



R S S I A

Russian Summer School on Institutional Analysis

Research Projects

June, 29 – July, 5, 2013
National Research University
Higher School of Economics

Moscow

Contents

<i>Albiol, Judit: Business exits entail greater future levels of entrepreneurship? An empirical analysis at country level</i>	5
<i>Aymaliev, Ivan: Corruption, incompetence or unsuccessful reforms? Determinants of economic inefficiency in public procurement: evidence from Russia's regions</i>	9
<i>Bánnikova, Marina M.: Bribing parties in alternative parliament structures</i>	16
<i>Baranov, Alexey; Nazrullaeva, Eugenia; Yakovlev, Andrei : Criminal Persecution of Business in Russia's Regions: Private Interests vs. "Stick" System</i>	22
<i>Broms, Rasmus: Colonial Tax Effort and its Institutional Dividends</i>	26
<i>Bukowski, Paweł: Long-run persistence of the Empires. The impact of the Partition of Poland on education</i>	31
<i>Efobi, Uchenna; Beecroft, Ibukun; Oluwatobi, Stephen; Osabuohien, S. Evans: Dynamic Linkage between Politician Attributes and Debt Sustainability in Africa</i>	41
<i>Gavrilov, Alexander: Influence of ratio of system and interpersonal trust on character of state political system</i>	49
<i>Garifullina, Guzel; Buckley, Noah; Reuter, John; Shubenkova, Alexandra: Local Elite Quality: Does Selection Mechanism Matter?</i>	53
<i>Juraqulova, Zarrina; Byington, Tori C.; Kmec, Julie A.: The Impacts of Marriage and Institutional Factors on Academics' Perceptions of Career Success: An Ordered Logistic Regression Approach</i>	58
<i>Kiryshcheva, Irina: Optimal prize allocation in contests with sabotage</i>	66
<i>Kislitsyn, Dmirty: Firm's political influence and political status of its board of directors members: case of Kemerovo region</i>	69
<i>Kochergina, Ekaterina: Why do we act heuristically?</i>	72
<i>Lazarov, Darko: The quality of Institutions and economic growth (panel regression analysis for sample of CEE countries in time series 1993-2007 and 2008-2011)</i>	76
<i>Li, Yuanjing: Vertical Structure and Forward Contract in Electricity Market</i>	81
<i>Matvyeyev, Yevheniy: Self-organization of economic actors in case of state institutions dysfunction.</i>	86
<i>Morozov, Ilya: Oligopolistic Markets and Price Obfuscation</i>	89
<i>Nelidov, Vadim: Game Theoretic Approach to Game Addiction</i>	92

<i>Osabuohien, Evans S.: Foreign Land Acquisitions in Nigeria: Forces from Above and Voices from Below</i>	96
<i>Ostrovnyaya, Maria; Podkolzina, Elena: Competition between electronic intermediaries in public procurement</i>	102
<i>Pérez, Jessica, Diaz-Serrano, Luis: Do more educated leaders raise citizens' education?</i>	107
<i>Puzon, Klarizze Anne; Willinger, Marc: Institutions and resource windfalls: an experimental contest game</i>	114
<i>Rassadovskaya, Anastasia; Aistov, Andrey: Comparative analysis of corruption perception and trust in Russia, other post-soviet countries and European Union</i>	117
<i>Saputra, Putu Mahardika Adi: The Decision to Export: Firm-Level Evidence from Indonesian Textile and Apparel Industry</i>	120
<i>Syunyaev, Georgiy: Turnover of Ruling Elites and Property Rights Protection: Evidence from Russian Regions</i>	124
<i>Tran, Phuong Tra; Buso, Marco; Marty, Frédéric: Governments' use of Public Private Partnerships: Looking for Debt Hiding or Efficiency?</i>	130
<i>Tyurina, Elena: How does online marketplace environment impact on consumer behavior rationality?</i>	134

Albiol, Judit¹: Business exits entail greater future levels of entrepreneurship? An empirical analysis at country level

Abstract: *Using Global Entrepreneurship Monitor data for 41 countries this study investigates the impact of business exit on entrepreneurial activity at the country level. The paper distinguishes between two types of entrepreneurial activity according with the motive to start a new business: entrepreneurs driven by opportunity and necessity motives. The findings indicate that exits have a positive impact on future levels of entrepreneurial activity in a country. For each exit in a given year, a larger proportion of entrepreneurial activity the following year. Moreover, this effect turns out to be higher for opportunity entrepreneurs. The findings indicate that both types of entrepreneurial activity rates are influenced by the same factors and in the same direction. However, for some factors we find a differential impact on the entrepreneurship. The results show some important implications given that business exit may be overcome when there is a necessity motivation. This has important implications for both researchers and policy makers.*

Introduction

Using Global Entrepreneurship Monitor data for 41 countries this study investigates the impact of business exit on entrepreneurial activity at the country level. The paper distinguishes between two types of entrepreneurial activity according with the motive to start a new business: entrepreneurs driven by opportunity and necessity motives.

Assessing the impact of entrepreneurial exit at macroeconomic level may be an interesting instrument in order to promote entrepreneurship. Also the dynamics of entrepreneurship, expressed as the rate of nascent entrepreneurship or the prevalence of young enterprises, show a wide-ranging diversity across nations. It is therefore crucial to understand what drives the entrepreneurial activity among different countries and years.

Aim of the project

This study aims to explain whether business exits imply, or not, a fall in future levels of entrepreneurial activity at macroeconomic level controlling for other factors as fear of failure, the lagged logarithm of the Gross domestic Product per capita in current international dollar, the interaction between the logarithm of the Gross Domestic Product per capita and exits, the total percentage of unemployment, the percentage of unemployment female labour force and the percentage of unemployment male labour force.

To the best of our knowledge, this is the first panel data study that link previous exit rates to future levels of entrepreneurial activity at macroeconomic level.

Methodology

In order to analyse whether business exits imply, or not, a fall in future levels of entrepreneurial activity at macroeconomic level, we estimate the following panel regression model for 41 countries from 2002 to 2007.

¹ judit.albiol@urv.cat, Universitat Rovira I Virgili, Reus; Spain

The general model is:

$$\Delta y_{it} = \alpha + y_{it-1}\lambda + X_{it}\beta + u_{it} \quad (1)$$

where the subscripts denote the country i (where $i = 1, 2, \dots, N$) and the time period t (where $t = 1, 2, \dots, T$) denotes a set of explanatory variables, u_{it} is a normally distributed random error term, and α , λ and β are a set of parameters to be estimated. But as we must consider the effect country (for the differences and / or individual characteristics), unobserved heterogeneity between countries and the time effect, the error term is decomposed as follows:

$$u_{it} = \mu_i + \mu_t + e_{it} \quad (2)$$

where μ_i is a country-specific effect; μ_t is a time-specific effect and e_{it} is a time-varying error term.

In our case, the dependent variable is *tea*, more specifically $\Delta tea_{it} = tea_{it} - tea_{it-1}$. So, our regression model has the following specification:

$$\Delta tea_{it} = \alpha + tea_{it-1}\lambda + disent\delta_{it} + X_{it}\beta + \mu_i + \mu_t + e_{it} \quad (3)$$

$$\Delta tea_{opp_{it}} = \alpha + tea_{opp_{it-1}}\lambda + disent\delta_{it} + X_{it}\beta + \mu_i + \mu_t + e_{it} \quad (4)$$

$$\Delta tea_{nec_{it}} = \alpha + tea_{nec_{it-1}}\lambda + disent\delta_{it} + X_{it}\beta + \mu_i + \mu_t + e_{it} \quad (5)$$

The estimation of dynamic panel data models presents some econometric problems. First, the unobserved heterogeneity of the sample firms may cause bias in the estimation of the parameters. Second, the presence of the lagged dependent variable as an explanatory variable can imply correlation between this variable and the error term, which in turn creates a problem of endogeneity. With the aim of solving with these problems, we use the Generalized Method of Moments (GMM) proposed in Arellano and Bond (1991) which is more efficient than other estimations providing a convenient framework for obtaining asymptotically efficient estimators in dynamic models with panel data. The GMM estimator proposed by Arellano and Bond (1991) treats the equation to be estimated as a system of equations, one for each period and in this method the first differences are calculated from the equation for removing individual heterogeneity observed. Subsequently, lagged levels of the series are used as instruments for the endogenous variables in first differences.

The GMM estimator consistence depends on two assumptions. On the one hand, the error term does not exhibit second order autocorrelation and, on the other hand, instruments have to be valid. Arellano and Bond (1991) propose two tests to contrast it. First, the serial correlation test indicates that there is no serial correlation between the second-differenced variables used as instruments and the second differences of the residuals e_{it} . The null hypothesis is that of no autocorrelation (test $p_value > 0.1$). Second, Hansen test of over-identifying restrictions (Hansen (1982)) is used to contrast global validity of instruments in the regression. The test follows a chi-square distribution with (J-K) degrees of freedom, where J is the number of instruments and K

is the number of regressors. The null hypothesis is that the chosen instruments are valid. If the model is well specified may not be rejected (test $p_value > 0.1$).

Results

This paper has been aimed to study whether business exits imply, or not, a fall in future levels of entrepreneurial activity at macroeconomic level. Implementation of the model has been possible by the rich information available from a panel representative of entrepreneurship at country level. Although the Generalized Method of Moments leads to control for unobserved heterogeneity, the results may be affected by other covariates implying a problem of endogeneity. As these issues are clearly beyond the scope of this paper, here we will, provide a brief discussion of the main results and leave a more thorough analysis for further research.

First and foremost, the results presented here show a positive and significant sign of the coefficient associated with exits in all models. It means that the levels of entrepreneurial activity exceed business exits.

Models 2 and 3 which analyse the total entrepreneurial activity driven by opportunity and necessity motives support the sensitiveness of both motives. The robustness of the models is tested including other variables as the fear of failure, the Gross Domestic Product per capita and the unemployment variables. The different specifications combining all these variables for both types of entrepreneurship corroborate the main hypothesis named that at national level, business exits imply greater rates of entrepreneurial activity driven by opportunity motives.

One would expect that unemployment rates would imply greater levels of necessity entrepreneurship. However, the results show that unemployment rates favour the level of opportunity entrepreneurship. It could be due to the government policies that are aimed at promoting entrepreneurship through the capitalization of unemployment to be totally invested in a new start up. Moreover, this may be because the study has been carried out in a period of economic expansion.

References

- Acs, Z. and Varga, A. (2005). "Entrepreneurship, agglomeration and technological change", *Small Business Economics*, Vol. 24 No.3, pp.323-334.
- Arellano, M. and Bond, S. (1991), "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations", *The Review of Economic Studies*, Vol. 58 N0.2, pp. 277-297.
- Audretsch, D. and Keilbach, M. (2008), "Resolving the knowledge paradox: Knowledge-spillover entrepreneurship and economic growth", *Research Policy*, Vol. 37 No. 10, pp. 1697-1705.
- Audretsch, D. and Thurik, A. (2001), "What's new about the new economy? Sources of growth in the managed and entrepreneurial economies", *Industrial and corporate change*, Vol. 10 No. 1, pp. 267-315.
- Bates, T. (2005). "Analysis of young, small firms that have closed: delineating successful from unsuccessful closures", *Journal of Business Venturing*, Vol. 20 No.3, pp.343-358.
- Cardon, M., Stevens, C., and Potter, D. (2011), "Misfortunes or mistakes?: Cultural sense making of entrepreneurial failure", *Journal of Business Venturing*, Vol. 26 No. 1, pp. 79-92.

- Carree, M. A. and Thurik, R. (2010), "The impact of entrepreneurship on economic growth", in Acs, Z.J. and Audretsch, D.B. (eds), *Handbook of Entrepreneurship Research*, Springer, New York, NY, pp. 557-94.
- Grilo, I. and Thurik, R. (2008), "Determinants of entrepreneurial engagement levels in Europe and the US", *Industrial and Corporate Change*, Vol. 17 No. 6, pp. 1113-1145.
- Hansen, L. (1982), "Large sample properties of generalized method of moments estimators", *Econometrica*, Vol. 50, pp. 1029- 1054.
- Hessels, J., Grilo, I., Thurik, R., and van der Zwan, P. (2011), "Entrepreneurial exit and entrepreneurial engagement", *Journal of Evolutionary Economics*, Vol. 21 No. 3, pp. 447-471.
- Landier, A. (2005), "Entrepreneurship and the stigma of failure". Available at SSRN 850446.
- McGrath, R. (1999), "Falling forward: Real options reasoning and entrepreneurial failure", *Academy of Management Review*, Vol. 24 No. 1, pp. 13-30.
- Schumpeter, J. (1962), "Capitalism, Socialism and Democracy", Harper, New York.
- Shane, S., Locke, E., and Collins, C. (2003), "Entrepreneurial motivation", *Human resource management review*, Vol. 13 No. 2, pp. 257-279.
- Shapiro, A. and Sokol, L. (1982), "The social dimensions of entrepreneurship", *Encyclopedia of entrepreneurship*, Englewood Cliffs: Prentice-Hall, pp. 72-90.

Aymaliev, Ivan¹: Corruption, incompetence or unsuccessful reforms? Determinants of economic inefficiency in public procurement: evidence from Russia's regions

Abstract: *Drawing upon auction and corruption theories and using data from Russian e-procurement, and 2012 BEEPS surveys, along with face-to-face interviews with public procurers and businesspersons, this study empirically examines the determinants of economic inefficiencies in public procurement across Russian regions. The author argues that economic inefficiencies in public tenders are not just a result of market failures or poorly designed procurement mechanisms. 'Bad' outcomes may also be a consequence of certain institutional factors such as the level of corruption and crime, stage of reform process, competence of public officials and local economic and political development. Thus, this study adapts a two-stage-equation technique to investigate which set of factors- market, procurement or institutional can best explain the cross-regional variation of economic outcomes in Russian tenders.*

Introduction

In Russia public procurement through government contracts represents typically 5-10 per cent of regional gross domestic product. This translates into a considerable amount of revenue, which in the conditions of government monopoly of awarding contracts, discretionary power and weak legal guarantees, creates endless opportunity and temptation for corruption (TI, 2006). Although significant reform progress and efforts have been made in Russia's procurement system (EBRD, 2011), the scandal of Mrs Baturina, who made a fortune through personal connections in politics and many other similar cases to this one (*Financial Times*, 2010), demonstrates that corruption and crime in Russian procurement return and with new forms. However, not all efficiency problems are related to corruption. A 'bad' outcome may also originate from basic lack of capacity or simply an error (TI, 2006, p. 17). Moreover, inefficient outcomes could be a result of incomplete reforms or poorly designed policies. For example, efforts to increase transparency in procurement can come at the cost of a more cumbersome bureaucratic process (Hunja, 2000), increase agents' opportunity to establish informal connections with procurers and form collusive agreements, which may in turn increase opportunities for corruption and crime, and thus lead to less economically efficient outcomes. Furthermore, it has been argued that the variation in economic efficiency of awarded contracts can also be explained by the characteristics of the market and the peculiarities of the procurement process (Podkolzina *et al*, 2011). So, what it is the can best explain the variation of economic outcomes in public tenders? Is it corruption, crime, incompetence or institutional failure? Or probably, low market competition and ill-designed procurement procedures?

Using data from Russian e-procurement, 2012 BEEPS survey along with face-to-face interviews with businesspeople and public procurers, this study takes a two-stage equation approach to empirically investigate which set of factors- institutional, market or procurement can best explain the regional variation in public tender outcomes. The

¹ iaymaliev@hse.ru, Center for Fundamental Studies, Laboratory for Sociological Analysis, National Research University Higher School of Economics, Moscow, Russia

innovation of this research is that it treats corruption as an output variable. That is, I investigate the impact of certain institutional factors related to the quality of the political, business and social environments upon efficiency in awarding procurement contracts *through* their direct impact on corruption. This research contributes to the literature of determinants of economic efficiency in public procurement (Podkolzina *et al.*, 2011, 2013), reforms in public tenders (e.g., Hunja, 2001; TI, 2006; Knight *et al.*, 2007; OECD, 2007), and determinants of corruption and its implications for welfare (e.g., Shleifer and Vishny, 1993, 1994).

Aim of the project

While previous research has recognized corruption as an explanatory variable in determining efficiency in procurement, few studies has regarded shadow activities as an endogenous variable. Thus, the main innovation of this research is that it treats corruption as an output variable. That is, it investigates the impact of institutional factors such as political monopoly, discretionary power, accountability and crime levels upon efficiency in awarding procurement contracts *through* their impact on corruption. Furthermore, so far it is very little known to what extent secretive procurement practices such as bidders' collusion are deleterious for economic outcomes in procurement. Thus, another innovate approach of this study is that it aims to investigate the impact and potential harm of corporate crime, namely the formation of collusive rings, upon economic outcomes in tenders.

The results of this study matter for academics, policy-makers and investors. Inefficient economic outcomes in procurement can divert considerable amount of public revenues, heighten the price of goods and services, and thus trigger inflationary process (Hunja, 2000). In addition, corruption in procurement creates opportunities for unfair competition between businesses and generates public perception of a rotten public administration, which weakens the state and leads to political instability (TI, 2006). A policy-maker, who seeks to design and implement reforms, should be aware which set of policy controls can best improve the efficiency of awarding contracts, reduce the level of corruption, and whether the current institution controls actually work in enhancing efficiency in public tenders. Moreover, businesspeople, who seek to define their market entry and exit strategies, should know how competitive the Russian procurement market is, to what extent corruption, crime or certain procurement procedures can hinder fair outcomes, and under which procedure type they are most likely to achieve their desired goals.

Literature review and Hypothesis

Determinants of economic efficiency in public procurement

Dependent variable: Economic inefficiency

I intend to proxy 'economic inefficiency' with the winning to reserve price ratio. I suppose that a value above 0.90 should be marked as an 'inefficient outcome.' There are certain limitations of the use of such approximation and definition of such threshold. First, we do not know to what extent investing more money in certain goods and services leads to more or less efficient results. A public good can serve well enough with a certain amount of money invested in it, but can deliver much more with more advanced technology applied in its production. Also, investing too little financial resources (a ratio below 0.5) may also prove as inefficient outcome, as cheaper

production technology can result in defects in the final product. Taking into consideration these limitations, I consider another way to proxy 'economy efficiency.' That is, I intend to use the difference between the public contract price and the retail price as a proxy of efficient outcomes.

Explanatory variables

Bidder collusion

The practice shows that bidders often attempt to suppress rivalry and thus capture some of the rents that otherwise could be transferred to the buyer (e.g., Dimitri et al., 2006, p. 383). While it is difficult to immediately detect, bidder collusion represents the most serious practical threat to competition and revenue (e.g., Porter and Zona, 1993, 1999; Pesendorfer, 2000; Connor, 2001; Leyton-Brown et al. 2002; Bajari and Summers, 2002; Skrzypacz and Hopenhayn, 2004; Porter, 2005; Harrington and Chen, 2006; Dimitri *et al.*, 2006, p. 385; Marshall and Marx, 2007; Kagel and Levin, 2008; Ishii, 2009). Padhi and Mohapatra (2011) review the literature on bidders' collusion in procurement, and remark that typically negatively skewed bidding pattern, implying larger frequency of bidding at higher price, suggests non-serious or phantom bidding. By contrast, a positively skewed data set implies the presence of serious or competitive bidding. Following the discussion above, I proxy the level of bidders' collusion with the variance of submitted bids per auction and hypothesize:

H₁: Social welfare is a decreasing function of collusive rings.

Lack of technical knowledge and capacity

The professionalism of local public officials may also affect prices. An efficient auction system requires specialist knowledge, ability to implement reforms through the political and bureaucratic process, good legal skills, substantial knowledge of good procurement practices and procedures including related institutional issues (Hunja, 2001; TI, 2006). Thus, I hypothesize that:

H₂: Lack of professionalism and knowledge in procurement of local public officials undermines economic efficiency in public tenders.

Market and procurement characteristics

It has been argued that efficiency in procurement is also a result from certain market and procurement characteristics. There is empirical evidence that social welfare is an increasing function of the number of participants in tenders (Bulow and Klemperer, 1996; Podkolzina et al., 2011). Also, procedures types provide different information to bidders, and hence different incentives for them to bid, which has impact upon the final contract price (Robinson, 1985; Podkolzina et al., 2011). Another correlate of procurement outcomes is the contract duration. It has been argued that long-term contracts are associated with higher risks such as running out of capacity or prices changes within the duration of the agreement, and thus are typically associated with higher prices. (Jafre-Bonet and Pesendorfer, 2000). Therefore, I expect that:

H₃: Social welfare is an increasing function of the number of bidders per auction.

H_{4.1}: Sealed bid procedure will be positively associated with winning to reserve-price ratio.

H_{4.2}: Open bid in electronic form will be negatively associated with winning to reserve-price ratio.

H_{4.3}: Open tender procedure will be positively associated with winning to reserve-price ratio.

H₅: The longer the agreement, the higher the winning to reserve-price ratio.

Corruption

When legal guarantees are not available, and institutions are weak, infected with corruption, businesspersons engage in competition for bribes rather than fair competition. In such circumstances, public officials prefer to give contracts not necessarily to the enterprise proposing most economically reasonable price, yet to the firm that has given the highest bribe. Giving procurement contracts to selected firms that have bribed their way in, discourages competition, which results in higher prices. Also, bribes enter into the price of goods and services proposed by businesspeople, and thus further increase the final price of procurement contracts (TI, 2006). Therefore, I predict that:

H₆: Higher levels of corruption will be positively associated with higher winning price to reserve ratio.

Determinants of corruption

Equation two is mainly motivated by Klitgaard's (2001) corruption formula. The author argues that one will tend to find corruption when an organization or person has monopoly power over a good or service, has the discretion to decide who will receive it and how much that person will get, and is not accountable (Klitgaard, 2000). Following this logic, it has been argued that administrative corruption is a result of excessive government size in the economy (Tanzi, 2004), burdensome bureaucratic procedures related to the issuing of permits and licenses (Ades and DiTella, 1997, 1999; Lambsdorff and Cornelius, 2000; Djankov et al., 2002; Tanzi, 2004), weak party competition, low political accountability (Rose-Ackerman, 1997), weak and non-independent judiciary system and crime (Tanzi, 2004).

Methodology

To model the determinants of economic efficiency in public tenders, I apply a two-stage equation model.

Equation 1:

$$\text{Economic_Inefficiency}_{ij} = \alpha_1 + \beta_1 \text{Bidder_Collusion}_{ij} + \beta_2 \text{Bidder_Competition}_{ij} + \beta_3 \text{Type_of_Procedure}_{ij} + \beta_4 \text{Contract_Duration}_{ij} + \beta_5 \text{Incompetence}_{ij} + \beta_6 \text{Corruption}_{ij} + \varepsilon_{ij}$$

Equation 2:

$$\text{Corruption}_{ij} = \gamma_1 + \delta_1 \text{Government_Size}_{ij} + \delta_2 \text{Discretion}_{ij} + \delta_3 \text{Political_Accountability}_{ij} + \delta_4 \text{Regulations}_{ij} + \delta_5 \text{Penal_System}_{ij} + \delta_6 \text{Crime}_{ij} + \delta_7 \text{Other_Controls}_{ij} + \eta_{ij}$$

Where:

i- denotes name of region, **j**- auction held, **Inefficiency_{ij}** – is the winning to reserve price ratio, **Bidder Collusion_{ij}** – is the level of collusion between bidders as proxied by variance of submitted bids per auction held, **Bidder Competition_{ij}**- is the competition between bidders as proxied by number of bidders per auction held, **Type_of_Procedure_{ij}**- is the type of procedure in each auction held,

Contract_Duration_{ij} – represents the contract duration of the winner in the auction, **Incompetence_{ij}** – stands for the level of technical knowledge and capacity of local public officials and is proxied by perceived education levels by local firms, **Corruption_{ij}** – stands for administrative corruption proxied by the percent of the contract value would be typically paid in informal payments or gifts to secure the contract, **Government_Size_{ij}** is the size of the public sector, **Discretion_{ij}** – is a Herfindahl–Hirschman Index of local party competition, **Political_Accountability_{ij}** represents a Transparency International index of accessibility of information regarding governors’ incomes and assets declarations, **Regulations_{ij}** – stands for the average days required to obtain operating license from the day of the application to the day it was granted, **Penal_System_{ij}** – stands for the efficiency of law enforcement agencies and in particular the penal system. It is proxied by the following formula: Probability of being sentenced = Total People Brought to Court/Total People Convicted, **Crime_{ij}** stands for regional crime levels proxied by companies’ annual cost of security, ε_{ij} and η_{ij} are the error terms.

Preliminary Results

The initial results from the corruption equation provide some empirical evidence that the quality of judiciary system and bureaucracy may be important factors in explaining the variation in corruption levels in Russian public administration. Both the quality of courts and number of tax inspections come with the expected sign and are statistically significant at the 0.01 and 0.05 level (see Table 1). Nevertheless, the cross-regional Pearson coefficient provide weak evidence of statistical association between corruption levels and the variables suggested by the literature (see Table 2). Data on e-procurement is being compiled and the results are yet to come.

References

- Balsevich, A., Pivovarova, S., Podkolzina, E., Cross-regional comparison of the efficiency of public procurement in Russia. (Draft version, 2011). Laboratory for Institutional Studies. Higher School of Economics, Russia.
- Balsevich, A. Pivovarova, S., Podkolzina, E. (in press) The Information Transparency of Public Procurement in Russian Regions: Estimation and Explanations.
- Bandiera, O., Prat, A., Valletti, T., Active and Passive Waste in Government Spending: Evidence form a Policy Experiment, *The American Economic Review*. 2009, 99, 4:1278-1308.
- Bec, M., Corruption, Connections and Transparency: Does a Better Screen Imply a Better Scene? *Public Choice*. 2001, Vol. 107, issue 1-2, pp. 88-96.
- Bulow, J., Klemperer, P., Auctions Versus Negotiations, *The American Economic Review*. 1996, 86, 1:180 194.
- Dimitri, N., Piga, G., Spagnolo, G., 2006. *Handbook of Public Procurement*. Cambridge University Press.
- Doni, N. The Importance of Reputation in Awarfing Public Contracts // *Annals of Public and Cooperative Economics*, vol. 77, N.4, 2006, pp. 401–429.
- Hunnja, R., R., 2001. Obstacles to Public Procurement Reform in Developing Countries. WB94726 A:\sue's paper 4.doc

- Jofre-Bonet, M., Pesendorfer, M., Bidding Behavior in a Repeated Procurement Auction: A summary, *European Economic Review*. 2000, 44:1006-1020.
- Knight, L., Harland, C., Telgen, J., Thai, K., V., Callendar, G., McKen, K., 2007. *Public Procurement: International Cases and Commentary*. Routledge.
- Kostyo, K. 2006. *Handbook for Curbing Corruption in Public Procurement*. Transparency International.
- Laffont, J-J., Tirole, J., 2011. *A Theory of Intentives in Procurement and Regulation*. The MIT Press, Cambridge, Massachusetts, London, England.
- Mironov, M., Zhuravskaya, E., (in press) 2012. Corruption in Procurement and Shadow Financing: Evidence from Russia.
- OECD, 2010. *Collusion and Corruption in Public Procurement*. Policy Roundtables.DAF/COMP/GF(2010)6
- Ohashi, H., Effects of Transparency in Procurement Practices on Government Expenditure: A Case Study of Municipal Public Works, *Review of Industrial Organisation*. 2009, 34:267-285.
- Padhi, S., S., Mohapatra K., J., Pratap, Detection of collusion procurement auctions, *Journal of Purchasing and Supply Management*. Vol. 17, 2011, pp. 207-211.
- Podkolzina, E., Voytova, T., 2011 Blacklisting in Russian Public procurement: How it doesn't work? Serioes: Public administration, WP BRP 01/PA/2011. Centre for Institutional Studies, Higher School of Economics, Russia
- Robinson, M., Collusion and the Choice of Auction, *RAND Journal of Economics*. 1985, 16:141-145.
- Stenbacka, L.R., Collusion in Dynamic Oligopolies in the Presence of Entry Threats, *Journal of Industrial Economics*. 1990, 39, 2:147-154.

Appendix

Table 1: Determinants of corruption

VARIABLES	(1) Corruption	(2) Corruption
Number of tax inspections		.1770706** (0.032)
Regulations	-0.0174** (0.00691)	
Crime	0.172 (0.115)	.1139923 (0.174)
Penalty System	-0.484* (0.256)	-.079473 (0.602)
Constant	2.284** (0.992)	-.0627636 (0.910)
Observations	193	284
R-squared	0.036	0.0170

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 2: Cross-regional Pearson correlation coefficients

	Corruption
Number of tax inspections	0.1008
Days to obtain licence	-0.1190
Cost due to crime	0.0783
Court system	-0.1114

*** p<0.01, ** p<0.05, * p<0.1

Bánnikova, Marina M.¹: Bribing parties in alternative parliament structures²

Abstract: *A parliament with n members decides whether to accept or reject a certain proposal. Each member of the parliament votes in favour or against. If there are at least t members in favour, the proposal is accepted; otherwise it is rejected. A non-member of the parliament, the briber, is interested in having the proposal accepted. Therefore, he is willing to bribe members to induce them to vote in favour. We compare a parliament with party discipline, when members vote according to the party line and a parliament without party discipline, when members vote according to their own opinion. The paper determines, for given values of n and t , the average number of members that the briber has to bribe in each case (with the average taken with respect to all the possible allocations of members and their votes and also with respect to those allocations inducing the briber to bribe). And the question is whether a parliament is more corrupted in a presence of party discipline, or in its' absence? The preliminary results predict that a parliament with parties with strong organization and strong party line is more costly for the briber to be bribed, what could deter corruption.*

Introduction

The studies on electoral systems and corruption have generally tended to focus on the question of how different electoral systems are connected with corruption. One of the first theoretical works on this topic was Myerson (1993), who investigated the connection between different electoral rules and corruption. His findings about the effectiveness of the electoral rules in eliminating corruption from the parliament were contested by some empirical works (Persson et al. (2003), Rose-Ackerman (2005), and Birch (2007), for instance) and by the later work of Myerson (1999).

Of course, we cannot deny the importance of electoral rules when electing the parliaments, but little attention seems to have been paid to what happens inside the parliament once elected. For example, Charron (2011) studies empirically the connection between party systems and corruption. Taking the electoral formula as a proxy for the number of parties, he finds that multipartism in countries with dominance of single-member districts is associated with higher levels of corruption, while the party system's relationship with corruption plays no role in countries with proportional representation. Though we do not consider the parliament from the strategic point of view of re-electing, it is interesting to notice, that political systems with fair executive reelections seems to have less myopic and more electoral conscious politicians and, therefore, less corruption (Linz (1990); Linz and Stepan (1996); Bailey and Valenzuela (1997); and Rose-Ackerman (1999)).

Much less attention seems to have been devoted to the connection between corruption and the structural characteristics of the parliaments, such as size of the parliament, the number of parties with representation, and the decision rules adopted by the parliament. These characteristics might have influence on the presence of political corruption inside the parliament. There are some empirical works closely

¹ marina.bannikova@urv.cat, Department of Economics, Universitat Rovira i Virgili, Reus, Spain

² This paper has benefited from comments and suggestions by my supervisor, Antonio Quesada. Financial support from the Ministry of education and sport of Spain is gratefully acknowledged.

connected with the question: Lederman et. al (2005) show that democracies, parliamentary systems, political stability, and freedom of the press are all associated with lower corruption; Pelizzo (2006) shows that the potential for corruption is inversely related to parties' levels of institutionalization – so that the more a party is institutionalized, the less likely it is to become involved in corrupt practices.

Aim of the project

We focus on a single political decision to be voted for in a parliament and offer a simple model of voting inside the parliament. A model is proposed to provide a comparative analysis of different parliament systems in terms of the average cost of bribing, depending on structural characteristics of the parliament. And the questions to be answered are: can changes in parliament characteristics lead to decrease of corruption; does a parliament without party discipline make corruption less costly or higher costly and therefore increase or decrease possible corruption; is it possible to replicate the same cost of corruption in different parliament structure?

Hypothesis and Methodology

A **model** is presented where it is determined an average price for a briber who intends to manipulate the outcome of a parliamentary voting procedure, expressed in terms of the number of members in the parliament that have to be bribed to ensure that the voting outcome is the one the briber wants.

There is a **parliament** with n members (n is natural number). Each member belongs to one of two parties. It is assumed that there are 2 parties in the parliament, as a 2-party parliament can be seen as a proxy for a real world in a sense that mainly under a voting for a particular question there exist 2 coalitions (a big party in power and its' opposition, like it happens in Spain and Russia, or a coalition of "left" parties and "right" parties). The parliament has to make a political **decision** concerning a certain proposal using some voting rule. Each member of the parliament chooses either Y (the vote representing acceptance of the proposal) or N (the vote representing rejection). There is a voting rule represented by natural number $t \in \{1, 2, \dots, n\}$. This number is a **threshold** representing the minimum number of Y votes guaranteeing that the proposal is accepted.

There is an exogenous agent, not a member of the parliament, who is in having the proposal accepted. Such an agent can act as a **briber**, bribing members to vote Y (if the briber were interested in rejection, the model could be redefined by just changing t to $t' = n - t$). A huge and powerful corporation, to the extent that it has enough resources to bribe parties, could act as a briber. For example, the domestic automobile producing company which is interested in that a law of increasing state duty in imported cars; or huge internet-providers cooperating with mobile operators lobbying for separate tariffication of TCP/IP telephony.

Party discipline can be present or absent. The existence of party discipline means that, for each of the two parties, all the members of the party must cast the same vote. In this case, rather than parliament members, it will be said that parties vote either Y or N. When there is no party discipline, all members of the parliament are free to choose Y or N.

Definition 1. Party-discipline case. Given n , a possible state ω_n of the parliament in the presence of party discipline is a pair $\omega_n = (d, s)$ such that $d \in \{0, 1, 2\}$ is the number of parties voting Y and s is the size of the smallest party in case that both parties vote the same (that is, if $d \neq 1$) and is the size of the party voting Y when parties vote differently (if $d = 1$).

Remark 1. If $d \neq 1$ (that is, both parties cast the same vote), then $s \in \{1, \dots, n/2\}$ if n is even and $s \in \{1, \dots, (n-1)/2\}$ if n is odd. If $d = 1$ (parties vote differently), then $s \in \{1, \dots, n-1\}$.

Remark 2. By Remark 1, for a given n , the total number of possible states under party discipline is $n/2 + n/2 + n - 1 = 2n - 1$ if n is even and $(n-1)/2 + (n-1)/2 + n - 1 = 2n - 2$ if n is odd.

In the absence of party discipline the concept of state of the world is simpler. The term s does not matter and the term d now means the number of members voting Y.

Definition 2. No-party-discipline case. Given n , a possible state ω_n of the parliament in the absence of party discipline is a number $\omega_n = d \in \{0, 1, \dots, n\}$ representing the number of members voting Y.

Given n , with or without party discipline, define Ω_n to be set of states and $|\Omega_n|$ to be the total number of states. With the presumption that a certain n is given, ω and Ω will be written instead of, respectively ω_n and Ω_n .

Definition 3. Given threshold t and state ω , $m(\omega)$ is defined to be the minimum number of members of the parliament that have to be bribed to ensure that the parliament accepts the proposal; that is, at least t parliament members vote Y. Specifically, in the party-discipline case, letting $\omega = (d, s)$,

- (i) if $d = 2$, then $m(\omega) = 0$;
- (ii) if $d = 1$, then $m(\omega) = 0$ if $s \geq t$ and $m(\omega) = n - s$ if $s < t$;
- (iii) if $d = 0$, then $m(\omega) = s$ if $s \geq t$; $m(\omega) = n$ if $s < t$ and $n - s < t$; and $m(\omega) = n - s$ if $s < t$ and $n - s \geq t$,

and in the no-party-discipline case, letting $\omega = d$,

- (i) if $d < t$, then $m(\omega) = t - d$;
- (ii) if $d \geq t$, then $m(\omega) = 0$.

From the briber's perspective, some member of the parliament has to be bribed in state ω if $m(\omega) \neq 0$. The event that some member of the parliament has to be bribed could be then defined as $\{\omega \in \Omega: m(\omega) \neq 0\}$.

Definition 4. Given n and t , the average number of members of the parliament that are needed to be bribed to ensure that the proposal is accepted is $A = \frac{\sum_{\omega \in \Omega} m(\omega)}{|\Omega|}$.

Definition 5. Given n and t , the average number of members of the parliament that are needed to be bribed to ensure that the proposal is accepted conditional on the fact that some member has to be bribed is $C = \frac{\sum_{\omega \in \Omega} m(\omega)}{|\{\omega \in \Omega: m(\omega) \neq 0\}|}$.

The number A will be interpreted as the average bribery cost for the briber (or, for short, average bribery cost). The number C will be interpreted as the conditional average bribery cost for the briber (or, for short, conditional bribery cost). A_d and C_d will define the values of A and C with party discipline and A_{nd} and C_{nd} without party discipline.

The conditional bribery cost C is a proxy for the real price the briber has to pay on average if he has to bribe. The average bribery cost could be used to compare different parliaments in a sense that it takes into account all possible states of the world, includes the likelihood to take a positive decision. Is it preferable to have a high or a low A ? If it is high enough, it can deter the briber because of the high cost; but if at the same time C is low enough, the briber may have a strong incentive to act. And if A is low, it appears to encourage corruption; though the C can be high.

Results

Proposition 1 and 2 count the average and conditional costs for the case of party-discipline and no-party discipline, respectively. The main result is presented by the Proposition 3.

Proposition 1.

With party discipline the average and conditional bribery cost are

$$\begin{aligned}
 A_d &= \frac{(t-1)(n-t/2)}{n-1/2} + \frac{n}{4(n-1/2)} & C_d &= \frac{(t-1)(n-t/2)}{\frac{t-1}{2} + \frac{n}{4}} + \frac{n}{2(t-1)+n} & \text{if } t > \frac{n}{2}, \text{ even } n. \\
 A_d &= \frac{(t-1)\left(n - \frac{3t}{4}\right)}{n-1/2} + \frac{n(n+2)}{8(2n-1)} & C_d &= \frac{(t-1)\left(n - \frac{3t}{4}\right)}{\frac{t-1}{2} + \frac{n}{4}} + \frac{n(n+2)}{8(t-1)+4n} & \text{if } t \leq \frac{n}{2}, \text{ even } n. \\
 A_d &= \frac{(t-1)(n-t/2)}{n-1} & C_d &= \frac{(t-1)(n-t/2)}{\frac{t-1}{2} + \frac{n-1}{4}} & \text{if } t > \frac{n}{2}, \text{ odd } n. \\
 A_d &= \frac{(t-1)\left(n - \frac{3t}{4}\right)}{n-1} + \frac{(n-1)(n+1)}{8(2n-2)} & C_d &= \frac{(t-1)\left(n - \frac{3t}{4}\right)}{\frac{t-1}{2} + \frac{n-1}{4}} + \frac{(n-1)(n+1)}{8(t-1)+4(n-1)} & \text{if } t \leq \frac{n}{2}, \text{ odd } n.
 \end{aligned}$$

Proposition 2.

Without party discipline the average and conditional bribery cost are

$$A_{nd} = \frac{t(t+1)}{2(n+1)} \qquad C_{nd} = \frac{t+1}{2}$$

Proposition 3.

For $3 < t < n$, $A_d > A_{nd}$ and $C_d > C_{nd}$: the average and conditional bribery costs with party discipline are greater than the average and conditional bribery costs without party discipline.

Remark 3. Under the unanimity rule $n = t$ the average bribery costs are equal for the party-discipline and no-party-discipline cases.

As any commodity, demand for the corruption is likely to be regulated by its price: more corruption is likely to be observed the smaller the price paid by the briber. So to reduce corruption we have to create a parliament structure making the corruption to be highly costly. For general case under different voting rules (except unanimity rule) a parliament with party discipline is more costly for the briber to be

bribed. This result agrees with the conclusions of Lederman et al. (2005) and Pelizzo (2006). Under the unanimity rule the average bribery costs are equal for the two cases, while the conditional bribery cost is greater with party discipline.

