

**45th NES Research Conference  
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**Abstracts**

**Oleg Shibanov (NES)**

**Leverage factor and mutual fund performance**

In this paper we reexamine one of the puzzles of the U.S. mutual fund industry. A stylised fact is that average U.S. actively managed mutual fund generates a negative risk-adjusted return, both gross and net of expenses. Therefore, the fact that active U.S. funds still control about \$10 trillion of AUM demonstrates either irrationality of investors or possible mistakes in the average alpha estimation process. In this research, we recalculate the risk-adjusted return taking into account the leverage factor that was proposed by Adrian et al. (2014). We show that leverage factor is a useful addition to Fama-French-Carhart model. It has risk premium of 10.1% per quarter, and it is priced in the regressions with 80 or 100 equally-weighted portfolios of active funds. In this five-factor model we get a positive average net of fees alpha of 0.17% per year over the period 1970-2009. Notably, the Fama-French-Carhart model applied alone gives the value of -0.42% per year, net of expenses. Thus, the leverage factor seems to resolve the long-term puzzle of the U.S. active mutual fund industry.

**Pavle Radicevic (NES)**

**Risk and Leverage Choices in Owner-Controlled Firms**

Joint with Mike Burkart and Jin Yux

Private benefits of control distort the risk choices of owner-managers. In particular, when riskier projects entail a larger increase in cash flow than in private benefits (if successful), (more) equity financing renders the owner-manager (more) conservative, which lowers both expected payoff and pledgeable income. This novel cost of outside equity can be mitigated by issuing risky debt. In fact, risky debt and outside equity are complements for implementing a given risk choice, and an appropriately chosen mix of debt and equity allows the owner-manager to commit to the ex ante optimal risk level. Thus, our model provides a rationale for the co-existence of risky debt and outside equity derived from a simple risk choice problem in the presence of private benefits.

**Sergey Kovbasyuk (NES)**

**Advertising Arbitrage**

Joint with [Marco Pagano](#)

Active arbitrageurs that publicize new information about their targets optimally concentrate their portfolios and advertising on one target. Multiple arbitrageurs also focus on a single target. This concentration may be inefficient.

**Evgeny Yakovlev (NES)**

**Short-run and long-run effects of sizable child subsidy: evidence from Russia**

This paper utilizes a large-scale natural experiment aimed to increase fertility in Russia. Motivated by a decade-long decrease in fertility and population, the Russian government introduced a sequence of sizable child subsidies (called Maternity Capitals) in 2007 and 2012.

We find that the Maternity Capital resulted in a significant increase in fertility both in the short run and in the long run, and has already resulted in an increase in completed cohort fertility for a large cohort of Russian women. The subsidy is conditional and can be used mainly to buy housing. We find that fertility grew faster in regions with a shortage of housing and with a higher ratio of subsidy to housing prices. We also find that the subsidy has a substantial general equilibrium effect. It affected the housing market and family stability. Finally, we show that this government intervention comes at substantial costs: the government's willingness to pay for an additional birth induced by the program equals approximately 50,000 dollars.

**Carsten Sprenger (NES)**

### **Does Nationalization Work? Evidence from Government Takeovers in Russia**

After the decade of large-scale privatization in the 1990s, many emerging market economies have undergone a policy shift towards consolidation and extension of the state sector, partly through selected nationalizations. Also the Russian government has been increasing its role as an owner in several sectors of the economy since the early 2000s. This paper studies the effects of nationalization on the firm size, employment, financial performance and leverage of target companies using a comprehensive hand-collected data set of government takeovers in Russia between 2004 and 2013. We distinguish takeovers of highly indebted companies (bailouts) from takeovers for strategic reasons.

**Philip Ushchev (HSE SPb)**

### **Social Norms in Networks**

Joint with Y. Zenou (Monash University)

Although the linear-in-means model is the workhorse model in empirical work on peer effects, its theoretical properties are understudied. In this paper, we develop a social-norm model that provides a microfoundation of the linear-in-means model and investigate its properties. We show that individual outcomes may increase, decrease, or vary non-monotonically with the taste for conformity. Equilibria are usually inefficient and, to restore the first best, the planner needs to subsidize (tax) agents whose neighbors make efforts above (below) the social norms. Thus, giving more subsidies to more central agents is not necessarily efficient. We also discuss the policy implications of our model in terms of education and crime.

