

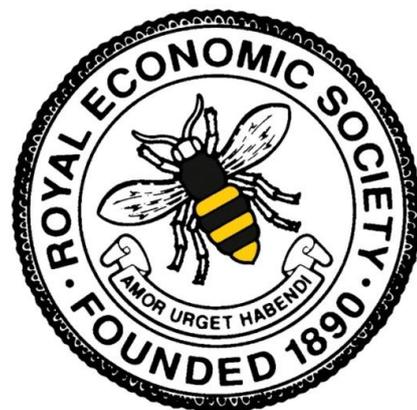
RSSIA 2015

Research Projects

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Aleksandrova, Ekaterina¹: Spatial and Individual Level Aspects of the Minimum Wage Externalities in Manufacturing Sectors

Abstract: *Traditionally, economists treat the minimum wage as one of the labour market regulation instruments. From a social point of view, the minimum wage is the main tool for poverty mitigation. There are several key aspects of the way minimum wage affects labour market rates. The positive ones include but are not limited to: increase in labour supply, stimulation of wage growth in economics, increase in employment. Increase in unemployment and growth of the informal sector are classified among the negative effects. In research it is offered to estimate influence of minimum wage on the prices in those sectors and regions (cities) of the Russian Federation where the salary of workers is at a low level.*

Introduction

Traditionally, economists treat the minimum wage as one of the labour market regulation instruments. From a social point of view, the minimum wage is the main tool for poverty mitigation. There are several key aspects of the way minimum wage affects labour market rates. The positive ones include but are not limited to: increase in labour supply, stimulation of wage growth in economics, increase in employment. Increase in unemployment and growth of the informal sector are classified among the negative effects.

Analysing the minimum wage application to policy making remains relevant, especially in Russia. In OECD countries and in a number of developing countries the minimum wage is centralised for all sectors and regions. In countries with a high differentiation in regional labour markets (e.g. USA, Japan), the minimum wage is decentralised. Conventionally, the minimum wage is a severe constraint of lower bound of wages, which prevents real wages in developed economies from being decreased. In Russian Federation, the minimum wage is centralised and had some considerable leaps (Table 1). One of the features of the minimum wage in Russia is a flexible regulatory mechanism of wage formation. Thus, the wage tariff part is connected to the lower boundary of the minimum wage on many plants and in many organisations in various spheres of economic activity, including the public sector of the economy. Hence, the “over the rate” part of the wage (accounting for more than 30% of the wage, according to different assessments) is flexible. Such a flexible wages mechanism secures plants from negative external shocks.

The centralised minimum wage for all employees, regions and sectors in Russia has a substantial disadvantage. The high labour markets differentiation by sectors, regions and cities leads to the minimum wage having a differentiating impact. Among the most vulnerable are (a) employees in sectors with the wage defined by the minimum wage, (b) employees in the depressed regions and cities (monotowns), (c) separate groups of employees (unskilled workers, young people, workers in small companies).

The minimum wage often is used as a policy tool (Wong 2014, Saari et al. 2013, Hovenga et al. 2013). There is a number of empirical studies examining growth in the informal sector, for example for Brazil (Carneiro 2004) and India (Comola et al. 2011).

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There is no clear assessment of the influence of the minimum wage on employment. Xiao and Xiang (2009) summed up minor adverse effects on employment in China. More evidence from China (Jia 2014) indicates a negative effect on employment for females and a lack of the effect for males. Moreover, in their paper, Xiang and Xiao found that an increase in the minimum wage significantly compresses the distribution of wages. According to a research on Brazilian data (Lemos 2007), an increase in the minimum wage results in growth of wages and prices with minor adverse effects on employment. A positive effect of the minimum wage on wages was found by Draca (Draca et al. 2011) on UK data. Lemos (Lemos 2007) found no evidence of adverse effects on employment in either sector on the aggregate level or in vulnerable groups, such as teenagers, women and the poorly educated.

Table 1. Performance of minimum wage in the Russian Federation

Date	Minimum wage, rub.	Relation of min wage and min cost of living, %	Average wage, rub.	Kaitz index, %
01.01.2014	5554	67.1	29535.0	18.8
01.01.2013	5205	68.2	29792.0	17.5
01.06.2011	4611	65.7	23396.2	19.7
01.01.2009	4330	78.8	18637.5	23.2
01.09.2007	2300	54.8	13593.4	16.9
01.05.2006	1100	29.6	10633.9	10.3
01.09.2005	800	24.3	8554.9	9.4
01.01.2005	720	22.9	8554.9	8.4
01.10.2003	600	25.6	5498.5	10.9
01.05.2002	450	23.0	4306.3	10.4
01.07.2001	300	18.1	3240.4	9.3
01.01.2001	200	13.2	3240.4	6.2
01.07.2000	132	9.8	2223.4	5.9

In spite of the existence of empirical studies with no confirmation of the effects of the minimum wage on wages (Avouyi-Dovi et al. 2013), we are aware that the effects of minimum wage should be assessed differently with regard to the targeted groups, geography and sectors.

Examples of different effects on targeted groups include an assessment of such effects on males and females by the level of education (Jia 2014), and on unskilled labourers (Hovenga 2013). In their paper, Campolieti et al. (2014) pay attention to the differences between permanent and temporary minimum wage workers. Lemos (2007) found different effects on the formal and informal sectors.

Sectoral differences are considered in several papers. Wadsworth (2010) looked at the effects of the minimum wage on the prices of UK goods and services by comparing prices of goods and services produced by industries in which UK minimum-wage workers make up a substantial share of total costs with prices of goods and services that make less use of minimum-wage labour. Dube et al. (2007) presented the first study of the economic effects of a citywide minimum wage - San Francisco's adoption of an indexed minimum wage. They analysed fast-food and table-service restaurants and found differentiated reactions to the policy.

A relatively small number of papers explore the spatial impact of the minimum wage. Mason et al. (2006) evaluated the impact of the minimum wage across the regions of the UK, with the least effect in London and the South East, and the greatest

impact in the "north". In the northern regions, businesses are less able to absorb the increased costs and more likely to respond by increasing prices.

It seems essential to us to investigate the adverse effect of the minimum wage on prices, which is often unaccounted for. Similar effects were established in papers for Romania (Andreica et al. 2010), South Africa (Pauw 2012), Brazil (Lemos 2006) and France (L'Horty and Rault 2004).

Our study is based on the theoretical model provided by Shepherd (2000). An apparent paradox perceived by Card and Krueger (1995) concerning the relationship between the minimum wages, employment, and output prices is resolved by revisiting the economics of the minimum wages to show that under monopsonistic conditions in the labour market and competitive price-taking in the market for output, increases in both firm-level and industry employment are compatible with increases in output prices.

Aim of the Project

The goal of the research project is a differentiated assessment of the influence of changes in the minimum wage in Russia.

Hypotheses and Methodology

We assume the following hypothesis:

(1) Increase in the minimum wage influences the prices that manufacturers set in the sectors with a low level of wages.

(2) Increase in the minimum wage negatively affects the depressed regions and cities.

Card and Krueger (1995) and Aaronson and French (2007) argue that the extent of labour market competition also has implications for prices. Under perfect competition for labour, wages equal the marginal cost of labour, and the minimum wage raises the marginal costs of production and ultimately prices, since firms set prices related to marginal costs. Under monopsony, the minimum wage can reduce marginal costs, since the firm no longer has to raise wages to attract marginal labour. Lower marginal costs will tend to raise the demand for labour and hence increase output. Higher output should act to lower prices, other things being equal. However, this will not hold if either firms price according to average costs (since the minimum wage raises average costs under monopsony or perfect competition), or firms adjust the quality of output rather than quantity.

The less competitive the product market, the easier it is for firms to pass on increases in the costs of production and maintain profit levels. The more substitutes for a good, the more price elastic, the demand and the harder it becomes for firms to raise prices. In the absence of detailed information on the firm level on any of these factors it is hard to isolate their respective effects. The price outcomes that we observe are thus the net result of all these influences and others.

Since there is no available data on individual firm pricing behavior, researchers only have access to aggregated data on the sectoral level comprised of the pricing behavior of many different firms. If all firms behave the same and adjust prices at the same time, then the aggregate price data series will also follow the same pattern as that of the representative firm. This suggests that it may still be possible to use geographical and sectoral level price data to test for breaks in the annual inflation rate

series. We adopt an approach in what follows by also looking at the long run differences in prices between minimum wage sectors and regions (or cities) and other industries. Heterogeneity in both pricing behavior and market structure across firms, as well as spatial effects, makes it difficult to follow a strategy of trying to identify structural breaks from price and inflation data. However, it remains true that retail prices in a sector subject to a larger wage shock might be expected, other things being equal, to be higher than in sectors not subject to as large a wage shock.

Basic econometric specification for estimation of the inflation rate, specifically the time change in the logarithm price index is given by:

$$\Delta \ln P_t = \alpha + \sum_{t=T_1}^{T_2} \delta_t D_t + \varepsilon_t,$$

where $D_t = 1$ if the minimum wage adjusted in period t , $D_t = 0$ otherwise. The coefficient on the dummy variable then measures the average change in the inflation rate when the minimum wage was increased relative to the minimum wage as it was before. To allow for lagged or leading effects of the minimum wage, dummy variables are lagged before and after t .

Since acquiring the price series of individual sectors may prove to be problematic, we use the results of a pooled estimator, estimated on both the sector and item levels:

$$\Delta \ln P_{it} = \sum_{t=T_1}^{T_2} \delta_t D_t + \alpha_t + \beta_y + \gamma_m + \varepsilon_{it},$$

In order to measure the rate of inflation of minimum wage goods over a longer period of time relative to other goods, we estimate a simple difference-in-difference regression model pooled:

$$\text{Infl}_{it} = \beta_0 + \beta_1 \text{MWG} + \beta_2 D + \beta_3 \text{MWG} D + u_{it},$$

where MWG (minimum wage good) is a dummy variable to indicate whether the good i is a minimum wage good (1 = yes, 0 = no); D is a dummy variable to indicate whether the inflation observation is before or after an increase in the minimum wage (1 = yes, 0 = no), and the third term is the interaction of the two dummy variables. The estimated coefficient on the constant gives the average yearly inflation rate for non-minimum wage goods over the period before the minimum wage was increased. The estimated coefficient on the MWG dummy gives the difference between the average inflation rate for non-minimum wage goods and minimum wage goods in the period before the minimum wage was increased. The coefficient on the D dummy variable gives the change in the average inflation rate for non-minimum wage goods after the minimum wage was increased and the coefficient on the interaction term b_3 is the change in the inflation rate for minimum wage goods relative to the RPI in the period after the minimum wage was increased (the difference-in-difference estimator).

Data

Currently, we have Russian firm-level data for the period between 2003 and 2012 on profile information, as well as main financial variables gathered from the “Ruslana - Bureau van Dijk” database. A part from that, this database contains information about the number of employees, payments of wages, expenses for labour costs and location of firms.

We plan to use information about the cities from the MULTISTAT database, which includes data on the salary, employment and unemployment, and also other data on social and economic activity of the cities. Besides, we have a list of monotowns presented in the resolutions of the Government of the Russian Federation.

Data on regional activity are collected from the official sources: Rosstat, Regional Development Ministry, Economic Development Ministry. The same sources are used for data collection about a region CPI and PPI (producer price index by industries).

Data on the minimum wage rate, taxes on the salary budget, personal income tax, regional living wage are used from the legal database GARANT.

We intend to use the earnings and industry affiliation information contained in each wave of the RLMS HSE for the period between 2003 and 2012 to obtain a ranking of industries at the 4-digit level by 1) the wage bill share of workers paid at or below the minimum each year and 2) the share of this minimum wage labour in total costs (the labour share).

To determine which regions in Russia are depressive we use following indicators: the unemployment rate and the average wage by region.

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***Alinsunurin, Jason P.*¹: Fiscal Decentralization and Distributive Party Politics: Evidence from the Philippines**

Abstract: *In this project, we aim to test the presence of persistent favouritism among districts and local government units affiliated with the president's political party in the light of ongoing fiscal decentralization. We test if these are evidenced in expenditures at various sectors at the local level. To do so, we construct a unique dataset of public projects funded by the Priority Development Assistance Fund (PDAF), a discretionary fund of the legislature representing five percent of the national budget. We also aim to develop an index of deprivation based on development outcomes as part of the controls. We hypothesize that co-partisan politics has influence in determining fiscal transfers in many regions of the country.*

Introduction

Economies across the developing world have adopted fiscal decentralization as a central piece of their governance agenda for a wide variety of reasons. Motivations and expectations ranged from reducing rural poverty and boosting economic growth (Manor, 1999), making the government more responsive and efficient (Bardhan, 2002; Wallis & Oates, 1988) and improving the allocative efficiency and service delivery of local governments (Barankay & Lockwood, 2007).

It has enabled many governments from developing countries to ease up the centralization burden to smaller and more localized regional governments, due to the high costs of a highly centralized and coordinated decision making. Building on the premise that local governments are on a better and on a more efficient position than central governments to target expenditures and social programs, intensity of decentralization has progressed tremendously. Though it has transpired with a variety of results and rates of progress among developing and developed economies, empirical evidence has illustrated the overall benefits of increased levels of decentralization, i.e. in Colombia (Faguet, 2004), Switzerland (Barankay & Lockwood, 2007) and United States (Xie, Zou, & Davoodi, 1999).

While fiscal decentralization in government expenditures has also been shown to be strongly and significantly associated with lower corruption levels, as shown in Fisman & Gatti (2002); it has to be emphasized though that it needs to be supported, by among other things, institutions that evaluate government efforts at all levels and by mechanisms for listening and making the government responsible and accountable (Shah, 1999). This is where most developing countries fall short in fully realizing the potential benefits of decentralization—institutional quality, rule of law, and accountability mechanisms, in general, are weakly established in many developing countries. In such cases, we expect development outcomes measured at the lower levels of governance to be impervious to any decentralization efforts. Such is the case in the Philippines—despite high levels of economic growth and increased levels of fiscal decentralization and devolution, development outcomes had hardly improved in areas where decentralization expected to have the most impact (Llanto, 2009; 2012), Poverty levels remain very high in a region of high growth.

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In this paper, we look into the two primary government expenditure instruments, that in many ways, are targeted and designed by local government executives for their local constituencies. These are the subsidies for local government units (LGUs, which include cities, municipalities and provinces); and the controversial Priority Development Assistance Fund (PDAF, controlled by the members of the Congress), which altogether comprised around 17 percent of the total government expenditures in 2013. The PDAF was controlled by lawmakers, to complement the local government spending since PDAF is designed to implement local projects outside the national expenditure program.

While the PDAF and other related forms of patronage-related funds have been declared to be unconstitutional by Supreme Court in 2014, with the LGU subsidies still remaining in place, we aim to test fiscal whether fiscal transfers were determined by co-partisan politics or by the needs of local constituencies or both. Moreover, if co-partisan politics can explain the transfers, can the imbalances also explain to some extent the variation in development outcomes?

Aim of the Project

The project aims to answer two related research questions: (1) to what extent are fiscal transfers to local governments targeted towards regions in need? (2) to what extent can co-partisan politics figure in terms of allocation and spending of fiscal transfers?

Our project addresses some of the key gaps in the literature. Most of the evidence concerning favouritism among local executives in fiscal transfers are anecdotal in nature. The phenomenon is not unique in the Philippines but also in other developing Asian countries. We also innovate by attempting to construct a robust indicator of deprivation measured at the level of LGUs. This will allow us to test the “decentralization as a development response” hypothesis.

Hypothesis and Methodology

We will construct several databases for this study: first is the PDAF releases tied to a specific legislator at the local level of projects funded and implemented. We will match this fund releases data to local government spending with local government units as unit of observation. Overall, there are more than 10,000 observations of fund releases. We will also create composite indices of economic deprivation at the lowest level of a local government unit. The index is similar to the one developed by Connolly & Chisholm (1999). The index will be included in the regression model stated below.

The basic model to be estimated is as follows:

$$\ln EXP_{it} = \alpha + \beta DEP_{it-n} + \gamma POL_{it} + \delta FE + \varepsilon_{it}.$$

Where $\ln EXP$ is the log of fiscal transfers, DEP is the index of deprivation, POL is a vector of variables capturing political party affiliations between local government executives, FE are LGU-specific fixed effects and ε_{it} is the random error term; I and t correspond to LGUs and t for year and n for the number of lags.

Expected Results

The paper and dataset is presently under construction. The following are some of the hypotheses we aim to test:

- a) Deprivation may explain some of the fiscal transfers to LGUs; co-partisan politics will in some regions;
- b) LGUs with co-partisan executives at the local and national levels get substantially more transfers than LGUs with executives from opposition parties.
- c) Fiscal transfers on specific expenditure categories that can perform vote buying will be higher in co-partisan LGUs.
- d) There is association in imbalances in fiscal transfers to some of the development outcomes.

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***Alinsunurin, Maria Kristina G.*¹: Institutions for Inclusion: Factors Influencing Financial Inclusiveness of Selected Microfinance Institutions in the Philippines**

Abstract: *Empirical evidence has shown the relationship of financial inclusion with economic growth through investment and long-term consumption. The business success of microfinance in the Philippines was a step towards the viability of micro-banking, however, inclusion of most low-income households remains as a challenge. This paper will explore through a model the inclusiveness of financial institutions. The research will utilize branch level data from selected microfinance institutions to measure the extent of financial outreach and determine the factors that influences it. Expected results show that account officer characteristics, branch level fixed effects and branch management have effects to the inclusiveness of financial institutions.*

Introduction

Most academic research has long established that financial development is linked to economic growth (Sarma, 2008). However, financial development may not necessarily translate to financial inclusion. The main feature of financial inclusiveness is providing financial services like savings, loan and insurance in an affordable and reliable manner. Having these services available to the low-income segment of the society would mean lesser vulnerability and risk, managed levels of liquidity and enhanced ability to invest in economic opportunities. It is important therefore to inquire if institutional policies on financial development lead to realize the expected outcomes of financial inclusion.

In the last two decades, the Philippines have moved into improvements in the financial sector. The General Banking Law of 2000 recognizes microfinance as one of the strategy to provide “appropriately designed and affordably priced” financial services (BSP, 2014). Microfinance, championed by Muhammad Yunus of the Grameen Bank provided financial access provides as way where to break out from poverty (Yunus, 2007). Other financial services have positive contributions in varying degrees. Extending credit for instance has shown to have encouraged business creation and have helped business cope in risk (Banerjee, 2013). Savings, on the other hand, has helped smooth consumption and contributes to working capital of microbusinesses. More recent products like microinsurance emerge to provide cushion to risk and manage shocks.

Despite microfinance’s business success in the Philippines, according to the Bangko Sentral ng Pilipinas (BSP, 2012) 2013 Q2 report, there are still 610 out of 1,634 cities and municipalities that do not have banking offices, in which most of these are situated in the rural areas. Furthermore, data from the Global Financial Inclusion Database (Global Findex) of the World Bank show that in the Philippines, only 27% of the population age 15 and above has an account in financial institution. This is lower than the average in East Asia and the Pacific (developing countries) which is about 55% of the population.

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One of the possible reasons for the low outreach is that financial institutions face information asymmetries in the credit market. Currently, financial services like microfinance in the Philippines do not have the liberty of information in measuring a borrower's creditworthiness through mechanisms like credit scoring systems. Such innovations together with collateral and legal requirements will solve the problems (Tedeschi, 2006).

Despite the government promoting of having 75% of loan to deposit ratio among banks doing services like microfinance (BSP, 2001), the industry has yet to see strong incentives and available innovation in the micro-banking level in order for the financial institutions to address unmet demands of low-income households.

Aim of the Project

The challenge of financial inclusion in the Philippines gives two contrasting issues: financial institutions are thriving businesses in the Philippines; and certain extent of low-income households is unbanked. The objective of the research is to determine the factors that influence financial institutions, like microfinance providers and cooperatives, to include low income households as part of their client base.

Hypothesis and Methodology

In order to determine the factors how financial institutions make their services inclusive, the research will examine bank branch level data of sampled microfinance institutions in the Philippines. From these branch level data that will comprise loan and client information, the outreach to the low-income households will be determined through the Progress out of Poverty Index (PPI) for microfinance institutions. The PPI was developed by the Grameen Foundation to aid in the identification of clients, customers, or employees who are most likely to be poor or vulnerable to poverty. These information are integrated into assessments and strategic decision-making (Grameen Foundation, 2011).

From the data, the proportion of clients below poverty level to the total number of client base ($\frac{P_i}{CB_i}$) at a given time will be determined. This will be the dependent variable in the model which the research would like to test:

$$\ln\left(\frac{P_i}{CB_i}\right) = \alpha + \beta A_i + \gamma B_i + \delta C_i + \varepsilon_i$$

In this equation, A_i represents the vector of characteristics of the account officers in the branch. The role of account officers is significant in client selection as they have they are the one who primarily conduct credit and background investigation among potential clients. The account officer characteristics may take into account age, gender, educational background and among others. B_i represents branch level fixed effects.. Finally, the characteristics of the credit committee/branch management, C_i , is included as a determinant.

Through cross-section regression, it will be analyzed if any of these determinants influence the outreach to poorer potential clients. The research would also eventually incorporate the proportion of the bank's portfolio for loans in the

analysis, to inquire whether the extent of the loan portfolio is allocated for poorer clients.

The research hypothesizes the following based on the previous literatures and data:

H1: The outreach of financial institutions is determined by the characteristics of the agents or account officers;

H2: Observable branch characteristics or fixed effects determine the outreach;

H3: Branch management characteristics determine the outreach;

H4: Loan portfolios of branches are not directed to poorer potential clients.

Expected Results

Financial institutions are faced with problems of adverse selection and moral hazard. In the Philippines, where transaction costs, related to gathering information about the potential client and monitoring loans disbursed, are usually high, most institutions offering microfinance services would select clients with profitable business projects. These clients would usually fall to the “entrepreneurial poor” to non-poor category of clientele. However, as micro-banking innovations are gradually implemented, the variables specified in this research extend beyond the client profile as the sole determinant of who will be financially included.

While account officers have a degree of influence of selection, the targeting strategy of the branch management may also dictate the inclusiveness of the financial services. Branch characteristics may also have an effect on targeting poor clients. Geography in some rural areas on the Philippines may also determine the physical access of financial services.

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Blazheska, Simona¹: Determinants of Bank profitability. An empirical evidence from the Republic of Macedonia

Abstract: *The aim of this paper is to examine the effect of the internal and external determinants of bank profitability in Macedonia, to verify the Structure-Conduct-Performance (SCP) hypothesis, as well as to test if there is profit persistence in the Macedonian banking sector. Panel data for Macedonian banks, covering the period 2007-2013 is used. Due to the dynamic specification of the model, panel is estimated by the system generalized method of moments (system GMM) and the return on assets and return on equity are used as dependent variables. The estimation results show that the most important determinants of Macedonian bank profitability are operational efficiency (cost management) and credit risk. Persistence of profits is not verified, whereas Structure-Conduct-Performance (SCP) hypothesis is verified only in the equation where return on equity is considered as dependent variable.*

Introduction

In the last two decades the banks around the world experienced very significant changes in their environment, such as the fast growth of the information technology, then globalization and internationalization, consolidation and concentration, disintermediation and diversification etc. All these changes affected the way the banks were working and of course, their profitability.

The last financial crisis also put on a test the sustainability of the current banking model, resulting in bankruptcy of large and famous banks such as Lehmann Brothers, or worsening the profitability of bank in every part of the globe.

Therefore analyses of the determinants of bank profitability would be very useful in and after periods of crises, so that it can be seen in which segments banks should enhance themselves in order to improve their profitability.

Determinants of bank profitability are divided in two groups. The first group consists of internal determinants such as size, cost management, risk management, market power, productivity, balance sheet structure etc. All these factors depend on the managerial decisions. That is why they are named internal. The external determinants cannot be influenced by managerial decisions. They are divided in two groups. The first one represents factors typical for the banking industry such as concentration, ownership, regulation etc. The second group consists of macroeconomic determinants such as GDP growth, inflation, real interest rates that present the overall situation in one economy.

In the empirical part of this paper we will include both internal and external determinants of bank profitability.

Aim and Hypothesis

Aim of this paper is to examine which are the most important internal and external determinants of profitability of Macedonian banks. Taking into consideration the dominance on the market of the largest three banks in Macedonia and their high profitability, we would like to test whether the Structure-Conduct-Performance

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Hypothesis can be verified in the Macedonian Banking sector. Another thing that we would like to test if there exist profit persistence in the Macedonian banking industry.

Methodology

We use panel data for 15 Macedonian banks covering the period from 2007 to 2013. We have 105 observations.

Because we want to test persistence in profit, we employ dynamic panel data model, which will be estimated with the following equation:

$$y_{it} = \alpha + \delta y_{it-1} + \beta_j X_{it}^j + \beta_k X_{it}^k + u_{it}$$

$$u_{it} = v_i + e_{it}$$

where y_{it} is the dependent variable which is measure of profitability. In our model we use two measures of profitability: return on assets (ROA) and return on equity (ROE). y_{it-1} is the lagged dependent variable for one period, which we use as a measure to test profit persistence. Value of δ between 0 and 1 indicates that profits are persistent, but they will eventually return to the equilibrium level. Specifically, values close to 0 denote a high speed of adjustment and imply relatively competitive market structure, while a value closer to 1 implies slower mean reversion, and, therefore, less competitive markets (Flamini et al, 2009).

u_{it} is the error term, which can be split in two parts: v_i , representing the unobserved bank-specific effect, and e_{it} presenting the idiosyncratic error. X_{it}^j is the vector of the internal determinants of bank profitability, whereas X_{it}^k presents the vector of external determinants of bank profitability.

The variables included in the model, their measure and expected direction of influence of bank profitability is presented in the table below.

Table 1. Determinants included in the model

		Variables	Measure and notation	Expected sign
Dependent variables		Return on average assets (ROA)	Net profit / average total assets roa	
		Return on average equity(ROE)	Net profit / average shareholders' equity roe	
Independent variables	Internal determinants	Bank's size	Natural logarithm of total assets logta	?
		Cost Management	Cost to income ratio- CIR cir	negative
		Capitalisation (Solvency risk)	Equity/total assets cap	?
		Credit Risk	Loan-loss provisions to loans ratio llploans	negative
		Liquidity Risk	Loans to total assets loansta	negative
	Determinants specific for the banking industry	Concentration	Concentration ratio of top 3 banks cr3	positive
	Macroeconomic determinants	Bysiness Cycle	Annual growth rate of real GDP gdp	positive

In the tables 2 and 3 are presented the descriptive and the correlation matrix of the variables, which are included in the model.