Assume that n and t can take non-integer values, it permits to consider the obtained formulas as a continuous function. Proposition 4 predicts, that the functions of the costs cross in when $t = n$, Proposition 3 showed that under certain restrictions ($3 < t < n$) the functions of no-party discipline are laying below the functions of the party-discipline case. In party-discipline case the functions of average bribery cost are increasing ($A_d' > 0$) and concave ($A_d'' > 0$) with the respect to t . The functions of conditional bribery costs are concave with increasing and decreasing regions depending on the values of t . For the case of no-party discipline the functions of both average and conditional bribery costs are increasing ($A_{nd}' > 0, C_{nd}' > 0$). The average bribery cost function is convex ($A_{nd}'' > 0$), the conditional bribery cost is linear ($C_{nd}'' = 0$).

The conclusion can be made that the same bribery cost in case of party-discipline can be achieved for the no-party-discipline case.

To illustrate better the results, the following Figure is presented: bribery costs for a parliament with 100 members (what can be generally seen as a proxy for 100 %).

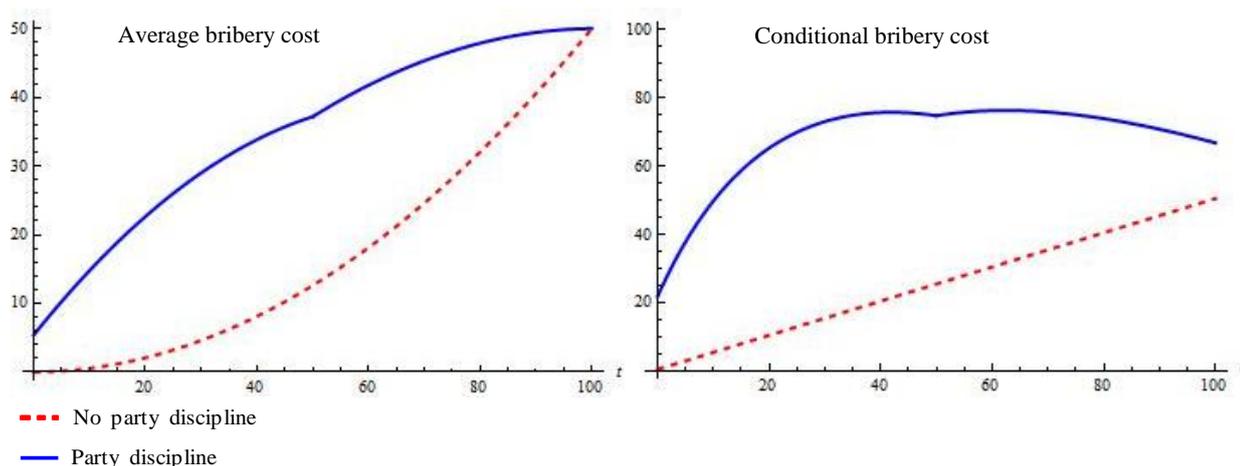


Figure 1. Average and conditional bribery costs for $n = 100$

The functions shows that in the world with no party discipline the bribery cost will be lower, what could cause the persistence of corruption. And it also confirms that the same bribery cost in a parliament with party discipline can be reproduced in a parliament without party discipline by changing it structural characteristics such as size and voting rule.

References

- Bailey, J., Valenzuela, A. (1997) "The shape of the future", *Journal of Democracy*, 8: 43-57.
- Birch, S. (2007) "Electoral systems and the manipulation of elections", *Comparative Political Studies* 40: 1533-1556.
- Charron, N. (2011) "Party systems, electoral systems and constraints on corruption", *Electoral Studies* 30: 595-606.

- Lederman, D., Loayza, N., Soares, R. (2005) "Accountability and corruption: political institutions matter", *Economic and Politics*, 17: 1-35.
- Linz, J. (1990) "The Virtues of Parliamentarism", *Journal of Democracy* 1: 84-92.
- Linz, J., and Stepan, A. (1996) "Toward Consolidated Democracies", *Journal of Democracy* 7: 14-33.
- Myerson, R. (1993) "Effectiveness of electoral systems for reducing government corruption: A game-theoretic analysis", *Games and Economic Behavior* 5: 118-132.
- Myerson, R. (1999) "Theoretical comparisons of electoral systems", *European Economic Review* 43: 671-697.
- Pelizzo, R. (2006) "Political Parties", Ch 11. *The role of parliament in curbing corruption*, edited by Rick Stapenhurst, Niall Johnston, Riccardo Pelizzo. *The International Bank for Reconstruction and Development / The World Bank*.
- Persson, T., Roland, G., Tabellini, G. (2003) "Electoral Rules and Corruption", *Journal of the European Economic Association* 1: 958-989.
- Rose-Ackerman, S. (1999) "Corruption and Government: Causes, Consequences, and Reform", Cambridge, U.K., and New York: Cambridge University Press.
- Rose-Ackerman, S. (2005) "Political corruption and reform in democracies: theoretical perspectives," in Junichi Kawata, ed., *Comparing Political Corruption and Clientalism*, Aldershot: Ashgate.

Baranov, Alexey¹; Nazrullaeva, Eugenia²; Yakovlev, Andrei³ : Criminal Persecution of Business in Russia's Regions: Private Interests vs. "Stick" System

Abstract: *According to the concept of "limited access order" by North et al. violence is one of the key factors determining economic development in most modern societies. The concept of "predatory policing" introduced by Gerber and Mendelson considered police behaviour as conditioned by two main incentives: opportunity to extract rent from their authority for use violence and necessity to give the appearance of solving criminal cases. In this paper we empirically test the relationship between indicators of economic crimes in Russia's regions, the level of economic activity, and turnover of regional elites. Our main goal is to find out whether private interests or the so-called "stick system"⁴ are responsible for the overall upward trend in economic crimes observed in 2004–2009. We use a unique ICSID database, which contains official MVD's (Ministry of Internal Affairs) data on economic crimes (according to the articles of the Russian Criminal Code), along with biographical data for chiefs of regional police departments. Our results suggest that "stick" system based on key performance indicators is responsible for the intensifying upward trend in the dynamics of economic crime rates in 2004–2009, which overshadows negative consequences of predatory persecution practices.*

Introduction

In recent years we observe an intensifying tendency for criminal persecution of business in Russia's regions by different law enforcement officials. It is reflected in growing number of economic crimes registered by police and growth in repressiveness of law enforcers. This tendency is confirmed not only by journalists, but also by experts (Nikitinskiy (2009), Volkov et al. (2012), Gans-Morse (2012), Verhovenstvo prava (2013)). Simultaneously there is decline in business climate and growth in capital outflow in Russia.

Some experts and scholars believe that first tendency is a reason for the first one (Yakovlev (2012), Zhalinskiy and Radchenko (2011)). Clearly decline in business climate and therefore in economic performance is undesirable by political elite. Otherwise they would not devote so much effort in drawing FDI in every international business meetings like The St. Petersburg International Economic Forum.

Aim of the project

While connection of these two tendencies is a subject of separate research, we try to investigate why law enforcers take part in actions which presumably lead to such unwanted consequences.

Literature review

¹ aybaranov@hse.ru, ICISD, National Research University Higher School of Economics, Moscow, Russia

² enazrullaeva@hse.ru, ICISD and Department of Applied Economics, National Research University Higher School of Economics

³ ayakovlev@hse.ru, Institute for Industrial and Market Studies, National Research University Higher School of Economics, Moscow, Russia

⁴ "Palka" ("the stick" in English) purely means "check mark" which is usually put in checkbox to show that the item in the "to do list" is solved (the English version of the term was introduced in Taylor (2011)).

The situation we witness now may initially seem to be different from the phenomenon of “violent entrepreneurship” of the 1990’s (see Volkov (2002)) with criminal groups being the main power of predatory persecution of business. However, recent tendencies are in line with the concept of “limited access order” by North et al. (2009). According to this concept, violence is one of the key factors determining economic development in most modern societies, whereas rent sharing with powerful social groups is a mean of deterring violence.

Theodore P. Gerber Sarah E. Mendelson suggest a theory of “predatory policing”. This concept considered police behaviour as conditioned by two main incentives: opportunity to extract rent from their authority for use violence and necessity to give the appearance of solving criminal cases. Predatory policing concept differs from two basic concepts of the role of the police in several key respects. The first model of these two theoretical model called “functionalist”. It is presented in most developed democracies and devoted to provide services, enforce the law, preserve order in general interest. The second is presented in authoritarian societies and those with polarized social structures and named “divided society” model. It is characterized by strong identification of the police with the ruling regime, strong bias against subordinate groups. Police protects the interests of dominant elite and suppress subordinate groups such as different minorities, political opposition, poor. While it is obvious that predatory policing departs from the functionalist model, it is less clear how it diverges from divided society policing. Gerber and Mendelson emphasize three key differences: police corruption is present as often as police violence; all groups of society experience significant levels of police misconduct; “even if elites occasionally deploy the police for political purposes, most instances of police misconduct advance rent-extraction and self-preservation rather than suppress subordinate groups” (Gerber and Mendelson (2008), pg. 5).

Authors studied only public experience of police violence and police corruption without paying special attention to businessmen, that is, personal encounters with the police that members of the general public identify as involving corruption or violence. Using data of six surveys conducted in Russia authors found evidence to support their theory of predatory policing.

It seems possible to broaden the model of predatory policing on businesspeople whose assets are very attractive. Presence of the “stick” market into police department contributes to possibility of such broadening. The “stick” in itself is a costs for law enforcer which he has to burden in order to have good statistics. Good statistics allow him to hold position and therefore have the opportunity to extract rent from his authority for use violence. Different specialization gives access to various resources – some departments have more opportunities to get a “stick”, others, for example, department for combating economic crimes, have more authority to attack entrepreneur and therefore more opportunity to extract rent. On internal MVD’s (grey) market officials of the former departments may simply sell revealed or investigated criminal cases to authorities of the latter departments. They just transfer these cases to different department in exchange for money.

Hypotheses

Based on the Russian context and case studies as typical examples of predatory criminal persecution of business discussed in full version of this study, we formulate

two competing explanations which factors may have caused the growth in the number economic crimes observed during the period 2004–2009. Our goal is to try to distinguish between two types of incentives of “predatory policing” concept using econometric modeling.

Hypothesis 1: Private Interests

Law enforcement officers initiate criminal cases in private interests: potential gains for law enforcement officers may be associated with cash flows. If rent seeking behavior dominates we should see higher level of economic crimes in a region with higher cash flows.

Hypothesis 2: “Stick” System

H2.1 The “stick” system creates incentives for the MVD officials to inflate the reported crime statistics. The common practice is to show a small positive increment in registered cases each year.

H2.2 However, the year-to-year change in economic crime indicators is lower for regions with higher level of crimes in a previous year.

Data

We use a unique database, which contains official MVD data on economic crimes (according to the articles of the Russian Criminal Code), along with biographical data for chiefs of regional police departments and governors. We observe total number of cases in each stage of criminal prosecution (revealed, investigated, handed over to court). Also we use set of socio-economic indicators borrowed from regional yearbooks published by the Federal State Statistics Committee as additional control variables.

Methodology

We use a system GMM approach described in Blundell and Bond (1998) to estimate the system of equations, constructing moment conditions using the exogenous explanatory variables and internal instruments for lagged values. Our approach also takes into account the reverse causality arising between criminal persecution indicators and the volume of cash flows, as the relationship may hold in both directions: higher cash flows lead to higher criminal persecution, which, in turn, leads to lower cash flows.

Results

Our preliminary results suggest that there is strong evidence in favor of the second hypothesis about “stick” system, and mild evidence that the first hypothesis about “private interests” may hold.

References

- Blundell, R., and Bond, S. (1998) Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87, 115–143.
- Gans-Morse, J. (2012) Threats to Property Rights in Russia: From Private Coercion to State Aggression. *Post-Soviet Affairs*, 28(3), 263–295.

- Gerber, T.P., Mendelson, S.E., (2008) Public Experiences of Police Violence and Corruption in Contemporary Russia: A Case of Predatory Policing. *Law & Society Review*, 42(1), 1–44.
- Nikitinskiy, L. (2009) Belye pyatna na karte pravosudiya. Istoricheskiy opyt “diktatury zakona”, vid snizu [Blank space on the map of justice. Historic experience of the “law dictatorship”, bottom view]. HSE Seminar, February 25, 2009.
- North, D.C., Wallis, J.J., and Weingast, B.R. *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History*. Cambridge University Press, 2009.
- Taylor, B. (2011) *Historical Legacies and Law Enforcement in Russia*, PONARS Eurasia Policy Memo #150.
- Verhovenstvo prava kak faktor ekonomiki. Mezhdunarodnaya kollektivnaya monografiya [Rule of Law in Russia: Issues of Implementation, Enforcement and Practice. International Collective Monograph]. Ed. Novikova, E.V., Fedotov, A.G., Rosenzweig, A.V., Subbotin, M.A. Moscow: Mysl', 2013.
- Volkov, V. (2002) *Violent Entrepreneurship: The Use of Force in the Making of Russian Capitalism*. Cornell University, 2002.
- Volkov, V., Grigoriev, I., Dmitrieva, A., Moiseeva, E., Chetverikova, I. (2012) *Pravookhranitel'naya deiatel'nost' v Rossii: struktura, funkcionirovanie, puti reformirovaniya*. Kollektivnaya monografiya [Law Enforcement Activity in Russia: Structure, Functioning, Ways of Reforming. Collective Monograph], Saint Petersburg: October 2012, [http://www.enforce.spb.ru/images/Fond Kudrina/irlpravookhrana part 2 final 31 12.pdf](http://www.enforce.spb.ru/images/Fond_Kudrina/irlpravookhrana_part2_final_31_12.pdf)
- Yakovlev, A. (2012) Otnyat' ili sozdat'? Stimuly k primeneniyu nasiliya v ekonomike i faktory, sposobnye ego ogranichit'? [Seize the assets or create the business? Incentives to violent pressure on entrepreneurs in Russia and opportunities to limit it?]. *Voprosy Ekonomiki*, 11, 4–23.
- Zhalinskiy, A., and Radchenko, V. (2011) *Ugolovnyi zakon: politika izgnaniya biznesa* [Criminal law: business persecution]. *Vedomosti*, June 23, 2011. No 114(2880), p. A4.

Broms, Rasmus¹: Colonial Tax Effort and its Institutional Dividends

Abstract: *In the fields of political science, sociology, and economics alike, the concept of institutional quality has been identified as an essential part of both a functioning market and a harmonious society, along with a long range of other public goods. Unlike the consensus regarding its beneficial results, the question of what creates such 'good' institutions is still much less clearly drawn out. This research project will attempt to analyze current variance in institutional quality between states that used to be British colonies through the lens of fiscal sociology, a field which focuses on revenue extraction, often with a strong historical consciousness, and has offered a convincing narrative of Western historical development. Using data on colonial tax burden from the early 1900s as the main independent variable, it is shown that such a factor is highly correlated with current indexes of institutional quality, such as government effectiveness, and that such a measure holds up well when controlling for other colonial institutional variables, as well as exogenous factors pertaining to geography and precolonial history.*

Introduction

Over the last few decades, the increasingly influential New Institutional Economics (NIE) literature has identified 'institutions' as an essential component in spurring development, primarily conceived in terms of economic growth (Shirley, 2004). The same claim has been made, as well as expanded to be valid for a wide range of public goods by scholars dealing with good governance, or quality of government (QoG) (Holmberg, Rothstein, and Nasiritousi, 2009). Nevertheless, we still know little about the dynamics of institutional development – questions regarding the possibility of institutional change, as well as how this occurs, still riddle the field.

Empirically, it is well established that the places in the world with the highest level of socioeconomic development also tends to be the places with the highest level of institutional quality, generally measured as absence of corruption (as measured by Transparency International) or government effectiveness (World Bank Governance Indicators). The lion's share of these are states located in Western Europe and North America, polities which already a century ago tended to display a relatively high level of both wealth and QoG, both in comparative and absolute terms. This suggests that institutions, while possible to change (as demonstrated in East Asian states such as Singapore, South Korea, and Taiwan), generally tend to be path dependent, and rather stable over time.

The case that modern-day institutions are at least a partial result of the colony-building efforts is not a novel claim (see Shirley, 2004, and Nunn, 2009 for succinct overviews). La Porta et al (1999) demonstrate a positive correlation between having adopted the British common law system and various measures of government quality, especially compared to the French-style civil law tradition. Furthermore, Lange (2004) shows that the extent of indirect rule in British colonies are negatively correlated with modern-day governance. The argument is that in colonies where the reach of the metropolitan state was weaker, and the administration had to rely on native chiefs for

¹ rasmus.broms@gu.se, the Quality of Government Institute, Dept. of Political Science, University of Gothenburg, Sweden

upkeeping order, the institutional structures did not strengthen and develop at the same level of those colonies with more direct control. Acemoglu, Johnson and Robinson (2001) argue that the dangers involved with settling in new lands for early colonizers had importance to the institutional set-up, in areas with higher settler mortality developed 'extractive' as opposed to 'neo-European' institutional frameworks, which in turn still affects government quality today.

Aim of the project: Colonial taxation and its institutional dividends

The field of fiscal sociology has laid out a convincing narrative of state- and nation-building, through the means of revenue extraction in general and taxation in particular. The argument, as presented by Tilly (1992), and Mann (1993), amongst others, can be summarized as such: A strong state bureaucracy is said to have grown out of the need to gather, administrate, and spend such, comparatively arduously collected, tax revenue, which in turn had positive effects on the larger institutional framework as it grew and stabilized.

Both cross-sectional analyses and historical case studies have given credence to the notion of institutional dividends amassing from revenue extraction also in the contemporary developing world, most of which was colonial domain up until the mid-1900s, and which today displays a large variance in institutional quality. Although having advanced the taxation-argument, this subfield still grapples with the extent of path dependence stemming from colonial times. Although works by scholars such as Gardner (2012), have indeed showed that revenue extraction during the colonial era is likely to have contributed in the shaping of the institutional framework of today, we still know little about exactly how large the effect is on modern-day ex-colonies' level of institutional quality.

Hypotheses and methodology

This paper will use a novel approach of measuring the tax burden in British colonies at the beginning of the 20th century, developed by Frankema (2010, 2011) in order to quantitatively test the hypothesis, as suggested by fiscal sociology, that *taxation more aptly than previous attempts captures the quality of pre-independence institutions, and as such also will matter for institutional quality today*. Furthermore, it will control for several of exogenous factors, in order to develop our understanding regarding whether colony-building should be considered an independent or intermediary factor for modern-day institutions.

The data on colonial tax burden comes from Frankema (2010, 2011), who uses British colonial tax records from the late 19th century up to World War II in order to estimate the tax burden in 34 colonies. While creating the most commonly used measure of tax burden, in terms share of GDP, is not an option due to lack of reliable data of the size of the economy, he creates a proxy index of how many days it would take an unskilled worker to pay the per capita tax burden. While indeed a somewhat coarse measure, it is nevertheless effective as an approximation of the tax burden in each colony. This data is available for three points in time during the first half of the 20th century, the 'heyday of colonialism' (Boone, 1994), 1911, 1925, and 1937. Data for 1911 is somewhat patchy, so the bulk of the analysis will be for the two latter points, with a focus on the middle observation from 1925. Due to the fact that a few colonies, particularly in South-East Asia, posed a much higher tax burden compared to most

other colonies, the distribution will be skewed, and the measure used will therefore be in log-form.

With 34 data points, the limited number of colonies/states with available data is rather limited, and is shrunk further by the fact that the main models exclude the so-called 'settler-colonies' of Australia, Canada, and New Zealand, which at the time of the interwar years institutionally and economically already had developed into entities more similar to – and in effect sovereign from – the European state that originally settled them. The same argument could, to a lesser extent, be made for Mediterranean outposts Malta and Cyprus, which is reflected in robustness tests with these islands taken out.

As a measure of present-day institutional quality the paper employs indexes widely used for capturing such a concept; primarily an index of government effectiveness issued annually as part of the World Bank Indicators (Kaufman et al, 2009).

The existing rival – or in places complimentary – explanations and operationalizations of colonial features explaining institutional- and overall development will also be included in models as a check to see how well the taxation-argument fares. These controls include Lange's (2004) measure of indirect rule – operationalized by the share of court cases that were handled using traditional, customary, law in 1955. Secondly we include Acemoglu et al's settler mortality rate which, unfortunately means losing an additional couple of observations, bringing the sample size down to a meager 20. Furthermore, geographical factors – average distance to coastline for the population in question, the country's share of farmable soil, and its share being considered 'tropical' are included to make sure it is not the potential for trade and agriculture-based growth which drives the results.

The subsequent analyses will consist of fairly straightforward OLS regression modeling. The limited sample size will necessitate careful specification. Further robustness tests, such as jackknifing and bootstrapping the models, are used to further strengthen the trustworthiness of the findings.

Results (highly preliminary)

Beginning with a bivariate look at the correlation between colonial tax burden and current government effectiveness, there is a striking connection between the two variables, despite the 85 year difference between them. This is illustrated in figure 1. The relationship is positive and highly significant. Colonial tax burden explains 46 % of the variance in modern-day government effectiveness.

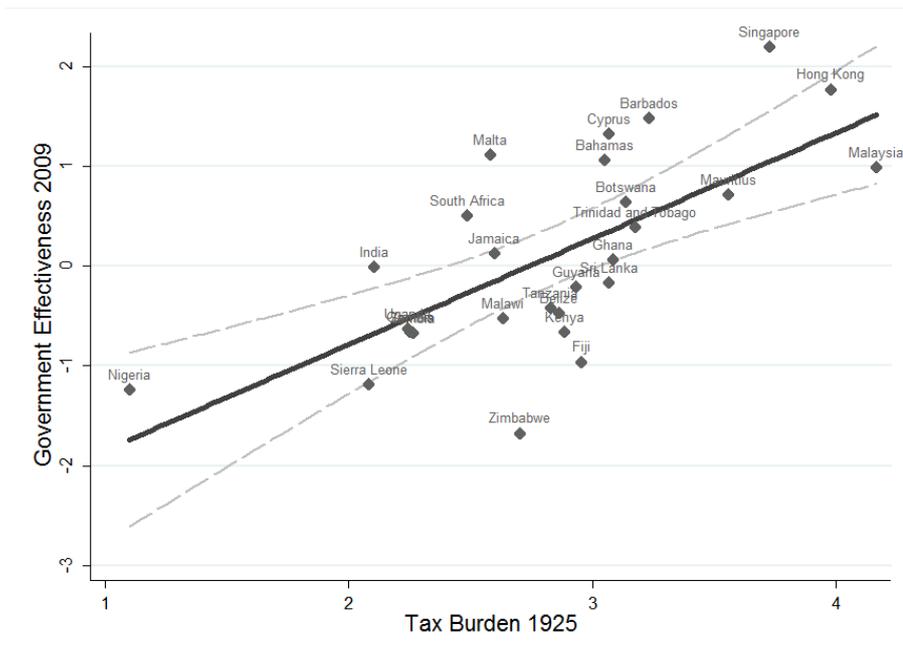


Figure 1. Colonial tax burden & modern-day government effectiveness

Finally, very preliminary (and incomplete) results of multivariate regressions, presented in table 1, appear to confirm the explanatory power of tax burden.

Table 1. Predictors of government quality

	1	2	3	4	5	
tax burden 1925	0.725** (0.281)	0.812** (0.299)	0.770*** (0.269)	0.980*** (0.251)	1.061*** (0.255)	
customary law	-0.0104* (0.00537)					
settler mortality		-0.0994 (0.134)				
% living near coast			0.00658* (0.00365)			
% farmable soil				-0.00478 (0.00585)		
% tropical climate					-0.00378 (0.00377)	
Constant	-1.653* (0.940)	-1.780 (1.340)	-2.471*** (0.695)	-2.495*** (0.781)	-2.663*** (0.714)	
N		26	20	26	26	26
R-sq	0.579	0.515	0.479	0.422	0.430	

Note: Dependent variable Government Effectiveness 2009

References

- Acemoglu, D., S. Johnson, and J. A. Robinson, "The Colonial Origins of Comparative Development: An Empirical Investigation", *American Economic Review*, 91 (2001), 1369–1401.
- Boone, C. 1994. 'States and Ruling Classes in Postcolonial Africa: The Enduring Contradictions of Power,' in J. Migdal, A. Kohli, and V. Shue (eds.) *State Power and Social Forces*. Cambridge: Cambridge University Press.

- Frankema, E. 2010. Raising Revenue in the British Empire, 1870-1940: How 'Extractive' were Colonial Taxes? *Journal of Global History* 5: 447-477.
- Frankema, E. 2011. Colonial Taxation and Government Spending in British Africa, 1880-1940: Maximizing Revenue or Minimizing Effort? *Explorations in Economic History* 48: 136-149.
- Gardner, L. A. 2012. *Taxing Colonial Africa: The Political Economy of British Imperialism*. Oxford: Oxford University Press.
- Holmberg, S., B. Rothstein, and N. Nasiritousi. 2009. Quality of Government: What You Get. *Annual Review of Political Science*, 13.
- Kaufman, D., A. Kraay, and M. Mastruzzi. 2009. Governance Matters VIII: Aggregate and Individual Governance Indicators, 1996-2008. World Bank Policy Research Working Paper, No. 4978.
- La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny. 1999. The Quality of Government. *Journal of Law, Economics, & Organization* 15 (1):222-279.
- Lange, M. K. 2004. British Colonial Legacies and Political Development. *World Development*, 23 (6):905-922.
- Mann, M. 1993. *The Sources of Social Power. Vol II: The Rise of Classes and Nation-States, 1760-1914*. Cambridge: Cambridge university Press.
- Nunn, N. 2009. The Importance of History for Economic Development. NBER Working Paper No. 14899.
- Shirley, M. M. 2004. 'Institutions and Development,' in c. Ménard, & M. M. Shirley (eds.) *Handbook of New Institutional Economics*. Berlin: Springer.
- Tilly. C. 1992. *Coercion, Capital, and European States: AD 990-1992*. Cambridge, MA: Blackwell.

Bukowski, Paweł ¹: Long-run persistence of the Empires. The impact of the Partition of Poland on education

Abstract: *At the end of the 18th century Poland disappeared from the map of Europe. It was divided by the Russian, Prussian and Habsburg Empires. This division is still visible in the contemporary Poland (especially on the border of the former Prussian part). The spatial distribution of the exam scores shows that regions in the former Austrian Empire are performing better than the rest of the country. To contrary, the Prussian part still has a profound impact on the economy but is less relevant in case of education. The main question is why do we observe difference between the former Austrian-Russian parts of Poland, but not in case of Prussian-Russian? The main hypothesis is based on the ethnic tolerance in the Habsburg Empire, namely the existence of national language of instruction and the creation of the social norm toward the education. My identification strategy consists in narrowing the analysis only to rural areas very close to the border of the partitions. I run regressions of the exam scores on the partition dummy and the set of covariates. Results suggest that the Austrians had an positive and significant impact on the exam score. To contrary, there is no significant difference between regions located on the former Prussian-Russian border.*

Introduction

At the end of the 18th century Poland disappeared from the map of Europe for more than 120 years. It was divided by the Russian Empire, the Kingdom of Prussia and Habsburg Austria (Figure 1). Do these historic events have an impact on the Polish regions today? A quick look at Figure 2 reveals the striking pattern. The map of the results of 2007 parliamentary election coincides almost entirely with the map of annexations. Similar regularities emerge in other characteristics, for example in the memberships in non-profit organizations or the usage of internet messengers². The other observation is that in almost all cases the Prussian-Russian border matters while the Austrian-Russian seems to be irrelevant. Different picture emerges once we look at the exam results in schools.

Figure 3 shows the distribution of the 9th grade high-stake exam scores in 2011. Green lines denote parts of the former border between the partitions, the one on the south between Russia and Austria and on the west between Prussia and Russia³. Contrary to the pattern shown in Figure 2, regions in the former Austrian Empire are performing better than the rest of the country and this seems to hold also among the counties located on the border. Whereas the Prussian partition doesn't seem to matter anymore. This non-rigorous observation is confirmed by the regression analysis in the further part of the paper. An obvious question appears: why do the regions in the former Habsburg empire achieve higher score while those in the Prussian don't? The Prussian part still has a profound impact on the economy but it is less relevant in case

¹bukowski.pawel@ceu-budapest.edu, Central European University The Department of Economics, Budapest, Hungary.

² For more about the impact of the Partition of Poland see: Becker et al. (2011), Wysokinska (2011). Grosfeld and Zhuravskaya (2013) In polish: Hryniewicz (2003), Kochanowicz (2010), Morawski (2008), Paprotny (2008), Miernik (2008).

³ Only regions on these parts of the border have had similar history before and after the Partition.

of education. This becomes even more puzzling once we add that the Prussian and Austrian educational systems were very similar in almost all dimensions and the educational performance of these regions was comparable all along the 19th century. To be more specific, both systems had compulsory elementary (theoretically until the age of 14) and optional secondary (and higher) education. The institutional design of the Austrian system of education had been practically copied from the Prussian one. Cohen (1996) argues that all reforms were based on the Prussian solutions and most of them were initiated by the fraction of the German Liberals in the parliament, moreover both systems shared very similar curricula and educational trends. The only major difference was the language of instruction. While in the Prussian Empire education was a main tool of germanization (Lamberti (1989)), in the Habsburg Empire it was seen as a tool to spread modern national identities. It obviously created tensions between Poles and the German administration. In the Russian part the situation was the worst. There was no-compulsory elementary schooling, language of instruction was Russian and the Emperor saw education as a tool of emancipation. In consequence on the lands annexed by Russia illiterate population was as high as 65 percent, whereas in Prussia for example it was less than one percent. The illiteracy levels in the interwar Poland are depicted in Figure 4. Regions on the West had the lowest level of illiteracy, moderately higher on the South (except for the presently Ukrainian parts) and highest in the Central and Eastern parts of Poland. This figure suggests that, in terms of literacy level, people living in the former Prussian Empire had the best level of education¹, especially in comparison with the Russian zone. These differences were to a large extent smoothed after World War II when the 8-year education became obligatory in all of Poland (International Handbook on History of Education (2000)). Yet social norms toward the education can not be easily smoothed. I argue that long-lasting attitudes toward the education system, created by the different roles of education in the partitions, influence pressure on kids to perform better on the exams at the obligatory levels of education.

Aim of the Project

The main aim of the project is the evaluation of the long run impact of the different educational systems which were imposed by Prussia, Russia and Austria during the Partition of Poland in the XIXth century. This leads to the other question about the sources of differences, namely: what determines the persistence of the institutions which were imposed by the Empires? What is crucial to create social norm which will be transmitted through generations? Finally, why has Austria, but not Prussia, had long lasting impact of their institutions? Based on these questions I propose research hypotheses and methodology.

Hypotheses and Methodology

The main hypothesis I study is that, in comparison with the Russian territories, schools situated in the former Austrian territories have higher score on the obligatory exams while those located in the Prussian score the same. Beside the fact that the Prussian education system was the most effective it hasn't managed to create positive social norm toward the education which would last almost a century after the

¹ This is probably due to a better law enforcement, see Lamberti (1989).

unification of the country. The Austrian system in turn had Polish language of instruction and Poles didn't perceive education as a threat to the national integrity. This could create positive attitude toward education. In the research I use the municipality-aggregated data from the Central Examination Board of Poland. The data consists of high and low stake exam scores after 9th and 6th grade respectively for years 2005 - 2011. Straightforward comparison of all schools in the former Prussian, Austrian and Russian partitions neglects cross-country differences which can be largely unobserved and may lead to biased estimates. In order to solve this problem my identification strategy consists in narrowing the analysis only to areas very close to the border of the partitions. The highest distance from the middle of the *gmina* (municipality) in which the school is situated to the border is approx. 50 km. The assumption here is that at the beginning of the Partition these areas were relatively homogeneous. Furthermore I limit the sample only to rural areas which have had similar history before and after the Partition, were ethnically homogenous and are now in the territory of Poland (by this we exclude Silesia and Eastern Prussia). Green lines in Figure 3 mark parts of the former border which are under my investigation. Since formal institutions (also formal educational institutions), economic situation and geographical conditions are practically the same, such a choice of treatment and control group allows to identify the channel through which history matters today, namely, cultural norms and tradition. I also use a set of control variables on the *gmina* level coming from the Central Statistical Office of Poland. My preliminary results are based on the simple regression of an educational outcome on a Partition dummy and covariates.

$$y_i = \alpha + \beta \times PARTITION + \gamma X_i + \varepsilon_i$$

I run this model using rural *gminas* located on the two parts of the border: Austrian-Russian and Prussian-Russian for each year from 2005 to 2011. My dependent variables are 9th grade high stake exam score¹ and 6th grade low stake exam score². The dummy *PARTITION* takes value 1 for the Russian zone and 0 for either Austrian or Prussian. Covariates are explained in the appendix. Additionally I run regression where the outcome is the share of people with higher education in 2002.

Results

Table 1 shows the size and standard deviation of parameter *beta* for each year and the outcome variable in case of the Austrian-Russian border (there are 179 *gminas* in the sample). Therefore I report estimations of the parameter of interest from 15 regressions. Results suggest that, relatively to the Russian Partition, the Austrian Empire had an impact on the exam scores after controlling for the covariates. For example in 2010 *gminas* located in the former Russian Empire had on average smaller average 9th grade score by 1.1 points and 6th grade score by 1.11, these results are significant at the 1% level. Table 2 shows analogous regressions in case of the Prussian-Russian border (127 *gminas*). Now, almost all parameters of interest are

¹ This is an obligatory exam after the secondary school in Poland

² It takes place after finishing the elementary school.

insignificant¹. I conclude that, contrary to the previous case, there is no significant difference between regions located on the former Prussian-Russian border. This pattern can be possibly explained by the ethnic tolerance and the creation of the social norm toward the education in the Austrian Partition. Interestingly in both cases there is no difference between border regions in terms of the share of people with higher education. Higher education is not compulsory and the decision whether to participate is highly influenced by the local socio-economic condition. Social norms toward the education play probably smaller role in this matter. There are numerous caveats which need to be investigated in the further part of the research. Possible migrations is the most important since it can drive the result by self selection of inhabitants. My main result can be explained by it if high skilled people were migrating from Russia to Austria (or low skilled from Austria to Russia) and/or relatively huge proportion of low-skilled people emigrated from Austria to the third countries. There are qualitative evidences that the first possibility is not the case. Firstly, Labuda (1970) argues that most of the migration between the partitions at that time were seasonal workers². Secondly, economic situation in Galicia was the hardest, the level of industrialization the lowest so the motivation for immigration of skilled workers rather low. The second possibility is harder to assess. There are no clear insights in the literature about 19th century emigrants' skills³. There are also possible other channels of influence of the Austrian Empire. The Austrian educational system was slightly more inclusive than the Prussian and Galicia had two universities and one technical college while there was no higher educational institutions in the Polish part of Germany (Cohen 1996). These need more investigation. Furthermore, demographic variables jump on the Austrian-Russian border, which can drive our result if class size changes as well. Regression of class size on the Partition dummy and covariates shows that this is not the case, though. Last but not least, simple OLS regression used in this paper may not be robust enough, thus more elaborate method, like matching or the regression discontinuity design, will be applied. To summarize, spatial distribution of the nowadays exam scores in Poland seems to be influenced by the Partition of Poland in the 19th century. Specifically, municipalities located in the former Austrian Empire have relatively higher exam scores than in the adjacent regions. By comparison with the Prussian part I show that the proper institutional design itself is not sufficient to create persistence effects. I argue that the positive social norm toward the education is necessary and it has been created in the Austrian part by the Polish language of instruction.

References

- Abramitzky Ran, Leah Platt Boustan, Katherine Eriksson, *A Nation of Immigrants: Assimilation and Economic Outcomes in the Age of Mass Migration*, NBER Working Paper 18011, 2012.
- Becker, Sascha O; Boeckh, Katrin; Hainz, Christa; Woessmann, Ludger, *The Empire Is Dead, Long Live the Empire! Long-Run Persistence of Trust and Corruption in the Bureaucracy*, CAGE Online Working Paper Series 40, 2011.

¹ Where it is significant, the sign is unexpected - *gminas* on the Russian side have better results.

² There was also small migration of students to Galicia but it was limited to Krakow and Lviv, see Cohen (1996).

³ Abramitzky (2012) shows negative selection among migrants from Norway and few European countries but also shows that in case of Finland selection was positive while in other cases evidence is not clear-cut

- Cohen, Gary B., *Education and Middle Class Society in Imperial Austria 1848-1914*, Purdue University Press, West Lafayette, Indiana 1996.
- Grosfeld, Irena, Ekaterina Zhuravskaya, *Persistent Effects of Empire: Evidence from the Partition of Poland.*, work in progress, 2013.
- Hryniewicz, Janusz, *Polityczne i gospodarcze następstwa zaboru pruskiego*, Studia Regionalne i Lokalne, nr. 3 2003.
- Kochanowicz, Jacek, *Duch Kapitalizmu na polskiej peryferii: perspektywa historyczna.*, in: *Kultura i Gospodarka*, ed. by Jacek Kochanowicz and Mirosława Marody, Scholar 2010.
- Lamberti, Marjorie, *State, Society, the Elementary School in Imperial Germany*, Oxford University Press 1989.
- Majorek, Czesław; Andrzej Meissner, *Poland*, in: *International Handbook on History of Education*, ed. by Kadriga Salimova and Nan L. Dodde, Orbita, Moscow 2000.
- Miernik, Grzegorz, *Dziedzictwo zaborów i jego przewyciezenie w koncepcjach gospodarczych władz Polski Ludowej w okresie stalinizmu (wybrane problemy)*, in: *Gospodarcze i społeczne skutki zaborów Polski*, ed. by Jędrzej Chuminski et. al. , GAJT, Wrocław 2008
- Morawski, Wojciech, *Wpływ zaborów na rozwój miast polskich*, in: *Gospodarcze i społeczne skutki zaborów Polski*, ed. by Jędrzej Chuminski et. al. , GAJT, Wrocław 200
- Paprotny, Łukasz, *Przemysł PRL a dziedzictwo zaborów*, in: *Gospodarcze i społeczne skutki zaborów Polski*, ed. by Jędrzej Chuminski et. al. , GAJT, Wrocław 2008
- Wysokinska, Agnieszka, *Importance of History for Economic Development Lessons from Natural Experiment of History*, PhD thesis, European University Institute 2011.

Appendix: Description of Covariates

<i>Variable</i>	<i>Description</i>
Budget Income	Own municipality's income per capita
Unemployment Rate	Rate of unemployed among the active population (in work-age).
Regon	Number of registered firms (REGON) per 10000 inhabitants.
Agriculture	Share of employed in the agriculture sector among all employed.
People aged 0-18	Share of people aged 0-18.
Density	Population density
Scholarization	Rate of student secondary schools' attendance.
Type of municipality	Rural vs. Urban-Rural.
Additional classes	Average number of additional classes per elementary school.
Meals	Average number of reimbursed meals per elementary school.
Higher Education	Share of people with higher education.
Class size	Average class size in elementary schools.
Migration	Migration balance per 1000 inhabitants.

