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Contents

Ali, Sheraz[1]: The Impact of Community Based Organization on Development: A Study of Battagram, KPK, Pakistan

Abstract: *The main objective of this research was to assess the role of community based organization in the development of local communities in the Northwestern Province of Pakistan. The data was collected from a total of 120 households in three villages, through participatory research. The data revealed that the local community based organization has a positive impact on the socio-economic status of the local people. This research further found that greater participation of the local people in the development projects can have a sustainable impact on their socio-economic status. Therefore greater role shall be given to these neighborhood organizations in the development projects.*

Introduction

Collective efforts at local level can guarantee greater stability and eradication of the socio-economic problems faced by the people (Albert, 2009), but require local concerns to focus and deliver fast and long lasting solutions. Every individual member of the community adds value to the efforts he carries (Abegunde, 2003), while feeling his role through proper participation in the planning and development of the area, he inhabits. Even the local governments also delegate greater responsibilities to the community based organizations (Akinola, 2000) because the efforts carried by these organizations are far reaching, where every member of the organization knows better, than anyone else, the problem he faces and the purpose he works for. Individual's efforts carry more strength and their collective role reaches to new lengths, when the purposes and objectives are known.

Community based organizations are the groups of people based on volunteerism (Bratton, 1990), or non-profit groups engaged in the service of humanity (Cary, 1973) working at local level. The efforts of these groups are to improve the living standard of the people of their community and even their families, that's why their efforts are more authentic than the efforts carried out by any other group, or organization. The main focus of the organization is to improve equality across the society (Claudia, 2003) and make the access of every individual to health services and education possible. These organizations are the representatives of their communities, where the vulnerable groups are highly focused, such as the handicapped and the widows.

Community based organizations have a strong sense of belonging to their community (CDU, 2006) and this sense makes every individual in the community proud to be identified by the community he belongs to. There are number of characteristics associated with community based organization that strengthen its normative role (Esman, 1984). The most important of these characteristics are the social interaction, permanence, institution and structure (Ibid). Permanence allows individuals feel patriotic, while serving their people and the community they belong to, because there is strong social interaction among all the members of the community based organization, which develops a sense of adherence and protection.

Since every member of the organization been in close proximity to one another, therefore their interaction is very strong and the problems faced by them are known to everyone. This awareness attracts greater attention of the members based on their personal interest. Shared interest adds more value to the organization (Racher, 2007) thereby promoting organization of their efforts. Factors like kinship, proximity and

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sense of belonging increase the coherence of the organization more (Kulig, 2000), not a condition but these factors are conducive for making the organization strong and effective.

Community based organization is a new concept in the area that has been focused by the national and international organizations in the development projects, because community based organization allows greater participation of the local people in the development process. This research paper is focusing on the community based organization in order to expose its impact on the socio-economic status of the people in the Northwestern province of Pakistan, because here the culture of community based organization is quite nascent.

Null Hypothesis: It is assumed that the community based organization has no impact on the development of the community.

Alternative Hypothesis: The community based organization has a positive impact on the development of the community.

Research Methodology

This research involved participatory research methods through a mixture of techniques. These techniques included focus groups, face to face interviews, group discussions, and other life histories. The main target group of this research was local community in the Northwest of Pakistan in three main villages Biari, Pokal and Karg. These three villages were parts of district Allai, comprising a total of eight union councils. The main aim of focusing on these three villages for data collection was the operation of the community based organization in these villages. Majority of the people in the community based organization were from Biari, Pokal and Karg. The data was collected from a total of 120 households, each household on average consisted of 5 to 7 members.

Five basic survey methods were used, including questionnaire, interviews, group discussion, case studies and gender based approaches. This also included field observations, and participant observations. In interviews, both personal and impersonal, a simple pre-tested questionnaire, pertinent to the research area, was prepared. Questions of the interview, their wording and sequence were in accord with the structure and schedule of the interview. Personal interviews were carried out face to face and impersonal interviews were taken on the telephone.

The entire population was sufficiently large therefore carefully chosen samples were used to represent the population. The sample included the characteristics of the population from which it was drawn. The way the samples were selected for the study was as follows:

Table 1 Selection of the sample household in the study area

Villages	No. of total households	No. of selected households
Biari	772	50
Pokal	508	35
Karg	497	35
Total	1777	120

The population of Biari was comparatively large therefore a total of 50 samples were taken, where the population of Pokal and Karg was not as large as that of Biari. The total number of households in Biari was 772 but their membership in the community based organization was comparatively lower. This comparatively lower membership of Biari in the community based organization was the result of prevailing low literacy rate and income level of the people in Biari.

Findings and Analysis

The community based organization, operative in the three villages, Biari, Pokal and Karg had a significant impact on the socio-economic conditions of the people in the area. Allai district is situated in the Northwest of Pakistan, where majority of the people are farmers and tenants. The source of income of these people is farming and livestock. Communication among the people is not very fast, infrastructure development is of no mean and the people have been travelling to long distances for daily purchases and other stuff. The state has not been active in this area in bringing development, but non-governmental organizations are actively engaged in solving local problems. In this regard, the local community based organization has a significant impact on the daily life of the local people.

Three main projects were completed by the local community based organization, which had a positive impact on the socio-economic life of the local people. Soft water to drink was a main problem in the area, the local community based organization installed wells in different parts of the three villages with the support of local non-governmental organizations, which resulted in the availability of soft water to almost all the residents of the area. Majority of the people in this area were using stream water flowing from the hills, which was very difficult for the local women to travel to long distances with water pitchers on their heads. Filling water from the streams, on the one hand, was time consuming and on the other hand it affected the health of the local women because women were the only labor force available for filling water.

The data revealed that the local people were facilitated up to a greater extent by the installation of these wells. In Biari 70 per cent people were provided access to soft water, in Pokal 76 per cent and in Karg 68 per cent people were facilitated with soft drinking water. Though the water supplied to them through these wells was hard, however this had a positive impact on the health of the local women as well as, the time which local women spent on filling water was saved. In addition, in Biari, 78 per cent, in Pokal 80 per cent and in Karg 72 per cent of the respondents reported that these wells facilitated access to clean water.

In the hilly areas of Pakistan, rain water is more catastrophic and destructive, resulting in huge damages to human life, soil, forest and livestock. In Allai, a water course flowing down to the villages from upper hills was a threat to local people especially in time of seasonal rain. In rainy days, torrential water caused huge damage to livestock, forest, soil and crops. In this regard the local community based organization with the financial support of the non-governmental organizations constructed a wall on both sides of the water course, which was really effective in giving protection to local crops, livestock and soil. On average 76 per cent people in the three villages viewed the construction of this wall as a protection to local forest, crop and soil.

In rural parts of Pakistan, majority of the people cover long distances by foot because road transport is not available for the people everywhere. Local roads in the villages are muddy and in rainy days these roads are devastated with torrential rain. Most of the people try to follow short link roads to reach their destinies; therefore they use cattle tracks to walk. People face huge difficulties in rainy days to pass through these roads and even sometimes carriages through these roads become impossible for the local people.

The local community based organization in order to facilitate the local people, constructed a local road that had a positive impact on the residents of the three villages. The local people actively participated in the construction of this road, which greatly facilitated their transportation. In the three villages, on average 42 per cent of the respondents reported that the construction of the road saved their time, 26 per cent said

that their distance was decreased, 27 per cent of the respondents said that the construction of road saved their cost of transportation and 5 per cent of the respondents were of the view that the construction of road made their travelling easy.

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Alinsunurin, Jason P.[1]: How do Remittances Influence Education Capital Investments of Filipino Households?

Abstract: *This paper seeks to analyze the influence of international and domestic remittances to investments in education capital of Filipino households. We ask if such income transfers have an effect to school participation and labor participation of children. We substantiate the explanation behind the expected differences in effects among regions, income and age groups by performing an analysis of households' marginal expenditures on education, health and other categories. My initial results show so far that international remittances significantly increase the odds of school participation than domestic remittances, while underscoring many household characteristics as important determinants as well. We still expect to perform more tests and detailed analysis, especially on marginal expenditures and its variations across groups, as this is an ongoing exercise.*

Introduction

Remittance income represents a substantial share of income of households in the Philippines. There are estimated 11 million Filipinos or almost ten percent of the national population currently working and living abroad, sending the fourth largest amount of remittances in the world. At around USD 21 billion in 2011 (Bangko Sentral ng Pilipinas, 2012), it represented a 5.43 percent increase over the previous year-- even exceeding the GDP growth in many instances.

The impetus to seek overseas work of Filipinos stems from the widespread national psyche that economic opportunities are tough for everyone, despite being well skilled and educated. However, being a largely a communal society, the motives of a family member seeking overseas work is influenced significantly by household characteristics and dynamics. One study, for instance, has noted that altruism largely dominates the exchange motive for international remittances among Filipinos, as most of the emigrating workers are heads of families (Alba & Sugui, 2009). The growth of domestic income transfers in recent years had also underscored the inter-regional labor migration due to the perceived widening of the real wage gap between rural and urbanizing regions. In other words, the decision to migrate for work hinges on both the economic opportunities and challenges facing households. In this paper, I empirically specify that remittances contribute to investments in education capital of households with significant nuances across various groups.

There is a considerable literature on remittance-household human capital investment nexus. One paper by Adams (2005) indicates that the significant change in household spending pattern brought about by income transfers, translates to investments in human capital in areas such as education and health (Adams, 2005). At the moment, there were very little studies that have explored the nuances of international and domestic remittances/income transfers to human capital investment behavior of Filipino households; as such, I intend to provide a nuanced view of remittances and its impacts to Filipino households. .

Aim of the Project

The main objective of this paper is to analyze the impact of domestic and international income transfers to investments in human capital of Filipino households in

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2007. By human capital investment, I delimit these to the following behavioral/choice indicators: (1) school participation, (2) child labor participation, and (3) comparative analysis of household expenditures on "human capital investment goods".

Further, I plan to explore the possible different impacts and channels by which income transfers influence the household behavioral indicators mentioned above. These would be (but not solely limited) to the following groupings: urban and rural regions, income groups, economic activity and family income variability.

Hypothesis and Methodology

The data used is the 2007 Annual Poverty Indicators Survey (APIS), a nationally representative survey that aims to provide social and economic non-income indicators correlated with poverty. (National Statistical Coordination Board, 2008).

We focus our investigation to the following research questions:

RQ1. Do international and domestic remittances influence school participation decisions? If yes, which of the two had a bigger impact and are there significant variations across groups? Which household characteristics also influence school participation?

RQ2. Do international and domestic remittances prevent a child or any other younger family member from performing work? Are there significant differences between groups and the type of remittance?

RQ3. Is there a significant variation in "human capital" expenditure categories across groups at the margin between remittance receiving households and those who do not receive?

The total sample size is 38,483 households of which there are 189,079 household members . The level of analysis for the first three research questions would have household members as unit of observation. Following Lu and Treiman (2007) we adopt a multilevel framework which should then adjust the representation of children from very large families. This condition is important to carry out the analysis so as not to have biased estimates. We then formulate a logit model whose unit of analysis at the child level,

$$Logit \left(\text{School Participation}_{ij} \right) = \beta_{oj} + \beta_{1j}\mathbf{X}_{1j},$$

where the dependent variable is a binary variable denoting the enrolment of a child i in household j; $\mathbf{X}_{1j}$ is the vector of characteristics of the child sex and age. β_{oj} is a random intercept term defined by household level observable characteristics (shown next equation below) such as household income, family size, education level of the household head, receipt of international and domestic remittances. The last term, δ_{oj}, is the unique effect of household j on the intercept which is also conditional on $\mathbf{Z}$:

$$\beta_{oj} = \gamma_{00} + \gamma_{00}\mathbf{Z}_j + \delta_{oj}.$$

The logit model for child work shall take an analogous form to the earlier model, as well as that of the model for consultation to appropriate health facility/professional (to be censored to children having been sick in the past month as defined by the survey instrument).

For the last research question, a nonlinear, modified Working-Leser model is used. Since expenditure patterns are different across households, several household and

locational characteristics are to be taken into account. These would include, among others, age, family size, place of residence, dependency ratios and economic sector. Following Prais and Houthakker (1971), based on a linear Engel curve, the model that would relate budget shares linearly to the logarithm of expenditures would be

$$C_i = a_i + \beta_i EXP + \gamma_i (EXP)(logEXP) + \sum_j [(\mu_{ij})(Z_j) + \lambda_{ij}(EXP)(Z_j)]$$

where C_i is the expenditure on household j expenditure category i. . Z_j, μ_{ij} and λ_{ij} denote the household characteristic variables and constants respectively. In Semi-log ratio form, this should be

$$\frac{C_i}{EXP} = \beta_i + a_i EXP + \gamma_i (logEXP) + \sum_j [(\mu_{ij})(Z_j) + \lambda_{ij}(EXP)(Z_j)],$$

from which the marginal budget shares can be derived as

$$MBS_i = \frac{d \ C_i}{d \ EXP} = \beta_i + \gamma_i(1 + logEXP) + \sum_j [(\gamma_i)(Z_j)].$$

The average budget shares is the ratio of expenditure on category i by the total expenditures, $ABS_i = \frac{C_i}{EXP}$. The expenditure elasticity can now be computed as the ratio of MBS and ABS, i.e, $\xi = \frac{MBS_i}{ABS_i}$.

Results
My initial results are as follows. Table 1 shows six specifications of the logistic regression. The sample is delimited to six to eleven year old children for the moment. All variables are shown to have consistent signs with a priori.

The odds ratio can be computed by expressing the logistic coefficients as the power of **e**. Most observations are highly consistent with the existing literature on school participation in the country: (1) Boys are less likely to attend school as shown on all specifications. However, within households receiving international remittances, boys are shown to have decreased likelihoods than non-remittance receiving households. (2) Male household heads are also shown to have negative impact to the likelihood of school attendance; however the effect is not significant if the household is receiving remittances. In addition, the education of the household head is a significant and positive predictor among non-recipient households but not significant on the other group. These findings underscore how the remittance receipts alter the traditional determinants of school participation. (3) Among non-international remittance recipients, domestic remittance boosts school participation tremendously instead, but not in international remittance receiving households.

Table 1. Logit regression results for school participation, APIS 2007.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Age of child	0.516***	0.460***	0.516***	0.459***	0.516***	0.463***
	(0.0527)	(0.0189)	(0.0528)	(0.0190)	(0.0528)	(0.0191)
Sex of child	-0.107	-0.302***	-0.101	-0.303***	-0.101	-0.304***
	(0.128)	(0.0498)	(0.128)	(0.0498)	(0.128)	(0.0499)
Log of the household income less remittances	0.398***	0.713***	0.371***	0.666***	0.373***	0.735***
	(0.0647)	(0.0350)	(0.0657)	(0.0363)	(0.0658)	(0.0376)
Sex of the household head	-0.417**	-0.00936	-0.427**	-0.0305	-0.431**	0.00137
	(0.177)	(0.0992)	(0.178)	(0.0997)	(0.181)	(0.0999)
Age of the household head	0.00361	0.00295	0.000621	-0.000961	0.000529	-0.00256
	(0.00522)	(0.00240)	(0.00547)	(0.00259)	(0.00547)	(0.00261)
At least high school graduate dummy	0.114	0.527***	0.123	0.527***	0.121	0.508***
	(0.136)	(0.0578)	(0.136)	(0.0578)	(0.136)	(0.0580)
Dependency ratio			-0.619	-0.693***	-0.626	-0.742***
			(0.422)	(0.191)	(0.422)	(0.192)
Dummy for receipt of domestic remittances					0.0334	0.449***
					(0.131)	(0.0519)
Constant	-4.219***	-7.130***	-3.566***	-6.200***	-3.580***	-6.885***
	(0.653)	(0.327)	(0.743)	(0.401)	(0.741)	(0.412)
Observations	5,887	22,114	5,887	22,114	5,887	22,114
Wald Chi2	121.89***	1051.41***	121.75***	1055.80***	123.54***	1101.59***
Pseudo R-Squared	0.0954	0.1170	0.0963	0.1180	0.0963	0.1242

School attendance is the dependent variable (0 if not attending and 1 if attending). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Note: Specifications 1, 3 and 5 are composed of sample HH receiving international remittances, while 2, 4 and 6 are non-remittance recipients.

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Ampilogov, Andrew[1]: **Student's College Choice and Parental Education**[2]

Abstract: *For years, universities and administrators have been interested in how students make educational and career choices. Literature says that educational choices and career choices are essentially linked. But there is no standard approach to analyze this connection. To analyze college major choice with respect to parental education s (including other factors) a multinomial logit model is used. The data is based on a survey of first-year Russian universities students which was held over the Internet in 2011.*

Research Problem

The choice of a college and a major can be one of the most important decisions a student can make. Thus, it is of great interest for researchers. This interest is motivated by a combination of academic curiosity, a desire to better serve the university population and concernment of universities in better productivity on the educational market. Educational choices and career choices are essentially linked (see, for example Pascarella, Ternzini (1991)). It is therefore appropriate to consider educational decisions as steps toward implementing career decisions. By understanding the students' decision-making process, universities and administrators can better respond to current needs and anticipate future ones.

One of the aspects of the problem stated above is how the occupation of parents effects students' college decision. The relationship between students' major and occupation of parents (current job, major at university, level of education) are of particular interest. The economic literature applies different approaches to analyze these connections. However, in Russian literature this type of question remains mostly unobserved. Given this purpose, this study attempts to answer the following research questions:

1. What are the factors that predict student major choice?
2. Do parental education affect the selection of college major?

Literature

The field of study on parental occupation and students' college choice is largely studied in the US literature. However, results in the literature may be controversial, when different databases and analysis methods are used. For example, in Hearn (1984, 1988) parental occupation alongside with parental education levels and family income have been found to be strongly related to college choice. Whereas Adams et al. (1994) reported that only 4% of the respondents indicated parental pressure, and 10% indicated that their college major was similar to their parents' occupation.

There also may be different effects of both parents on male or female student. According to Leppel et. al. (2001) both male and female students whose fathers are in professional or executive occupations were more likely to choose college major in engineering and the sciences. Business majors appear more affected by their parents' occupation and socioeconomic status than nonbusiness majors. Moreover, it has been suggested that women are more likely to select majors that have been traditionally dominated by women (Porter, Umbach, 2006)

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Flint (1992) explored the influence of parental education and family income on college selectivity. He found that higher levels of education of both father and mother are associated with higher levels of college selectivity.

According to Ware et al. (1985), having highly educated parents increased the probability of women choosing to major in science; parental education had a negative impact on the probability of men choosing college with major in science.

Astin (1993) found significant links between family influences and major and career choices. Students are more likely to choose business if they come from high-income families. He also found that students who chose to major in engineering noted a high level of parental involvement in their education.

Many have argued that the accumulation of social and cultural capital as a result of social class membership results in a reproduction of class structures. It would therefore be natural to assume that college students are likely to choose majors where they would follow in their parents' footsteps (Porter, Umbach, 2006).

Project Aims

The purpose of the project is to examine the relationship between parental occupation (current job, level of education, major at university) and student's college choice (selected major).

Hypotheses

Parent example of the prestige associated professional or executive occupation may influence a student's college choice. Furthermore, the roles for the occupational status of mothers and the occupational status of fathers may differ. In most cases, the mother spends more time with her young offspring than the father does. Consequently, the influence of the mother may be greater than that of the father.

Another problem lies in the roles that the occupational status of mothers and the occupational status of fathers play in the determination of college choice - they may be different for male and female students. If mothers serve more as an example for their daughters than for their sons, then they may have greater influence on their daughters than on their sons.

The following hypotheses are put forward to analyze the college choice made by students:

H1. Parents working or educated within a specific field increase the probability that a child will make a similar choice of educational programmer in a university

H2. The influence of a parent's occupational sector/educational field is stronger when the parent is of the same gender as the child.

H3. The influence of a parent's occupational sector/educational field is stronger when this parent's social position dominates that of his/her spouse.

H4. Students from households with low parental occupation and socioeconomic status may need more financial security, therefore they choose college with better job opportunities and more lucrative expected profession.

