NIKITA PAVLOV

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Education

Ph.D. in Economics 2021 – Present
The Pennsylvania State University, USA. GPA: 3.8/4.0

M.S. in Economics 2017 – 2019
Higher School of Economics University, Russia.

B.A. in Management 2013 – 2017
Higher School of Economics University, Russia.

Research Fields

Labor Economics: household decision making, child development, human capital formation, parental investments, and labor supply.
Theoretical Econometrics: optimal statistical treatment assignment rules, minimax regret, and empirical process theory.

Publications and Forthcoming Papers

"Minimax Regret Treatment Rules with Finite Samples When a Quantile Is the Object of Interest"
with Patrik Guggenberger and Nihal Mehta. Accepted in Econometric Theory.
Abstract: Consider a setup in which a decision maker is informed about the population by a finite sample and, based on that sample, has to decide whether or not to apply a certain treatment. We work out finite sample minimax regret treatment rules under various sampling schemes when potential outcomes are restricted onto the unit interval. In contrast to Stoye (2009, Journal of Econometrics 151, 70–81), where the focus is on the maximization of expected utility, the focus here is instead on a particular quantile of the outcome distribution. We find that in the case where the sample consists of a fixed number of untreated and a fixed number of treated units, any treatment rule is minimax regret optimal. The same is true in the case of random treatment assignment in the sample with any assignment probability and in the case of testing an innovation when the known quantile of the untreated population equals 1/2. However, if the known quantile exceeds 1/2, then never treating is the unique optimal rule, and if it is smaller than 1/2, always treating is optimal. We also consider the case where a covariate is included.

Working Papers

"Corporal Punishment, Child Development and Household Labor Supply"
Job Market Paper
Abstract: This paper studies how corporal punishment affects child development and household resource allocation. I develop and estimate a dynamic model in which parents and children interact strategically: parents choose labor supply, consumption, monetary investments, time with the child, and whether to use a corporal punishment scheme, while children choose self-investment, leisure, and the amount of misbehavior. Child's human capital has two dimensions, cognitive capital and mental stability, which evolve as functions of endogenous household inputs. The model separates the disciplinary role of punishment from its developmental costs. Counterfactual simulations of a ban on the corporal-punishment scheme imply large gains in children's mental stability, especially for children who would otherwise face positive punishment risk. Effects on cognitive capital differ between households. In particular, cognitive capital increases when parents are able to substitute toward non-violent supervision, but falls when the ban removes a disciplinary instrument without generating a compensating increase in productive inputs. However, replacing corporal punishment with more parental involvement reduces maternal labor supply and household income.

"Finite-Sample Minimax-Regret Treatment Choice with Interval-Observed Outcomes"
Abstract: Consider a setup where a decision maker has to choose whether to apply treatment to a population after observing a finite sample. Stoye (2009) characterises the solution to the minimax regret problem in this setup when a finite sample consists of actual outcome realizations. However, in many applied problems, instead of the realized outcomes, the decision maker observes only the intervals containing them. We study a finite-sample minimax regret problem in this setting. With no restriction on interval width, assigning treatment with probability $1/2$ yields minimax regret. With widths bounded by h_0 and h_1 in the two arms, we first show that minimax regret converges to $(h_0 + h_1)/4$ in the limiting experiment and derive a corresponding asymptotically optimal plug-in treatment rule. Then, for $h_0 + h_1 \geq 1$, we derive an explicit minimax regret rule which attains this value in finite samples. For $h_0 + h_1 < 1$, we establish the existence of an optimal treatment rule and characterize it implicitly through a well-behaved finite-dimensional optimization problem. A simulation experiment then shows that the derived analytic rule produces superior finite-sample minimax regret relative to several heuristic alternatives, with the plug-in rule coming very close when the sample size is sufficiently large.

"Government Transfers, Parental Incentives and Child Development"
with Ewout Verriest.
Abstract: We leverage a model of parental and child investments in the cognitive and non-cognitive development of children, to explore the impact of various government income transfer policies. We consider both unconditional and conditional cash or goods transfers, with the recipient being either the parents or the child. In line with prior research, we find that if the planner's objective is to improve the distribution of children's cognitive skills, the most effective set of policies are *conditional cash transfers* (CCTs), in which the household receives an income transfer only when the child's cognitive ability exceeds a prespecified threshold. However, we show that while CCTs foster cognitive skills in the short run, these monetary incentives also create non-trivial negative feedback effects on children's intrinsic motivation levels, as proxied by their intertemporal discount factors. We show that if the planner's objective is to overall child (or parental) welfare, unconditional cash or goods transfers may be optimal.

Research and Professional Experience

Graduate Research Assistant, *Department of Economics, Penn State* 2022 – 2026

- Professor Ewout Verriest, Summers 2024, 2025 & 2026
  - Currently co-authoring the paper *"Government Transfers, Parental Incentives and Child Development"*.
  - Built and analyzed structural models of household decision making and prepared longitudinal survey data for estimation.
- Professor Patrik Guggenberger, Summers 2022 & 2023
  - Co-authored *"Minimax Regret Treatment Rules with Finite Samples When a Quantile Is the Object of Interest"*.

Data Analyst Research Intern, *Yandex* May 2026 – August 2026

- Analyzed the performance and business impact of machine-learning algorithms used to rank customer communications, benchmarking ML-based ranking against randomized baselines across services and geographic markets.
- Developed and backtested time-adaptive score calibration to account for temporal shifts in the relationship between model scores and response rates; the procedure reversed winner ordering in approximately 10% of cases and led to approximately 15% CTR improvement.
- Developed a causal measurement framework for the monetary returns to communications, identifying incremental GMV and orders attributable to communications.

Assistant, *Department of Theoretical Economics, Higher School of Economics* 2018 – 2021

- Taught economics courses at both undergraduate and graduate levels.

Teaching

Higher School of Economics University – Instructor
Best Teacher of the Higher School of Economics University 2021

– 2020/2021: Advanced Macroeconomics (Master's); Macroeconomics 2 (Bachelor's); Economics (Bachelor's, two programs).
– 2019/2020: Advanced Macroeconomics (Master's); Macroeconomics (Bachelor's); Macroeconomics 1 (Bachelor's).
– 2018/2019: Research Seminar "Economic Thinking" (Bachelor's); Macroeconomics (Minor).

Penn State University – Graduate Teaching Assistant

– Urban Economics (ECON 432, undergraduate), Fall 2026;
– Economics of Climate Change (ECON 415, undergraduate), Spring 2026;
– Environmental Economics (ECON 428, undergraduate), Fall 2024 & 2025;
– Advanced Macroeconomics (ECON 522, graduate), Spring 2025;
– Economics of Public Expenditures (ECON 425, undergraduate), Spring 2024;
– Monetary Theory and Policy (ECON 451, undergraduate), Fall 2022 & 2023;
– Corporate Economics (ECON 444, undergraduate), Spring 2023.

References

Ewout Verriest, Assistant Professor of Economics, Penn State University
ewout@psu.edu | Faculty Profile

Marc Henry, Liberal Arts Professor of Economics, Penn State University
marc.henry@psu.edu | Faculty Profile

Patrik Guggenberger, Liberal Arts Professor of Economics, Penn State University
pxg27@psu.edu | Faculty Profile