Table 1: Austrian-Russian Border

β	<i>9th grade HS exam</i>	<i>6th grade LS exam</i>	<i>higher education in 2002</i>
2005	-.93*(.52)	-.35 (.26)	-.11 (0.2)
2006	-.82**(.39)	-.53*(.31)	
2007	-.92**(.37)	-.68***(.24)	
2008	-.89**(.37)	-.35*(.27)	
2009	-1.46*** (.45)	-.55* (.3)	
2010	-1.1***(.38)	-1.11***(.31)	
2011	-1.26***(.38)	-.87***(.31)	

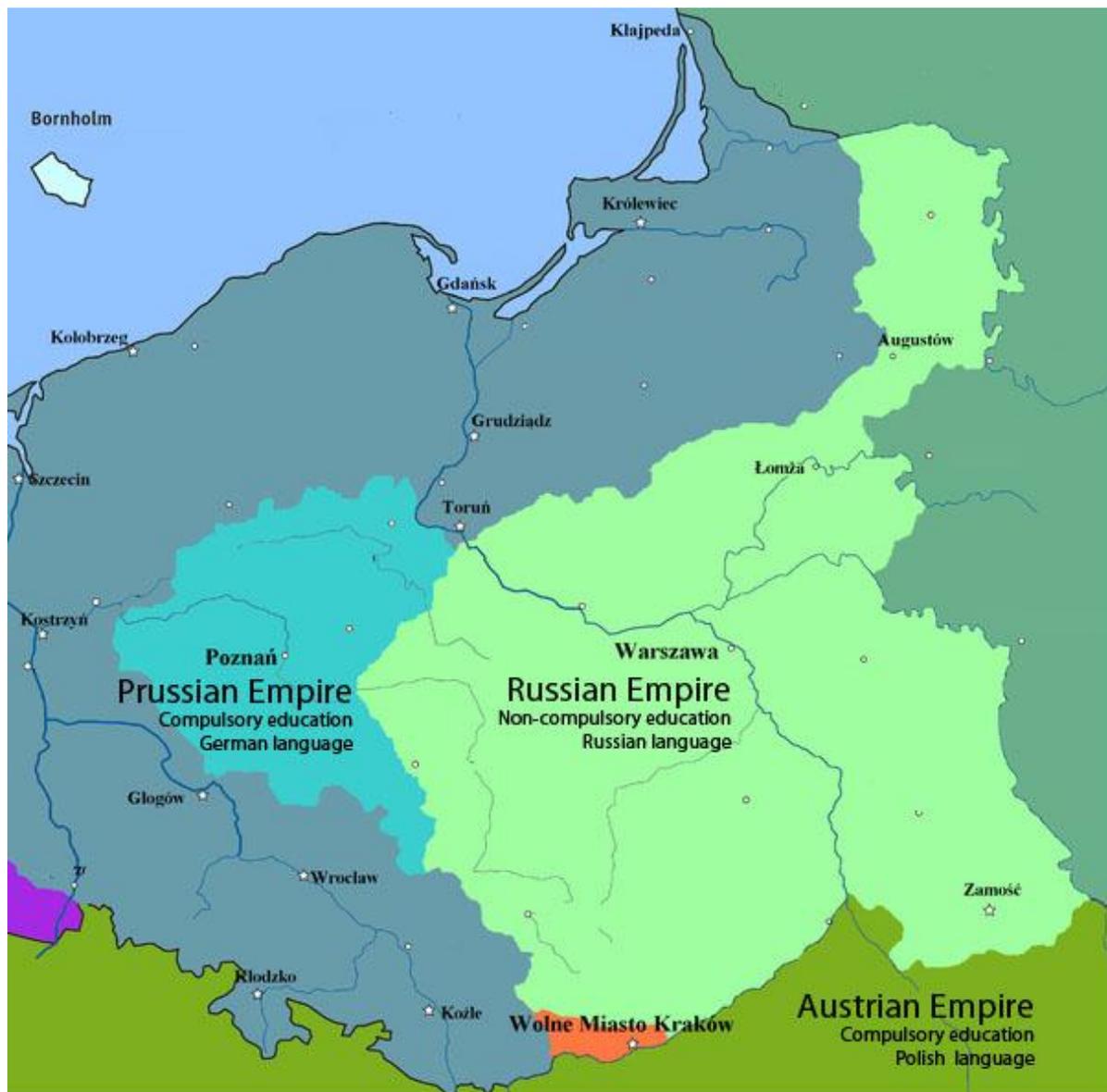
Note: Robust standard errors in parentheses. *** denotes significance at the 1% level, ** at the 5% level and * at the 10% level

Table 2: Prussian-Russian Border

β	<i>9th grade HS exam</i>	<i>6th grade LS exam</i>	<i>higher education in 2002</i>
2005	.69 (.5)	.49** (.23)	.36 (0.21)
2006	.57(.46)	-.22(.35)	
2007	.83(.51)	-.38(.28)	
2008	1.28***(.5)	.49(.31)	
2009	-.06 (.57)	-.28 (.32)	
2010	-.22(.5)	.19(.3)	
2011	1.26***(.45)	.03(.32)	

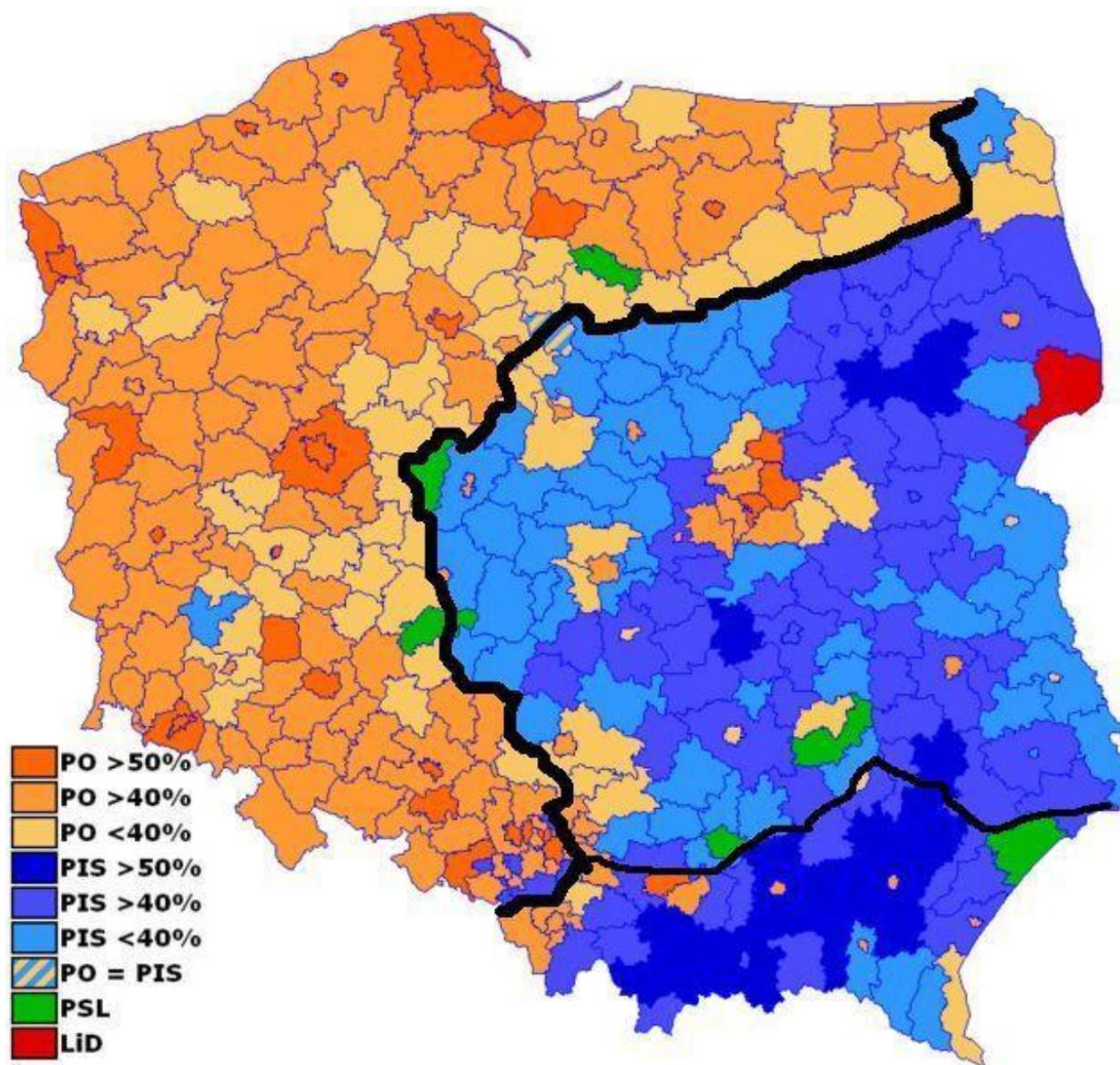
Note: Robust standard errors in parentheses. *** denotes significance at the 1% level, ** at the 5% level and * at the 10% level

Figure 1: The Partition of Poland 1815-1918



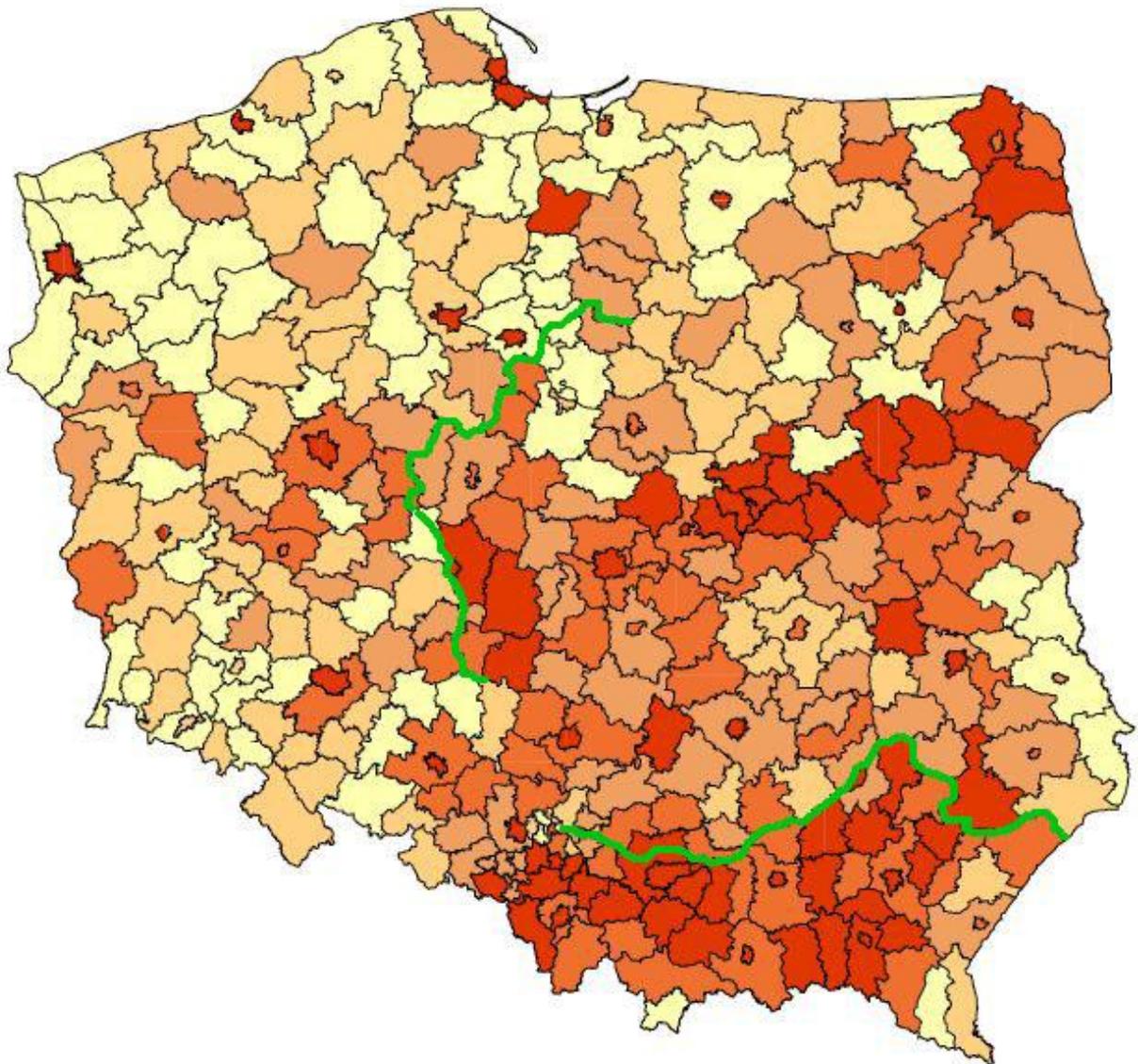
Blue colour denotes the Prussian part (light blue is the Duchy of Poznan), green-blue denotes the Russian part and green denotes the Austrian part.

Figure 2: The results of the parliamentary election in 2007



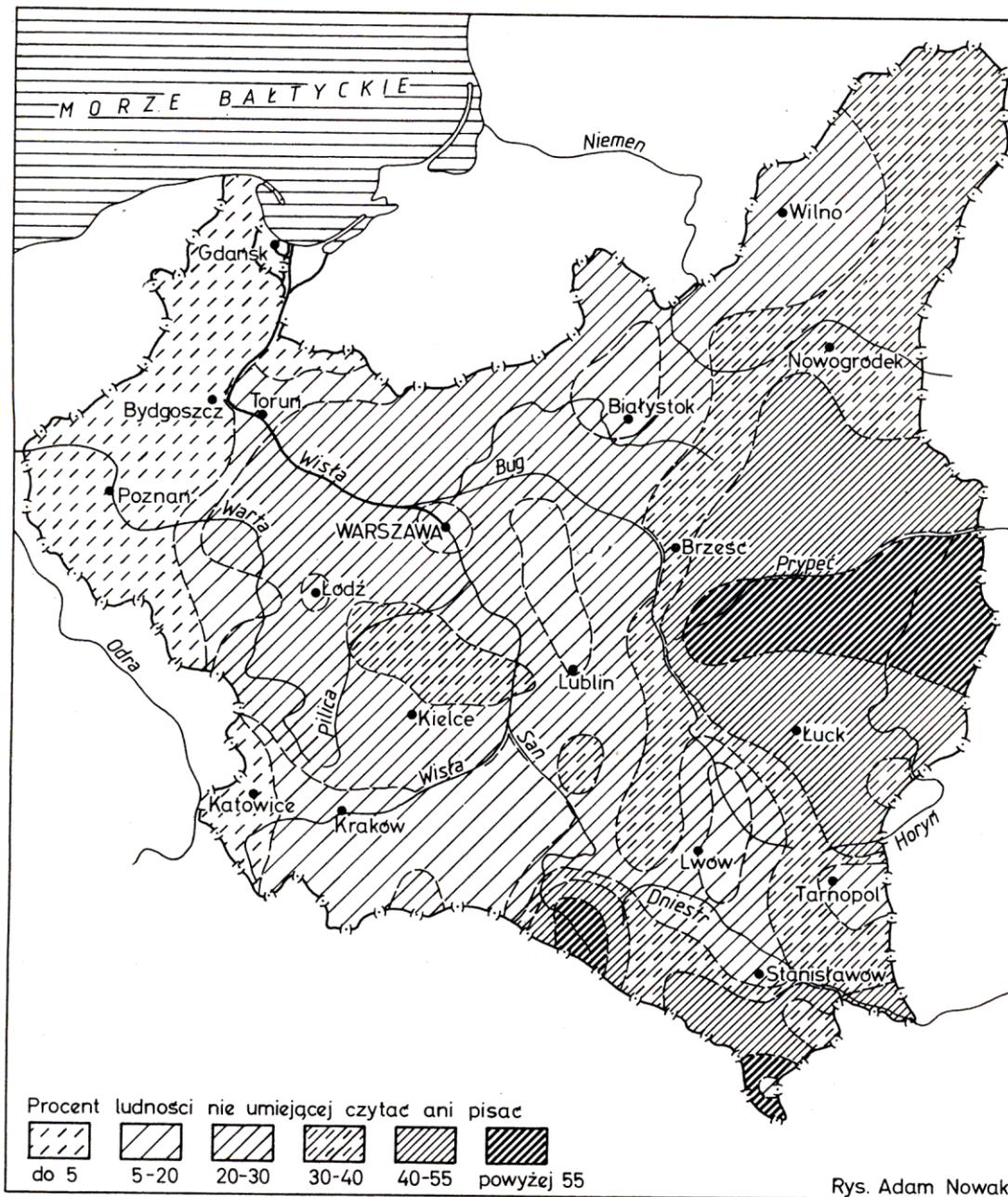
Source: <http://old.trystero.pl/archives/1048> . PO is the Civic Platform party, PIS is the Law and Justice party. Black lines denote the former Partition borders.

Figure 3: The distribution of 9-th grade exam scores (science part) in 2011



Source: own visualization based on the Central Board of Examination data. More intensive red denotes higher average score. Green lines mark the parts of the former Partition border which are under the investigation.

Figure 4: The illiteracy levels in the interwar Poland (1931)



Source: an illustration from Henryk Zielinski, "Historia Polski 1914-1939", Wydawnictwo Ossolineum, 1983 via <http://pl.wikipedia.org/wiki/Analfabetyzm>. The legend at the bottom describes the illiteracy levels.

Efobi, Uchenna¹; Beecroft, Ibukun²; Oluwatobi, Stephen³; Osabuohien, S. Evans⁴: Dynamic Linkage between Politician Attributes and Debt Sustainability in Africa

Abstract: *We studied the impact of politician's attributes and debt sustainability in Africa using a sample of 39 African countries for the period 1996-2010. The System Generalized Method of Moment technique was applied in the empirical analysis. Some of our findings include: politician educational attainment, age and number of children have a significant impact on debt sustainability. We also found out that politicians that are in the same party with predecessor will tend to acquire less debt. We conclude that the head of state personal characteristics has an immense impact on debt sustainability in Africa.*

Introduction

Debt sustainability connotes occurs when the debt growth rate is lower than domestic output, export or tax revenues. Rising debt value in Africa is worrisome as total external debt constitutes between 20 to 60 percent of GDP in the period 2002 and 2010. Likewise her total external debt amounted to about 50 to 180 percent of total export in the same period. More disturbing is that 61 percent of the countries in Africa are among the heavily indebted poor countries-HIPC (World Bank, 2012).

In managing debt sustainability, there is a growing body of literature that have focused on the institutional framework of countries as a veritable tool (e.g. Arbatli and Escolano, 2012; Escolano *et al*, 2012). However, institutions do not occur in a vacuum as institutions are enforced by individuals owing to the fact that it can either be 'rules of the game' and 'regulators of the game' (Acemoglu and Robinson, 2012). This study follows the latter aspect by appreciating the influence of the "managers" of economies on fiscal outcomes. Politicians and policy makers in general, are supposed to be "helping hands" to maximize social welfare, by making policies and seeking avenues to fulfill their moral obligations to the citizens. These have consequences on the fiscal performance of countries, as politician efforts to ensure efficient governance outcomes will result in making fiscal policies in the face of changing economic conditions.

Decomposing the concept "politicians", many studies have re-echoed the role of the finance minister in debt sustainability and fiscal performance based on their roles such as ensuring fiscal discipline (e.g. Jochimsen and Thomasius, 2012; Moessinger, 2012). However, concerns lay on the relevance of the finance minister especially in Africa, where the political terrain is cascaded by governance palaver. For instance, the Economist (2012) observed that many African countries are faced with anti-democratic "symptoms" such as corruption, political violence and non-representative governments, which are barriers to the discharge of the responsibilities of "heretic" finance ministers.

Based on the above, this study takes a different standpoint from others by focusing on the attributes of the Head of State/President of African countries and their impact on debt sustainability. We focused on the personal characteristics of the

¹ efobi99@yahoo.co.uk, uche.efobi@covenantuniversity.edu.ng. School of Business, Covenant University, Ota, Ogun State, Nigeria

² Department of Economics, Covenant University, Ota, Ogun State, Nigeria

³ Department of Economics, Covenant University, Ota, Ogun State, Nigeria

⁴ Alexander von Humboldt Postdoctoral Fellow, GIGA, Hamburg, Germany and Covenant University, Nigeria

political leaders such as the socio-demographic factors, educational background, experience and their political gleaning. The remainder of the paper is structured as follows: an overview of African debt is discussed in section two while the hypothesis and methodology is presented in the third section. The fourth section discusses the empirical results and findings. The fifth section concludes with policy insights.

Aim of the Project

The aim of this project includes:

- 1) To empirically ascertain the relationship between socio-demographic features of politician and debt sustainability in Africa.
- 2) To ascertain the extent to which educational background of politicians can influence debt sustainability in Africa.
- 3) To determine the role of politicians experience in debt sustainability.
- 4) To examine how politicians ideological gleaning can influence debt sustainability in Africa.

Methodology

Three covariates were included (macro-economic, structural and political controls), sequel to similar studies on fiscal performance (e.g. Mikosch and Somogyi, 2009; Moessinger, 2012). The **macro-economic** covariates include the lagged debt level, real growth of GDP and inflation rate. The **structural variables** include the size of the productive input of the country (captured using total labour force) and measure of trade openness. The **Institutional environment** includes variables such as the political stability, rule of law, control of corruption, regulatory quality. These variables were scored -2.5 (worst) to +2.5 (best) and a composite variable was derived, which is the average of the three institutional variables. The empirical model for this study is given as:

$$Debt_{it} = \beta_1 + \beta_2 Politician\ Attributes_{it} + \beta_3 Covariates_{it} + e_i \quad (1)$$

The measure of politicians attributes is presented in Table 3.1.

The dynamic model using System Generalized Method of Moments (SGMM) was employed for the estimation. The dynamic model for this study takes the form:

$$Debt_{it} = \beta_0 + \beta_1 Debt_{it-1} + \beta_2 Politician\ Attributes_{it} + \beta_3 Covariates_{it} + \sum_{j=1}^N \delta_1 \gamma_t + \pi_i + e_i \quad (2)$$

Where the lagged dependent ($Debt_{it-1}$), summation of the exogenous period-specific (γ_t) and country-specific effects (π_i) variables were included¹.

Empirical Results

The data was sourced from the World Bank-World Development Indicators (2012), various official websites of the countries and the Wikipedia on-line encyclopedia. Thirty nine (39) African countries² were considered (1996-2010) based on data availability.

¹ The model was estimated using STATA 11.1 and GRETL econometric softwares.

² The sampled countries include Algeria, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Congo Republic, Cote d'Ivoire, Congo Democratic Republic, Djibouti, Egypt, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Tanzania, Togo, Tunisia, Zambia and Zimbabwe.

The empirical results satisfied the validity test for the instruments based on the Autoregressive-AR (2) and Sargan test which were greater than 0.05. The variable *Political leader's sex* was dropped in the regression because of perfect collinearity¹. The variable: *age of the political leader* revealed that older political leaders tend to acquire less debt. This finding contradicts the submission of Jochimsen and Thomasius (2012), who did not establish a significant relationship between the variables.

Table 4.1 further reveals that politicians with children tend to acquire less debt. This implies that political leaders tend to be futuristic in their actions as they consider the impact of debt accumulation on upcoming generations. This is based on ancestral frugality, where parents detest leaving debt for their children or upcoming generation. Taking this further, the coefficient of the polygamous political leader corroborates with the earlier finding as politicians with polygamous marriages tend to have more children and more reason to avoid debt for the upcoming generation.

From the decomposed educational attainment variables in Table 4.1, it can be observed that the different educational categories (secondary, university and post-graduate) all have a significant negative impact on the value of debt. This implies that the debt value reduces significantly with the educational attainment of the politicians.

Other variables indicating politician experience as presented in Table 4.1 reveals that political leader's with longer office tenure (*Years in Office*) will tend to acquire more debt. This can be associated with corrupt practices (such as looting of national treasuries) and 'reckless spending' associated with political leaders with long office tenures in Africa.

It is also observed that the experience of political leaders matters in debt sustainability. The data reveals that the longer the political leaders experience in the national politics (*Years in Politics*), the lower the debt accumulation. The coefficient is significant at 1 percent. This result can be interpreted based on the fact that political leaders, who have been in national politics for a longer period, will have better experience to reduce debt accumulation. This finding is robust as similar measure of political experience (*Past Political Appointment* and *Terms in Office*) reveals a negative impact on debt. This implies that a political leader that has earlier been politically appointed in the country and stays a longer term will be better experienced to reduce debt accumulation.

Fiscal experience (*Fiscal Experience*) variable in Table 4.1 was not able to significantly reduce debt burden and international relation experience (*International Relations Experience*) significantly increased the value of debt. The behavior of the variables were unexpected but possible explanations for the sign of *International Relations Experience* is that political leaders who have more international relations tend to be favored by lending principals because of the rapport and goodwill sustained by the personal relationship that exist between both parties. Due to this, such kind of political leader can resort to debt acquisition to sustain their economy.

In Table 4.2, the relationship between the politician's ideologies and debt sustainability was observed. From the coefficient of the four spectrums (independent, left winged, center winged and right winged) we found that independent and right winged political leaders will accumulate less debt significantly compared to those in left and center wing. This finding depicts that left and center winged political leaders

¹ All the political leaders examined during the period were male

tend to support more of fiscal expansionary policies and consequently result to higher deficit and debt accumulation.

This result situates the condition of African politics where political party agenda supersedes. Most times, these political parties are made up of cabals and corrupt leaders, who support the government for private benefits and require a refund when their candidate gains power. Based on this, the candidate makes policies and incurs ample expenses, which will in turn require a resort to debt.

In most of the columns in the Table, we observed that political leaders who were in the same party with their predecessor acquired less debt. This finding agrees with our apriori expectation that party loyalty is more prominent than the individual political leader charisma and predecessor political leader will not want to stir up the economy with policies, having known that their party is still in control. By this, debt accumulation will be minimized.

We further observed that political leaders who gain power by means of appointment and *coup d'état* will accumulate more debt. While those who ascended power based on election will accumulate less debt. In Africa, most of the incidences of coup d'état and political appointment are prone to corrupt and reckless spending practices. Based on this, it is expected that in this situation, the debt level will increase because the government will require external borrowing to sustain their fiscal situation.

Conclusion

In this paper, we extended the literature on the debt sustainability and politician characteristics based on a sample of 39 African countries for the period 1996-2010. Our findings contradicted some popular consensus such as the insignificant impact of politician educational attainment, age and marital status on debt sustainability. However, this speaks on the uniqueness of the context of this study, considering the peculiarity of the kind of political system in Africa; we expect different conclusions to be drawn.

We conclude that for Africa to effectively sustain (reduce) its debt; emphasis has to be placed on the characteristics of the heads of state/presidents.

References

- Acemoglu, D., and Robinson, J., (2012). *Why Nations Fail: The Origin of Power, Prosperity and Poverty*. New York: Crown Publishing Group.
- Arbatli, E., and Escolano, J. (2012). *Fiscal Transparency, Fiscal Performance and Credit Rating*. IMF.
- Arellano, M., (2003). *Panel Data Econometrics*. Oxford: Oxford University Press.
- Arellano, M., and Bover, O. (1995). Another Look at the Instrumental Variable Estimation of Error-Components Models. *Journal of Econometrics*. Vol. 68 (1), 29-51.
- Escolano, J., Eyraud, L., Badia, M. M., Sarnes, J., and Tuladhar, A. (2012). *Fiscal Performance, Institutional Design and Decentralization in European Union Countries*. IMF.
- Jochimsen, B., and Thomasius, S. (2012). *The Perfect Finance Minister: Whom to Appoint as Finance Minister to Balance the Budget?* Berlin: German Institute for Economic research.

- Mikosch, H. F., and Somogyi, F. S. (2009). *Personality and Policy: The Impact of Political Leaders' Education and Profession on Public Finance*. Zurich: KOF Swiss Economic Institute.
- Moessinger, M.-D. (2012). *Do Personal Characteristics of Finance Ministers Affect the Development of Public Debt?* Mannheim: ZEW Centre for European Economic Research.
- The Economist (2012). *Democracy Index 2012: Democracy at a Standstill*. Economist Intelligence Unit. 2012
- World Bank (2012). *World Development Indicators*. Washington DC: World Bank

Appendix

Table 3.1 Measures of Personal Characteristics of Politicians

<i>Variable</i>	<i>Measures</i>	<i>Definition</i>
Socio-Demographic	Sex	Male=1, Female=2
	Children	Number of children of political leader
	Marital Status	Monogamy=1, Polygamy=2, Separated and Divorce=3.
	Age	Age of the political leader, measured in years
Education Background	Education Attainment	Secondary school, Yes=1, No=0; university degree, Yes=1, No=0; post-graduate degree, Yes=1, No=0.
	Education Category	If course of study related to economics, finance, business administration, accounting=1 and otherwise=0
	Military Education	If political leader had military education=1 and otherwise=0
Experience	Years in Office	Number of year political leader has stayed in office as head of state.
	Years in Politics	Number of year political leader has been involved in politics.
	Past Political Appointment related to Finance	If political leader has previously been appointed as finance minister, central bank governor, economic adviser and related offices=1 and otherwise=0.
	Fiscal Experience	If political leader has previously been employed by multilateral financial organization (e.g. World Bank, IMF, ADB=1, otherwise=0).
	International Relation Experience	If political leader has previously been employed by multilateral non-financial organization (e.g. UN, ECOWAS, AU=1, otherwise=0).
	Terms Spent in Power	Number of terms the political leader has served as president.
Ideological Gleaning	Political Spectrum	Four measures used: Independent=1, otherwise=0; Left wing=1; otherwise=0; Centre wing=1, otherwise=0; Right wing=1, otherwise=0.
	Same Party with the Predecessor	If the incumbent political leader is same political party with predecessor=1, otherwise=0.
	Means of Gaining Power	If political leader ascended power by appointment=1, otherwise=0; by coup d'état=1, otherwise=0; presidential election=1, otherwise=0.
	Changing Party when in Power	If political leader changes political party while in office=1, otherwise=0.

Source: Authors'

Table 4.1: Politician Socio Demographic and Educational Attainment

<i>Debt</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
	-0.129 ^a	-0.132 ^a	-0.114 ^a	-0.114 ^a	-0.101 ^a
<i>Debt(-1)</i>	(0.000)	(0.000)	(0.003)	(0.002)	(0.003)
	0.002	0.002	0.000	-0.002	0.004 ^c
<i>Real GDP growth</i>	(0.569)	(0.574)	(0.895)	(0.370)	(0.053)
	0.001	0.001	-0.002 ^c	-0.002	-0.001
<i>Trade Openness</i>	(0.614)	(0.926)	(0.086)	(0.122)	(0.439)
	0.010	0.001	0.020	0.012	0.012
<i>Inflation Rate</i>	(0.636)	(0.536)	(0.543)	(0.358)	(0.253)
	-0.378 ^a				
<i>Secondary Education</i>	(0.000)				
	-0.174 ^b				
<i>University Education</i>	(0.022)				
	-0.245 ^a				
<i>Postgraduate Education</i>	(0.006)				
		-0.033			
<i>Education Category</i>		(0.387)			
		0.009			
<i>Military Education</i>		(0.787)			
			-0.012 ^a	-0.012 ^a	
<i>President Age</i>			(0.000)	(0.000)	
			-0.016 ^a	-0.017 ^a	
<i>President Children</i>			(0.000)	(0.000)	
			-0.034		
<i>Marital Status</i>			(0.291)		
				-0.135	
<i>Monogamous Marriage</i>				(0.128)	
				-0.201 ^a	
<i>Polygamous Marriage</i>				(0.010)	
				0.125	
<i>Separated Marriage</i>				(0.225)	
					0.010 ^a
<i>Years in Office</i>					(0.001)
					-0.011 ^a
<i>Years in Politics</i>					(0.000)
					-0.160 ^a
<i>Past Political Appointment</i>					(0.005)
					-0.087
<i>Fiscal Experience</i>					(0.242)
					0.068 ^c
<i>International Relation Experience</i>					(0.056)
					-0.119 ^a
<i>Terms Spent in Power</i>					(0.000)
	-0.111 ^a	-0.098 ^a	-0.167 ^a	-0.171 ^a	-0.092 ^a
<i>Labour Force</i>	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	-0.501 ^a	-0.422 ^a	-0.353 ^a	-0.354 ^a	-0.395 ^a
<i>Institution</i>	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	2.530 ^a	2.083 ^a	4.192 ^a	4.348 ^a	2.427 ^a
<i>Const</i>	(0.000)	(0.000)	(0.000)	(0.000)	0.000
<i>AR (!)</i>	0.002	0.005	0.051	0.049	0.011
<i>AR(2)</i>	0.125	0.111	0.188	0.196	0.201
<i>Sargan</i>	0.232	0.286	0.325	0.247	0.331

Note: The probability values are in parenthesis. a, b and c denote 1, 5, and 10 percent respectively

Table 4.2: *Politicians Political Ideologies*

<i>Debt</i>	1	2	3	4	5	6	7
	-0.139 ^a	-0.109 ^a	-0.054	-0.089 ^b	-0.113 ^a	-0.129 ^a	-0.125 ^a
<i>Debt(-1)</i>	(0.000)	(0.000)	(0.125)	(0.019)	(0.000)	(0.000)	(0.000)
	0.001	0.001	0.002	0.004	0.087	0.012	0.001
<i>Real_GDPgrw</i>	(0.720)	(0.823)	(0.204)	(0.212)	(0.930)	(0.731)	(0.890)
	0.000	-0.013	-0.001	-0.001	0.010	0.011	0.000
<i>Trad_Opn</i>	(0.816)	(0.707)	(0.135)	(0.156)	(0.775)	(0.837)	(0.896)
	0.012	0.015	0.001	0.023 ^c	0.012 ^a	0.013	0.010 ^b
<i>Inflation Rate</i>	(0.564)	(0.636)	(0.954)	(0.098)	(0.007)	(0.597)	(0.025)
<i>Political Spectrum</i>							
<i>Independent</i>	-0.247 ^a						
	(0.001)						
<i>Left Wing</i>		0.063 ^b					
		(0.033)					
<i>Right Wing</i>			-0.268 ^b				
			(0.000)				
<i>Centre Wing</i>				0.270 ^a			
				(0.000)			
<i>Same Party</i>	-0.068 ^b	-0.072 ^b	-0.052 ^c	-0.018	-0.010	-0.050 ^c	-0.016
	(0.022)	(0.038)	(0.090)	(0.562)	(0.730)	(0.090)	(0.569)
	0.066 ^b	0.052	0.034	0.037	-0.019	0.058 ^c	-0.007
<i>Cross Party</i>	(0.052)	(0.125)	(0.322)	(0.194)	(0.582)	(0.092)	(0.831)
					0.278 ^a		
<i>Coup d'etat</i>					(0.000)		
						0.283 ^a	
<i>Appointment</i>						(0.001)	
							-0.276 ^a
<i>Election</i>							(0.000)
<i>Lab_Force</i>	-0.077 ^a	-0.092 ^a	-0.126 ^a	-0.124 ^a	-0.093 ^a	-0.089 ^a	-0.088 ^a
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	-0.386 ^a	-0.408 ^a	-0.429 ^a	-0.431 ^a	-0.350 ^a	-0.424 ^a	-0.357 ^a
<i>Institution</i>	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	1.794 ^a	1.997 ^a	2.656 ^a	2.444 ^a	2.022 ^a	1.921 ^a	2.177 ^a
<i>Const</i>	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
<i>AR (!)</i>	0.008	0.005	0.007	0.009	0.006	0.005	0.006
<i>Ar (2)</i>	0.112	0.121	0.179	0.150	0.123	0.113	0.122
<i>Sargan</i>	0.322	0.215	0.228	0.232	0.283	0.251	0.332

Note: The probability values are in parenthesis. a, b and c denote 1, 5, and 10 percent respectively
Source: Authors'

Gavrilov, Alexander¹: Influence of ratio of system and interpersonal trust on character of state political system

Abstract: *The work is held conceptualization the phenomenon of trust: analytical model is constructed and ways of transforming in political phenomenon are identified. The project focus on investigation of ratio types of trust: system and interpersonal as cause factor of functioning of political system.*

Introduction

The problematic of the trust, rather recently become the object of the analysis of social scientists, is an important and perspective direction of researches in political sciences. First of all, it is indicated by growth frequency of reference to factors of culture as a whole and trust in particular when interpretation and explanation of the empirical data within different discipline. In spite of rather short history as the research object, the trust has acquired the status of an important element of social relations. Such thesis is also advocated by political scientists. But today however in political researches dominate reduce concept of trust as completely independent variable which inaccessible or not demanding for explanation. The functions of trust are formulated at level of axiomatic. For using in political science of concept of trust is needed adaptation, which level nowadays has an extremely limited scale do not satisfy complexity phenomenon of trust. So, the main problem to be solved by this study is the absence in political science general model of an explanation of laws and forms of functioning of trust in political sphere. In turn, it doesn't allow identifying ways and mechanisms transformation of trust in a political phenomenon.

Aim of the project

The aim of the project is identify the means of influence of trust on functioning of political system as the way trust is become political phenomenon.

Hypotheses and methodology

The research *hypothesis* consists in assumption that role of trust in political sphere connect with ratio of its types: system and interpersonal, which determines such characteristics of political system as dynamism, stability, and also character and a direction of change of the given characteristics.

This research is theoretical, that's why the main role plays the general scientific methods like analysis, ordering, generalization, classification and theoretical modeling. The basis for applying of this toolkit is theoretical approaches to working out of trust some the main of ones are: epigenetic (E.Ericson), ethnomethodology (G.Garfincel), interactionism (T. Yamagishi, K. S. Cook) and concept of civilizational competence (P.Shtompka). Verification of theoretical hypotheses will be conducted on the basis of statistical database of The World Value Survey which including relevant data on 51 country during the period since 1981 for 2005 gg. Will also be used the data of various sociological polls: conducted by domestic authors, Trust Barometer and some others will be involved, according to analytical reasons, as far as the text of work unfolds.

¹ axgavrilov@gmail.com, Faculty of Politics, National Research University Higher School of Economics, Moscow, Russia

Currently the project has permeated the theoretical stage. That why the statistical confirmation of erect propositions is pass on stage of data origination

Results

First of all, the trust model has been formulated. It includes: subject, object, environment of interaction, situation of interaction, and reciprocity relation. Also the difference between trust and related terms - belief and confidence, has been formulated. The key criterion degree is the reflexivity level: in case of belief reflexivity is completely absent that the cause merging of subject and object of belief. The confidence in turn has the greatest level of reflexivity. Therefore the confidence is exclusively substantially relation (i.e. the relation which forms to certain kind of object activity) and also the relation in which the greatest distance between the subject and object are remained. The trust is an intermediate condition in which are inherent both belief elements, and confidence elements.

The next deduction is exposure of the forms of display of trust in public relations. Among them:

- regulator of volume of resources;
- factor of stability (The trust promote to fix objects, environment factors and forms of relation);
- factor the typically characteristics of networks;
- the current system of distrusting.

Projecting the given logic on sphere of political relations it is possible to push following hypotheses concerning display of trust in political system.

1. The level of trust determines volume of the resources, which individuals are ready to use in exchange relations in policy sphere;
2. The dominating kind of relations of trust determines a method and a direction of transfer of resources.
3. Character of resource flows sets by a ratio of the kinds of trust, and level of trust determine stability and dynamism of political system

To be able to perform the quantitative analysis I turned to the typology of trust. I allocated two types of trust: interpersonal¹ and system². The ratio of these types determines such characteristic of political system as dynamics, stability, and the destination of transformation of it. The possible ratios of the two types and characteristics corresponding to this ratio political system are presented below.

1. High system and high generalized trust. The given combination is caused by availability of general, symmetrically implementable bases, both in institutional, and in interpersonal trust relations which supplement and mutually strengthen each other. It is characterized reproduction of political order (and political system as part of ones), high levels of conventional behavior and power base. In same time the political system height risks for low system because the one of the main regulator (and motive) of public (individual, powers, biasness est.) behavior

¹ The given kind includes such types of trust as trust of the individual within the limits of a circle of familiar faces (lets names this type "personal trust" since the subject of it is personally familiar with object), and trust to abstract groups of people (the given type it is possible to name generalized trust in the sense that the individual forms generalized representation about members of the given groups as bearer of specified characteristics).

² It is relation to abstract designs including institutes, and systems of their organization as a whole

- is the trust. That is to say the power of belief (as component of trust) rising that cause to reduction the reflectivity level.
2. High system and high personal trust. This combination of points to availability of system of corporations which structuring public relations. Environment factors can essentially differ for members of various corporations. It is characterized reproduction of political order (and political system as part of ones), quite high level of power base and somewhat less conventional behavior that in first combination. The main risk concerns with conflict between corporations.
 3. High system and low interpersonal trust. This combination conforms to situation in society wherein, the society is split or fragmented, and the unique integrating factor serves the institutional system. It is characterized reproduction of political order (and political system as part of ones) only connected with distribution function of government, middle level of power base, almost all absence of political meaning behavior. The main risk concerns with process of personalization of authority.
 4. The low system and high personal. In this case public relations are characterized by a fragmentation of a society in the context of absence integrating effect of institutional system. Relations of trust evolve from personal experience of interactions and proceed mainly within the limits of personal contacts. It is possible to tell that institutes have not much importance in political relations of citizens which implement their requirements within the limits of private, (group) practices. It is characterized almost all absence of unite (for hall society) political order (and political system as part of ones), low levels of power base and medium conventional behavior.
 5. Low system and high generalized trust. These balance between interpersonal and system trust means availability of the conflict between a society and system of institutes represented by authorities. Thus open conflict is not inherent. Its availability and intensity depends first of all at vertebration of authorities. The key characteristic of the given situation is process of institutional replacement as process changing of institutes which has low level of trust on institutes which allow support generalized trust.
 6. Low system and low interpersonal trust (in this case has no value type of interpersonal trust). These balance means split in a society and distance societies and the states. In other words it might mean civil war.