Methodology

Within the study, it is expected to use the tools of econometric methods of data analysis: descriptive statistics, regression analysis (linear, logistic and multinomial logistic regressions).

The sample consists of 4004 respondents born in 1991-1996, who studied at the moment of the poll (2011) but didn't have Higher education (HE):

– Students of the last grade at high school, or other institutions of secondary education;

- Those who received diplomas of secondary education in 2009-2011;
- First-year students at colleges/universities.

Students were selected proportionally to population of 16-18 year people in Russian regions (according to official statistics). There are 2014 male and 1990 female students in the sample. There were 1455 first-year students and 2549 other respondents

For freshmen we know the actual university they were enrolled to, and other respondents pointed out their desired place of study. But only first-year students at colleges/universities specified the level of education of their parents, which is the key factor for this study (662 people, 16.5%). From this point we use this subsample. Here all of the respondents described important factor for the research - selected college major. This variable is used as a dependent variable.

Academic majors at graduation were compiled into four categories for the dependent variables: arts and humanities, interdisciplinary, social sciences, and life and natural sciences. Interdisciplinary majors in this study are academic majors which combine aspects of both the arts and humanities and the social sciences, so they are classified into a separate group rather than coded with either the arts and humanities or the social sciences.

The list of the variables of study (student's major choice and parental education) is shown in the tables 1 and 2. The first one concerns selected majors:

Table 1. College majors of freshmen

College major	Frequency	Percent
Arts and humanities	55	8,3
Interdisciplinary	284	42,9
Social sciences	150	22,7
Life and natural sciences	173	26,1
Total	662	100

Another factor, parental education, is described in the table 2 below.

Table 2. Parental education

Type of education	Father's education		Mother's education	
	Frequency	Percent	Frequency	Percent
Compulsory	98	14,8	75	11,3
Vocational/Junior College	205	31,0	179	27,0
Incomplete Higher Education	58	8,8	47	7,1
Complete Higher Education	249	37,6	351	53,0
Don't know	52	7,9	10	1,5
Total	662	100	662	100

Other variables of interest will be reviewed later.

Because the dependent variable is a set of discrete nominal outcomes, multinomial logistic regression is the best statistical method for understanding why one major category is chosen over another (Long, 1997).

Results

To understand the impact of parental education (and some other factors) on undergraduate degree major choice it is expected to estimate several multinomial logistic regression models with different covariates. For some reasons the model itself

will show the probability of choosing an arts & humanities, interdisciplinary or social science major over a major in the life and natural sciences. Controlling variables will be: gender, unified state examination (USE) scores in 2011, college selectivity, family influence, household income.

The results of the research are expected to help in understanding, how parental occupation related with student's college choice. Once the effects of parental occupation and family socioeconomic status are determined, it will become possible to explore the impacts of changes in these variables on major and college selection process.

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Barrenechea-Méndez, Marco A.[1], Ben-Ner, Avner[2]: Mission Congruence, Incentives and Autonomy: An Empirical Analysis of Child-Care Facilities in Minnesota, the U.S. [Ω]

Abstract: *This paper provides evidence on the role of mission congruence on teachers' pay-for-performance and delegation of decision-making decisions using a dataset of child-care facilities in Minnesota, the United States. We find the teachers' pay-for-performance is negatively related to mission congruence. Also, we find that teachers' autonomy is positively related to mission congruence. These results support the idea that the identity of workers plays an important role in the design of the organization. In addition, as in previous empirical studies, we found that pay-for-performance and autonomy are interrelated decisions.*

Introduction

Based on a dataset of child-care facilities in Minnesota, United States, this paper provides empirical evidence on the effects of mission congruence on teachers´ pay for performance and autonomy decisions. In the last few years a growing theoretical literature (Akerlof and Kranton 2005, Besley and Ghatak 2005, Prendergast 2008, Van den Steen 2010, Aghion and Tirole 1997, Dessein 2002) has arose concerned in analysing the role of the degree of employers-employees mission congruence on the organizational design. However, despite this growing theoretical interest, empirical evidence is generally scant.

The economic analysis of the organization relies on the assumption that workers preferences are in conflict with those of the organization. Nonetheless, this is not always the case. In many circumstances, workers could exert productive effort or select the most productive activities just because they agree with the organization's objectives (Aghion and Tirole 1997, Dessein 2002, Akerlof and Kranton 2005, Besley and Ghatak 2005, Prendergast 2008, Van den Steen 2010).

Recognition of this fact will have dramatic consequences on the organizational design (Akerlof and Kranton 2005, Ben-Ner 2008). The theoretical literature provides some efforts to model the effect of mission congruence on incentives and delegation of decision-making. For this literature, a less dissonance between organizations' and employees' objectives reduces the cost of exerting productive effort and permits organizations to economize on monetary incentives (Akerlof and Kranton 2005, Besley and Ghatak 2005, Prendergast 2008, Van den Steen 2010). Also, mission congruence allows principals to trust agents' decisions encouraging the granting of autonomy (Aghion and Tirole 1997, Dessein 2002, Van den Steen 2010).

We find that the provision of pay-for-performance is negatively associated to mission congruence. Child-care facilities economize on the provision of monetary incentives in teachers who believe on the mission of the organization. We also find that the provision of autonomy is positively associated to mission congruence. Teachers who believes in the mission of the organization has more discretion to take decisions than teachers who do no.

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Aim of the project

We attempt to provide evidence on the role of mission congruence on teachers' pay-for-performance and delegation of decision-making decisions using a dataset of child-care facilities in Minnesota, the United States.

We rely on a growing economic theoretical literature (Akerlof and Kranton 2005, Besley and Ghatak 2005, Prendergast 2008, Van den Steen 2010, Aghion and Tirole 1997, Dessein 2002) interested in these issues.

Theoretical background

Main hypotheses

The traditional analysis of the organizational design relies on the assumption that workers' preferences are in conflict with those of the organization. However, although standing as an important departing point for the understanding of the organizational design, this approach ignores that sometimes workers care about what they do (Prendergast 2008). Some workers may derive utility from the organizations' mission's success. This is likely, for instance, in the social work (Prendergast 2008), army (Akerlof and Kranton 2005), or non-profit sector (Besley and Ghatak 2005) contexts.

In the last few years, several theoretical works have appeared that take into consideration the effect of mission congruence on (particular variables of) the organizational design (Akerlof and Kranton 2005, Besley and Ghatak 2005, Prendergast 2008, Van den Steen 2010, Bénobou and Tirole 2003, Aghion and Tirole 1997, Dessein 2002).

Incentives and Mission Congruence

For most of this literature (Akerlof and Kranton 2005, Besley and Ghatak 2005, Prendergast 2008, Van den Steen 2010) mission congruence can operate as a substitute for monetary incentives. Workers who share the objectives of the firm require less incentive pay to motivate effort. The common underlying idea of these models is that mission congruence provides intrinsic motivation. The desire of the workers to perform an activity because of inherent enjoyment of the activity (Baron and Kreps 1999) reduces the cost of exerting effort and therefore economizes on the need to provide explicit monetary incentives. Recent economic literature provides efforts to model this assertion.

Hypothesis 1: Monetary incentives are negatively related to Mission congruence.

Delegation of Decision-making and Mission Alignment

Another variable of the organizational design that has captured the attention of this literature is the delegation of decision-making. Overall, this literature (Aghion and Tirole 1997, Dessein 2002, Van den Steen 2010) predicts that the congruence between the principals' and the agents' objectives has a positive impact on the delegation of decision-making.

Delegation of decision-making arises when the relevant information to take decisions regarding how to carry out a job (i.e., which are the projects or activities that should be implemented) is disperse along the organization (Melumad and Reichelstein 1987, Aghion and Tirole 1997, Prendergast 2002, Dessein 2002). However, the management could hesitate to delegate decision-making to workers if their objectives are not aligned to that of the organization. On the contrary, when there is less discrepancy of interests, employers are more likely to see employees as more reliable

and trustworthy to pursue the interests of the organization (Ben-Ner 2008, Ting Ren 2010) by selecting the most appropriate projects and are more likely to delegate decision-making.

Hypothesis 2: Delegation of Decision-making is positively related to Mission congruence.

Methods

Data description
The data for testing the hypotheses is drawn from the structure and performance in the human services industry in Minnesota survey applied to child-care institutions.

The survey was administered in summer 2006 to all child-care facilities existing at that time. So, we expect no sampling selection bias problems. The survey was addressed to child-care facilities' directors and requested detailed information on human resources and work organization practices for teachers as well as information on general characteristics of the facilities and/or parent organizations. We got 504 responses. Because some questionnaires were incomplete, we ended up with 206 observations.

Measures
Pay-for-performance (p). The question related to the provision of incentives asks the interviewer if the teachers receive any form of incentive pay or bonus. The answer is presented in a dichotomized way. Based on this question we create the variable *Pay-for-performance*, which take the value of zero if incentives are not provided and 1, otherwise. The distribution of child-care facilities for teachers for the two categories is 74.76 and 25.24 percent, respectively.

Autonomy (a). The question that explores our measure of delegation of decision-making asks the interviewee to evaluate the degree of control that teachers have over how their work is done. The answer ranks in a five-point scale, where 1 means "not at all," 2 means "small," 3 means "moderate," 4 means "large" and 5 means "extreme." The distribution of the child-care facilities for teachers for the five categories is 0, 0.49, 10.68, 51.46, and 37.38 percent, respectively. Based on this information we create the 4-categories ordinal variable *Autonomy*.

Mission congruence (m). The concept of mission congruence is measured through a question that asks the interviewer if teachers believe in the mission of the organization. The answer ranks in a Likert scale from 1 to 5, where 1 means that the interviewee strongly disagree with the statement, 2 that she disagrees, 3 that she neither agrees nor disagrees, 4 that she agrees and 5 that she strongly agrees. The distribution of plants for the five categories for teachers is 2.91, 0, 2.43, 26.21 and 68.45 percent, respectively.

Econometric approach
In concordance with the theoretical section and the nature of the data, we propose the following econometric approach.

$$p_i^* = \beta_1 m_i + \beta_2 a_i + \sum_{j=1}^{J} \gamma_j x_{ji} + \varepsilon_{1,i} \tag{1}$$

$$a_i^* = \alpha_1 m_i + \sum_{j=1}^{J} \lambda_j x_{ji} + \varepsilon_{2,i} \tag{2}$$

where p_i^* and a_i^* are latent variables. For the childcare facility i, the value of the

variable *Pay-for-performance* (p) will be equal to one $(p_i = 1)$ when the childcare facility *i* has an associated positive value $(p_i^* > 0)$ and will be equal to zero $(p_i = 0)$, otherwise. Also, for the childcare facility *i*, the value of the variable *Autonomy* (a_i) will depend on the value of the latent variable a_i^* in the following way: $a_i = 4$ if $a_i^* \geq \mu_3$, $a_i = 3$ if $\mu_3 > a_i^* \geq \mu_2$, $a_i = 2$ if $\mu_2 > a_i^* \geq \mu_1$ and $a_i = 1$ if $\mu_1 > a_i^*$. The independent variables are *Mission alignment* (*m*) and a set of *J* control variables (x_j), where *j* = 1…*J*. The error terms $\varepsilon_1, \varepsilon_2$ are distributed as bivariate normal with mean zero, unit variance and correlation coefficient ρ.

Results

The results are shown in Table 1. The likelihood ratio test rejects at the 1 percent level the null hypothesis that all the explanatory variables are zero. The first column of Table 1 presents the results of the estimation of the incentives equation. These results provide support for Hypothesis 1. The coefficient of the variable *Mission congruence* is negative and statistically significantly different from zero at the 5.6 percent level ($\beta_1 < 0$). With regard to the other variables, *Autonomy* and *Size* are also important to explain the decision on incentive provision. The three dummy variables associate to the variable *Autonomy* are positive and statistically significant at conventional levels of significance while *Size* is positive and statistically different from zero at the 1 percent level.

The second column of Table 1 presents the results of the estimation of the *Autonomy* equation, which is relevant for Hypothesis 2. The results also provide support for this Hypothesis. The coefficient of variable *Mission congruence* is positive and statistically significant at the 6.9 percent level ($\alpha_1 > 0$). None of the other independent variables in this specification resulted statistically significant to explain the decision on the provision of autonomy. Note however that the fact that the coefficient of the variable task complexity is very close to being significant ($\rho = .108$) provides some insight of its importance.

Table 1. Results of the Bivariate Probit Probability Models Estimations

Independent Variables	Equation [1] Dependent variable: *p*		Equation [2] Dependent variable: *a*	
	Estimates	p-values	Estimates	p-values
Autonomy1	-.70**	0.035		
Autonomy2				
Autonomy3	1.19***	0.000		
Autonomy4	2.60***	0.000		
Mission congruence	-.33*	0.056	.32*	0.069
Task complexity	-.25	0.131	.27	0.108
Task skill	.005	0.979	.02	0.933
Size	.03***	0.004	-.02	0.125
Number of facilities	-.0003	0.475	.0001	0.751
Age	-.0007	0.790	-.002	0.522
For-Profit	.048	0.773	-.06	0.729
Cons				
Cut1	1.79			
Cut2	-2.39			
Cut3	-1.08			
Cut4	.53			
Wald Chi2	234.88	.000		
N	206			
Log likelihood	-304.49			
Rho	-1	0.103		

*Statistically significant at the 10% level, ** at the 5% level, *** at the 1% level

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Bouguezzi, Fehmi[1]: Competition and Optimal Patent Licensing of a Process Innovation

Abstract: *We study in this research two models of technology transfer. In the first I compare patent licensing regimes in a model where firms are located symmetrically and not necessary at the end points of the city. In the second model I study the effect of imitation on licensing regimes. I suppose in the first model that one of the firms owns a process innovation reducing the marginal unit cost. This patent holding firm will decide to sell a license or not to the non innovative firm and will choose, when licensing, between a fixed fee or a royalty. I find that royalties licensing is better than fixed fee licensing when innovation is non drastic or drastic but not very high. The paper shows that a fixed fee is not better than a non licensing regime independently of the innovation size and the optimal licensing regime is royalties when innovation is non drastic. Finally, I show that a patent holding firm should not license its innovation when it is drastic. In t he second model, I show that optimal licensing regime for an innovative firm depends on the magnitude of imitation compared with the magnitude of innovation.*

Introduction

Several authors studied patent licensing and transfer of innovation. Wang (1998) and Wang(2002) compared licensing regimes in a Cournot duopoly and then in a differentiated Cournot oligopoly and find that the optimal licensing regime depends on the size of the innovation (drastic or non drastic[2]). Kamien, Oren and Tauman (1992) studied the optimal licensing regime for a cost reducing innovation when innovative firm is in the outside of the market. Cohen and Morrison (2004) focused on spillovers in the US food manufacturing industry across states and from agricultural input supply and consumer demand and find average and marginal cost effects in the spatial and industry dimensions that affect location decisions. Mai and Peng (1999) discussed cooperation and competition between firms in a Hotelling spatial model with differentiation. Piga and Theoloky (2005) supposed that R&D spillovers depend on firm's location which means that spillovers increase when firms are close the each others. They show that distance between firm's location increases with the degree of product differentiation. Osborne and Pitchik (1987) studied optimal locations of two competing firms in a Hotelling's model and find that they choose locations close to the quartiles of the market. Paci and Usai (2000) investigate the process of spatial agglomeration of innovation and production activities in an econometric analysis of 85 industrial sectors and 784 Italian local labor systems and find that technological activities of a local industry influence positively innovations of the same sectors in contiguous areas. Alcacer and Chung (2007) examine firms' location choices expecting differences in firm's strategies of new entrants into the United States from 1985 to 1994 and find that firms favor locations with academic innovation activity. Alderighi and Piga (2009) investigate properties of two types of cost reducing restrictions that guarantee the existence of equilibrium in pure strategies in Bayesien spatial models with heterogeneous firms. Poddar and Sinha (2004) studied technology transfer in a Hotelling model where firms are located at the end points of the linear city and find, for an insider patentee, that royalty licensing is optimal when innovation is non drastic while no licensing is the best when innovation is drastic. Matsumura and Matsushima (2008) studied the relationship between licensing

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[2]Arrow (1962) was the first to introduce the analysis of the innovation drasticity. An innovation is called drastic when the patent owner becomes a monopoly.

activities and the locations of the firms. They find that licensing activities following R&D investment always lead to the maximum differentiation between firms and the mitigation of price competition. Long and Sonbeyran (1998) supposed in a Hotelling model that spillovers depend on the distance between firms and find that agglomeration can be optimal. They also find that geographical dispersion in a two dimensional plane is another possible outcome. Hussler, Lorentz and Rond (2007) supposed that, in a Hotelling model, absorptions capacities of the firms are function of their internal R&D investment and firms determine endogenously the maximum level of knowledge spillovers they might absorb. They find that knowledge spillovers are maximum if firms are located symmetrically and tend to agglomeration in the center of the linear city when transportation cost increase. Pinkse, Slade and Brett (2002) investigate the nature of price competition among firms producing differentiated products and competing in markets that are limited in extent through an econometric study of the US wholesale gasoline markets and find that competition is highly localized. Alderighi and Piga (2008) considered a Salop model with heterogeneous costs and find that cost heterogeneity increases welfare and induce less excessive entry.

Aim of the project

In the research done by Poddar and Sinha (2004) and in many other papers, the competing firms are located at the end points of the city. This location modeling is more theoric and we can not find such situation in the reality. So to be more realistic, I studied fixed fee and royalty licensing in a linear model where firms are not necessary at the end points but can change their locations along the city and keep the same distance separating each firm with the end point. Then I compare the licensing strategies according to the new locations of the firms and I found like it can be explained in the section results some new key differences with the old models.

Hypotheses and methodology

Let's suppose a linear city with a long l and two firms A and B producing homogeneous goods and located symmetrically on the city. Let's suppose too that firm A is located at a and firm B at $l-a$ ($a < \dfrac{l}{2}$).
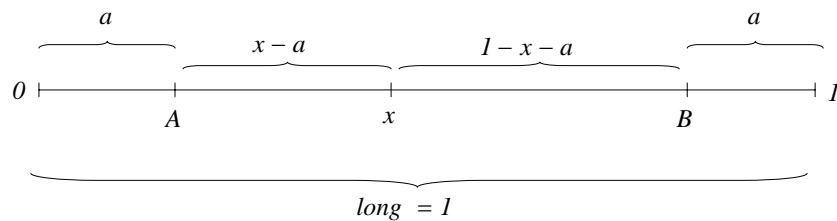

Figure 1: Model

To compare patent licensing regimes, I suppose that firm A owns a patented cost reducing innovation allowing to reduce the unit marginal cost by ε which measures the size of the innovation and depends on the investment on R&D by innovative firm. Consumers are uniformly distributed on the linear city (interval $[0,l]$)and each one pay a linear transport cost equal to td (t is the transport unit cost and d the distance between the consumer and the firm). The innovative firm will choose between two licensing regimes : a fixed fee licensing where non innovative firm must pay an amount of money not depending on the quantity produced in exchange of the use of the license or a royalty licensing where non innovative firm must pay a fixed rate on each quantity produced using the new technology. Game stages are as follows: in the first stage, the two firms choose their locations. In the second stage, decides to license its innovation or not and the fixed fee or the royalty to apply and in the third and last stage, the two firms compete in prices. To calculate demand functions of the two firms, we must find the location of the marginal consumer where its utility function when buying the product of the firm A is equal to its utility when buying the product of the firm B. The utility of each consumer depends negatively of the transportation cost and the price of the product.

Results

We find that the size of the innovation has an effect on firms equilibrium locations. when firms are located symmetrically, we find that an increase in the innovation size make firms more close to the end points of the city. We also find that a fixed fee licensing is always lower than no licensing regime and in this licensing, the non innovative firm leaves the market when innovation is drastic. In a comparison between fixed fee and royalties, we find that fixed fee is better than royalties when innovation is intermediate or strong. Finally, we show that a Nash equilibrium exists for a royalty licensing when innovation is small and for specific firm locations. In the other cases, the patent holding firm should benefit alone of its innovation and become a monopoly.

