and developing countries.

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