References

- Антоненко И.В. Социально-психологическая концепция доверия: монография, М.: Флинта-Наука, 2006. – 479с.;
- Доверие: социальные добродетели и путь к процветанию: Пер. с англ. / Ф.Фукуяма. — М.: ООО «Издательство АСТ»: ЗАО НПП «Ермак», 2004. – 730с.;
- Купрейченко А.Б. Психология доверия и недоверия.— М.: Издво «Институт психологии РАН», 2008. – 564с.;
- Селигмен А. Проблема доверия. Пер. с англ. / Селигмен А. – М.: Идея-Пресс, 2002.
- Скрипкина Т.П. Доверие как социально-психологическое явление, Дис. д-ра. псих. наук: М.: РГБ, 2003 – 395с.;

- Гарфинкель Г. Концепция и экспериментальные исследования «доверия» как условия стабильных согласованных действий //Социологическое обозрение. Т.8 №1. 2009. – С.10-51;
- Farrell, H. and Knight, J.. Trust, Institutions and Institutional Change: Industrial Districts and the Social Capital Hypothesis. Politics & Society: 2003, Vol. 31, N. 4: 537-566;
- Luhmann N. Trust and Power, Chichester: Wiley, 1979;
- Putnam R. Making Democracy Work : Civic Traditions in Modern Italy, Princeton: Princeton University Press, 1993;
- Rothstein, B. Social Traps and the Problem of Trust. Cambridge University Press, 2005
- Sztompka P. Trust: A Sociological Theory. Cambridge: Cambridge University Press, 1999;
- Tilly Ch. Trust and Rule, Cambridge: Cambridge University Press. 2005;
- Yamagishi T. Cook K.S. Generalized Exchange and Social Dilemmas // Social Psychology Quarterly 1993 V. 56(4) P235-248;

Garifullina, Guzel¹; Buckley, Noah²; Reuter, John³; Shubenkova, Alexandra⁴: Local Elite Quality: Does Selection Mechanism Matter?⁵

Abstract: *The quality of political elite has significant consequences for decision-making and policy implementation. One of the important factors that has been shown to be related to leader quality is the method of selection. Different authors have argued that popular elections or bureaucratic appointment favor candidates with specific personal characteristics and background. Comparing local leaders (mayors) in Russia who gained their position through election to those who were appointed, we explore the connection between mode of selection and some basic leaders' characteristics (education, professional experience etc.). Our findings suggest that appointed mayors are more 'technocratic', have less business and more bureaucratic experience. Appointed mayors are younger and less likely to be educated in Moscow or St.Petersburg. These preliminary findings suggest that the relationship between selection procedure and leader quality is indeed ambiguous and even though the mode of selection may influence elite characteristics, the simple distinction between elections and appointments is not enough to capture the mechanism of this relationship.*

Introduction

Political elite quality was shown to have significant effects on policy priorities and results. Besley et al (2011) find that educated heads of state are associated with higher growth rates. Similarly, bureaucrats with technocratic backgrounds are thought to be better at generating good governance than unskilled political cronies (e.g Evans and Rauch 1999). In China, regional party secretaries with ties to their home region have been found to be superior at providing public goods and are less predatory toward business (Persson and Zhuravskaya 2012).

One of the determinants of elite quality is the selection mechanism – procedures that favor candidates with specific qualities attempting to get a public post. There is mixed evidence showing which of the two major types of selection – popular elections or bureaucratic appointment – is connected to better political elite quality.

On the one hand, it is often argued that voters will naturally select those with wisdom and virtue. In support of this argument, Besley et al. (2011) find that democratically elected heads of state have higher levels of education than heads of state in autocracies. At lower levels of government, Galasso and Nannici (2009) and Veronese 2004 both find that political competition leads to the selection of candidates with higher levels of education and more governing experience. In China, Luo (2010) finds that elected village heads have more years of schooling. At the same time

¹ ggarifullina@hse.ru, International Center for the Study of Institutions and Development, Higher School of Economics - Moscow, Russia,

² nmb2137@columbia.edu, Department of Political Science, Columbia University
And International Center for the Study of Institutions and Development, Higher School of Economics - Moscow, Russia,

³ ojreuter@gmail.com, University of Wisconsin-Milwaukee and International Center for the Study of Institutions and Development, Higher School of Economics - Moscow, Russia,

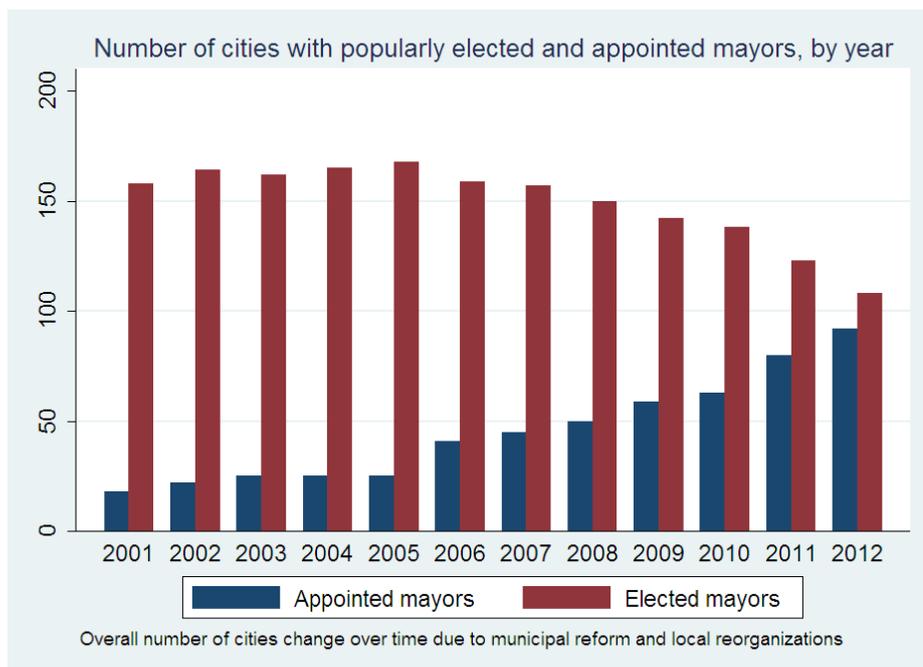
⁴ a.shubenkova@gmail.com, Laboratory for Political research, Higher School of Economics - Moscow, Russia,

⁵ This project has been supported by the Basic Research Program of the National Research University Higher School of Economics

scholars of state-led development argue that appointed officials are more likely to have the skills and training necessary to make efficient economic policy (e.g. Evans 1995).

Russian local politics provides a useful example to explore how selection mechanism affects specific characteristics of elite. The federal law #131 which provided legal framework for the local self-government system reform was adopted in 2003, and its provisions came into force on January 1, 2006. The reform had a major impact on sub-federal fiscal relations, redistribution of public responsibilities and services between the levels of power, new delimitation of municipal territories, creation of new municipalities, etc (Wollmann, Gritsenko 2007; De Silva, Kurlyandskaya et al. 2009).

What is more significant for this paper, the reform changed and systematized models of local self-government that can be adopted by a specific municipality and launched a significant institutional change at the municipal level. This massive model change in most of the cities was accompanied by personal change as well. We identified only 12 cases in which a city went from a popularly elected mayor to an appointed one while keeping the same person at the mayoral position.



The case of Russian local elites in this period presents, therefore, an opportunity to compare mayors that went through direct elections and those who were appointed while controlling for the time factor in the sense that there is no specific period for election or appointment of mayors, and both categories exist at any given year.

Aim of the project

We compare the backgrounds of those mayors who are elected with the backgrounds of those who are appointed to find out whether the traits of elected officials differ in important ways from appointed ones.

This will allow us to explore Russian mayoral corpus and at the same time to suggest new evidence of connections between selection mechanism and elite characteristics.

Hypotheses and methodology

The general hypothesis is that selection mechanism has significant impact on important characteristics of the local elite: elections and appointments bring to power people with different educational, professional and political background.

We are using a novel database containing basic biographical information about the heads of all regional capitals as well as all cities with the population over 75 thousand for the period 2001-2012 (221 cities). It includes demographic information (age, gender, place of birth, nationality), education (years and specialization and place of higher (university) education), career trajectory (3 positions the mayor occupied before becoming a mayor), party affiliations, modes of election/appointment, electoral results etc.

Table 1. General description of the dataset

	N
Number of mayors	828
Number of qualifying mayors*	563
Number of elections events	578
Number of appointments events	260
Number of cities	221

** We have 828 mayors in the full dataset, but we only analyze 563 in the paper (because we drop acting heads who didn't take the office and heads of legislature when there is a dual case: mayor with city manager both exist).*

For our preliminary analysis, to compare elected and appointed mayors we use a simple difference in means analysis.

Results

Our preliminary findings indicate that Russia's elected and appointed mayors differ on several important dimensions. Elected mayors are much more likely to have built their careers in business or in legislative posts. By contrast appointed mayors are slightly more likely to come from local or regional executive branch. Elected mayors are much more likely to have experience holding elected office and they are more likely to have been CPSU members. Neither type of mayor is more likely to have experience in the security services. In fact, contrary to popular belief, very few Russian mayors have experience in the security services (~7.5%).

Appointed mayors are, peculiarly, more likely to have ties to the city they govern, although the difference is small and the vast majority of Russia's mayors have ties to their city. Educational differences are moderate. Elected mayors have slightly more education and are more likely to have been educated in Moscow or St. Petersburg. Finally, we find that women are more likely to be appointed mayor than they are to be elected, although over 95% of mayors are men. We also find that appointed mayors are younger.

Our analyses must be treated with caution when it comes to causation. The decision to cancel mayoral elections is far from random. It is endogenous to the political constraints and motivations of local and regional powerbrokers. It is possible that the decision to cancel elections is motivated by social, economic, or political factors that also independently affect the probability that certain types of mayors will be selected.

But if these findings reflect real differences that are produced by different selection mechanisms, then they highlight the ambiguous relationship between elections and the quality of elected officials. On the one hand, it does appear that elected officials are slightly more educated, perhaps because voters value high quality candidates. On the other hand appointed mayors are more likely to have experience governing in the executive. And while elected mayors are more likely to have elected experience, which might indicate that they have experience working as representatives of popular rule, it also appears that elected governors are more likely to exhibit antiquated human capital in the form of CPSU experience and Soviet-style educations.

Similarly, the widespread concern about the capture of Russian local government by business interests is confirmed in this paper (cf Blanchard and Shleifer 2000). Many mayors come from business backgrounds and it appears that elected mayors are more likely to come from business backgrounds. This suggests that elections may actually undermine good governance if they make it easier for local government to be captured by narrow interests. Indeed, this points to the more general conclusion that elections may only lead to positive political and economic outcomes if they are conducted in a free and fair fashion. Many of Russia's local elections in the 1990s and 2000s were neither.

References

- Besley, Timothy and Marta Reynal-Querol. 2011. "Do Democracies Select More Educated Leaders?" *American Political Science Review*. August. 105 (3): 552-566
- Blanchard, Olivier and Andrei Shleifer 2000, Federalism With and Without Political Centralization. China Versus Russia, *NBER Working Paper* No.w7616
- De Silva Migara O., Galina Kurlyandskaya, Elena Andreeva, and Natalia Golovanova Intergovernmental Reforms in the Russian Federation: One Step Forward, Two Steps Back? Washington DC: The World Bank, 2009
- Evans, Peter and James E. Rauch. 1999. "Bureaucracy and Growth: A Cross-National Analysis of the Effects of 'Weberian' State Structures on Economic Growth." *American Sociological Review*, 64 (5):748-765.
- Evans, Peter. 1995. *Embedded Autonomy: States and Industrial Transformation*. Princeton University Press.
- Galasso, Vincenzo, and Tommaso Nannicini. 2011. "Competing on Good Politicians." *American Political Science Review* 105 (1): 79-99
- Luo, Mi. 2010. "Do Village Elections Select More Competent Leaders: Meritocratic Selection in China's Grassroots Democracy." Ms. Peking University, Beijing, China
- Persson, Petra and Zhuravskaya, Ekaterina V., Elite Influence as a Substitute for Local Democracy: Evidence from Backgrounds of Chinese Provincial Leaders (August 6, 2012). Available at SSRN: <http://ssrn.com/abstract=1506709> or <http://dx.doi.org/10.2139/ssrn.1506709>

- Veronese, Barbara. 2004. "How Do Institutions Shape Policy Making? The Transition from Parliamentarism to Presidentialism in Italian Local Governments" in Padovano, Fabio and Ricardo Riciuti (eds.) *Italian Institutional Reforms: A Public Choice Approach*. London:Springer.
- Wollmann, Hellmut and Elena Gritsenko. Local Self-Government in Russia: between de-centralisation and re-centralisation // Ross, Cameron and Campbell, Adrian (eds.) *Federalism and local politics in Russia*, 2007 <http://amor.cms.hu-berlin.de/~h0598bce/docs/HW-EG-2007-Local-Self-Government-Russia.pdf>

Juraqulova, Zarrina¹; Byington, Tori C.²; Kmec, Julie A.³: The Impacts of Marriage and Institutional Factors on Academics' Perceptions of Career Success: An Ordered Logistic Regression Approach⁴

Abstract: *This study examines the perceptions of female and male dual-career academics regarding the impact marriage has on four aspects of their career success: employment context, professional productivity and involvement, collegial relationship and professional mobility. While roughly 36% of all academics have an academic working partner, women are more likely to be married to an academic than are men (18% vs. 13%) and women in STEM disciplines are more likely than their male colleagues to be partnered with another academic. Using the 2006/2007 Clayman Institute Dual-Career Academic Couples Dataset, we pose two research questions: (1) to what extent does marriage shape women's and men's perceptions of their academic career success? and (2) do these perceptions differ for women and men in STEM and non-STEM fields? The results of ordered logistic regression models suggest women's and men's perceptions of marriage's impact on academic career success can be explained by individual and institutional factors. Moreover, the effect of these individual and institutional factors on perceived gains due to marriage differ across faculty member gender and discipline in ways that reflect gendered societal expectations: men tend to see more career success gains from their marriage than do women.*

Introduction

Researchers have produced compelling evidence that marriage impacts academic careers.⁵ Since most marriages are between two people at a similar education level (Mare, 1991), it is not surprising that we see an increase in the number of academics partnered with other academics. This increase in academic dual-career couples is due in part to significant increases in the number of women earning doctorates. Since 1971 the number of women doctorates has grown from approximately 14 percent to nearly half of all doctorates today (England et al., 2007). Despite their gains in the academy, it is well documented that women are underrepresented on university faculties in general and especially in STEM fields (National Academy of Science, 2007; National Science Foundation, 2010). Women earn only 25% of the Ph.D.s in the physical sciences and 15% in engineering. Furthermore, women make-up only 3-4% of engineering associate professors and 6% of physical sciences associate professors. One reason for the underrepresentation may be what others have called the "two-body problem." Roughly 36% of academics have a working

¹ zjuraqulova@wsu.edu, School of Economic Sciences, Washington State University, USA

² byington@wsu.edu

Affiliation: Department of Sociology, Washington State University

³ jkmec@wsu.edu

Affiliation: Associate Professor, Department of Sociology, Washington State University

⁴ Research supported by the Michelle R. Clayman Institute for Gender Research at Stanford University. Direct correspondence to first author at: Washington State University, School of Economic Science, email: zjuraqulova@wsu.edu

⁵ For sake of brevity, we use the term "marriage" throughout but include in this definition non-marital partnerships.

partner that is also an academic (Scheibinger, Henderson, & Gilmartin, 2008). These academic couples create new opportunities and challenges for higher education as it adjusts to the new dual-career reality. Researchers have shown that women in STEM disciplines are more likely than their male counterparts to be partnered with another academic and that academic women are more likely than men to refuse a job offer if their partners cannot find adequate employment at the same location (Schiebinger et al., 2008). Using survey data, Fox (2005) found that 59% of female scientists were married to another scientist compared to just 17% of male scientists.

To date, dual-career research has examined the extent to which marital and parental status contribute to employment status (Perna, 2001), salaries (Barbezat, 1992; Bellas, 1992; Johnson & Stafford, 1974; Toutkoushian, 1998), research productivity (Bellas & Toutkoushian, 1999), and the effect of spousal support on job satisfaction and job stress (Bures, Henderson, Mayfield, Mayfield, & Worley, 2011), among college and university faculty.

Aim of the project

We add to the literature describing the realities of academic dual couples by examining the relationship between marriage and the perceptions academics have of their careers. Such a focus is warranted, because it may shed light on mechanisms whereby institutions can attract and retain dual career couples, a strategy that may be especially useful in retaining and attracting STEM women (McCluskey, Byington, Cowan, & Kmec, 2012). In this paper, we examine perception level of academics using the sample of 5962 academics from 2006/2007 Clayman Institute Dual-Career Academic Couples dataset designed and administered by Stanford University's Michelle R. Clayman Institute for Gender Research (hereafter the DCAC)..

Hypotheses and methodology

We pose two research questions. First, to what extent does marriage shape women's and men's perceptions of their academic career success? Second, do these perceptions differ for women and men in STEM and non-STEM fields? In the remainder of this section, we described several factors that impact faculty member's perceptions of career success due to marriage/partnership.

The DCAC collected information on demographics, partner status, satisfaction, productivity, households, mobility and perceptions of faculty about academic life. Scheibinger et al. (2008) provides a detailed description of the data collection procedures of the DCAC. We restrict the analysis to individuals who identified themselves as the married or cohabitating at the time of the survey and who responded to the section of the survey on evaluating the relationship between work and home for academics. We also restrict our analysis to full-time faculty in assistant, associate and full professors (see Table 1).

To measure faculty members' perceptions of their career success, we use responses to the question: In your career overall, do you feel that you have gained or lost in the following areas as a result of your marriage/partnership? (1) research productivity; (2) time to participate in profession (socializing with faculty, attending conferences); (3) employment status; (4) level of current position; (5) quality of institution; (6) salary; (7) relationships with other faculty in your department; and (8) professional mobility. The responses to each categories were coded: "1 = *Major Loss*"

(ML), “2 = Loss” (L), “3 = Neither Gain or Loss” (NGL), “4 = Gain”(G) and “5 = Major Gain” (MG).

We test these 8 categories for correlation and perform factor analysis to determine interdependency of these categories. The results show that the categories (1) and (2) are interrelated. Thus we create a variable to measure professional attitude of faculty members that we call *professional productivity and involvement*. Furthermore, the correlation is found between (3), (4), (5) and (6) which allow us to examine perceptions of academics about their overall experience at the institution that we call *employment context*. The original categories (7) and (8) remain the same that are *collegial relationship* and *professional mobility*. Therefore, four dependent variables are defined to measure academic perceptions of their career success as a result of marriage or partnership, as shown in Table 2.

Table 3 presents descriptive statistics for independent variables used in the analysis. Now looking to the description of independent variables, we observe that 61% of academics are parents. Next, comparing the marital status between female and male faculty, 42% of women and 26% of men reported that they are married to academicians as of the time of the survey. It appears that 17% of female academics are married to faculty members from STEM disciplines compared to 9% male academics. Another interesting result is that 67% of men consider their career more important than spouses’ career. Furthermore, women are less likely to publish more, due to marriage. The mean number of productivity shows that men publish twice more than women. As for the institutional tenure, on average, female faculty’s experience is 8 years at their current institution while male faculty’s experience is 14 years. Table 3 indicates substantial gender differences in the mean values of most variables, which may affect academics perceptions of career success.

Given the ordinal nature of the dependent variables an ordered logistic regression models are estimated to determine the perception level of career gains reported by academics.

Results

Career gains among academics

Table 4 provides the mean reported levels of career gains across the sample, by female and male academics. Looking at the whole sample first, the results show that academics gain career success mostly in employment context containing employment status, level of current position, quality of institution and salary. Academics are least satisfied with professional mobility comparable to other categories of perceived gains in career as a result of their marriage.

The second and third columns display comparisons by gender showing that differences of reports about career gains do not vary widely between female and male academics. Female academics report lower gains in their career success than their male counterparts. The last three columns represent the results of three tests on the significance of the gender gap in reports of academic career gains (Warn & Sloane, 2000). Reports of employment context, collegial relationship and professional mobility appear to be a significant gender differential. The first and the second tests show that there are gender differences in responses on professional productivity and involvement which are statistically significant at the 10% level but the last test indicates its insignificant level.

In Figures 1 and 2, the percentage of males and females who report gains and losses in four categories is depicted, where perceived gains is defined as reports of gains at the level of 4 and 5, and loss reports at the level of 1 and 2 on the 5 point scale. Figure 1 shows that female academics' perceptions of career gains are lower than male academics. A further point to note is that male academics see more benefits in setting relationship with other faculty in their department compared to females. In addition, the significant differential is encountered in the report of career gains in employment context, and the difference in professional productivity and involvement level is not very high.

The Figure 2 suggests that female academics report higher career loss particular in employment context, collegial relationship and professional mobility. One result that does catch our attention is that the larger proportion of women than men is highly unhappy with perceptions of career gains in professional mobility. There is no large gender difference in the evaluation of professional productivity and involvement which is very similar result from a statistical analysis by gender. One conceivable hypothesis is that perceptions levels about career in academia differ between genders due to the fact that their contribution in work and family differ, as a result of their marriage.

References

- Barbezat, D. A. (1992). The market for new Ph. D. economists. *Journal of Economic Education*, Summer, 262-275. doi:10.2307/1183229
- Bellas, M. L., & Toutkoushian, R. K. (1999). Faculty time allocations and research productivity: Gender, race, and family effects. *Review of Higher Education*, 22, 367-390. Retrieved from http://ntserver1.wsulibs.wsu.edu:2420/journals/review_of_higher_education/v022/22.4bellas.htm
- Bellas, M. L. (1992). The effects of marital status and wives' employment on the salaries of faculty men: The (house) wife bonus. *Gender & Society*, 6, 609-622. doi:10.1177/089124392006004005
- Bures, A. L., Henderson, D., Mayfield, J., Mayfield, M., & Worley, J. (2011). The effects of spousal support and gender on worker's stress and job satisfaction: A cross national investigation of dual career couples. *Journal of Applied Business Research (JABR)*, 12, 52-58. Retrieved from <http://cluteonline.com/journals/index.php/JABR/article/viewFile/5837/5915>
- England, P., Allison, P., Li, S., Mark, N., Thompson, J., Budig, M. J., & Sun, H. (2007). Why are some academic fields tipping toward female? The sex composition of US fields of doctoral degree receipt, 1971-2002. *Sociology of Education*, 80, 23-42. doi:10.1177/003804070708000102
- Fox, M. F. (2005). Gender, family characteristics, and publication productivity among scientists. *Social Studies of Science*, 35, 131-150. doi:10.1177/0306312705046630
- Johnson, G. E., & Stafford, F. P. (1974). The earnings and promotion of women faculty. *The American Economic Review*, 64, 888-903. Retrieved from <http://ntserver1.wsulibs.wsu.edu:2070/ehost/pdfviewer/pdfviewer?sid=9aa7884d-e7a0-42cb-9ad0-44b4326fb67b%40sessionmgr10&vid=2&hid=15>
- Mare, R. D. (1991). Five decades of educational assortative mating. *American Sociological Review*, 56, 15-32. doi:10.2307/2095670

- McCluskey, J., Byington, T. C., Cowan, B., Kmec, J. (2012). *Exploring the Influence of Dual-Hiring Practices on Faculty Productivity and Recruitment of STEM Women*. Working grant proposal.
- National Academy of Science. (2007). *Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering*. Washington, DC: National Academies Press. Retrieved from http://www.nap.edu/catalog.php?record_id=11741
- National Science Foundation. (2010). ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers. Retrieved from <http://www.nsf.gov/pubs/2010/nsf10593/nsf10593.htm>.
- Perna, L. W. (2001). The relationship between family responsibility and employment status among college and university faculty. *The Journal of Higher Education*, 72, 584–611. doi:10.2307/2672882
- Scheibinger, L., Henderson, A. D., & Gilmartin, S. K. (2008). *Dual-Career Academic Couples: What Universities Need to Know*. Michelle R. Clayman Institute for Gender Research. Stanford University.
- Toutkoushian, R. K. (1998). Racial and marital status differences in faculty pay. *Journal of Higher Education*, 513-541. doi:10.2307/2649108

Appendix

Table 1 *Sample Demographics*

	All	Female (%)	Male (%)
Assistant	2051	48.81	51.19
Associate	1868	41.83	58.17
Full professor	2043	25.22	74.78
Total:	5962		
Academic Partner	1875	49.68	50.32
STEM partner	950	54.00	46.00
Dual Hire Couple	883	55.90	44.40

Source: DCAC

Table 2 *List of variables*

<i>Name of the variable</i>	<i>Description</i>
Dependent variables	
Employment Context	1 = ML; 2 = L; 3 = NGL; 4 = G; 5 = MG
Professional Productivity and Involvement	1 = ML; 2 = L; 3 = NGL; 4 = G; 5 = MG
Faculty Relations	1 = ML; 2 = L; 3 = NGL; 4 = G; 5 = MG
Professional mobility	1 = ML; 2 = L; 3 = NGL; 4 = G; 5 = MG
Independent variables	
Female	1 = if the respondent is female, 0 = otherwise
Children	1 = if the respondent has children, 0 = otherwise
Academic Partner	1 = if the respondent's partner works in academia, 0 = otherwise
Dual-career academic couple hire	1 = if the respondent was hired through a dual-hire policy, 0 = otherwise
Controls	
STEM disciplines	1 = if the respondent is in STEM discipline, 0 = otherwise
Academic partner in STEM Rank	1 = if the respondent's partner is in STEM field, 0 = otherwise
Administrator	1 = if the respondent holds an administrative position, 0 = otherwise
On tenure track	1 = if the respondent is on the tenure track, 0 = otherwise
Career primacy	1 = if the respondent's career is primary, 0 = partner's or equal
Productivity	a number of articles, books, manuals, monographs, edited books, patents and computer software products published by the respondent over the course of his/her career
Collegial relationship	1 = if the respondent chose Gain = 4 or Major Gain = 5 for the category "Relationship with other faculty", 0 = otherwise
Institutional Tenure	a number of years spent at the current institution
Public Institution	1 = if the institution is public, 0 = otherwise
Dual-career couple hiring policy	1 = if the institution has one of these formal dual-hire policy in practice: written hiring and retention policy; dual-career website resource and dual-career office /staff 0 = otherwise
Schools	Dichotomous variables for schools 1-13

Source: DCAC

Table 3 Summary Statistics (Means and Standard Deviations) for Model Variables

	All (N=7,748)		Female (N=2,948)		Male (N=4,796)	
	Mean	SD	Mean	SD	Mean	SD
Independent variables						
Female	0.38	0.49				
Children	0.61	0.49	0.59	0.49	0.62	0.49
Academic Partner	0.32	0.47	0.42	0.49	0.26	0.44
Dual-career academic couple hire	0.11	0.32	0.17	0.37	0.08	0.27
Controls						
STEM disciplines	0.32	0.47	0.24	0.43	0.37	0.48
Academic partner in STEM	0.12	0.33	0.17	0.38	0.09	0.29
Assistant	0.26	0.44	0.34	0.47	0.22	0.41
Associate	0.24	0.43	0.26	0.44	0.23	0.42
Full Professor	0.26	0.44	0.17	0.38	0.32	0.47
Administrator	0.27	0.44	0.25	0.44	0.27	0.45
On tenure track	0.21	0.41	0.26	0.44	0.19	0.39
Career primacy	0.53	0.50	0.32	0.47	0.67	0.47
Productivity	47.28	67.18	28.97	40.74	58.50	77.01
Collegial relationship	0.27	0.44	0.21	0.40	0.31	0.46
Institutional Tenure	12.45	10.47	9.76	8.36	14.09	11.27
Institutional Tenure2	264.70	388.33	165.19	260.80	325.58	437.83
Public Institution	0.64	0.48	0.67	0.47	0.62	0.49
Dual-career couple hire policy	0.16	0.37	0.15	0.36	0.17	0.38
Schools	7.24	4.11	7.30	4.06	7.20	4.14

Source: DCAC

Table 4. Mean levels of independent variables defining faculty's perceptions on career gains

Categories of career gains due to marriage				Probabilities		
	All	Female	Male	1	2	3
Employment context	3.35	3.30	3.39	0.000*	0.000*	0.001*
Professional Productivity and Involvement	3.33	3.31	3.35	0.055	0.054	0.206
Collegial Relationship	3.20	3.09	3.26	0.000*	0.000*	0.000*
Professional Mobility	2.70	2.52	2.81	0.000*	0.000*	0.000*

Notes:

Ho: The two samples coming from populations are having the same distributions

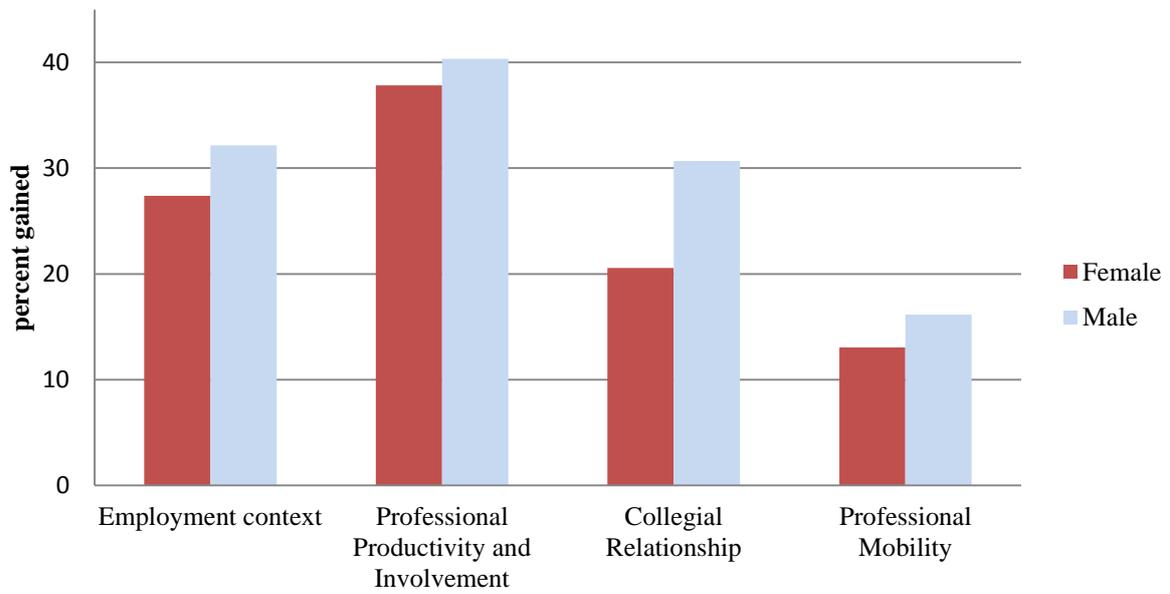
1 = t-test

2 = Mann-Whitney U-Wilcoxon

3 = Kolmogorov-Smirnov 2 sample test

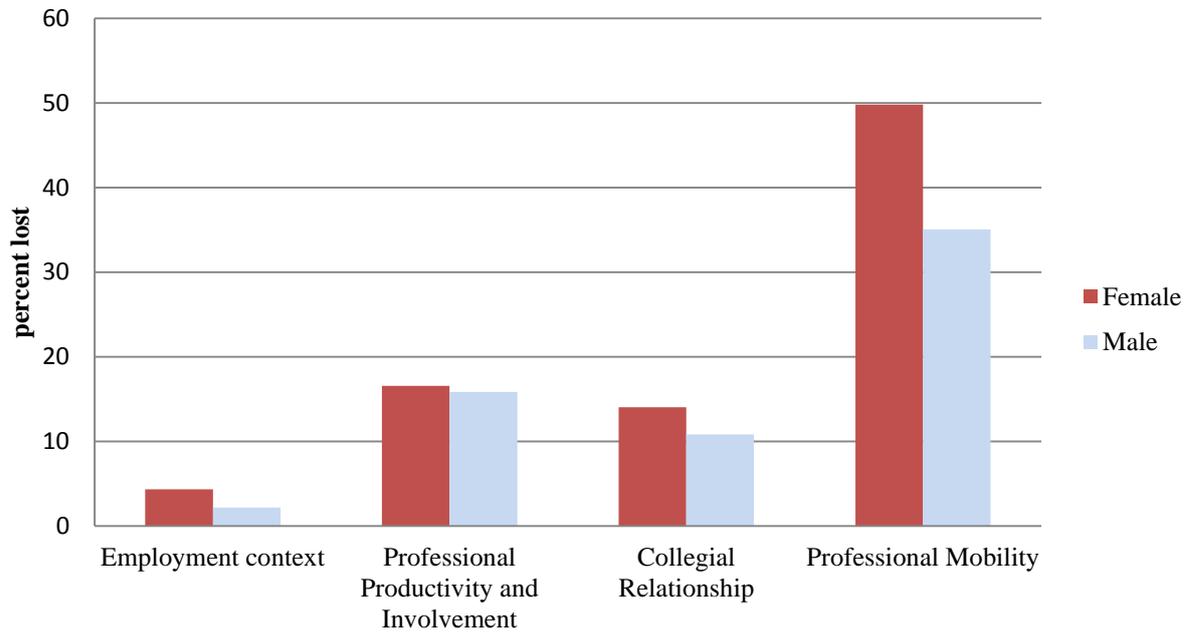
* mean that a significant gender difference exists at the 5% significance level.

Figure 1. Career Gain by Gender, due to Marriage



Note:
Career gains = Score 4 and 5.

Figure 2. Career Loss by Gender, due to Marriage



Note:
Career loss = Score 1 and 2.

Kiryseva, Irina¹: Optimal prize allocation in contests with sabotage

Abstract: Contest is a powerful mechanism to induce right incentives from the agents. Particular prize distribution can allow a principal to maximize the expected effort he gets. In the paper of Moldovanu, Sela (2001) it is shown that if principal allocates positive prizes it is optimal to give all the sum to the leader. However, this result does not hold if there is a possibility for sabotage. Such a prize distribution between players creates high incentives to sabotage. I show that in that case optimal prize structure assumes some positive reward for contestants that are behind. As sabotage is natural concern in organizations, these findings have important applications for organizational policy.

Introduction

One of the main issues in economic theory is how to align incentives of workers in organizations with incentives of owners. Here, a powerful tool due to simplicity of implementation is a tournament. Tournaments were widely studied in economic literature. While majority of research concentrated on tournaments with a single prize, there is also important work done on multiple-prize tournament. Moldovanu and Sela (2001) find that with linear cost function it is optimal for designer to allocate the whole prize sum to the winner.

However, there is a concern that tournaments can be subject to sabotage. There are several papers that concern tournaments with sabotage. For example, Chen (2003) looks at one-period model where players can make productive efforts, or can make destructive efforts towards their colleagues. He finds that able agents are more likely to be subject to sabotage attacks. Also, due to sabotage activities the most talented agents might not have the highest chance to be promoted. Similar problem is analyzed in Munster (2007). He also finds that talented agents are sabotaged more heavily, and that sabotage equalizes the probability of promotion for agents of different characteristics. Gurtler, Munster (2012) look at the dynamic sabotage game with psychic cost of being sabotaged. Due to these costs it might be optimal for talented agents in the first period to actually help others and sabotage themselves.

Unlike the previous works mentioned Antu Amegashie and Runkel consider dynamic contests with sabotage where players can sabotage not the current rivals but those they might meet in the future. Contestants are divided into two semi-finals, and they can help player from another semifinals. They find that there is an equilibrium where only the most able player engages in sabotage, which is a surprising result, as usually it is the most talented agent who suffers most from being sabotaged by others.

Another strand of literature on contests with sabotage is experimental one. For example, Carpenter et. al. (2007) conduct a real-effort experiment, where participants could sabotage their contestants. They found that players actually provided less effort because they anticipated to be victims of sabotage. In another work by Herbring et al. (2007, 2011) authors divide players into three types according to the cost of the effort: favourites, normals, underdogs. They find that sabotage behaviour varies with the composition of types of players - for example, underdogs sabotaged favorites less

¹ irina.kiryseva@eui.eu, European University Institute, Florence, Italy

in the contest with more favorites. Another finding is that sabotage decreases if saboteurs identity is revealed.

Aim of the project

Given this concern about the tournaments it is worth looking how presence of sabotage changes the result of optimal prize allocation for the tournament designer. Even intuitively it seems that giving all the prize to the winner will create high incentives to use sabotage for agents. So, it might be optimal for the principal to provide positive prizes also to those who lost in the tournament.

Hypothesis and methodology

I consider the simple example that bears the main intuition of this paper. Principal decides on two non negative prizes that he distributes between two contestants. The winner of the contest gets V_1 , another player gets V_2 , in case of the same result each one gets $((V_1+V_2)/2)$. Agents can choose effort level $e \in \{0, 1\}$. However, unlike standard models, they can also sabotage the outcome of their opponent by making a distractive effort $d \in \{0, 1\}$. The principal does not observe the effort agents made but for each agent i he sees the modified effort level that is equal to the difference between the productive effort the agent has made and the destructive effort of his colleague. The principal distributes the prizes according to this modified effort level - the agent with highest one gets the first prize V_1 , another agent gets V_2 .

Agents can be of two types - either high or low ($\Theta = \{H, L\}$). The type of the agent defines the cost of productive effort - for high types lower than for the lower types. The sabotage activity is also costly and its cost lies in between the costs of productive efforts for two types. Therefore, it is cheaper for low type to sabotage, while for high type it is cheaper to make a production effort.

First I consider the case when there is no possibility for a sabotage and find that obviously the results here are in line with the model of Moldovanu and Sela.

Then, I allow for sabotage activity, and find the distribution of PBE for different levels of prizes V_1 and V_2 . Haven described the equilibrium I look at the problem of the principal, and find the prize combination that m

Finally, I generalize the model by allowing for a uniformly distributed effort costs. The model then corresponds to a model with multiple all-pay auction.

Results

I find that in the presence of sabotage it is optimal for the principal to give also a positive prize to the second-comer.

When I allow for uniformly distributed effort costs the optimal bid is a piece-wise function. For types up to the threshold it is optimal to make only a productive effort, while for the costs that are larger than a threshold it is optimal to bid only with a destructive effort (sabotage) and not to make any productive effort at all. Then, the optimal decision of the principal depends harshly on the parameters. For one combination of the parameters, it is optimal for the principal to give all the prize to the winner of the contest, while for another combination the principal would want to make the two prizes equal - which means that he would prefer not to make any tournament at all.

References

- B. Moldovanu, A. Sela "The optimal allocation of prizes in contests", AER, 2001
- B. Moldovanu, A. Sela, X. Shi "Carrots and sticks: prizes and punishments in contests", Economic Inquiry, 2012
- E. Lazer, S. Rosen "Rank-order tournaments as optimal labour contracts", JPE, 1981
- O. Gunter, J. Munster "Rational self-sabotage", Mathematical Social Science, 2011

***Kislitsyn, Dmirty*¹: Firm's political influence and political status of its board of directors members: case of Kemerovo region**

Abstract: *Author assesses Russian regional companies' political influence by evaluating political status of their boards of directors members. Directors' career paths are analyzed, giving special consideration to friends of the regional governor, former top officials and relatives of the Federal Assembly members.*

Introduction

Firms around the world tend to invest in creating close connections with the top politicians to get or secure competitive advantages and extract benefits from the state. Raymond Fisman (2001) in his pioneering research analyzes impact of rumors about health of Indonesian president Sukharto during his last year in power on capitalization of companies with varying degrees of political influence. Highly centralized and stable political structure of Indonesia made it possible to form a credible index of political ties, while in countries where political decisions are decentralized, the identification of political connections is a daunting task. The analysis showed that the influence of rumors on the stock price of politically influential firms were significantly higher than on stock price of companies with no or less political influence.