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Creanga, Claudiu[1]: EU Bureaucracy and Tax Policy

Abstract: *European countries are intensifying the reform of their public system. We can see that the directions of reform are similar across different countries: their main goal is to get better results and accountability for delivering them. But at one level, this need for reform is not so stringent. In Brussels the process of bureaucratization is highly regarded and is seen as a necessary tool for European integration. This paper will seek to explain why the current balance of power between EU institutions favors the continuous bureaucratization of the EU and what impact does it have on the economy. Firstly, I will show that, given the current balance of power between EU institutions, bureaucratization of the EU will increase. Then I will argue that because of it taxes will rise and finally, by focusing on the Common Agricultural Policy, I will argue that some EU policies are hurting free trade between EU countries*

Introduction

Back in the first decades of the 20th century, Max Weber regarded bureaucracy as the most capable and effective form of modern authority. In order to create a basis for his theory, Weber argues that there are three types of authority:
- Charismatic (great attraction of a leader);
- Traditional (such as the authority of a tribal chief and the rational);
- Legal authority (bureaucracy).

The latter is both rational and legal when compared to other forms of authority that were essentially irrational and extra-legal and is considered the most efficient of all three (Hughes, 1996, p. 12).

Weber conceived its own model of bureaucracy, an ideal model that is full of positive properties, such as: discipline, control, impersonal authority, hierarchical construction etc. Weber motivates this model from a historical perspective by comparing modern bureaucracy with other types of government or other authority. Judged in relation to other types of authority modern bureaucracy is definitely more efficient, but that does not mean that modern bureaucracy is efficient in all the fields. Thus, Weber's assertion that bureaucracy is "capable of the highest degree of efficiency" (Weber, 1978, p. 129) is not entirely supported by reality.

Today, contrary to Weber's model, the bureaucracy is often characterized as being rigid. Various authors (Smith and Zürcher, Fairchild, Crozier) have characterized bureaucracy as inflexible. Because of the rules and impersonality of the system a rigid hierarchical system inevitably occurs. Thus, an increased bureaucracy would surely lead to an inefficient and unjust system. As Brandt points out, "the ultimate goal of bureaucracy is simply the maximization of budgets" (Brandt, 2003, p. 10). This is understandable because a bigger budget consolidates bureaucratic positions. It can be observed that the largest bureaucracies have the strongest negotiating positions (as they represent most resources and thereby have the most power to punish opponents).

Aim of the project

In this paper I want to show that the EU bureaucracy is rising at an alarming rate and that this bureaucratization is a potential threat to future economic growth in the EU. EU bureaucrats are trying to maximize their slices of the total EU income pie and they are competing for these resources just like hunters. We just saw this in December 2011 when EU institutions were asking for a 5% increase in the EU budget and finally they

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received only 2% which still permits them to increase their tasks and their area of interference in national affairs. EU bureaucracies will, given economical rational self-interest, try to reap more than what is efficient at the EU level and consequently raise the general taxation level in the EU (Brandt, 2003). This idea seems to be confirmed by the overall development in the EU, which has had a total staff increase of more than 300% in thirty years. For example, in the specific case of the largest budget expense, namely the Common Agricultural Policy that consumes roughly half of the total budget, all attempts to reform only led to a whole range of new tasks resulting in more administrative staff and higher budgets.

I will argue that, given the strong institutional position of the European Commission and the weak position of the European Parliament, the bureaucratization of the EU will increase over years. From 1968 to 2000 the size of EU permanent staff has more than tripled from 9,026 to 30,777 bureaucrats. The EU Commission is the largest institution and has also roughly tripled its staff numbers from 7,703 to 21,703. In the year 2000, the EU Commission was roughly five times larger than the Parliament in terms of staff, which is another indicator among others of the difference in power between these two institutions (21,703 vs. 4,126). Still, the Parliament has caught up somewhat compared to 1968, when the EU Commission was roughly fourteen times larger (7,703 vs. 514). It is a general agreement that the monopoly of power favors bureaucratization and the pursuit of bureaucratic goals rather than those of the general public (Mueller, 1989). This idea originates from Tullock (1965), who described bureaucrats as self-interested maximizers capable of influencing political decisions as a separate and well-organized constituency to further their own private interests. Government grows, writes Tullock, to a very large extent because the factor suppliers – that is, people who work for the government – are permitted to vote. They are a constituency for larger government and will inevitably elect politicians supporting a government that is larger than the median non-bureaucrat citizen would want. Niskanen (1971, 1994 and 2001) also saw bureaucrats as 'budget maximizers'. Bureaucrats are in the position to obtain large budgets for two main reasons. First, because they are monopoly suppliers of public services that people want. Second, they have much more information than their legislative over-seer about how much it really costs to supply those services and whether they are actually needed. Both reasons allow bureaucrats to claim a larger budget than they need in order to serve the public interest.

Hence, existing literature points to rational bureaucratic behavior leading to an irrational outcome for society as a whole. However, the general idea in this paper is that the EU bureaucracy affects the policy design in favor of the bureaucracy itself, thus driving taxation too high compared to the optimal point. Hence, my contribution is to demonstrate that a seemingly rational EU bureaucratic behavior also leads to an irrational outcome for the EU bureaucrats themselves and not only for society as a whole. More specifically, I suggest that strong fiscal pressure occurs in the EU because its bureaucracies are competing to maximize their share of taxpayers' money just like hunters try to exploit a free access resource.

Hypotheses and methodology

- The bureaucratization of the EU will increase over years because of the strong position of the European Commission vs. the European Parliament.
- EU bureaucracy is driving taxation too high compared to the optimal point and is also hurting EU bureaucrats themselves.
- The Common Agricultural Policy fundamentally contradicts the main idea in the EU of facilitating free trade and a single market because it supports farm incomes through a system of guaranteed minimum prices.

In this research I will use qualitative methods, such as analysis of documents and structured interviews. I will try to demonstrate the hypotheses stated above by focusing on the EU institutional ability to handle the largest budget expense, namely the Common Agricultural Policy (half of the total EU budget). I will undertake a comprehensive analysis of the way in which the design of such EU policy can be affected by interactions between interest groups and the institutions and bureaucrats of the EU. In particular, I will focus on bureaucratic interests and the absence of tight fiscal control in the EU and in the case of the Common Agricultural Policy. More bureaucracy and regulation will raise the general tax level in the EU thus having a detrimental effect on its competitiveness.

Within this political economy framework, the main objective is to examine whether the EU institutional set-up is consistent with the strategic goal of economic growth or whether it, due to bureaucracy, might instead lead to economic decline by distorting markets. Consequently, bureaucracy may endanger EU's strategic goal, which is: "to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion" (EU, 2002).

Results

The results of this research is that increased bureaucratization in Brussels is leading inevitably to a weaker economic growth in the EU. The reform of the current system will not be possible until the current balance of power between EU institutions will not change. The increasing EU bureaucracy will hurt free trade between EU countries and will lead to more regulation and a more planned economy. The solution would be to strengthen the EU Parliament. Without a stronger Parliament, the powerful drive towards budget maximization will be allowed to move freely and will distort policy out-comes and economic growth (as we can see already with the Common Agricultural Policy).

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Donu, Victoria[1]; Mertlik, Pavel: **Institutional Factors affecting Investment Inflows in Transitional Countries**

Abstract*: Foreign Direct Investment (FDI) has always been seen as a factor of economic growth for both developed and transitional countries. As far as the Central and Eastern Europe (CEE), Market Size is considered one of the main factors in FDI attraction while institutional quality is only briefly discussed. This research tried to empirically verify the argument that institutional factors like (corruption, regulatory framework etc.) are vital in explaining the behavior of investment inflows in transition economies after 1990's. Employing a panel-data set for 10 countries of the CEE region, we conclude that countries that have made significant process in terms of macroeconomic stabilization, internationalization are accompanied by positive impact of an increase in per capita income of FDI. This conclusion was made due to the fact that we observe an indirect effect of institutional variables since the information regarding institutional quality is already incorporated in the macroeconomic variables themselves. Determinants that appear to be the most significant are: Regulatory Quality (REG); Rule of Law (RULE) and Control of Corruption (CORR). Another important factor we identified is that FDI inflows are determined solely by the macroeconomic factors mentioned and not by EU membership status.*

Introduction and Literature Overview

With the rise of globalization, Foreign Direct Investment (FDI) has been increasingly seen as an important stimulus for productivity and economic growth for both developed and transitional countries. As far as the Central and Eastern Europe (CEE) is concerned the regions attract a very small share of the world FDI. Most papers by now emphasize the fact that the role of the market is one of the most significant factors in FDI attraction and only briefly mention the role of institutions. A nation's institutional framework is the most important factor determining its economic performance thought time. Yet, in economic theory, the role of institutions has been often ignored completely. In this study "institutions" are accepted as "the rules of the game" in a society which was defined by North in 1990. They provide rules, constraints and incentives that are instrumental for the governance of exchanges (North 1990).

In the World Bank Report (2008) it was stated that sound institutions corrects market failures that leads to inhibition of productive investment and balances the interest of firms and of society. There is a need of strong taxation system because the issues with regulations and high taxes inhibit growth, encourage corruption, discourage investment and harms productivity. Lack of property rights protection leads to risk of expropriation which is a strong factor for companies to avoid investing. Corruption is also an important factor creating incentives for unfair competition therefore it limits investor's interest.

An early attempt to study the impact of institutions on FDI was made by Wheeler and Moody in 1992. Taking the first principal component of 13 risk factors (including political instability, corruption and the quality of the legal system), they did not find a significant impact of 'good' institutions on the location of US foreign affiliates.

Daniele and Marani (2006) discuss the potential channels through which institutions may affect FDI inflows. Firstly, the presence of good institutions tends to

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improve factor productivity and subsequently stimulates investments, regardless domestic or external. Secondly, good institutions will result in a reduction in investment related transaction costs. Finally, FDI generally involve high sunk costs. Therefore, good institutions (i.e. proper property right enforcement, effective legal systems) will add more security and credibility for multinational firms.

In this matter Habib and Zurawicki (2002) managed to prove empirically that corruption affects investment decisions negatively. The results suggest that foreign investors generally avoid corruption because it can create operational inefficiencies. The same determinants are valid for CEE transition economies but they have some specific characteristics compared to other developing countries. Transition economies, in general, represent a suitable natural experiment model for studying the impact of institutional quality improvements of economic development (North, 2005).

Aim of the project

In my research I also want to test empirically how institutional factors like voice and accountability, government effectiveness, rule of law, rule of corruption, regulatory quality and political stability affect investment inflows in Central and Eastern Europe. The role of institutions is investigated with a set of selected indices stated above. These indices were constructed by Kaufmann and are called the Worldwide Governance Indicators. They measure the quality of governance in over 200 countries, based on close to 40 data sources produced by more than 30 organizations worldwide and are updated on an annual basis since 2002. All scores lie between -2.5 to 2.5 with higher scores representing better outcomes. Thus, the main goal of this research is to empirically verify the argument that these institutional factors are vital in explaining the behavior of foreign direct investment in transition economies after 1990's.

Main hypotheses:

Based on everything mentioned above, my main hypotheses are:

1.   The more safe and reliable are the political and social institutions in a country, the higher the FDI are.

2.   There is a positive correlation between EU membership and direct investment inflows.

Methodology

This study is based on data collected from the World Bank Indicators and Worldwide Governance Indicators database. Frequency of the data is annual and it is from 1996 to 2010 for ten selected Central and Eastern European countries (Czech Republic, Hungary, Poland, Moldova, Ukraine, Belarus, Slovakia, Bulgaria, Lithuania and Romania). The only exception concerns the Governance Indicators which are available at a two-year frequency from 1996-2002 and at an annual frequency from 2002 onwards. The dependent variable for all ten countries is the Log of FDI net inflows per capita (in US dollars) and the independent variables that are expected to determine FDI flows are chosen carefully, based on previous literature and availability of the dataset for the selected period. The independent variables in this estimation are:

- Market Size
- Institutions
- Macroeconomic stability
- Trade Openness
- Labor cost
- EU membership

We assume that EU membership associates with better institutions therefore with a better investment climate thus we include EU membership dummy variable.

Based on the discussion above, equation (1) is set, which is the model to be estimated:

$$\text{LFDI}_{it} = \alpha + \beta_1\text{INST}_{it} + \beta_2\text{LGNI}_{it} + \beta_3\text{INFL}_{it} + \beta_4\text{OPENESS}_{it} + \beta_5\text{LWAGE}_{it} + \beta_6\text{EU}_{it}$$

Where,

LFDI_{it} is the log of net inflows of Foreign Direct Investment per capita for country i in year t

INST_{it} stands for Kaufmann indexes that measure institutions for country i in year t

LGNI_{it} is the log of Gross National Income per capita for country i at time t and it is a proxy for market size

INFL_{it} is the Inflation Rate (annual percent) for country i at time t and it is a proxy for macroeconomic stability

OPENNESS_{it} is the Trade Openness for country i at time t and is computed as ratio of import plus exports of Goods and Services divided by value of GDP

LWAGE_{it} is the log of workers' remittances and compensation of employees for country i at time t and it is a proxy for labor cost

EU_{it} is the EU membership dummy variable which takes value 1 when a country becomes a formal member, otherwise its value is 0.

The panel data estimation is employed in the study to capture the dynamic behavior of the parameters and to provide more efficient estimation and information of the variables. This includes testing for fixed and random effect specification.

Results

The analysis in this paper has enabled identification of several key determinants of FDI inflows into transition economies. Based on cross-section panel data, at the first stage of our analysis, we found that FDI flows are significantly influenced by Market Size ($\text{LGNI}_{it)}$, Trade Openness (OPENESS_{it}) and Inflation (INFL_{it}) while institutional variables have a statistically insignificant effect in all regressions. These preliminary results suggest that the quality of institutions does not contribute substantially to the explanation of the cross-country variation in FDI inflows. However, this result does not imply that these variables have no impact at all on FDI. At the second stage of our analysis, we present the estimation results of an alternative specification model. We take each macroeconomic variable and estimate them separately on all Kaufmann indicators. In this case, we observe a strong effect and statistically significant institutional determinants values[1]. Determinants that appear to be the most significant are: Regulatory Quality (REG); Rule of Law (RULE) and Control of Corruption (CORR). Therefore, one of the conclusions is that we cannot observe any direct effect of institutional variables on investment inflows since most likely the information is already incorporated in the macroeconomic variables themselves thus an indirect effect is observed. The interpretation of these results is that countries that have made significant process in terms of macroeconomic stabilization, internationalization are accompanied by positive impact of an increase in per capita income of FDI. Thus countries that have promoted economic growth are most likely having attracted more FDI since they

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[1] In order to deal with multicoliniarity problems, we omit variables that are less significant and leave the ones that have a major impact

implement reforms to improve property rights and corruption level. Another important factor we identified is that FDI inflows are determined solely by the macroeconomic factors mentioned and not by EU membership status.

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Dwiputri, Inayati Nuraini[1,2]**: Empirical Evidence of Hidden Action in the Tax Judicial System: case study in Indonesia**

Abstract: *This research aimed to identify the behaviour of verdicts decided by the Supreme Court (SC) and the Tax Court (TC), any indications of hidden action by the taxpayer and conduct an analysis of tax laws, then, to analyze the institutional system of taxation in Indonesia which can trigger the hidden action in tax disputes. The logistic regression analysis revealed that there was an indication of hidden action practiced by the taxpayer. The analysis to the TC's verdicts gave additional information that income tax disputes had a higher probability which was favourable for taxpayers than the value added tax disputes. The research noted that in the tax judicial system there was indicated the existence of hidden action by the taxpayers due to the involvement of public officials. The data analysis showed that the tax law had not been implemented properly and there were still violations done by taxpayers. The recommendations of this research are: 1) improving the good manners of the tax officials; 2) designing an institutional system of taxation that can implement the law properly; 3) shortening the time of the dispute because a long time dispute settlement is a means of emergence of hidden action.*

Introduction

One of the problems in taxation is taxpayer noncompliance (Graetz *et al.*, 1986). The causes of tax noncompliance are moral factors and social norms prevailing in the community (Bobek *et al.*, 2007). Bergman (2003) revealed that, Chile has a level of tax compliance better than Argentina because tax policy in Chile has been implemented permanently, stable, and rationally so as to create an effective tax administration.

Tax non-compliance can lead to hidden action by the taxpayer in an attempt not to pay or reduce his tax debt. According to Eisenhauer (2006) hidden action is a cause of inefficiency in the economy. Tax noncompliance and hidden action are also included in taxation issues in Indonesia. One of the tax realtor[3] revealed that the modes of tax irregularities included negotiations between tax officials and taxpayers [4]. The negotiation between tax officials and taxpayers is an indication of hidden action in taxation. In accordance with the opinion of Darrough and Stoughton (1986), it is said that hidden action arises when an agent acts cannot be observed by the principal. In taxation, the taxpayer is the agent and principal is the tax officials. A fact was revealed by Parwito (2005), that, more than 75% of the TC's verdicts were favourable to the taxpayers or the taxes were paid into smaller amount. Because the hidden action by the taxpayer could interfere with the smooth acceptance of the state, it is important to analyze hidden action in Indonesian taxation issues.

Aim of the project

The research was carried out on income tax disputes and value added tax disputes, because the two types of tax provided the largest proportion of domestic tax revenue[5]. This study identified any indications of hidden action in some cases of tax

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[5] See the Financial Memorandum and the Draft State Budget Republic of Indonesia 2011

disputes in Indonesia through an analysis of the Supreme Court (SC)'s verdicts and the Tax Court (TC)'s verdicts. This study analyzed the implementation of tax laws and institutional taxation system then it attempted to provide solutions to reduce hidden action especially the issue of taxation in Indonesia. The results can be considered by the government in determining government regulation. Then, it is hoped to serve as an input in designing the institutional system of tax justice, which is a good system of law enforcement.

Hypotheses and methodology

This research was a continuation of a research carried out by Dwiputri (2012). Dwiputri (2012) revealed that in the SC level, there were indications of hidden action by the taxpayers that were triggered by the benefit from gap calculation of the tax payable and duration of the dispute. From the results of previous studies, this research identified the behaviour of the TC's verdicts, whether there were indications of hidden action in Tax Court. The research model is as follows:

$$Y_i = L_i = Ln\left(\frac{P_i}{1-P_i}\right) = Z_i = \beta_0 + \beta_1 D\_JP_i + \beta_2 TP_i + \beta_3 Ln\_NS_i + e_i$$

Whereas:
P_i : probability of TC's verdict favourable to the taxpayer
$1-P_i$: probability of TC's verdict unfavourable to the taxpayer
β_0 : constant
$\beta_1, \beta_2, \beta_3$: regression coefficient
D_JP : types of tax (dummy variable; 0 for income tax and 1 for value added tax)
TP : tax year
Ln_NS : the value of dispute (IDR)
e_i : *error term*

Assuming that the TC's verdicts are not impartial, the research hypotheses are:
1. H_0: TC's verdict does not have tendency for type of taxes
2. H_0: TC's verdict does not have tendency for tax year
3. H_0: TC's verdict does not have tendency for value of dispute

If the hypothesis was rejected, it indicated the presence of hidden action by the taxpayer. Furthermore, we would analyze how the institutional system of taxation could trigger hidden action in tax dispute.

The data used were the SC's verdicts in 2004-2010 in the case of tax disputes and resume the TC's verdict[1]. This study used logistic regression analysis.

Results

The results noted that the TC's verdicts had different treatment for tax types as showed in the following table.

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[1] Research data were the whole resumes of the tax court's verdicts in www.setpp.depkeu.go.id., retrieved on December 20th, 2011.