Table 2. Descriptive statistics

Variable	Observations	Mean	Std. Dev.	Minimum	Maximum
roa	105	-0,0065	0,0298	-0,1114	0,0454
roe	105	-0,0080	0,1734	-0,8201	0,2390
logta	105	16,0133	1,3281	13,0493	18,2795
cir	105	0,8944	0,4936	0,3865	4,2150
cap	105	0,1965	0,1547	0,0714	0,9047
llploans	105	0,0324	0,0596	0,0007	0,5393
loansta	105	0,5501	0,1708	0,1237	0,9131
cr3	105	0,6709	0,0232	0,6352	0,6964
gdp	105	0,0279	0,0248	-0,0050	0,0650

As we can see from table 3, our sample does not suffer from multicollinearity.

Table 3. Correlation matrix

	logta	cir	cap	llploans	loansta	cr3	gdp
logta	1						
cir	-0,6336	1					
cap	-0,7344	0,3849	1				
llploans	-0,2520	-0,0072	0,2211	1			
loansta	0,5564	-0,2761	-0,6717	-0,3402	1		
cr3	-0,1572	-0,0800	0,2571	0,1519	-0,0397	1	
gdp	-0,0866	-0,1401	0,1707	0,1079	0,0182	0,3571	1

The dynamic specification model implies that it cannot be estimated with Ordinary Least Squares (OLS), which would lead to biased and inconsistent estimates of the parameters. Thus, we employ the Generalised Method of Moments (GMM). Dynamic panel GMM estimators, which are introduced by Arellano and Bond (1991) is known as “difference” GMM and later it was developed the “system” GMM by Arellano and Bover (1995) and Blundell and Bond (1998). In case some of the variables exhibit unit root process, then the estimates from “difference” GMM may be biased since the lagged levels of the variables used as instruments may reveal little information on the differenced regressors. As we can see from Table 4, some of the variables exhibit unit root process, so we will estimate the model with the “system” GMM.

Results

With system GMM we estimated the model in STATA. We estimated the two equations, in the first one as dependent variable is used the return on assets, and in the second return on equity. After collapsing the numbers of the instruments we got the results presented in table 5.

As we can see, the lagged variable is only significant in the second equation at level of 10%. Therefore we will not verify the thesis of profit persistence in the Macedonian banking sector and we can conclude that there is competition between the Macedonian banks and that they do not use their market power.

Regarding the size, it is not significant in both equations which is line with the results with we got about the profit persistence. It means that Macedonian banks are too small to use the advantages offered by economies of scales.

Cost management and credit risk are the most important internal determinants of Macedonian banks' profitability. Therefore we can conclude that in order to enhance their profitability, Macedonian banks will have to enhance their efficiency and carefully to screen and monitor their credit exposure.

Table 4. Testing stationarity with Fisher Test

Variable		Inverse chi-squared(30) P	Inverse normal Z	Inverse logit t(79) L*	Modified inv. chi-squared Pm	Conclusion
roa	Statistic	39,9734	1,0009	0,7425	1,2876	All panels contain unit roots
	p-value	0,1054	0,8416	0,7700	0,0989	
roalag	Statistic	40,0137	0,0429	0,0862	1,2928	All panels contain unit roots
	p-value	0,1046	0,5171	0,5343	0,0980	
roe	Statistic	24,1721	1,3935	1,3077	-0,7524	All panels contain unit roots
	p-value	0,7642	0,9183	0,9026	0,7741	
roelag	Statistic	25,8574	2,0777	2,2839	-0,5697	All panels contain unit roots
	p-value	0,6960	0,9811	0,9875	0,7155	
logta	Statistic	35,6478	1,2214	1,1088	0,7291	All panels contain unit roots
	p-value	0,2198	0,8890	0,8646	0,2330	
cir	Statistic	23,051	1,6487	1,7444	-0,8971	All panels contain unit roots
	p-value	0,8132	0,9504	0,9575	0,8152	
cap	Statistic	87,5185	-0,7043	-2,7339	7,7256	At least one panel is
	p-value	0,0000 *	0,2406	0,0039 *	0,0000 *	
llploans	Statistic	125,3276	-4,4952	-7,9557	12,3067	At least one panel is
	p-value	0,0000 *	0,0000 *	0,0000 *	0,0000 *	
loansta	Statistic	121,7684	-2,2753	-6,1906	11,8472	At least one panel is
	p-value	0,0000 *	0,0114 **	0,0000 *	0,0000 *	
cr3	Statistic	3,5263	4,7319	4,4736	-3,4177	All panels contain unit roots
	p-value	1,0000	1,0000	1,0000	0,9997	
gdp	Statistic	28,5071	-1,1157	-0,9916	-0,1927	All panels contain unit roots
	p-value	0,5436	0,1323	0,1622	0,5764	
Ho: All panels contain unit root.						
H1: At least one panel is stationary.						
* and ** mean rejection of Ho, at level of significance of 1% and 5%, respectively.						

Liquidity and capitalization are not significant determinants in both of the cases. This is more or less expected because through the analysed period Macedonian banks held huge amounts of liquid assets in their balances and were highly capitalized.

Table 5. Estimation with system GMM

Independent variables	Dependent variable ROA	Dependent variable ROE
Constant	-0,0770	-0,5700
Lagged variable	0,1444	0,2276*
Size of the bank	0,6382	-0,0032
Cost management	-0,0419***	-0,3058***
Capitalisation	-0,5634	0,4086
Credit risk	-0,8482***	-0,8502***
Liquidity risk	-0,0649	-0,5032
Concentration	0,1045	1,9745***
GDP	0,0344	-0,1373
Wald-test	Wald χ^2 (8) = 2.498,58 Prob > χ^2 = 0,000	Wald χ^2 (8) = 2.142,95 Prob > χ^2 = 0,000
Hansen-test	χ^2 (12) = 8,18 Prob > χ^2 = 0,771	χ^2 (12) = 4,17 Prob > χ^2 = 0,980
***, ** and * mean that the coefficient is statistically significant at level of 1,5 and 10 percent respectively.		

Regarding the external determinants of bank profitability, the concentration ratio is highly significant only in the second equation, so we can verify the Structure-

Conduct-Performance hypothesis only in the equation where return on equity is used as dependent variable.

The macroeconomic variable, GDP, is statistically not significant in both of the equations. However we would like to point out that even though the macroeconomic environment did not affect bank profitability directly, it has an indirect impact by worsening banks' portfolio as a result of the negative movements in the real economy.

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Çelik, Merve¹: Economic Development Differences of Countries and Reasons of these Differences

Abstract: *Besides its importance among countries about more than 100 years, economic development issue effects whole global world as economical and sociologic. Countries in the World don't have the same economic development in this age when we look at economic indicators. There are lots of reasons why the development level of the countries aren't the same. One of these factors is lack of investment intended education. In this extent, the aim of this project is to analyse reasons of the development differences among the countries and extent of education and economic development. While analyzing relationship education and economic development, results of evaluation of Programme for International Student Assessment(PISA) in 2012 and mean years of schooling in 2012 which are included in Human Development Reports were used. These results were presented via graphs and statistical datas, descriptive analysis method was used. According to results, education and substructure studies about human capital effect economic development positively. Countries, which care about education pursue high economic development.*

Introduction

Economic development is one of the main issues that economists have been studying on about lots of years. Academicians and others agree with thought that countries or group of countries around the World differ from each other about economic development. There are a lot of factors about it. One of the best expression methods to get knowledge about this section is to understand reasons of underdevelopment.

Aim of the Project

The aim of this project is to analyse reasons of the development differences among countries and extent of education and economic development.

Hypothesis

To explain relationship between economic development and education.

Methodology

While analyzing relationship between education and economic development, descriptive analysis and statistical outcomes were used. Results of evaluation of Programme for International Student Assessment(PISA) in 2012 and mean years of schooling in 2012 which are included in Human Development Reports were used.

There are a lot of approaches about explaining underdevelopment. Some of approaches support the decision that reasons of underdevelopment is capitalist World thought, some of other approaches allege that underdevelopment and poverty is outcome of countries' own political, economic, cultural condition and untrue policies of the governments. First one of this approaches is traditional approach, other one is that not close to the traditional approach, which puts lack of institutionalization to the reason of the underdevelopment.

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Main Approaches to the Underdevelopment

Traditional Approaches to The Underdevelopment

According to traditional development literature, reasons of underdevelopment of countries' are that their economics have some inadequacies which arise from supplies and demands in many areas, setbacks in distribution of the production factors, absence of essential production technology etc.

Institutional Approach to The Underdevelopment

Requirement of economic development for poor countries was industrialisation before 1960's, but there were two obstacles out front the industrialisation. They were finance and technology deficiencies. Underdeveloped countries were also affected by the liberalisation which occurred in 1970's. Their names were ever after "developing countries" instead of "underdeveloped countries" in new literature.

According to the research which was done in 2001, if governments of developing countries' implement market condition in the system clearly, pursue the institutional process in a strong infrastructure and prevent corruption; they see that a growth dynamic will occur which feeds itself (Rool and Tallbot, 2001).

Douglas North (2002), who is one of the founders of the institutional economy, says that solutions of growth theories about why some of the countries are poor and some of them are rich express that these theories have common point. Different performances of countries are related to different institutional subsidy structure of these countries. Good institutions which North describes; support behaving economically, reduce uncertainty and raise efficiency and productivity. In general describe; the good institutions should provide opportunity equality to a large part of the society. By this way, people think that doing investment as human and physical will be easy. Assurances and rights of people should be implemented fairly, so entrepreneurship and investment can be encouraged. In addition, behaviours of upper class in the society must be limited, thus corruption will disappear and desires of people about doing entrepreneurship will not be prevented (Acemoglu, 2003).

The Notions Which Are in Relationship with Economic Development

Relationship Between Economic Development and Fertility

Impact of economic development on fertility was analysed by especially two schools. According to one of these schools, economic development decreases the fertility. According to another thought which was studied by Malthus, economic development increases fertility. Demand for labour force increases marriages and decreases average marriage age. This alteration in marriage rates increases fertility rates(Heer, 1966). Recent studies show that countries which own high income level per capita have less birth rate than the countries which own less income level per capita. In third world countries, high population level limits substantially economic development. This raise of the population increases unemployment; decreases development ratio, income level per capita and export.

Impact of Climate and Geographical Conditions on Economic Development

One of reasons why industrial revolution began in Great Britain in 19th century is geographical conditions. Being close to Continent of Europe, low-cost sea transport and being developed in river transport in the country provided England about

reaching well-being. Besides, suitable agriculture lands and sufficient rainfall improved England about being dominant power in those ages (Sachs,2006).

Female Labour in Economy

Increase of women labour is indispensable for raising to national income of countries. Nowadays; according to observations, the more female participation to the labour force, the better economic growth and development conditions.

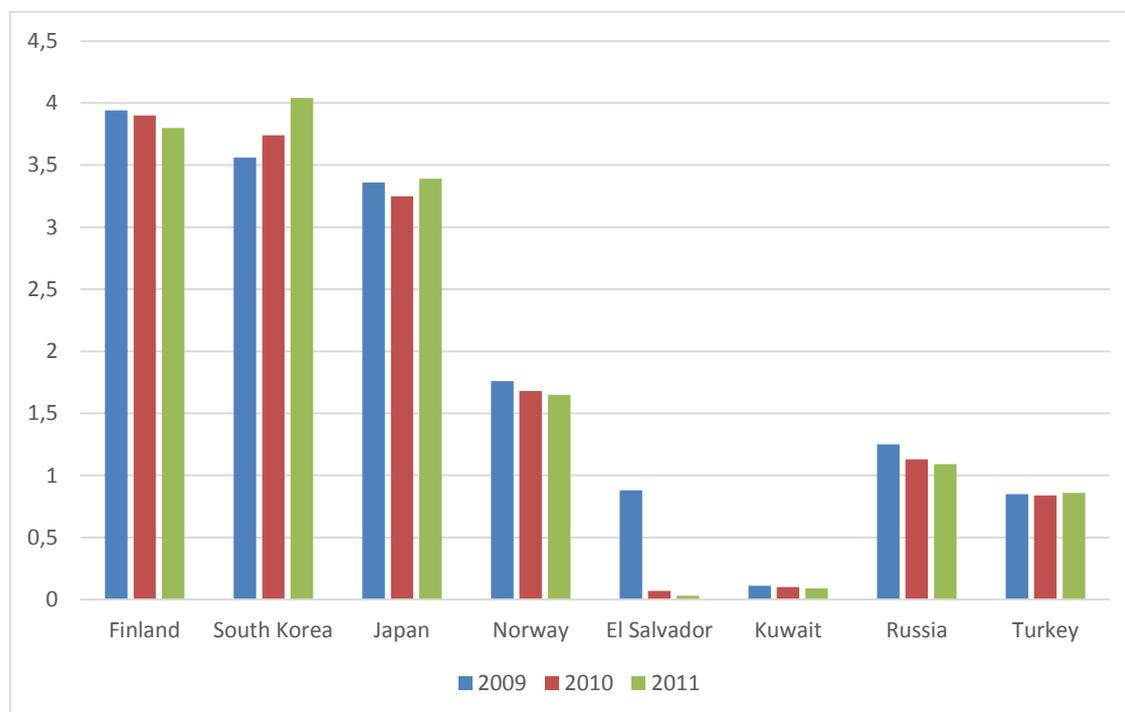
Table 1: Female and Male Labour in 2013

Country	Female Labour(Thousands)	Male Labour (Thousands)
Australia	5252	6214
Austria	1951	2224
Canada	8435	9296
Finland	1195	1261
Turkey	7641	17878
Mexico	18829	30398

Source: OECD(2014)

Female and male labour force are shown in Table 1. Developed countries such as Australia and Canada have similar ratios about including female and male employment. On the other hand, in developing countries such as Turkey and Mexico, male labour force are more than female labour force and differences between female and male employment are high.

Figure 1: R&D Investments of Countries



Source: The World Bank (2014)

R&D Studies and Economic Development

The most important requirement about being able to compete is to invest for knowledge. The first notion that occurs in mind about investing to knowledge is R&D.

Research and development is one of the means by which business can experience future growth by developing new products or processes to improve and expand their operations. R&D expenditures support economical activities and effect economic growth positively. Some of these influences provide competition and productivity raise, decreasing economical dependency, increasing foreign direct investment in country etc.

R&D investments ratio in GDP (Gross Domestic Product) of 8 countries are shown in Figure 1. Developed countries such as Finland and South Korea pay attention to R&D investments. Developing countries; such as El Salvador and Kuwait pay attention less than developed countries.

Human Capital and Economic Development

Human development occurs all qualifications that can be produced by human actively. One of the most necessary factors to product technology is human capital. Education, health and labour force are some elements of human capital. The factor which will be studied in this project is education.

High educated people such as busy with technical issues and scientists have comparative advantages about understanding and creating new thoughts. Educated labour force is always substitute for higher educated labour force. A study shows that high educated farmers are more adapted about producing innovation than less educated farmers (Nelson and Phelps, 1966).

Table 2. Mean Years of Schooling in 2012

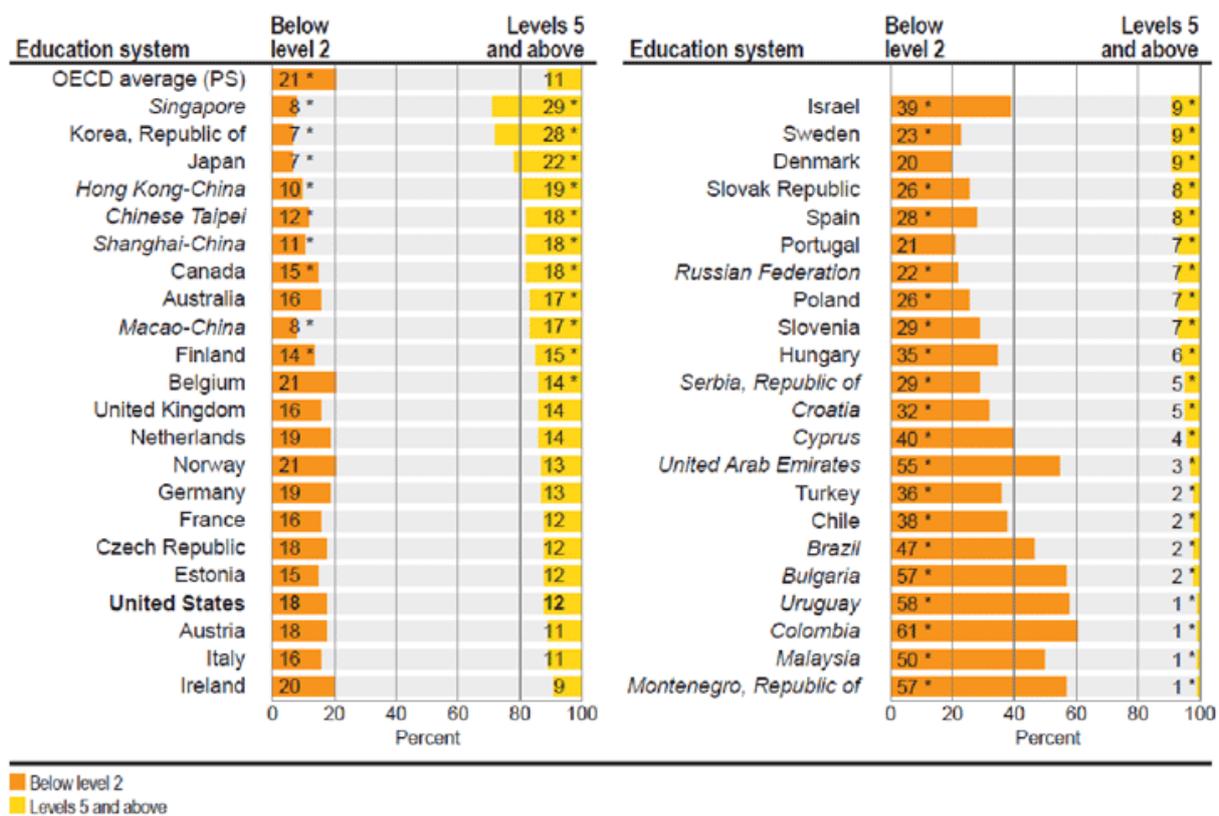
	Country	Mean Years of Schooling
Very High Human Development	Australia	12,8
	Norway	12,6
	Netherlands	11,9
Mean Years of Schooling for All of Countries		11,7
High Human Development	Turkey	7,6
	Russia	11,7
Mean Years of Schooling for All of Countries		8,1
Medium Human Development	Indonesia	7,5
	Morocco	4,4
Mean Years of Schooling for All of Countries		5,5
Low Human Development	Chad	1,5
	Burkina Faso	1,3
Mean Years of Schooling for All of Countries		4,2

Source: Human Development Reports(2014)

Mean years of schooling is shown in Table 2. It is quite high in very high human development countries like Australia and Norway. It can be seen that importance of education investment is great in these countries. On the other hand, mean years of schooling in Chad and Burkina Faso where have low human development is quite low. Countries which concentrate on education are aware of that necessary substructure for economic growth and development can be provided via education.

One of the best indicators about measuring countries' awareness stage is PISA (Program for International Student Assessment) which is coordinated by OECD. PISA is an international survey which aims to evaluate education systems of countries' by testing skills and knowledge of 15 years old students.

Figure 2. Outcomes of PISA, 2012



Source: Program for International Student Assessment (2014)

Outcomes of PISA test which was done in 2012 are shown in Figure 2. There are 6 levels in this system. Countries which were tested in this system are indicated in which part they take part of these levels. Countries like Finland, South Korea and Singapore which pay attention about developing education get high scores on level 5 and above it. Countries like Brazil, Colombia and Malaysia which pay less attention about developing education get low scores, below level 2.

Results

Studies show that development is essential for countries to carry on their lives well. There are a lot of factors that why all of countries are not in the same development level, why some of them are in high development while some are in low development. The main reason of these differences is variable human capital investment of countries. Education investment is factor of human development that was analysed in this project mainly. According to this study, countries which have high education investment and pay attention about increasing education level are developed countries. This can be seen on PISA test outcomes and mean years of schooling of countries.

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Gorelova, Olga¹ (with Maria Yudkevich²): Silver-Corded Academics at Russian Universities

Abstract: Numerous previous researchers noticed the importance of distinguishing silver-corded academics – those, who work in their graduating institution, but started their academic career elsewhere. They stated that such academics have wider outlook as they have external experience that is why they are more involved in academic community, have more ties and are more productive. Nevertheless in Russia silver-corded academics have never been considered as a separate group before and this paper contributes to filling this gap. The analysis of Monitoring of Economics of Education show that in Russia silver-corded academics do not differ from inbreds and non-inbreds in terms of their publication activity, but in general they are more research-oriented and more involved in academic community. Also they are more critical compared to inbreds about their institution and the quality of resources. Such results may be explained by the fact that inbred academics go with the flow as they correspond to existing academic norms of immobility in Russia. Silver-corded academics, in their turn, are more critical, as they have experience in another institution and have an example to compare with.

Introduction

The problem of academic inbreeding (the practice of hiring own graduates by universities) is a popular topic of research in many countries. Most studies explore difference just between inbreds (academics who are employed by the university where they received at least one of their degrees) and non-inbreds (academics who did not study at the higher educational university where they work). At the same time, some researchers distinguish between different types of inbreds and other immobile academics. Thus, several studies considered “pure inbreds” (those academics who have been immediately employed by the graduating institution and had not worked anywhere else since that time) and “silver corded” academics (“those scholars who were recruited by their alma mater after been employed outside it”) (Berelson, 1960; Caplow & McGee, 1958; Dutton, 1980; Horta, 2013).

Berelson (1960) noticed that it is very important to distinguish between these two types of inbreds because silver-cord academics tend to be academically superior compared to inbreds as they've proved themselves in an open competition, have larger human capital, broader experience and wider net of contacts. Nevertheless, this statement was just theoretical and empirical results do not always prove it: some empirical results support this statement and others contradict it. For example, Dutton (1980) found that inbreds and silver-corded do not differ significantly in terms of time management, but silver cord academics like mobile non-inbred scholars publish a bit more more-cited articles compared to pure inbreds and immobile academics. Horta (2013) also found that silver-cord academics have higher scientific productivity compared to inbreds and they also outproduce non-inbreds in terms of nationally-oriented publications (though lose a bit in terms of international papers). At the same

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time, the results showed that silver-cord academics prefer more internal knowledge exchange (communication with academics within their university) like their inbred colleagues and opposite to non-inbreds who communicate more with academics outside the university. Thus, some previous researches show that silver-cord academics perform more like non-inbred scholars, but resemble their inbred colleagues in some aspects.

Nevertheless, the research by Hargens & Farr (1973) showed that both pure inbreds and silver-cord academics were significantly less productive compared to their colleagues, who did not work in the university, where they had graduated from. Thus, we see that the results of comparison of silver-cord academics to pure inbreds and non-inbreds differ.

In Russia academic inbreeding is really a very wide-spread phenomenon, because usually university and departments' heads perceive it like a norm and even state that higher educational institutions should hire their own graduates (Сивак & Юдкевич, 2009). Nevertheless, studies of inbreeding just start to appear in Russia (Сивак & Юдкевич, 2009; Sivak & Yudkevich, 2015) and they all considered just inbreds and non-inbreds, without paying attention to other groups of academics, for instance, silver-corded faculty.

Aim of the Project

In the current research we aim to answer the question of how do silver-corded academics in Russia perform in terms of their publication activity and other professional characteristics and why their performance is like that. After providing empirical results and comparing silver-corded academics to inbreds and non-inbreds, we are going to explain these results on theoretical level.

Hypothesis and Methodology

The hypothesis of our research is that silver-corded academics in Russian universities perform better than pure inbreds, but worse than non-inbreds. We expect them to publish more and be more research-oriented, compared to their colleagues who has worked only at the university of their graduation, due to the fact they have some external experience and, therefore, wider outlook. We expect silver-corded academics to collaborate more with academics from the institution, where they worked previously and, therefore, have more collaboration outside university compared to inbreds. At the same time, as their external experience was short-termed, differently from non-inbreds who has never worked in the university of graduation, silver-corded academics are expected to perform a bit worse compared to these faculty and have less communication with scholars from other institutions and, especially, from other countries. In general, previous state of literature shows that external experience influences academics and their productivity beneficially, because it helps them to wider their net of contacts and we form our hypothesis based on this assumption.

By now the results of the study are only preliminary and are based on descriptive statistics, because the current project is just in its development stage. For the analysis the data from Monitoring of Economics of Educations is used. We analyze the results of survey of faculty of higher educational institutions conducted in 2013. We define inbreds, non-inbreds and silver-corded academics based on the following

question: “Did you study at this higher educational institution?” (no / yes, studied and started to work here immediately after graduation / yes, but after graduation you used to work in another place).

Results

In our research we found that silver-cord academics practically do not differ from inbred and non-inbred scholars in terms of scientific productivity, but differ significantly from both of them in many other aspects. We found that silver-cord academics are significantly more research-oriented than both pure inbreds and academics who didn't study in the university, where they work: they devote more time to research, more often take part in various research projects and more often involve their students in research activities.

Also our results show that silver-cord academics are more critical to their work in the current university, where they had studied: they are less satisfied with the conditions of their work in this higher educational institution, they more often state they would like to change their workplace, but, at the same time, they much rarely have additional work either inside or outside academic sector compared to both pure inbreds and non-inbreds. To sum up, it may be said that silver-cord academics are the most research-oriented scholars, who are dedicated to their work but are very critical to their Alma Mater, where they work now. The results are also robust if we control gender and degree differences.

The possible explanation of these results may be the difference in mobility degree of academics, on the one hand, and the existing academic traditions in Russia, on the other hand. Pure inbred academics totally correspond to hiring from within practices and immobility, which are norms for Russian academic career. That is why they just go with the stream, are satisfied with their career and do not try to change it, that is why they are more teaching-oriented and are less involved in more prestigious research activities. Non-inbred academics are usually also mobile (have experience of work in several universities) and this is most often conditioned by low incomes of academics in Russia: scholars usually work in several places to enhance their incomes and this may damage the quality of their work and that is why they are less interested in research activities. In other words, non-inbred academics in Russia are forced by circumstances, which affect their work. Silver-cord academics, in their turn, are mobile – have external experience of work which positively influences research activity. Also, as they have external experience, they may compare their Alma Mater university to other universities, that is why they may be so critical to the conditions of their work: they have an example to which they may compare it. Besides, the fact that they have worked outside their university and then returned back to it and do not have additional employment, prove that silver-cord academics construct their career meaning-bearing, they do not go with the stream and are really dedicated to the academic profession, which combine both teaching and research. It may be said that they have two “pluses” at the moment which help them in their work: they have proved themselves on the academic market and earned some beneficial external experience, and, at the same time, they are dedicated workers of their graduating university, tied to it not only by formal obligation but also by some informal psychological links, which improves the quality of their work.