Research of Raymond Fisman was followed by a significant number of works on quantitative assessment of the impact of political influence on firms' performance. Thus, Simon Johnson and Todd Mitton (2003) demonstrated that 1997-1998 Asian economic crisis reduced the expected value of government subsidies to the politically influential firms in Malaysia. In the research data from Malaysia before and after the introduction of restrictions on capital movement was analyzed. The authors showed that capital control can be viewed as an essential part of capitalism, based on political connections (cronyism). Policy makers give informal guidance to the banks to approve loans for selected firms; this policy is relatively easier to implement provided country is isolated from international capital flows. As a result, firms with political connections are more vulnerable to macroeconomic shocks, as they reduce the ability of the government to grant them privileges and subsidies. The work of Simon Johnson and Todd Mitton is also based on predefined list of politically influential firms, with identification of policy makers related with specific firms.

Asim Khwaja and Atif Mian (2005) analyzes influence of political connections on the probability of obtaining bank loan in Pakistan. The authors classify a firm as "political" if its director participated in an election. The results shows that political firms borrow 45 percent more and have 50 percent higher default rates, and it is important to note that such preferential treatment they received only from the state banks. In addition, the study shows a positive correlation between firms affiliation with a business group and the probability of obtaining politically motivated lending, while the larger business group, the greater the likelihood of getting loans.

¹ dmitry.v.kislitsyn@gmail.com, Kemerovo State University, Kemerovo, Russia

While the majority of researches on political connections are country specific, the work of Mara Faccio (2006) is a cross-country analysis of value of political connections. The author defined politically connected firms as ones with the companies' large shareholders or top officers are either members of parliament or minister or the head of state, or closely related to a top official. The study shows that the politically influential firms disproportionately often received government support, and often the source of support was given financial assistance from the International Monetary Fund or World Bank, received by the country.

Slinko et al. (2004) created a measure of preferential treatment of the firms from regional governments based on Russian legislation in 1992-2000, and evaluated the effects of preferential treatment on politically influential firms. Compared to firms without political influence, influential firms' sales and employment grew faster; they invested more and received more profit. Evgeny Yakovlev and Ekaterina Zhuravskaya (2004) addressing the question what firms have received preferential treatment, showed that firm's political influence is determined by a firm's size and ownership structure: big firms (both in terms of sales and employment) and firms that controlled by "federal oligarchs" have significantly higher likelihood of getting preferential treatment.

Aim of the project

In this research project we propose to assess companies' political influence by evaluating political status of their board of directors members.

Hypotheses and methodology

In defining the political connectedness of firms we are following to Mara Faccio, who offered three criteria of political connectedness: if at least one of its large shareholders or one of its top directors is a member of parliament, a minister, or is closely related to a top politician or party. However, in Russia, especially for regional companies, the board of directors could be considered as a status body, representing company top managers, owners and their affiliates, what is why analysis of political status of companies board of directors members can demonstrate the degree of company's political influence.

In our dataset we assemble data on 16 biggest companies of Kemerovo region and their 106 boards of directors members. We analyzed their career rejections, giving consideration to friends of region governor, former top officials, relatives of The Federal Assembly members.

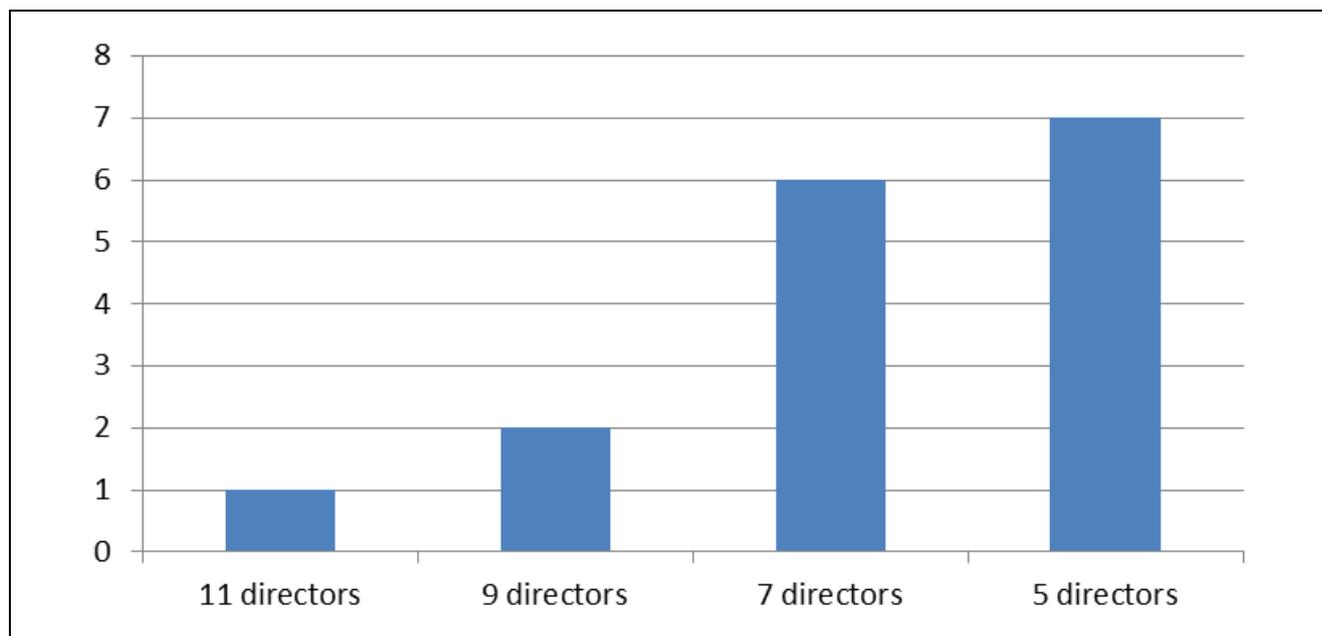


Figure 1. Number of directors in the board

Results

The expected research output is as follows:

- create a relative scale to measure political influence of biggest companies of Kemerovo region;
- define the trends of boards of directors composition subject to type of company ownership: state companies, companies controlled by regional business and companies controlled by federal business groups.

References

- Faccio M. Differences between Politically Connected and Nonconnected Firms: A Cross-Country Analysis // *Financial Management*. – 2010. – № 39. – PP. 905 – 928. – URL: <http://ideas.repec.org/a/bla/finmgmt/v39y2010i3p905-928.html>.
- Fisman R. Estimating the Value of Political Connections // *The American Economic Review*. – 2001. – № 91(4). – PP. 1095 – 1102. – URL: <http://www.jstor.org/stable/2677829>.
- Johnson S., Mitton T. Cronyism and capital controls: evidence from Malaysia // *Journal of Financial Economics*. – 2003. – № 67(2). – PP. 351-382. – URL: <http://econpapers.repec.org/RePEc:eee:jfinec:v:67:y:2003:i:2:p:351-382>.
- Khwaja A.I., Mian A. Do Lenders Favor Politically Connected Firms? Rent Provision in an Emerging Financial Market // *The Quarterly Journal of Economics*. – 2005. – №4. – PP. 1371 – 1411. – URL: <http://www.jstor.org/stable/25098774>.
- Slinko I., Zhuravskaya E.V., Yakovlev E. Laws for Sale: An Empirical Study of the Effects of Regulatory Capture (March 2004) // *CEFIR Discussion Papers*. – 2004. – March. – URL: <http://ssrn.com/abstract=402840> or [doi:10.2139/ssrn.402840](https://doi.org/10.2139/ssrn.402840).
- Zhuravskaya E., Yakovlev E. State capture and controlling owners of firms // *CEFIR Working Papers*. – 2004. – June. – URL: http://www.cefir.ru/ezhuravskaya/research/Yakovlev_Zhuravskaya_Capture_Yeltsin_Putin.pdf.

Kochergina, Ekaterina¹: Why do we act heuristically?

Abstract: *Using Russian longitudinal monitoring survey² 18th wave data, we assess a set of questions to estimate trade of money-time. We ask people to choose either to receive 100000 rubles within 12 months, or to take any smaller amount right now. A reasonable decision is to take 999999 rubles now. But sufficient number of people does not act in this “rational” way.*

Introduction

Imagine you have an option to take a taxi to the airport and save 60 minutes and your new leather shoe from nasty Moscow spring. Or, you can take a bus and save 10\$, but spent 60 minutes more, and probably get wet. What would you choose? If we ask a person would she like to buy another hour per day just for 10\$, bet, she would agree to do so. But if we ask the same person why she does not switches a two-hour-long free bus to one-hour-long 10\$ taxi, she would not give me any reasonable explanation of choice she made. Why people’s choices are not consistent?

The behavioral economics provides a growing body of results of experiments (Einhorn and Hogarth, 1986; Kahneman et al., 1982; Poulton, 1994) which show why people act irrationally. In other words, why Savage axioms of rationality are violated in a number of decision-making situations. Classical examples can be found in Kahneman et al. (1982) and Thaler (1994). In the “jacket and calculator” problem (Kahneman et al., 1982) participants were asked to trade-off between saving 5\$ on a total expenditure of 15\$ or to trade-off between saving 5\$ on a total expenditure of 140\$, at the expense of 20 min both. Here, the benefit is 5\$ (absolute monetary saving) and the “cost” is 20 min (time spent). The results suggests that individuals value two identical monetary “benefits” differently depending on relative saving level (the cost of calculator or jacket) while the absolute saving level remain to stay constant.

Besides mental accounting, described above, there also exists a problem of heuristic behavior. That phenomenon frequently occurs in people’s behavior and implies that people make their decisions based on sort “rules of thumb”, despite the strict logic. In our work we look at similar behaviour.

Aim of the project

We ask people to choose either to receive 100000 rubles within 12 months or to take any smaller amount right now. A reasonable decision is to take 999999 rubles now. But sufficient number of people does not act in this “rational” way. The purpose of this study is to understand why people act irrationally.

Hypotheses and methodology

¹ ekochedgina@hse.ru, Laboratory for institutional analysis of economic research, Higher school of economics, Moscow, Russia.

² Source: “Russia Longitudinal Monitoring survey, RLMS-HSE”, conducted by the National Research University Higher School of Economics and ZAO “Demoscope” together with Carolina Population Center, University of North Carolina at Chapel Hill and the Institute of Sociology RAS.

We construct the sample based on RLMS 18th wave. RLMS provides researchers with random and representative sample of Russian population. Our sample consists of over 6000 observations taken from the survey. Thus, the sample includes people from different socioeconomic background and incomes, who worked in different fields.

The participants were asked to answer on a set of questions, such as:

- 1) *Imagine you have a choice to get 100 000 rubles within 12 months or any smaller amount at present time. What sum would it be, assuming that during the next year the money will become worthless and there will be no inflation?*
- 2) *Imagine that you have a choice to get 100 000 rubles within 12 months or any less sum within 11 months. What sum would it be, assuming that during the next year the money will become worthless and there will be no inflation?*

We use answers on this set of questions to estimate the trade-off between current and later consumption. Participants were required to evaluate a trade-off that takes the form ‘spend time to save money’ or ‘spend money to save time’. As we can see, survey questions do not put any restrictions on participants, there is neither much limit for a preferable sum, nor a strict time bound, and so on. In that hypothetical situation the rational choice is to take a sum which is as less as 100000 rubles less, this sum can be 999999.

This states my first hypothesis: *heuristic behavior manifests under unbounded conditions*. In other words – people’s decisions are not influenced by external factors and still are irrational.

Preliminary results

The advantage of our study is that we have information on respondent’s income and socioeconomic characteristics. To investigate the research question, we ran a correlation analysis of agent’s monthly annual income, agent’s annual income for preceding 12 months, and the difference between one hundred thousand rubles (the cost of 12 months) and the sum that respondents preferred to receive at current time (fig. 1).

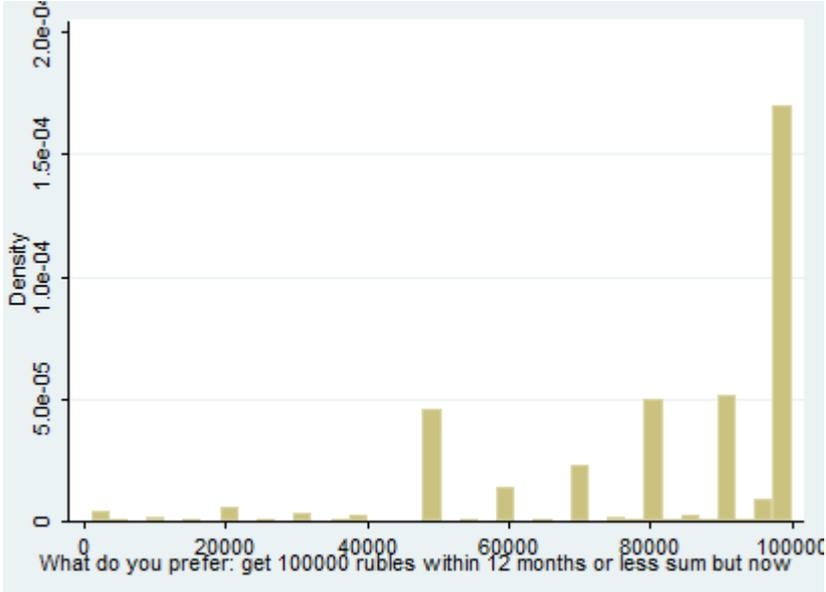


Figure 1. The distribution of question #1.

We also count differences in sums for question 2, so that this difference presents the difference in cost of 11 months versus 12 months waiting (fig. 2).

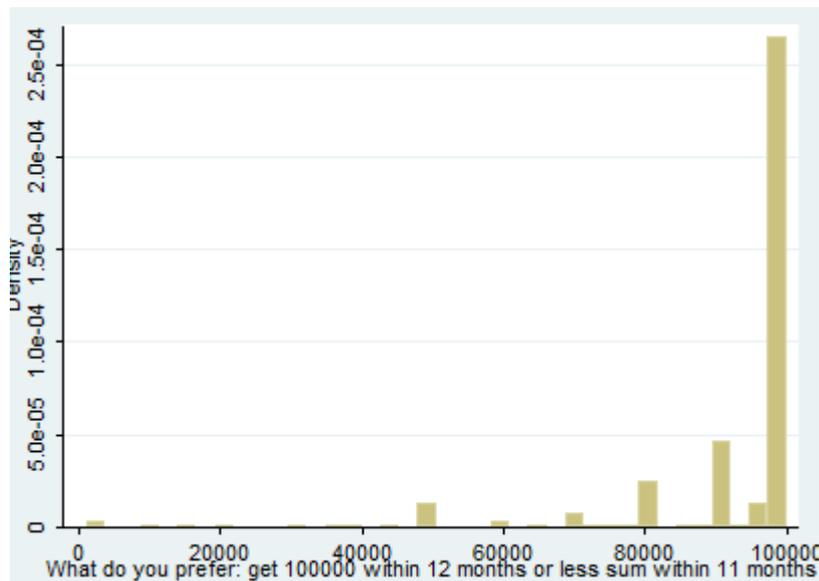


Figure 2. The distribution of question #2.

The average reported salary for 30 days is 13200 (SD=11000) rubles and average reported salary for preceding 12 months is 13220 (SD=10000). The difference in sums is negatively correlated with annual month salary and annual year salary (p -val<0,05). The difference in cost of 11 versus 12 months correlated with agents' income on 10% level significance.

These results suggest that people like money, but still they do not make the best rational choice. In a year-long perspective, people are willing to have some amount of money now, but not the bigger sum closer in future. Still it is unclear why people do not choose any smaller amount if they do not want to wait 12 months, but agreed on a big discounts.

Further research need to be done to clarify the role of income. Also results need to be controlled on gender, age and type of occupation.

Last consideration to take into account is that although RLMS provide a broad and representative sample of Russian population it is important to be careful about comparability of our results with previous studies, because most of existing studies used undergraduate students as a research sample (Moon et al. 1999; Duxbury, 2005; Rajagopal P., & Rha J.-Y. 2009).

References

- Bonini N., Rumiati R., (1996), Mental accounting and acceptance of a price discount., *Acta Psychologica*, 93, pp. 149–160
- Duxbury D, Keasey K., Hao Zhang, Shue Loong Chow S.L., (2005), Mental accounting and decision making: Evidence under reverse conditions where money is spent for time saved., *Journal of Economic Psychology*, 26 (4), pp. 567–580
- Einhorn H.J. and Hogarth R.M., (1986), Decision making under ambiguity, *The Journal of Business*, 59, pp. 225–250

Kahneman D., Slovic P., Tversky A., (1982), Judgement under uncertainty: Heuristics and biases., *Cambridge University Press*

Moon P., Keasey K., Duxbury D., (1999), Mental accounting and decision making: The relationship between relative and absolute savings, *Journal of Economic Behavior and Organization*, pp. 145–153

Poulton E.C., (1994), Behavioral decision theory: A new approach, *Cambridge University Press*

Rajagopal P., & Rha J.-Y. (2009). The mental accounting of time. *Journal of economic psychology*, 30, pp.772-781

Thaler R.H. (1985), Mental accounting and consumer choice. *Marketing science*, 4(3), pp.199-214

Lazarov, Darko¹: The quality of Institutions and economic growth (panel regression analysis for sample of CEE countries in time series 1993-2007 and 2008-2011)

Abstract: *This paper investigates the influence of institutions on economic growth and level of income per capita for transition, post-transition period and during the current global economic crisis by using OLS panel regression technique for a sample of group of CEE countries. However, testing the correlation and causality between institutions and economic growth involves the difficult issue how to measure the quality of institutions, taking in consideration that many international agencies and researchers have developed plenty of empirical indicators recently, which measure different institutional aspects. In that context, we have used principle factor analysis to cope with this problem.*

Introduction

As the most significant fundamental factor by which are explained differences in economic growth and per capita GDP between countries are *institutions*. One of the problems which is facing the institutions hypothesis is the question about, what in essence we mean by the term 'institution' i.e. how exactly institutions are defined. Most accepted definition about the institutions is "Institutions are rules of play in the economy, the wider society or, even more formally a kind of constraint which determine the way of interaction between people".²

The question which economists try to answer is: why do some countries invest more than other in physical and human capital? And why are some countries so much more productive than others? Maybe the right answer to this question we should find in differences in institutional infrastructure.³ The main idea is that institutions and government policies determine the economic environment within which individuals accumulate skills, and firms accumulate capital and produce goods.

Aim of the Project

The aim of this project is to investigate the relationship between quality of institutions and economic performance in CEE countries in the long run and especially analysis the way of institutional response of some counties to negative implication from global financial and economic crisis. Empirical research aimed towards analysis of the link between institutions and economic growth, should pose a stronger correlation of the quality of institutions as a growth determinant, instead of growth influence on the quality of institutions. Explanation of this fact is derived from the fact that poorer countries have greater motive to improve the institutional quality with aim to achieve better growth dynamic of their economy, in the relation to developed economics whose economic performances are superb. Realisation the main goal of this research first involves building theoretical frame in which the quality of

¹ darko.lazarov@ugd.edu.mk, University "Goce Delchev", Shtip, Republic of Macedonia

² Douglass C. North (1991): Institutions, Institutional Change and Economic Performance (Political Economy of Institutions and Decisions).

³ Hall, Robert E., and Charles I. Jones, "Why Do Some Countries Produce So Much More Output per Worker than Others?" *Quarterly Journal of Economics* pp. 83-116.

institutions will be integrate i.e. create a model which will enable functional interrelation of the institutions and their effects on the growth of the economy. Second, notion on difficulty quantifying the institutions, it is difficult to measure the influence of the institutions on economic growth. In that context, we will try first precisely to define the frame of the institutions and to identify variables which will reflect realistically their quality. Confirmation of the frame of institutions we will try to make it from the aspect of the importance of the separate institutions and their affluence on the economic growth. There exist different types of institutions (economic, political, and financial) which include different components. The quality of different types of institutions it is measured through different variables. For example, variables through which are measured political institutions are: political rights and freedoms, rule of law, which is contained in the law index, corruption level measured through the corruption index, and other variables. On the other hand, variables that measure the quality of the economic institutions are: property rights, regulatory system quality, index of business freedom which is related to the freedom of trade, and many other variables. The choice which variables to take in estimation in some degree depends on what the research wants to estimate. Of course, our purpose is not about the measurement of the quality of the institutions through all these indicators and variables, because the fact that such a task is too complex and de facto will not result in significant results that will have high applicative meaning, but to specify the strict variables which will be appropriate with our main goal. For that reason, we will take different set of institutional variables in estimation of institutions and economic growth in long run and different variables in estimation of institutional response of world financial and economic crisis in CEE countries.

Hypotheses and research methodology

Subject of research within this project is the analysis of the institutional framework that is about the set of policies and institutions created by the government as endogenous factors that determine the potential and performances of the government. The fact that some countries of CEE have more or less undergone a process of political and economic turbulences which de facto had as result weakening of the institutional capacity is maybe spot where we should find the answer of the question of relatively stagnant pace of growth of some countries compared to others in the past period.

Set of the statistical-econometrics techniques by which we will measure quality of institutions will be directed towards evaluation of quality of institutions and policies of the government by the citizens itself. Research will be conducted with the application of econometrics techniques (OLS Panel regression, Correlation matrix and others), in order to determine the significance of the effects of institutions on the growth of the economy with application of the data for CEE countries during the transition and economic crisis period.

According to theoretical growth model that is analysed in this paper and principle component analysis that we use to identify the institutional quality, we propose the following econometric approaches.

$$\log GDP_{percapita} = \gamma_0 + \gamma_1 \log Institution + \gamma_2 \log Innovation + \gamma_3 \log Humacapital + \gamma_4 \log Bankcredit + \gamma_5 \log Investent + \gamma_6 \log Export + \varepsilon_i \quad (1)$$

$$Growthrate = \gamma_0 + \gamma_1 \log Institution + \gamma_2 \log Innovation + \gamma_3 \log Humacapital + \gamma_4 \log Bankcredit + \gamma_5 \log Investent + \gamma_6 \log Export + \varepsilon_i \quad (2)$$

One of the key challenges confronting us in this empirical study, having in mind the large number of government and institutional indicators, is how to combine this set of indicators into a one dimension with a clear-cut interpretation of quality of institutions and then analyze its influence on income per capita and economic growth. The most widely used approach to construct composite variables is to select relevant indicators and weigh them together using predetermined equal weights.

Results

The results from empirical study that we have partly done by using data for group of CEE countries in modified Panel econometric methods and OLS regression analysis show two controversial results. First, regression analysis which we use to estimate the first econometric model shows strong positive statistical correlation between quality of institutions and economic growth in time series of 1993-2007 for sample of CEE countries.

Table1. Economic growth and institutional quality: OLS estimation results

<i>Dependent variables:</i>	<i>OLS regression</i>	<i>Panel regression</i>	<i>OLS regression</i>	<i>Panel regression</i>	<i>Random-effects GLS regression</i>	<i>Fixed-effects (within) regression</i>
<i>Log GDP per capita</i>						
<i>Independent variables</i>						
Institutional quality	0.157*** (0.152)	0.192** (0.0795)	0.160** (0.009)			0.0130** (0.030)
Innovation capacity	0.642*** (0.175)					0.124** (0.236)
Human capital	2.672*** (0.0774)	1.368*** (0.502)	2.709** (0.000)			1.149** (0.061)
Export demand	0.178*** (0.0346)	0.142*** (0.0244)	0.240** (0.000)			0.534** (0.000)
Bank credit to private sector	0.227** (0.0911)	0.142*** (0.0635)	0.078** (0.125)			
Investment in physical capital		1.211*** (0.125)	0.709** (0.000)			0.523** (0.000)
Constant	-5.155** (2.762)	-4.369** (1.947)	-9.303081** (0.000)			-7.709** (0.000)
Observations	99	108	108			101
R-squared	0.696	0.800	0.715			0.474

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

The quality of institutions have positive effect and influence of economic performance during transition and post-transition period for all sample of countries, that means, those countries which have implemented growth-promoting institutions (high level of transition progress to market economy, successful results in integration process to EU and adaptation to EU-compatible institutions, high quality of

government policy making) have high level of GDP per capita and sustainable economic growth in long run.

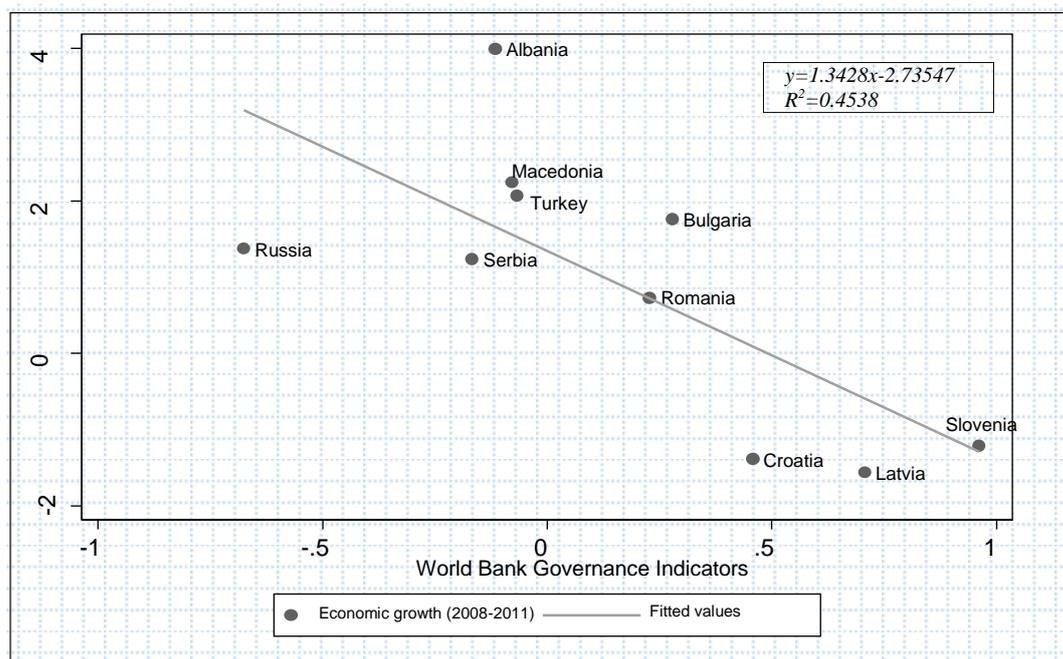


Figure1. Average economic growth and Quality of institutions (2008-2011)

On the other hand, our second regression model that we have estimated using different set of variables to represent the quality of institutions (WBGI, EBRD Index, EU integration), for the time period (2008-2011), shows negative correlation between institutions and economic growth. The logical explanation of the negative influence of institutional quality we should find out in fact that countries in CEE which have made the most significant institutional progress by integration to EU are more vulnerable to the crisis. This sensitivity and vulnerability to the crisis, primarily came from the higher degree of openness to the transmission effects through financial flows and falling export demand. But, at the same time they have better chance to overcome the crisis and better opportunities for recovering their economies, since private sector in those countries operate within a more supportive and market oriented institutional environment.¹

References

- Acemoglu, Daron (2005) "Modeling Inefficient Institutions." *Advances in Economic Theory*, Proceedings of World Congress 2005, edited by Richard Blundell, Whitney Newey, and Torsten Persson, Cambridge University Press.
- Acemoglu, Daron, Simon Johnson and James Robinson (2005a) "Institutions as a Fundamental Cause of Long-Run Growth." in Philippe Aghion and Steven Durlauf (editors) *Handbook of Economic Growth*, North Holland, Amsterdam, pp. 384-473.

¹ Will Bartlett and Ivana Prica (2011): *The variable impact of the global economic crisis in South East Europe*, London School of Economics.

- Beck, T. and Laeven, L. (2006). 'Institution Building and Growth in Transition Economies', *Journal of Economic Growth*, 11(2), pp. 157-186.
- EBRD (2009). *Transition Report 2009: Ten Years of Transition*, European Bank for Reconstruction and Development, London.
- Dollar, D., Kraay, A. (2003), Institutions, Trade, and Growth Revisiting the Evidence, The World Bank working paper
- IMF (2011). *World Economic Outlook, Chapter III: Building Institutions*, Washington, D.C. IMF (2011). *Directions of Trade Statistics*, Washington, D.C.
- Kaufmann, D., Kraay, A. and Mastruzzi, M. (2007), 'Governance Matters VI: Governance Indicators for 1996-2006', World Bank Policy Research Working Paper No. 4280, Washington D.C.
- Hall, Robert E., and Charles I. Jones, "Why Do Some Countries Produce So Much More Output Per Worker than Others?" *Quarterly Journal of Economics* pp. 83-116.
- La Porta, R., Shleifer, A. and Vishny, R. (1999). 'The Quality of Government', *Journal of Law, Economics and Organization*, 15(1), pp. 222-279.
- Scully, Gerald W., "The Institutional Framework and Economic Development." *Journal of Political Economy* 96, no. 3 (June 1988), pp. 652-662.
- Wooldridge, Jeffery. 2006. *Introductory Econometrics. A modern approach*. Third Edition. Thomson. Canada.

***Li, Yuanjing*¹: Vertical Structure and Forward Contract in Electricity Market**

Abstract: *The pro-competitive effects of forward contracts in electricity market cannot be regarded solely without examining the market structure. In this paper, we show that under retail price regulation, facing spot market demand uncertainty, risk averse electricity generators and retailer have less incentive to be involved in a fixed-price forward contract. Therefore, the effect of market power mitigation of forward contracts is countered by this vertical relationship between retailer and generators since it provides a natural hedging device to the retailer. Both analytical framework and numerical simulation illustrate that spot prices increase with the degree of vertical control of the retailer over generators' assets. Therefore, vertical control gives rise to generators to exercise market power in electricity spot market.*

Introduction

Electricity industry had been featured with integrated monopolies for many years and substantial market power from electricity generators. In general, a pivotal generator would have a strong incentive to raise wholesale prices largely above a competitive level when he faces an inelastic demand because electricity is a non-storable good. Therefore, competitive concerns have been particularly raised to competition authorities and governmental regulators in electricity market. Since the year of 90s, in order to create a competitive electricity market and mitigate pivotal generators' market power, encouraged by a general trend towards deregulation and separating generation from the former integrated electricity industry, electricity reform is underway in a number of countries. Following by the experience of privatization of national incumbent in the UK², liberalization and regulation of the electricity industry have been under hot discussion in both Europe and the US.

The overall electricity market reform can be diverged by two tendencies. The first tendency has been focused on reconstructing market structures. For example, dominant incumbent generators are being required to divest some of his generation plants to new entrants, or while a retail electricity market is being separated, retail regulation is being loosened in order to create vigorous downstream competition in electricity market. The second tendency is based on the design of market rules for electricity industry. For instance, competition authorities intend to mitigate market power in wholesale electricity market by compelling firms to fulfill forward contract obligation with retailers, or generators are obliged to trade electricity in a day ahead market by submitting a supply function³. Therefore, it seems natural that the global

¹ yuanjing.li@barcelonagse.eu, EconomiX – Université Paris Ouest la Défense Nanterre, France

² The Central Electricity Generating Board (CEGB) before market restructuring in England and Wales owned the vast majority of the electricity generation and the transmission system. The new structure was introduced on 31 March 1990 and CEGB's assets were transferred to four successor companies: the fossil-fuelled power stations were divided between National Power and PowerGen; his nuclear generation plants were transferred to Nuclear Electric; the transmission system was taken over by The National Grid Company. In addition, the business of the initial 12 Area Boards was transferred to the 12 Regional Electricity Companies (RECs). That signifies the whole electricity industry in England and Wales is open to competition.

³ From a theoretical point of view, Klemperer and Meyer (1989) characterize supply function equilibria (SFE) under demand uncertainty in which they show there exist multiple equilibria and the outcomes are bounded by

competitive effects could not be judged solely by creation of forward market or by separation between generation and retail. It is common recognition that an electricity industry, which satisfies competitive standard, includes a separate transmission and distribution, privately owned and competing generation with process and all or part of the retail market open to competition. For the fears of foreclosure and for the purpose of promoting entry, separating retailing and transmission has been advocated.

Almost all competition authorities had been cautious about the effects of forward contracts on market power exercised by pivotal generators in electricity market for two reasons: first, they considered that forward contracts could give rise to collusion among generators; second, forward contracts might impede entry. However along with liberalization process in 1990s, it has been proven beneficial from a welfare perspective that generators in the world's restructured electricity markets cover a large part of their sales in the contract market. The pro-competitive effects are firstly shown by Allaz and Vila (1993)¹. Forward contracts give Cournot players a first mover advantage but when they all do so, they end up in a prison dilemma, so that the wholesale price drops for a purely strategic reason, even without hedging motive. And especially when the number of forward trading periods becomes large, the output level approaches to the competitive benchmark. But we have to keep in mind that these effects cannot be stand-alone without scrutinizing the electricity market structure.

Aim of the project

Since the framework developed so far was not designed to study the interactions between forward contracts and vertical control in electricity market, my primary motivation in this paper is to focus on the competition puzzle not only resulted from market rules, but also resulted from market structure. The fact that a retailer takes the ownership or partial control over generators causes the interaction between forward market and market structure. In another word, this logic implies that for the same distribution of residual demand curves, the incentive to sign a forward contract and the amount of contracted capacity would be modified because of the existence of vertical control, which would also affect pivotal producers' ability to exercise market power.

In this paper, we consider that if retailers are vertically integrated (either fully or partially) with generators, the incentives for both generators and retailers to be involved in a forward trading procedure are diminished. Under retail price regulation, where retail prices are set by regulators, and accounting for spot market uncertainty and fixed-price forward contract, the optimal quantity of forward trading decreases with the degree of vertical control of retailers over generators, that raises wholesale market price and enhances generators' ability to exercise unilateral market power. The rationale is that a lower level of forward trading resulted in higher wholesale prices would be beneficial to both retailers and generators since a profit maximizing retailer is internalizing part of generators' profits which is decreasing with the level of forward sales. The control of retailers over generators to some extent provides a structural

the competitive outcome and Cournot outcome. Numerous applications of SFE can be found in Green and Newbery (1992), Green (1996), Rudkevich (1999), Baldick and Kahn (2000), and etc.

¹ See Allaz & Vila (1993), Cournot competition, forward markets and efficiency, Journal of Economic Theory, Vol.59, page 1-16

hedge when retailers are facing spot market uncertainty. Therefore less quantity of electricity under forward contract is needed when retailers have natural hedging devices.

Overall, these discussions have strong policy implications and raise the question of whether under explicit retail price regulation vertical integration affects forward market and enhances the ability of the combined entity to exercise unilateral market power and to what extent vertical control between generators and retailers interacts forward trading.

Hypotheses and Methodology

To study the interaction between vertical market structure and forward contracts, we adapt a standard fixed-price forward contract model, which incorporates the uncertainty in spot market and the variation of vertical control between generators and retailers. Some settings of this model are initially developed by Powell (2003) and Bushnell (2006). We model a duopoly competition upstream where two strategic generators, denoted by i and j , set quantities. The downstream retailer is a regulated monopoly, denoted by γ . The retailer is subject to strict retail price regulation. Generators and retailer meet in two wholesale markets in order to trade electricity: one is spot market where electricity is traded for short-term or immediate delivery; the other one is contract market where generators and retailer negotiate trading quantities with a pre-defined contract price. The only source of uncertainty in this model is the realized short-term spot price, P_s . We assume there is a random shock of electricity demand, ε , to the spot price with mean 0 and variance σ^2 , such that $P(Q) = P(Q) + \varepsilon$. Both generators and retailer are risk averse. Their utilities are modeled with a mean-variance form.

In terms of vertical structure, the essential setting of this model is that the retailer, as a regulated monopoly, could be to some extent vertically integrated with one of the generators. In many countries, vertically integrated electricity supply chain is still very common in spite of the prevailing market restructuring in electricity market. The parameter α denotes the degree of vertical control of retailer over one of the generators, varying from 0 to 1. It can also be interpreted as the percentage of shares held by retailing company. We assume that this vertical control is a passive one, which means that the retailer would have a share in generator's profit but would not be involved in generator's day-to-day bidding and contract trading activities in the wholesale market.

The timing of this game is as following: at $t = 1$, the two generators, identical with constant marginal cost c , are willing to sell electricity under forward contract to the retailer. One of the key features of this model is that the short-term price uncertainty is revealed after generators and retailer signing forward contract, which leaves generators behave strategically in spot market. We further assume that the volume of electricity traded under forward contract at equilibrium will only have an impact on spot price, but not on the variance of spot price. This implies that $\frac{\partial \sigma^2}{\partial f} = 0$. We consider demand shocks, exogenous from forward trading decision, are mainly caused by sudden climate or temperature as the source of spot market uncertainty, so that this assumption could be justified. At the second stage, generators face a downwards-sloping linear demand curve, $P(Q) = a - b(q_i + q_j)$, where q_i and q_j are

the quantities produced by generator i and j respectively. b is the slope of the demand curve. a is the intercept of the demand, which can be explained as net outputs of competitive fringes. At the time of $t = 2$, generators compete in spot market. At the time of $t = 3$, the retailer's profits are realized by serving final consumers.

Both retailer and generators are risk averse. Their utility is modeled with a mean-variance utility form:

$$U(\pi^i) = E[\pi^i] - \frac{\lambda^i}{2} Var[\pi^i]$$

Where $i = G$ or $i = \gamma$, denoting generators or retailer, π^i is the uncertain profit, and λ^i is a coefficient of absolute risk aversion.

This framework could be solved analytically. Generators' problem could be solved by backward induction and the equilibrium is given by equalizing the forward premium deducting from the supply side and demand side in electricity spot market. A numerical simulation follows the analytical model by using empirical values and real market data.

Results

We have shown that under retail price regulation, if the retailer is vertically integrated with generators, the incentives for both generators and retailers to be involved in a forward trading procedure are diminished. When retailers face spot price uncertainty, the optimal quantity of electricity trading under a fixed-price forward contract decreases with the degree of vertical control of retailers over generators, therefore raises wholesale market prices and enhances generators' ability to exercise unilateral market power. That is because the vertical relationship between the retailer and generators provides a natural device to hedge spot market risk for a risk-averse retailer. As generators and retailer has less incentive to commit in forward trading, the benefits of forward contracts as a device to mitigate market power will be undermined. Both analytical solution and numerical simulation show that spot prices increase with the degree of vertical control of the retailer over generators' assets. Policy implications call more scrutiny for competition authorities when assessing mergers between electricity generation firms and retailing firms. Also under the circumstance of lack of retail competition, the vertical structure of electricity market becomes crucial. A policy to oblige retailers and generators to trade a certain amount of electricity might be needed.

References

- B. Allaz and J-L Vila (1993), "Cournot Competition, Forward Markets and Efficiency", *Journal of Economic Theory*, Vol.59, pp. 1-16.
- J. Bushnell (2007), "Oligopoly equilibria in electricity contract markets", *Journal of Regulatory Economics* Vol.32, pp.225-245.
- A. Powell (1993), "Trading Forward in an Imperfect Market: The Case of Electricity in Britain", *The Economic Journal*, Vol.103, pp.444-453.
- R. Green (2004), "Retail Competition and Electricity Contracts", *Cambridge Working Papers in Economics*, No.0406.
- Klemperer P. D. and M. A. Meyer (1989), "Supply Function Equilibria in Oligopoly under Uncertainty", *Econometrica*, Vol.57, pp.1243-77.
- P. Manhec and F. Salanié (2004), "Softening Competition through Forward Trading",

- Journal of Economic Theory*, Vol. 116, pp. 282-293.
- C. Le Coq and O. Henrik (2006), "Do Forward Markets Enhance Competition?: Experimental Evidence", *Journal of Economic Behavior & Organization*, Vol.61(3), pp. 415-431.
- J. Brandts and P. Pezaris-Christou and A. Schram (2008), "Competition with Forward Contracts: A Laboratory Analysis Motivated by Electricity Market Design", *Economic Journal, Royal Economic Society*, Vol. 118(525), pp. 192-214.
- F.A. Wolak (2000), "An Empirical Analysis of the Impact of Hedge Contracts on Bidding Behavior in a Competitive Contract Market", *International Economic Journal*, Vol. 14, No. 2, pp. 1-39.
- F.A. Wolak (2007), "Quantifying the Supply-Side Benefits from Forward Contracting in Wholesale Electricity Markets", *Journal of Applied Econometrics*, Vol. 22, pp. 1179-1209.
- R.J. Green and D.M. Newbery (1992), "Competition in the British Electricity Spot Market", *Journal of Political Economy*, Vol. 100, No. 5, pp. 929-953.
- F. Bolle (1992), "Supply Function Equilibria and the Danger of Tacit Collusion: the Case of Spot Markets for Electricity", *Energy Economics*, Vol. 14, pp. 94-102.
- O. Hart and J. Tirole (1990), "Vertical Integration and Market Foreclosure", *Brookings Papers on Economic Activity, Microeconomics*, 205-285.
- P. Rey and J. Tirole (2007), "A primer on Foreclosure", *Handbook of Industrial Organization*, Vol. 3, North Holland: Amsterdam.
- O' Brien, D.P. and S. Salop (2000), "Competitive Effects of Partial Ownership: Financial Interest and Corporate Control", *Antitrust Law Journal*.
- Joshua S. Gans and Frank A. Wolak (2007), "A Comparison of Ex Ante versus Ex Post Vertical Market Power: Evidence from the Electricity Supply Industry" (on web-site)
- M. Bonacina and A. Creti (2010), "A Note on Forward Contracts in Leader-Follower Games", *Economic Bulletin*, Vol. 30, pp. 1539-1547.
- R. Green (2002), "Retail Competition and Electricity Contracts", *Royal Economic Society Annual Conference, Royal Economic Society*.
- Erin T. Mansur (2003), "Vertical Integration in Restructured Electricity Markets: Measuring Market Efficiency and Firm Conduct", *Yale School of Management Working Papers*, No. ysm430.