Table 1. Indication of Hidden Action in the Tax Court

Dependent Variable: dummy variable which takes the value of 1 if Tax Court judged benefit taxpayer 0 if Tax Court judged not benefit taxpayer		
Independent Variable	**Coefficient**	**P-Value**
Constant	-0.2544	0.8878
Type of Tax	-1.6432***	0.0000
Tax Year	-0.0323	0.8022
Ln_ Dispute Value	0.0588	0.4561
Observations	131	
Log Likelihood	158.93	
LR Statistic	22.3033	
Probability (LR stat)	0.0000	
Pseudo R-squared	0.1231	

Note: *** : significant at α= 0,01
** : significant at α= 0,05
* : significant at α= 0,1
Source: Tax Court's Verdict, to be estimated

Table 2. Indication of Hidden Action in the Supreme Court

Independent variable: dummy variable which takes the value of 1 if The SC's verdict won The DGT (Director General of Taxation) and 0 if The SC's verdict did not win The DGT		
Independent Variable	**Coefficient**	**P-Value**
Constant	18.2928***	0.0000
D_ Type of Tax	0.3012	0.4255
D_KK	0.1635	0.7292
D_ Type of Case	-1.3353**	0.0165
Tax Year	-0.3383***	0.0032
Ln_Gap Calculation	-0.3412***	0.0015
Ln_Processing Time	-1.3553***	0.0000
Observations	183	
Log Likelihood	-96.9629	
LR Statistic	53.0308	
Probability (LR stat)	0.0000	
Pseudo R^2	0.2147	

Note: *** : significant at α= 0,01
** : significant at α= 0,05
* : significant at α= 0,1
Source: Supreme Court's Verdict, to be estimated (Dwiputri, 2012)

The results showed that The TC's verdicts had different treatment to type of tax. The verdicts on the income tax disputes have a higher probability which is favourable for taxpayers than the value added tax disputes. These results strengthened the study of Dwiputri (2012), that there were indications of hidden action in tax disputes in SC level. The gap calculation of the tax payable and the time processing of the dispute had negative effect to The SC's verdict (Dwiputri, 2012). This research noted that hidden action was more prevalent in income tax disputes, especially in the TC. It was proven that the probability of TC's verdict which was favourable for taxpayer in income tax disputes was higher than that of the value added tax disputes. This study was an empirical evidence of the Parwito's (2005) statement, that more than 75% of TC's verdicts were favourable for taxpayers. Nevertheless, based on descriptive analysis it was known that 47.3% of TC's verdicts were beneficial for taxpayer. However, further analysis showed that, there were 22.101 TC's verdicts in 2002-2009, but only 642 TC's

verdicts were published to the tax court statistics[1]. In addition, the TC did not publish the TC's verdicts but only published the resumes of the TC's verdicts. On the contrary, the SC published the verdicts, not the verdicts' resumes. This indicated the lack of transparency in TC level. The research noted that there were indications of hidden action by the taxpayer due to the involvement of public officials in the tax judicial system.

The analysis showed that the implementation of hidden action and violation of the tax laws was caused by the weakness of the tax judicial institutional system in Indonesia. On average, the processing time of a tax dispute in the SC had exceeded the time allowed by law. Meanwhile, the processing time of a tax dispute in the Tax Court level was unknown because of limited accessibility to data. Therefore, the role of the government is required in designing an institutional system of taxation to implement the law properly.

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Gon, Abhishek[1]: Changing Role of Banking Regulations in Emerging Economies

Abstract: *Strengthening financial systems has been one of the central issues facing emerging markets and developing economies. The paper assess and highlights the changing policies and regulatory measures implemented and introduced in last decade among few selected emerging economies like India, Russia and Indonesia. This project tackles the following fundamental questions. In what way has the reform programme affected the behaviour of public-sector banks? Regulations imposed on the banking sector, such as administered interest rates, mandatory reserve requirements has direct impact on the efficiency and profitability of the public banks. The study shed light on the impact of financial reforms and the regulatory changes on loanable funds and bank portfolios in general. Financial Flow of Funds data available from the central banks for last 15years are used to test the hypothesis: If the policy regime is highly regulated, then the resource available for loans and investment options are greater. The analysis also focuses on the change in portfolios of the public-sector banks in these countries due to change in the banking regulations.*

Introduction

Strengthening financial systems has been one of the central issues facing emerging markets and developing economies. Many countries adopted a series of financial sector liberalization measures in the late 1980s and early 1990s that included interest rate liberalization, entry deregulations, reduction of reserve requirements and removal of credit allocation. In many cases, the timing of financial sector liberalization coincided with that of capital account liberalization. Domestic banks were given access to cheap loans from abroad and allocated those resources to domestic production sectors.

There is a fairly large literature on the bank regulatory policies and its effects. But much of this literature is in the context of the United States, Europe and other developed economies where the banks are heterogeneous but are almost entirely in private sector. Limited studies have been forthcoming in the context of emerging markets. The number of works on emerging & transition economies also includes Matousek and Sarantis (2009) on central and Eastern Europe, Golodniuk (2006) on Ukraine, Arena et al (2007) on Latin America and Asia, Benkovskis (2008) on Latvia, Juks (2004) on Estonia. Studies of the monetary policy regulations in emerging economies have primarily explored specific channels of transmission (Jha and Mohanty, 1995; Fung, 2002; Wu et al., 2007). Some studies have also assessed the relative performance of various channels (Cushman and Zha, 1997; Disyatat and Vongsinsirikul, 2003; Golenelli and Rovelli, 2006; Catao and Pagan, 2010; Singh and Kalirajan, 2007; Aleem, 2010), while others focus on the financial strength of the economy (Elbourn and Hann, 2006). A recent contribution to this literature, Mishra et al. (2010), hands strong evidence of a weak monetary policy regulations in emerging economies.

Aim of the project

The paper assess and highlights the changing policies and regulatory measures implemented and introduced in last decade among few selected emerging economies like India, Russia and Indonesia. This project tackles the following fundamental

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questions. In what way has the reform programme affected the behaviour of public-sector banks?

Regulations imposed on the banking sector, such as administered interest rates, mandatory reserve requirements has direct impact on the efficiency and profitability of the public banks. The study shed light on the impact of financial reforms and the regulatory changes on loanable funds and bank portfolios in general.

Hypothesis and Methodology

Generally there are considerable variation in the policy risk depending on the policy instruments and the policy regime. Our hypothesis of the paper is based on this assumption. We are trying to test the following two hypothesis:

H1. If the policy regime is highly regulated, then the resource available for loans and investment options are greater.

H2. If the policy regime is decontrolled, then quantity risks are greater.

Model Specification and estimation methodology

A theoretical flow of funds model is represented in a general equilibrium framework for India, in which behavioural equations and market clearing endogenous variables are identified for empirical application.

Theoretical model

In any cell in the financial sector of FOF, (+/-) ΔJ_i refers to the J'th sector's net purchases (+) or net sales (-) of the I'th asset during the unit time period of one year. We will select financial assets (i.e. (+/-) ΔJ_i) that comprise the major elements in each sector's portfolio and also with a view to studying the effects on the financial flows of changes in policy variables. The endogenous variables in the cells which are explained by an asset demand function is denoted by (.). This implies that the (+/-) ΔJ_i (.) represents the desired net acquisition of the i-th assets or liabilities by sector J.

In the columns of a FOF Matrix, the net worth in the financial sector is the NAFA (net acquisition of financial asset) which is equal to the net position of the real sector. In the rows, the row-sum zero presents the market clearing conditions. With an assumption of the exogenous sectoral NAFAs, an N-market flow of funds matrix determines N-1 endogenous variables.

Currency has its nominal yield fixed at zero and that currency is typically thought of the Nth or the residual market. Each financial market is cleared as follows:

i)   The bank rate and deposit rates are set by the authorities and financial institutions, hence bank reserves and deposits are demand-determined. The central bank accepts all reserves, and banks accept all deposits placed with them at current rate of interest, which they change from time to time. Similarly, Provident funds are assumed to be a demand-determined. Therefore, all the three markets, quantities rather than the interest rates make the within- period adjustment.

ii)   With respect to government debt, government securities yields have been set at market related rates, thus it is interest-rates determined.

iii)   In the company Securities and Loans and Advances markets, the interaction of sectoral asset demand and supply will determine the equilibrium value of the return on shares and lending rate.

Flow and Stock data for econometric estimation

The estimation sample period consists of 15 annual observations for the period 1993-94 to 2007-08. The financial stock data for the whole time-series are not available. Therefore based on the compiled flow of funds matrix, we have to derive stock data for behavioural equations. Using the end year stock data 31st March 1992 as a benchmark

position, subsequent stock data are constructed by incrementing the flow data collected from the net transactions flow of funds matrix.

Behavioral Equations, interest rates and other data
The behavioral equations denoted by (-) deficit or (+) surplus are listed below with the own interest rates as follows:

Bank Sector

(+) Excess Reserve	Bank Rate
(+) Govt. Debt	Government securities Yields
(+) Company securities	Returns on Shares
(+) Loans and Advances	Lending Rate

Other explanatory variables specified in the behavioural equation of each sector include:

Banking Sector: Sector Wealth (NAFA), Aggregate Income (Y), CRR, SLR, Dummy variables.

These variables are categorized either as exogenous or endogenous:

Exogenous variables: CRR, SLR, Bank Rate, Government Securities' Yields, Deposit rates, aggregate Income (Y), aggregate expenditure, exchange rate, Dummy 03 and Sector Wealth.

Endogenous Variables: Different shares of holding financial instruments, return on shares and lending rate.

Results
The expected results based on the simulation experiments can be summarized in the following points:

-       The financial reforms have had a moderately positive impact on reducing the concentration of the banking sector and improving performance in all these developing countries.

-       The preliminary empirical estimations shows that regulation (captured by time variable) lowered the profitability and cost efficiency of the public-sector banks at the initial stages of the reforms but such a negative impact disappeared once they adjusted to the new environment (example: India 1991 to 96-97). Cost-efficiency steadily improved over the reform period.

-       Moreover, allowing banks to engage in non-traditional activities has contributed to improved profitability and cost and earnings efficiency of the whole banking sector. By contrast, investment in government securities has lowered the profitability and cost efficiency of the banking sectors.

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Junio, Don Rodney[1]: **The Political Economy of Broadband Policy-Making in Singapore**

Abstract: The present study examines the role and interaction of policy, technology and market forces (both demand and supply factors) in determining the shape and form of broadband policies with the view of deriving practical conceptual models of broadband policies, using Singapore's example as a case study. In support of the case study approach, an institutional analysis deconstructing the state institutional infrastructure overseeing the ICT industry of Singapore is carried out. Broadband policy making will also be evaluated using Kingdon's Multiple Streams Framework. Through this systematic, critical analysis of the broadband plan of Singapore, it is expected that a nuanced framework for understanding state-market-technology interaction as related to broadband policy would be developed. This template would contribute to the on-going conversation on issues surrounding regulation of networked industries and effective provision of ICT services such as broadband.

Introduction

Access to Broadband[2] Internet increasingly plays an important role in improving society so much so that in June 2011, a report from the United Nations declared access to Internet forms part of our basic human rights.[3] The *development* impact of increased broadband access is not linear- a cohesive national broadband policy can be a source of national competitiveness impacting all sectors of an economy, it can be a tool for social cohesion bridging the digital divide and it can also provide the right incentive for a competitive knowledge based economy affecting investment, employment and overall quality of life. Properly calibrated, a national broadband policy can provide the impetus for economic growth and development.

Existing literature on broadband policies have a tendency to focus solely on the role of government as either "enabler" or "rule-maker" in the broadband market which corresponds to the public-good and competition-based perspective in regulation (Picot, A. and Wernick C, 2007). A lot of emphasis is also placed on framing broadband policy discourse based on its economic benefits and as a form of an economic policy. However, economic policies do not completely explain why some nations offer faster, better, cheaper and more convenient broadband services while other nations do not (Frieden, 2005). This paper puts forward a framework for analyzing broadband policies in the context of the interaction of policy, technological constraints and market forces in a country.

The institutional appraoch that will complement the analysis of the state-market-technology interaction finds its theoretical root in new institutionalism that emphasized on importance of non-market factors and human interaction on economic performance (North, 1990). The institutional approach is concerned with both interest group pressure (formal institutions) and ideological factors (informal institutions) as important determinants of policy outcomes (Galperin, 2004). This research will borrow heavily from the new institutionalism school of thought.

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[2] While there is no broad definitional consensus for broadband, it is normally understood to be as Internet access of more than 256kbps.

[3] http://www2.ohchr.org/english/bodies/hrcouncil/docs/17session/A.HRC.17.27_en.pdf

One of the lenses with which this research will draw heavily to flesh out the institutional approach is the Multiple Streams Framework (Kingdon, 2002). It is argued that policy results from the interaction of a problem stream, policy stream and politics stream. The problem stream relates to issues that have reached the consciousness of the public and have found a place in the policy agenda of the government. The policy stream refers to the community of independent think tanks, academicians, and experts that can provide inputs in the particular issue at hand and the politics stream refers to the political competition (often headed by politicians) which helps in chosing potential solutions to a policy problem. The interaction of these three strems results in a policy action.

Aim of the project

Through this systematic, critical analysis of broadband plan in Singapore, it is expected that a nuanced framework for understanding state-market-technology interaction would be developed. This template would contribute to the on-going conversation on issues surrounding government institutional design, regulation of networked industries and effective provision of ICT services.

Specifically for this project, the purposes are:

- Identification of key actors/ stakeholders in the field of broadband policy-making and provide a critical narrative of ICT policy making in Singapore.
- Analysis of institutional framework in Singapore and interaction of state-market-technology in determining policy outcomes.

Hypotheses

By examining the interaction of market, policy and technology, it is expected that a nuanced narrative capturing the role of government (as policymaker, regulator and even investor), market and technology will be fleshed out.

The questions below summarize relevant points that will be examined observing notable gaps in literature relating to broadband provisioning.

- What is the role of state actors, market forces and technology in determining broadband policy outcome?
- How does the interaction of these factors affect the design of a broadband policy?
- How do state agencies address supply-side and demand-side gaps to create a viable broadband ecosystem?

The following hypotheses will be tested in this study:

- The relationship between policy, technology, and market forces are important in determining broadband policy design and outcomes.
- Policy making in Singapore does not take into account the relationship of policy-technology and market forces.

Methodology

A case study approach employing various tools such as extensive literature review, key-person interview and other related tools will be used to achieve the objective of this study. In support of the case study approach, an institutional analysis deconstructing the state institutional infrastructure overseeing the ICT industry of Singapore is carried out. To this end, the national broadband plan of Singapore is examined by the researcher.

The present study examines the role and interaction of policy, technology and market forces (both demand and supply factors) in determing the shape and form of broadband policies with the view of deriving practical conceptual models of broadband

policies, using the Singapore (Innovative Nation 2015 Plan-in2015 and the Next Generation National Broadband Network Plan-NGNBN) example as case studies. Both internal and external drivers for a broadband plan are taken into account in this study. Policy is analyzed using the 3 levels of government intervention strategies in the Information and Communications Technology (ICT) market developed by Firth and Kelly (2001): (i) 'Light touch regulation'; (ii) 'Extended access strategies'; (iii) 'Comprehensive national plans'. Supply and demand push and pull factors for broadband provision are also identified and analyzed to come up with a picture of the market situation. The aim of the study is not to come up with an empirical generalization but more of a theoretical exploration of the models/archetypes broadband policy in Singapore represent.

To provide analytical rigor to the current study, the case of broadband policy making in Singapore is further analyzed using the Multiple Streams Framework (Kingdon, 2002) in terms of the problem stream, policy stream and politics stream.

Results (expected)

The results of the study will provide a blueprint for policy makers not just in Singapore but in other countries in Asia Pacific who are contemplating of drafting their national broadband policy. Through the analysis carried out in this paper, lessons that need to be heeded in broadband policy making will be properly documented serving as a guide to other nations.

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Kalinina, Maria[1]: The Empirical Analysis of Merger Remedies' Influence on Prices in Russia

Abstract: *This paper examines the influence of merger remedies issued by Federal Antimonopoly Service of the Russian Federation on prices. The main aim is to study whether price remedies are able to prevent negative effect of mergers on competition as well as the position of purchasers. For this purpose, the empirical analysis of price changes is carried out. Transactions during the period from 2007 to 2010 are under examination. The analysis is based on the data on average producer prices as well as Producer Price Indices for products and industries for a longer period - 2 years before the merger and 2 years after the merger. It is revealed that under the influence of remedies price become more sticky in relation to reduction. Furthermore, in some cases issue of the remedy brings about the increase in prices. These findings have significant policy implications and are useful in designing effective competitive policy strategies.*

Introduction

Merger remedies act as an essential instrument of antimonopoly policy. Merger remedies are an important subject of research in such areas of institutional analysis as Law and Economics and Institutional Analysis of Regulation. The main problem of economic analysis is whether merger remedies achieve the initial goal, that is preventing the negative impact of transactions on competition and position of the purchasers, as well as do not produce negative spillovers. So far there is no single answer to this question in applied research.

The answer is not available, especially regarding to the merger remedies system of Russian antimonopoly authority, Federal Antimonopoly Service (FAS, hereafter). At the same time, the evaluation of remedies issued by the Federal Antimonopoly Service is an urgent task for two reasons. Firstly, the number of prior approval of mergers in Russia remains considerable (more than two thousand of transactions are endorsed per year). Secondly, the authorizations of many transactions are issued along with the price remedies. Furthermore, price remedies may have a coordinating effect that can lead to the increase in prices in the market. Therefore, the purpose of the research is to assess the impact of merger remedies on prices.

Aim of the project

The purpose of the research is to evaluate the impact of price remedies for participants of the merger on the model of sellers` price strategic behavior.

In order to achieve this purpose it is necessary to fulfill the following tasks:

• Prepare a database for decisions of the Federal Antimonopoly Service of the Russian Federation on transactions, including remedies on the price level (maximal and recommended) for the period 2007-2010.

• Collect data on the dynamics of the prices in industries where the participants of the mergers, who obtain remedies, operate, monthly, during two years before and after merger.

• Analyze the impact of remedies on prices in the industries affected by the mergers.

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- Reveal and explain the difference in response of industry prices for the issuance of remedies.

Hypotheses and methodology

In order to analyze the impact of price remedies on the model of strategic behavior of sellers there were put forward the following hypotheses:

H1. Under the impact of price remedies the level of prices in industries affected by the merger increases rather than decreases.

H2. Prices become more rigid downward in the industries affected by the mergers and merger remedies.

H3. The impact of price remedies varies depending on what level is used as a benchmark - the level of world exchange prices or growth rates of prices for the preceding period. In the latter case, the effect of price rigidity (price discipline) increases.

H4. The impact of price remedies varies depending on the structure of the markets. In high-concentrated markets with high barriers to entry the effect of facilitating coordination is more pronounced.

In the research mergers that occurred in Russia during the period from 2007 to 2010 are analysed. The analysis is based on a comparison of changes in average producer prices and Producer Price Indices for products and industries. The author use data on prices and indices for a longer period - 2 years before the merger and 2 years after the transaction. Relative variation of prices and indices is under examination.

Results

Results of the research allow to make conclusions on the outcomes of applying the method of price remedies, that is typical of Russian antimonopoly policy:

1. Merger remedies that have been issued by FAS Russia in fact do not limit the level of prices. There is price rigidity in the downward direction. In some cases, merger remedies, on the contrary, stimulate the increase in prices due to tacit collusion among the sellers and make prices more rigid.

2. The lower price ceiling limits, according to the remedies, the more price rigidity.

3. The effects of price remedies vary, when remedies are issued in the form of recommended prices and when the maximum level of prices is prescribed.

4. The effects of price remedies depend on the market structure, that characterize the possibility of maintaining tacit collusion.

In general, the results should contribute to the analysis of coordination effects of public policy.