This is just a short description of our research project with preliminary results which need to be tested with some improved measures в discussed more thoroughly.

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Gracheva, Kamila¹ (with Leonid Polishchuk, Koen Schoors and Alexandre Yarkin): Institutions and Visa Regimes

Abstract: *In the modern world the most significant countries' evaluation criterion are the level of institutions and social capital. The accelerating globalization simplifies and speeds cross-country communications; however, the passport control and visa restrictions still exist. It is known that visa restrictions affect the development of the country, its economic interaction with other countries, the development of tourism, migration flows and even to the level of security. How do modern countries control their borders? What is the history of the visa regime and how it affects the security problem and migration? What institutional variables affect the countries' visa policies? Why states having a significant influx of tourism and business interactions impose more sternness visa requirements, regardless of disadvantages of the visa requirements imposition. All these issues are covered in the research and step by step we try to find out possible answers to them.*

Introduction

From the beginning of nation-states existence, they interacted one with another. And, though, for the first time it was easier to cooperate with neighbor countries only, today interactions between countries are very large in terms of regular and part-time business or tourism cooperation. In the range of only three years tourism influx increased from 924'248'184 up to 1'076'622'445 people since 2009 till 2012 (World Bank, 2011).

By the end of 80-ies the concept of globalization and Kenichi Ohmae's (Ohmae, 1989) idea called the 'borderless world' become widely spread. "This not only refers to the tendency of traditional political borders, based on national and state boundaries, to become permeable; it also implies that divisions between people previously separated by time and space have become less significant and are sometimes entirely irrelevant". That's why all forms of international interactions accelerate, simplify and increase.

The modern world is still very fragmented by national borders, additionally, states' sovereignties still play a great role; however, border-pass sternness changes through history and varies significantly across states. There has always been a large movement of people around the world. But after the First World War migration influx became so large, that countries decided to put their borders under control. That's how one of the main border-pass barriers, which are visa requirements, appeared. Visa requirements are visa regimes that countries impose to all states recognized by them.

The least investigated area of visa regime studies is their high variation. "The restrictions to freedom and difficulties in crossing national borders turn out to be highly unevenly distributed across people with different nationalities. Facilitating the mobility of some is achieved at the expense of inhibiting and deterring mobility of others" (Neumayer, 2006).

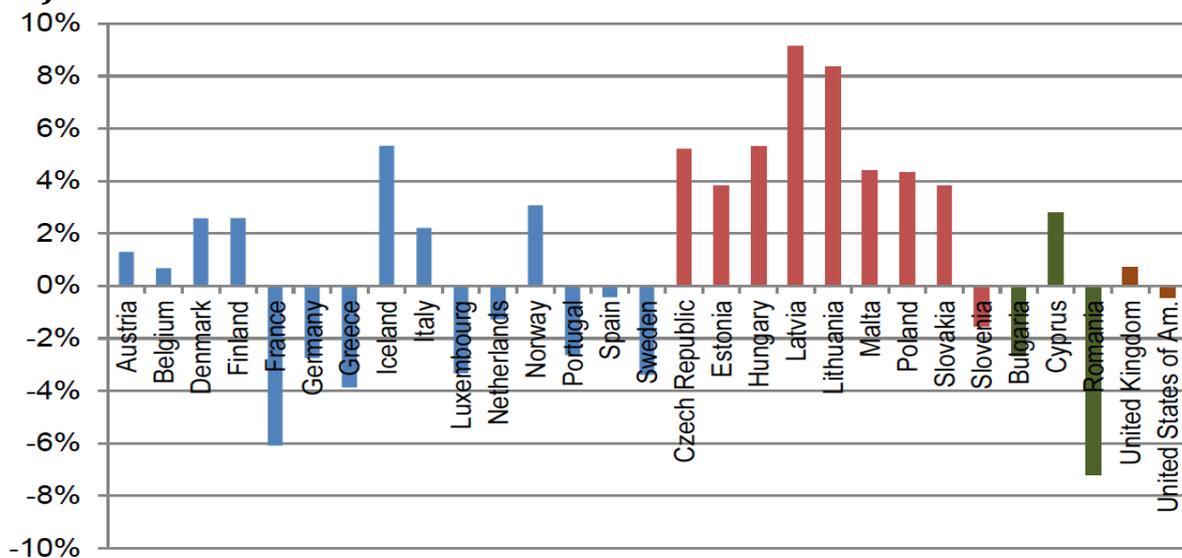
Existence of visa requirements causes significant limit on possibility and frequency of resources, ideas and technologies distribution and, specially, on citizens movement. Though, many researchers prove the importance of international

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migration for countries economic development. World Bank Development Report (World Development Report, 2009) points out that regulation qualities, low administrative barriers and competition are needed in obtaining benefits from labor migration. At the same time sternness of visa barriers can be extremely high. In order to get a visa you ought to provide special documents, in some countries, you must even obtain a foreign passport (for example, in Russia) and the latters are additional expenses. Although all these does not provide people 100% assurances in getting visa to a desired country. The assurance is damaged by a large visa refusal rate.

Moreover, today there is an upward shift towards sternness of visa requirements and clustering of global market (see, for example, “Fortress Europe”, “Wall around the West” Andreas and Snyder, 2000). Different countries react in opposite ways to the world changes. Figure 1 (see, for example, Hobolth, 2012) illustrates that even most developed countries (as long Schengen Agreement participants, so recently joined) show great variety in trends of strictness of visa requirements.

Figure 1. Changes in average visa refusal rates from 2005-7 to 2008-10. The change is calculated as a mean of the different observations per year. (Hobolth, 2012)



It's proved that visa requirements affect country's development, its economic interactions, tourist and migration influx and security. Visa requirements affect both countries that impose them and those who face them.

Aim of the Project

The main issue of this research is concerned with great variance in visa requirements that has detrimental impact on countries' development.

How visas affect migration influx, economy and countries' development? What is the history of visa regimes? What are institutional explanations of visa requirements imposition? Why one state imposes visa restrictions towards country A, but does not impose it towards country B?

Our additional objectives are:

1. Find out institutional factors that impose visa requirements

2. Make empirical analysis of panel data of Hobolth
3. Make empirical analysis of dyad data of symmetric regimes

The research deals with these questions and objectives one after another. And the main aim of the research paper is to find out an institutional explanation of variation in visa requirements.

Hypotheses and Methodology

The subject matter of our research is variation in visa requirements. The area of our research is visa requirements.

The main hypotheses of the research are:

1. Variation in visa requirements is explained by high differences in countries' institutions level.
2. High visa barriers face countries with unstable political regimes and low level of democracy.

The methodology of our research is new institutionalism (see, for example, Powell and DiMaggio, 1991; North, 1981, 1990) and the methods are regression analysis and Ordinary Least Squares method.

Preliminary Results

Our first step shows that approximately all variables are significant. The model explains 38% in visa refusal rate variation.

Table 1. Impact of Institutions, pooled regression

Model	(1)	(2)	(3)	(4)	(5)
Dependent variable	RefusalRate	RefusalRate	RefusalRate	RefusalRate	RefusalRate
GDPpc	-7.90e-05*** (0.00)	-0.000118*** (0.00)	-0.000146*** (0.00)	-0.000142*** (0.00)	-0.000139*** (0.00)
DistKm	-0.000145* (0.00)	-0.000136* (0.00)	-0.000216** (0.00)	-0.000181** (0.00)	-0.000313*** (0.00)
PolStabTerr	-3.445*** (0.471)	-3.656*** (0.525)	-3.824*** (0.530)	-4.288*** (0.538)	-4.391*** (0.563)
TourExp	-7.08e-11*** (0.00)	-8.29e-11*** (0.00)	-7.63e-11*** (0.00)	-5.98e-11*** (0.00)	-4.94e-11*** (0.00)
Voice		-1.625*** (0.457)	-2.098*** (0.475)	-1.946*** (0.479)	-1.639*** (0.558)
RuleLaw		2.195*** (0.707)		3.282** (1.442)	
ContrCorr			3.162*** (0.668)	5.866*** (1.447)	7.588*** (1.348)
GovernEff				-6.306*** (1.198)	-6.139*** (1.319)
property_rights					0.700* (0.368)
Constant	13.79*** (0.727)	14.40*** (0.783)	15.24*** (0.819)	15.61*** (0.835)	12.25*** (2.143)
Observations	1,241	1,241	1,241	1,241	1,15
R-squared	0.159	0.166	0.172	0.189	0.200

Robust standard errors in parentheses

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

The results of table 1 show the inverse relationship between GDP of sending countries and visa refusal rate, that is if GDP of the sending country increase up to \$1000, visa refusal rate fall from 13,5% down to 13,4%, which is vulnerable because

the average fall of visa refusal rate is 12.5 (the standard deviation 10.1). The rise of GDP of \$10000 reduces visa refusal rate by 1%.

Unexpectedly, Voice and Accountability level increase visa refusal rate up to 2%. We suggest that the more democratic country is, the more welcomed its citizens are. However, in our case, the most sending countries are not OECD members, most of them are significantly unstable, because of their shift from autocracy. Though, authoritarian regimes can provide no possibilities for their citizens to leave the country.

One more result that we get is that the better protection of legal rights a country has, the lower visa refusal rate is. Countries with high level in the protection of legal rights are more business attractive for other countries, and citizens of such countries do not leave the country seeking better life.

More complicated results we get from the following variables: GovernEff, RuleLaw, RegQual, ContrCorr. Most surprising result is a positive correlation between the Rule of Law (courts quality, police, protection of property rights) and visa refusal rate, that is the better rule of law in your country is, the higher visa refusal rate you'll face. On the one hand, countries with high rule of law level are supposed not to welcome criminals or unabiding citizens in their countries. On the other, the unabiding citizens or criminals prefer to stay in their own country, because in a country with a better rule of law they could not continue their activities.

States with different political institutions do not welcome each other. This can be caused by a possible threat of regime destabilization in autocracies, especially where a power of a monarch is not absolute.

As for the future, more control variables will be included in the model, in particular, the proportion of Muslim population in countries and additional variable on threat of terrorism. Social capital impact will also be included from the World Value Survey data. We expect that the impact of some institutional variables on visa requirements level can be explained by social capital stock in both receiving and sending countries.

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Isabaeva, Eliza¹: Migration into “Illegality” and the Making of State in Post-Soviet Kyrgyzstan: The Case of a Squatter Settlement in Bishkek

Abstract: *Migratory current within Kyrgyzstan is directed toward the capital and biggest city of the country – Bishkek – in search of employment and better life. However limited resources, struggling economy and a relatively expensive rental payment for private housing have prevented the city to absorb the population influx. Thus internal migrants are forced to seek low-cost living in the outskirts of Bishkek with very poor or absent infrastructure and social services. The project draws on extensive anthropological research in a peripheral squatter neighbourhood in Bishkek. It argues that the state neglect to social problems such as illegal neighbourhoods makes possible the emergence and existence of parallel unofficial structures. These unofficial structures mimic the official executive, legislative and judicial systems of the state. Through the analysis of migrants’ life in Bishkek, this project aims to examine the changes and dynamics in the state-society relationship. If the Soviet state’s welfare system still makes a significant proportion of Kyrgyzstanis long for socialism, nowadays they complain about the independent Kyrgyz state, which is partially withdrawing itself from the population.*

Introduction

Since the end of the Soviet Union, research² and statistics³ have shown an increased level of rural-urban migratory currents in Kyrgyzstan, which are primarily directed to the country’s capital and largest city Bishkek. In the aftermath of two popular revolts⁴, Bishkek grew and expanded even more – both demographically and geographically. One observes numerous new settlements, which popped up at the city outskirts and quickly mushroomed within a short time. People refer to such settlements as *novostroika* in Russian and *zhany konush* in Kyrgyz languages.

The emergence of peripheral settlements in Bishkek has to be situated not only in the context of rising internal migration, but, as Baliyar Sanghera (2010) argues, a shortage of urban housing, a fragile rural economy, an expanding urban population, and a weak state capacity also serve as main causes for the rise and proliferation of the settlements in the city outskirts. People from villages and provincial towns have been coming to Bishkek mainly for economic reasons such as finding employment, earning money and generating some wealth. Yet other migrants move to Bishkek searching for a better life – that is access to higher education, health care, and superior living conditions.

In Bishkek, many newcomers usually cannot afford to rent expensive apartments in the city center. Therefore, they are forced to seek low-cost living in the outskirts of the city with poor social and material infrastructure (Hirt and Stanilov,

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² See Reeves (2013), Isabaeva (2011), Schmidt & Sagynbekova (2008), Bichsel, et.al. (2005), Abazov (1999).

³ Kyrgyz State Statistical Committee: www.stat.kg

⁴ The first popular revolt in Kyrgyzstan took place on 24 March 2005 when the country’s first president Askar Akaev was overthrown. Unlike the first revolt, the second one was violent and left more than 80 people dead on 7 April 2010. This political clash between the government and opposition brought an end to the rule of second president Kurmanbek Bakiyev.

2009). At first glance, these peripheral settlements bring to mind the slums of big cities around the world because they fit the classic definition of slums. That is “[d]ensely populated, poor, illegal and spontaneous shantytowns lacking decent services and infrastructure” (Davis, 2006; Kramer, 1974). I suggest that these *novostroikas* and the life of *novostroika* residents in Bishkek should be viewed with concern and that the problem needs to be urgently addressed, as these settlements are a form of housing that is continuously increasing in the context of new urbanization and capitalism.

Lacking sufficient finances, Bishkek’s urban poor found it rather impossible to acquire housing in the city. However, in times of political instability illegal land squatting proved to be an effective method to establish free residence. Following two periods of political unrest in Kyrgyzstan in 2005 and 2010, migrants without housing took advantage of the ambiguous situation and the fragility of state institutions in order to occupy land on the city outskirts without waiting for any kind of formal recognition of their right to do so. Having illegally settled in the city, they now demand to be included into the ranks of fully-fledged Bishkek residents with equal rights.

One such squatter settlement in Bishkek is Kyzyl Zher¹, which sprang into existence in the spring of 2005 in the immediate aftermath of the Tulip Revolution. The residents of Kyzyl Zher are mostly migrants from within Kyrgyzstan, most of who had already been living in Bishkek for many years but did not have a house of their own. Instead, they had been tenants renting small rooms or shacks from house owners in Bishkek. Being a tenant involves many constraints and brings with it the constant threat of being evicted. Therefore, these tenants had always wanted their own home, free from the dependence on a landlord, from insecurity, and from the continuous search for another shack.

In Kyzyl Zher, they ‘found’ the homes they had been looking for. However, since the settlement was squatted, which is an illicit act, it was declared to be an illegal settlement, that is not recognized by the city municipality in Bishkek. Illegality defined by the state meant that there was no state provision of basic resources for the inhabitants of Kyzyl Zher. Moreover, they were accused of squatting and stigmatized as squatters (Russian *zakhvatchiki*), an identity which does not enjoy a positive reputation in the country.

Not as squatters but as citizens of Kyrgyzstan, Kyzyl Zher residents have been fighting for basic infrastructure – electricity and drinking water – along with the legalization of their settlement. In this struggle for a decent life, they seek to achieve the status of fully recognized residents of Bishkek.

Aim of the Project

Through the analysis of migrants’ life in Bishkek city, this project aims to examine the changes and dynamics in the state-society relationship. If the Soviet state’s “paternalistic care for its citizens” (Alexander, 2005:85) still make a significant portion of Kyrgyzstanis long for socialism, the post-Soviet neo-liberal policies and globalization force people to make statements like “We don’t have a state here anymore” (Beyer, 2007:2). However the state as a political entity continues to be a central site of sovereignty (Eckert & Yalcin-Heckmann, 2008). What is changing are the state policies in terms of its responsibilities vis-à-vis its citizens. In order to study this

¹ For reasons of confidentiality, the name of the settlement has been changed.

changing relationship (Kivisto & Faist, 2007:1) of state and society, this proposed study focuses on and targets following three study objectives:

- Everyday life experiences of *novostroika* residents
- Understanding of governance and citizenship norms
- Implications for state making

Research Methods and Hypothesis

This project draws on anthropological research methods: semi-structured interviews, informal talks, expert interviews and participant observation. I have spent in Kyzyl Zher eight months: from January 2012 to August 2012, with two more short follow-up research trips in January 2013 and July 2013. In order to gain detailed insights into everyday life of Kyzyl Zher residents, I lived there for two months.

According to UN Habitat report (2009), low-income households residing in areas of concentrated poverty are much less likely to have access to adequate and reliable public services (2009:11). If to translate this thought into Bishkek life, then the internal migrants, who are mostly low-income residents, reside in the poor periphery settlements on the city edge, confirm the statement of report. However I argue that these residents are not passive in shaping and organizing their life, and thus they do not agree to accept the minimum of public services.

Preliminary Results

- 1) The citizens' understanding of citizenship differs from what the state has legal and illegal;
- 2) The state neglect makes possible the emergence and existence of parallel unofficial state structures which mimic the official state structures.

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Malein, Victor¹: The Determinants of the Publication Performance of the Russian Universities: The Role of Incentive Schemes

Abstract: *This study examines the determinants of the publication performance in Russian universities. A simple model is presented and investigates the dependence between publication output and stimulating schemes, implemented by universities in order to increase the publication activity of academic workers. It is supposed that such schemes itself can't stimulate the publications in peer-reviewed foreign journals with high academic standards. It's more likely that such schemes can stimulate publications in national academic journals without strong requirements to the authors. Therefore it can lead to the wasting of resources and the diminishing productivity of other activities (teaching).*

Introduction

The idea of accountability and the financing of Russian higher education system based on university's performance became more popular in the past few years. In terms of strict budget constrains government needs an instrument to assess the university's productivity in order to distribute limited resources in an effective way. This instrument should be relevant and countable, which means that the costs of measurement are significantly lower than benefits from the acquired information. In comparison with the quality of education the academic performance measured as publication productivity is effectively countable (with relatively low costs) and provides an easy access to information thanks to such aggregative resources as Scopus, Web of Science, Russian National Index of Citation and others.

Thus, publication productivity started to play a more important role in university's management and government policy. The government agencies use this indicator in the procedure of accreditation which certify (or doesn't certify) the formal status of the university and its ability to provide educational programs of the particular level. The publication performance is critically important in attracting additional state financing, grants and other kind of resources to university.

In order to achieve a high publication performance some Russian universities introduces intensive schemes which link the results of academic performance (for instance, the number of articles published in peer-reviewed journals) with wages. It's a common practice for universities in USA and Europe which use a wide range of intensive schemes, but in Russia it's a relatively new and still not prevailing feature (Yudkevich and Androushchak, 2012).

The principal-agent theoretical approach predicts several consequences of the implementing of intensive schemes in a contract design. In the basic articles (Holmstrom, Milgrom 1991 and Baker 2000) it was shown that in terms of multitask principal-agent relations it can be a trade-off between two different activities (research and teaching efforts). Because of the research and teaching are not complimentary with each other, and the bulk of academic pay and prestige depends on research, it leads to the situation, when the quality of education becomes lower. This

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problem, very common for foreign universities, is well investigated, and some its solutions were proposed (Gautier and Wauthy 2003).

Another problem related to the multitask principal-agent relations is the corruptness of the measurement signal which is used by principal to assess the true level of the efforts put in by agent. Specific aspect of this problem, discussed in the literature, is called “cream skimming” – the situation, when agent overblows the signaling indicator in order to get a higher reward and minimize his efforts. This problem is central for Russian academic community because of the following reasons.

- The academic standards in most of the Russian universities are weak, though the academic workers have low intrinsic stimulus to put strong efforts on their publication performance (Dzagourova and Smirnova, 2003);
- The quality of the peer-viewed journals in Russia is critically low, in many cases the procedure of the peer review is just a fruitless formality.
- There is no developed academic labor market in Russia which provides stimulus to build an academic reputation dependent on the publication performance. Inbreeding practice is a common place for the Russian university’s employment policy which decreases the value of the publication performance (Yudkevich and Androushchak, 2012).
- The basic academic wages are still on a very low level in spite of the latest government efforts, therefore academic spend time on additional non-risk activities (for instance, tutoring). The research is a risk bearing activity, because it requires specific investments and some period of time before the getting a return.

These factors raise a question about reasonability of the implementation of the incentive schemes by Russian universities.

Aim of the Project

The main goal of the research is to investigate the link between the contract design (using intensive schemes) of the Russian universities and its publication productivity on the basis of the econometric model.

Hypotheses and Methodology

The first stage of the research includes the collecting data from different sources: the main aggregative collectors of information about university’s publication activity (Scopus, Web of Science, Russian National Index of Citation), university’s data reporting, the materials of government agencies (The Ministry of Education and Science).

The second step is to build the econometric model and to estimate the statistical significance of the coefficients. The model is designed in the following way:

$$\begin{aligned} Publications &= \alpha + \beta_1 Wages + \beta_2 Hours + \beta_3 Type + \beta_4 Integrity + \beta_5 Incentive \\ &+ \varepsilon \end{aligned}$$

Where,

Publications – dependent variable: the number of publications per one academic worker;

Publications₁ – number of publications per one academic worker published in national academic journals which are included in the Russian National Index of Citation;

Publications₂ – number of publications per one academic worker published in foreign academic journals which are included in Scopus and Web of Science.

Wages – average basic wage of academic worker (this is a fixed reward, which isn't dependent on the performance indicators);

Hours – average academic workload;

Type – dummy variable, which reflects a formal status of the university (if the university has a status of the national research university, the variable = 1, 0 if otherwise);

Integrity – dummy variable which reflects the university's integration to the international academic community (if the university has cooperative research projects with foreign universities and employs the academic workers, who got PhD in foreign university the variable = 1, 0 if otherwise);

Incentive – dummy variable which reflects the specific contract design (if the university implements the intensive schemes which links the publication activity and wages, the variable = 1, 0 if otherwise)

The presented model will be tested with an ordinary least squares technique.

H0: The contract design doesn't statistically influence on the publication performance of Russian universities in foreign academic journals (*Publications₁*– dependent variable). However, we suppose that there is a statistically significant link between the contract design and the publication performance of the Russian universities in the national academic journals included in the Russian National Index of Citation (*Publications₂* – dependent variable). Also, we suppose that other variables (*Wages; Hours; Type; Integrity*) statistically influence on the publication performance.

Results

We suppose that the implementing of intensive schemes itself can't increase the number of publication in the foreign journals. More likely it creates the stimulus to publish more articles in the junk journals with minimal requirements to the authors. It removes the resources which can be used in the teaching and other productive activities and causes negative effects on the national education system at large.

In general we believe that the incentive schemes can work and promote the increasing of both the productivity and quality of publication performance if it corresponds with the raising basic wages, diminishing academic workload, and university's integration to the international academic community.

The results of regression analysis should be complemented with the qualitative research which can clarify hidden stimulus and motivation of research staff in the Russian universities. Both the results of quantitative and qualitative analyses can be used by government institutions in order to improve its regulating policy.

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Marchenko, Maria¹: Effect of Student's Dropout/Retake on Their Friendship Network's Performance²

Abstract: School dropouts of a student's peers may lead to changes in behavior, resulting both in the updating of network links and in the attitude towards the studies. The paper proposes an econometric method to evaluate the influence of the shock in the network on the future link formation and on the future peers' performance. A version of the dynamic peer effects model is introduced as well as the model with corrected network to eliminate the possible measurement error in self-reported data. The models are applied to longitudinal study of students in National Research University "Higher School of Economics", Nizhny Novgorod branch. The preliminary results indicate that experiencing the shock of a friend's failure might motivate students to perform better in the next period and rely more on themselves. More results and final conclusions are to be expected in the nearest future.

Introduction

It is widely accepted that social connections influence people's behavior and achievements. The so called peer effect is of particular importance in the analysis of educational achievements. However, the evidence on the direction of the effect is not conclusive. On the one hand, connecting with better achieving peers may positively influence the behavior (see, for example Ammermueller and Pischke (2009)). On the other hand, connecting with "bad guys" may set a downward trend in peers' behavior (Gaviria and Raphael (2001), for instance, find evidence of negative peer effects, whereas Angrist and Lang(2004) reject it in the framework of evaluation of the Metco school program³). The sociology literature suggests that a particular behavior pattern of the youth depends on the prevalence of such a behavior among their peers⁴.

While there are numerous economics papers on the peer effect itself⁵, the effect of the shocking event in the friends' network is rarely discussed. In particular, dropouts are usually only discussed for the students' results in the same year and not in the relation to their future behavior. By this paper, I intend to fill this gap and analyze changes of the behavior of students after they learn about their friends' failure.

Most of the economic literature that analyzes peer effects use the framework and the model introduced by Manski (1993). He distinguishes 3 effects that determine the similar behavior of peers. *The endogenous effect* says that the probability of a particular student to drop out of the school or university or to fail an exam will be affected by the amount of this student's peers who experience one of those events. *The exogenous effect* determines the probability of the dropout or retake by the mean exogenous characteristics of the peer group, such as parental education, socio-

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² The data was gathered and provided by the project "Student social networks and academic achievements" of Center for Institutional Studies in National Research University "Higher School of Economics", Moscow, Russia

³ Metropolitan Council for Educational Opportunity, founded in 1966 in Boston, MA, is a voluntary school desegregation program that was designed "to expand educational opportunities, increase diversity, and reduce racial isolation" in Boston and Springfield area by allowing children to attend public schools in other communities. <http://www.doe.mass.edu/metco/>

⁴ See, for example, Chapter 9 in Coleman (1990), or Lomi et al. (2011).

⁵ Some references are provided in the reference list.

economic status (SES), etc. Finally, *the correlated effect* appears due to the similar individual characteristics. The important task of the peer effects analysis is to determine the endogenous effect, which can have important policy implications.