Matvyeyev, Yevheniy¹: Self-organization of economic actors in case of state institutions dysfunction.

***Abstract:** In case of state institutions dysfunction the economic actors are looking for alternative ways of doing business and developing non-governmental institutional structure. The non-governmental institutional structure includes mechanisms of self-organization, designed to solve some market failures. This research is aimed to prepare a methodological approach to identifying mechanisms of economic actors' self-organization in case of state institutions dysfunction and to identify factors that influence the formation and development of mechanisms of economic actors' self-organization. The influence of religious and linguistic homogeneity on the level and growth of condominium (one of the form of self-organization) quantity was not detected. The influence of the political views homogeneity on the level and growth of condominium quantity was confirmed. Further research should be focused on finding other factors, which influence the level and growth of condominium and other forms of self-organization.*

Introduction

The global financial crisis, which negative impact on the economy of Ukraine was one of the strongest, disclosed all the imperfections of national mechanisms for governing of the national economy. This process was accompanied by the spread trends acquisitive attitude towards the state and the lack of mechanisms to promote long-term investment in the real sector, particularly in infrastructure that slowly undermines future development.

Insecurity of property rights, nontransparent decision-making procedures, rent-seeking behavior of officials, lock-in effects, institution dysfunctions and other institutional problems of the national economy make difficulties for the development of the domestic market and domestic production.

However, despite all these problems, the economic actors themselves are looking for alternative ways of doing business and developing non-governmental institutional structure that more effectively perform their functions compared to the state institutions.

Aim of the project

Aim of the project is to prepare a methodological approach to identifying mechanisms of economic actors' self-organization in case of state institutions dysfunction and to identify factors that influence the formation and development of mechanisms of economic actors' self-organization.

Hypotheses and methodology

Economic actors in case of state institutions dysfunction can create and develop the mechanisms of self-organization, designed to solve some market failures.

Self-organization mechanisms like other collective action mechanisms in most cases are organized with usage of public choice instruments. According to M. Olson (1995), smallness and homogeneity may facilitate formation and development of

¹ eumatv@gmail.com, Institute of Regional Research of National Academy of Sciences of Ukraine, Lviv, Ukraine

mechanisms of economic actors' self-organization. Accordingly many kinds of homogeneity of the community (political, religious and linguistic etc.) can influence the level and growth of self-organization.

Other factors like education level, previous experience and so on can also be important for formation and development of mechanisms of economic actors' self-organization.

Results

In the previous research (Matvyeyev, 2012) the influence of political, religious and linguistic homogeneity of the Ukrainian community on the level and growth of self-organization in condominium form was analyzed. The level of homogeneity of regional community was calculated according to Herfindahl–Hirschman Index. The influences were tested directly and according to conditional β -convergence formula (Barro R.J. and Sala-i-Martin X., 1991).

The influence of religious and linguistic homogeneity on the level and growth of condominium quantity was not detected. The influence of the political views homogeneity on the level and growth of condominium quantity was confirmed (Figure 1).

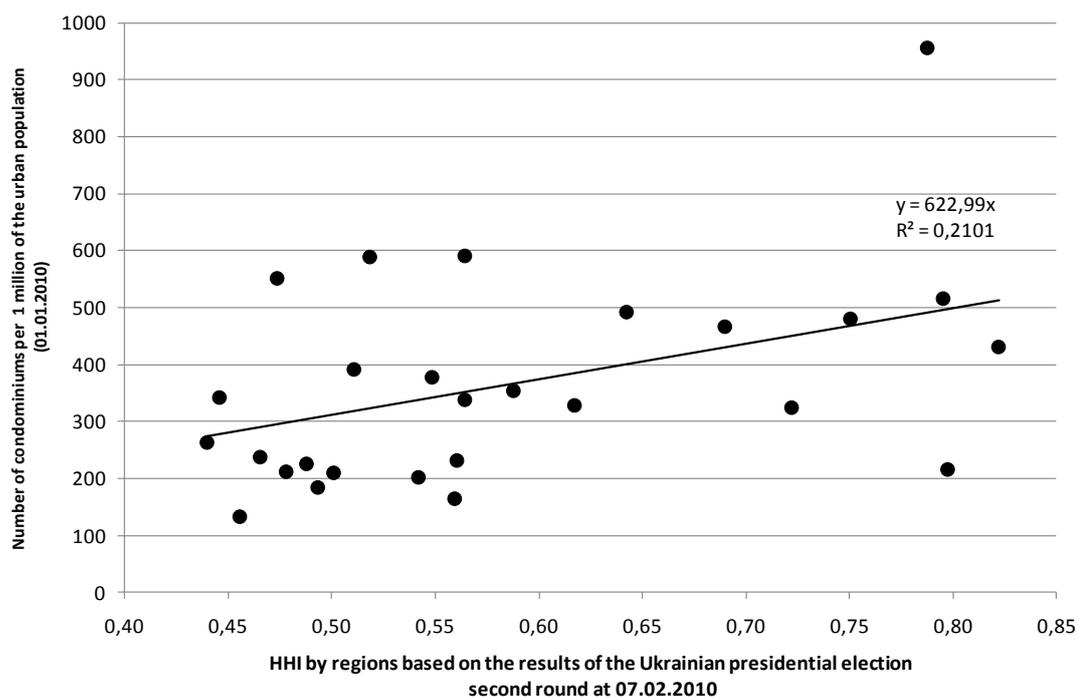


Figure 1. Influence of the political views homogeneity on the number of condominium

In particular, the equations of conditional β -convergence for the period from 2004 to 2011 are the following ($r^2 = 0,3832$ for the dependence on $P_{2004}HHI$ and $r^2 = 0,3844$ for the dependence on $P_{2010}HHI$, all parameters of the equations are statistically significant at 5% level):

$$\frac{\ln\left(\frac{C_{2011}}{C_{2004}}\right)}{2011-2004} = 0,4349 - 0,07213 \times \ln(C_{2004}) + 0,1504 \times P_{2004}HHI$$

$$\frac{\ln\left(\frac{C_{2011}}{C_{2004}}\right)}{2011-2004} = 0,4318 - 0,07292 \times \ln(C_{2004}) + 0,1815 \times P_{2010}HHI$$

The coefficients of correlation and determination were not close to 1. Further research should be focused on finding other factors, which influence the level and growth of self-organization.

References

- Barro R.J., Sala-i-Martin X. Convergence across States and Regions // Brookings Papers on Economic Activity, Economic Studies Program / The Brookings Institution. – 1991. – vol. 22(1). – p. 107-182.
- Olson, Mancur. The Devolution of the Nordic and Teutonic Economies // American Economic Review, Papers and Proceedings, May (1995).
- Olson, Mancur. The Logic of Collective Action: Public Goods and the Theory of Groups (Revised edition ed.). Harvard University Press. – 1971.
- Відомості про голосування за кандидата по регіонах України [Електронний ресурс] Режим доступу: <http://www.cvk.gov.ua/pls/vp2010/wp302?PT001F01=701&pt021f01=11>
- Відомості про голосування за кандидата по регіонах України [Електронний ресурс] Режим доступу: <http://www.cvk.gov.ua/pls/vp2010/wp302?PT001F01=701&pt021f01=21>
- Всеукраїнський перепис населення 2001 | Результати | Основні підсумки | Мовний склад населення [Електронний ресурс] Режим доступу: <http://2001.ukrcensus.gov.ua/results/general/language/>
- Звіт про забезпеченість церков і релігійних організацій України культовими будівлями та приміщеннями, пристосованими під молитовні, станом на 01.01.2010 р. [Електронний ресурс] Режим доступу: http://www.irs.in.ua/files/statistic/2010.01.01_zvit_f2.doc
- Звіт про мережу церков і релігійних організацій в Україні станом на 01.01.2010 р. [Електронний ресурс] Режим доступу: http://www.irs.in.ua/files/statistic/2010.01.01_zvit_f1.doc
- Матвеев Є.Е. Вплив однорідності спільноти на рівень самоорганізації населення // Економічний аналіз : зб. наук. праць / Тернопільський національний економічний університет; редкол.: С. І. Шкарабан (голов. ред.) та ін. – Тернопіль : Видавничо-поліграфічний центр Тернопільського національного економічного університету “Економічна думка”, 2012. – Вип. 10. – Частина 1. – 433 с. – С. 257-261.
- Підсумки голосування. Підтримка лідерів по регіонах [Електронний ресурс] Режим доступу: <http://www.cvk.gov.ua/pls/vp2004/WP313?PT001F01=502>
- Статистичний збірник „Регіони України” за 2009 рік / Державний комітет статистики України; за ред. О. Г. Осауленка. Ч. II. – Київ, 2009. – 758 с.
- Статистичний збірник „Регіони України” за 2011 рік / Державний комітет статистики України; за ред. О. Г. Осауленка. Ч. II. – Київ, 2011. – 783 с.
- Чисельність населення та середня чисельність за період року [Електронний ресурс] Режим доступу: http://ukrstat.gov.ua/operativ/operativ2011/ds/kn/kn_u/kn_arh11.html

Morozov, Ilya¹: Oligopolistic Markets and Price Obfuscation

Abstract: *Shops simultaneously set prices in a market of homogeneous good where consumers search for price information. A certain share of sellers engage in price obfuscation, so consumers should incur additional costs to learn their prices. In the equilibrium obfuscating shops organize occasional discounts to attract informed consumers, whereas their non-obfuscating rivals charge higher prices and sell mainly to consumers with positive search costs. Such demarcation makes profits of all market participants higher than in a symmetric fully-transparent equilibrium. This, however, can only be attainable if search is biased, and consumers pose higher probability on first visiting obfuscating shops. If search is purely random, no price obfuscation can arise.*

Introduction

Remember the last time you were trying to find a proper place to have a lunch with your friend or business partner, or have a holiday dinner with your family. You may have noticed that cafes and restaurants often do not hurry to inform you about their prices before you open their door. Only rarely some of them post up a menu near the entrance or announce their pricing policy on the website. More often, you have to go in and ask for a menu. This makes you spend much more time to learn their prices than it takes to have a glance at the menu while passing by.

The reason why many firms do not disclose information about their prices seems to be much deeper than a simple cost motive. In many cases, costs of publishing a price list are so miniscule, that we cannot treat them as a crucial determinant of price transparency. If so, what is the real rationale for the firms hiding important information from consumers?

Aim of the project

In this paper we argue that hiding one's price is a strategic move. We consider a model of the oligopolistic market with N_1 non-obfuscating and N_2 obfuscating shops selling a homogeneous good. Consumers are heterogeneous in terms of search costs so that a certain share of them may obtain a full list of prices without any costs, while others have to conduct costly search. It is non-optimal for firms to play pure strategies and set unique prices, as they have to balance their pricing strategies between two groups of consumers. So, in the equilibrium shops adopt mixed strategies, which produce price dispersion as in some previous papers (Varian, 1980; Stahl, 1989; Baye and Morgan, 2001; Janssen and Moraga-Gonzalez, 2004).

We show that in this framework price obfuscation is a profitable strategy. Coupled with lower prices in the 'non-transparent' shops, price obscuring can make competition in the market less intense. Competitors can then demarcate the market such that non-obfuscating shops will sell more to consumers with positive search costs, and obfuscating – to informed customers. We show that such demarcation not only boosts profits of obfuscating shops, but also increases profits of all other market participants. So, in our model maintenance of non-zero level of obfuscation in the market is both individually and collectively rational.

¹ morozov.hse@gmail.com, International Laboratory for Institutional Analysis of Economic Reforms National Research University Higher School of Economics, Moscow, Russia

Hypotheses and methodology

We consider a model with two types of shops functioning in the market, which will be referred to as *obfuscating* and *non-obfuscating* shops. Non-obfuscating shops disclose all relevant information about their prices, so it is much easier to search there. Consumers incur exogenous search costs c_1 and c_2 ($c_1 < c_2$) correspondingly when searching in non-obfuscating and obfuscating shops. There are totally N_1 non-obfuscating and N_2 obfuscating shops (where $N_1, N_2 \geq 2$), which have zero marginal costs regardless of the type. Each store in the first stage of the two-stage game maximizes his profits and sets an optimal price.

In the second stage of the game consumers employ an optimal search strategy to find one unit of a homogeneous good. They choose a consequence of search, stopping rule and an optimal strategy for the case of indifference between visiting various shops. When a consumer is indifferent, let $\alpha \in [0; 1]$ be the endogenous probability that he will visit a non-obfuscating, and $(1 - \alpha)$ - an obfuscating one. If shops, which consumer is indifferent about, are all obfuscating (or all non-obfuscating), he chooses one of them randomly. Every consumer conducts the optimal search and buys a good at the shop of his choice. We assume that first sample is costly, but recall is always free. That is, if in the regular shop price turns out to be too high, a consumer can return back to the previously visited shops without incurring any costs.

There is a continuum of consumers divided into two groups. The first group, that composes a share $\mu \in [0; 1]$ of the continuum, consists of consumers with positive search costs - *searchers*. Searchers spend c_i ($i = 1, 2$) every time they switch to another shop. The remaining $(1 - \mu)$ share of consumers are called *shoppers*. Wherever they search, shoppers always have zero search costs. They can be viewed as a group of informed customers possessing inside information about prices, as consumers who use price comparison websites, or as just people who enjoy shopping time and do not consider time spent for shopping as wasted. Shops do not observe consumer types and cannot discriminate between them.

Results

Our results suggest that considering such generalized framework yields interesting new insights into the oligopolistic pricing. Most interestingly, price obfuscation can be used to support low, but not monopolistically high prices as it is often argued. Coupled with lower prices in the obfuscating shops, price obscuring can make competition in the market less intense. The market can then be demarcated in a fashion that boosts profits of both obfuscating and non-obfuscating sellers. We have shown that price obscuring can only exist when search is biased and consumers pose higher probability on first visiting obfuscating shops. This fact may explain, for instance, why brick and mortar shops (e.g. cafes, restaurants, cinemas, etc.) do not hurry to publicly announce their prices. Our model also predicts that, as online shopping gain popularity, this unwillingness to increase price transparency will be competed away from the market, and search costs will fall down.

The paper findings can also provide some recommendations for potential government interventions. The results demonstrate that increasing of the informedness of concrete consumers may decrease, but not increase social welfare. Although informed consumers eventually become better-off, the remaining part of

consumers ends up searching obfuscating firms more often. If the latter effect of increased search costs overweighs the positive effect on informed consumers, consumer surplus and social welfare may both decrease. In contrast to this, the decrease of the price obfuscation intensity always boosts consumer surplus and social welfare. So, any government interventions aimed to inform distinct groups of customers may turn out to be counterproductive. Instead, policymakers should struggle to influence the general level of search costs. In many markets this can be achieved, for example, by subsidizing online sellers or by contributing to the development of Price Comparison Websites and other price aggregation mechanisms.

Finally, in the light of increasing popularity of online shopping, it could be interesting to analyze this area in more detail. Nowadays traditional shops try to combine both online and offline trading in their business. It means that despite their strict rivals, brick and mortar shops also have to compete with their own online stores. This may alter the system of incentives and produce completely different pricing strategies, so it is interesting to consider a model, in which some firms simultaneously have obfuscating and non-obfuscating departments. Also, in our model all consumers are risk-neutral, and any changes in price distribution simply lead to a redistribution of wealth from firms to consumers and vice versa. When, on the contrary, some agents are risk-averse, they may wish to visit shops with lower price dispersion. And if in the equilibrium obfuscating shops charge low prices with comparatively low dispersion, then purchasing in obfuscating shops can provide risk-averse consumers a certain outcome, which will make them better-off. Incorporating consumer heterogeneity in terms of attitude to risk, therefore, could be another intriguing direction of further research.

References

- Baye, M. R., Morgan, J. (2001). Information gatekeepers on the internet and the competitiveness of homogeneous product markets. *American Economic Review*, 454-474.
- Janssen, M. C., Moraga-Gonzalez, J. L. (2004). Strategic pricing, consumer search and the number of firms. *The Review of Economic Studies*, 71(4), 1089-1118.
- Stahl, D. O. (1989). Oligopolistic pricing with sequential consumer search. *The American Economic Review*, 700-712.
- Varian, H. R. (1980). A model of sales. *The American Economic Review*, 70(4), 651-659.

Nelidov, Vadim¹: Game Theoretic Approach to Game Addiction

Abstract: *Economists pay a lot of attention to the theory of rational addiction, but there is still little formal evidence whether there is an impact of the experience quality and skill/challenge balance within the activity on the addiction. This paper combines the psychological Flow theory and the economic theory of present-biased preferences to explain the phenomenon of game addiction. Four different player types are distinguished to elucidate which type is more subject to get addicted. The formal model presented in the paper predicts that in some cases players' present-biasedness may preserve them from playing too much. On the contrary, time-consistent players would always play more as they fully understand the positive effect of playing now on the future utility through improving skills. In addition, the paper shows that ceteris paribus a player who improve skills slower than the game requires on average would play and enjoy the game more than a player who do that faster because of extra challenge. Lastly, we point out that the cost of playing may also seriously affect gaming behavior.*

Introduction

Computer and video gaming is gaining popularity every year. According to Entertainment Software Association consumers spend approximately 25 billion dollars on game industry a year, and annual growth is still tremendous (Entertainment Software Association, 2008). The game industry is comparable to tobacco, which confirms its importance and growing influence on people's lives. The same research indicates that 49% of U.S. households own a game console, with an average game player age of 30 years. But still, more than a third of gamers are under 18 years. An increasing number of cases in which gamers spend incredibly many hours playing and ignored many of sensible life needs is one more reason for the researchers to pay particular attention to this problem.

Currently the phenomenon of game addiction is quite controversial and is not formally considered as a formal diagnostic disorder (Lemmens at al. 2009). Still it is not included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-V). And heated debates on this controversial topic are still continuing. Nevertheless, the possible consequences of excessive gaming may be rather dramatic. The most commonly assumed problem is time loss, which usually result in missed appointments, conflicts with others and a feeling of guilt and wasted time. Even though sometimes players derive pleasure from losing the track of time, get a relaxing experience and feel a temporary relief from the stress of everyday life, the admitted fact is that time losses are hard to be controlled. That is why many players use special techniques and commitments to control their time (Wood, 2008). Furthermore, excessive gaming may cause increased social and emotional problems experienced by the players. Researchers tend to observe increased loneliness, decreased life satisfaction, decreased social competence, increased aggression, negative self-esteem, depressive mood, and social anxiety in the lives of pathological gamers (Van Rooij A. J. et al. 2011, Lemmens at al. 2009).

¹ vaddlo@list.ru, National Research University Higher School of Economics, Moscow

Aim of the project

Many authors (both psychologists and economics) try to explain the phenomenon of addiction and give different recommendations. Still, game addiction is very rarely discussed by economists (e.g. Chow, 2011) and even in this rare papers important psychological aspects are mostly not taken into account. On the other hand, psychologists do not usually use the methods of formal analysis (popular among economists) which could have done their policy recommendations more legitimate. Under these circumstances the main aim of this paper is to describe game addiction by combining both theory determined by psychologists and the formal methods commonly used by economists.

Firstly, we use the psychological theory of Flow which describes the relation between one's addiction strength and his or her skills and challenge in this activity. This allows us to define how one's ability to improve skills in a game increases or decreases the risk of getting addicted to the game. Secondly, we use the economic theory of presently preferences and hyperbolic discounting to account for one's dynamics of game playing. This allows us to compare gamers' behavior in periods with different costs of playing and find out if there is an impact of one's present biasedness on the risk of getting addicted to the game. We expect that the built theoretical framework would be more comprehensive and more consistent with the reality.

Hypotheses and methodology

We use the predictions from psychological studies, especially the Flow theory, to build a theoretic framework by using traditional economic methods (modeling). The main psychological predictions are the following. First, a gamer with high skills and high challenge in a game will enjoy the same amount of playing more than a gamer with low skills and challenge. Second, a mismatch of one's skills and challenge does not necessarily lead to discontinuance of the game. Third, a gamer with a low mismatch of skills and challenge will enjoy the same amount of playing more than a gamer with a high mismatch (other things being equal).

In this paper a formal theory of presently preferences and hyperbolic discounting is used as the main instrument. But we contribute by adding the role of ingame experience and skill/challenge balance into the model, which evidentially has never been done before. As a result a simple game-theoretic model is set up: a player faces a finite dynamic optimization problem of 3 periods, from $t = 1$ to $t = 3$. At each period she decides how much time to allocate to a game, assuming that playing brings enjoyment to the player. But the more she plays, the less time remains available for other important activities (studying, exercising, working), which means that playing a game is costly. Moreover, we suppose that these costs increase in a non-linear manner. For instance, playing two hours is more than twice as costly as playing an hour. Another important aspect of the model is the self-control problem. The player wants to get immediate pleasure from playing now and postpone other less pleasant activities to the future (other periods). But as that future period comes, the player regrets playing so much in the past and not working. We also assume that gaming is "addictive", playing in the past indeed increases playing in the future, but not by itself. Player's capital is the skill she gets while playing, and we assume (relying on the psychological evidence mentioned above) that higher skills lead to more pleasure from

playing (if the level of challenge is high enough). The following utility function is used to predict players' behavior:

$$U_t(a_t|\beta) = u_t(a_t) - C_t(a_t) + \beta \left[\sum_{T=t+1}^{T=3} ((u_T(a_T) - C_T(a_T))) \right]$$

where U_t is the utility function in period t , a_t is the time spent playing in period t , $u_t(a_t)$ is the instantaneous utility function dependent on skill/challenge balance, $C_t(a_t)$ is the costs of playing in period t , and $\beta \in [0;1]$ is a parameter used to capture the essence of hyperbolic discounting.

Results

We provided a new theoretical explanation by combining both the advantages of psychological and economic theories. It seems like this is the first attempt to include the role of skill-challenge balance into a formal economic framework of the theory of addiction with presently preferences. This expansion allowed us to determine the role of one's ability to improve gaming skills on the addiction. We showed that a high disbalance of one's skills and the ingame challenge has a negative influence on the utility from the game, the time spent playing and the addictiveness of the gaming process. Also we pointed out that ceteris paribus playing a difficult game (the one which demands a higher ability to improve skills) is more addictive. The degree of presently preferences is also very important: we showed that a rational player may play much longer than a time-inconsistent one as a result of a better understanding of the way an addiction works. Lastly, we indicated the importance of the costs of playing, such as a shortfall in getting knowledge before an exam. If the costs of playing increase over time, this can actually prevent a person from playing for a long time. While constant costs of playing will always lead to a situation in which the player plays more and more, and the addiction gets stronger.

References

- Chen, Jenova. "Flow in games (and everything else)." *Communications of the ACM* 50.4 (2007): 31-34.
- Chow, Yan Chi Vinci. *Do Online Game Players Overplay?*. Diss. University of California, 2011.
- Csikszentmihalyi, Mihaly, and Judith LeFevre. "Optimal experience in work and leisure." *Journal of personality and social psychology* 56.5 (1989): 815-822.
- Csikszentmihalyi, Mihaly. "Flow: The psychology of optimal performance." (1990).
- Entertainment Software Association. (2008). *Essential facts about the computer and video game industry*. Retrieved November, 1, 2008.
- Gruber, Jonathan, and Botond Koszegi. "Is addiction "rational"? Theory and evidence." *The Quarterly Journal of Economics* 116.4 (2001): 1261-1303.
- Laibson, David I. *Hyperbolic discounting and consumption*. Diss. Massachusetts Institute of Technology, 1994.
- Lee, Doohwang, and Robert LaRose. "A socio-cognitive model of video game usage." *Journal of Broadcasting & Electronic Media* 51.4 (2007): 632-650.
- Lemmens, Jeroen S., Patti M. Valkenburg, and Jochen Peter. "Development and validation of a game addiction scale for adolescents." *Media Psychology* 12.1 (2009): 77-95.

- Loewenstein, George. "A visceral account of addiction." *Getting hooked: Rationality and addiction* (1999): 235-264.
- Moneta, Giovanni B. "On the measurement and conceptualization of flow." *Advances in Flow Research*. Springer New York, 2012. 23-50.
- O'Donoghue, Ted and Rabin, Matthew. "Addiction and Present-Biased Preferences." Unpublished Paper, 2000.
- Rau, Pei-Luen Patrick, Shu-Yun Peng, and Chin-Chow Yang. "Time distortion for expert and novice online game players." *CyberPsychology & Behavior* 9.4 (2006): 396-403.
- Van Rooij, Antonius J., et al. "Online video game addiction: identification of addicted adolescent gamers." *Addiction* 106.1 (2011): 205-212.
- Wood, Richard TA. "Problems with the concept of video game "addiction": Some case study examples." *International Journal of Mental Health and Addiction* 6.2 (2008): 169-178.

Osabuohien, Evans S.¹: Foreign Land Acquisitions in Nigeria: Forces from Above and Voices from Below

Abstract: *This study investigates the ‘whys’ and implications of Foreign Land Acquisitions-FLAs in selected communities in States of Nigeria in relation to the characteristics of households and communities. It explores some pertinent issues associated with FLAs such as: the nature and negotiation process; mode of compensation; households’ coping strategies in the selected communities. Quantitative analyses using two approaches is engaged. Firstly, land deals and communities in the States of Nigeria where FLAs occur is examined based on data from Land Matrix. The second aspect engages data from the survey conducted by the World Bank in collaboration with Nigeria’s National Bureau of Statistics covering over 5,000 households across the 36 States of Nigeria. A cursory examination shows that Nigeria is one of the Africa countries that are mostly targeted by foreign land investors. This effort is deemed essential with a view to providing further empirical evidence on FLAs, to understand the impact of local institutional arrangement, investigate the mode of compensation as well as households’ coping strategies and impacts*

Introduction and Research Problem

The study is motivated by the increasing large scale Foreign Land Acquisitions (FLAs) in developing countries particularly in Africa. The occurrence of FLAs in African countries has been attributed to the supposedly availability of land. For example, land in Zambia that happens to be the most expensive in Sub-Saharan Africa (SSA) is just about one-eighth (or 12.5 per cent) the price of similar land in Argentina or Brazil, and less than one-twentieth (or 5 per cent) of that in Germany (Oxfam International, 2011; Osabuohien, Ogundipe and Efobi, 2011).

Out of the 1217 publicly reported deals, 62% of the projects covering a total area of 56.2 million hectares are in Africa (Anseeuw, *et al*, 2012). Though not all foreign land deals lead to FLAs; however, both terms are used almost synonymously (Oxfam International, 2011). Some refer to FLAs as land grabbing usually to depict the adverse implications (Brüntrup, 2011). FIAN (2010:8) defined it as the “taking possession of and/or controlling a scale of land for commercial/industrial agricultural production which is disproportionate in size in comparison to the average land holding in the region”.

Some research efforts have been made to investigate the determinants of FLAs at the global level. These studies have identified a number of determinants/drivers of FLAs including: global financial/economic crises, bio-fuel policies, rising food prices, sales of certificate for reducing carbon emissions and so on (Cotula et al, 2009; Arezki et al, 2011; Brüntrup, 2011; Deininger et al, 2011; Anseeuw et al., 2012). However, little is known regarding the characteristics of target communities in a given country. Eventually, the characteristics of the target localities, for example the availability of fertile land, current land use patterns and population densities, will shape the socio-economic outcomes of FLAs. This can result to “land grabs” with negative implications

¹pecos4eva@gmail.com, evans.osabuohien@giga-hamburg.de, stephen.osabuohien@covenantuniversity.edu.ng, German Institute of Global and Area Studies, Hamburg, Germany, and Dept. of Economics & Development Studies, Covenant University, Ogun State, Nigeria.

for affected local populations or positive impact on the socio-economic development of the host communities (Nolte, 2013). Prodded with this observed gap, this study aims at providing evidence on the determinants of FLAs in Nigeria, an important receptor of FLAs. It compares and contrasts the localities where FLAs occurs. Some of the main specific hypotheses to be tested are: FLAs target communities with quality/poor infrastructures and/or strong/weak local institutions. This presupposes that: whether FLAs is a vital tool for socio-economic development or *land grab* may depend on the host communities, on one hand, and the kind of investment/type of investors involved, on the other.

Aim/ Research Questions

The key research questions include:

- i. How does the FLAs in the selected communities (Local Government Areas- LGAs) in Nigeria differ?
- ii. How does institutional arrangement in these LGAs influence such FLAs?
- iii. In what ways does the quality of infrastructure in the communities interact with FLAs?

Analytical Framework (FLAs-Institutions Nexus)

The nature of institutional framework in a country can create choices that can affect transactions and production costs as it creates policies in an economy that will be relevant for securing property rights and general shaping of relationships among economic agents (Acemoglu and Johnson, 2005; Adewole and Osabuohien, 2007; **Anell, Freytag and Winkler, 2012**; Chong and Huet, 2009; Mastern, 2009; North, 1991; Nye, 2011; Osabuohien and Efobi, 2013; Williamson, 2000; etc). Relating this to the issue of FLAs, land governance/deals will depend to a considerable extent, on the prevailing institutional quality in a country. This is based on the arguments from La Porta *et al*, (1999), Natal (2001), Masten (2009) and Pitman (2010) that economic activities engaged by individuals /firms can be determined by some social and legal relationships existing among them.

The nature of the negotiation processes and the level of consultations in land deals will be determined, to a large extent, by *the powers that be* (those in authority in the host countries), which can be in alliance with the local community leaders. Sometimes, the stance to be eventually chosen in the negotiation process will be influenced by the extent of economic rents that can the prospective land investors anticipate. It is not very surprising that land investors target mainly countries that have a weak institutional framework to maximise their returns on investments (Cotula *et al.*, 2011; Deininger *et al.*, 2011). It is in this light that Nolte (2013) using evidence from Zambia found that FLAs can exhibit different aspects of *land grabs* and *development opportunities*, depending on how the actors (host communities and investors) *play the game*.

training promised by investors during negotiations to local communities are hardly meant when they start operations (FIAN, 2010).

Methodology

The study engages quantitative data using two approaches/sources. The first approach examines the land deals across the LGAs in the States of Nigeria where FLAs occur based on data from Land Matrix¹. The second aspect employs data from the survey conducted by the World Bank in collaboration with Nigeria's National Bureau of Statistics (GHSWBN). The Land Matrix dataset documents potential and enacted land transactions/deals across the world. The inclusion of a deal in the database means that such deal has a transfer of rights to use, control or own a piece of land through sale, lease or concession. It entail the conversion of land from local community use or provision of important ecosystem service to commercial production and involves a foreign investor including joint ventures of foreign investors with domestic firms/individuals (Anseeuw, *et al* 2012).

The dataset from GHSWBN covers about 5,054 households across the 36 States in Nigeria including Federal Capital Territory-Abuja. It entails agricultural activities (e.g. pre-planting, planting and post-planting as well as land holdings), households' characteristics (e.g. socio-demographic, education, employment/income activities) and communities features (e.g. facilities and level of development), among others. This will help in carrying out comparative analyses on the adjustment strategies across the selected communities based on empirical analyses across level of development in the communities (urban/semi-urban and rural), household heads (male/female), among others.

Expected Results and Contributions

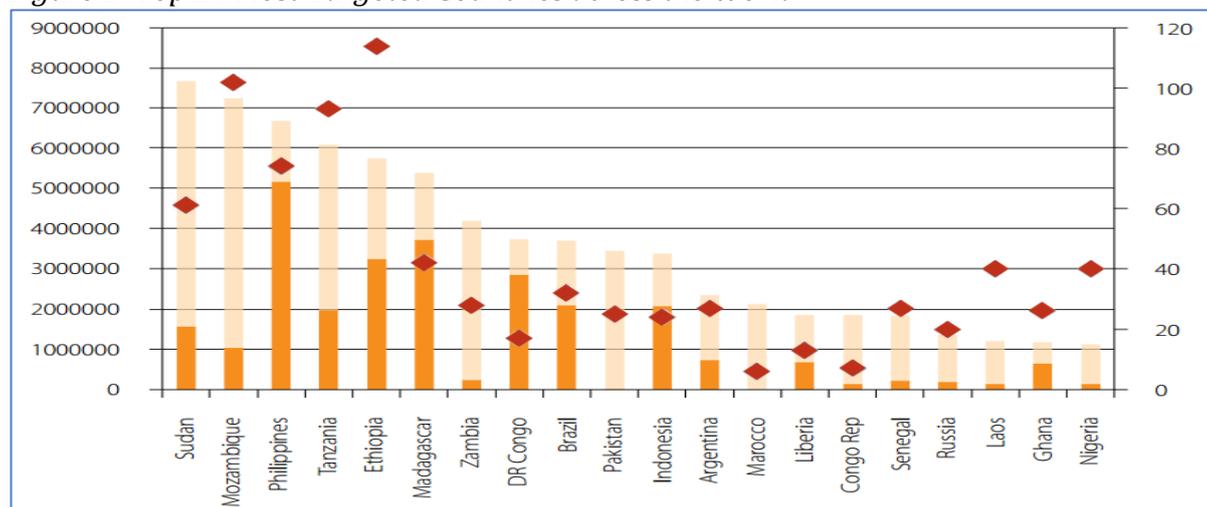
A cursory look at the Land Matrix data shows that Nigeria is one of the Africa countries that are targeted by foreign land investors. In fact Nigeria is among the top 20 most targeted countries globally (See Figure 2). Other countries like Ethiopia, Kenya, Mozambique, Tanzania and Zambia have received some analyses on the implications of FLAs. However, considerable focus has not been on Nigeria, which makes this study timely and relevant. This effort is deemed essential with a view to providing empirical analysis on households adjust to shocks emanating from FLAs and how institutional and political settings influence the process. Existing literature (such as: Aabo and Kring, 2012; Anseeuw *et al*, 2012a; Azeki *et al*, 2011; Brüntrup, 2011; Cotula *et al*, 2009; Deininger *et al* 2011; FIAN, 2010; Norfolk and Tanner, 2007; Sulle and Nelson, 2009; Nolte 2013) do not focus on Nigeria. Ariyo and Mortimore (2011) made effort using the case of Shonga District in Kwara State. Therefore, this study focusing on other locations and States in Nigeria with different approach is an important complement to extant works.

The anticipated results of the study are a better understanding of the internal and external factors that shape FLAs and their impacts, and propositions how to manage (or refuse) them in the interest of households in the host communities. This includes the analysis of the political economy (power relations) shrouding FLAs at the international and local level (*forces from above*) and insights into their impacts cum

¹ A new version of the Land Matrix Database is being launched 15th May, 2013.

adjustment mechanisms of households in the communities (*voices from below*). Propositions will include on improving the institutional framework through sound legal and procedural measures that will protect local rights and take into account the aspirations of local farmers during negotiations of FLAs. The assessment of transparency in decision-making and compensation of displaced land users on how to adjust their livelihood strategies is also receiving attention.

Figure 2: Top 20 Most Targeted Countries across the World



Source: Adapted from Anseeuw *et al* (2012:25)

Selected References

- Acemoglu, D. and Johnson, S. (2005) "Unbundling Institutions", *Journal of Political Economy*, vol.113(5), pp.949-995.
- Adewole, M.A and Osabuohien, E.S. (2007) "Analysis of Cost of Governance and Its Reduction Options in Nigeria" *Nigerian Journal of Economic and Social Studies*, vol.49(1), pp.137-159.
- Anell, P, Freytag, A and Winkler, K (2012) "The Economics of Self-regulation Under Sunset Legislation in Telecommunications", *Paper Presented at 16th Annual Conference of The International Society for New Institutional Economics*, University of Southern California, 14-16th June.
- Anseeuw, W., Wily, L., Cotula, L., Taylor, M., (2012a) *Land rights and the rush for land: findings of the global commercial pressures on land research project*. Rome: International Land Coalition.
- Anseeuw, W.; Boche, M.; Breu, T.; Giger, M.; Lay, J.; Messerli, P.; Nolte, K, (2012) *Transnational Land Deals for Agriculture in the Global South Analytical Report based on the Land Matrix Database*, CDE/CIRAD/GIGA, Bern/Montpellier/Hamburg, Number 1, April.
- Arezki, R., Deininger, K. And Selod, H. (2011) "What Drives the Global Land Rush"?, *World Bank Policy Research Working Paper*, No.WPS5864.
- Ariyo, J.A and Mortimore, M. (2011) "Agriculture in Nigeria: The New Nigerian Farms in Shonga District, Kwara State", *Paper presented at the International Conference on Global Land Grabbing*, The Institute of Development Studies, University of Sussex, April 6-8.
- Brüntrup, M. (2011) "Detrimental Land Grabbing or Growth Poles?: Determinants and Potential Development Effects of Foreign Direct Land Investments",

- Technikfolgenabschätzung – Theorie und Praxis*, Bonn: German Development Institute.
- Chong, E and Huet, F. (2009) "Yardstick Competition, Franchise Bidding and Firms' Incentives to Collude," *Review of Industrial Organization*, vol. 35(1), pp.149-169.
- Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., (2009) *Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa*, London/Rome: IIED/FAO/IFAD.
- Deininger, K, Byerlee, D., Lindsay, J., Norton, A., Selod, H. and Stickler, M. (2011) *Rising Global Interest in Farmland*, Washington DC :The World Bank.
- FIAN (2010) *Land grabbing in Kenya and Mozambique: A Report on Two Research Missions – and a Human Rights Analysis of Land Grabbing*, Heidelberg, April (http://www.rtfn-watch.org/uploads/media/Land_grabbing_in_Kenya_and_Mozambique.pdf).
- Goldstein, M. and Udry, C (2008) "The Profits of Power: Land Rights and Agricultural Investment in Ghana", *Journal of Political Economy*, 2008, vol. 116(6), pp.981-1022.
- La Porta, R., Lopez-de-Silanes, F. and Shleifer, A., Vishny, R. (1999) "The Quality of Government", *The Journal of Law, Economics and Organization*, vol.15(1), pp.222-279.
- Land Matrix (2012) *Summary of Total Land Deals by Regions* < <http://landportal.info/landmatrix/index.php>>.
- Mabogunje, A. (2010) "Land Reform In Nigeria: Progress, Problems and Prospects", *Paper Presented at Annual Conference on Land Policy and Administration*, World Bank, April.
- Masten, S.E. (2009) "Long-Term Contracts and Short-Term Commitment: Price Determination for Heterogeneous Freight Transactions," *American Law and Economics Review*, vol. 11(Spring), pp. 79-111.
- Natal, A. (2001) "The New Institutional Economics: A General Introduction", *Documento De Discusion Sobre El Nuevo Institucionalismo*, No.1, pp.4-21.
- Nolte, K (2013) "Large-Scale Agricultural Investments under Poor Land Governance Systems: Actors and Institutions in the Case of Zambia", GIGA Working Paper, No. 221, April
- North, D. C. (1991) "Institutions", *The Journal of Economic Perspectives*, vol. 5(1), pp. 97-112.
- Nye, J. V. (2011) "Taking Institutions Seriously: Rethinking the Political Economy of Development in the Philippines," *Asian Development Review*, vol. 28(1), pp.1-21.
- Osabuohien, Evans, U. Efobi and O. Ogundipe (2011): *The Land Rush in Africa- Implications and Institutional Panacea*. Paper presented at United Nations University-Institute for Natural Resources in Africa (UNU-INRA) International Conference on Sustainable Development in Africa, University of Ghana, Accra, Ghana 5-8th December.
- Oxfam International (2011) *Growing a Better Future Food Justice in a Resource-constrained World*, Oxford: Oxfam International.
- Pittman, R. (2010) "Against the Stand-alone-cost test in U.S. Freight Rail Regulation," *Journal of Regulatory Economics*, vol. 38(3), pp. 313-326.
- Williamson, O.E. (2000) "The New Institutional Economics: Taking Stock, Looking Ahead", *Journal of Economic Literature*, vol.38(3), pp. 595-613.