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Table 1. Merger remedies cases

Date	Production	Merger case	Resolution of Federal Antimonopoly Service	Limit of price changes
February 2007	Raw aluminium, aluminium powder, aluminium wire, aluminium foil, silicon, gallium	The company "United Company RUSAL Limited" acquires the rights enabling to determine the conditions of conducting business of Russian companies through the acquisition of 100% of the voting shares of "RUSAL LIMITED" and 100% of the voting shares of the company "SUAL INTERNATIONAL LTD".	http://www.fas.gov.ru/solutions/solutions_11056.html Date of passing resolution – February, 14, 2007	5% per month (LME price) 20% per annum
March 2008	Beer	The company "Carlsberg A / S" acquires 50% of shares of "Baltic Beverages Holding AB".	http://www.fas.gov.ru/solutions/solutions_17763.html Date of passing resolution – March, 18, 2008	10% at a time (decrease/increase)
March 2008	Coking coal	LLC "Mechel-Invest" acquires the rights enabling to determine the conditions of conducting business of OJSC "Elgaugol".	http://www.fas.gov.ru/solutions/solutions_17959.html Date of passing resolution – March, 28, 2008	15% per annum
March 2008	Coking coal	LLC "Managing Company "Mechel" acquires the rights enabling to perform the functions of the executive body of OJSC "Holding "Yakutugol".	http://www.fas.gov.ru/solutions/solutions_17960.html Date of passing resolution – March, 28, 2008	15% per annum
July 2008	Synthetic rubber, tires	OJSC "Sibur Holding" acquires rights enabling to determine the conditions of doing business (for entrepreneurship???) "Amtel-Vredestein" through the acquisition of OJSC "Sibur Holding" more than 50% of the total number of shares of the company "Amtel-Vredestein NV" (the Netherlands), which owns 72.44% of the voting shares of "Amtel-Vredestein".	http://www.fas.gov.ru/solutions/solutions_19713.html Date of passing resolution – July, 15, 2008	10% per annum
October 2008	Dairy products	LLC "KOMOS GROUP" acquires the rights enabling to perform the functions of single executive body of	http://www.fas.gov.ru/solutions/solutions_20753.html Date of passing resolution – October, 17, 2008	10% half-yearly (decrease/increase)

		OJSC "Kezsky Cheese Factory".		
December 2008	Salt	The company "Russalt Limited" acquires 75% of the voting shares in the authorized capital of OJSC "Iletsksol".	http://www.fas.gov.ru/solutions/solutions_21352.html Date of passing resolution – November, 05, 2008	10% half-yearly (decrease/increase)
January 2009	Coking coal	LLC "Managing Company "Mechel" acquires the rights enabling to perform the functions of single executive body of OJSC "Coal Company "Southern Kuzbass".	http://www.fas.gov.ru/solutions/solutions_21766.html Date of passing resolution – January, 21, 2009	10% half-yearly
January 2009	Passenger stock	CJSC "Alliance" acquires 50% of shares in the authorized capital LLC "Sapphire".	http://www.fas.gov.ru/solutions/solutions_21872.html Date of passing resolution – January, 30, 2009	20% per annum
March 2009	Motor petrol and diesel fuel	OJSC AFK "System" acquires 72.55% of the voting shares of OJSC "Bashkirnefteproduct".	http://www.fas.gov.ru/solutions/solutions_22729.html Date of passing resolution – March, 13, 2009	5% per 90 days
June 2009	Iron	OJSC "United Metallurgical Company" acquires the rights enabling to perform the functions of the executive body of "Chusovoy Metallurgical Plant"	http://www.fas.gov.ru/solutions/solutions_24392.html Date of passing resolution – June, 1, 2009	10% half-yearly (decrease/increase)
July 2009	Non-metallic building materials: crushed stone, sand, gravel	The company "Leykbed Trading Limited" acquires the share in the authorized capital of LLC "PIC Nerud".	http://www.fas.gov.ru/solutions/solutions_25329.html Date of passing resolution – July, 13, 2009	20% per annum
September 2009	Agriculture: poultry farming, hen's eggs	LLC "OGO-Profit" acquires 100% of the voting shares of CJSC "Poultry George".	http://www.fas.gov.ru/solutions/solutions_26369.html Date of passing resolution – September, 07, 2009	10% half-yearly (decrease/increase)
March 2010	Cereal crops and flour	OJSC "APK "OGO" acquires 100% stake in OJSC "Novosibirskhleboprodukt"	http://www.fas.gov.ru/solutions/solutions_29696.html Date of passing resolution – March, 25, 2009	10% half-yearly (decrease/increase)
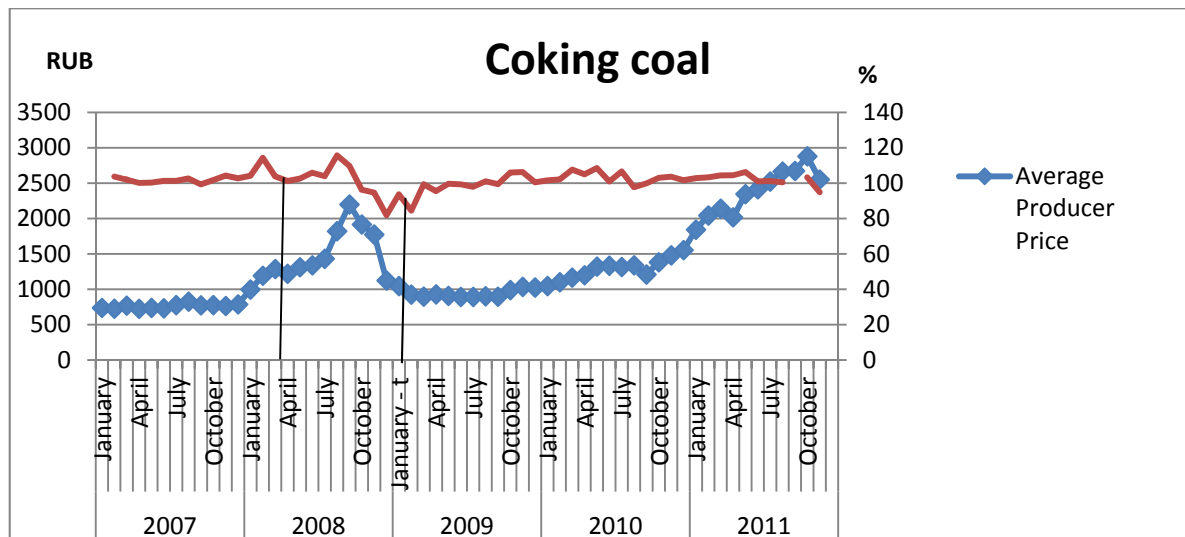
Figure 1. Average producer price for cokimg coal and PPI for black coal, brown coal and turf mining
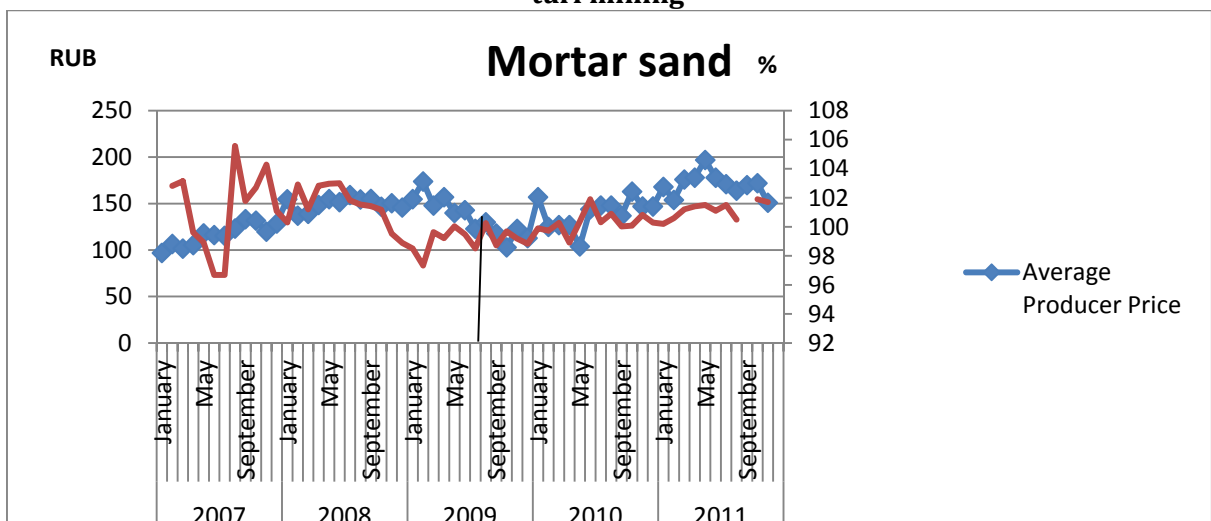
Figure 2. Average producer price for mortar sand and PPI for gravel, sand and clay recovery
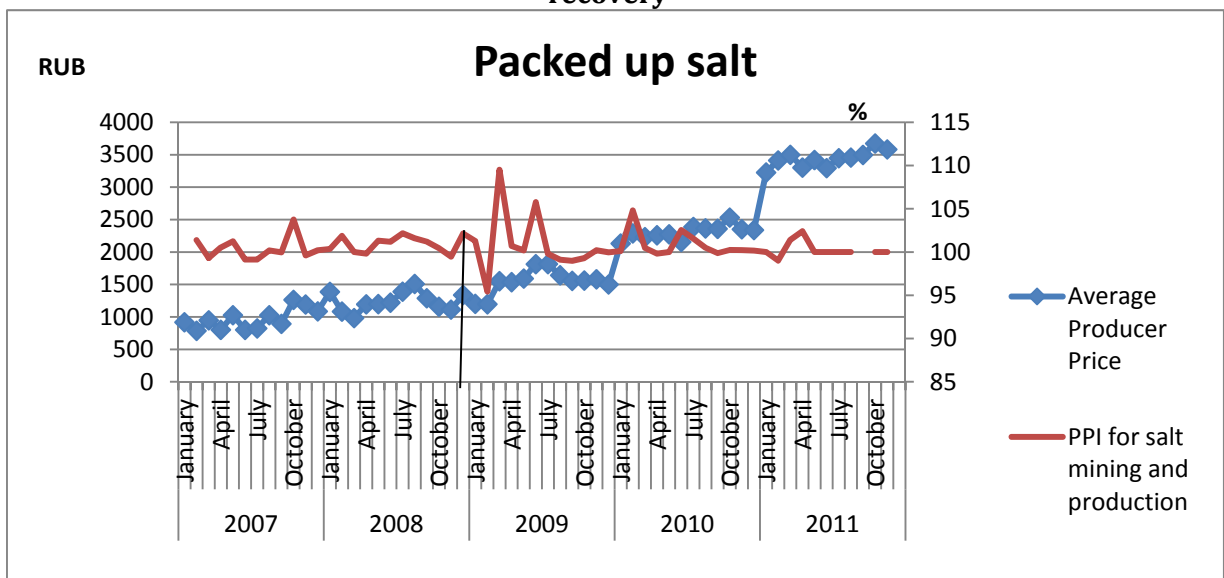
Figure 3. Average producer price for packed up salt and PPI for salt mining and production
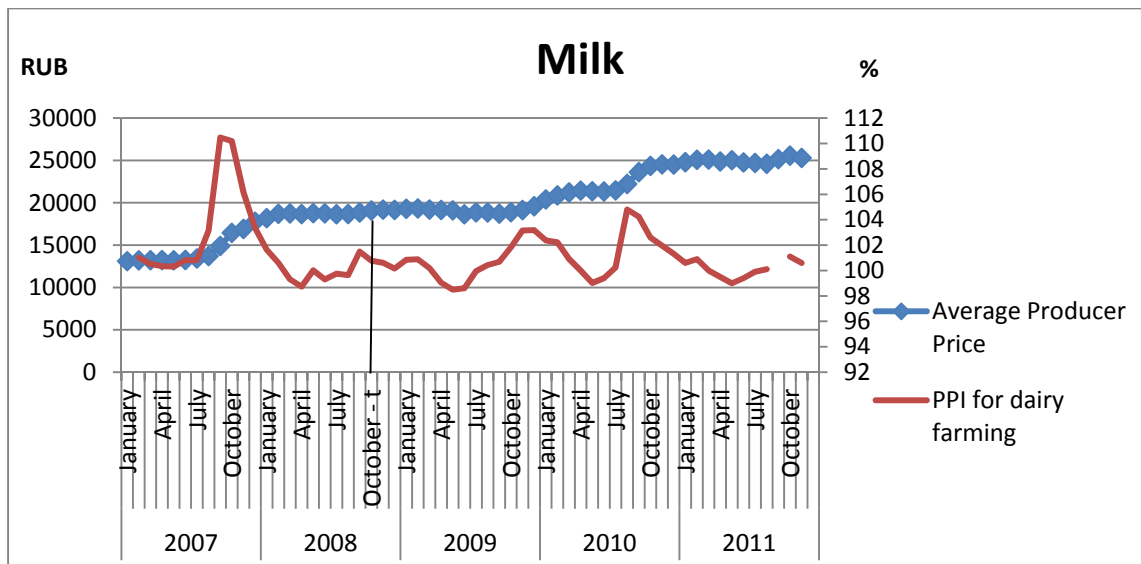
Figure 4. Average producer price for milk and PPI for dairy farming
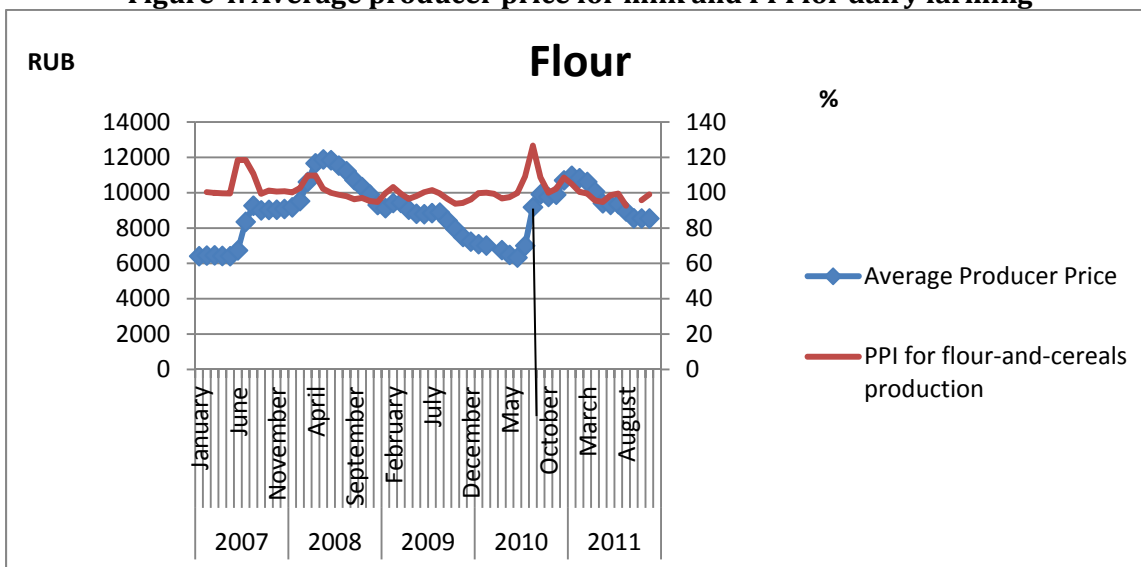
Figure 5. Average producer price for flour and PPI for flour and cereals production

Figure 6. Average producer price for millet and PPI for flour and cereals production

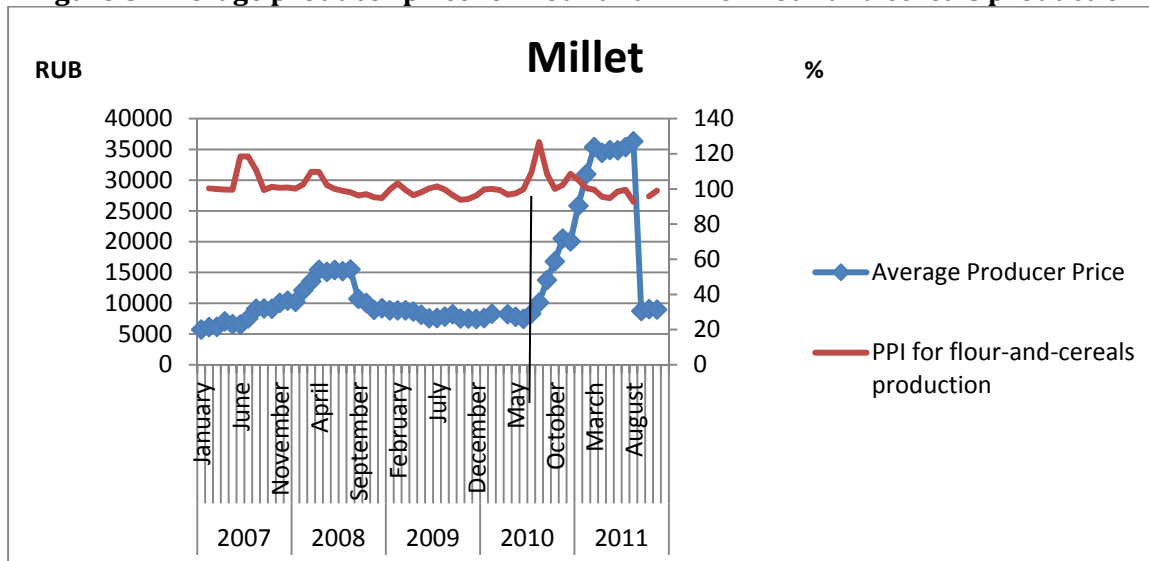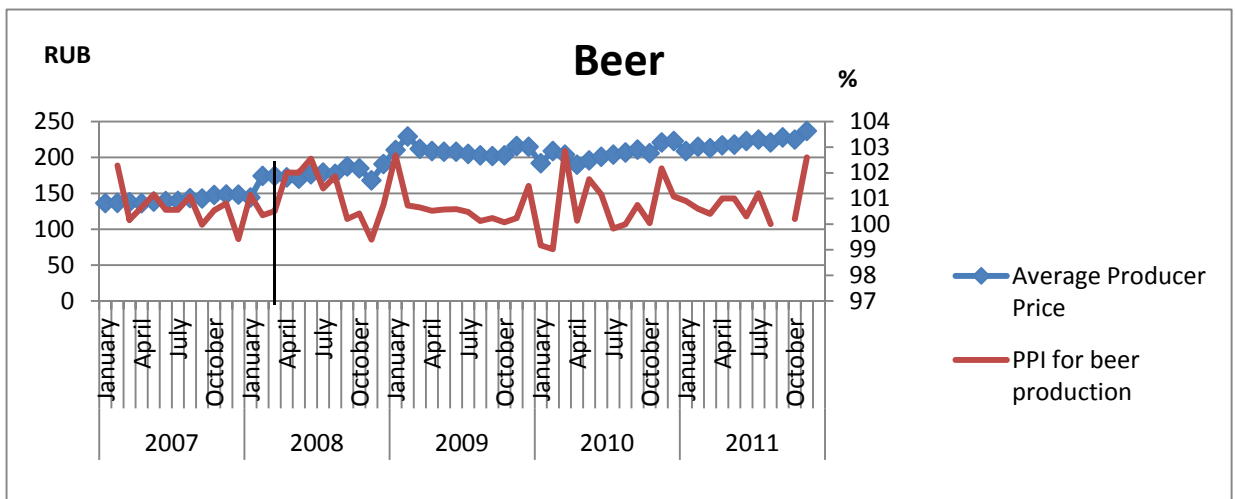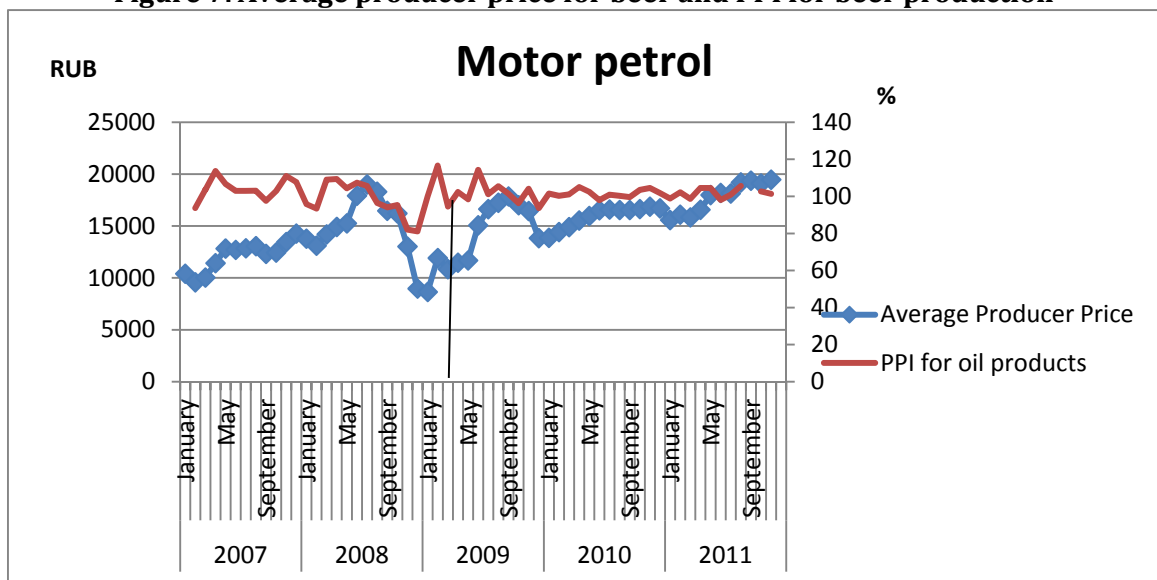**Figure 7. Average producer price for beer and PPI for beer production**