**Sergei Izmalkov (NES)**

### **Nested contests**

Joint with Levent Celik

Online advertisement has recently become the largest ad segment in the world, its success is arguably due to (i) contextuality of ads to match consumers and advertisers (firms) and (ii) using auctions to extract revenue. We offer a model of an intermediated two-sided market in which an online platform matches consumers and firms to study a joint matching and auction design problem of the platform. The key element is the choice of the precision of contexts, where a particular context is effectively a condition that a firm has to satisfy to compete for a given customer. In practice a context can be any set of factors relevant for transaction, e.g. location, consumer preferences, product characteristics. The main trade-off is then a better (higher valued) matching to a consumer versus reduced competition and thus decreased ability to extract revenue. We show that the optimal number (or size) of contexts varies with the overall number of advertisers, the higher is competition the more detailed context description is. An immediate

implication is the optimal disclosure of consumer information to competing firms: it is never complete, but its precision grows with competition.

**Ozgur Evren (NES)**

**Top-Cycles and Revealed Preference Structures**

Joint work with Hiroki Nishimura (UC Riverside), and Efe Ok (NYU)

We provide behavioral foundations for a two stage choice procedure. In the first stage, the decision maker eliminates all alternatives that are inferior according to an incomplete dominance relation  $\succeq$ . In the second stage, she selects the top-cycle among the remaining alternatives according to a complete but possibly nontransitive binary relation  $R$ . The latter represents revealed preferences of the decision maker, while the dominance relation  $\succeq$  captures “easy” comparisons that she can make with full confidence. We also provide characterizations for three special cases of the model: The time honored top-cycle choice rule for nontransitive preference relations, the choice model based on maximization of an incomplete preference relation, and a further case in which the revealed preference  $R$  is transitive. The latter provides a substantial refinement of the standard choice model based on maximization of  $R$  in certain settings frequently adopted in the literature on uncertainty and risk.

**Ethymios Athanasiou(NES)**

**Revisiting the Classical Pure Public Good Problem: The Case for a Biased Designer**

Joint with Giacomo Valletta

We discuss the problem of choosing between two public alternatives under the assumption that preferences are quasilinear. We concentrate on the class of strategy-proof, anonymous and feasible mechanisms that are not dominated by another strategy-proof, anonymous and feasible mechanism. We characterize the class of undominated mechanisms each satisfying a weakening of both no-envy and decision efficiency. The Pivotal mechanism is the only member in the class that satisfies decision efficiency. Unanimity is the only member in the class that satisfies no-envy. The novelty of the solution we propose lies in the fact that it affords the mechanism designer multiple ways to resolve the issue of the public decision and uniquely determines the design of transfers based on this choice.

**Andrei Savochkin (NES)**

**Dynamic Consistency for Smooth Ambiguity**

Smooth Ambiguity and Maxmin are the two most popular decision models that are designed to deal with ambiguity--situations of the lack of information that makes assessments of probabilities very difficult. As has been argued in the literature, ambiguity-coping models do not extend well to dynamic environments in which information is revealed gradually. Possible extensions of the Maxmin model have been studied extensively. We seek to fill the gap with respect to the Smooth Ambiguity model.

**Mikhail Panov (HSE-SPb)**

**Cooperation in bargaining and the Nash program**

I examine the relationship between cooperative approach to two-player bargaining of Nash 1950 and noncooperative approach of Rubinstein 1982. I establish the following bijection between Nash's cooperative axioms and properties of Markov bargaining protocols:

Invariance corresponds to players having expected-utility preferences; Symmetry corresponds to symmetry of protocols; Efficiency corresponds to selecting subgame perfect outcomes of perfect-information protocols; Independence of Irrelevant Alternatives (IIA) corresponds to the length of bargaining periods shrinking to zero.

Thus, solving bargaining by imposing cooperative axioms on a bargaining set is similar to solving bargaining by choosing properties of noncooperative protocols. Yet noncooperative approach helps to evaluate Nash's axioms separately: from the noncooperative perspective, IIA is an innocuous axiom corresponding to frequent bargaining, whereas Efficiency is an axiom that eschews the problem of cooperation.

Furthermore, if Common Knowledge of Rationality (CKR) is understood as application of Iterative Admissibility, then under Invariance and IIA, CKR alone simplifies noncooperative bargaining to a pure coordination problem, increasing the chances of successful cooperation.