***Ostrovnaya, Maria*¹; *Podkolzina, Elena*²: Competition between electronic intermediaries in public procurement**

Abstract: Following the literature on the two-sided markets (Armstrong, 2006) we examine how the competition between electronic platforms influences the competition between suppliers in public procurement. The number of electronic platforms increased from three to five in Russian procurement. So we are going to research consequences of this shift, namely, the change of competition and relative prices in e-auctions on gasoline. The increase in the number of e-platforms leads to trade-off between costs of interaction with electronic platforms and fees paid to them. In our opinion, in Russia first effect is stronger, therefore the total costs of participation for suppliers were lower, when there were three electronic platforms. Suppliers participated in e-auctions more often, competed more aggressively, hence, reduced the prices more.

Introduction

Electronic government is usually considered as an effective anti-corruption tool [e.g. see Shim, Eom, 2010]. As public procurement constitutes a significant share of GDP and domestic demand in many countries, e-procurement may be a significant part of e-government. Nowadays it is becoming increasingly popular all over the world, and Russia is no exception. E-auctions are transparent and open procurement procedures. They are less costly than oral auctions, because they decrease travel costs and bidding costs of suppliers [e.g. see Garicano, Kaplan, 2000].

To organize electronic auctions the government gives licences to one or several electronic platforms (hereinafter e-platforms). These e-platforms function as intermediaries that match public procurers with suitable suppliers. Russian government chose five e-platforms to stimulate competition among them. It was assumed that it decreased participation costs of suppliers and, finally, led to more effective public procurement. However there is no evidence if e-platforms actually compete or not. Vice versa they cannot prevent procurers and suppliers from reproducing their illegal patterns, first of all, long-term relationships with each others.

Aim of the project

The purpose of the project is to examine what factors affect the choice of e-platform by suppliers: comparative advantages of the e-platform or long-term relationships with procurers who hold e-auctions on this e-platform.

Hypotheses and methodology

We consider e-procurement as an example of two-sided market. Most papers on this topic [e.g. Caillaud and Jullien, 2003; Rochet and Tirole, 2003, 2006] do not examine intraplatform competition (except for Armstrong, 2006) and do not consider more than two platforms.

¹ maryostrovnaya@mail.ru. International Laboratory for Institutional Analysis of Economic Reforms, Center for Institutional Studies, National Research University Higher School of Economics, Moscow, Russia

² pea.work@gmail.com. International Laboratory for Institutional Analysis of Economic Reforms, Center for Institutional Studies, National Research University Higher School of Economics, Moscow, Russia

In Russia e-platforms register procurers and suppliers, announce e-auctions, hold them and provide a financial guarantee of suppliers to public procurers. The aim of any e-platform is to attract as much public procurers, as possible, because they choose e-platform for holding particular e-auction. Public procurer can choose any e-platform costlessly and at any time. In contrast, suppliers carry out nonzero participation costs. They pay registration fee for each e-platform (lump-sum), fee per transaction with public procurer (concluded public contract) and transfer on e-platform's bank account financial guarantee for participation in e-auction. So when a supplier switches from one e-platform to another or decides to use two (or more) electronic platforms simultaneously, he pays the registration fee and also carries out high costs of transferring money from account of one electronic platform to another. The government strongly regulates both types of fees; therefore they affect the decision of the supplier "to participate in e-procurement or not", but not the choice of a particular e-platform.

What are the determinants of this choice? From our point of view, the supplier compares the costs and benefits of interaction with a particular e-platform, which are resulted from the following factors: the transparency of website [Balsevich, Pivovarova, Podkolzina, 2011], the quality of services provided by e-platform and the return period of financial guarantee to supplier (see Table 1). These factors reflect the competition between e-platforms. Another important factor is the relationships with the procurer, which holds the auction. Long-term relationships between public procurer and supplier are illegal and may harm healthy competition in public procurement.

Table 1 Factors determining the choice of e-platform

<i>Factor</i>	<i>Illustration</i>	<i>Effect on supplier's decision</i>
Transparency of the website	Good search through the list of procurers, past and current auctions, user-friendly design, complete statistics.	Positive
Quality of service	Interaction with suppliers, such as consulting them on issues of e-auctions, provision of additional services, quick responses to suppliers' questions and requests.	Positive
Return period of financial guarantee to supplier	E-platforms can behave opportunistically and keep suppliers' money on their bank accounts for longer than the law implies.	Negative
Long-term relationships between procurer and supplier	Chains of public contracts that are caused by informal agreements between procurers and suppliers (favoritism).	Positive

According to the surveys of industrial markets made by the Federal antitrust agency (<http://www.fas.gov.ru>), connections with public procurers or regional authorities let suppliers to systematically win in public procurement. We want to examine if the competition between e-platforms actually matters for the suppliers or their choice is to a greater extent dependent on the choice of the affiliated procurer. We believe that the concept of "institutional trap" [Polterovich, 2008] describes the

situation in Russia rather well. The impact of the relationships between procurers and suppliers was stronger, because the institutional changes in Russian public procurement could have changed the formal rules, but left the informal practices intact.

The empirical relationships describing the decision of supplier may be written as follows:

$$E(y|x_1, x_2, x_3, x_4, X) = \Phi(\beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta X) = \Phi(\cdot)$$

where E is the conditional mean of the dependent variable (y_i); y_i is the set of dummy-variables that equals 1 for a certain e-platform and equals 0, otherwise, and i is the number of e-platforms; x_1 is the transparency of e-platform's web-sites, x_2 is the quality of service, x_3 is the return period of financial guarantee; x_4 is the long-term relationships of the supplier who won the e-auction with public procurer; X is the vector of control variables; Φ is the standard normal cumulative distribution.

We are going to test this hypothesis on a unique database of federal e-auctions. All these auctions were held in 2011. We choose to study gasoline, because this product is simple, homogeneous and is steadily purchased in the majority of Russian regions. The main source of information is an official web-site of Russian public procurement (<http://zakupki.gov.ru>). List of key documents published in open access includes notice of e-auction, e-auction documentation, its modifications, project of public contract and protocols of e-auctions.

Preliminary results

All the five e-platforms function, but the number of e-auctions they organize differs a lot (see Table 2 in Appendix). E-platforms that started later (RTS and Micex) are much less popular than the rest that might result from the smaller size of the market.

More detailed statistics on the market of gasoline is presented in Table 3. In 2011 100 biggest federal procurers organized 1333 e-auctions and spent 3.264 bn. rubles that is, respectively, 27.55% and 35.12% of the total amount. What trends can we identify here? First of all, suppliers' preferences towards the choice of e-platforms are practically the same. Micex and RTS remain the most unpopular e-platforms, while Sberbank has a leading position. Here suppliers made lower bids, which may indicate higher competition between the suppliers caused by the advantages of this e-platform (e.g. high transparency of the web-site, high quality of service). In Sberbank platform suppliers more often won e-auctions held by public procurers from other regions that supports this version. Another explanation is that procurers from different e-platforms establish reserve price in different ways, therefore more investigation is needed.

References

- Armstrong, M. (2006). Competition in two-sided markets. *The RAND Journal of Economics*, 37(3), 668–691.
- Balsevich, A.A., Pivovarova, S.G., Podkolzina, E.A. (2011). Information Transparency in Public Procurement: How it Works in Russian Regions. EC "Economics", Higher School of Economics.

- Banerjee, A., Mullainathan, S., & Hanna, R. (2012). Corruption. Chapter Full 17 (No. w17968). National Bureau of Economic Research.
- Caillaud, B., & Jullien, B. (2003). Chicken & egg: Competition among intermediation service providers. *RAND Journal of Economics*, 34(2), 309-328.
- Garicano, L., & Kaplan, S. N. (2000). The effects of business-to-business e-commerce on transaction costs. National Bureau of Economic Research.
- Rochet, J. C., & Tirole, J. (2003). Platform competition in two-sided markets. *Journal of the European Economic Association*, 1(4), 990-1029.
- Rochet, J. C., & Tirole, J. (2006). Two-sided markets: a progress report. *The RAND Journal of Economics*, 37(3), 645-667.
- Shim, D.C., & Eom, T.H. (2010). E-Government and Anti-Corruption: Empirical Analysis of International Data. *International Journal of Public Administration*, 31(3), 298-316.

Appendix

Table 2 E-procurement in Russia: from beginning till now

		<i>Sberbank</i> ¹	<i>Moscow</i>	<i>Tatarstan</i>	<i>RTS</i>	<i>MICEX</i>
1	# of auctions	-	412472	105910	296519	23462
2	# of registered procurers	-	246787	248498	205444	250373
3	# of registered suppliers	-	156378	89119	1132	83709

*Table 3 E-procurement of gasoline of 100 biggest federal procurers in 2011**

		<i>Sberbank</i>	<i>Moscow</i>	<i>Tatarstan</i>	<i>Micex</i>	<i>RTS</i>
1	# of auctions	974	301	66	4	2
2	# of regions	34	13	4	2	1
3	# of procurers	93	26	6	2	1
4	# suppliers (winners)	176	58	11	2	1
5	different regions**, share	0.1869	0.1495	0.0151	0.50	1.00
6	average reserve contract price, rub.	2648191.52 (11984425.94)	2235858.73 (5095617.23)	1873232.60 (2061553.27)	1811537.50 (1916216.76)	267649.50 (151839.16)
7	average price ratio***	0.9763 (0.0635)	0.9813 (0.0833)	0.9950 (0.0175)	0.9862 (0.0243)	0.92 (0.212)
8	average contract duration, days	81 (68.81)	73 (57.42)	81 (69.09)	97 (20.025)	54 (0)
9	average financial guarantee, rub.	126930.62 (615779.164)	149876.25 (548474.79)	93993.94 (169039.75)	25754.38 (13488.337)	13382.48 (7591.958)

* Standard errors are in parentheses.

**Different regions - equals 1, if procurer and supplier are from different regions, 0, otherwise.

***Price ratio is the ratio between final contract price and reserve contract price.

¹ Because of the technical difficulties we have not collected yet the statistics on Sberbank. There are more held auctions, registered procurers and suppliers than in any other e-platform.

Pérez, Jessica¹, Diaz-Serrano, Luis: Do more educated leaders raise citizens' education?

Abstract: *This paper looks at the contribution of political leaders to enhance citizens' education and investigate how the educational attainment of the population is affected while a leader with higher education remains in office. For this purpose we consider educational transitions defined as the change in the educational attainment of the leader from one year to other. We find that the educational attainment of population increases when it transitions from a non-educated leader to an educated leader. Furthermore, transitioning from an educated leader to a less educated leader, the educational attainment of population is negatively impacted.*

Introduction

Recent literature has been demonstrated that leaders play an important role by affecting policy outcomes (Jones and Olken, 2005; Dreher et al., 2009; Besley et al., 2011) and that citizens (voters) pay more attention to leaders' characteristics rather than political parties (Besley and Coate, 1997; Osborne and Slivinski, 1996). More specifically, literature shows that leaders' quality, measured by their educational level and personal background, matters for economic growth (Dreher et al., 2009; Besley et al., 2011) and reforms (Dreher et al., 2009; Göhlmann and Vaubel, 2007) in a country.

The main idea of this paper is analyze 'why' leaders would matter for policy outcomes and more specifically on population, we consider that the key means that the leader has an effect on outcomes is their educational attainment. According to this, our hypothesis is that the effect of leader education on economic growth is mainly through human capital, which is an important input into the production function of a country and has been emphasized as a critical determinant of economic progress.

Aim of the project

Our paper contributes to the literature on leaders' characteristics and their impact on outcomes. We look at the contribution of a leader to enhance citizens' education. We investigate how the educational attainment of population is affected while a leader with higher education remains in office. For this purpose, instead of use the educational level, we consider educational transitions of the leaders defined as the change in the educational level of political leader from one year to other.

Hypothesis and methodology

It has been found that the elected representative (leader), at least to some degree, can pursue his or her own interests (Svaleryd, 2009). For instance, a general finding is that women prefer higher social spending than men (Lott and Kenny, 1999; Abrams and Settle, 1999; Aidt and Dallal, 2008)⁵. Also, Hayo and Neumeier (2012) found that governments led by prime ministers from a poor socioeconomic background spend significantly more on social security, education, health, infrastructure, and public safety. Since these results support the idea that leaders spend more in certain areas according to their preferences, we expect that more

¹ jessicahelen.perez@estudiants.urv.cat, Universitat Rovira i Virgili, Reus, Spain

educated leaders invest more in education issues. This could be a possible explanation of the effect of leaders, e.g., on economic growth.

As mentioned before, some authors highlight the impact of the educational level of leaders on economic growth, but they did not give further explanation on the ‘why’. Therefore, we consider that a potential explanation for this link is by increasing the human capital of the population, since a greater amount of educational attainment implies more skilled and productive workers, who in turn increases a country’s output (Barro and Lee, 2001).

The idea that educational attainment is likely to influence a country’s output rests to a large degree on the acceptance of schooling as a process that enhances the individual’s skills in the workplace. An individual with a higher level of skills is likely to contribute more to production than is one with a lower level of skills. Thus, if greater amounts of educational attainment were to raise the skills of workers, they could also be expected to increase an economy’s output.

Economic theory suggests that human capital is an important determinant of growth, and empirical evidence for a broad group of countries confirms this linkage (Barro, 1991; Benhabib and Spiegel, 1994). Hence, our hypothesis whether having more educated leaders affects the level of educational attainment of population stems from the connection between human capital and growth shown in theories of economic growth such as those of Romer (1986, 1989), Lucas (1988) and Jones and Manuelli (1990). According to these theories, human capital can boost growth through stimulating technological creation, invention and innovation, as well as facilitating the uptake and imitation of new technologies. Also, countries that start with a higher level of educational attainment grow faster for a given level of initial per capita GDP and for given values of policy- related variables (Barro, 1991).

Our hypothesis is that more educated leaders raise citizens’ education. For this, we determine the following linear relationship:

$$\Delta y_{it} = \alpha + y_{it-1}\delta + d_{lit}\gamma + X_{it}\beta + \mu_i + \varepsilon_{it}$$

where y_{it} is the educational attainment of population (Primary Completion Rate) in country i at time t ; Δ is the difference operator; d_{lit} is the transition of educational level of leader l in country i at time t ; X_{it} is a matrix containing a set of covariates (characteristics of the leader and the country); ¹ μ_i is a country fixed effect (such as history and culture that might affect global macro trends such as rising levels of educational attainment); ε_{it} is a time-varying error term, and α , δ , γ and β are a set of parameters to be estimated. Our main coefficient of interest is γ which is the effect of the educational transition.

In order to estimate Equation 1, we use a variant of the Arellano and Bond (1991) GMM estimator.²

¹ See Appendix A.1 for a detail of the explanatory variables and Table 1 in Appendix A.2 for their summary statistics.

² See Roodman (2006) for details.

Results

In Table 2 we report the results from estimating our core model specified in Equation 1 by the Generalized Method of Moments (GMM) for our dependent variable: Primary completion rate. Columns (1) and (2) reports the estimation considering country fixed-effects, while columns (3) and (4) consider leader fixed-effects. Our personal interests are those results depending on leader effects.

The first lag of the dependent variable in levels (y_{it-1}) turns out to be statistically significant and negative, which means that the higher the primary completion rate the lower the growth rate.

In relation to the leader's characteristics, we found that one measure of their experience (age) affect positively the educational attainment of the population. This result indicates that the greater the experience of leaders the greater the effect on the educational level of the population, since they are more able to make decisions given his/her previous experience compared to their counterpart who do not have it. The gender of the leader and the time in office (tenure) turns out to be statistically significant only for the specification models of leader fixed-effects (columns 3 and 4) and his effect is negative. The fact that countries have males as leaders reduces the change growth rate of the primary completion rate. This is supported by previous findings where women spend on child care and education relative to elderly care.

The core specification also includes the logarithm of the level of the per capita GDP lagged one period. The effect of this variable is statistically significant and positive. The urban population growth is statistically significant and his effect is negative (positive) when we consider negative (positive) transitions. The duration of primary has a negative effect on the *PCRT* which means that the greater the duration of primary education the lower the rate of completion.

Positive transtions have turned out to be statistically significant and positive. Ours results shows that when there is a positive transition there is an increment in the level of educational attainment, which means that the performance of leaders with College degree is better than their counterparts without higher education. This result supports the main hypothesis we propose in this study since the educational attainment of population increases when it transitions from a non-educated leader to an educated leader.

Negative transitions have turned out to be statistically significant and negative. We find that transitioning from an educated leader to a less educated leader, the educational attainment of population is negatively impacted.

Conclusions

In this paper we estimate the effect of educational transitions on the educational attainment of population during the period 1970-2004, showing that more educated leaders lead to more educated citizens. We find that countries who changed from leaders with higher education (College, Master or PhD.) to leaders with no college education, experienced higher rates of primary completion compared to those countries which leaders remains with no college education.

We determine that our findings explain the results found by other authors on the existence of political leaders' effect on economic growth due to education is one of the most powerful instruments for reducing both poverty and inequality and lays a foundation for sustained economic growth.

Arguably, an endogeneity problem may arise given that leaders are selected from the population. However, we consider that we do not have an endogeneity problem, but rather a feedback effect. The reason for this is that our measure of educational attainment allow us skip this problem (endogeneity) since the leader in office can not be elected by the population (students) completing the last year of primary school.

References

- Abrams, B. A. and Settle, R. F. (1999). Women's Suffrage and the Growth of the Welfare State. *Public Choice*, 100(3-4): 289-300.
- Aidt, T. and Dallal, B. (2008). Female Voting Power: the Contribution of Women's Suffrage to the Growth of Social Spending in Western Europe (1869-1960). *Public Choice*, 134(3): 391-417.
- Arellano, M. and Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an application to employment equations. *The Review of Economic Studies*, 58(2): 277-297.
- Barro, R. J. (1991). Economic Growth in a Cross Section of Countries. *The Quarterly Journal of Economics*, 106(2): 407-43.
- Barro, R. J. and Lee, J.-W. (2001). International Data on Educational Attainment: Updates and Implications. *Oxford Economic Papers*, 53(3): 541-563.
- Benhabib, J. and Spiegel, M. M. (1994). The Role of Human Capital in Economic Development Evidence from Aggregate Cross-Country Data. *Journal of Monetary Economics*, 34(2): 143-173.
- Besley, T. and Coate, S. (1997). An Economic Model of Representative Democracy. *The Quarterly Journal of Economics*, 112(1): 85-114.
- Besley, T., Montalvo, J. G., and Reynal-Querol, M. (2011). Do Educated Leaders Matter? *The Economic Journal*, 121(554): 205-227.
- Dreher, A., Lamla, M. J., Lein, S. M., and Somogyi, F. (2009). The Impact of Political Leaders' Profession and Education on Reforms. *Journal of Comparative Economics*, 37(1):169-193.
- Göhlmann, S. and Vaubel, R. (2007). The Educational and Occupational Background of Central Bankers and Its Effect on Inflation: An Empirical Analysis. *European Economic Review*, 51(4): 925-941.
- Hayo, B. and Neumeier, F. (2012). Leaders' Impact on Public Spending Priorities: The Case of the German Laender. *SSRN eLibrary*.
- Jones, B. F. and Olken, B. A. (2005). Do leaders matter? National Leadership and Growth since World War II. *The Quarterly Journal of Economics*, 120(3): 835-864.
- Jones, L. E. and Manuelli, R. (1990). A Convex Model of Equilibrium Growth: Theory and Policy Implications. *Journal of Political Economy*, 98(5): 1008-1038.
- Lott, J. R. and Kenny, L.W. (1999). Did Women's Suffrage Change the Size and Scope of Government? *Journal of Political Economy*, 107(6): 1163-1198.
- Lucas, R. E. (1988). On the Mechanics of Economic Development. *Journal of Monetary Economics*, 22(1): 3-42.
- Osborne, M. J. and Slivinski, A. (1996). A Model of Political Competition with Citizen-Candidates. *The Quarterly Journal of Economics*, 111(1): 65-96.
- Romer, P. M. (1986). Increasing Returns and Long-Run Growth. *Journal of Political Economy*, 94(5): 1002-1037.

- Romer, P. M. (1989). Human Capital and Growth: Theory and Evidence. NBER Working Papers 3173, National Bureau of Economic Research, Inc.
- Roodman, D. (2006). How to do xtabond2: An Introduction to Difference and System GMM in Stata. *Center for Global Development*, Washington.
- Svaleryd, H. (2009). Women's Representation and Public Spending. *European Journal of Political Economy*, 25(2): 186-198.

Appendix

A.1 Variables Description

Dependent variables:

Primary completion rate: Percentage of students completing the last year of primary school. It is calculated by taking the total number of students in the last grade of primary school, minus the number of repeaters in that grade, divided by the total number of children of official graduation age. Source: World Bank data.

Explanatory variables:

Positive transition: Dummy variable which takes value 1 when a country transition from a non-educated leader (a leader with no college education) to an educated leader (a leader with at least college education) and 0 when a country does not suffer any transition, i.e. a country have a non-educated leader all period of study. Source: Own elaboration based on Besley and Reynal-Querol data.

Negative transition: Dummy variable which takes value 1 when a country transition from an educated leader (a leader with at least college education) to a non-educated leader (a leader with no college education) and 0 when a country does not suffer any transition, i.e. a country have an educated leader all period of study. Source: Own elaboration based on Besley and Reynal-Querol data.

Age: Age of leader. Source: Archigos data.

Gender: Dummy variable takes value 1 for Male, and 0 for Female. Source: Archigos data.

Tenure: Natural log of Time in office. Source: Archigos data.

Duration of primary: Number of grades (years) in primary education. Source: World Bank data.

Democracy: 1 if the POLITY2 variable has a positive value in the year the leader is selected. Source: Polity IV data.

Log (GDP): Log of per capita income measured in the year when the leader is selected. Source: World Bank data.

Urban population growth (annual %): Urban population refers to people living in urban areas as defined by national statistical offices. Source: World Bank data.

A.2 Summary Statistics and Results

Table 1. Summary Statistics

	Obs	Mean	Std. Dev.
Primary Completion Rate: Δ	2329	0.8891	5.078
Levels	2839	72.797	28.6607
Positive educ. transition	818	0.5220	0.4998
Negative educ. transition	900	0.0789	0.2697
Age	2839	56.4847	11.3692
Gender	2839	0.9809	0.1366
Tenure (years)	2839	7.5311	1.0694
Duration of Primary	2830	5.7562	0.8238
Democracy	2652	0.4672	0.499
Log(GDP)	2629	7.4659	1.533
Urban Population growth (annual %)	2836	3.2063	2.5424

Table 2. Estimation Results

Variables	Dependent variable: Δ Primary Completion Rate (<i>PCRT</i>)			
	(1)	(2)	(3)	(4)
<i>PCRT</i> _{t-1}	-0.084 (0.067)	-0.400*** (0.095)	-0.083*** (0.002)	-0.300*** (0.005)
Positive transition	6.692*** (2.475)		3.618*** (0.207)	
Negative transition		16.134** (6.960)		-6.086** (2.887)
<i>Leaders' characteristics</i>				
Age	-1.444* (0.828)	0.458 (0.379)	0.616*** (0.038)	0.907*** (0.154)
Age (squared)	0.013* (0.007)	-0.004 (0.003)	-0.005*** (0.000)	-0.007*** (0.001)
Gender	52.315 (32.577)	-0.601 (3.246)	-40.726*** (9.759)	1.970 (12.322)
Tenure	-1.202 (0.988)	-0.051 (0.473)	-0.509*** (0.099)	-1.379*** (0.186)
<i>Country characteristics</i>				
Democracy	-3.290 (2.080)	-3.088 (3.298)	-2.336*** (0.184)	-1.063*** (0.383)
Duration of primary	-4.450 (3.780)	-1.597 (3.863)	-1.281*** (0.033)	-0.830** (0.388)
Log(GPD per cap.) _{t-1}	3.130 (3.726)	2.210 (4.853)	1.118*** (0.023)	1.524*** (0.366)
Urban population growth	-0.032 (0.212)	-1.031** (0.420)	0.098*** (0.012)	-1.493*** (0.105)
Constant	0.000 (0.000)	17.339 (26.800)	29.514*** (10.441)	2.812 (11.866)
Country effect	Yes	Yes	No	No
Leader effect	No	No	Yes	Yes
Hansen Test (stat.)	29.61	30.33	75.46	86.35
Test AR(1) (z-stat.)	-3.84	-1.49	-3.72	-1.53
Test AR(2) (z-stat.)	0.03	0.94	0.60	1.05
Sample size	592	582	537	509
Number of countries	38	44	89	105

Columns report the estimated coefficients. Standard Errors in parentheses.

*** Significant at 1%, ** Significant at 5%, * Significant at 10%.

Puzon, Klarizze Anne¹; Willinger, Marc²: Institutions and resource windfalls: an experimental contest game

Abstract: *This experiment provides an investigation of the resource curse: “countries with larger endowments of natural resources tend to experience less development.” It is based on a simplified contest game. Subjects were assigned to groups to play two sequences (low or high level of resource). They were given an endowment that they had to allocate between a private activity and a resource rent-grabbing activity. Baseline results show that a larger fraction of subject’s endowment is invested in grabbing when the resource level is high. The test treatments then explore the impact of voting institutions.*

Introduction

The resource curse, i.e. the observation that countries with larger endowments of natural resources tend to grow less than those which are less endowed, have been recently empirically analyzed. Of prominence in economic literature are the seminal papers by Sachs and Warner (1999; 2001). Using Ordinary Least Squares regression analysis, they explicitly noted that dependence on mineral reserves and oil (measured through dependence on primary commodity exports) is negatively correlated with economic growth rates.

Besides the traditional Dutch Disease explanation, it has been argued that the curse is linked to the existence of poor institutions. Natural resource endowment may hamper economic development in the presence of weak institutions like inefficient legal systems, weak rule of law, and imperfect property rights (Ploeg, 2011).

Aim of the project

This project investigates an experimental contest game on the resource curse.

The use of experiments in exploring the resource curse has several advantages. First, theoretical models typically depend on specific behavioral assumptions. If these are not met, distortions on the predictions result. Second, findings based on non-experimental data are difficult to interpret. Unobservable historical dimensions of different countries are not controlled. Endogeneity problems may arise. In comparison, experiments allow for a controlled environment. Experiments may provide a simplified test on how an exogenous change in the level of resource abundance affects economic decisions.

To the authors’ knowledge, there are a limited number of economic experiments directly related to the resource curse (Leibbrandt and Lynham (2012) and Al-Ubaydli, et al. (2012)). Nonetheless, this paper discusses a different experimental design testing for the natural resource curse. The rent-seeking and conflict hypotheses are given focus (Wick and Bulte (2006) and Hodler (2006)). Our experiment was designed in order to address the following:

- (1) Does the resource curse show up in a laboratory setting?

¹ Puzon@lameta.univ-montp1.fr, LAMETA, Universite Montpellier I, France

² LAMETA, Universite Montpellier I, France

(2) Can it be mitigated by designing appropriate institutions (autocracy and majority voting rule)? If yes, what are the underlying behavioral mechanisms governing such?

(3) For all the possible setups (resource level and institutional quality), how does aggregate (group) income diverge away from the optimum?

Hypotheses and methodology

The experimental setting is based on a simple decentralized model inspired by the rent-seeking/conflict games formulated by Wick & Bulte (2006) and Hodler (2006). In the contest game designed for the experiment, agents decide on the allocation of their endowment between production and resource rent-grabbing. Fighting efforts are expected to increase with the amount of the resource. However, in the presence of property rights, conflict among groups tends to fall.

This laboratory experiment relies on a between-within subject design in order to control for possible demographic effects. Subjects were randomly assigned to groups of three to play two sequences of a ten-round repeated contest game. Each sequence corresponded either to a low level (100 units) or a high level (200 units) of the common pool resource. In order to control for order effects, half of the subjects were assigned to the “low-high” sequence ordering and the other half to “high-low” sequence ordering.

For the baseline treatment (no institutions), in each round, subjects were given an endowment of 20 tokens that they had to allocate between a private activity and a rent-grabbing activity (in the instructions, these were called *activity M* and *activity R* respectively). Each token invested in the private activity was multiplied by 5 points. Each player received a share of points from the rent-grabbing activity equal to his relative investment (i.e. his own investment divided by the total group investment). Subjects were also told that if the group investment to Activity R was equal to zero, the resource would be shared equally among the three group members. There exists a unique symmetric subgame-perfect equilibrium of the repeated game for which players invest a strictly positive fraction of their endowment in the resource rent-seeking activity. Furthermore, this fraction increases with the level of the resource. The socially optimum level of investment in the rent-seeking activity is zero (i.e. no fighting or “full cooperation”). Therefore, the social dilemma becomes stronger as the level of the resource is increased.

Meanwhile, the institutional treatments (autocracy and majority voting rule), has an additional stage that occurs before subjects make token allocation decisions. It involves institutional protection of a fraction of the resource that will be equally enjoyed by all group members. That is, groups can choose to protect an exogenously given fraction $0 < \alpha < 1$ of the resource. Of paramount interest is the comparison between autocracy and majority voting regimes. For the first treatment, one randomly chosen member of each group chooses among three potential property right regimes: no protection, weak institutional protection, and high protection. For the second treatment, the subjects in a given group each cast their votes on the three options. The prediction is that whatever the rule is, the unique equilibrium is to vote in favor of the highest protection level.

Results

The data of the baseline treatment show that subjects invest a significantly larger fraction of their endowment when the level of the natural resource is high, as predicted. Furthermore, subjects tend to choose the equilibrium levels of fighting efforts.

For the test treatments, contrasting results were found. For instance, selfish dictators (those who imposed a zero level of protection) were found to invest in Activity R much more than non-dictators. On the other hand, benevolent dictators (those who chose the highest possible level of protection) allocate less contesting effort levels. As for the majority voting treatment, more than half of the groups tend to vote for protection. In effect, the resulting contesting effort levels were found to be lower than in the baseline.

Finally, it was observed that aggregate income tends to diverge away from the optimum most when the resource is high and institutions are absent. This, however, is mitigated when groups are able to impose a protection level.

References

- Sachs, Jeffrey D. & A. Warner, 1999. "The big push, natural resource booms and growth," Journal of Development Economics, Elsevier, vol. 59(1), pages 43-76, June.
- Sachs, Jeffrey D. & A. Warner, 2001. "The curse of natural resources," European Economic Review, Elsevier, vol. 45(4-6), pages 827-838, May.
- Ploeg, F. van der, 2011. "Natural Resources: Curse or Blessing?," Journal of Economic Literature, American Economic Association, vol. 49(2), pages 366-420, June.
- Leibbrandt, A. and J. Lynham, 2012. "A laboratory test of the resource curse hypothesis", CEGA Berkeley presentation: http://cega.berkeley.edu/assets/cega_events/49/Session_1D_Experimental.pdf
- Al-Ubaydli, O., K. McCabe, and P. Twieg, 2012. "Can more be less? An experimental test of the resource curse", George Mason University.
- Wick, K. & E. Bulte, 2006. "Contesting resources – rent seeking, conflict and the natural resource curse," Public Choice, Springer, vol. 128(3), pages 457-476, September.
- Hodler, Roland, 2006. "The curse of natural resources in fractionalized countries," European Economic Review, Elsevier, vol. 50(6), pages 1367-1386, August.

Rassadovskaya, Anastasia¹; Aistov, Andrey²: Comparative analysis of corruption perception and trust in Russia, other post-soviet countries and European Union

Abstract: *The efficiency of social reforms in different countries mostly depends on the extent to which they can be accepted by people. Moreover, even if the problems are similar, the reasons may differ, which can lead to fail in applying existing laws of one state to another one. Bribery, as shows the Corruption Perception Index, calculated by Transparency International, is a typical problem for developing countries – that also matches research (Levin & Satarov, 2000; Ilzetzki, 2010) concluding that corruption has roots in socialist regimes and that in recently established political stability instable economic situation leads to growth in crime. The main problem within the scope of this project is to identify the relation between corruption perception and level of trust in the society and to distinguish the differences in factors affecting these characteristics in post-soviet countries. The research discovers that distrust matters a lot for the problem in Russia and suggests further examining European countries in order to explain the difference in trust.*

Research problem

The project is aimed to analyze factors that stimulate loyalty towards bribery, mainly in Russia. Following the existing literature, one can derive that there can be several reasons for growing crime. The first group contains economic factors, such as income inequality (Andrienko, 2002) – that means that difference in wealth causes wish to redistribute it, even illegally. Another two groups: institutional factors (Caballero & Yared, 2010; Ilzetzki, 2010) and sociological reasons (Jamalov, 2009; Ledeneva, 2001) are difficult to separate as they practically always come together. When the country suffers from social demoralization or inaction, that often results from weak institutions. Some research mention (Levin & Satarov, 2000) that transmission strengthens improperly organized relations, which means that weaknesses of the state in socialist regime continue to grow, but after global changes these mechanisms can't function as they used to.

Consequently, the main question for the research is to define key factors which accommodate bribery in Russia and to compare the results with post-soviet and European countries. We suppose that individual data is the most appropriate way to look at the problem, as both trust and perception of bribery seem to be psychological issues.

Aim of the project

The dominating goal of the research is to reveal the differences in social factors which lead to high corruption level in post-soviet counties and do not in Europe using individual data. In particular, we'd like to distinguish the role of trust and social imbalance in deceleration of anticorruption struggle.

¹ asyaorlova90@rambler.ru, NRU HSE – Nizhny Novgorod, Russia

² aistov@pisem.net, NRU HSE – Nizhny Novgorod, Russia

Hypotheses and methodology

The main hypothesis is that reasons for distrust and, as a result, to acceptance of bribes lies in socialist period, so lack of confidence should be demonstrated by Russia and post-soviet countries but, on the contrary, shouldn't be confirmed for EU.

Empirical part of the research is based on the data of the "Russia Longitudinal Monitoring survey, RLMS-HSE", conducted by Higher School of Economics and ZAO "Demoscope" together with Carolina Population Center, University of North Carolina at Chapel Hill and the Institute of Sociology RAS (RLMS-HSE) and European Social Survey (ESS), held by the Centre for Comparative Social Surveys at City University London, UK.

The hypotheses are tested using IV ordered logit regressions.

Results

Preliminary results show that income inequality doesn't influence either attitude towards corruption or facts of bribe giving from the respondent. On the other hand, the hypothesis about the relation between social distrust and corruption perception hasn't been rejected. Distrust seems to be endogenous to corruption perception because these variables may be determined simultaneously and influence each other. Therefore, several instruments for trust (and other self-reported variables) are suggested – according to Card (1999), Nye et al.(2012) and partly heuristically. Those which are considered strong confirm the previously mentioned results. Moreover, it has been discovered that facts of bribe giving seem to reflect discrimination towards typical groups of people in each particular organization, which, in our opinion, prove the idea that grassroots bribery exists in Russia by force of habit coming from soviet time.

Consequently, we turn to comparison of trust determinants in post-soviet countries: Russia, Ukraine and Estonia – and other European countries, using ESS. We discover that even the level and distribution of trust in Russia and Ukraine differ from EU and Estonia, which also used to be in USSR, but has already joined the European Union. Examining the determinants of trust previously show that they also coincide for Russia and post-soviet East Europe and Baltic countries and differ from Western Europe. We are also exploring the existence of structural break for Estonia after 2004 – when it joined the EU. If the hypothesis isn't rejected, that will mean that socialist regimes influence corruption progress whereas membership in the EU positively influences social capital and therefore corruption perception. That may lead to decisions about the needs of policy changes in the state: probably not directly in anti-corruption root, but on the global social health.

This study comprises research findings from the 'Employment, trust and satisfaction - looking for regularities' Project #11-04-0055 carried out within The Higher School of Economics' 2011-2012 Academic Fund Program.

References

- Levin M., Saratov G. Corruption and institutions in Russia. // European Journal of Political Economy, Vol.16, 2000: 113-132.
- Becker G. S. Grime and Punishment: An Economic Approach // Journal of Political Economy. 1968. Vol. 76, No 2. P. 169-217.

- Caballero R.J., Yared P. Future rent-seeking and current public savings. // *Journal of International Economics*, 82 (2010), pp. 124–136
- Doyle J.M., Ahmed E., Horn R.N. The effects of labor markets and income inequality on crime: evidence from panel data. // *Southern Economic Journal*, April 1999.
- Ilzetzki E. Rent-seeking distortions and fiscal procyclicality. // *Journal of Development Economics*, N72, 2010
- Levitt S.D., Miles T.J. Economic Contributions to the Understanding of Crime. // *Annu. Rev. Law Soc. Sci.* 2006. 2:147–64.
- Андриенко Ю.В. Преступность, благосостояние и неравенство: о чем свидетельствуют международные виктимизационные обследования. // ЦЕФИР, Москва, 2002.
- Oosterbeek H., Sloof R., Sonnemans J. Rent-seeking versus productive activities in a multi-task experiment. // *European Economic Review*, 2010
- Ledeneva A. How Russia really works. // *OpenDemocracy*, 2001.
- Varese F. The transition to the market and corruption in post-socialist Russia. // *Political Studies*, 1997: 579-596.
- Card, D. The causal effect of education on earnings. // *Handbook of Labour Economics* 3A, 1999: 1801-1863.
- Nye J., Androuschak G., Desierto D., Jones G., Yudkevich M. What Determines Trust? Human Capital vs. Social Institutions: Evidence from Manila and Moscow. // *EC "Economics"*, Высшая школа экономики, 2012. -29 с.

Saputra, Putu Mahardika Adi¹: The Decision to Export: Firm-Level Evidence from Indonesian Textile and Apparel Industry

Abstract: *This paper is devoted to the examination of factors which influence the decision to export of firms in Indonesian textile and apparel industry. Using a panel of firm-level data and a panel probit model, the role of heterogeneous characteristics of firms in determining firms' probability of exporting are tested. The paper uses two different definitions of firm productivity in its model, i.e. TFP and labour productivity. The study finds that productivity increases the probability of exporting. Likewise, firm characteristics related to size and foreign ownership has a positive influence on the probability of exporting. On the other hand, variables accounting for capital intensity and Java region dummy affect negatively the decision to export. In general estimation results, there is no significant effect of labor quality. Concerning the estimation results of disaggregated specifications, a consistent finding with the general estimation results is basically provided, except for labor quality variable which is significantly negatively related with exporting in middle-size firms' case. Although still showing positive signs, the coefficients of productivity lose their statistical significance when the models are applied for large-sized firms. However, in general, our findings corroborate the self-selection hypothesis.*

Introduction

The influence of firm characteristics is critically highlighted in this work, since we believe that such characteristics have significant points in explaining firm's export decision. Firms are dissimilar in many aspects and can behave differently in their operations, even when they encounter the same government policies or involve in the same industry classification. Those situations do not only occur in firm's domestic scope activities, but also in their international activities, such as exporting. Firms may act in different way and take different decision to participate in export market, depending on their specific conditions. Many countries' firm-level data give a fact that just a small portion of firms are interested in export market, while the majority persistently serve the domestic markets only. Based on previous sense, the characteristics of firm are often suspected to be the cause of such a tendency.

Past empirical studies related to this discussion have been carried out almost exclusively with firm-level data from various countries. There is a wide range of firm characteristics which are commonly used in those studies, *e.g.* firm's productivity, size, age, labor quality, input intensity, product innovation, ownership, R&D intensity, or advertising intensity. Those measures are usually found to have positive effects on firm's decision to export (see Bernard and Jensen, 2004; Manez *et al*, 2004; Ozler *et al*, 2009).

