

Ilia Krasikov

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Current Position

Post-Doctoral Fellow, School of Mathematical Sciences at Tel Aviv University, Israel

Education

Ph.D., Economics, Pennsylvania State University, USA, 2019.

M.A., Economics, Pennsylvania State University, USA, 2015.

M.A., Economics, New Economic School, Russia, 2013.

B.A., Business administration, Higher School of Economics, Russia, 2011.

Research Fields of Interest

Mechanism design, Contract theory, Information design, Repeated games.

Working Papers

”On Dynamic Pricing” *with Rohit Lamba.*

Abstract: There are many economic problems where the observable data consists of prices and selling times— airline tickets and hotel bookings are leading examples. This paper provides a dynamic pricing model to help better understand such scenarios: A seller wants to sell to a buyer a good with a fixed date of consumption. The buyer’s value for it can change over time according to a Poisson process prior to the date. The seller posts a two-part tariff where the first part extracts the buyer’s surplus modulo self-selection rents, and the second part sequentially segments the market in the spirit of second degree price discrimination through a continuously increasing price path. The buyer always pays the first part of the tariff and then solves an optimal stopping problem— which price to accept for trade. The solution of this pricing problem, solved in closed form, is shown to implement the optimal deterministic contract. In the process, a novel dynamic mechanism design problem is operationalized where the standard relaxed approach generically fails. Alternate implementations through refund and subscription contracts are also presented. The gains from randomization are explained through the channel of information acquisition, and the optimal contract for limited informational change modeled through a fixed number of Poisson arrivals is also solved.

”A Theory of Dynamic Contracting with Financial Constraints” (R&R at JET) *with Rohit Lamba.*

Abstract: Financial constraints preclude many surplus producing economic transactions, and inhibit the growth of many others. This paper models financial constraints through the interaction of persistent private information and borrowing limitations for the agent. Specifically in a canonical model of dynamic screening with Markov types, the requirement of positivity of per-period utility is added as a stronger feasibility constraint. The distortions, defined as the wedge between optimal and efficient allocation, thus produced, increase over time with each successive ”bad shock” and decrease with each ”good shock”. This overturns the standard result of decreasing distortions in dynamic mechanism design without financial constraints. At any point in the contract, an endogenous number of ”good shocks” are required for the principal to provide some liquidity and then eventually for the contract to become efficient. Efficiency is reached almost surely. The average rate at which contract become efficient is decreasing in persistence of shocks; in particular, the iid model predicts a quick dissolution of financial constraints. This speaks to the relevance of modeling persistence in dynamic models of agency. A conceptual point is made on the fragile interpretation of positivity of stage utility as a limited liability constraint, and an extension where the principal can terminate the contract is provided. The problem is solved recursively, and building on the literature, a technical tool of finding the minimal subset of the recursive domain that houses the optimal contract is further developed.

”Implications of Unequal Discounting in Dynamic Contracting” (Submitted) *with Rohit Lamba.*

Abstract: This paper studies a canonical dynamic screening model where the principal’s discount factor is larger than the agent, the agent has limited commitment and payoff relevant private information that follows a Markov process. The interaction of unequal discounting and limited commitment with persistent agency frictions produces a novel tradeoff: (i) new intertemporal costs of incentive provision emerge, and (ii) the net present value of the standard

information rent decreases. The former ensure that the shadow price of incentive constraints are permanently positive, and the latter contributes towards decreasing distortions since principal and agent evaluate future payoffs differently. The optimal contract mostly exhibits a rather simple cyclical form that we term restart: (i) distortions decrease monotonically in the consecutive number of low shocks; (ii) a high shock erases all previous history of distortions, and then (iii) for every consecutive low shock, distortions follow the same path as before. Invoking an automaton inspired definition, restart contracts are shown to be simple. The optimal restart contract is (globally) optimal when the relaxed approach works, and approximately optimal otherwise. The setup admits a host of applications where one party is "financially bigger" and the other is armed with some private information. Examples include a venture capitalist-entrepreneur relationship, loan contracts between the International Monetary Fund and emerging markets, and governments redistributing amongst heterogeneous citizens.

Employment

Research Assistant for Prof. Syed Nageeb Ali. *Spring 2016*

Graduate Teaching Assistant

Game Theory, for Prof. Kalyan Chatterjee. *Spring 2017*

Microeconomics, for Prof. Vijay Krishna. *Fall 2017*

Game Theory, for Prof. Syed Nageeb Ali & Rohit Lamba. *Fall 2016*

Macroeconomics, for Prof. Ruilin Zhou & Shouyong Shi. *Fall 2014*

Undegraduate Teaching Assistant

Advanced Game Theory, for Prof. Kalyan Chatterjee. *Spring 2015*

Advanced Game Theory, for Prof. Joris Pinkse. *Fall 2015*

Introduction to Microeconomics, for Prof. Dave Brown. *Fall 2013-Spring 2014*

Conferences

30th International Conference on Game Theory. *July 2019*

Canadian Economic Theory Conference 2019. *May 2019*

NSF/NBER/CEME Mathematical Economics Conference. *November 2018*

2018 China Meeting of the Econometric Society. *June 2018*

Summer School of Econometric Society in Seoul at Hanyang University. *August 2017*

Cornell/Penn State Macroeconomics Conference. *April 2018*

Work in Progress

"Job Ladder and Optimal Income Taxation".

"Competition in Persuasion with Verifiable Information"

"Optimal Dynamic Allocation with Costly Verification" *with Rohit Lamba and Yunan Lee.*

"Firm Dynamics with Inefficient Intermediation" *with Rohit Lamba.*

References

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