One question is how the peers' achievement influences student's achievement in the same period, but the other important issue is to look at the behavior changes in the future as a response to the "shocking" result of the peer. This project studies it on the example of a dropout or an examination failure. But it can be extended further on the other network systems. Consider, for example, the networks of workers inside a firm. Assume somebody in the network of colleagues is fired; this might happen both unexpectedly or anticipated. It is reasonable to assume that the remaining colleagues will somehow react on this shock, at least in the short-run. Some might start working longer hours, or trying to be more active in the interaction with the superior, or, on the contrary, try not to stick out and stay unnoticed to avoid the firing.

Aim of the Project

First of all, project is aimed at covering the existing gap in peer effects literature and at studying the changes of peers' behavior and achievement in response to the shock in the network, which was caused by a dropout or a retake of a friend. It studies both influence on probability to create new links or destroy the existing links and influence on the future achievement. Moreover, the project contributes to the methodological literature by introducing the dynamic peer effect model with shock.

Hypotheses and Methodology

Hypotheses

The existing literature doesn't give the definite answer about the direction and the strength of the peer effect and the importance of social interactions, therefore the hypotheses, initially studied by the project, are a little vague.

I assume that the shock of a friend's dropout or retake influence the future behavior. The direction, however, could be twofold.

- If the negative peer effect is strong enough, the student will be more likely to fail or drop out in the next period, taking other things equal.
- If the shock of the friend's failure was rather unexpected, it might motivate the student to be more dedicated to their studies in order not to fail.

The shock will possibly affect the network as well. First of all, if the student drops out completely, he is no longer in any university peer group. But even if the student only fails an exam and the link stays stable in the network, some friends might tend to connect to better students outside the network or to break the "bad" existing links.

Noteworthy, the changes are not driven solely by the effect of the shock via the network, but also by exogenous and unobserved characteristics of the student. Moreover, it is rather important to understand the factors that caused the dropout, since these factors might also determine selection into the peer group, causing the higher probability of the dropout and retakes for the students with the friend who have failed in their network.

Methodology

The identification of the direct effect of shock on the friends' future outcome is rather challenging, since the changes might be driven not only by the shock, but also by exogenous characteristics as well as unobserved characteristics, which cannot be ruled out completely. The panel structure of the data might help to eliminate the unobserved individual effect, however, this effect is not necessarily constant due to the presence of shock. The paper proposes two econometrics models to estimate the effect of the shock: a version of the dynamic peer effects model and a model with revised links, which accounts for possible measurement error. For the second model, I first construct the probability to form a link between two agents in the network based on individual characteristics, study group and their outcome in the first period. This probability is then used to estimate changes in the network and in the outcomes due to the shock.

For now, I only provide more detailed description of the first model.

The version of the dynamic peer effect model can be written the following way:

$$y_i^1 = \alpha_1 + \beta \sum_{i \neq j} G_{ij}^1 y_j^1 + \gamma X_i^1 + \delta \sum_{i \neq j} G_{ij}^1 X_j^1 + \xi_i + \epsilon^1,$$

for the first wave of the study, where G_{ij}^1 denotes the link from student i to student j . Note that this matrix is not necessarily symmetrical.

In the second period the shock of the friend's failure should be taken into account. The straightforward way to do it is just to include the binary variable in the vector of controls

$$y_i^2 = \alpha_2 + \beta_D \sum_{i \neq j} G_{ij}^2 y_j^2 + \tilde{\gamma} D(\text{friend's dropout or retake in } t = 1) + \gamma X_i^2 + \delta \sum_{i \neq j} G_{ij}^2 X_j^2 + \xi_i + \epsilon^2,$$

where y_i^1 and y_i^2 are the outcome variables of student i in the first wave and the second wave correspondingly (first of all average grade or student's rating; may be also possible to take some specific subjects, where the friend had a retake and that lasts more than 1 term/module i.e. math analysis for the economics students); X_i^1 is a vector of individual characteristics that should be controlled for (gender, city of origin, living conditions, results of the high school examination; some socioeconomic family background, etc.), ξ_i - student-level unobserved fixed characteristics, β_D has two values: β_0 and β_1 for the students without shock and with the shock correspondingly, since the dropout or retake influence the network as well.

Model re-written in differences can be then estimated:

$$\begin{aligned} \Delta y_i &= (\alpha_2 - \alpha_1) \\ &+ \beta_D \sum_{i \neq j} G_{ij}^2 y_j^2 - \beta \sum_{i \neq j} G_{ij}^1 y_j^1 + \tilde{\gamma} D(\text{friend's dropout or retake in } t = 1) + \gamma \Delta X_i \\ &+ \delta \left[\sum_{i \neq j} G_{ij}^2 X_j^2 - \sum_{i \neq j} G_{ij}^1 X_j^1 \right] + \epsilon^2 - \epsilon^1 \end{aligned}$$

Note that most of the elements of vectors ΔX_i and $[\sum_{i \neq j} G_{ij}^2 X_j^2 - \sum_{i \neq j} G_{ij}^1 X_j^1]$ would be zero, as a lot of the control variables are time-invariant (gender, city of origin, study group, some socio-economic characteristics) and a lot of links are assumed to stay unchanged. This allows to eliminate both exogenous and correlated effects. However, some of the elements might be non-zero and vary over time. This and having the retake dummy might complicate the identification, and we would need the following to be fulfilled for the identification: $\mathbb{E}[\epsilon | \Delta X, (\text{friend's dropout or retake in } t = 1)] = 0$.

Several modifications of this model will be estimated further throughout the research, since some of the data issues, such as use of sample instead of the full population, potential measurement error due to the self-reported data, and some others, are not addressed in the above described model.

Preliminary Results

The project is still on the initial stage; therefore, there are yet not enough results to make final conclusions about the effects under consideration. However, some of the first results suggest that there are indeed changes in behavior in response to the shock. The students, whose friends dropped out of the university, are more likely to have increase in their average grade. This effect is, however, not very significant (but this also might be due to the quite small number of dropouts, which doesn't allow to obtain the conclusive inference results). The other result is that students that experienced shock are tending to have lower endogenous peer effect. This means that they rely more on themselves in their studies than on their peers. I expect the results of retakes effect on the peers' behavior to be more conclusive, unfortunately, I don't have them yet.

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Ostrovnaya, Maria¹ (with Elena Podkolzina²): Favoritism in Outcry and Electronic Auctions in Russia³

Abstract: *Corruption is an essential issue in public procurement throughout the world. Electronic auctions are usually treated as more transparent and less corrupt alternative of traditional procurement methods, so many countries conducted e-procurement reform in 2000th. Although Russia is one of these countries, its anti-corruption progress leaves much to be desired. The purpose of this paper is to examine the impact of e-auctions on favoritism and procurement prices in highly corrupt environment. Using Russian public procurement data on gasoline, we test the difference between auctions organized by honest and corrupt procurers. We suppose that weak monitoring lets corrupt procurers restrict competition and sustain long-term relations with their favored companies. Hence, the shift from outcry auctions to electronic auctions reduces procurement prices paid by honest procurers, but does not affect procurement prices paid by corrupt ones.*

Introduction

Corruption is an essential issue in public procurement throughout the world. One of the ways to combat corruption is e-procurement. Electronic auctions are usually treated as more transparent and less corrupt alternative of traditional procurement methods (e.g., Bandiera et al., 2009), so many countries conducted e-procurement reform in 2000th. Meanwhile electronic auctions do not always lead to expected results, e.g. lower procurement prices (Lewis-Faupel et al., 2014). We consider Russian case as an illustrative example of e-procurement reform with ambiguous results. Since 2010-2011 e-auctions have totally replaced outcry auctions organized by public procurers in all Russian regions. E-procurement reform was aimed at reducing corruption, especially repeated interactions between public procurers and their favored companies. However both media and senior officials still reported many cases of favoritism in electronic auctions. The effect of e-procurement reform is unknown, and in this study we try to fill this gap.

Aim of the Project

The purpose of this paper is to examine the impact of e-auctions on favoritism and procurement prices in Russian public procurement.

Hypotheses and Methodology

E-auctions decrease entry costs of bidders (Rothkopf, Whinston, 2007), that stimulates bidders with higher production costs to participate in auctions more actively. Depending on the distribution of production costs, change in entry costs may

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decrease or increase the final procurement price (Samuelson, 1985). The situation is more complicated if the procurer is corrupt. In this paper we consider exact type of corruption – favoritism that occurs when one procurer illegally sustains long-term relations with one bidder (hereinafter the favored bidder). This procurer manipulates the public contract and specifies requirements that only the favorite bidder can meet in exchange for a bribe.

For analyzing this situation Ostrovnaya and Podkolzina (2014) apply Samuelson’s model of entry costs to corrupt environment. They show that decrease in entry costs may change expected procurement prices paid by corrupt and honest procurers in different directions. Two cases may arise. In the former case procurement prices increase in auctions organized by the honest procurer and may change in any direction in auctions organized by the corrupt procurer. In the latter case procurement prices decrease in auctions organized by the honest procurer and are stable in auctions organized by the corrupt procurer. In our opinion, the latter case describes results of Russian e-procurement reform.

Following Balsevich and Podkolzina (2013), we examine public procurement of gasoline provided through gasoline stations, because this product is homogeneous and has a steady demand in the majority of Russian regions. The empirical relationships describing the decision of supplier may be written as follows:

$$y_i = \alpha_1 \cdot auction_i + \alpha_2 \cdot corrupt_i + \alpha_3 \cdot auction_i \cdot corrupt_i + \alpha_4 \cdot X_i + \varepsilon_i,$$

where y_i is the ratio between the procurement price and the market price of the contract; i is the number of auction; $auction_i$ is the dummy variable that equals 1 if the auction is electronic and equals 0 if the auction is outcry; $corrupt_i$ is the indicator of favoritism (repeated interactions with one bidder and high procurement prices in outcry auctions) that equals 1 if the procurer might have the favorite bidder and equals 0 if the procurer did not have the favorite bidder, $auction_i \cdot corrupt_i$ is the interaction of two previous variables; X_i is the vector of control variables.

We collect outcry auctions data from the regional procurement web-sites and electronic auctions data from the official unified web-site of Russian public procurement (<http://zakupki.gov.ru>). At the beginning we focus on researching one Russian region (Nizhnii Novgorod) and then test hypothesis using bigger dataset. The dataset consists of two parts: outcry auctions organized in 2008-2010 and electronic auctions organized in 2011-2013. One observation is one auction and associated public contract. The dataset contains detailed information on the auction (date of the auction; identity, address and specialization of the procurer; number, identities, addresses and bids of participating companies) and contract characteristics (duration, types and volumes of gasoline, additional requirements).

Results

Our expected results are the following. If the procurer is honest and does not restrict competition of companies, lower entry costs in e-auctions encourage competition of bidders. Hence, they compete more aggressive and reduce procurement prices. If the procurer is corrupt, e-auctions have no effect on competition of bidders and procurement prices remain the same. A corrupt procurer tries to sustain repeated interactions with the affiliated bidder and prevents participation of other companies

manipulating auction documentation. Hence, few companies participate in his auctions and procurement prices are high in both types of auctions. We use several indicators to distinguish between honest procurers and corrupt ones, first of all, repeated interactions between the public procurer and the favored bidder and excessive prices of gasoline in the previous period.

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Paklina, Sofia¹ (with Olga Novikova² and Dmitriy Subbotin³): What is More Effective: Carrot or Stick? Evidence from Public Goods Game

Abstract: *This research deals with the possible solutions to cooperation problem: reward and punishment. The main goals of this paper are to compare the effectiveness of these two tools through public goods game, to investigate behavior patterns of rewarding and to explore whether people with economic training behave in a different way comparing to those who do not have the one. The data was obtained by conducting several experiments. The total number of participants composed N. In order to obtain the results we are going to apply data analysis and econometrics. We expect the following results: a) the punishment is a more effective solution to cooperation problem than the reward, b) on average people are more likely to punish/reward those whose contributions are low/high, c) on average people who are familiar with the economic theory are likely to behave more rationally.*

Introduction

Cooperation problem is currently an active area of research within institutional economics. It arises when an individual's interests do not coincide with the public ones. It means that an individual has strong incentives to deviate from a cooperative strategy in order to get a better outcome. The problem of cooperation can be explained through the public goods game. It is necessary to note that a public good is a good that is both non-excludable and non-rivalrous in that individuals cannot be effectively excluded from its use and where its use by one individual does not reduce its availability to others. This type of games includes a set of decisions made by a group of people about a contribution to some public good. However, there is a problem: some people are inclined not to pay for the public good. A person who chooses to behave non-cooperatively is called a free rider since he or she pays nothing but benefits from the public good. An augmented version of that game implies that participants may punish each other knowing the value of the contribution made by each player. In this case, the punishment stands as a possible solution to the cooperation problem since it decreases an individual's benefits. The reason why we should study this field is to understand how people behave taking into account surrounding conditions. In turn, it will allow our society to form such institutions that maximize social utility.

Aim of the Project

Seminal papers on the cooperation problem consider the punishment mentioned above as a possible solution to that problem. One more tool to increase the level of cooperation is a reward. The question is if it also combats the cooperation problem. Another question is what tool is more effective: punishment or reward. Thus, the central goal of our paper is to investigate how reward influences cooperative behavior. Besides, we are interested in behavior patterns of giving a reward to others. In addition, there is a hypothesis that individuals with economics-training may behave

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differently from those who do not have one (Belianin, 2010). We are going to verify these hypotheses.

Consequently, we have the following goals: a) to inquire into a reward as a solution to the cooperation problem, b) to consider behavior patterns of rewarding others, c) to determine what solution to the cooperation problem is more effective, d) to examine whether participants' knowledge of economics has an impact on their behavior.

Hypothesis and Methodology

In order to answer the above-mentioned questions, we conducted two-stage public goods games with punishment and reward options with N participants from the Higher School of Economics (Perm, Russia). We began with public goods game under punishment conditions. In this experiment the number of participants was N . At the first stage, we randomly divided all the participants into groups of $n = 3$ members and endowed with 20 tokens. The participants had no idea about other members of their group. After that, the participants simultaneously decided how many of these tokens to contribute to a public good. A contribution should take on a value from 0 to a participant's endowment. Each participant knew his utility function and did not observe others' contributions. It is important to notice, that the participants did not expect that their contributions would become observable later. In public goods game without reward and punishment options the payoff for each participant i in the group was:

$$\pi_i^{11} = w_i - c_i + 0.4 \sum_{j=1}^n c_j.$$

The payoff function includes the endowment of subjects i (w_i), his contribution (c_i) and return of a contribution to the public good. In order to create incentives to free ride, following the previous researches we choose marginal per capita return of a contribution to the public good that is less than 1 (Gächter et al., 2006). We repeated this stage 5 times informing participants about their total payoffs after each stage.

At the second stage, we informed participants about the contributions made by the members of their groups and offered them to punish somebody if they wanted. If the subject i desires to punish subject j by 1 token (p_{ij}), he will reduce his payoff by 1 token and that of subject j by 3 tokens. The payoff function for i is as follows:

$$\pi_i^{12} = w_i + \pi_i^1 - c_i + 0.4 \sum_{j=1}^n c_j - \sum_{j=1}^n p_{ij} - 3 \sum_{j=1}^n p_{ji}.$$

We repeated this stage 5 times informing participants about their total payoffs, the participants who punished them and the amount of money used as a fine after each stage.

The first stage of the public goods game with reward option was absolutely the same as in first experiment. The number of participants in this experiment was N . At the second stage, instead of punishment we offered participants to reward each other. The payoff function is very similar:

$$\pi_i^{22} = w_i + \pi_i^{21} - c_i + 0.4 \sum_{j=1}^n c_j - \sum_{j=1}^n r_{ij} + 1.5 \sum_{j=1}^n r_{ji}.$$

Conducting these experiments, we were interested in changes in the participants' behavior under different conditions. Besides, whether there are punishment or reward options, people have different incentives to punish/reward other participants. It may be that people rage at those who are pro-social: there are cases when the participants punish a person whose contribution is high. Alternatively, people may desire to penalize the participants who contributed less in order to induce the deviators to behave in a different way. We expect that the level of cooperation increases in both cases of punishment and reward presence. However, we believe that the punishment is a more effective solution to the cooperation problem than the reward. Moreover, we assume that individuals who are familiar with the economic theory behave more rationally.

Thus, we are going to verify four hypotheses:

- 1) Punishment and reward options increase the level of cooperation;
- 2) Punishment raises cooperation level more than reward does;
- 3) People are likely to reward those whose contribution to the public good is high;
- 4) People with economics training have a better outcome.

In order to verify our hypotheses, we will analyze the contributions by using histograms. This will allow us to form an opinion about the level of cooperation. Besides, we consider the dynamics of cooperation by looking at changes in mean contribution rates under punishment and reward conditions. Moreover, we are going to investigate behavior patterns of punishing and rewarding by conducting econometric analysis of mean punishment/reward and deviation from the contributions of the participants who were punished/rewarded. In addition, econometric analysis will be also applied to prove whether participants with economic knowledge are more rational.

Expected Results

After analyzing the collected data by the specified methods, we expect to obtain the following results. To start with, we believe that the analysis will show high level of cooperation among the participants. According to seminal papers, the trend of cooperative behavior should be upward with the adding of punishment and reward options (Szolnoki et al., 2010). As far as behavior patterns are concerned, we expect that on average people are more likely to punish those whose contributions are low and reward those whose contributions are high. Finally, we predict that the difference between the behavior of people with economic training and people without it will appear insignificant.

However, there are several gaps in our experiments. It is misleading to rely fully on the obtained results since the participants did not manage their own real money. They confirmed that their behavior would change if they spent own money. A barrier to resolving this problem may lie in absence of sponsorship. Another instance of confusion is that the number of the participants is not large enough comparing with

other investigations. Besides, our awareness that we need some (more) background for other types of public goods game increases.

In this area of study, much research remains to be done. We expect further research to deal with the problems mentioned, to employ other methods and find an evidence of how these findings can be implemented in real life.

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***Paustyan, Ekaterina*¹: Inequality in Transition: Implications from Russian Regions**

Abstract: *This project seeks to examine the reasons of intraregional income and wealth inequality emerged in the private sector in Russia. By employing both qualitative and quantitative methods and assuming the relationship between the quality of economic policies and institutions and inequality, it will test the propositions of the new institutionalism literature. In particular, it will argue that it is the level of market reform enforcement and the extent of state capture in the region that are the main factors accountable for income and wealth inequality in Russian regions.*

Introduction

The project aims to examine factors leading to sharp intraregional income and wealth inequality that emerged during transition in Russia. While it is argued that there were always substantial income and wealth contrasts (Bradshaw and Vartapetov 2003), the extent of inequality that unfolded with start of transition is incomparable with Soviet times (Milanović 2011). Lindert and Nafziger (2014) document that by the mid-1990s inequality reached "one of the highest levels ...in all of post-1861 Russian history" (792). Existing literature (Akhmedjonov, Lau, and İzgi 2013; Dolinskaya 2002; Gluschenko 2011; Hanson 2007; Hanson and Bradshaw 2000; Sutherland and Hanson 1996) largely examines factors of cross-regional inequality, which is usually proxied by the average income in a region. It is usually pointed out that the sectoral structure of regional economy significantly influences the average income level and, thus, determines the variation in average incomes across Russian regions. From the perspective of intraregional inequality, sectoral explanation, that is resource-rich regions have high inequality (Beliaeva 2008; Buccellato and Mickiewicz 2009), is not sufficient enough to explain why resource-poor regions have high inequality, which in terms of Gini coefficient is comparable with that of resource-rich regions (Rosstat 2014). Therefore, this project seeks to explore intraregional inequality emerged in the private sector more in detail and to propose an alternative explanation for it.

In order to do so, I would like to test the propositions of the new institutionalism literature (Olson 1971; 1996) by combining qualitative and quantitative methods. In particular, assuming the relationship between the quality of economic policies and institutions and inequality, I will argue that it is the level of market reform enforcement and the extent of state capture in the region that are the main explanatory factors for the observed variation in levels of intraregional inequality.

Aim of the Project

This project aims to examine the reasons of intraregional income and wealth inequality in Russia. The main research question the present project specifically seeks to answer is: *What is the relationship between market reform enforcement, state capture and inequality?*

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Hypotheses and Methodology

Main Concepts and Hypotheses

Inequality: existing studies on inequality in transition (Doyle 1996; Milanović 1998; Remington 2011; Yemelyanau 2008) focus singularly on income inequality, arguing that increasing income dispersion became the most significant driver of inequality. The selection of income inequality, proxied by wage difference, is justified, firstly, by the fact that in Soviet times wages were the main source of income for the population and, secondly, by the point that wages were artificially set by official decrees depending on the importance of a given industry for the national economy. Therefore, when with start of transition market forces played out differently for different sectors of the economy, sharp wage divergence across sectors occurred (Golovachev 1993).

On the other hand, growing literature on inequality (Bogomolova and Tapilina 2001; Shkaratan, Ivanov, and Iniashevskii 2005; Guriev and Rachinsky 2006) highlights its twofold essence, taking into consideration not only income but also wealth. It is argued that income inequality captures only a snapshot of total inequality, as it does not reflect inequalities stemming from wealth distribution, which provides a greater material disparity than that conveyed by income only (European Commission 2011). Therefore, for this project I will take into account both income and wealth inequality.

In particular, the present project aims to study the reasons of income and wealth inequality emerged in the private sector. Thus, I will exclude the public sector from the consideration and will focus singularly on inequality between "income on labor" and "income on capital" (Piketty 2014).

Market reform enforcement: there is sufficient scholarship on the relationship between institutions and inequality. Olson (1996) links institutions and economic policies with considerable variation in income observed across countries. Acemoglu, Johnson, and Robinson (2002) argue that effective implementation of market reforms tends to produce a more stable social outcome by creating well functioning formal institutions, i. e. private property and contract enforcement.

My first hypothesis is that there is a negative relationship between the level of market reforms enforcement and the level of inequality.

State capture in the region: in addition, a force opposed to the development of market activity (which is possible due to equal access to market) is state capture (Olson 1971), the phenomenon when powerful businesses shape institutes (Yakovlev and Zhuravskaya 2006a). There are many empirical studies on state capture in transition countries in general (Hellman 1998; Hellman, Jones, and Kaufmann 2003) and in Russia in particular (Slinko 2003; Slinko, Yakovlev, and Zhuravskaya 2005). In particular, Yakovlev and Zhuravskaya (2006b) argue that transition led to a situation in which "private agents, who accumulated control over a large share of resources... could easily lobby, bribe and intimidate regional authorities in order to influence legal, political and regulatory institutions of their regions" (4-5), state capture undermines the effectiveness of formal institutions.

My second hypothesis is that there is a positive relationship between the extent of state capture and the level of inequality in the region.

Thus, my third hypothesis is that there is a negative relationship between the level of market reform implementation and the extent of state capture (see Figure 1 below).

Figure 1: Working assumptions

Level of market reform enforcement	High	Low
Extent of state capture in the region	Low	High
	↓	↓
Level of inequality	Low	High

In order to address the research questions and to test the hypotheses stated above, this project will employ the following methodology.

Methodology and Research Design

Case selection: Russia provides a perfect ground for studying the relationship between market reform enforcement, state capture and inequality, as it is a large country, with 83 subnational units (republics, krais, oblasts, federal cities, autonomous okrugs, and autonomous oblast').

Methods: I will root my analysis in both quantitative and qualitative methods. I will use extensive descriptive statistics to construct quantitative indexes characterizing the level of market reform enforcement, the extent of state capture in the region and the level of inequality (low, moderate and high). Then I will test the hypotheses to reveal the initial propositions using correlation method. Finally, I will select several regions “either extremes in a trend, or a typical case” (Ilyina, Leonard, and Plisetskij 2014, 3) for further review in order uncover deeper insights and to make the statistical analysis more productive.

Unit of analysis: Atkinson (1970) shows that the choice of an appropriate unit of analysis could significantly influence the outcome. I plan to carry out a two level analysis. As inequality could be studied at a household, family or individual level. For this project, following up the logic of Credit Suisse (2014) that “personal assets and debts are typically owned (or owed) by named individuals, and may be retained by those individuals if they leave the family” (6), I will assess inequality in income and wealth at the individual level. Moreover, I will examine regional patterns of inequality.

Time frame: I will consider the period from 1991 to 2013, that is from the dissolution of the USSR to the beginning of the current economic crisis, which had a significant impact on regions (Zubarevich 2015).

Main variables and data: inequality in income and wealth is the dependent variable of the study. Income inequality will be studied taking into account data on wages from employment and private income sources from self-employment, while wealth inequality will be assessed using data on income from property. I will start from analyzing data provided by the Federal State Statistics Service – Rosstat (earlier – Goskomstat), which regularly collects these data, making some adjustments for what is believed to be the scale of unreported income. The data are published in statistical yearbook “Regiony Rossii. Sotsial’no-ekonomicheskie Pokazateli” (“Regions of Russia. Socio-economic indicators”). The major limitation of these data is that rich households are not fully taken into account, yet data “that do not take into account the first- and second-tier rich (billionaires and millionaires) may drastically underestimate inequality” (Guriev and Rachinsky 2006, 1). Therefore, I will also use the commercial

Russia Wealth Report 2014, which provides sufficient and unique data with breakdown by industry and region, to assess the upper percentile. As a complementary source I will also use various ratings published by the Forbes magazine and its Russian edition.

I will construct the following explanatory variables: the level of market reform enforcement assessing number of small and medium-sized enterprises (SMEs) per 1000 and/or retail turnover of SMEs per capita; volume of interregional trade per capita; inward foreign direct investments (FDI) and outward FDI per capita (most of this statistics is provided by Rosstat); the extent of state capture in the region: Slinko, Yakovlev and Zhuravskaya (2005) created a extensive dataset using the data on preferential treatment of large firms by regional legislation. This dataset covers the period until 2003, but I will provisionally extend it using the same methodology in order to make inferences up until the present. I will take into considerations a number of additional factors that may influence the dependent variable, namely: status of the region; regime type (more democratic or authoritarian, Remington (2011)); whether the governor of the region belongs to the 'old' or 'new' elite, as defined by Shurchov (2012).

I also plan to study materials at the Open Society Archives (Budapest, Hungary) to collect additional qualitative data for the early 1990s, in order to corroborate official data. I will also use these data to conduct case studies of specific regions.

Results

This project will have two main contributions to the field. First, it will show the link between quality of institutions and inequality, by examining the relationship between market reform enforcement, state capture and inequality. Second, the research will offer a nuanced analysis of extensive regional data providing better understanding for specific factors for intraregional inequality in general and certain cases in particular.