**Konstantin Styrin (NES)**

**Domestic Macprudential Policy and Inward Transmission of Foreign Monetary Shocks:  
The Case of Russia**

Joint with Yulia Ushakova

This paper studies how the stance of domestic macroprudential policy affects the transmission of monetary policy shocks in the U.S. to a small open economy by estimating their effect on lending based on bank-level balance sheet data of Russian banks for 2000-2018. To identify the causal effect at the bank level we exploit heterogeneity across banks in terms of their reliance on cross-border funding. We find evidence that the effect of U.S. monetary policy shocks on domestic lending both in foreign currencies and in roubles has been statistically and economically significant. A more restrictive stance of domestic macroprudential policy tends to attenuate the effect of foreign monetary shocks.

**Sergey Kokovin (HSE, SPb)**

**WTO anti-dumping rules can be justified by Krugman trade model**

Joint with Pavel Molchanov

We theoretically explore welfare in international trade, using the standard Krugman model of trade with general-form (non-CES) preferences and two symmetric countries. It turns out, that under all increasingly-elastic demand functions (linear, CARA, HARA, etc.) the equilibrium trade volumes are somewhat excessive, compared to social optimum, because of "soft dumping", i.e., selling abroad cheaper than "fair level": domestic price plus trade costs. It means, that reciprocal import tariffs, rising the export prices to "fair level" are Pareto-improving.

**Valery Charnavoki (NES)**

**Retail inventory behavior after uncertainty shocks**

This paper presents a general equilibrium model with heterogeneous retailers and inventory management problem. The retailers are subject to idiosyncratic and aggregate shocks with the volatilities of aggregate shocks fluctuating over time. I demonstrate that the effects of uncertainty shocks on retail inventories are ambiguous and depend on the source of aggregate shocks. Though the rising uncertainty about supply-side shocks generates higher precautionary

inventories, it also increases carrying costs and reduces incentives to hold inventory as a self-insurance against future stock-outs.

**Stanislav Anatolyev (NES)**

**Directional news impact curve**

The directional news impact curve (DNIC) is a relationship between past returns and a probability of next period's return to exceed a certain threshold, zero in particular. Using a long series of S&P500 returns and a number of parametric models suggested in the literature as well as flexible semiparametric models, we investigate the shape of DNIC, as well as forecasting abilities of these models. The semiparametric approach reveals that the DNIC has complicated shapes characterized by non-symmetry with respect to past returns and their signs, heterogeneity across the thresholds, and variation over time. Simple parametric models often miss some important features of the DNIC, but some nevertheless exhibit superior out-of-sample performance.

**Anna Obizhaeva (NES)**

**Invariance of Buy-Sell Switching Points**

Joint with Kyoung-hun Bae, Albert S. Kyle, and Eun Jung Lee

Define a “switching point” as an investor changing the direction of trading from buying to selling or selling to buying. For a specific market, the aggregate number of switching points is a good indicator of the pace of business time. Market microstructure invariance predicts switching points to occur at a rate proportional to the  $2/3$  power of the product of notional volume and returns volatility. Using data from the Korea Exchange (KRX) from 2008 to 2010, we calculate the number of switching points for each stock for each month. The estimated exponent is 0.675 (standard error 0.005,  $R^2 = 0.93$ ). Most variation reflects variation in the number of accounts trading a stock, not variation of switching points per account.

**Distinguished speaker**

Penélope Hernández and **Zvika Neeman (Tel Aviv U)**

**How Bayesian Persuasion can Help Reduce Illegal Parking and Other Socially Undesirable Behavior**

We consider the question of how best to allocate enforcement resources across different locations with the goal of deterring unwanted behaviour. We rely on “Bayesian persuasion” to improve deterrence. Our approach is distinguished by the following five features: (1) we consider a problem in which the principal has to allocate resources and then send messages (persuade) rather than just persuade. (2) Messages are received by drivers in  $n$  different neighborhoods, so persuasion is with respect to multiple audiences. (3) The problem is a “constrained convexification” rather than just a convexification problem, where the constraints are due to resource and probability restrictions and to the fact that drivers only care about the expected amount of resources conditional on the message they receive. This implies that convexification may be partial rather than complete as is usually the case in Bayesian persuasion models. (4) Even though the basic problem is not linear, we show that it can be cast as a linear programming problem. Finally, (5) we characterize the number of messages needed in order to obtain the optimal solution, and describe conditions under which it is possible to explicitly solve the problem with only two messages. We also solve the problem in this case.