With respect to the issue, nowadays, there are two frequently important discussed findings in the empirical literature. The first finding puts forward the learning effect associated to exporting (which is known as learning-by-exporting hypothesis). The advocates of this finding believe that export activities increase the productivity of the firm through firm's learning process on knowledge, technology, and operational system in international markets (see *e.g.*, Aw and Hwang, 1995; Tybout

¹ putu@ub.ac.id, Faculty of Economics and Business, University of Brawijaya, Indonesia

and Westbrook, 1995; Blalock and Gertler, 2004). The second set of findings comes with a further empirical study which allows for the inclusion of self-selection hypothesis. Given the existence of large fixed costs in serving foreign markets, this hypothesis states that only more productive firms are profitably able to export. Such costs will hinder less productive firm in entering export markets, conversely, more productive firms will self-select to enter the foreign market (see *e.g.*, Aw *et al.*, 1998; Clerides *et al.*, 1998; Bernard and Jensen, 1999; Girma *et al.*, 2004).

From the results, we find that the paper support the self-selection hypothesis, where more productive firms will more likely to be involved in serving foreign markets.

Aim of the Project

This paper aims to examine the role of firm characteristics, measured by productivity, size, labor quality, capital intensity, and foreign ownership, as the determinant of decision to export for Indonesian textile and apparel manufacturing firms. In addition, the role of other specific effects such as industry, time, and region specific effects are also considered by employing the dummies.

Hypotheses and methodology

In order to estimate the decision to export (*Exp*), we employ an empirical random effects probit model in which export decision depends on variety of observed firm-specific characteristics, region, time, and industry dummies:

$$\Pr(\text{Exp} = 1) = f(\text{Prod}_{it}, \text{Size}_{it}, \text{LabQua}_{it}, \text{CapInt}_{it}, \text{Own}_{it}, \text{RDum}_{it}, \text{IDum}_{it}, \text{TDum}_{it})$$

The firm characteristics which are included on the right-hand side are productivity (*Prod*), firm size (*Size*), the labor quality (*LabQua*), the capital intensity (*CapInt*), and foreign ownership (*Own*). Our hypotheses are all firm characteristics have positive effect on decision to export.

We also include the dummy for the region (*RDum*), the industry (*IDum*) and the year of observation (*TDum*). The region dummy is used to capture region-specific characteristics. The industry dummies control for unobservable characteristics of the markets where firms compete, *e.g.* the technology level of the firm, market concentration, or other firm behaviors, while time (the year of observation) dummies are utilized to capture the exogenous factors shown by time-specific factors. Our hypotheses for dummies are dummy characteristics affect the decision to export

This paper applies two different specifications of the above equation. First, we take our whole sample as a general investigation. In a second glance, we look only at the sub-sample of firms disaggregated by firm size (middle and large).

To measure the productivity, besides using labor productivity (value added per worker), this paper also utilizes total factor productivity (TFP) which is computed by Levinsohn and Petrin (2003) approach¹. Dummy variable for region specific effect will take value 1 if firm resides in Java Island. The island represents the most principal

¹ A specific program written in STATA by Petrin *et al.* (2004) is used for executing the Levinsohn and Petrin (2003) approach.

island in Indonesia. Table 1 explains the definition and construction of all variables of interest.

Table 1. Variables definition

<i>Variable</i>	<i>Definition</i>
Exporter	= 1 if exporter, and = 0 otherwise
TFP	Total factor productivity
Labor productivity	Value added per labor
Size	Proxied by total capital (total net-book value of machinery and equipment)
Labor quality	Proxied by average wage (total labor wages divided by total labors)
Capital intensity	Ratio of capital to total labors.
Foreign ownership	Dummy variable which takes value 1 if at least 20% of total capital owned by foreigners, and = 0 otherwise
Region	Dummy variable which takes value 1 if firm is located at Java island (the most principal Indonesian island), and = 0 otherwise
Year dummies	Dummy variables that take value 1 for the corresponding year
Industries dummies	Dummy variables for 20 textile and apparel industries of the 5-digit ISIC

This study will focus only in the scope of Indonesian textile and apparel industry or Indonesian manufacturing firms whose industrial classification starts from 32111 to 32290 (5-digit ISIC code). After controlling for missing data and outliers (such as doing cleaning process for non-reporting firm identity number, capital, and export data), the remaining size of our unbalanced panel data set contains about 3193 observations which spans from 2002 to 2005. We adjust all variables of interest to express values in real 1990 terms.

Results

The results of this paper show that firm characteristics are important determinants for exporting decision. In particular, we find that productivity increases the probability of exporting. Likewise, firm characteristics related to size and foreign ownership has a positive influence on the probability of exporting. On the other hand, variables accounting for capital intensity and Java region dummy affect negatively the decision to export. However, in the general estimation results, we find no significant effect of labor quality on our model. Concerning the estimation results of disaggregated specifications, a consistent finding with the general estimation results is basically provided, except for labor quality variable which is significantly negatively related with exporting in middle-size firms' case. This condition seemingly reflects the actual state of the textile and apparel industry in the developing economy, such as Indonesia. In which, exporters are generally inclined to be more labor intensive, and 'cheap' labors are specifically dominant to be employed among middle firms. Besides that, the reason of less competitive in the international market also should be taken into account. Although still showing positive signs, the coefficients of productivity lose their statistical significance when the models are applied for large-sized firms.

References

- Aw, B. Y., Chung, S., and Roberts, M. J., (1998), Productivity and the Decision to Export: Micro Evidence from Taiwan and South Korea, *NBER Working Paper Series*, No. 6558.
- Aw, B. Y., and Hwang, A. R., (1995), Productivity in the Export Market: A Firm Level Analysis, *Journal of Development Economics*, Vol. 47: 313-32.
- Bernard, A. B., and Jensen, J. B., (1999), Exceptional Exporter Performance; Cause, Effect, or Both?, *Journal of International Economics*, Vol. 47/1: 1-25.
- Bernard, A. B., and Jensen, J. B., (2004), Why Some Firms Export?, *The Review of Economics and Statistics*, Vol. 86/2: 561-69.
- Blalock, G., and Gertler, P. J., (2004), Learning from Exporting Revisited in a Less Developed Setting, *Journal of Development Economics*, Vol. 75: 397-416.
- Clerides, S., Lach, S., and Tybout, J., (1998), Is 'Learning-by-Exporting' Important? Micro-Dynamic Evidence from Columbia, Mexico, and Morocco, *Quarterly Journal of Economics*, Vol. 113: 903-47.
- Girma, S., Greenaway, D., and Kneller, R., (2004), Does Exporting Increase Productivity?: A Microeconometric Analysis of Matched Firms, *Review of International Economics*, Vol. 12/5: 855-66.
- Levinsohn, J., and Petrin, A., (2003), Estimating Production Functions Using Inputs to Control for Unobservables, *The Review of Economic Studies*, Vol. 70/2: 317-41.
- Manez, J. A., Rochina, M. E., and Sanchis, J. A., (2004), The Decision to Export: A Panel Data Analysis for Spanish Manufacturing, *Applied Economic Letters*, Vol. 11: 669-73.
- Ozler, S., Taymaz, E., and Yilmaz, K., (2009), History Matters for the Export Decision: Plant-Level Evidence from Turkish Manufacturing Industry, *World Development*, Vol. 37/2: 479-88.
- Petrin, A., Levinsohn, J., and Poi, B., (2004), Production Function Estimation in Stata Using Inputs to Control for Unobservables, *Stata Journal*, Vol. 4/2: 113-23.
- Tybout, J., and Westbrook, M. D., (1995), Trade Liberalization and Dimensions of Efficiency Change in Mexican Manufacturing Industries, *Journal of International Economics*, Vol. 31: 53-78.

Syunyaev, Georgiy¹: Turnover of Ruling Elites and Property Rights Protection: Evidence from Russian Regions

Abstract: *We test empirically hypothesis that rotation of ruling elites could improve property rights protection, and that such association holds when it is based on elites' concerns about security of their own property rights in the event they lose power (Polishchuk, Syunyaev 2011). Such incentives provide a solution to credible commitment problem in maintaining secured property rights when institutional restrictions on expropriation are weak or absent. It is further shown that the strength of such immediate incentives to maintain secured property rights depends positively on the size of elites' market assets. These conclusions are confirmed empirically by using a cross-section of 79 Russian regions and will be further tested on panel of Russian regions from 2000 to 2010 with additional focus on endogeneity issue.*

Introduction

The importance of secured property rights for economic development and welfare is a firmly established fact supported by a vast body of evidence. Nonetheless, cross-country comparisons reveal profound variations in property rights protection around the globe, and what exactly makes for secured property rights remains a subject of debates (Acemoglu, Johnson, Robinson 2001, Sokoloff and Engerman 2000, Tabellini 2008, Clague et al. 1996, Mehlun, Moene, Torvik 2006, Keefer and Knack 2002). Theories of property rights formation usually involve political mechanisms that shape incentives of political actors and interest groups and hence affect public choice of property rights regimes (Clague et al. 1996, Lizzeri, Persico 2005). There are evidences that secured property rights could be supplied by an autocratic regime as well, if it exercises its discretion over policies and institutions in favor of those supporting development and growth (Glaeser et al. 2004). Olson (1993) explains such affinity of regime's and societal interests by the famous "stationary bandit" concept: an authoritarian ruler with firm grip on power values economic growth as a means to sustain and expand his tax base, and hence invests in growth-promoting institutions, first and foremost secured property rights.

The "stationary bandit" theory leads to a testable hypothesis that longer tenure of autocratic regimes should be positively associated with more secure property rights. This hypothesis however is not supported by data (Besley and Ghatak 2010). One explanation could be that the "invisible political hand" does not fully align the incentives of a "stationary bandit" which lives off the proceeds of expropriation of the private sector with those of the private sector itself, which is the victim of such expropriation (McGuire, Olson, 1996). Additional mechanisms are required to narrow down such gap. McGuire and Olson (op. cit) describe such mechanism by pointing out that the gap between the interests of ruling elites and those of the private sector gets narrower if the elites own production assets in the private sector, and therefore becomes naturally interested, as the rest of the private sector, in enabling institutional environment that enhances returns to such assets.

What makes this logic somewhat less convincing is the implicit assumption that the ruling class is subjected to the same rules and requirements as the rest of the

¹ gerasy@gmail.com, National Research University Higher School of Economics, Moscow, Russia

private sector, and has no privileges in (non)paying taxes, protecting its economic interests, accessing high-yield resources and markets, etc. In real-life autocracies, this “equal treatment” assumption is routinely violated.

We argue in this project that the incentives to improve property rights protection and otherwise supply good institutions beyond the confines of the “invisible political hand” are still possible in non-democratic system, provided that there is sufficient turnover among ruling elites who consider the prospect of losing power as real and factor in such likelihood in their choice of institutional regimes. In this case elites’ preferences over the degree of property rights protection reflect the eventuality of being subjected to the same treatment as everyone else outside of the ruling circle. This makes the elites more sensitive to the quality of institutions and security of property rights.

Two key ingredients are required for this mechanism to work: (i) ruling elites’ turnover, and (ii) elites’ ownership of market assets. Notice that democratic system of government is not among these ingredients. Government turnover is usually considered as a feature (and evidence) of robust democracies (Persson, Tabellini, 2003). In such case a positive association between property rights protection and frequency of government change could be explained by democratic political competition, as voters support parties that offer better protection of property rights. Empirical support to this familiar motive of the Chicago School of political economy (Wittman, 1995) is not universal: there are evidences of both beneficial (Besley, Persson, Sturm, 2010) and adverse (Lizzeri, Persico, 2005) impact of political competition on the quality of government-supplied institutions and policies.

Aim of the project

In this project, we aim to show that the proposed mechanism of protection of property rights institution operates at regional level and can explain the variation in the protection of property rights among regions of Russia. First of all according to Frye (2004) we can expect the quality of judicial system to affect investment decisions made by entrepreneurs. It means that we can expect property rights regime to affect economic outcomes and investments in Russian regions.

One important distinctions of Russian regional government from national is that regional government is constrained in their policy-making by the central government decisions. Therefore one can expect regional governor’s decisions on property rights regime to be affected by central government policy. In case of Russian federal system it seems not to be true. Reuter and Robertson (2012) shows that there are grounds to believe that regional appointment decisions of central government is affected by outcome of national elections in region rather than economic outcomes. Therefore we can expect Russian governors to be substantially unrestricted in their decision on property rights protection at least after reform of governor selection process in 2004, when appointment procedure were adopted.

Another important issue is relationship of business and regional government in Russia (Frye 2004; 2006; Slinko et al. 2005; Pyle 2009). In their paper Gehlbach et al. (2010) shows that businessmen run for office in regions with poor institutional environment, low resource endowment (assets are harder less mobile) and low checks and balances. Therefore we can expect to have regional governments with business

background usually to be less restricted in their decisions by political competition and more tied to the region by their business. Unfortunately authors analyzed only data from 1991 till 2005 and therefore we have no evidence on whether this relationship extends to the period when regional leaders became appointed by central government rather than elected. Nevertheless, this finding provides reasonable strategy to identify regional governors with high immobile asset endowment.

Methodology and hypotheses

Up to this point, we have cross-section data on 79 Russian regions for 2008-2009, which include main explanatory and dependent variables as well as set of controls. We plan though to assemble panel dataset for 80 Russian regions for the period from 2000 to 2010, which will include data on property rights protection, turnover of governors, individual data on governors (main variable is business background and professional occupancy prior to entering the office) and number of control variable to address possible sources of endogeneity.

Ideally we would like to have individual assessments of the risk of leaving the office by each regional governor recorded in our dataset. This data is unavailable. Therefore political competition in Russian regions we measure by actual turnover of heads of Russian regions over the period of observation (potentially from this data we can obtain hazard rates for each region). This data was provided by Olga Vasilyeva¹ and complemented by data from Buckley et al. (forth.)

By property rights protection we predominantly mean judicial independence and risk of expropriation of assets by regional government (could be assessed by regional businessmen). In our project protection of property rights in Russian regions is measured by investment profile data for all regions by RAExpert. Reliability of data from RAExpert is questionable as those are predominantly expert assessments of risk of investment in particular regions. We plan to check reliability of RAExpert rating by comparing it to more objective measures of property rights protection (using open judicial data across regions) when it is available.

We use individual data for regional governors on region of residence prior to coming into office and their business/political background. According to Gehlbach et al. (2010) those measures combined could provide us reasonable proxy for governors who own assets inside the region which are considerably immobile. This approach could rise the question of whether any business background (e.g. participation in board of directors) leads to higher asset ownership of governor. We do not have answer for this question for the moment.

Set of control variables, such as per capita income (more income – more property rights protection), population (evidences are mixed), regional governors individual data, geographical characteristics of the region, the presence of business associations (more property rights protection), natural resources endowment, ethnic composition, turnout during elections, education level are included in the presented analysis.

In our empirical analysis, we show that there is relationship between the protection of property rights and political competition across regions, and it goes through the proposed channel. Based on OLS (for cross-section of regions) and FE (for

¹ Vasilyeva Olga. (forthcoming) Does political competition matter for public goods provision? Evidence from Russian regions. // *Amur Laboratory for Economic and Social Studies Working Paper*

panel data) models estimation we test significance of the relationship between competition in the region of Russia and protection of property rights. We add business background of governors, as a measure of regional elites' asset ownership and interaction term between business background and political competition to model specification. We then show that as the share of assets held by the wealthiest members of the region rise (with the assumption that the elite are among them), positive effect of political competition on protection of property rights increases. To test the robustness of these results similar calculations are performed using various sets of controls.

We also want to find evidence that causality chain runs from the turnover to property rights protection, not the other way around (one could argue that secured property rights make ruling elites less keen to cling to power, as the threat of expropriation after losing power is not looming large). We proceed in this direction by using lagged measure of turnover (by construction of the measure) of regional governors as a measure of anticipated risk of leaving the office, as it is unlikely affected by current levels of property rights protection. This approach though does not rule out the possibility of omitted variable bias, which is main source of endogeneity.

To address the latter issue we plan to perform estimation of regressions, which include a lagged dependent variable on panel of all regions for period from 2000 to 2010. It is well known that the presence of an LDV in fixed effects regressions creates biased and inconsistent estimates because the lagged dependent variable and the error term are correlated. Judson and Owen (1999) examine various proposed solutions and find that the bias-corrected least-squares-dummy-variable estimator developed by Kiviet (1995) performs better than other proposed estimators' do, even when number of years of observation is relatively short. The dynamic fixed effects models are therefore estimated using the bias-corrected fixed effects estimator Bruno (2005).

Other possibility is to explore possible natural experimental setting of change in selection process of Russian regional governors, which we observe in Russia in 2000th. Before 2005 regional governors were selected through regional elections, but in the end of 2004 central government appointment system was introduced. This institutional change effectively removed regular popular elections and replaced them with irregular process of appointments and reappointments. Frye and Yakovlev (2013) argue that this reform did not change on average individual characteristics of appointed regional governors, which makes appointment system less likely to directly affect property rights protection in regions. Reuter and Robertson (2012) add to this point by arguing that appointment selection process motivated regional governors to perform better mostly in terms of vote share of United Russia political party but not in terms of economic development of region. If we will be able to prove that new selection process systematically changed risk of leaving the office by regional governor in terms of rates of turnover, two points made above will allow us to explore cross-regional variation of governors asset ownership to assess effect of shock on expected probability of leaving the office on property rights protection in Russian regions. This is our main future empirical strategy for this project.

Preliminary conclusions

In this paper, we attempt to verify mechanism of property rights formation, which previously had been checked on cross-country level ([Polishchuk](#) and [Syunyaev](#),

2011). The main hypothesis is that in Russian regions where governor in power own assets in the region and where expected turnover rate of governors is high, perform better in terms of property rights protection. Previously, the mechanism of “institutional insurance”, proposed by authors, has not been considered in the literature; however, as shown on cross-country comparison, it has a significant impact on the property rights regime. Cross-country research differs from this study in two main directions: inability to draw policy implications and lack of adequate data on the business interests of elites. In addition, in contrast to previous work, this work allows to forecast the development of the institutional environment in the regions of one country holding most of institutional arrangements constant.

Preliminary empirical results on cross-section of Russian regions show that this mechanism could be observed in practice. We find support for complementarity between turnover of regional governors and their asset endowment (measured by business background). In future, we want to compliment current findings with empirical tests of endogeneity on panel data and exploit possible natural experimental setting of reform of governor selection process in 2005.

References

- Yakovenko, Igor (2005) Democratic audit of Russia *Novaya Gazeta*, 95, <http://www.freepress.ru/publish/publish042.shtml>
- Pyle, William (2011) Organized Business, Political Competition, and Property Rights: Evidence from Russian Federation *Journal of Law, Economics and Organization*, 27, 2-31
- Polishchuk, Leonid and Georgiy Syunyaev (2011) Taming the (Not So) Stationary Bandit: Turnover of Ruling Elites and Protection of Property Rights CInST Working Paper
- Reuter, John O., Graeme B. Robertson (2012) Subnational Appointments in Authoritarian Regimes: Evidence from Russian Gubernatorial Appointments *Journal of Politics*, 74(04), 1023-1037
- Buckley, Noah, Timothy Frye, Guzel Garifullina, and Ora John Reuter (forthcoming) "The Political Economy of Russian Gubernatorial Election and Appointment" *Europe-Asia Studies*
- Timothy Frye (2004) Credible Commitment and Property Rights: Evidence from Russia. *American Political Science Review* 98, No. 3 (Aug.), pp. 453-466
- Gehlbach Scott, Konstantin Sonin, and Ekaterina Zhuravskaya (2010) Businessman Candidates. *American Journal of Political Science* 54, No. 3
- Sokoloff, K., and S. Engerman (2000) History Lessons: Institutions, Factor *Endowments, and Paths of Development in the New World. Journal of Economic Perspectives*, 14, 217-232.
- Acemoglu, D., S. Johnson, and J. Robinson (2001) The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review*, 91, 1369-1401.
- Clague, Ch., Ph. Keefer, S. Knack, and M. Olson (1996) Property and Contract Rights in Autocracies and Democracies. *Journal of Economic Growth* 1, 243-276
- Glaeser, E., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer. (2004). Do Institutions Cause Growth? *Journal of Economic Growth*, 9, 271-303.

- Keefer, Ph., and S. Knack (2002) Polarization, politics, and property rights: Links between inequality and growth. *Public Choice* 111, 127-154.
- Lizzeri, A., and N. Persico. (2005). A Drawback of Electoral Competition. *Journal of the European Economic Association*, 3, 1318-1348.
- McGuire, M., and M. Olson (1996) The Economics of Autocracy and Majority Rule: The Invisible Hand and the Use of Force *Journal of Economic Literature*, 34, 72-96.
- Mehlum, H., K. Moene, and R. Torvik. (2006). Institutions and the Resource Curse. *Economic Journal*, 116, 1-20.
- Olson, M. (1993). Dictatorship, Democracy, and Development. *American Political Science Review*, 87, 567-576.
- Tabellini, G. (2008) *Institutions and Culture. Journal of the European Economic Association*, 6, 255-294.
- Wittman, D. (1995). *The Myth of Democratic Failure: Why Political Institutions Are Efficient*. Chicago: Univ. of Chicago Press.
- Persson, T., and G. Tabellini (2003) *The Economic Effects of Constitutions* Cambridge, MA: The MIT Press.
- Besley, T., T. Persson, and D. Sturm. (2010) Political Competition, Policy and Growth: Theory and Evidence from the United States. Mimeo.
- Persson, T., and G. Tabellini. (2000). *Political Economics: Explaining Economic Policy*. Cambridge: MIT Press.
- Judson, Ruth A. and Ann L. Owen (1999) Estimating dynamic panel models: A practical guide for macroeconomists. // *Economics Letters* 65:9-15
- Kiviet, Jan F. (1995) On Bias, Inconsistency, and Efficiency of Various Estimators in Dynamic Panel Models. // *Journal of Econometrics*, 68:53-78
- Bruno, Giovanni S. F. (2005) Approximating the Bias of the LSDV Estimator for Dynamic Unbalanced Panel Data Models. // *Economic Letters*, 87:361-366

Tran, Phuong Tra¹; Buso, Marco²; Marty, Frédéric³: Governments' use of Public Private Partnerships: Looking for Debt Hiding or Efficiency?

Abstract: *We examine the reasons why public authorities continue using PPPs during the period of budget constraint, using data from the totality of 121 Private Finance Initiative (PFI/CP) contracts signed in France since 2005. One of the criticisms is that governments develop Public Private Partnership (PPP) practices only for hiding public debt, as PPP is allowed to be accounted as o balance sheet. We argue by a theoretical model that even under budget constraint situation, an adequate performance PPP contract is preferred to traditional procurement, as PPP is less costly in terms of final rents. We then validate our model by empirical tests in two stages. First, we find a positive impact of budget constraint on the use of PFI/CP. As this impact can be both for political and efficiency reason, we then investigate the change of this impact when the possibility to underwrite the debt of PPP has gone in 2011. We find that the use of PPP in France, at the local level, is driven by an efficiency reason, because the impact of budget constraint on PFI/CP investment has not changed since 2011.*

Introduction

It is widely recognized that infrastructures investments are important elements at the base of the output growth and able to explain differences in terms of GDP pro capite (Iossa & Russo 2008). The global financial and economic crisis has caused the drop of the financial resources available for the public and the private sectors; as a consequence the possibility to invest is definitely decreased. This effect has been particularly relevant for those countries burdened by an excessive financial disruption that are, in most cases, the ones with more infrastructural needs. In such a situation, the choice of the optimal organizational structure for the management of a public investment becomes crucial in somuch as it can determine if the project will be adopted or not.

An alternative to both the conventional provision of public infrastructures and the complete privatization of the assets are the fixed-price risk-transfer contracts, such as the Private Finance Initiative in the United Kingdom or the Contrat de Partenariat in France (here-after called PFI/CP). This tool represents a type of Public Private Partnerships (PPP), investment instruments that allow the involvement of the private sector's capital and expertise for the realization and the management of the asset that will be returned to the public sector after an adequate period of time⁴. Since their creation in the UK in 1992, followed by France in 2004⁵, PFI/CP have been continuously criticized as too costly in comparison to the conventional way to invest, i.e. traditional procurements, due to the private financing and profits.

¹ tran.phuongtra@yahoo.fr, Sorbonne Business School – University Paris 1 Panthéon Sorbonne, France

² buso.marco@gmail.com, University of Padova, Italy

³ frederic.marty@gredeg.cnrs.fr, University of Nice, France

⁴ As all Public Private Partnerships contractual agreements (PPP), under a PFI/CP, performance risks at the construction and the operational phase are transferred to the private operator. PFI/CP are distinguished from the other kind of PPP, i.e. concessions, for the different risk transferred during the operational phase: availability risks under a PFI/CP, and demand risks under a concession.

⁵ By the Order n°2004-559 on 17th June 2004, improved by the French PPP law of the 28th July 2008.

At the practical level, practitioners often consider that the use of PFI/CP is for political reason. It seems intuitively plausible and is often claimed in the public debate that especially financially distressed authorities, for which further borrowing is difficult, are tempted of using the PFI/CP option. With the participation of private capital, they “can pay for the use of new or improved capital assets (...) rather than themselves borrowing to build or buy the assets” (Communities and Local Government 2009). Moreover, according to the EUROSTAT rules (2004), PPPs are classified off-balance sheet for governments if the private partner bears both the construction risk and at least one of either availability or demand risk. Thus, a public authority can be incentivized to choose a PFI/CP, where the construction and availability risks are taken by the private operator, to hide the public debt. However, this conventional wisdom doesn't find a confirmation in the theoretical literature that states as the choice of PPPs as a way to relax the budget constraint of the government is not economically supported (Engel et al. 2007).

One of the answers from French Government to this question is the Ordonnance on December 16th 2010 which modified the accounting classification for each PPP project. This initiative was taken because since the financial crisis, Governments have appropriated more risk through State Guarantees provided to the private sector in PPP (Marty and Tran 2013). Therefore, the necessity of basing the accounting classification from the logic of risk transfer to the logic of control becomes important. According to the new Ordonnance, to qualify if a project is off-balance sheet or not, the need of control from the public authority for a contracted outcome would be taken into account. Practically, PFI/CP with only availability risk transfer has therefore been qualified as on balance sheet projects since January 2011.

Aim of the project

In this paper, we study whether the use of PPP is for political reason or for an efficiency reason. The PFI/CP in France is a particularly appealing case to study this issue. First, since newly created in 2004, the totality of PFI/CP at the local level, i.e. 121 contracts from 2005 to 2012, can be investigated. Second, the introduction of the Ordonnance on December 16th 2010 changing the classification of the accounting rule for PPP has only effect on PFI/CP. Our objectives are then to study budget constraint's effect on the use of PFI/CP by French municipalities, as well as the change of this effect after the Ordonnance 2011. We expect that a higher level of budget constraint would increase the use of PFI/CP, both for a political and efficiency reason. We then answer to our research question by investigating whether the introduction of the Ordonnance 2011 would decrease the impact of budget constraint on PFI/CP investment.

Most existing studies are concerned with the actual and potential consequences of Public Private Partnerships: more efficient, less cost overruns, less delays, better quality, etc. The question why Governments use PPP is rarely studied. At the best of our knowledge, there is only one statistical study that has addressed this topic (Krumm and Mause 2012). In their paper, using descriptive statistics on a dataset of 309 PFI/CP projects, they concluded that fiscal pressure turned out to be an important driver of local governments' PFI/CP activities. We go further in our paper by answering to the question whether the choice of PFI/CP under budget constraint is for political or efficiency reason.

Hypotheses and Methodology

We begin by building a theoretical model suggesting a possible channel for choosing PPPs in a context of financial disruption. Other than studying the private finance as a benefit of PPP under budget constraint (Engel et al. 2007), we argue that this benefit comes from the optimal transfer of risks in a context of asymmetric information. Indeed, a bundled structure with a long term contract is more willing to accept the transfer of endogenous risks than in a short term one. As a consequence the government, by offering adequate performance contracts, is able to implement a project that is less costly in terms of final rents. We then derive testable implications regarding the characteristics of public authorities and take these implications to the data.

In order to validate these implications, we collaborate with the French PPP taskforce - MaPPP (Ministry of Economy and Finance)¹. We build a first dataset including contract data and municipality characteristics from the total of 121 PFI/CP at the municipality level between 2005 and 2012. The municipality data collected is the ones at the year before the contract signature. To study the choice of municipalities whether to use PFI/CP, we identify a control group of municipalities that have the same characteristics in terms of the demand side. We use the propensity score matching strategy in a dataset of 37000 municipalities to select 117 ones, controlling per year for the number of households and the income². This control group includes, for each year from 2005 to 2012, the same number of municipalities with the same characteristics as in our first dataset. In the end, we test our hypothesis on a final sample of 228 municipalities, among whose 111 choose at least one PFI/CP. We therefore are able to investigate the relation of municipalities' financial situation and the use of PFI/CP.

Results

We find that a budget constraint is associated with higher use of PFI/CP, both in terms of the amount of investment and the choice of this tool. The new Ordonnance, classifying PFI/CP as on balance sheet, neither has impact on the use of PFI/CP, nor decreases the impact of financial pressure on PFI/CP investment. This finding is robust to different measures of budget constraint.

References

- Engel, E., Fischer, R. and Galetovic, A. (2007). "The Basic Public Finance of Public-Private Partnerships", National Bureau of Economic Research (NBER) Working Paper No. 13284.
- Iossa, E. and Russo, F. A. (2008). "Potenzialità e criticità del Partenariato Pubblico Privato in Italia", *Rivista di Politica Economica*, SIPI Spa, vol. 98(3), pages 125-158, May-June.
- Krumm, T. and K. Mause (2012). "PFI: Who and Why? English Local Governments' Use of the Private Finance Initiative." *Public Administration* 3: 5.

¹ The Mission d'appui aux Partenariats public-privé (MaPPP) is the French Taskforce for PPP. Their roles are assessing PPP projects before they receive approval from the Ministry of Budget for national projects, providing support in the preparation and negotiation of procurement and contract documents, as well as promoting the PPP market in France.

² Dataset from the National Institute of Statistics and Economic Studies (INSEE)

Marty, F., Tran, P.T. (2013). "State Guarantees for PPP: Impact on Affordability and Value for Money", Working paper.

Tyurina, Elena¹: How does online marketplace environment impact on consumer behavior rationality?

Abstract: *High end technology is succeeding in surrounding more information to consumers. Online marketplace is filled with all kind of information and instruments for instance learning ones. All the actors, online marketplace organizer, etailor and online consumer, really need rules and stimuli which will be correcting consumer behavior rationality. This paper presents some conclusions how consumer behavior rationality relates to online marketplace environment. The findings that online marketplace environment is more ecological for etailors than for consumers and online consumers often do saticficing / ecological decisions, should be taken into account in online environment that can enable better decisions.*

Introduction

With the development of Internet technologies consumers are really turning to online shopping, whose process and results are of a great interest, as far as online retail marketplaces and shops environment disclose a huge amount of information about the actors' actions. For a long time scientists have been wondering, what kind of objective laws does the e-commerce actors' behaviour complies with, what influences their decision and in what ways.

Online marketplaces like eBay, Taobao became a perfect place for evidence gathering and consumer behavior research conducting (Dahui, 2008; Zhangxi, 2006; Ahlee and Malmendier, Mukoucheva and Sonin; He Dehua, Lu Yaobin, Zhou Deyi, 2008) [1]. Once I took an interesting Chinese e-commerce front-runner, online retail marketplace Taobao.com in 2010 and spent over 3000 hours online to research principles and rules of its work, the peculiarities relations between e-tailors and consumers. After analyzing hundreds of thousands item pages, I discovered a number of facts and situations that deserve the attention of economists:

1) There are plenty of situations when consumers ignore the obvious characteristics of the seller and the product, which characterize their reliability, authenticity, high quality, and prefer products with low ratings, while their presentations may not even contain the real pictures of the product.

2) Even if consumers do not get the right to return the goods (for example, clothes) and the guarantees of size, colour and quality matching with the description of the goods they still strong buy some of the products.

3) Items' presentation page at the Taobao stores is over flown with information (number of scrolling pages can be over 100), which is totally different from other platforms (eBay.com, Amazon.com, Wikimart.ru).

4) Consumers often feel they were cheated or misled by e-tailors selling products online. In 2010, buyers received refunds about \$25.7 million, Taobao lost about half of them because e-tailors refused to pony up [2].

The present facts have led us to the number of questions: 1) is consumer behaviour rational? 2) Can the online marketplace environment somehow influence the online consumer behaviour rationality?

¹ turina5@mail.ru, School of Business Administration of Northeastern University, P.R. China, and Far Eastern Federal University, Russia

The first question of the rationality of behaviour has been studied by scientists for a long time, besides there is empirical evidence both in favor of institutional theory and therefore real consumers' limited rationality, and in favor of the classical theory, assuming that consumers possess all information about products, their information – evaluating capacity is unlimited and individual are rational (Becker, 1976) [3].

As for the 2nd question, it relates to the following conclusions of Peter Todd (1) about the volume and quality of the information offered to the customer “Importantly to give to decision-makers the right information in the right presentation to facilitate their inferences and choices”, (2) about the customers' reluctance to make the deep analysis “People often avoid seeking additional alternatives and instead settle for one of the things that is already available” (Peter M. Todd, 2005) [4].

Much more deep reasoning was made by Kahneman (1994), who offered to think “Where the assumption of rationality must be given up, what are the most important ways in which people fail to maximize their outcomes?” [5].

Using the data from natural experiments and normative analysis, I decided to estimate the level of rationality in consumers' decisions and to see where do consumers lose their rationality and, conversely, what kind of environment makes their rationality level work for maximum.

Aim of the project

The aim of project is to do an analysis of how online marketplace environment impacts on consumer behavior rationality. In accordance with the aim the following objectives were set:

- To identify factors of online marketplace environment¹ and test their impact on consumer decisions.
- To estimate the level of consumer decisions rationality and consumer satisfaction.
- To identify how online marketplace environment influences on consumer decision rationality.
- To describe an ecological compatibility of behavioral situations for consumer and e-tailor.

Hypotheses and methodology

Summary about Taobao.com became a platform for my research. Taobao is the biggest online retail marketplace in Asia. Its market share is more than 90% in C2C (unlicensed business) segment, about 50% in B2C segment, and 70% in mobile shopping in China. In 2012, gross merchandise volume of Chinese online shopping increased to \$818 billion [6]. Taobao actively uses a special system of rules and stimuli for correcting actors' behavior that includes a system of consumer replies and repeated replies, a rating system of estimating both etailors and consumer etc. There is a lot of information on consumer behavior on Taobao web-pages. Therefore I decided to fix the real data about online marketplace environment and consumer decision twice, before and after consumer purchasing. This research approach is usually named natural experiment.

¹ Online marketplace environment includes (1) online marketplace microinstitutes and (2) information environment of item web-page.

My research questions are (1) what is level of consumer behavior rationality, and (2) how does online marketplace environment influence on online consumer behavior?

Hypothesis 1: Online marketplace environment (the higher level of quantity and quality of information, rules and stimuli) influences on consumer behavior rationality positively.

Hypothesis 2: Online marketplace environment (the higher level of quantity and quality of information, rules and stimuli) influences on sold amount of item positively.

Hypothesis 3: Online marketplace environment (the higher level of quantity and quality of information, rules and stimuli) influences on consumer satisfaction positively.

The first step was to identify factors of online marketplace environment and test their impact on consumer decisions. I ascertained 5 groups of factors (1) etailor characteristics, (2) item characteristics, (3) characteristics of item presentation and choice conditions, (4) sales conditions and services, (5) others. Then I developed measuring scale for every variable used as nominal, ordinal, interval, and ratio types of scale.

The second step was to collect real data about those factors into SPSS. I have been imitating consumer behavior search on casual style woman's bag¹ (price random 150-250 rnb) on Taobao.com. I got 424299 item variants but its known fact that the consumers usually don't look for more than 1-2 pages (1 page on Taobao has about 40 item variants). Also I know the Taobao's customers usually spend about 30 minutes for Taobao surfing that means they can study about 10 alternatives. Fundamental condition of my experiment is to collect data during one (1) day in order to fix a real situation for consumer choice. Totally I collected databases with 25 alternatives.

After 10 days I repeated data collection, the third step of the research, and fixed consumers' replies and ratings in order to calculate some variables and estimate the level of consumers' decision rationality and their satisfaction.

In estimating the level of consumer behavior rationality I start from an ideal consumer image that chooses a product at the lowest price and with the best seller and item characteristics the same time (totally 40 variables). I chose that approach based on both the normative analysis principles (D. Kahneman, 1994) and the fact that "only by understanding how the ideal individual, homo economicus, acts, we can see the "irrationality" of real individuals" (K. Sonin, 2011) [7].

The fourth step was the set of nonparametric and parametric tests – the factors of online marketplace environment influence on consumer satisfaction and sold amount (totally 54 factors). Then I estimated the level of online marketplace environment for every item and clustered them in three (3) groups in order to understand whether the level of consumer behavior rationality changes with filling online marketplace environment by more quantity of information and more number of rules set. I used Jonckheere-Terpstra test for that.

Results

1. The factors of online marketplace environment are identified (totally 56 factors) and tested for their influence on sold amount item and consumer satisfaction.

¹ The second series includes 3 kind of items (a casual style woman bag, a casual style woman watch, and bed linen); the third one – 2 kind of item: a casual style woman bag and a casual style woman watch.

2. Three sets of experiment were done in order to understand which environment did consumer purchase in, what level of rationality had consumer decisions, and whether customers were satisfied of their choice (ex 3 kind of items).
3. The set of nonparametric and parametric test showed that:
With the increase in the quantity and quality of information, a number of rules and stimuli the level of online consumer behavior rationality doesn't grow. Nevertheless the most consumer decisions are quite rational.
Sold amount of item is raised with the increase of quantity and quality of information, a number of rules and stimuli.
4. I suppose that online marketplace environment on Taobao.com is more ecological for etailors than for consumers.

References

- Dahui, Li. Online consumer-to-consumer market in China – A comparative study of Taobao and eBay / Li Dahui, Li Jun, Lin Zhangxi // *Electronic Commerce Research and Applications* 7 (2008). PP. 55–67.
- Zhangxi Lina, Dahui Lib, Balaji Janamanchia, Wayne Huang. Reputation distribution and consumer-to-consumer online auction market structure: an exploratory study // *Decision Support Systems* 41 (2006). PP. 435– 448.
- Ahlee H. and Malmendier U. Do consumers know their willingness to pay? Evidence from eBay auctions. Working paper, 2005.
- Information revelation and efficiency in auctions. Mikoucheva, Anna; Sonin, Konstantin. *Economics Letters* vol. 83 issue 3 June, 2004. p. 277-284.
- He Dehua, Lu Yaobin, Zhou Deyi. Empirical Study of Consumers' Purchase Intentions in C2C Electronic Commerce. *Tsinghua Science and Technology*. pp287-292 Volume 13, Number 3, June 2008.
- Taobao Boosting Consumer Safety. Jim Erickson. E-commerce News & Commentary from the Alibaba Group. Mar 03, 2011. URL: <http://alizila.com/details/index.php/news/2011-03/96/ALIZILA>.
- Becker, G. S. *The Economic Approach to Human Behavior*. Chicago: University of Chicago Press. 1976.
- Todd, Peter M. How much information we need? // *European Journal of Operational Research* / Peter M. Todd. 177 (2007). PP. 1317-1332.
- Kahneman, D. New Challenge to the Rationality Assumption. *Journal of Institutional and Theoretical Economics*. 1994. 150/1, p. 18-36. P. 3.
- China E-commerce Report. 艾瑞咨询集团。2012。
- Sonin.ru: Уроки экономики / К. И. Сонин. ООО «Юнайтед Пресс»; Москва; 2011. – 146 с. С. 15.

All research projects are in authors' edition

Contacts:

**Center for Institutional Studies,
National Research University Higher School of Economics**

Address: 24-3, Myasnitskaya str., Moscow, 101000, Russia

Tel. +7(495) 772-95-90 ext. 2276

Fax. +7(495) 772-95-90 ext. 2335

Email: lia@hse.ru

WWW: <http://cinst.hse.ru/en/>

<http://rssia.hse.ru>



2013