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***Polyachenko, Sergiy*¹ (with *John V.C*². *Nye* and *Maxim Bryukhanov*³): 2D:4D and Lifetime Educational Outcomes: Evidence from the Russian RLMS Survey**

Abstract: *Using a large sample drawn from families in the Moscow and Moscow region, which are part of the Russian RMLS longitudinal survey we observe clear links between measured 2D:4D digit ratios and a variety of educational outcome measures, even with the inclusion of multiple controls. Statistically significant associations were found for the likelihood of receiving a higher education diploma (university or higher for both females and males), the likelihood of receiving a higher education diploma as a full time student (females) and for the likelihood of having more educational attainment in general (both males and females). These findings were also robust to a number of respecifications.*

Introduction

There is a growing body of literature which links exposure to prenatal testosterone – proxied by measured second to fourth digit ratio (2D:4D) – to various individual outcomes. Digit ratio is negatively correlated with fetal testosterone and estradiol (Lutchmaya et al., 2004) and quite stable in time (Trivers et al., 2006).

Among the better known findings is that lower measured digit ratios (higher prenatal T) are associated with better performance in computer science (Brosnan et al., 2011) better physical fitness (Hönekopp et al., 2006) and greater male aggression (Kilduff et al., 2013).

In this study, we contribute to the existing state of the art by using multiple measures of educational outcomes as dependent variables to estimate results that are robust to the choice of specification of educational attainment. More precisely, we analyze whether 2D:4D digit ratios can be linked to greater education for individuals as well as to the type of higher educational study (full time study vs. part time), as well as to the general level of schooling.

The results of the study show statistically significant relationships between digit ratios and lifetime educational outcomes. However, the observed effects are sometimes different for women and men.

Aim of the Project

In some studies, a non-linear (quadratic) relationship has been observed. An extensive survey of statistical tests of various functional forms was published by Valla and Ceci (Valla and Ceci, 2011). Supporting evidence of nonlinear specifications for these relationships came from the studies of Nye et al. for digit ratios and grades/test scores (Nye et al., 2012) and for wages (Nye et al., 2014). The **aim** of this project is to test non-linear specification of association of digit ratios and educational choice both for women and for man, with a special emphasize on the quadratic functional form.

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Hypotheses and Methodology

The working hypothesis is that 2D:4D ratio is non-linearly (inverse "U-shaped") associated with education.

We use toolkit of logit models as primary *methodology* in this study. Additionally we employ Hosmer-Lemeshow test (Long and Freese, 2006) along with link test (StataCorp, 2013).

The data set for this study comes from the 20th wave of the Russian Longitudinal Monitoring Survey conducted in the year 2011. The sample came from the set of families from Moscow and the Moscow region with nearly four thousand individuals agreeing to have their fingers measured. A special team of trained assistants undertook measurement of digit ratios, while other information was taken from the existing survey, which contains questions regarding individual's socioeconomic characteristics and family background. The data were anonymized before being provided to the authors for statistical analysis. The finger measurements were taken using electronic calipers. Actual measurements were made from the palmar digital crease to the fingertip of the index and ring fingers. Then measurements were rounded to the nearest millimeter.

Results

Initially, we estimated logistic regressions of the level of educational attainment, considering completed higher education and completed higher education either full time or part time. Doing so, first we ran regressions, using the so-called classical predictors: education of mother, education of father, dummies for location where individuals finished high school, and age. Second, we added digit ratio. Thirdly, digit ratio squared is added. Logistic regressions were estimated separately for women and men. For each regression we conduct Hosmer-Lemeshow test (Long and Freese, 2006) as well as link test (StataCorp, 2013)¹.

Table 1. Dependent variable – “University degree completed full time”, females

	Left hand			Right hand		Averaged digit ratio	
	1	2	3	2	3	2	3
Significance of the coefficient on digit ratios	-	1%	5%	Insignificant	10%	5%	5%
Significance of the coefficient on digit ratios squared term	-	-	5%	-	10%	-	5%
AIC	1.029	1.025	1.021	1.029	1.028	1.026	1.024
BIC	-7829.412	-7830.395	-7830.380	-7824.383	-7821.055	-7828.097	-7826.082
LR	246.865	255.007	262.150	248.995	252.825	252.709	257.852
p-value	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Share of cases correctly classified by the model, %	76.89	77.12	77.20	77.12	77.20	77.04	76.73

¹ To save space we do not include estimation outputs for these tests in the article. The models perform well, and the results are available from the authors by request.

Firstly, we regress higher education obtained full-time. From the regression results, we observe that classical predictors work quite well. Digit ratios and their squared term are significant only for females. For the purpose of inferring post-estimation quality of different specifications we provide some test statistics below, which are commonly used in the literature (Menard, 2009).

The quadratic (inverse U-shaped) functional form (Table 1) has better AIC (Akaike information criterion) for the left hand, for the right hand, and for the averaged digit ratio.

This functional form also has a larger share of cases correctly classified by the model in the case of the left hand and the right hand. Interestingly, Likelihood ratio (LR) test statistics support the quadratic functional form also. In particular, the LR test between the models in columns 2 and 3, 7.14 (p-value = 0.08), support the quadratic functional form. This is also true in the case of the left hand and the averaged digit ratio. However, the Bayesian information criterion (BIC), mostly supports linear specifications of 2D:4D.

Table 2. Dependent variable - “University degree completed full time or part-time”

	Left hand		Right hand		Averaged digit ratio		
	1	2	3	4	5	6	7
FEMALES							
Significance of the coefficient on digit ratios	-	Insignificant	5%	Insignificant	1%	Insignificant	5%
Significance of the coefficient on digit ratios squared term	-	-	5%	-	1%	-	5%
AIC	1.180	1.181	1.179	1.181	1.175	1.181	1.178
BIC	-7636.463	-7629.833	-7627.227	-7629.759	-7632.291	-7629.919	-7628.790
LR	280.497	281.026	285.578	280.952	290.642	281.112	287.141
p-value	(0.000)	(0.000)	(0.000)	(0.000)			
Share of cases correctly classified by the model, %	69.88	69.57	69.42	69.57	70.35	69.49	70.35
MALES							
Significance of the coefficient on digit ratios	-	Insignificant	10%	Insignificant	Insignificant	Insignificant	Insignificant
Significance of the coefficient on digit ratios squared term	-	-	10%	-	Insignificant	-	Insignificant
AIC	1.134	1.134	1.132	1.134	1.136	1.133	1.135
BIC	-5018.325	-5013.481	-5010.170	-5013.689	-5007.236	-5014.168	-5007.937
LR	187.764	189.716	193.200	189.923	190.266	190.403	190.968
p-value	(0.000)	(0.000)	(0.000)			(0.000)	
Share of cases correctly classified by the model, %	73.49	73.38	73.04	72.48	72.48	72.71	72.71

Next we performed regression analysis (using logistic regressions) of higher education, obtained either fulltime or part-time. We document that for females, the quadratic specification is significant, and the story with information criteria as well as

with LR test statistics and correctly, classified cases are almost the same as in Table 1. Interestingly, the quadratic functional form is detected, in this case of males, for the left hand (Table 2, column 3). Moreover, AIC and LR tests support this model.

We show that higher levels of prenatal testosterone are non-linearly associated with higher academic achievement of females but only weakly, if at all, for males. We observe an “inverse U-shaped” relationship between 2D:4D and completed higher education of females.

Analysis of higher education outcomes also reveals nonlinear, “inverse U-shaped” associations. Specifically, the relationship between 2D:4D and the likelihood (log odds) of completing a higher education diploma (regardless of the form of study) is “inverse U-shaped” both for women and men. Associations between 2D:4D and the likelihood (log odds) of completing high education diploma full time is “inverse U-shaped” only for females.

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Pontarollo, Nicola¹: European Structural Funds' Absorption Rate and Regional Institutional Quality, are They Linked?

Abstract: *The aim of my research is to analyse the link between the regional institutional quality and the regional policy of the European Union by assessing whether the actual degree of absorption of Structural Funds is undermined by low institutional quality levels. In doing this will both "formal" and "informal" institutions. The idea behind this twofold testing is to verify if the absorption rate depends on the incapacity and lack of efficiency of administrations or by the lack of an appropriate social environment able to benefit from European regional policy. In this sense, the of low absorption of Structural Funds could be sought in an inconsistent spatial allocation of the EU Structural Funds that is likely to have reduced their capability to impact upon the regional growth performance of assisted regions. Another possibility to be tested is if the absorption rate depends from the coherence between the socioeconomic regional structure and the allocation of the Funds to particular axis of intervention. If peculiar characteristics and necessities at territorial level are not accounted, the result can be not only a low impact with respect to economic growth, but also a low degree of absorption.*

Introduction

Structural Funds are the main instrument of the European Union (EU) Cohesion Policy. They account almost 1/3 of EU budget and a round 2/3 of Structural Funds money are granted for regions with GDP per capita less than 75% of the EU average (Becker, Egger, and Ehrlich 2010). Despite the ongoing debate on the new policy implications, the main principles of the EU Cohesion Policy remained unchanged: to counteract the forces that may generate a core-periphery pattern, and reducing regional inequalities. This policy, under a theoretical point of view do not find a justification of on pure efficiency grounds, but can be defended on equity grounds. This implies that the capacity to absorb, to distribute and to invest EU grants is a crucial determinant of cohesion process. These three key aspects related to the management and implementation of Structural Funds are strictly linked to the domestic institutional quality. At this regard Rodríguez-Pose (2013) affirms: "if a) the returns of the European regional development effort since the reform of the Structural Funds are controversial and contested; if b) researchers are finding that institutions matter more and more for economic growth and development; and if c) European development strategies have, by and large, overlooked the institutional dimension, ergo institutions matter for regional economic development in the EU and therefore should become an essential part of the European regional development effort in order to improve its effectiveness. It's the institutions, stupid!"

Since the major recipients, the regions with the GDP level lower than 75% of EU average, are among the ones with the lowest Quality of Government, the European Commission decided that, to receive financial assistance from the EU Funds, the Member States are obligated to co-finance their regional projects. This means that all the EU supporting payments are granted on specific conditions that nowadays, with thematic concentration and macroeconomic conditionality, are much more stringent. This implies that not only the country's institutions, but also the regional institutional

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infrastructures have to be able to distribute, invest and absorb the EU grants efficiently to become an essential determinant of European cohesion process.

In this extent, both formal and informal institutions play a particularly important role because they help to make effective European regional policy. Given the difficult task to exactly define institutions, it is useful to define more clearly, as far as possible, what does formal and informal institutions means.

According to North (1992) and Fukuyama (2000: 6), 'formal' institutions (also known as 'hard' institutions) refer to the universal and transferable rules and generally include constitutions, laws, charters, bylaws and regulations, as well as elements such as the rule of law and property rights and contract and competition monitoring systems. The concept of 'informal' institutions (also known as 'soft' institutions, 'community' or social capital) includes a set of features of group life "such as norms, traditions and social conventions, interpersonal contacts, relationships, and informal networks" (Rodríguez-Pose and Storper, 2006: 1), which are essential for generating trust (Fukuyama, 2000: 3).

Evidences with respect to the role of both types of institutions in making effective public policies in the European context are quite limited. The most usual approach to assess the impact of the Structural Funds on the growth rate in EU has been the interaction terms with institutional variables (Rodríguez-Pose and Garcilazo, 2013; Katsaitis and Doulos, 2009; Bradley and Untiedt, 2008; Ederveen et al., 2002; Ederveen et al., 2006). The significant results of these researches is that institutional factors have a major influence for the effectiveness of funding. The other common point is that the majority of the studies use data at country-level. Only Rodríguez-Pose and Garcilazo (2013) look at the effect of institutional quality of Structural Funds with regional-level data finding that the returns to investment do not come necessarily from the degree of investment itself, but from the quality of government of the region receiving the support.

Aim of the Project

Taking into account the recognized importance of the institutional quality in order to make effective public policies, the aim of my research is to analyse the link between the regional institutional quality and the regional policy of the European Union by assessing whether the actual degree of absorption of Structural Funds is undermined by low institutional quality levels. At my knowledge, studies focusing on interaction between institutional quality and absorption of aid from the EU Structural Funds and the Cohesion Fund are still few and they use national-level rather than regional-level data. One of the most recent studies is by Fazekas et al. (2013) who find a significant impact of European financial assistance on institutionalized grand corruption in public procurement in Czech Republic, Hungary, and Slovakia during 2009-2012.

The objective of analysing the degree of absorption of Structural Funds with respect to institutional quality can be intended for both formal and informal institutions. Regarding the formal institutions I will use a Quality of Government Composite Index developed by Charron et al. (2013). This study resorts to survey data from 34,000 respondents, living in 172 NUTS1 and NUTS2 regions in 18 EU states in order to measure the perception of the quality of regional and local governments with respect to four components: a) rule of law; b) corruption; c) quality of the bureaucracy

or bureaucratic effectiveness; and d) democracy and the strength of electoral institutions, typically administrated at local level. For informal institutions I refer to the studies of Crescenzi et al. (2013) and Crescenzi (2009) and I will create an index able to catch the regional social capital dimension.

The idea behind this twofold testing is to verify if the absorption rate depends on the incapacity and lack of efficiency of administrations, as observed for example by Tsoukalis (1997), or Rodríguez-Pose and Garcilazo (2013), or by the lack of an appropriate social environment able to benefit from European regional policy. In this sense, the of low absorption of Structural Funds could be sought in an inconsistent spatial allocation of the EU Structural Funds that is likely to have reduced their capability to impact upon the regional growth performance of assisted regions (Crescenzi, 2009). Another possibility to be tested is if the absorption rate depends from the coherence between the socioeconomic regional structure and the allocation of the Funds to particular axis of intervention. If peculiar characteristics and necessities at territorial level are not accounted, the result can be not only a low impact with respect to economic growth, but also a low degree of absorption.

Hypotheses and Methodology

In order to estimate the relation between the absorption rate of Structural Funds and the institutional quality, I will use various methodologies of estimation. The first step is to create the regional social capital indicator, for which, as customary in literature, I will use a Principal Component Analysis in line with the “social filter” approach of Rodríguez-Pose and Crescenzi (2008). Then, in a first exploratory analysis I’ll adopt an Exploratory Spatial Data Analysis (ESDA) where I will look for at the possible existence of spatial clusters with similar values using some indices of spatial autocorrelation (e.g. Moran’s I) (Cliff and Ord, 1981). This will allow to visually and statistically analyse the relation between each variable and its relative location in the space. The next step consists in examining the relation between institutional quality and in the rate of absorption. In this case, the possible presence of spatial autocorrelation and spatial heterogeneity will be dealt with the use of the appropriate techniques: in the first case spatial lag or spatial error methodologies (Anselin, 1988), and in the second Geographically Weighted Regression (Fotheringham et al., 2002) or its most recent development, the spatial filteres Geographically Weighted Regression (Griffith, 2008). The analysis, then, will focus in the coherence between the allocation of the Structural Funds and the socio-economic regional structure. A cluster analysis will help in this task. With the clusters analysis I aim at estimating the “tightness” of the Funds to the regional structure in order to verify if the absorption depends also from this factor.

Results

There is no significant literature regarding the link between European institutional quality and the absorption of the Structural Funds, and then I cannot predict, *a priori*, what will be the outcome of my research. It has been demonstrated that the effect of EU regional policy is mediated from institutional quality, but the direct impact of institutions on the degree of absorption of Structural Funds has not been yet investigated. I want to do a step in this direction and I think that this will help to understand some of the motivation behind the success of the implementation of EU

regional policy in some regions but not in some others. I think that the results of my analysis will help policy makers to better implement Cohesion Policy at European regional level in order to achieve the best results in term of efficient use of resources and in reducing interregional disparities.

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Raschupkin, Mikhail¹ (with Irina Andrievskaya²): Is it Worth Being Transparent? Market Power and Voluntary Disclosure by Russian Banks

Abstract: *Information disclosure is considered as an important prerequisite for the efficient functioning of a financial system. Costs and benefits of information disclosure - voluntary and mandatory - have been extensively theoretically and empirically investigated. However the link between voluntary disclosure and market power is still empirically unexplored. Our paper fills this gap in the literature. We test the hypothesis that banks tend to under-report information about their financial and operating condition due to the presence of proprietary costs. Our sample consists of the largest 150 Russian banks for the period 2004-2013. Preliminary findings show that bank voluntary transparency is positively associated with bank market share. Our further research includes estimation of a more precise indicator of bank market power – Lerner index - and analysis of the link between this indicator and bank voluntary information disclosure.*

Introduction

Information disclosure plays an important role for the well-functioning of any market. It is no less necessary for the efficient performance of the financial system which is prone to information asymmetry. Opacity of financial institutions can foster financial instability (Jones et al., 2012). This is evident in particular during the crisis periods when opaqueness of financial institutions can impede the implementation of timely and efficient policy measures (Rosengren, 1998).

In order to increase transparency of the banking system regulators work out disclosure requirements that can enhance market discipline (BCBS, 2006). However, before implementing the appropriate disclosure policies it is necessary to understand the banks' incentives to be more transparent (Darrough, 1993). This can help to find out what types of banks are more likely to avoid disclosure strategies and how to regulate them more efficiently (Leuz, Wysocki, 2008).

Costs and benefits of information disclosure for firms are quite substantially explored in the literature. Higher transparency is connected with lower cost of capital (Merton, 1987), (Francis et al., 2005), greater trust and confidence of investors (Oliviera et al., 2011), lower firm's competitive advantages and higher reporting costs (Hyytinen, Takalo, 2002), it can also increase firm value (Leuz, Wysocki, 2008)

The effect of and motivation for information disclosure within financial system framework has also been extensively examined. Specifically, greater transparency is associated with lower lending corruption (Barth et al., 2009), lower bank stock volatility (Baumann, Nier, 2004), higher bank efficiency (Refait-Alexandre et al., 2012), higher risk-taking by banks (Moreno, Takalo, 2012) and higher probability of bank runs (Chen, Hasan, 2005). At the same time, banks with lower equity levels tend to

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under-report their risk information in order to fulfill capital requirements set by the regulator (Begley et al., 2014).

We extend the existing literature by analyzing an additional incentive of banks to under-report information. In particular, we examine the *proprietary cost hypothesis* which means that “firms’ decisions to disclose information to investors is influenced by concern that such disclosures can damage their competitive position in product markets.” (Healy, Palepu, 2001, p.424). According to this hypothesis, firms do not have incentives to disclose information as it can lower their market power due to revealing of some strategic information (Darrough, 1993), (Hayes, Lundholm, 1996).

However, the interrelation between market power and information disclosure is not unambiguous. According to the industrial organization theory, greater transparency can entice investors away from the less transparent organizations (Fishman, Hagerty, 1989) and, therefore, can contribute to the rising market power of a firm. At the same time, for a banking system in particular, disclosure of financial information leads to higher asset quality competition and reduce price competition (Cordella, Levy Yeyati, 2002).

Aim of the Project

The aim of our research project is to examine whether there exists a link between market power of banks and the level of their voluntary transparency. Despite the fact that theoretical analysis with this respect already exists in the literature, there is little if any empirical evidence that can confirm or reject the existence of such a link. Therefore, we contribute to the existing literature by examining the proprietary cost hypothesis for a banking market. The results of our research can help in designing the more appropriate banking system regulation policies.

Hypotheses and Methodology

In order to examine the proprietary cost hypothesis formulated above we use the following econometric model:

$$Y_{it} = \beta_i + \gamma_1 VT_{it} + \gamma_2 VT_{it} NPL_{it} + \gamma_3 VT_{it} Crisis + \alpha z_{it} + \varepsilon_{it}$$

Dependent variables Y include proxies for bank market power: market share (share of bank’s assets to total banks’ assets) and the Lerner index (a direct measure of bank market power).

Explanatory variables consist of a proxy for bank voluntary disclosure (VT), interaction between voluntary disclosure and the quality of bank assets ($VT*NPL$), interaction between voluntary disclosure and the crisis period ($VT*Crisis$), and a set of control variables.

As a proxy for bank voluntary disclosure of information we use information disclosure index measured according to Standard and Poor’s methodology. This methodology is described in the report "Transparency and Disclosure by Russian Banks 2006" (S&P, 2007). We slightly modify their methodology. Specifically, we reduce the dimensionality of the index since some of the questions included in the S&P index repeat each other. Therefore, our final disclosure index is based on 27 questions on whether a bank discloses certain items from three major blocks:

- "Ownership and group structure" includes a set of questions about the identity of the most important shareholders, affiliating companies and information about prices and total amount of ordinary shares.
- "Financial and operation information" covers the questions about publishing annual and interim financial reports and their content (information about revenues and costs, risks, reserves, etc.), auditors' notes and information about auditor itself.
- "Board and management structure and process" implies comprehensive information about top-management and board personalities and their salaries.

Each question receives 1 point if the answer for this question is positive (in other words, if the appropriate information is disclosed). Otherwise the question receives 0 points. Maximum score for the first block is 6, for the second one is 16, for the third one is 5. Therefore, the total maximum value of the index is 27. We also analyze which of the three index dimensions described above is the most important for bank market power.

To test whether banks with lower assets quality tend to under-report to a greater extent their financial information to retain their market power, we introduce the interaction between the voluntary disclosure index and banks' credit risk, measured by the ratio of non-performing loans over loan portfolio).

We also examine whether the link between bank market power and their level of information disclosure changes during the crisis time. Therefore, we include the interaction term $VT * Crisis$. Because of the financial instability accompanied by less strict disclosure requirements by the Central bank the banks may report less and even then the reported information may be useless for market discipline as it does not reflect the risks properly.

Our control variables consist of year dummies, securities listing of banks on Moscow and foreign Stock Exchanges dummies, bank size (calculated as natural logarithm of bank total assets) and bank ownership structure (state, foreign or domestic private ownership).

For the purpose of our analysis, we manually collected the data on bank disclosure by surfing the webpages of the banks where they disclose all the relevant data. The bank-specific financial indicators (total assets, non-performing loans and etc.) are taken from the Mobile database. Our sample includes the largest 150 banks in terms of assets. The period under consideration is 2004-2013.

We estimate random effect panel data model. The choice between OLS, fixed effect and random effect models is done based on Walde, Haus-Altman, Breusch-Pagan tests.

Results

Our preliminary results show that information disclosure index, as well as listing at the Moscow Stock Exchange, have a significant impact on bank market share. Higher bank transparency is positively associated with higher bank market share, while the link between listing at the stock exchange and bank market share is negative.

Our results need further examination. The further research includes the estimation of a more precise market power indicator, the Lerner index. For the

robustness check alternative market power indicators – such as the H-statistics - will be used.

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Sasaki, Kazuhiko¹: Uncertainty in Competition as Driving Factor of Economic Growth

Abstract: *We feel uncertainty for the future. In the past, it was feeling that we might be attacked by beasts or other people and be hurt or eaten. Natural disaster such as Earth Quake, Tsunami, Flood, and Typhoon were increasing fear for tomorrow. In Market Economy in severe competition, we always feel anxiety we may lose our jobs if something happen. I believe, however, such fear, anxiety, insecurity, probability of attacks, loss of body, property and life, this kind of persecution maniac or paranoia feeling, i.e., fear for the future, drive economic growth. When people feel such fear, people prepare for the future. Behind all fears, there is expectation, too. Max Weber said that spirit of capitalism is necessary to grow economy. Behind the spirit, however, there is either fear or expectation by individuals. People competes each other because they feel uncertainty. Uncertainty in competition is a driving factor of economic growth.*

Introduction

Human being, i.e. Homo sapiens first started living together with family members only. They created a society to share captured games equally but with family members only. The hunter-gatherer economy moved to the agricultural-stock farming economy, making human being stay at one place for a long time. Moving around all the time to find the food in changing seasons and environment was no longer required. The settling at one place increased number of people live together, which requested trust with people other than family member. Helping each other without expecting any reward became normal practice. It was just 10,000 years ago when human being stopped eating people other than family members and relatives, though we are still fighting and killing each other everywhere on the earth.

We can say that the fundamental elements to make us as human being are 1) Trust with other people than family members and relatives and 2) Helping each other without expecting any immediate rewards. We trust and help each other. However, simultaneously we cannot avoid fighting or competing each other. People need to live in competition to survive. This paradox can be a cause of making our world more complex than expected.

Since the individual right to own, use and dispose a property has been permitted, people are living in capitalism which makes us OK to keep the gap, i.e. people can become rich and poor.

As we see the river flows from higher place to lower place, the gap drives competition. We compete, like a racing horse, because if not, somebody else will win. We do not want to make that happen. Competition is a key to economic growth. Uncertainty in competition is a factor of economic growth.

Aim of the Project

We have faced with lots of different threats or uncertainty in competition. Global warming issue, insecurity of Middle East, raise of China, threat by Russia and North Korea, loss of market caused by Korea and Taiwan, etc., are all fears that making us

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feeling uncertainty in Japan. Natural disaster such as Earth Quake, Tsunami, Flood, Typhoon, too, are increasing fear for tomorrow in Japan.

We do not know what will happen in the future. In Japan, we say that we cannot see an inch ahead of us in the darkness. We can understand or even predict only what we are seeing now. Beyond it, we do not see any. Therefore, we feel anxiety, fear, expectation and hope.

We expect that there must be something better. We fear that we will lose a great chance if we do not take it. This kind of feeling has led to a curiosity and an inquiring mind. I will analyze and prove that uncertainty in competition is a factor causing economic growth.

Hypotheses and Methodology

To prove uncertainty in completion is a factor of economic growth, I take following approach; 1) Literature review and 2) Empirical analysis.

Literature review

Several literatures have analyzed relationship between uncertainty and economy or economic growth. I searched those with such key words in title; economy, economic, growth, and uncertainty. Those literatures are mostly focusing on and reviewing economic uncertainty or policy uncertainty and reactions or relations between those uncertainty and region, country, corporation, executive/management or group of people (e.g. rich or poor), in order to understand causal relationship each other. Followings are a couple of examples of those articles.

Baker, Bloom and Davis (2012) reviewed relationship between Uncertainty in economic policy and Economy. They created the original policy uncertainty index based on the analysis of 10 newspapers articles, scheduled tax code expirations and forecaster disagreement about inflation and government purchase.

Although this policy uncertainty index is unique, as they have admitted, one of major factor of this index (50% weight), 10 newspaper article analysis “closely mirrors the leading index of stock market uncertainty based asset prices” (p.7), and “the behavior of the overall index is not very sensitive to different weighting schemes” (p.9).