Figure 8. Average producer price for motor petrol and PPI for oil products
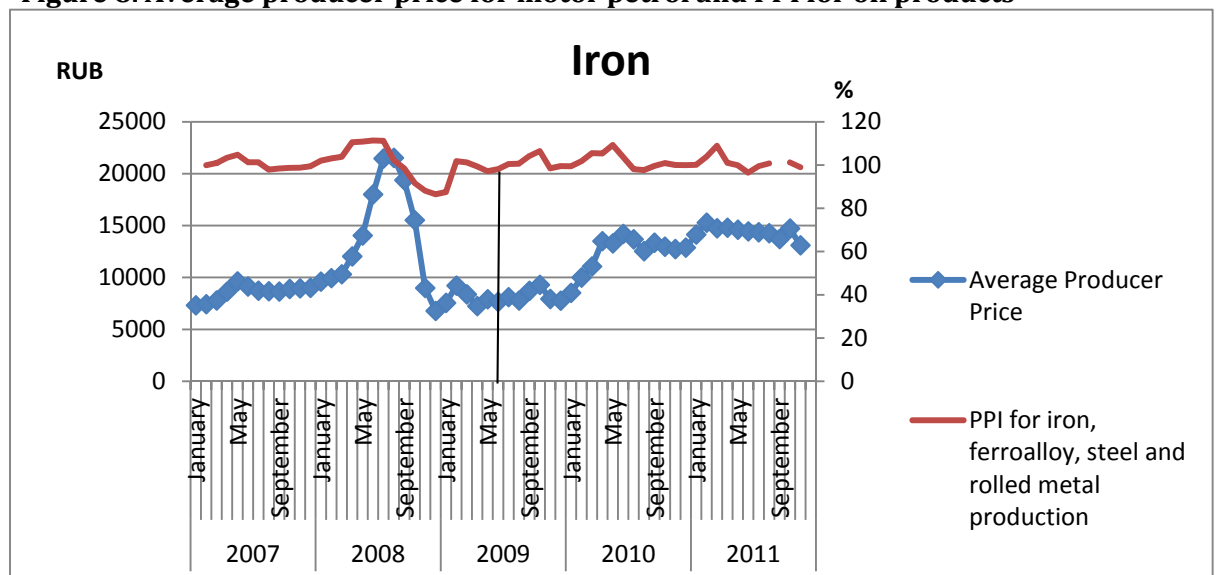
Figure 9. Average producer price for iron and PPI for iron, ferroalloy, steel and rolled metal production
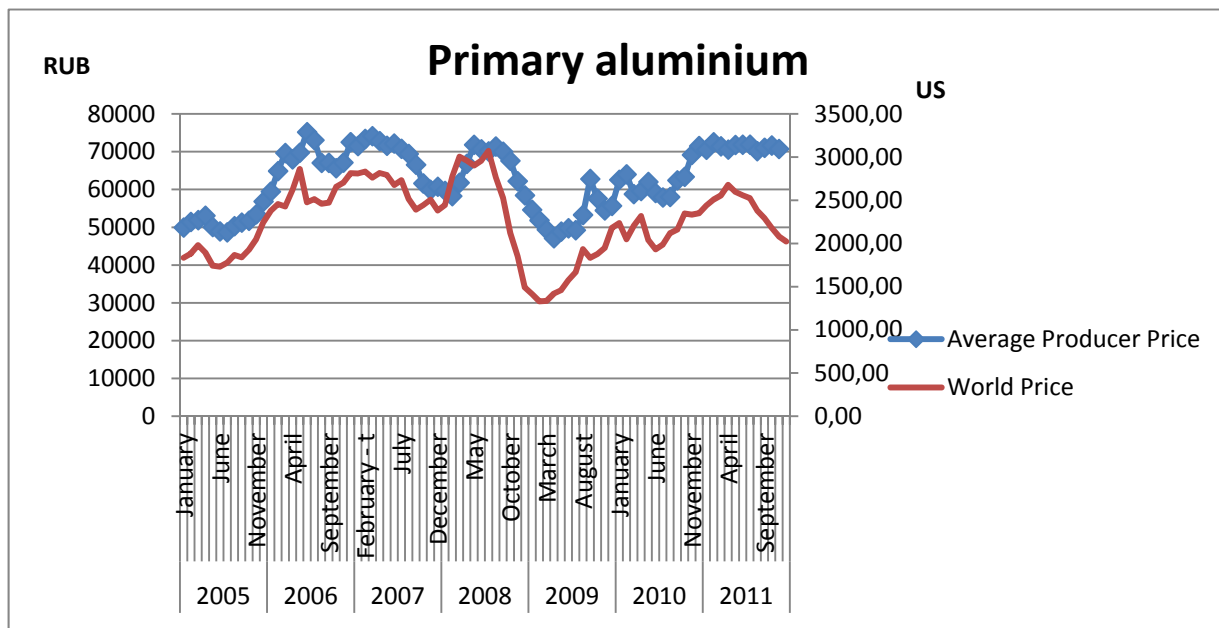
Figure 10. Average producer price and world price for aluminium

Kirysheva, Irina[1]: **Intermediary and Asymmetric Information**

Abstract: *I look at the game of asymmetric information where two agents make a collaboration decision not knowing the type of each other. Intermediary has supreme knowledge about types of agents and may provide his service to insure against the failure of the partner. I am looking for PBE that is stable to bilateral deviations. I find that intermediary may be welfare-improving in this setting and can help to overcome inefficiencies that arise from incomplete information. Intermediary always provide full information to a type that is most vulnerable in this setting. Preliminary analysis of two intermediaries' case shows that the structure of equilibria there may be very rich and different from that of classical price competition.*

Introduction

Intermediaries play an important role in promoting collaborations, especially when there are any kind of frictions in the market. For example, under direct trade with matching protocol trade may fail, moreover both buyers and sellers have incentives to misreport their willingness to pay or their costs. This may result in efficiency loss, or even in breakdown of trade. In general, intermediary may encourage link formation. For example in business networks presence of an intermediary can be efficient when search costs for business counterparts are sufficiently high or risks involved in a new link formation are large. Another interesting evidence on intermediation can be on mafia networks, where introduction was the only possible way to form a new link. In "Ten Commandments" of Sicilian mafia it is written "No one can present himself directly to another of our friends. There must be a third person to do it." (Mastrobuoni, 2010).

Every time when there are intermediaries they are competing against decentralized exchange. In our model we look at the market with asymmetric information, when agents can be either engaged in activity directly baring the risk of collaboration themselves, or can use an intermediary as a buffer if he offers them such a choice. In our model from the point of view of economy as a whole connection through an intermediary is costless, while direct connection is costly. Therefore, in the economy intermediary not only has informational advantages, but also has efficiency gains. However, from the point of view of two agents, direct connection might be more expensive than connection through an intermediary. We assume that intermediary already is connected to the agents and therefore he does not need to spend any extra resources. On the contrary, if agents would like to be connected to each other they would need to spend some effort on this. For example, suppose that a football player is looking for a new club to join, and a club is looking for a player to fill a position. Both a player and a club might find each other without any outside help, however they would need to incur costs, for example scouts have to fly to Brasil to look at local players. Moreover, both sides in such kind of matching have some uncertainty if the outcome of collaboration would be successful. Other way, they could be matched by an agent or even an agency. For such an agency cost of making a match is significantly lower. Moreover, it knows ability of the player, and in general has a good idea about potential of different teams.

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Aim of the project

I want to look at an intermediary as a bridge over information gaps in a setting when to take advantage of some good opportunity poor informed intermediary has to take risk of some costly mismatches. A fully informed intermediary can correct the problem. However, parties can not commit to use an intermediary. Then, when he provides an offer, the parties that received this offer might as well decide to continue without him saving on intermediation cost. But this changes incentives for an intermediary to offer his service. And the question is whether an intermediary ever be of any use in the light of this paradox.

Hypothesis and methodology

In my game there are three agents - two of them are potential partners and the third one is a potential intermediary. Partners are thinking about making a collaboration with each other, however each of them can be of two types and they do not know types of each other. When agents decide to be connected their collaboration can be either successful or not; it is successful only if each agents is successful on his side. High type agents are successful with higher probability than a low type agents. Agents may decide to be connected directly without the help of an intermediary, in this case they have to pay a cost of a link formations. They would have to pay this cost whatever the success of their collaboration is. However, each of them enjoys his part of the value they've generated only in case both agents are successful, which depends on agents probabilities of success (it is high for a high type agents and low for low type agents). Potential intermediary has full information about both agents' types. He may decide to make an offer where he promises each agent to repay what the agent was expecting to get but only in the case this agent was not the cause of the failure. For his service he asks for the wage that in different versions of the model can be either exogenous or endogenous. The game goes like this: first, nature determines combination of agents that is realized, then observing this intermediary may decide to send his offer, agents receive or do not receive an offer and given this decide to go for direct connection, or for the offer of an intermediary, or not to be connected at all. To form any kind of connection both agents have to coincide on it. I am looking at Perfect Bayesian Equilibrium that is stable with respect to bilateral deviations. Stability to bilateral deviation is a conceptually interesting thing in the game of incomplete information. There can be different attitudes towards this - either ex ante from the point of view of the strategies before any agent knows his type, or interim when an agent knows his own type. In my research I am looking at bilateral deviations from an ex ante perspective, otherwise in the interim case sometimes it would be possible to identify the type of the agent by his willingness to deviate. The possibility of a bilateral deviation is not an unusual thing in network formation games, however it is quite an unusual concept in more classical game theory. I've decided to go with it not only because it allows to diminish the set of possible equilibria, but also because it is conceptually interesting to look at bilateral deviations under incomplete information. It is not obvious from the first sight how it should be approached.

Results

In the region with moderate cost of direct link connections without an intermediary there is the only equilibrium where high types always go for direct connection and low types go for direct connection with strictly positive probability. Therefore, there arise two state of the world with inefficiencies that are unavoidable due to lack of information: first, where two low types end up matched together, and second

where a match of high and low type agent is not made. However, with the presence of an intermediary the lack of offer provides enough information to avoid both inefficiencies.

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Kiselev, Eugene[1]: **Bribe-Taking and Bureaucratic Competition: A Search Cost Model of Corruption**

Abstract: Recent literature has explored the possibility of reducing rent-seeking among corrupt bureaucrats by increasing competition for bribe revenue between them, particularly in the provision of common services such as licenses, permits, or utilities connections. This paper offers a model of the interaction between firms and government agents where such a possibility exists only when some firms can search without cost among multiple agents for the lowest bribe price. When search costs prohibit firms from shopping costlessly, increasing bureaucratic competition can have the effect of incentivizing agents to demand larger bribes. This implication of the model is tested using Russia as a case study. Utilizing firm-level surveys and regional panel data I find evidence that regions with a larger and more competitive bureaucracy are associated with higher levels of corruption as defined by a number of measures, including size of bribe payments and average fines paid for economic crimes. This paper conclude that at least for Russia, bureaucratic competition for bribe revenue does not appear to be a solution to the corruption problem.

Introduction

Bribe payments in countries struggling with bureaucratic corruption are becoming so entrenched in the interaction between bureaucrats and firms that they are seen as simply an additional fee of doing business. This research explores the relationship between the private sector and a corrupt bureaucracy by focusing on the effect of bureaucratic competition.

The concept of bureaucratic competition was first proposed by Susan Rose-Ackerman. She argues that increasing competition between bureaucrats in the provision of certain public goods or services can reduce bribe payments and increase the bargaining power of firms. In particular, if multiple agencies offer the same service, such as a license or permit, firms in need of this service may find it easier to reapply and "shop around" for lower bribe requests or potentially even find an honest bureaucrat who will not demand a bribe. This is often referred to as the principle of overlapping jurisdictions. However the corruption-reducing effects of such competition may only be realized if a firm's cost of reapplication is low. The model proposed in this research focuses on this key point.

Aim of the Project

The objective is to propose a model describing the relationship between a competitive bureaucracy engaged in rent-seeking and the magnitude of the resulting bribe payments made by firms, and to then test this relationship empirically using Russian data.

Hypotheses and Methodology

Model

I investigate the effect of bureaucratic competition on corruption by adapting and expanding a model of search costs and price dispersion first proposed by Dale Stahl (1989) to arrive at a new model of bribe price determination in a competitive bureaucratic environment. In this setting an exogenous number of government agents

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operating in a department that interacts with the private sector (i.e. provision of services such as licenses, permits, utilities connections, etc.) are visited by firms who require this service to either begin or continue operating. Agents demand a bribe to expedite provision of the service and are capable of denying the service if the bribe is not paid. Firms may immediately pay off an agent to receive the service, or search among other bureaucrats who can offer the same service to possibly negotiate a lower bribe payment.

For some firms search is associated with production or construction delays and bears substantial costs. These firms cannot afford to "shop around" freely among all agents and must weigh the benefits of a lower bribe price against the costs of continued search. When the distribution of firms consists of both positive and zero-cost searchers an equilibrium exists only in mixed strategies, and a bribe price distribution can be generated with each government agent charging a different price within its bounds. I then investigate how the shape of the price distribution changes with relevant model parameters. Most importantly I examine the effect on the equilibrium of increasing bureaucratic competition by adding bureaucrats who compete for bribe revenue. Finally the original model is extend by introducing penalties to corruption that are a function of the bribe amount solicited, as well as honest firms that refuse to pay bribes. The effect of these additions on the equilibrium bribe price distribution is then examined.

Empirical Analysis

I use Russia as a case study to test the relationship between bureaucratic competition and corruption as it exhibits large variation in size of bureaucracy and bribe payments both across regions and through time. Using World Bank firm-level surveys of bribe payments and data on bureaucracy at the regional level from Rosstat I first analyze the relationship between bribes paid by firms and bureaucratic competition directly. I assume that the level of competition is higher in regions with a relatively large bureaucracy as measured by the total number of bureaucrats per 1000 of employed population, and apply regression models to determine the effect of this variable on bribe payments.

In addition I create a panel dataset of average fines paid for economic crimes, measured in rubles, between 2000 and 2009 for each Russian oblast, and use this variable as a proxy for bribe payments. I then perform a panel regression to determine the relationship between regional bureaucracy and average fines paid for economic crimes.

In utilizing average fines as a proxy for average bribe payments I make two important assumptions: first I assume that a significant portion of all economic crimes, and therefore the fines levied for such crimes, are associated with bribe-taking. This position is supported by multiple Russian sources; for example the Baltinfo newspaper recently reported that at least 30% of all recorded economic crimes involve bribes to bureaucrats. I also assume that there is a stable linear relationship between the fine amount imposed on corrupt bureaucrats and the amount of the bribe they received. Though Russia had not passed official anti-corruption legislation until very recently, it is well known that the majority of offenses involving bribe-taking are handled in civil court by imposing a fine on bribe-takers and bribe payers that is some multiple of the bribe amount transacted, making this second assumption plausible.

As per the theoretical model, we would expect that the relationship between the private sector and *administrative* branches of government is most relevant in determining size of bribe payments. An additional empirical analysis is performed by decomposing total bureaucracy into federal vs. municipal, and then between three branches of government (executive, legislative, judicial). These individual components

of total bureaucracy are then used as explanatory variables in the regression framework. A priori, I expect only the executive branch to have a significant effect on bribe payments, as this branch encompasses administrative Russian agencies.

Finally, for the results utilizing the World Bank firm-level surveys an additional analysis was performed to correct for potential selection bias since some firms chose not to answer the question regarding corruption. Firms were selected into the corruption question based on their perceived honesty and cooperation (two variable created by the interviewer). I assume uncooperative firms are less likely to respond to the corruption-related questions, however their responses should not affect the amount of the bribe they claim to have made, if in fact they do pay.

All regression models control for a number of key variables, including number of interactions between a firm and the public sector, firm sales, and region-level control variables including total employed population and gross regional product.

Results

Model

In the presence of positive firm search costs, increasing competition among corrupt bureaucrats actually incentivizes agents to demand higher bribes on average. As the number of agents competing for bribe revenue rises, the probability that any one agent solicits the lowest bribe falls. Consequently there is less incentive to price low to attract the group of firms that can search without cost among all agents. Agents realize that by demanding larger bribes more often they can secure increased revenue from firms that, due to high search costs, are unable to shop around for a lower bribe price.

The main results are unaffected by introducing honest firms and penalties to corruption; however the new model does allow for a no-bribe equilibrium under a range of parameter values. This occurs when agents' expected profits from soliciting bribes become negative. The range of parameter values that results in such an equilibrium grows as the penalty function becomes more severe, or as the fraction of honest firms rises. Though there is no closed-form solution for this version of the model, it is possible to simulate the equilibrium bribe price distribution for a range of parameter values. The results of the simulation are presented below.

For fixed values of proportion of zero-cost searchers, cost of search for non zero-cost firms, and proportion of honest firms, the above graph shows the change in the bribe price distribution as we increase the number of competing bureaucrats from 2 to 5. Though the lower-bound price an agent charges actually falls as N increases, the upper bound (reservation price) rises and the median and mean price rise as well.

