Amirreza Ahmadzadeh

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Fields of Concentration:
Mechanism Design, Contract Theory, Dynamic Games.
Topics: Procurement Contracts, Costly State Verification, Reputation.

Desired Teaching:
Microeconomics, Game Theory, Optimization.

Committee (Alphabetic Order):
Prof. Johannes Hörner, Prof. Thomas Mariotti,
Prof. Anna Sanktjohanser, and Prof. Jean Tirole (chair).

Degrees:
Ph.D., Economics, Toulouse School of Economics, 2026 (expected).
M.Sc, Economics, Tehran Institute for Advanced Studies, 2020.
B.S., Mathematics, Sharif University, 2017.

Working Papers:

"Mechanism Design with Costly Inspection" with Stephan Waizmann (submitted).

"Costly state verification with Limited Commitment" (third year paper).

"Matching with Budget Constraints" with Behrang Kamali (submitted).

Work In Progress:

"Trust with Evidence".

"Public Support for Innovation" with Kourosh Khounsari and Jean Tirole.

Research Assistance:
2023 to Prof. Johannes Hörner, and Prof. Jean Tirole.
2022, 2021, and 2020 to Prof. Jean Tirole.
2019 to Prof. Mohammad Akbarpour.

Selected Teaching Experience:
Fall 2023, and 2022 Microeconomic Theory (Ph.D.), TA to Prof. François Salanié, and Thomas Mariotti.
Fall 2023, 2022, and 2021 Optimization (Ph.D.), TA to Prof. David Martimort, and Thomas Mariotti.

Fall 2022, and 2021 Game Theory (Master), TA to Prof. Bertrand Gobillard.
Fall 2019, and 2018 Mathematics for Economists (Master), TA to Prof. Erfan Salavati.
Fall 2018, Real Analysis (Master), TA to Prof. Siavash Shahshahani.

Seminar and Conference Presentations:

2024: Leuven Economic Theory Conference.
2023: Econometric Society European Meeting, HEC Paris Economics PhD conference, EARIE Rome, Oligo workshop Padova.

Selected Fellowships and Awards:

Tehran Institute for Advanced Studies Fellowship, 2017-2019.
Founder of Iranian Geometry Olympiad (IGO), 2014.
Exceptional Talents, and admitted to double major programs, Sharif University, 2013.
Silver Medal, National Mathematical Olympiad, 2010.

Languages:

Persian (native), English, French (basic).

References (Alphabetic Order):

Professor Johannes Hörner (johannes.horner@tse-fr.eu).
Professor Thomas Mariotti (thomas.mariotti@tse-fr.eu).
Professor Anna Sanktjohanser (anna.sanktjohanser@gmail.com).
Professor Jean Tirole (jean.tirole@tse-fr.eu).

Abstracts for Working Papers

Mechanism Design with Costly Inspection (with Stephan Waizmann)

This paper studies how to combine screening menus and inspection in mechanism design. A Principal procures a good from an Agent whose cost is his private information. The Principal has three instruments: screening menus - i.e., quantities and transfers - and (ex-ante) inspection. Inspection is costly but reveals the Agent's cost. The combination of inspection and screening menus mitigates inefficiencies: the optimal mechanism procures an efficient quantity from all Agents whose cost of production is sufficiently low, regardless of whether inspection has taken place. However, quantity distortions still necessarily occur in optimal regulation; the quantity procured from Agents with higher production costs is inefficiently low. Both results are true regardless of the magnitude of inspection costs. In contrast to settings without inspection, incentive compatibility constraints do not bind locally. This paper provides a method to address this challenge, characterizing which constraints bind.

Costly state verification with Limited Commitment

This paper examines a principal-agent model that the principal mandates actions and conducts costly inspections without transfers. The principal prefers lower actions, while the agent prefers higher actions and has private information about his type. The agent is protected by ex-post participation and rejects any action below his private type. The principal faces a trade-off between mandating lower actions and the risk the agent rejects actions and chooses his outside option. We analyze various levels of the principal's commitment ability. If the principal can commit to both inspections and actions when no inspection is performed, and if the principal's fear of ruin is greater than the agent's, then a deterministic inspection policy is optimal. Additionally, if the principal cannot commit to either inspections or actions, the highest equilibrium payoff does not involve non-deterministic inspection strategies. Finally, if the inspection cost is low and the principal commits to inspecting whenever requested by the agent, the principal can achieve the payoff of the optimal deterministic inspection policy.

Matching with Budget Constraints (with Behrang Kamali)

We study a matching model with salaries where firms face budget constraints. Mongell and Roth (1986) proved that this setting may not have a stable matching. We show that if workers are homogeneous from the firms' point of view then a weak stable matching always exists; furthermore, when a strong stable matching does not exist, there is a close-by budget vector for firms such that a strong stable matching exists for the problem with perturbed budgets. On the flip side, if firms are homogeneous from the workers' point of view, a stable matching may not exist; however, one can get to a stable matching by changing the budget of firms where the total budget remains the same and each firm's budget change is bounded by the value of at most one worker to that firm.