It seems to me that one of leading index of stock market can be simply used other than the newly created policy uncertainty index and although they said the policy uncertainty index is correlated to big stock market moves (p.13), their index did not distinguish uncertainty and also expectation which are both being reflected in general on stock market movement.

Ekmekcioglu (2013) focuses on global economy of uncertainty. He understood that “the level of uncertainty as regards to the global economic view point has greatly increased (pp 199)” and that “[t]his issue has even been reinforced by anxieties on how the challenges associated with this will be addressed by policy-makers (pp 200).” He also focuses on the roles of financial markets how those are contributing to economic growth by resolving economic uncertainty. However, he just only examined and pointed out general action or reaction by countries or companies how to use financial markets in economic uncertainty.

Baker and Bloom (2013) examined causal relationship between uncertainty and growth; Does rising uncertainty drive recessions, or is uncertainty just an outcome of

economic slowdowns? They used cross-country panel data on stock levels and volatility as proxies for the first and second moments of business conditions. Natural disasters, terrorist attack and unexpected political shocks are selected as instruments for the stock market proxies of first and second moment shocks. The shocks were measured by rise of the number of key words appeared in newspaper articles before 15 days and after 15 days of the actual shock occurred.

There is a significant positive effect for political shocks and revolutions, but nothing significant for natural disasters or terrorist attacks (pp.16). This is because political shocks are affecting economic activities of all people in wide spread areas, however, natural disasters and terrorist attacks are one-off, local event affecting limited people in such limited areas only.

However, stock prices are moving significantly in one day. Two 15 days intervals can be including feedback result other than uncertainty, not pure uncertainty. Same to Baker, Bloom and Davis (2012), shifting the trend of stock market index once started, the index itself is likely to absorb the uncertainty and expectation immediately and the index is reflecting both factors. Thus comparing uncertainty only to the stock market index may be resulting in misleading findings.

Real economy is continuous activities that various factors are influencing each other simultaneously. We can say that it is very difficult to understand exactly and clearly causal relationship between those factors.

As Robert Lucas said that it is naïve to try to predict the effects of a change in economic policy entirely based on relationship observed in historical data – Lucas Critique, there is a challenge and it is not easy to find exact causal relationship each other (Reinhart and Rogoff, 2011, pp287)

None of those literatures anyway focuses on relationship between uncertainty in competition and actions/reactions by individuals.

Empirical Analysis

I understand it is very difficult to come up with direct causal relationship between uncertainty generated by a single event or policy change and economic growth. I will first use and analyze the TOPIX by Tokyo Stock Exchange such as the number of stocks purchased (A) and sold (B) from time to time in Japan, as those numbers are reflecting people's uncertainty and expectation at any time. I call the result of A minus B divided by total number of registered companies in TOPIX as Uncertainty Index. I will examine correlation between this Uncertainty Index and investment and consumption by companies as well as individuals, i.e., 1) spending on R&D, 2) real estate trading or the number of new houses (Reinhart and Rogoff 2011), 3) new vehicle sales, 4) bank loan, 5) sales of business suits/shoes and 6) sales of luxury brand, etc.

Results

Empirical analysis has not started yet. This research is still working in progress. Setting right index and finding right economics factors to analyze are key but not fully decided yet. However, I believe analyzing relationship between Uncertainty Index and those economic factors represented by investment amount, bank loans, the number of newly created companies, and purchased higher value items such as housing, vehicles

and luxury brands goods will give us significant new findings, i.e., uncertainty in competition is a driving factor of economic growth.

Because shifting the trend of stock market index such as TOPIX once started, the index itself is likely to absorb the uncertainty and expectation immediately and the index starts reflecting both factors at once. Uncertainty Index should show this trend as a clear indicating factor.

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Shackleton, Oliver¹: Knowledge Institutions in Transitional States - The case of the Russian and Chinese Academies of Science

Abstract: *Knowledge Institutions in Russia and China have held a common heritage in centrally planned economies and limited networks of innovation actors. However, in recent years they have experienced upheaval with RAS being absorbed into Government Agencies, whereas CAS has retained a degree of control and direction. How have these Institutions changed over the past 30 years of transition from soviet/communist to post-socialist conceptions of the state? This study takes the case of the Academies of Science from a new institutional perspective and considers through bibliometric, policy and interview analysis how they have acted to maintain relevance in their innovation systems.*

Introduction

This research project focusses on the development of Key Knowledge Institutions in Russia and China over the past 30 years. The transition from wholly centralised government to more diverse Post Socialist conceptions of the state has redefined governance and institutional networks. Formerly dominant Institutions with few real competitors must now act in a varied and competitive market, both regionally, nationally and internationally.

The focus of this research is the Academies of Science in Russia (RAS) and China (CAS). I will address how their position as knowledge institutions in transitioning institutional systems. Have RAS and CAS changed due to internal motions or external governance influence? As seen through the media, RAS has experienced major changes to its governance in 2013 (Kremlin, 2013) while CAS appears to have consolidated its policy and innovation system roles (CAS, 2009; Eun and Lee, 2010)

In particular, this research addresses three questions to investigate these changes.

How do regional and International collaborations influence the development of Knowledge Institutions in Transitional States?

How does independence from and absorption into State Structures affect the development and actions of Knowledge Institutions in Transitional States?

How do personnel programmes influence the development of Knowledge Institutions in Transitional States?

This study is uses a combination of Bibliometric, Policy Analysis and Interviews to understand the actions of RAS and CAS over the past 30 years. It will allow for a deeper understanding of institutional change in Transitional States and offer practical examples of comparative institutional studies. Initial analysis has been completed on the bibliometric and policy data and is used to inform the interview questions.

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Aim of the Project

The aim of the project is to understand the way that institutions develop in transitional states. Institutions are often theorised about but this study will use comparable institutions over a period of 30 years.

In both cases there has been a transition from soviet style central planning to a more diverse post-socialist experience, and the way that institutions adapt and change can tell us many things about the Innovation system and the importance of these traditional Knowledge Institutions.

Methodology

The theoretical framework uses New Institutional analyses (Brinton and Nee, 2001; North, 1990) in turn how the change can occur through isomorphic and endomorphic actions (DiMaggio and Powell, 1983).

The methodology will use three stages of evidence collection. The first stage is a discourse analysis reading of the experiences of the RAS and CAS from 1980-2014. This is followed by a bibliometric study of RAS and CAS affiliated publications over the same period. These studies will inform the interview stage of the study, where the aim is to confirm or challenge the evidence found through the studies.

Hypotheses

- Early Career Researchers play an important role isomorphic institutional change.
- International collaborations can redirect efforts for diversifying collaborations with different sectors causing endomorphic change.
- State policy actions are less present in Endomorphic institutions, but are prone to major changes as a result.

Results

Initial findings in the Bibliometrics and Policy analysis show two distinct forms of system. In Russia there was a period of institutional creation without overarching controls and directions from state influencing RAS. CAS has been held close to the state throughout the period and policies for science and technology have been developed with and for it.

Bibliometrics show an increased focus in applied sciences by CAS whereas the RAS has reduced engineering focus in favour of more basic research topics. Collaborations by RAS are more focussed on prestige links with other international academies whereas the CAS collaborations are varied around different sectors.

Notable number of Collaborations in CAS comes from the University of CAS implying an increased membership and reassertion of Academy values and norms.

The next stage of research will be to compare the findings of publication and policy analysis in order to confirm or challenge these observations with other actors involved with the Academies of Science in these settings. By the time of the summer

school, I aim to have completed interviews in one or more setting. This will be used to complete the research inform the final stages of the thesis. Data will be presented in due course.

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***Shakina, Elena*¹ (with *Maria Yudkevich*²): Individual Strategies of Faculty: Incentives to Switch to a Higher Academic Productivity**

Abstract: *This study aims to elaborate the theoretical model for academic strategies of university faculty. This theoretical foundation is based on the dynamic optimization of the utility function of faculty that positively influenced by salary function and negatively associated with efforts and investment in human capital. The solution for the model will be found for different functional forms of research outcomes of faculty members in condition that switch to the new more productive strategy is reasonable. The findings of this study will contribute to the understanding of the decision-making process in universities and will be used for the empirical estimation of core parameters of the utility of academic faculty. We see the value of this research mainly for universities in emerging university systems where the faculty is very heterogeneous and parameters of academic contracts are considerably differentiated. In these systems motivation within the incentive academic contract is of a particular importance.*

Introduction

Economic literature has always looked for a validated model for decisions of individuals while choosing their career tracks. This issue is of a particular importance for universities as a motivation of faculty is a great puzzle. Research being nowadays the most important output of universities is a very challenging problem of academic contract between faculty and universities. Academic contract is incomplete in its nature and requires consideration of a latent motivation of faculty to raise their academic productivity.

During recent years increasing attention has been directed to the topic of the ambiguity of incentive contracts in academia. This problem was studied by Carmichael (1988), Ehrenberg et al (1995), Bess (1998), Chen and Ferriz (1999) and the findings of these papers introduced contradictions. Some of the results like those by Watson (1995), Tierney and Rhoads (1995) put emphases on the distortion in incentives of academic contracts. McKenzie (1996), Blackburn and Lawrence (1995), Hackman and Wageman (1995) draw evidence that there are conditions that drive high academic productivity and consider tenure track is an optimal solution for motivation in universities. Tenure track is the most widespread design of the academic contract, in developed higher education systems especially. This design implies high selection and stable compensation for the faculty that demonstrate high academic achievements. In other words, tenure track demonstrates no significant differentiation in the academic strategies. All paths in this design of the contract aim at high research productivity. Despite the efficiency of such system it works only under conditions of the well-developed academic market where the competition among academics is high. Emerging university systems face a problem of underdevelopment or absence of the academic market. Under conditions where selection of academic faculty is impeded the design of tenure track is deprived of the most important part of this type of contracts. That leads to the heterogeneity of faculty and the diversity of academic strategies in the universities.

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Universities in developing academic systems usually implement incentive contracts. Incentive contracts are intended to correct strategies of university faculty to more productive ones. This kind of contract provides relatively low basic salary with the opportunity to get bonuses and university grants. The increase in compensation is associated with the commitment for the future outcomes or already achieved results. Moreover this contracting doesn't provide lifelong guarantee for the teachers and can be terminated whenever the requirements of the university are not met. This alternative to a tenure track system leads to the significantly differentiated contract within one university. Universities face the following problems when designing an incentive contract:

- How to stimulate faculty to switch to the career strategy with higher academic outputs? Which instrument of academic development should be introduced in universities?
- Whether it is reasonable to grant faculty in advance in order to motivate them to switch to the new academic strategy? How to choose then those faculty members that should be supported in advance?
- How much should be the academic contract differentiated? What amount of remuneration is reasonable for incentive part of the contract?

The current study seeks to design the model to provide a theoretical foundation for the decision-making process of individuals in universities based on maximization of their expected utility function. The model should demonstrate conditions under which it is reasonable for university faculty to change their academic strategies.

Aim of the Project

This study comes to investigate the behavior of academic faculty for the system where quality of human capital and value of the academic contract is significantly heterogeneous. As stated above this situation substantially reflects the conditions of universities in emerging economic systems.

Our study aims at modeling the decision-making of academic faculty in universities. Taking that among other two tracks - with minimum academic records and high academic records - should be considered, we learn about the parameters that push a faculty to switch to a more productive academic strategy. Academic strategy implies long-term orientation of current decisions. Apparently, faculty decides about the investment in their human capital expecting future sustainable increase in their utility. This idea is cohered with the dynamic optimization and can be studies in the Bellman equation framework.

Methodology

Bellman equation framework is used to describe the strategies of faculty while choosing the amount of efforts they invest in the research activities. Nowadays, decision-making studies often focus on dynamic issues. The pioneering work of Lintner (1956) indicates the importance of the dynamic foundations of the investment decisions. It has become clear that static models often fail to explain simple stylized facts. On the contrary, dynamic models allow to explore a set of new questions which cannot be addressed in a set of traditional paradigm problems –Strebulaev and Whited (2012). Today, recent progress in stochastic dynamic optimization techniques and

dynamic investment modeling make possible more pervasive studies of dynamic behavior.

In this study, a discrete-time model of decision is considered. Such kind of models is widespread supported by those like Lucas and Prescott (1971). Modern studies have been carried out by Abel and Eberly (1994), and Hennessy, Levy and Whited (2007).

A typical discrete time decision model contains three parts: an objective function, exogenous stochastic state variables and a set of endogenous control variables (Strebulaev and Whited, 2012).

The analysis is based on the following assumptions:

- Academic faculty is continuously maximizing its utility without time limits.
- The expected utility of academic faculty is positively influenced by the flows of a salary and negatively by the amount of efforts spent to get academic outcomes (investment in human capital).
- There is a discounted factor that devaluates all future flows of salaries and investments (discounted factor includes in line with the risk-free rate the risk of the changing university policy for academic contract).
- A salary function of academic faculty is introduced by Cobb-Douglas function. It includes two factors: teaching output (T) and research output (R).
- There is a minimum amount of the research output needed to maintain academic contract. This amount is depreciating with a time and has to be replenished every period.
- The strategy with high research productivity requires significant jump in research outputs and provides considerable increase in return on them.
- Teaching output is an exogenously given parameter while research output is a function of efforts, abilities, teaching output and exogenous shock (risk of transformation of efforts into academic outputs - publications) of academic faculty.

Results

On this stage of our study we have designed an objective function and identifies state and control variables in order to find the closed-form solution for the problem. The objective function in frame of Bellman equation comprises two utility functions (formula 1). The first function represents the basic academic strategy with the minimum-required research outputs. The second function is associated with the switching to the new – more productive academic strategy. The solution will be found as a set of conditions under which it is reasonable for a faculty member to switch to the more productive strategy.

$$U_{af}(R(E, A), T) = \max \left\{ \begin{array}{l} R_o^\alpha \cdot T^\beta - \delta R_o + \sum_{t=1}^{\infty} \frac{R_o^\alpha \cdot T^{\beta\theta} - \delta R_o}{(1+r)^t} \\ R^\alpha \cdot T^{\beta\theta} - \delta R_o - (R_n - R_o) + \sum_{t=1}^{\infty} \frac{R_n^{\alpha_n} \cdot T^\beta - \delta R_n}{(1+r)^t} \end{array} \right. \quad (1)$$

where

U – utility function of academic faculty

R_o – research output in the basic academic strategy

$R_o = f(z_o, E_o, A)$	R_n - research output in the new more productive academic strategy
$R_n = g(z_n, E_n, A, T)$	T - teaching output
$\frac{\partial R_o}{\partial z_o} > 0; \frac{\partial R_n}{\partial z_n} > 0$	a_o - return on the research output (share in salary)
$\frac{\partial R_o}{\partial E_o} > 0; \frac{\partial R_n}{\partial E_n} > 0$	a_n - return on the research output (share in salary)
$\frac{\partial R_n}{\partial T} < 0$	b - return on the teaching output (share in salary)
	d - depreciation rate of the research output (share in salary)
	z_o - the shock of a function of the research outputs in basic academic strategy
	z_n - the shock of a function of the research outputs in new academic strategy
	E_o - the efforts for the research outputs in basic academic strategy
	E_n - the efforts for the research outputs in new academic strategy
	A - ability for research activities of the faculty

Applying the assumption about the infinite time horizon formula 1 is transferred in formula 2.

$$U_{af} = \max \left\{ \begin{array}{l} R_o^\alpha \cdot T^\beta - \delta R_o + \frac{R_o^\alpha \cdot T^{\beta\theta} - \delta R_o}{r} \\ R^\alpha \cdot T^{\beta\theta} - \delta R_o + \frac{R_n^{\alpha_n} \cdot T^\beta - \delta R_n}{r} - (R_n - R_o) \end{array} \right. \quad (2)$$

Taking the results of the modified utility function from the formula 2 we can formulate the conditions under which switch to the new academic strategy is reasonable. This condition is represented in the formula 3.

$$\begin{aligned} R_o^\alpha \cdot T^\beta - \delta R_o + \frac{R_o^\alpha \cdot T^{\beta\theta} - \delta R_o}{r} - R^\alpha \cdot T^{\beta\theta} - \delta R_o + \frac{R_n^{\alpha_n} \cdot T^\beta - \delta R_n}{r} - (R_n - R_o) &> 0 \\ \frac{T^{\beta\theta} (R_o^{\alpha\theta} - R_n^{\alpha_n}) - (\delta + r)(R_o - R_n)}{r} &> 0 \\ T^{\beta\theta} (R_o^{\alpha\theta} - R_n^{\alpha_n}) &> (\delta + r)(R_o - R_n) \end{aligned} \quad (3)$$

This condition will be explored in our study by applying different functional forms for R_o and R_n . The expected results of this study will contribute to the understanding of the key parameters of decision-making of academic faculty. These findings will be empirically tested on the database of NRU HSE to estimate the latent parameters of the utility function.

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Smirnova, Yelena V.¹: Institutions and Informal Employment of Youth in Kazakhstan: Causes, Consequences and Policy Recommendations

Abstract: *The purpose of the project is to develop mechanisms for reduction of informal labor market and informal employment of youth in the Republic of Kazakhstan. Following the objectives set, the study discusses the impact of formal and informal institutions on informal employment of youth in different countries, identifies causes and consequences labor informalities, and explores the variety of institutional tools and mechanisms that can be used to reduce informal employment of youth. The analysis in the study will be based on the original data collected by a large-scale survey to be carried out in Kazakhstan among young people aged between 14 and 29. The results of the survey will allow us to identify causes, consequences and institutional factors affecting informal employment of youth in Kazakhstan. The recommendations to be provided will cover social, economic, financial, legal, and organizational tools for reduction of informal employment among youth in Kazakhstan. These can be useful for governmental and non-governmental bodies involved in development of policies for informal economy. The results of the study may be used in the course of preparation of sectoral and regional labor market programs.*

Introduction

The issue of informal employment has been a highly popular subject of discussion in many countries for more than 40 years. Despite this, the concept of informal employment has not yet been universally defined. The understanding of informal labor markets, informal employment and informal occupations varies across countries and is affected by the institutional context.

In Kazakhstan, informal labor market is represented by two broad categories of participants: employees and self-employed. The category 'employees' implies informal employment in formal organizations, individual enterprises, and peasant (farm) enterprises. Self-employed individuals are typically employers, own-account workers, members of cooperatives, or (unpaid) contributing family workers. The overall level of informal employment in Kazakhstan accounts for 24.3%. And the greatest part of informally employed population is involved in work in auxiliary household plots, bureaus, ateliers, farms and lands².

It is suggested that informal employment is affected by formal institutions (i.e., regulations in labor laws, legislation, and government policy) and informal ones (i.e., the "network"/nepotism effects, age preferences of employers). For instance, talking about formal institutions, the government of Kazakhstan has itself created favorable conditions for the development of informal employment by allowing individual entrepreneurs not to register their business unless they (i) use labor of hired employees on a regular basis and (ii) have aggregate annual income exceeding non-taxable aggregate annual income for individuals (which is equivalent to 1,386 US dollars in 2015)³. It is important to note that these individual entrepreneurs and other

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² According to the Agency of Statistics of the Republic of Kazakhstan

³ Tax Code of the Republic of Kazakhstan

informally employed individuals are deprived of various social guarantees provided by the government.

'Tribal relationships' which are so developed in Kazakhstan further informal employment by involving relatives, friends, and acquaintances in work on a non-contractual basis. Young generation is considered to be one of the most vulnerable age categories in this regard. For instance, one owning a business may offer apprenticeships to his/her younger family members or may involve them on the unpaid contributing basis. Due to social constraints young females are more disposed towards informal employment once getting married or being on a maternity leave. In addition to this, an observation shows that Kazakhstani employers prefer to recruit young candidates rather than older ones (Smirnova & Tatibekov 2013) because many of them are ready to work for lower salaries and without signing a formal agreement, especially in the spheres that require low-skilled uneducated labor (e.g. service, trade).

A preliminary literature review has identified numerous studies on informal labor markets and informal employment (Hussmanns 2004; Kucera & Roncolato 2008; Chen *et al.* 2005; Jütting, Parlevliet, & Xenogiani 2008; Williams 2009; Jütting & Laiglesia 2009; Loayza & Rigolini 2011; Varshavskaya & Donova 2003). Many studies specifically cover the peculiarities of informal employment in developing countries such as: *South Africa* (Heintz & Posel 2008); *Côte d'Ivoire* (Günther & Launov 2012); *Colombia* (Bernal 2009; Camacho, Conover & Hoyos 2014); *Brazil* (Carneiro & Henley 2001; Tannuri-Pianto & Pianto 2002); *Chile* (Packard 2007); *China* (Hu & Zhao 2006).

At the same time, a lot of attention has been paid to informal labor relationships in post-Soviet countries: *Russia* (Khotkina 2000; Maslova & Baranenkova 2003; Sinyavskaya 2005; Gimpelson 2014); *Ukraine* (Williams & Round 2008; Lehmann & Pignatti 2008; Mimandusova 2000); *Georgia* (Bernabé & Singh 2002); *Belarus* (Bazyleva 2012; Morgunova 2010); *Tajikistan* (Goibnazarov & Abdulloyev 2012); *Kyrgyzstan* (Iskakov & Iskakov 2003). Much research has been devoted to the study of informal labor markets and informal employment in *Kazakhstan* (Tatibekov 2011; Verme 2000; Marković 2009; Andrews 2001; Bernabè 2002; Nechiporenko 2007; Rutkowski 2011; and Abbott & Wallace 2009).

Yet some other broader studies considered an institutional perspective of informal work in Egypt, El Salvador, India, Russia, and South Africa (Avirgan *et al.* 2005); earnings structures, informal employment and self-employment in Brazil, Mexico, and South Africa (Bargain & Kwenda 2011); formal and informal labor markets in Eastern Europe, Central Asia and Turkey (Nesporova & Nero 2009), and labor standards and informal employment in 14 Latin American countries (Galli & Kucera 2004). These studies basically focused on formal institutions such as labor market and wage regulations but didn't deeply investigate the tools for reducing informal employment. Additionally, only few studies considered informal employment of youth (Bernabè 2002; Packard 2007; Pignatti, Lehmann 2007; Bernal 2009). Many of them were superficial in this regard and didn't examine neither the institutional context nor the mechanisms for contraction of youth informal employment

Aim of the Project

The **purpose** of the study is to develop mechanisms for reduction of informal labor market and informal employment of youth in the Republic of Kazakhstan

To achieve this goal the following research **objectives** were set:

- Define the essence, the main structural elements, principles and features of informal labor markets and informal employment;
- Classify and systematize the causes and consequences of informal employment of youth in the context of formal and informal institutions
- Analyze the tools and mechanisms used to reduce informal employment and informal labor market in different countries;
- Identify the main characteristics, causes, and consequences of the formation of informal labor markets and informal employment of youth in the Republic of Kazakhstan;
- Identify social, economic, financial, legal, and organizational tools for reduction of informal employment among youth in the Republic of Kazakhstan.

To address the purpose of the study the research is **structured** as follows: introduction, literature review, research methodology, research results, discussion, and conclusion. The introduction comprises the description of the relevance of the theme, identification of the subject and object of the study, definition of the purpose of the research and main objectives. The literature review part is divided into three subparts in which the author (i) analyzes the definitions, main structural elements and features of informal labor market and informal employment with respect to youth, (ii) scrutinizes the literature on causes and consequences of informal employment of youth in different countries (formal vs. informal institutions context), and (iii) studies the variety of institutional tools and mechanisms used to reduce informal employment of youth in the international arena. Based on the literature reviewed we'll build a conceptual model and develop hypotheses for testing them in Kazakhstan. The methodology of study will be built upon qualitative and quantitative analyses. Quantitative analysis will involve the development of the questionnaire for conducting a large-scale survey among Kazakhstani youth. The results part will be subdivided into two subparts which will interpret the results of the survey and analyze institutional context of informal employment of Kazakhstani youth, respectively. The discussion part will focus on developing policy recommendations for the Ministry of labor of Kazakhstan and other interested parties regarding the tools and mechanisms that can be used to reduce informal unemployment of youth in Kazakhstan. The last part will conclude the study.

Hypotheses and Methodology

The methodology of the study is built around secondary and primary data collection. The secondary data collection includes the analysis of existent literature on informal employment of youth, statistical data, reports, legislative and government documents. Primary data collection will involve large-scale surveys of Kazakhstani youth¹ in the context of informal employment. The method for primary data collection will involve the use of self-administered questionnaires. For the purpose of the study the respondents will be segmented according to age categories, gender, education level, region of inhabitation, and sector of employment.

As this study is in its initial stage it is only possible to build preliminary hypotheses based on the literature review we've done so far:

¹ The law of the Republic of Kazakhstan "On State Youth Policy" defines youth as economically active citizens aged between 14 and 29

- ✓ *Hypothesis 1:* Existing labor regulations favor informal employment of youth in Kazakhstan
- ✓ *Hypothesis 2:* Nepotism encourages youth for informal labor relationships
- ✓ *Hypothesis 3:* Youth with lower education levels tend to be more often informally employed than their highly educated peers
- ✓ *Hypothesis 4:* The main cause of informal employment of youth is training and apprenticeship
- ✓ *Hypothesis 5:* Young females are more likely to be employed informally rather than young males
- ✓ *Hypothesis 6:* Informal employment of youth is basically developed in service and trade sectors

Results

The main results of the study are supposed to include the identification and classification of forms, causes and consequences of informal employment of youth shaped by formal and informal institutions, and development of policy recommendations to reduce the level of informal employment among young generation in the Republic of Kazakhstan. The results of the study are expected to be issued in the form of scientific and practical recommendations and reports with their subsequent presentation to public employment services, various recruitment companies, as well as other government and non-government bodies involved in development of policies (solution of problems) for informal economy. The results of the study may be used to prepare sectoral and regional labor market programs.

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Tkachenko, Andrey¹ (with Andrey Yakovlev²): Organizational Forms and Incentives for Effective Public Procurement

Abstract: *This paper analyses the impact of the interaction of organizational forms and central control power on procurement performance for different departments of a large state university in the period from 2008 to 2013 in Russia. All the departments are classified into three types: autonomous, budget-funded for procurement support, and budget-funded for other activity. In the middle of 2011 the procurement department imposed more tight control on whole procurement process. The procurement performance characteristics are level of competition, price decreases, and delays in contract executions. It is shown that autonomous departments have more competitive bids with more significant price decreases for simple goods. For these simple goods delays in contract executions for autonomous departments are less. These effects exist during the light central control. These effects are less or insignificant under the tight central control.*

Introduction

An effective performance of public organizations and economic sectors is the first priority problem for public administration. In order to provide public goods and services organizations exploit public procurement (PP) mechanisms. Hence, PP is an essential element of organizations' activity.