Bribe Price Distribution, N=2 to 5
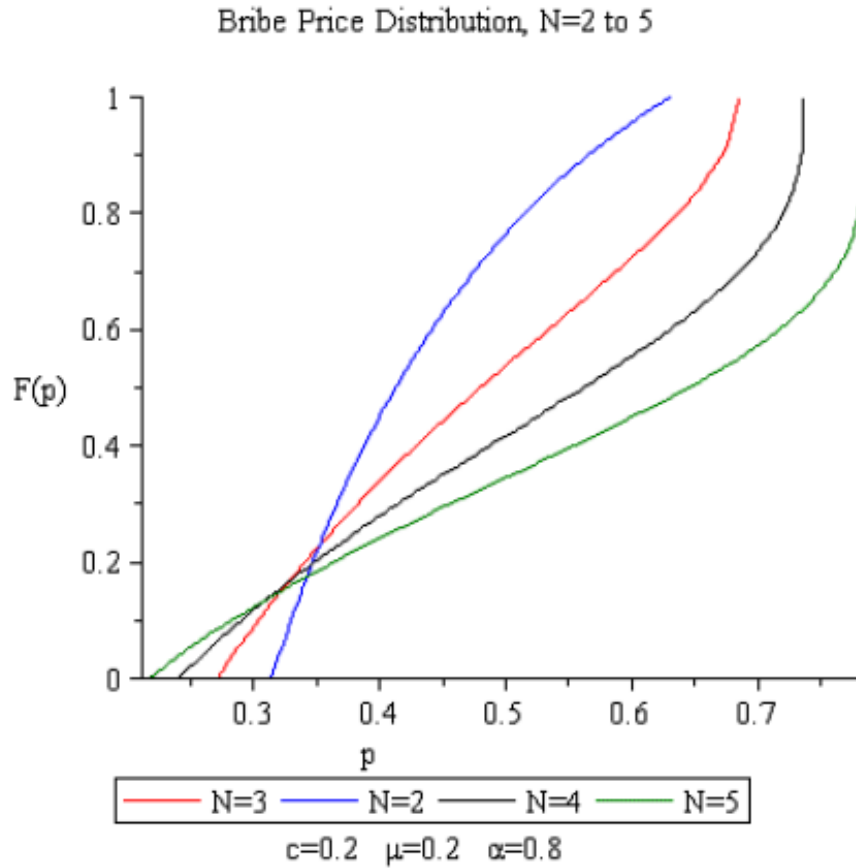
	$N = 2$	$N = 3$	$N = 4$	$N = 5$
Lower Bound	0.314	0.271	0.241	0.217
Reservation Price	0.631	0.685	0.736	0.785
Median Price	0.412	0.480	0.561	0.645
Agent Profits	0.0139	0.0138	0.0134	0.0128

Figure 1: Change in Bribe Price Distribution with Increased Bureaucratic Competition

Empirical Analysis

The regression results indicate that Russian regions with a large bureaucracy competing for bribe revenue are associated with higher levels of corruption as measured both by the size of bribes paid by firms and the average size of fines paid for economic crimes. In addition, the results indicate that bureaucratic competition is most prevalent at the local levels of government in the executive branch, consistent with the results of the theoretical model. Presented below are the regression tables from which these results are drawn.

Table 1: Bureaucracy and Bribe Payments by Firms

	(1)	(2)
Main Model		
log_govt_1k	4.554**	4.603**
	(2.251)	(2.147)
public_sector	0.417**	0.455**
	(0.180)	(0.181)
log_sales	0.864***	0.841***
	(0.151)	(0.142)
log_employed_pop	-0.655	-0.592
	(0.616)	(0.563)
log_GRP	2.975**	2.883**
	(1.455)	(1.348)
_cons	-47.58**	-47.00**
	(21.93)	(20.64)
Industry Effects:	Yes	Yes
Selection Equation		
cooperation		-0.951***
		(0.223)
honesty		-0.957**
		(0.391)
_cons		2.687***
		(0.514)
rho		0.241
		(0.266)
N	166	427
R^2	0.754	

Standard errors in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

The dependent variable is the log of total bribe payment made by a firm in all interactions with the public sector. (1) is the original model and (2) is the Heckman correction.

Table 2: Bureaucracy and Average Fines

	log_fine
log_govt_1k	1.446**
	(0.591)
log_GRP	0.349
	(0.275)
log_employed_pop	2.150***
	(0.646)
_cons	-22.22***
	(5.056)
Year Fixed Effects:	Yes
Region Fixed Effects:	Yes
N	780
R^2	0.572

Standard errors in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 3: Federal vs. Municipal Bureaucracy

(a) Bribe Payments by Firms

Main Model	(1)	(2)
log_federal_1k	-2.128	-1.719
	(1.577)	(1.791)
log_municipal_1k	3.877***	4.664***
	(1.085)	(1.043)
public_sector	0.377*	0.301*
	(0.193)	(0.174)
log_sales	0.741***	0.709***
	(0.153)	(0.149)
log_employed_pop	-1.259*	-1.210*
	(0.649)	(0.711)
log_GRP	-0.565	-0.788
	(0.726)	(0.890)
_cons	4.848	-1.360
	(15.27)	(14.63)
Industry Effects:	Yes	Yes
Selection Equation		
cooperation		-0.794**
		(0.375)
honesty		-1.236***
		(0.371)
_cons		2.718***
		(0.697)
rho		-0.883
		(0.964)
N	166	427
R^2	0.809	

Standard errors in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

The dependent variable is the log of total bribe payment made by a firm in all interactions with the public sector. (1) is the original model and (2) is the Heckman correction.

(b) Average Fines for Economic Crimes

log_federal_1k	0.402
	(1.287)
log_municipal_1k	0.443**
	(0.199)
log_GRP	-0.333
	(0.431)
log_employed_pop	2.737*
	(1.439)
_cons	-20.84
	(20.06)
Year Fixed Effects:	Yes
Region Fixed Effects:	Yes
N	546
R^2	0.310

Standard errors in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

The dependent variable is the log of the average fine paid for an economic crime in a region-year.

Table 4: Branches of Local Government

(a) Bribe Payments by Firms

Main Model	(1)	(2)
log_muni_exec_1k	3.146***	3.469***
	(0.857)	(0.813)
log_muni_jud_1k	-0.355	-0.216
	(0.430)	(0.480)
log_muni_leg_1k	0.166	0.267
	(0.519)	(0.506)
public_sector	0.506***	0.451***
	(0.181)	(0.173)
log_sales	0.646***	0.647***
	(0.141)	(0.122)
log_employed_pop	-1.023	-0.983
	(0.654)	(0.619)
log_GRP	-0.441	-0.544
	(0.634)	(0.648)
_cons	-8.910	-11.25*
	(6.653)	(6.020)
Industry Effects:	Yes	Yes
Selection Equation		
cooperation		-0.877***
		(0.259)
honesty		-1.144***
		(0.401)
_cons		2.765***
		(0.511)
rho		-0.464
		(0.411)
N	166	427
R^2	0.826	

Standard errors in parentheses
* $p < .10$, ** $p < .05$, *** $p < .01$

The dependent variable is the log of total bribe payment made by a firm in all interactions with the public sector. (1) is the original model and (2) is the Heckman correction.

(b) Average Fines for Economic Crimes

log_muni_exec_1k	0.360**
	(0.174)
log_muni_jud_1k	0.0885
	(0.0790)
log_muni_leg_1k	-0.0569
	(0.143)
log_GRP	-0.218
	(0.445)
log_employed_pop	2.262**
	(0.903)
_cons	-14.78**
	(7.030)
Year Fixed Effects:	Yes
Region Fixed Effects:	Yes
N	551
R^2	0.315

Standard errors in parentheses
* $p < .10$, ** $p < .05$, *** $p < .01$

The dependent variable is the log of the average fine paid for an economic crime in a region-year.

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Kislitsyn, Dmitry[1]: **What firms get government support? Evidence from 2008-2009 Russian financial crisis**

Abstract: *Economists have long noted that some firms get preferential treatment from the governments. In this paper we address the question what are the characteristics of firms that got government support during 2008-2009 Russian financial crisis. To answer this question, we obtain data from "The List of systematically important enterprises, approved by the Government Commission on Sustainable Development of the Russian economy", as long as firm-level data on sales and profits of 400 largest Russian public and private companies and their affiliation with 16 largest business groups in Russia. We seek to determine to what extent the size of enterprise and its affiliation with business groups have effect on likelihood of inclusion on "The list" and therefore on likelihood of getting governmental support.*

Introduction

The benefits that some firms derive from their exclusive relationship with the top officials have always attracted considerable attention of researchers, primarily in the context of an analysis of economic growth in developing countries; even while different authors use different terminology and different theoretical concepts: "political connections", "politically favored firms", "crony economy", "state capture". At the same time, in recent decades we have seen the formation of a new research approach, based on quantitative analysis of the role of political connections in firms' performance (Fisman, 2001; Johnson, 2003; Khwaja, 2005; Faccio, 2010). These works demonstrated that political connections allow firms to obtain privileged access to resources, especially capital, both to bank financing and to equity, and this effect can be measured quantitatively. The mechanisms through which firms benefit from political connections are very diverse and include tax breaks, investment credits, subsidies, etc (Slinko, 2004).

The study by Slinko et. al. (2004) creates a measure of preferential treatment of the firms from regional governments based on Russian legislation in 1992-2000, and evaluates the effects of preferential treatment on politically influential firms. Compared to firms without political influence, influential firms' sales and employment grew faster; they invested more and received more profits. Yakovlev and Zhuravskaya (2004) addressing the question what firms have received preferential treatment, showed that firm's political influence is determined by a firm's size and ownership structure: big firms (both in terms of sales and employment) and firms that controlled by "federal oligarchs" have significantly higher likelihood of getting preferential treatment. On the other hand, in 2000s the Russian political system has undergone significant changes: the authority of regional political elites was restricted and political and economic power was moved to the federal level; so it can be assumed that the political influence of firms was also restricted or redistributed to new owners.

2008-2009 Russian financial crisis has become a giant "economic experiment" that provided a significant amount of data on political influence of Russian firms. In particular, it is promising to analyze bailout programs of Russian government, to answer the question what are the characteristics of firms that get government support. The basic act that determined the firms' involvement in bailout programs is "*The List of systematically important enterprises, approved by the Government Commission on Sustainable Development of the Russian economy*". The list was approved on December

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25, 2008, and initially included 295 companies. At the meeting of the Commission on May 12, 2009 the list was supplemented with 9 companies. The main objective of the list was declared to maintain sustainability of these enterprises, using state guarantees, subsidized interest rates, customs and tariff policy and other instruments. Despite the fact that the inclusion on the list itself was not an assurance of financial support per se, many of the companies received loans under government guarantees. Furthermore, the very inclusion on the list was a signal from the government that it is prepared to support these companies, creating them privileged treatment from the banks.

Aim of the project

The main objective of our research is to evaluate the influence of firms characteristics on possibility of getting on "*The list of systematically important entererprises...*" and therefore on likelihood of getting government support. We analyze impact of scale of business, amount of paid taxes, damage that company suffered as a result of crisis, and the effect of enterprise affiliation with 16 largest business groups in Russia on possibility of firms' inclusion on the list.

Hypotheses and methodology

The research hypothesis is that besides factors of "social influence", the formation of list was significantly influenced by political influence of the biggest business groups. This created opportunities for getting government support for relatively "socially insignificant" enterprises, provided they are part of a big business group.

We assemble a dataset from three data sources:

1. "The List of systematically important enterprises, approved by the Government Commission on Sustainable Development of the Russian economy".

2. Rating "Expert 400", which contains data on sales and profits of 400 largest Russian public and private companies, based on data submitted by the companies themselves. We used data on companies of non-financial sector from Rating for 2007 and 2008.

3. Data on the affiliation of companies with the largest business groups from the book by Yakov Pappe and Yana Galukhina "Russian Big Business: The First 15 Years" (Annex 1. "Leading integrated business groups: brief description on the end of 2008") (2009).

In this project, we take a look at factors, influencing the probability of inclusion of firms on "*The List of systematically important enterprises*". As our response variable is dichotomous, we use multivariable logistic regression. The outcome variable is list, which is coded with a value of zero to indicate firm was not listed, or one to indicate that it was.

The most important officially declared criterion for listing enterprises as "systemically important" was scale of business. As a proxy for it we use the sales volume for 2007 (sales2007). Sales volume is in preference to profit, because profit is very unstable and easy-to-manipulate indicator, and capitalization, that makes sense only for public companies with a significant free float. Another officially declared criterion of "systemic importance" was "social significance". As a proxy for it, we have chosen the amount of taxes paid in 2007 (taxes 2007), calculated as the difference between profit before tax (returns2007) and net income (profit2007) according to "*Expert 400*". Unfortunately, data on the employment of all the companies included in "*Expert 400*" is unavailable, and we cannot use the employment as a proxy for "social significance". Other major factor which have effect on the likelihood of companies getting on the list of "systemically important" we evaluate is the degree of damage that the company suffered as a result of crisis. As a proxy for it we use difference between net income of the

company in 2007 and net income in 2008 according to "*Expert 400*", adjusted for inflation. It is evident, that above-mentioned variables may be significantly correlated and we have to determine the severity of multicollinearity.

Sector dummies for each of the 26 industrial sectors help to control for sectoral priorities of Russian government and adjust for the fact that biggest business groups tend to control firms in more attractive industries

And the last factor we assess is a company affiliation with one of the 16 largest business groups in Russia (13 of them private and 13 are state-owned). This factor (bg) is represented as a binary variable (one if a company is affiliated, and zero if not).

The main regression will have the following formula:

$$list = \frac{1}{1 + e^{-z}} \text{ , where}$$

$$z = \beta_0 + \beta_1 sales\,2007 + \beta_2 taxes\,2007 + \beta_3 crisis + \beta_4 bg + \beta_5 sector + e$$

Results (very preliminary)

The expected research output is as follows:

- define the most important factors of companies' inclusion on "*The List of systematically important enterprises, approved by the Government Commission on Sustainable Development of the Russian economy*";

- estimate impact of business group affiliation on likelihood of enterprises' inclusion on "*The List of systematically important enterprises, approved by the Government Commission on Sustainable Development of the Russian economy*"

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Kolesnik, Nadezda[1]: Managerial Analysis of Inter-Organizational Networks

Abstract: *The research aims to delimitate inter-organisational network for managerial analysis on the base of specified criteria (intensity of interactions, managerial interdependence, propriety independence, length of relationships). In accordance with these criteria, in the project the system of 50 interconnected questions, indicators, and indexes was developed, which allows delimitating inter-organizational network out of all inter-firm relations. Empirical research was based on the structured in-depth interviews and case study of the companies from b2b market.*

Introduction

This research was conducted in the frames of the project "Investigation of the effect of inter-firm networks on the efficiency of corporate management at the operational, functional and cross-functional integration of activity levels" at the Laboratory for Network Organizational Forms, HSE.

In terms of the network economy [Kotler, Ahrol, 2000], management of inter-organizational networks is a strategically important aspect for increase of firm competitiveness. Heterogeneity and diverse nature of inter-organizational integration, complexity of business communication process and the variability of network forms make it extremely difficult to identify inter-organisational network for management analysis.

The ontological question concerning networks boarders is an extension of the debate about the boundaries of the firm initiated by Coase in 1937 and revived by Williamson [1979] - both discuss market and hierarchy as an alternative form of firm governance. Vertical integration processes and extending the firm beyond the natural administrative boundaries has led to development of new theories and managerial approaches. Indeed network boundaries can be extremely imprecise, because they are conditioned by formal and informal linkages. Empirically, networks could not be isolated from the surrounding business world. So we should have accurate methodological tool to "cut off" the network boarders for research and managerial purposes.

Aim of the project

Currently normative managerial theory has got a 'myopic' view of the network [Wilkinson,Young, 2002] without giving any indication how identify network, and what the specific appropriated characteristics are [Stephan, Stefanson, Naude, 2004].

The *research aims* to develop the approach for delimitation of inter-organisational network for managerial analysis.

Approach would employ three types of strategies for delimitation of network's boundaries identified by Laumann [1983]:

▪ *Realist approaches* are based on the subjective perceptions of actors. 'The network is what the managers think it is' or as it called subjective relativism [Muncy, Fisk, 1987]. Inter organizational network can be viewed differently for individual actors depending on functional expertise or experiences of the person.

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[Sharma et al., 1999]. The most holistic view the head of a company might have, so he should be interviewed first of all.

▪ N*ominalist approaches* are based on researcher's standpoint. Aldrich and Whetten emphasize that researchers should use precise criteria for determining the boundaries of the network taking into account the organizational context, objectives and methodology of the research [1981].

▪ *Procedural tactics* for defining boundaries are based on specific attributes of units such membership criteria, work organizations [Kapferer, 1969] or professional communities [Coleman et al 1966], social relations [Erickson, 1978], participation in common activities [Owen-Smith, Powell 2003].

Hypotheses and methodology

The main hypothesis of the projects assumes that it is possible to identify of inter-organizational network basing on four criteria: 1) intensity of interactions, 2) co-management, 3) juridical autonomy, 4) duration of relationships.

Definition of network, used by researcher, has got crucial impact on the research process and outcomes. The widest definition of inter-organizational network is an optimal hybrid form, which holds an intermediate position between market and hierarchy [Williamson, 1985]. Furthermore, different authors identify various distinguishing features of network, narrowing or expanding an object. For our research we have chosen definition given by Sheresheva M.Y. [2010], as the most complete and well adapted for the Russian context. *Inter-organizational network* – is a system of contracts between formally independent economic agents to make optimal use of resources and combining. Integral part of network definition is term of *quasi-integration* as an association of economic agents, suggesting the development of sustainable long-term bonds between them and the delegation of control over the management of joint activities in the absence of legally registered transfer of ownership.

Basing on above terms we have pointed out crucial inter-organizational network criteria.

Intensity of interaction between network agents. Network is viewed as "cluster of the market". Intensity should be significantly higher between network agents than within elements of the environment. Intensity could be measured for different flows between network participants: material, financial, information and etc. It is important to consider specificity of firm and industry.

Juridical autonomy of actors. This criteria implies formal and informal (eg. family relations, investments) independence of actor's propriety.

Co-management or joint management. The third criterion is *interdependence in management*. In other words, it is mutual influence of the participants in the decision-making. The important parameters which allow to determine the degree of co-management is an amount of collective decisions, the practice of strategic planning, and flexibility to each other in order to improve cooperation in the future. Co-management is understood as the ability to influence decisions made by a partner. Following indicators are used in the project To assess the co-management: the proportion of collective decisions, the existence of joint strategic goals and planning, the availability of regular meetings and meetings with partners.

The study used a cross-organizational interaction parameters proposed by Industrial Marketing and Purchasing group (IMP), which hold research of industrial business networks since the 80s [Håkansson, 1982].

▪ the presence of a specific resource or asset (eg, department, officer, software), which was created specifically to work with a partner

▪ what changes have been made by your partner to adapt to your company, for example, administrative practice, payment terms, quality control procedure and return, mode of production.

▪ what changes have been made by your company to adapt to partner.

▪ share of partners for which your company would hardly find an alternative partner

▪ investments made by your company into relationships with partner.

An important indicator for assessing of co-management is trust and flexibility of companies to each other. Flexibility is understood as an agreement to give your partner with a view to compensate for current losses in the long run. Have been developed situational questions, such as, "the company's actions in the situation, if a partner n»: stop working with your company, does not fulfil the commitments, will increase the price, and etc.

Row of questions aimed to analyse trust and informal communication between the partners as an indirect indication of the networking:

▪ share of informal communication

▪ share of partners, which can be fully trusted

▪ share of critical business information obtained from informal communication with partners.

Duration of relationship. It is important but not the key point. For example, it is not crucial for temporary type of networks, such as dynamic or virtual networks. In the research we used relative indicators, based on company age, for example relationships since the establishment of business or more than half of the company age.

Methodology of the project includes the following points:

▪ elaboration of indicators for each criterion

▪ development of the system of 50 interconnected questions, indicators, and indexes, as a comprehensive tool for delimitating inter-organizational network out of all inter-firm relations

▪ testing of the tool is based on the structured in-depth interviews with heads of

companies from b2b market

▪ verification of results basing on the case study research method [Yin, 2003]. Case study method was chosen as the most appropriate for study of dynamic and complex systems, such as inter-organizational networks.

Results

Testing of the approach on a small sample of five Russian industrial companies allows making some conclusions. Approbation showed that it is not possible to develop a universal approach to the identification of business networks equally suitable for all types of industries and businesses. At each step of the interview some questions were added or adapted according to the company context. Empirical testing helped us to improve the tool. Thus, the logic of approach lies in step by step development of general approach via complication and enrichment of the results. In general, the approach has proved its suitability for the research purposes.

During the testing approach some interesting empirical evidence on business networks in Russia. 1) High proportion of informal arrangements, both at the stage of formation of relations and in the future. Business is done outside contract frames; numerous problems are discussed and resolved as the project on the basis of interpersonal agreements. 2) Emphasis on high-value relationships with old partners (partners with the foundation of the firm). However, it is noted the lack of investment in the development of relations with partners, as well as the low level of mutual

adaptation. 3) The author has noticed an interesting correlation between Chief mindset/world view of the firm and the formation of inter-organizational networks. If the manager believes that people (partners) could be trusted, then the company establishes closer relationship with their business partners.

The managerial implication of the research involves development of the approach for delimitation of inter-organizational network as autonomous unit, which will exploit the potential of inter-organisational linkages for the development of company's competitiveness in terms of network economy.