PP constitutes an important part of the national economy of both developed [1], [2] and developing countries [3] and are included in the sphere of their permanent control and analysis. This is connected with the fact that PP account for 10–15% of GDP for the first group of countries and even more for the second [4], [5]. On the other hand, public procurement can be used as an indirect mechanism for stimulating small and medium business development [1], [6], [7] and introducing innovations [8]–[10]. Therefore, efficient public procurement is an inseparable part of government regulation.

There are different approaches to measure the effectiveness of PP for organizations, but all of them have as a basis the concept of optimization price-quality of purchasing goods or services. This problem could be considered from the point of an economic sector in whole as well.

An important feature of public sector procurement both in Russia and in the United States and EU countries is their excessively rigid regulation compared to private sector procurements [11], [12]. This excess regulation is an unavoidable consequence of the enhanced risk of corruption for customer organizations officials [13], favouritism [14], third party opportunism [15]. This excess regulation results in ineffective and costly procurement procedures. Nevertheless, there are some approaches which enables to stimulate PP effectiveness. In the paper [16] on the basis of Italian procurements during 2000-2005 the authors show that semi-autonomous

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organizations are the most effective (applying the criterion of the lowest price for homogeneous goods). Less effective are organizations from ministry of central government and the lowest one are organizations from social sector and regional administration.

In this paper we examine the hypothesis that under light central performance control the organizational forms of public purchasers and their status may stimulate the realization of effective public procurement. On the other hand, under tight central performance control there might be less significant difference between procurement performances for purchasers with different organizational forms.

Hypotheses and Methodology

We consider the case of one large organization in the period 2008-2013 where different departments have different statuses. All its departments according to economic activity could be classified by the following way:

- Departments having financial autonomy (1st type) - they have hard budget constraints and the most part of the income is not budget.
- Budget-funded departments (2nd type) - they have soft budget constraints and the most part of the income comes from budget of the organization;

Till the beginning of 2011 the procurement division was the part of financial department (first period). After that the financial department was reorganized and independent procurement department was established (second period). The head of the procurement department got more opportunity to control for whole procurement process.

The paper test for the following hypothesis: in the first period the performance of procurement is higher for the 1st type organizations corresponding to the performance of the 2nd type organizations. We assumed that there will be no differences in procurement performance for the 1st and 2nd type organizations in the second period.

Our database consists of 4691 procurement observations with total volume 9915 mln. RUR (about 280 mln. USD). This data contains information about procurement goods (services), initial prices, procurement procedures and their terms, number of bidders, winning-bid, duration of contracts' execution, terms of contracts' termination. In order to avoid product heterogeneity we have chosen the printing and publishing services as the product for analysis.

As performance indicators we consider:

- level of competition measured as a number of bidders;
- the relative price decrease at a tender;
- problems of contract executions measured by the length of delays in executions of contractual obligations.

We exploit different regression models such as linear, ordered, and binary models. The model looks like

$$y_t = c + \beta_1 A + \delta T + \beta_2 (A \times T) + \gamma X_t + \varepsilon_t,$$

where t is the sequential number of the auction held by the organisation. The main focus in this specification is on the estimation of β coefficients. The variable A equals 1 if the procurement was made by the 1st type department and 0 otherwise. The

variable T equals 1 if the auction was held in the second period. The coefficient β_1 shows the average change in the dependent variable for 1st type department compared to the 2nd type department in the period 1. The coefficient $\beta_1 + \beta_2$ shows the average change in the dependent variable for 1st type department compared to the 2nd type department in the period 2. As a control factors X_{it} we use procurement procedure, quarter of delivery, duration of the contract, initial price or contractual price and type of procurement good and other.

Results

In the paper we show the following results.

1) The level of competition is higher for 1st type departments in the first period. In the second period there is no significant difference for the 1st and 2nd type departments.

2) Price decreases during tenders are higher for 1st type departments in the first period. In the second period there is no significant difference for the 1st and 2nd type departments.

3) Delays in contract execution are less for 1st type departments in the first period. In the second period there is no significant difference for the 1st and 2nd type departments.

These results support the hypothesis we assumed above.

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Ukhaneva, Olga¹ (with Jeffrey Macher and John Mayo): Does the Internet Improve Health Outcomes? Evidence from the National Health Interview Survey

Abstract: *Does access to health information improve health outcomes? This study is the first to analyze the impact of the Internet on consumer health behaviors and outcomes. We draw upon a unique database that combines public and proprietary person-level data from the National Health Interview Survey (NHIS) of the Center for Disease Control (CDC) over the 2011-2013 period to: (1) determine the characteristics of individuals who search for health information online; and, (2) analyze the impact of this information on healthcare demand and health outcomes. The preliminary results indicate that consumers who are young, more educated, pregnant, with chronic disease, physical limitation, or those who cannot afford healthcare are more likely to search for health information on the Internet. We find that health information available online promotes precautionary care (such as doctor visits), and results in more favorable health outcomes (such as decreased likelihood of emergency room visit, fewer hospitalizations, and shorter average stay in hospital). These findings have important policy implications that we develop in the paper.*

Introduction

Recent developments in the telecommunications industry have changed the way healthcare providers interact with their patients. In particular, the Internet is becoming utilized by hospitals in numerous ways. Consumers can go online and research health information, information about drugs, schedule appointment, refill a prescription, or even get a consultation. It has become easier to get quick advice on a specific health issue. As a result, one might expect a decreased consumption of health care services if the Internet serves as a substitute for a doctor visit. On the other hand, the Internet serves as information channel through which consumers can learn about the importance of regular health check-ups, maintenance of chronic diseases, and precautionary care. In this case the Internet serves as a complement to doctors' visits and increases the consumption of healthcare services.

While the Internet contains a lot of information, the quality and accuracy of this information remain questionable. If a person goes online to find health advice, does it result in a favorable health outcome? We anticipate that patients with the access to the information available online would take more precautionary measures to avoid acute events, would be able to better maintain their diseases, and would have higher chance of maintaining the correct drug regime. Patients might utilize the Internet to learn more about the nutrition and exercise and be more prone to healthy lifestyle. Internet might allow patients to find a more qualified specialist or a better hospital. While it might be too early to measure the long-term impact of the Internet on the physical condition of consumers, we can observe if the Internet influences such important cost-drivers of healthcare costs as visits to emergency room (ER) and hospitalizations.

Another concern raised by the policymakers and existing literature is excessive

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use of the emergency rooms for non-urgent conditions, which may lead to excessive healthcare spending. Uscher-Pines et al. (2013) conducted a literature review of studies on ER utilization. They found that the average fraction of all non-urgent ER visits reported by existing studies was 37 percent. Information available online may impact ER visits in two different ways: first, educate consumers about when it is appropriate to use ER and about the cost of such care; second, when in doubt whether an individual should seek urgent care or not, patients can search for their condition online and distinguish between urgent and non-urgent cases. Education of that sort may have a great public benefit from the decreased spending from excess use of emergency department, and faster provision of care to those who really need it. Taking into account the cost of ER visit to consumer, which according to one of the source ranges from \$150-\$3000 or more, depending on the severity of the condition and diagnostic tests and treatments¹, having such source of information might save a lot of money to consumers.

The existing literature has mostly examined characteristics of people who use the Internet for healthcare purposes. These studies include Baker et al. (2003), Hesse et al. (2005), Ybarra and Suman (2006), Andreassen et al. (2007), Santana et al. (2011), Siliquini (2011), and Dobransky and Hargittai (2012). While there is no analysis of correlation between the Internet and healthcare outcomes, there are studies that investigate an impact of the Internet in other industries [Brown and Goolsbee (2002), Zettermeyer et al. (2006), and Ellison and Ellison (2014)]. Another extensive block of literature analyzes demand for healthcare services. Detailed literature review is provided in survey conducted by Jones (2000). More recent papers that conducted analysis of demand for medical care include Deb and Triverdi (2002), Van Doorslaer et al. (2002), d'Uma et al. (2009).

To summarize, an integration of the Internet might lead to significant benefits to the entire healthcare system. However, to this date the existing literature has not provided evidence about the impact of the Internet on demand for medical care. Our paper aims to fulfill this gap.

Aim of Project

Due to data constraints, little is known about the impact of the Internet on the demand for medical services and health outcomes. This study is the first to our knowledge to analyze the impact of the Internet usage on consumer health behaviors and outcomes. First, we intend to identify the differences between the consumers who use the Internet to search for the health-related information and those who don't. We anticipate that consumers without insurance or means to access medical care will be more likely to search for health information online, as well as people with chronic diseases. Second, we analyze the impact of the Internet on the levels of consumption of medical care. We anticipate that in general, access to online health resources increases the frequency of doctors' visits and the variety of specialists that patients see. Finally, we seek to investigate an impact of information available online on health outcomes. We hypothesize that Internet usage decreases the number of visits to emergency room and hospitalizations, and shorten the duration of average hospitalization.

¹ Source: <http://health.costhelper.com/emergency-room.html>

Hypotheses and Methodology

Hypothesis 1: Access to the health-related information via Internet increases precautionary care (such as number of doctors' visits, greater variety of medial specialists visits).

Hypothesis 2. Access to the health-related information improves health outcomes. Specifically, patients with access to health information available online face lower probability of the ER visit, lower number of the ER visits, lower probability of hospitalization, lower number of hospitalizations, and a shorter stay in the hospital.

Data: To empirically investigate the impact of the Internet on consumption of healthcare services and health outcomes, we utilize a dataset from the National Health Interview Survey for the 2011-2013 period. The dataset contains about 30,000 individual-level observations each year. These data are collected through the survey of the citizens of the United States.

Methods: Currently we utilize reduced form regression analysis based on the simple theoretical model. The ultimate goal is to develop structural model of demand for medical care, which will incorporate the decision to use the Internet for health research.

In the reduced form analysis we employ a two-step Heckman procedure and the estimator proposed by Terza (1998) to estimate whether the Internet increases or decreases consumption of healthcare services. In particular, we analyze the impact of the Internet on health behaviors (such as number of doctors' visits, number of different specialists visits, ER visit that occurred on weekends and when hospital was closed, and ER visits as a regular place for medical care), and health outcomes (such as number of ER visits, hospitalizations, average number of inpatients days in the hospital, and total number of nights spent in the hospital).

Results

First, Tables 1, 2, and 3 provide descriptive statistics for our data sample. Then, Table 4 presents results for the first stage estimation. Finally, Tables 5 and 6 show results for the second stage estimations. In interest of time of the reader and space limitation of this proposal, we are providing brief summary of our results below.

The preliminary results from the first stage indicate that all else being equal, use of the Internet for health research is more common among older individuals, women, white individuals with higher level education and income, pregnant women, and individuals with functional limitations or chronic diseases. We also find that individuals who report that they cannot afford required health care or delay health care in order to save money are also more likely to go online and do health research.

The preliminary results show that the Internet enhances preventative measures taken by patients: Internet users make more visits to doctor's office, and visit a greater variety of medical specialists. We also observe, that Internet users are less likely to visit the emergency room (ER), they stay less nights in the hospital on average and in total. Our results indicate that information available online does not impact number of ER visits in general, but we find that having access to health information on the Internet decreases number of non-urgent ER visits (e.g., routine medical care or when the physician's office is closed).

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Annex

Table 1. Outcome Variables, 2011-2013

Variable	Internet User	Non-Internet User
Number of Doctor Visits	2.70	2.14
Number of Types of Doctors	2.74	1.96
ER Visit	0.21	0.20
Number of ER visits	0.33	0.31
Hospitalization	0.10	0.09
Number of Hospitalizations	0.14	0.15
Number of Nights in Hospital	0.52	0.66
Average Hospital Stay	0.34	0.44
ER Visit Past Hours	0.14	0.13
ER Preventive Care	0.02	0.03
N obs	43,014	57,617

Table 2. Outcome Variables, 2011-2013

Variable	White	Black	Hispanic	Age ≤ 30	Age ≥ 64	Disabled
Number of Doctor Visits	2.70	2.54	1.98	1.97	3.26	4.50
Number of Types of Doctors	2.70	2.25	1.78	1.91	2.97	3.39
ER Visit	0.20	0.28	0.19	0.22	0.23	0.45
Number of ER visits	0.30	0.50	0.29	0.35	0.33	0.94
Hospitalization	0.10	0.12	0.08	0.08	0.16	0.27
Number of Hospitalizations	0.15	0.21	0.13	0.11	0.25	0.56
Number of Nights in Hospital	0.69	0.92	0.50	0.32	1.27	3.05
Average Hospital Stay	0.46	0.55	0.33	0.24	0.84	1.67
ER Visit Past Hours	0.13	0.20	0.13	0.16	0.14	0.30
ER Preventive Care	0.02	0.05	0.03	0.04	0.01	0.04
N obs	59,263	14,626	17,201	20,599	22,725	7,050

Table 3. Outcome Variables, 2011-2013

Variable	High-School Degree or Less	College Degree and Higher	Low-Income	High-Income
Number of Doctor Visits	2.44	2.57	2.52	2.58
Number of Types of Doctors	2.16	2.70	2.11	2.74
ER Visit	0.24	0.14	0.30	0.14
Number of ER visits	0.40	0.18	0.56	0.19
Hospitalization	0.11	0.07	0.13	0.07
Number of Hospitalizations	0.19	0.10	0.24	0.10
Number of Nights in Hospital	0.85	0.45	1.07	0.42
Average Hospital Stay	0.53	0.32	0.64	0.31
ER Visit Past Hours	0.16	0.09	0.21	0.09
ER Preventive Care	0.04	0.01	0.05	0.01
N obs	41,503	27,451	17,837	31,422

Note: Low-income individuals are living in a family with the ratio of family income to the poverty threshold less than one. High-income individuals are living in a family with the ratio of family income to poverty threshold greater than 4.

Table 4. Estimation Results. First Stage

	Internet β / SE		
Limited Member	0.048*** (0.017)	Chronic Disease	0.333*** (0.011)
Internet Supply	0.091*** (0.008)	Limited	0.139*** (0.012)
Insurance	0.159*** (0.019)	Disabled	-0.175*** (0.026)
Medicare	0.014 (0.020)	Poor Health	-0.212*** (0.030)
Medicaid	-0.165*** (0.020)	Fair Health	-0.103*** (0.018)
Private Insurance	0.025 (0.015)	Good Health	-0.029** (0.013)
High Deductible Plan	0.073*** (0.014)	Very Good Health	0.057*** (0.012)
Physicians	21.152*** (2.437)	Cannot Afford	0.190*** (0.013)
Age	0.015*** (0.002)	Saved Money	0.311*** (0.011)
Income	0.688*** (0.035)	Married	0.068*** (0.011)
Female	0.307*** (0.009)	Housewife	-0.078*** (0.025)
Working	-0.040*** (0.017)	Student	0.073*** (0.032)
Hispanic	-0.095*** (0.019)	Retired	0.018 (0.024)
White	0.283*** (0.017)	Own Home	0.015 (0.011)
Black	-0.035* (0.020)	Children	-0.042*** (0.005)
Some College	0.511*** (0.011)	Smoking	-0.202*** (0.016)
College Degree	0.802*** (0.014)	Tried to Quit Smoking	0.211*** (0.021)
Graduate Degree	0.990*** (0.017)	Constant	-1.720*** (0.054)
Pregnant	0.123*** (0.046)		
N Obs	99,049		
F-test for Excl Restrictions	138.87		

Note: Controls not included in the table: Age², Income², Northeast, Midwest, South, Year2012, Year2013.

Table 5. Estimation Results. Second Stage

	(1) Number of Doctor Visits β / SE	(2) Number of Types of Doctors β / SE	(3) ER Visit Past Hours β / SE	(4) ER Preventive Care β / SE
Internet	0.295*** (0.046)	0.201*** (0.040)	-0.320*** (0.107)	-0.344* (0.204)
Insurance	0.505*** (0.013)	0.477*** (0.011)	0.224*** (0.022)	-0.343*** (0.040)
Medicare	0.066*** (0.009)	0.045*** (0.008)	0.034 (0.022)	-0.050 (0.045)
Medicaid	0.097*** (0.010)	0.080*** (0.009)	0.110*** (0.021)	0.054 (0.042)
Private Insurance	0.014* (0.007)	0.040*** (0.006)	-0.119*** (0.018)	-0.183*** (0.039)
High Deductible Plan	-0.006 (0.008)	0.000 (0.006)	0.022 (0.018)	0.036 (0.044)
Physicians	-0.611 (1.372)	-5.534*** (1.078)	-4.528 (2.952)	7.460 (5.396)
Age	-0.005*** (0.001)	0.001 (0.001)	-0.034*** (0.002)	-0.011*** (0.004)
Income	0.138*** (0.023)	0.241*** (0.018)	0.141*** (0.049)	-0.392*** (0.094)
Female	0.125*** (0.007)	0.211*** (0.006)	0.109*** (0.015)	-0.126*** (0.028)
Working	-0.096*** (0.011)	-0.040*** (0.009)	-0.148*** (0.019)	-0.074** (0.029)
Hispanic	0.027** (0.012)	0.037*** (0.010)	0.050** (0.025)	0.040 (0.045)
White	0.079*** (0.011)	0.148*** (0.009)	0.165*** (0.023)	0.019 (0.046)
Black	0.041*** (0.012)	0.067*** (0.010)	0.277*** (0.024)	0.345*** (0.044)
Some College	0.040*** (0.010)	0.080*** (0.008)	0.080*** (0.022)	-0.048 (0.042)
College Degree	0.052*** (0.015)	0.102*** (0.012)	0.009 (0.034)	-0.166** (0.070)
Graduate Degree	0.087*** (0.018)	0.132*** (0.015)	0.040 (0.042)	-0.155* (0.089)
Pregnant	0.483*** (0.020)	0.139*** (0.017)	0.233*** (0.048)	-0.048 (0.101)
Chronic Disease	0.338*** (0.009)	0.299*** (0.008)	0.349*** (0.019)	0.113*** (0.034)
Limited	0.218*** (0.007)	0.159*** (0.005)	0.223*** (0.014)	0.056** (0.027)
Disabled	0.184*** (0.013)	0.121*** (0.011)	-0.022 (0.027)	-0.127*** (0.046)
Poor Health	0.500*** (0.013)	0.260*** (0.011)	0.540*** (0.030)	0.277*** (0.053)
Fair Health	0.373*** (0.010)	0.172*** (0.008)	0.339*** (0.021)	0.096*** (0.037)
Good Health	0.210*** (0.008)	0.097*** (0.006)	0.189*** (0.016)	0.040 (0.029)
Very Good Health	0.086*** (0.008)	0.056*** (0.006)	0.068*** (0.016)	-0.052* (0.030)
Cannot Afford	0.030*** (0.007)	0.009 (0.006)	0.190*** (0.015)	0.223*** (0.026)
Saved Money	0.114*** (0.007)	0.130*** (0.006)	0.192*** (0.017)	0.125*** (0.031)
Married	-0.013** (0.006)	0.001 (0.005)	-0.012 (0.013)	-0.048* (0.025)
θ	-0.085*** (0.027)	-0.014 (0.024)		
Generalized Residual			0.266*** (0.064)	0.199 (0.121)
Constant	-0.336*** (0.028)	-0.509*** (0.023)	-0.954*** (0.053)	-1.300*** (0.096)
Observations	99.049	99.049	99.049	99.049

Standard errors in parenthesis.

* Significant at 10 percent

** Significant at 5 percent

*** Significant at 1 percent

Table 6. Estimation Results. Second Stage

	(1) ER Visit β / SE	(2) Number of ER Visits β / SE	(3) Hospitalization β / SE	(4) Number of Hospitalizations β / SE	(5) Average Hospital Stay β / SE	(6) Number of Nights in Hospital β / SE
Internet	-0.230** (0.098)	0.038 (0.205)	-0.361*** (0.113)	-3.595*** (0.503)	-3.078*** (0.498)	-3.515*** (0.316)
Insurance	0.208*** (0.020)	0.141*** (0.039)	0.210*** (0.025)	0.432 (0.282)	2.028*** (0.320)	2.903*** (0.423)
Medicare	0.010 (0.020)	0.002 (0.037)	0.099*** (0.023)	1.319*** (0.142)	0.488* (0.259)	0.796** (0.372)
Medicaid	0.152*** (0.020)	0.155*** (0.033)	0.128*** (0.023)	0.309*** (0.116)	1.253*** (0.259)	2.158*** (0.370)
Private Insurance	-0.117*** (0.016)	-0.189*** (0.032)	-0.042** (0.018)	-0.175 (0.129)	-0.546** (0.217)	-0.751** (0.296)
High Deductible Plan	0.019 (0.016)	-0.021 (0.036)	0.958*** (0.020)	0.022 (0.143)	0.900*** (0.201)	1.218*** (0.283)
Physicians	-2.365 (2.663)	-1.281 (5.472)	2.900 (3.210)	78.225*** (18.367)	27.944 (37.026)	-6.515 (49.318)
Age	-0.038*** (0.002)	-0.050*** (0.003)	-0.031*** (0.002)	-0.103*** (0.015)	-0.358*** (0.037)	-0.491*** (0.041)
Income	0.102** (0.044)	-0.072 (0.100)	0.174*** (0.054)	-1.377*** (0.334)	1.773*** (0.583)	1.771** (0.773)
Female	0.098*** (0.014)	0.128*** (0.030)	0.161*** (0.017)	0.025 (0.093)	1.392*** (0.172)	1.834*** (0.207)
Working	-0.147*** (0.017)	-0.201*** (0.032)	-0.200*** (0.022)	0.166 (0.138)	-1.969*** (0.278)	-2.753*** (0.370)
Hispanic	0.053** (0.022)	-0.018 (0.049)	0.026 (0.028)	-0.889*** (0.155)	0.164 (0.294)	0.298 (0.423)
White	0.155*** (0.021)	0.094** (0.048)	0.138*** (0.026)	-0.142 (0.128)	1.125*** (0.275)	1.511*** (0.382)
Black	0.285*** (0.022)	0.282*** (0.048)	0.110*** (0.028)	-0.473*** (0.164)	1.011*** (0.314)	1.568*** (0.442)
Some College	0.071*** (0.020)	0.016 (0.042)	0.140*** (0.024)	1.374*** (0.115)	1.203*** (0.188)	1.511*** (0.241)
College Degree	-0.023 (0.031)	-0.181*** (0.067)	0.138*** (0.036)	1.006*** (0.248)	1.411*** (0.249)	1.606*** (0.331)
Graduate Degree	0.019 (0.038)	-0.145* (0.079)	0.254*** (0.044)	1.074*** (0.246)	2.417*** (0.304)	2.834*** (0.372)
Pregnant	0.301*** (0.045)	0.395*** (0.071)	-0.160** (0.064)	-1.093*** (0.380)	-1.333** (0.635)	-2.090** (0.904)
Chronic Disease	0.357*** (0.017)	0.613*** (0.038)	0.255*** (0.021)	1.246*** (0.228)	2.582*** (0.275)	3.486*** (0.319)
Limited	0.239*** (0.013)	0.356*** (0.026)	0.214*** (0.015)	1.508*** (0.166)	2.212*** (0.239)	3.077*** (0.282)
Disabled	0.036 (0.025)	0.118*** (0.042)	0.150*** (0.030)	-1.102*** (0.166)	1.732*** (0.375)	2.679*** (0.513)
Poor Health	0.677*** (0.028)	1.072*** (0.044)	0.796*** (0.031)	3.068*** (0.158)	7.507*** (0.711)	11.693*** (0.782)
Fair Health	0.405*** (0.019)	0.739*** (0.035)	0.494*** (0.023)	1.978*** (0.160)	4.514*** (0.419)	6.729*** (0.463)
Good Health	0.199*** (0.015)	0.395*** (0.030)	0.243*** (0.019)	1.115*** (0.145)	2.303*** (0.290)	3.316*** (0.339)
Very Good Health	0.079*** (0.014)	0.151*** (0.031)	0.083*** (0.018)	0.439*** (0.139)	0.756*** (0.193)	1.086*** (0.274)
Cannot Afford	0.186*** (0.014)	0.220*** (0.026)	0.078*** (0.018)	-0.109 (0.095)	0.765*** (0.194)	0.988*** (0.263)
Saved Money	0.193*** (0.015)	0.251*** (0.030)	0.136*** (0.018)	0.301*** (0.110)	1.269*** (0.174)	1.596*** (0.233)
Married	-0.025** (0.012)	-0.023 (0.026)	0.047*** (0.014)	-0.496*** (0.147)	0.448*** (0.159)	0.672*** (0.220)
Generalized Residual	0.209*** (0.058)		0.282*** (0.067)		1.800*** (0.232)	1.649*** (0.099)
θ		0.065 (0.122)		1.833***		
Constant	-0.671*** (0.048)	-0.995*** (0.098)	-1.527*** (0.060)	-0.755 (0.548)	-15.984*** (1.686)	-23.574*** (1.709)
Observations	99.049	99.049	99.049	99.049	99.049	99.049

Standard errors in parenthesis.
 * Significant at 10 percent
 ** Significant at 5 percent
 *** Significant at 1 percent

Yarkin, Alexander M. ¹ (with Dmitriy A. Veselov²): Endogenous Institutions and Political Conflict during the Transition from Stagnation to Growth

Abstract: *In the present research, we investigate the impact of inequality in wealth distribution on the joint dynamics of conflict intensity and institutions that support technological progress in the historical perspective. We construct a dynamic two-sector model with endogenous institutions and political conflict that attempts to explain different paths that countries follow in the process of transition from stagnation to growth. Our model describes the conflict between the traditional elite (that owns land or “resources”) and the emerging class of capitalists, who (may) have the opposing interests in institutions: blocking or supporting technological progress. Our results explain, why some countries have industrialized earlier (like Western Europe), while others still are non-industrial economies (like some African countries); moreover, our model captures different paths of conflict intensity: hump-shaped path with resulting good institutions, the same but with poor institutions, and even almost absent conflict. We show that the distribution of wealth has non-monotonous impact of the intensity of conflict and institutional quality. Namely, higher inequality in land holdings may be detrimental to industrialization, but may lower conflict intensity; while higher inequality in capital holdings may be beneficial to the emergence of institutions that support technological progress.*

Introduction

As suggested in (Galor et al., 2005, 2009), the cross-country differentiation in levels and growth rates of GDP per capita can to a large extent be explained by variation in the moments of countries’ transition from the stage of stagnation with almost absent technological progress to modern growth regime. In (Acemoglu and Robinson, 2012) authors state that the industrial revolution, which marked the transition to new era, was preceded and followed by social conflict between established traditional (landowning) elite and embryonic class of manufacturers, capitalists and entrepreneurs. Moreover, cross-country differences lay both in the moment of transition (earlier, as in England, later as in many Eastern European countries, or not until now, as in some African countries), and in the process and characteristics of these transitions. First, how long and intensive was the social conflict, and second, whether the resulting economic institutions and distribution of power were favorable for technological development. The historical evidence, see again (Acemoglu and Robinson, 2012) and (Bertocchi, 2006; Challier et al., 2010; Lagerlof, 2013), show us that the intensity of conflict changed non-monotonously with time. And cross-country differences were (and still are) also in place: in some countries conflict was intensive and violent (France and Spain), and in other it was more peaceful (England); while in some cases the transition to modern growth regime still hasn’t occurred (e.g. number of African countries) both with and without periods

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of conflict between traditional elite and emerging capitalists. What factors determine, whether the conflict was intensive and severe or not, and how long did it last? What is the impact of changing wealth and power distributions on the quality of institutions and technological progress? Can we describe and explain the joint dynamics of conflict intensity, technological progress and institutional quality?

The existing literature on transition from stagnation to growth mainly avoids the direct study of conflict and its joint dynamics with technological growth and development. Many papers stressed the importance of population dynamics (lower fertility) and lack of capital and financial markets in the process of transition to modern growth regime and industrialization – see e.g.(Acemoglu and Zilibotti, 1997; Galor and Weil, 2000). The institutional and political economy approach, to which we are related closest, consider institutional changes that favored technological adoption and growth as an outcome of a conflict between different groups with opposing interests regarding technological progress, human capital accumulation, etc – see (Bertocchi, 2006; Doepke and Zilibotti, 2008; Lagerlof, 2009; Galor et al., 2009). The conflict arises when labor starts to migrate from traditional sector (agrarian) to modern sector (industrial), driven by higher wages due to technological progress. The traditional elite (landowners) starts to lose their rent from land and labor exploitation, and, hence, tries to a) block the technological progress (or education reforms), and/or b) impose institutions that limit the mobility and freedom of labor. The incipient class of capitalists has the opposite incentives. This may result in a conflict over the political power and ability to establish the preferred institutional framework.

The specificity of many (if not all) existing papers in institutional economics of transition from stagnation to growth is the assumption of an institutional (political) outcome being determined by majority voting or simply by the elite (veto power) – see e.g. (Bertocchi, 2006; Galor et al., 2009; Lagerlof, 2009). In that case, first, there is no actual “conflict”: no efforts, litigations, no struggle over the institutional framework, which in fact was a very important feature of the period of transition from stagnation to growth (Acemoglu and Robinson, 2012) and industrialization. And, second, the institutional set favorable for technological development certainly emerges sooner or later. This result is either due to steady capital and wealth accumulation and, hence, less restrictive voting franchise, or due to the elite’s preferences switch: when capital starts to play more important role in elite’s assets than their land holdings. However, this is arguably not true, since there are a lot of countries, which are still non-industrialized (and no signs of movements towards it – see (Carmignani and Mandeville, 2014)) and/or where the elite still relies on land (resource) incomes with rudimentary interest in other sectors development. Moreover, the rest of population (masses) in such countries could have no ability or no incentives to change the institutions in favor of technological progress.

We argue that taking into account the mechanisms of conflict over the institutional quality will give us an opportunity to explain the different paths and trajectories of technological development and industrialization. Moreover, we incorporate the conflict intensity into the joint dynamics of technological and institutional development.

Aim of the Project

The aim of the present research is therefore twofold. First, we want to determine, why the moments (and the mere fact) of transition from stagnation to growth varies so much between countries? We try to explain the inability (or lack of incentives) of workers and emerging capitalists in many countries to oppose the vested interests in preserving the established institutions and blocking the technological development, which leads to institutional traps with absent technological development.

Second, we study what determines the intensity and length of conflict between the supporters and opponents of technological progress (and education, human capital accumulation, etc.). We try to explain the historical patterns of conflict intensity changes: it's (almost) absence in some periods, while rises and falls of intensity in other periods. Moreover, we analyze the conditions, under which the transition to modern growth regime (if it happens) could be "peaceful" (when the elite itself changes its attitude towards technological progress and capital accumulation) or "violent" (with intensive conflict, when the elite tries to carry one's point until the end).

In order to answer the above questions we construct and analyze a theoretical model, after which we provide several historical cases that illustrate the logic of the model and its results.

Hypothesis and Methodology

The theoretical framework is a dynamic two-sector model with endogenous institutions and political conflict. Economic structure is similar to (Bertocchi, 2006; Cervellatti et al. 2008; Galor et al., 2009). Two sectors are traditional (agrarian or "resource"), with "land" and unskilled labor as inputs, and modern (industrial or "manufacturing"), with physical capital and skilled labor as inputs. Moreover, sectors differ in the level of technology (or, more broadly, productivity). Labor can move freely between sectors if it has significant skill to operate in the modern sector; otherwise, it can only be used in the traditional sector. Capitalists (who could as well be a part of the landed elite) own firms in the modern sector, while the landed elite own land (divided somehow between the members of the elite). Institutions in our model determine the ease of operating in a modern sector, which is modeled as an endogenous outcome of a contest. Those who are interested in development of the modern sector propose a certain (economically feasible) level of technological improvement in this sector, while those who oppose changes propose not to allow these improvements to occur. Contestants may invest some effort (or money) in order to increase the probability of winning a contest over the institutional set (block or non-block).

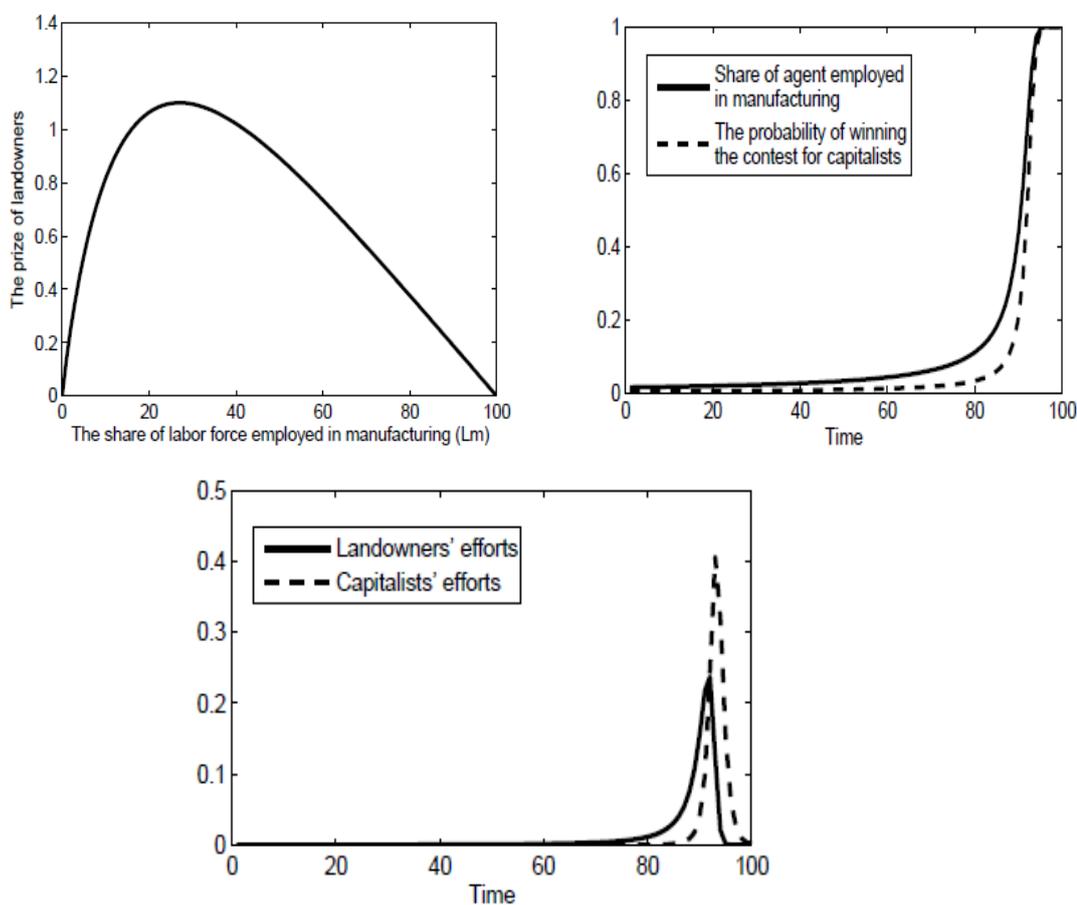
The conflict itself is analyzed in accordance with contest success function (CSF) approach, first proposed by (Tullock, 1980). In particular, we consider a class of asymmetric contest games; see e.g. (Nti, 1999; Cheikbossian, 2008). Players vary by their prize valuation (since capitalists and landowners may assess the consequences of institutional changes differently from each other and in different stages of transition), and by their effectiveness (since more wealthy and/or politically dominant group may exert more influence, given equal expenditures in contest). After all contenders make their effort choices, the institutional set is determined. Further, agents make their

economic decisions (supply production factors), receive their incomes, and, finally, leave part of income as a bequest to future generations.

We argue that the variation in initial distribution of wealth and skills between and within classes can attribute to explaining the variations both in the intensity and length of conflict, and in the resulting institutional framework – whether it favors technological development or not. Moreover, we are able to capture different types of conflict intensity dynamics: hump-shaped, with resulting technological development; the same but without it; almost absent conflict, etc. Conflict starts and ends at different moments of time, depending on initial conditions.

Results

At this stage, we have the following results of our model's baseline version. When labor starts to flow from traditional to modern sector, the incentives of the elite to fight against it first increase, but after a certain threshold begin to fall. At the same time, capitalists' incentives to fight also increase. These results in conflict intensity being maximal at some point in time, after which the landowners stop to fight intensively since their rents from land become quite small independently of the contest outcome (when the share of labor force operating in the modern sector becomes large enough). As the result, the probability of emergence of institutions supporting technological progress increases rapidly (see pictures below). Such a case corresponds well with the history of technological and institutional development in Western Europe and realizes under rather low initial wealth inequality level. Interestingly, we can capture both conflictual transition to good institutions (as in France) and more peaceful (as in England).



At the same time, the impact of initial wealth inequality on the conflict intensity and technological development is ambiguous. For example, the situation of stable stagnation (poverty trap) with no technological development is possible under wide but rather poor class of capitalists – when the land holdings are distributed unevenly, while non-land wealth is distributed in a more egalitarian manner (the case of some countries after colonial period). On the other hand, countries with rich elite the conflict could be less intensive. Overall, the extended versions of the model allow capturing and explaining different paths of countries' development, where the dynamics of institutional quality, conflict intensity and technological progress are determined jointly.

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Zarkovic, Jasna¹: Assessment of Strategic Planning of Local Development Related to Business Growth in Montenegro

Abstract: *In Montenegro, there has been a little practice of assessment of the effect and impacts of the local strategic planning. This research is a Master thesis which aim is to explore the effects of measures of the Local Strategic Development Plans relevant for the growth of SMEs in target municipalities of Montenegro. Also, additional objectives are to provide better understanding of the type of measures and projects that have been used for boosting SMEs at the local level and to provide recommendations for improvement of local strategic planning of SMEs development.*

Introduction

Montenegro, as a country in transition process, has faced a lot of challenges to strengthen economic competitiveness and develop strong business sector. Local economic development of Montenegro has been planned and support through national, regional and local plans and programs. Currently, economic development is shaped by: the Montenegro Development Directions 2013-2016 at the national level, the Regional Development Strategy 2014-2020 at regional level and the Strategic Development Plans at the local level. In all levels of strategic planning of economic development, one of the priorities and measures is focus on the competitiveness by improvement of business environment, by fostering SMEs sector, attraction of investors, etc.

The process of strategic planning of local development in Montenegro has been boosted with adoption of the Regional Development Strategy 2010-2014, Regional Development Law (2011) and the Rulebook on Methodology for Development of Local Strategic Development Plans. Local strategic plans were developed by using a participatory approach, where public and private actors worked together to determine a vision, strategic goals and priorities. Majority of those plans were focusing on stimulating local economies, especially in supporting entrepreneurship and growth of SMEs.

According to the past experience in local strategic planning, the significant issue is the implementation of the Local Strategic Development Plans. The process of implementation of the Local Strategic Development Plans is not so transparent and easy to track, since the local self-governments still do not apply methods of program based budgeting. Further, in some cases the local self-governments deviate from the plan activities and deadlines. Mostly, there was no significant focus on measurement of the progress and impact of those plans. Measurement of progress and impact of those plans is important for further improvement of strategic planning process and strengthen of competitiveness.

Therefore, it is important to explore to what extent the planned measures and projects of local strategic planning have implemented and contributed to the growth of business sector.

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Aim of the Project

The focus of the project work is on Local Strategic Development Plans of local self-government of Montenegro, especially on the measures and projects related to the growth of SMEs. The project will compare the results of two municipalities that applied strategic planning process.

The object of the project work is to explore the effects of measures of the Local Strategic Development Plans relevant for the growth of SMEs in target municipalities. Also, additional objective is to provide recommendations for improvement of strategic planning of SMEs support.

Hypotheses and Methodology

The main research question is to what extent the measures of the Local Strategic Plans, linked with the growth of SMEs, have been implemented and which effects have been achieved. In other words, the research will answer the questions of the relevance, efficiency, effectiveness, impact and sustainability of those measures. Besides, there are two sub-questions:

- Is development of the private sector supported by the local authorities and in which way?
- Does the strategic planning in target municipalities succeed to stimulate the public-private cooperation and dialogue?

Also, the results of the project research could provide policy recommendations for better identification of private sector needs during the process of local development planning.

Theoretical basis includes the desk research of the relevant textbooks and publications related to strategic planning of economic development, the measures of SMEs support, and the evaluation of the strategic development plans. The source for the desk research will be the publications from the international development organisations such as the World Bank, the OECD, the European Union, etc.

Further, I will apply the contextual analysis where I'll present the situation in Montenegro in regard to the strategic planning of the local economic development. In order to do so, I'll collect strategic plans for local development and reports of their implementation from all Montenegrin municipalities and analyse how many of them have stimulation of business growth as priority and which kind of measures are defined. Within the contextual analysis I'll also analyse the legislation framework, academic literature, strategic at regional and national level and other secondary sources.

Based on the contextual analysis, I will select two target municipalities for the case study analysis. Different evaluation methods will be applied for the case study analysis:

- **Key information interviews** – semi-structured interviews will be held with the main stakeholders, such as the coordinator of the Strategic Development Plans preparation, the members of the consultative groups (representative of the business associations, NGOs, etc), the managers of the business support projects, beneficiaries. For the each target group, the semi-structured questionnaire/guide will be developed.

- **Direct observation** — the information about on-going projects will be collected during the visit of the program site. Observation form is used “to record what is seen and hear at a program site”¹.

- **Consultation** – will be conducted with the Department of development within the Ministry of Economy, during the preparation phase and desk research. Also, selection of the interviewees and the finding of the research will be discussed with the target local self-governments.

In addition secondary data will be collected, such as: data about the growth of number of companies and on their financial records that I will receive from the Business Registers and the Tax authorities.

The project work will be structured in the following way:

- **Introduction** - Introduction chapter will consist of the relevance of the project work, the project work research questions and explanation of the methods that will be applied.

- **Theoretical framework** - Theoretical framework will give insight into the literature of strategic planning of local development, the measures for support of SMEs, evaluation guideline, etc.

- **Strategic planning process at the local level** - In this part, the legal and institutional framework for the strategic planning of local development will be explained. It will give answer to the questions: How formal rules are enforced and implemented; and which actors were included in the local strategic planning – their role. This will be done based on the desk review.

- **Overview of the measures for support of the SMEs defined at national, regional and local level.** - This chapter will give an overview of the measures for support of SMEs defined in the all adopted Local Development Plans. According to this review, it will be more clear which measure are focus of the evaluation. This implies review of the adopted Local Development Plans in Montenegro.

- **Project findings** - This part will give answer of the questions related to relevance, efficiency, effectiveness, impact and sustainability of the evaluated measures.

- **Recommendations and lessons learn**

- **Conclusions**

Results

Currently, I am in the process of the field research and conducting the interviews. Until the start of the summer school, I will be able to give you some preliminary findings. I am looking forward to receiving your feedback.

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Ziganurova, Saida¹ (with John Nye, Anna Panova and Maria Yudkevich): Unified State Examination and Access to Selective Universities: Higher School of Economics Case

Abstract: *The aim of the project is to estimate the effect of introduction of Unified State Exam in Russia on access to highly selective universities. We scrutinize Higher School of Economics as case of one of the most selective universities in Russia. We use the data of all the applicants to Higher School of Economics from 2006 to 2013. The database contains information about the place of origin of the entrant, as well as information about school, admission tests and enrollment. We measure changes in access as chances to apply to Higher School of Economics as well as chances of an applicant of different background to be matriculated. We hypothesize that the introduction of obligatory Unified State Examination in 2009 makes it easier for applicants from non-Moscow region to apply. The number of HSE applicants have increased up to 3,5 times from 2006 to 2013. This means that access in terms of applying to a university increased. However, the most part of applicants is still from Moscow region. Access in terms of matriculation has not changed much too. The introduction of Unified State Exam has not changed the structure of applicants and matriculated students by place of origin. The preliminary result of this research is that access to Higher School of Economics is still limited for non-Moscow residents.*

Introduction

Access to selective universities could be measured in two forms. Firstly, access to selective universities could be measured as an ability to apply to prestigious university. Secondly, access is chances to be admitted to a university (Boliver 2013).

In 2009 Unified State Exam (further, USE) was introduced as an obligatory exam for school graduates as an entrant exam to universities. The aim of this change in admission process was to equalize the access in terms of ability to apply as well as in terms of chances of being admitted. According to the literature, there are two possible ways of USE to do that.

Firstly, USE could reduce the level of corruption during admission. According to report published in 2004 by the Ministry of Education and Science, the sector of higher education was named as the most corrupted sector in Russia. Every second family reported that they paid a bribe for admission committee (Drummond, Gabrscek 2012). Most part of these shadow payments refers to private tuition or for various preparatory classes to help students enter higher education (Temple, Petrov 2004). Before 2009 the entrance exams conducted in universities, so some students pay for a tutor of targeted university, keeping in mind, that his or her tutor will be sitting on the examination committee during the entrance period (Temple, Petrov 2004). In order to decrease the discretion of university to select applicants, reform focused on creating of new forms of *external* assessment. USE was presupposed to be an objective assessment instrument of applicants (Drummond, Gabrscek 2012). This could possibly increase an access in terms of admission of most talented applicants.

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Secondly, USE makes possible to enter university without visiting the campus for applying. Moreover, results of USE could be sent to different universities without visiting them. This decreases the costs of applying and increases the possibilities for applicants from not well-financed families to apply and increase access in terms of ability to apply to university (Denisova-Schmidt, Leontyeva 2014).

However, some authors argue that unified tests are not well enough in providing equal access to higher education and selecting most talented applicants. Moore et al. come to the conclusion about the ineffectiveness of a single test to provide equal access to universities, arguing that the possibility of putting it in a good applicants from ethnic minorities and low-income families are lower due to best access to training SAT courses of high income families (usually white Americans) (Moore et al. 2002). Boliver (2013) also argues that access to most prestigious universities in UK is not fair. For low social classes this inequality is in ability to apply. For applicants from middle social classes inequality is in chances to be applied. Boliver also argues that ethnic minorities suffer from admission system in UK.

Sullivan et al. (2014) contributes to the theory that inequality in access to higher education persists by taking other forms. With increase in number of colleges and diffusion of higher education, inequality in society will reproduce by status differences across universities. Selective universities give access to elite professions (Sullivan et al. 2014). Dowd et al. (2008) conclude that source of inequality in access to elite higher education is in school education and preparation to entrance test. High income families have an advantage over others because they could pay for additional courses and pass it better even if the admission campaign is fair.

Aim of the Project

In this research we focus on the access to Higher School of Economics (further, HSE) as a case of highly selective university. We estimate how access to HSE has changed in terms of ability to apply and chances of being matriculated to university for particular groups of students of different gender, place of origin and school type.

Hypotheses and Methodology

We hypothesize that implementation of obligatory Unified State Exam in 2009 simplify the process of application to highly selective Moscow universities for school graduates from non-Moscow region due to abolition of entrance exams. After 2009 an applicant could send out Unified State Exam results on required subjects to university without coming to university for entrance exams. Alongside with decreasing costs during application process for non-Moscow applicants, applicants could apply for several universities at the same time. To test this hypothesis we scrutinize the structure of applicants and students of HSE as a case of selective universities. Regression model will be built in order to estimate the probability of matriculation of an applicant and estimate the significance of region effects, school type and gender.

Our dataset represents all the Russian applicants to HSE Moscow campus from 2006 to 2013¹. The database provides information about applicants` gender, date of birth, home town and high school location, unified entry exam scores, school identifier and specialization, privileges to enroll for disadvantaged groups, faculties

¹ There are some technical errors in 2007 year dataset with the list of admitted. We need to add this information from other source.

to which an entrant applies and matriculates, and matriculation to tuition free places and tuition-based places. We also have information about faculties an entrant had been admitted. It derived from the faculty choices and cutoff exam results for each faculty during entrance.

Preliminary Results

Firstly, we should figure out whether USE has changed the chances of high school graduates from different geographic locations to apply to HSE. In order to answer this question, we need to examine the number of applicants and their success in university admission.

The number of applicants, matriculated on both tuition free and tuition-based places raised significantly from 2006 to 2013. However, the structure of Moscow region and non-Moscow region applicants and matriculated students have not changed much. The proportion of Moscow region students from total matriculated to Moscow campus have not changed at all and is about 50%. Access to tuition free places has not changed during this period: about 40% of matriculated on tuition free places is Moscow region students.

The preliminary result is that the overall ability to apply to HSE is increased during 2006-2013, but regional applicants are still underrepresented in both application and matriculation. That is why introduction of USE in 2009 have not increased the access for non-Moscow applicants.

In our further research we estimate the access to HSE for males and females and for applicants from different school types. A regression analysis on all years is planned. We would like to estimate the effect significance of region, settlement type, school type, gender

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Zubanov, Andrey¹: Charity as a Tool to Maximize Donations to a Congestible Club Good

Abstract: *The paper shows why free-entry clubs may use charity-like activities in order to promote donations to their congestible club good. These activities are modelled as public good with lower return which the club creates by spending a share of its donations on it. We show that in the case of increasing marginal impact of congestion, which depends on the number of users, the club will spend positive share of donations on public good in order to maximize donations to club fund. This happens because existence of public good creates incentives for those club members who do not donate to leave the club. Hence, it reduces congestion and makes greater number of club members donate. The examples of such clubs which the model can be applied to are parks, beaches, some social and political movements, international organizations and certification associations.*

Introduction

The paper explains how clubs may benefit from establishing a public good at their own expense, and this instrument can be used by the club authorities in order to alleviate the free-rider problem and boost donations.

I consider an economy where the entrance to the club is voluntary and the club good is congestible. I assume that donations to the club fund can be made by club members only, and the fund is further distributed in some proportion between production of the club and the public good. The club good is enjoyed solely by club members while the public good is consumed by each member of the economy. I show that under the assumptions that marginal congestion increases with the club size, the club should devote a positive share of its funds to the production of a public good in order to maximize donations to its fund.

Aim of the Project

The paper aims to show economic reasons why some organizations and societies such as social and political movements or authorities of parks and beaches may profit from financing a public good.

Hypotheses and Methodology

I consider the economy with one free-entry club as in Buchanan (1965) with voluntary participation. All agents in the economy have equal endowments but they are heterogeneous (uniformly distributed) in how they value the club good. There is a natural exclusion mechanism for the club, which prevents agents from obligation to participate in the club. Each agent decides for herself whether to participate in the club or not. Club members then can choose a donation within their endowment to the club fund. The donation is voluntary and club members only can donate to the club fund.

The fund is distributed in some proportion between the production of the club and the public good. They both have linear production functions but marginal per capita return from the club good is greater than that of the public good (otherwise,

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only the public good will survive). I consider the club good as congestible, which means that each agent gets less utility from consuming it the more agents, use it, whereas there is neither congestion nor network effects in the public good.

Club members enjoy the club good (and suffer from its congestion) and the public good as well as whatever is left for their private consumption after making a donation. Agents who are not members of the club consume only their initial endowment and enjoy the public good. The timeline of the game is as follows. In the first stage, agents decide whether they want to enter the club or not. In the second stage, the club members decide how much of their initial endowment they want to donate to the club fund. Then the outcomes are realized.

The congestion of the club good reduces the returns on the club good. So, when the number of club members (club good users) increases, other things equal, the return from the club good falls, and club members receive less utility from the club good.

Overall, the agents can be divided into three groups according to their preferred action: members of the club who donate, members of the club who do not donate, and agents who do not enter the club.

Results

The proposed mechanism in which the public good is created by the club members helps to mitigate the free-rider problem and allows to naturally exclude from the club the agents who create congestion without making donations.

The mechanism works due to the fact that higher share of the club fund devoted to the production of the public good creates additional incentives for agents to stay out of the group and makes some of the free-riders leave the club. The latter reduces congestion of the club good and increases its marginal per capita return. These increased returns make some club members choose to donate.

On the one hand, a greater share of funds spent on the public good decreases overall return for club members (since the public good is less productive than the club good) and this demotivates them from making donations. On the other hand, the overall return for the club members increases because of lower levels of congestion. Under the model assumptions, there exists equilibrium where the positive effect of such new donations outweighs costs of the public good provision. Moreover, there exists the optimal positive share of the club fund that has to be devoted to the public good, so that the total amount of donations is maximized.

I also analyze how robust this result is to relaxing the assumption that the degree of congestion monotonously increases with the number of agents in the club. In the robustness check, I assume the presence of network effects that create a non-monotonic relationship between the number of agents and club good quality. In particular, I assume that when there are few club members, as additional participants are welcomed to the club, the club good users enjoy this good more. However, when there are too many users, the congestion increases and agents start to get lower returns on the club good. These effects produce a parabolic relationship between the number of club members and the degree of congestion. The result for this case is the same as for the main model, except there is an additional equilibrium with zero donations, which is typical for network effects.

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