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Kolomycew, Anna[1]: **Intersectoral partnerships in the process of creation and implementation of local development strategies in the Podkarpackie region**[2]

Abstract *The idea of intersectoral partnerships (IPs) is a regular feature of public decision-making in the EU member-states. IPs development in rural areas is due to the EU initiative, LEADER which has since 2007 been accomplished in the framework of the Rural Development Program (Axis 4).*

In the presented project, IPs are exemplified by 31 Local Action Groups (LAGs) located in the Podkarpackie Region which occupies the south-eastern most part of Poland, bordering Ukraine and Slovakia. LAGs are made up of both public and private partners from the rural territory. They basically have to include representatives from three sectors – public, private and civic – under the condition that the number of participants from the public sector must not exceed 50% of all participants. LAGs receive financial assistance to implement local development strategies, by awarding grants to local projects.

The theoretical context of the project refers to the governance approach.[3] The guiding thesis is that no actor in public decision-making has a monopoly of authority, power, information, expert knowledge, finances, human or any other resources. Dispersed resources and goals need to be combined to accomplish collective interest of communities at different levels (European, national, regional and local). Governance is defined as a dynamic and interactive process, complex and multi-level, realized in the network of mutual relations and joint decisions of actors from three sectors: public, private and civic. It is defined as a multi-actor and interactive solution of problems characterized by the dominance of decision-making networks, the diminished ability of the public sector to exercise direct control over social policies, the merger of public and private resources and the use of various instruments to implement the goals of public service delivery.

The project research has been based on two questionnaires addressed to: 1) all members of all LAGs in Podkarpackie region; and 2) members of LAGs boards. Although the research is under way (second year of realization), its preliminary results will be presented during the RSSIA workshops. The following issues will be underlined: the actors that initiated and participate in LAGs; profiles of LAGs activities and their objectives; the way of acquiring partners for LAGs; activities of LAGs boards; decision-making in LAGs and LAGs boards; consulting LAGs activities among LAGs members and with local communities; prospects for LAGs.

Introduction

The Intersectoral Partnerships (IPs) are understood as the cooperation of the representatives of three sectors: public, private and civic. The main goal of mentioned cooperation process is to identification and definition of the public problems and elaboration of their solutions with respect to equality of partners in sharing resources,

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responsibilities, risks and profits. Partners' cooperation steadily becomes a common approach to public decision-making on all levels including European, national, regional and local. Therefore, IPs are promoted by European Union institutions as a mechanism of its policy support and implementation. This public services decentralization process is combined with the principle of subsidiarity which make local policies the natural domain for intersectoral partnerships.

In the proposed project, IPs are exemplified by 31 Local Action Groups (LAGs) located in the Podkarpacie Region which occupies the southeastern most part of Poland, bordering Ukraine and Slovakia. Such groups are a relatively new solution in Poland. They were created within the framework of the Pilot Program LEADER + (as an activity for Sectoral Operational Program "Restructuring and modernization of the food sector and rural development 2004-2006") and it has been implemented in Poland since 2004. This form of triple-sectoral partnership constituting LAG, provided special significance to the whole program and at the same time, it was introducing a new multi-objective way of deciding about local issues engaging all the subjects of the local policy. Connecting the representatives of new different sectors within the new structure, who were also to implement the planned projects, was an innovative solution which has not been used in Polish conditions so far. Such a form, at any rate in theory, guaranteed residents of the local communities – who has been up till now frequently omitted in the decision making process – rightful participation in conclusions concerning the future of the local unit, by guaranteeing at least 50% in LAG of NGO's and economic sector representatives.

Despite the fact that LAGs have been functioning in Poland relatively for a short time, it is worth having a closer look at this category, as it exemplifies an innovative solution, which has been simultaneously attracting considerable interest in the rural areas. At the same time it is possible to point out a range of limitations of intersectoral partnership development in a form of LAGs, including formalities connected with establishing partnerships (a multi-level decision, not in fact a rank-and-file initiative of the local inhabitants), designing and acceptance of Local Strategy Development or realization of the projects itself.

Aim of the project

The project builds, inter alia, upon findings from research concerning territorial partnerships in the Polish rural areas, implemented in the years 2001-2004, that identified some barriers to the activities of local partnerships, such as inadequate and not sustainable funding, imperfect legal bases for the establishment of the IPs, the overarching role of their leaders, their weak organizational structures and absence of long-term strategies. The aim of the project is to verify these findings but also to offer new insights in the research problematic, and to prepare the ground for a more comprehensive, comparative research on intersectoral partnerships in the future.

Therefore, the specific objectives of the research include:
- creating a database of LGAs in the Podkarpackie Region, including their human, organizational and financial resources
- analyzing prerequisites and procedures of their emergence
- analyzing the legal framework of LGAs' activities and the degree of their institutionalization
- profiling the LGA membership; identifying the scope of the LGAs' activities
- identifying the structure and forms of communication channels inside the LGAs and between the LGAs and their environment
- assessing the level of transparency and feedback of their systems of communication

- analyzing decision-making processes in the LGAs
- identifying the LGAs' formal and informal connections with political parties and public authorities
- analyzing the dynamics of the LGAs, including the roles and activities of their members
- designing instruments to measure and benchmark of the LGAs' effectiveness
- evaluating the LGAs' effectiveness and efficiency

The accomplishment of the above listed objectives will, inter alia, help to assess the effectiveness and efficiency of IPs in stimulating local development and to identify their strengths and weaknesses. The results of the Project will lead to recommendations addressing the improvement of the IP model as well as to highlight best practices of the LGAs in the Podkarpackie Region.

Hypotheses and methodology

The research is aimed at investigating mechanisms to create IPs as exemplified by Local Action Groups (LGA) located in the Podkarpackie Region; it focuses on the forms taken by the IPs, their membership, decision-making processes, promotion and information activities, and their role in local/rural development of the Region, including the development of civil society and mobilization of local communities.

The following research questions were formulated:

1. What is the degree of IPs' innovativeness and to what extent are they strange models of governance? Are they an effect of endogenous creativity or "structural constraint" of EU?

2. To what degree emergence and functioning of IPs depends on political, administrative and civic culture of the region and particular communities?

3. Are IPs well rooted in local communities? What is their potential to survive without EU support?

4. Are IPs inclusive and representative for local community? Has the required of 50% participation of business and civic sector observed?

The research has been based on the following hypotheses:

1. IPs are mostly compulsory structures; they are innovative but at risk of traditional and hierarchic decision-making.

2. Although IPs are the platform of cooperation between three sectors, they are dominated by the representatives of local governments – usual architect of local IPs.

3. Organizational pattern of IPs is an effect of legal stipulation and usually copy foreign solutions; however IPs are working on their own institutionalization.

4. IPs have a chance to become stimulators of local development, however on the condition that local authorities overcome tendency to dominate them, only then client-oriented culture will be transformed into a culture of equal access of all actors to the decision-making process, and programs of local development will correspond to local needs, resources and objectives of local communities.

The research has its quantitative and qualitative dimension. This study refers to the results of quantitative research based on questionnaire addressed to all members of all LAGs in Podkarpacie region. The questionnaire concerned the following issues: the actors that initiated and participated in LAGs; LAGs' profiles, activities and their objectives; the methods of LAGs'partners acquisition; LAGs' boards activities; the decision-making process in LAGs and LAGs' boards; the consultation process of LAGs' planned activities with their members as well as local communities.

The questionnaire had been distributed during general assemblies of LAGs, among members of LAGs – individuals and representatives of corporate members.

Getting at the majority of active (not only listed) LAGs' members and high numbers of filling out questionnaires are the very advantage of this mode of distributing questionnaires. It also makes collected information more credible.

Results (outline – presentation during RSSIA)

The observation and conclusions that have been done so far (second year of the project realization – project was designed for 36 working months and will be finished in September 2013):

1) The conditions and requirements of LAGs establishment result in disappearing of a local participation idea and opportunity for the self-organization by the members of the local community. Apart from that, an excess of the protective mechanisms in a form of equality and necessity to accept activities by the regional authorities, constitute de facto a limitation of partnership independence and point to a lack of trust for the social capital concentrated in local units. It affects the perception of LAGs as a fictional product.

2) The establishing process of the LAGs is favorable to build a network, exchanging contacts and experiences. In that way process of this structure creation supports social capital on a local level.

3) The engaging in a decision making process, which has been omitted on the political stage, distributes responsibility and realize the local community subjectivity.

4) The future and durability of the intersectoral partnership formula under the LAG model seems to be interesting and not entirely predictable. The main question is if the institutions created by an external financial support have a chance to become stable structure of the sectoral cooperation? Is it possible to keep this form after the end of financial support from the EU sources? Are the LAGs strong enough to establish the practice of a common decision making process at the local level? Equally interesting is the fact how the relations among the partnership members (being the effectiveness foundation of network under construction) will be developed? It is worth mentioning, the partnership itself, which is based on the ability of the sectoral representatives for the equal treatment and preventing domination and pursuing position of a local leader with a simultaneous depreciation of partners as well as displacing them from making common decisions concerning the local area.

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Lukmanova, Marina[1]: Social capital and Government Regulation in the Small and Medium Businesses Sector: the Case of Kazakhstan

Abstract: *Social capital and public regulation could under different circumstances be substitutes or complements, and existing empirical studies usually deal separately with either of these aspects. In this project I will explore both of these linkages by specifying different kinds of social capital and various forms of government's presence in the economy on the case of the fledgling SME sector of Kazakhstan*

Introduction

In the process of transition to the market economy Kazakhstan achieved evident success. Necessary institutions were created in the country, private business sector was formed, living standards were improved and since 1996 sustainable development is observed. At the same time high tempos of reforms didn't solve a number of serious problems. In the first place it is a prevalence of extractive industries. In 2009 its share in the structure of industrial branches was 60,2 %. Tendency in profitability lowering of industrial enterprises continues from 33,8% in 2006 to 18% in 2009 at the same time 32,9% of enterprises were unprofitable in 2007. It tells of the fact that reforms in Kazakhstan still didn't provide indispensible modernization of economics. It arises that problem-solving of further development of Kazakhstan lies in the sphere of social capital.

Differentiation of levels of economic development of different countries put a question of what underlies economic growth, what factors influence on it and how to improve its indicators. An answer was found by scientists in investigation of social characteristics of society such as trust, cultural norms and values, ability to self-organization. They were given a generalized name of social capital, which means the ability to self-organization and combined actions for the common good. On the basis of regression analysis it was revealed that social capital components influence on tempos of economic growth, public welfare and level of government regulation.

However results of the given researches reflect situation in the separate countries, basically with a high level of development. The Central Asian region has appeared out of sight of academic environment concerning research of social capital. Meanwhile, Post-Soviet countries of Central Asia, such as Kazakhstan, are unique as for the long time existed in conditions of command economy with its ideology, norms, values and networks. It is not clear how it influence on social and economic development of the country.

Within the framework of the given project I have been investigating social capital in SME sector and potential of its influence on government regulation. Results of the research will allow studying possibilities of small and medium business mobilization, its ability for self-organization, connection of level of trust with government regulation and its influence on economic development in Kazakhstan. It must be a start of discussion on the problem of connection of being studied level of trust with government regulation and bases of further research work in Kazakhstan and Central Asia.

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Aim of the project

The main aim of the project is to investigate the connection between social capital and government regulation of the private sector in Kazakhstan.

Specific research questions (the key issues the research is going to address) and the hypotheses for these questions were as follows:

1. Provide assessment of the quality, quantity and structure of the social capital in the small and medium enterprise sector in Kazakhstan.

2. How the level of trust and self-organization in small and medium business are connected with government regulation?

3. What links, if any, exist between the trust and self-organization in the private sector and demand in the private sector for various types of government involvement in the economy (provision of institutions and public goods; direct business support services; private sector regulation).

Hypotheses and methodology

The main hypothesis is that low level of trust in the small and medium enterprise sector in Kazakhstan leads to greater demand for government regulation despite of the poor quality of the latter, but this general statement could be conditional on specific kinds of government regulation and trust in government and public institutions.

My main method of data collection was a survey of small and medium firms. The reason for such choice, typical for this kind of studies, is that social capital is rarely observed directly and usually not measured by public statistical agencies

The process of my research consists of the following stages:

1. Clarifying the research concept.

2. Analysis of qualitative and quantitative characteristics of the SME sector to be surveyed

3. Preparation of research instruments (questionnaires).

4. Carrying out of a survey.

5. Statistical analysis of collected data.

6. Analysis and interpretation of obtained results

Results

With support from the Open Society Institute Foundation, I have been analyzing since 2010 the social capital in the SME sector in Kazakhstan in conjunction with government regulation and operational conditions for SME. To this end, a survey questionnaire was designed and circulated among small and medium firms, and over 250 responses collected so far. On the basis of the available data, the following conclusions could be made:

(i) Two main components of social capital in SME – trust and ability to self organization are not homogeneous. Trust in people, in institutions, and in business partners are disparate characteristics. The same is true about the accord in the society and the solidarity in business environment.

(ii) Demand for government regulation is also not uniform (as assumed in some earlier studies) and includes three components - the demand for formal public good-type institutions, the demand for government's selective support of individual businesses; and the demand for government interventions in the market.

(iii) The components of social capital are connected with components of demand for government regulation in different ways. The main regression results are as follows:

The demand for formal institutions $= 1,137 + 0,202*Trust$ *in institutions + Control variables* *(1)*

The demand for government individual support $= 0,313*Personal$ *experience of connection with state + 0,192*Trust in people + + Control variables* *(2)*

The demand for government intervention in the market $= 0,106 - 0,221*$ *Agreement in society + Control variables* *(3)*

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Maghe, Virginie[1]: Institutional Analysis of Cluster Policies: Comparison between the United States, Europe and Japan

Abstract: *Innovation policies are often evaluated in terms of macroeconomic or profit performances. Public authorities always set objectives in terms of R&D intensity, productivity growth or employment rates. But when a policy fails to reach those objectives, it may be interesting to see if it really fits to the institutional configuration of the national innovation system (NIS). Indeed, as a policy proves itself in a specific region, governments will tend to exchange their good practices, implementing measures that can fit in one economy but not in another. Talking about policy efficiency is then also a matter of institutional adequacy. This project will try to introduce this last dimension to a more classical evaluation of the NIS, using data analysis to link quantitative observations with more qualitative considerations related to an evolutionary point of view on the innovation process.*

Introduction

The cluster, defined as the association of the research, industrial and public spheres focused on common innovative projects (Porter 1990, 1996), is a concept more and more developed in regionalized economies. Many initiatives are launched by government, decentralized or not, to promote this type of organization (OECD 2007, Borras & Tsagdis 2008, Ganne & Lecler 2009). Those policy initiatives to promote clusters dont follow the same rationale in the US, Europe or Japan. Specificities such as mentalities in economic activities, traditions of networking and regulation or governance modes, among others, are very important features of a cluster's performance and must be reflected in these policies. Moreover, the level of State intervention will vary, depending on the development stage of the economy considered. The institutional differences between the different innovation systems can therefore not be neglected when analyzing cluster policies of these three regions where economic development hasn't had the same story or the same pace.

Aim of the project

This project aims to create a systematic evaluation framework for the institutional analysis of innovation policy efficiency.

Specifically, the following questions are investigated:

- What are the main characteristics of each national innovation system? What are the strengths and weaknesses, the non-spontaneous mechanisms and market failures which can be corrected by State intervention in the innovation process?

- Regarding the main weaknesses of an innovation system, are the different policy measures implemented by governments adapted to a specific issue?

Our goal is to link performance analysis of the NIS with a neo-institutional point of view of the innovation and cluster policies. We try to show that institutions have a role to play in correcting market failures of the national innovation process. Fulfilling this role implies that State intervention is appropriate and specifically targets the weaknesses of the NIS. This question may be relevant in the current globalized economy context, where exchanges of good practices are the main trend in innovation policies, not always based on the innovation system's realities.

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Hypothesis and methodology

This project will be focusing on the adapted version of two methodologies in order to create a theoretical framework for evaluation.
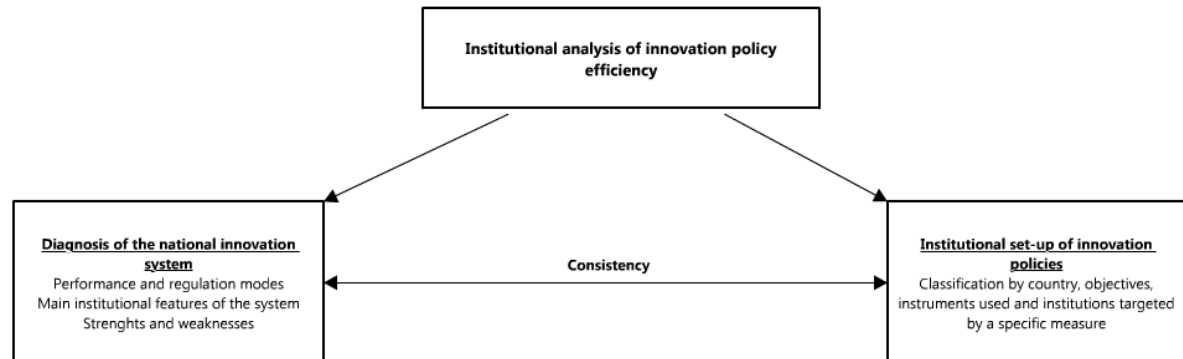
Figure 1: Rationale for an evolutionary analysis of innovation policy

Diagnosis of the NIS

Based on the regulation theory's methodology (Amable, Barré & Boyer 1997), the first step of this project is to evaluate performances and regulation modes of the American, European and Japanese innovation system.

On this purpose, the authors examine many aspect of the innovation system, based on the regulation theory's typology:

- Scientific activities of academic institutions
- Industrial R&D, technology and innovation
- Economic and industrial structure (performance and competitiveness)
- Human resources and labor market
- Formation and education
- Financial systems
- Macro-social and economic performances

Several indicators are collected for each dimensions cited above, concerning twelve different countries, including several European countries, the US, and Japan. By a correspondence analysis, we can see which specificity tend to be associated to another in terms of scientific activities, industrial organization and macroeconomic performances. By doing this, we can infer a profile for each country, replacing its innovation system in a wider macroeconomic context. The main results and the mapping of countries studied by Amable & al. (1997) are shown in annex I.

Setting the profile of each country will permit us to identify the main institutional strengths and weaknesses of the innovation system, in order to see on which issue a public intervention may be needed.

Institutional set-up of innovation policies

The second step of the study will focus on the innovation policies themselves. Based on an evolutionary methodology (Bikar, Cincera & Capron 2006), the innovation

policies will be classified depending on the instruments used by governments, institutions and objectives targeted.

The authors propose to investigate:

- The objectives pursued by the policy measures launched by governments: the creative, transfer or absorption capacity of the innovation system.
- The institutions targeted by those measures: business organizations, higher education institutions, research and technology centers, bridging or financial institutions...
- The instruments used to reach the objectives: support measures, promotion of technology diffusion or improvement of framework conditions.

Following the same rationale as in the regulation's methodology, a correspondence analysis will be implemented on the different indicators of objectives, instruments and institutions. It will show what type of policy measures is implemented in each country, the main objectives, and the instrument used to reach the institutions targeted. The main results for Belgium (Bikar & al. 2006) are shown in annex II.

Putting into perspective the two previous points.

Our point of view is that the two methodologies are complementary. Working with correspondence analysis should permit us to link the performance analysis of the innovation system with the innovation policy profile of the considered countries.

This implies an integration and updating of the indicators collected in the two studies, in an attempt to show if the innovation policies launched by different governments meet the needs of the innovation system in terms of institutional configuration.

Case study: cluster policies

Cluster policies will be examined through the framework developed in the three previous points.

A cluster can be seen as an ecosystem in which all the mechanisms and interactions of the innovation system can be found. It may be interesting to see how such a policy integrate itself in the institutional set up of the NIS. Regarding this issue, the following questions will be investigated:

- What are the main indicators involved in the evaluation of cluster policy's efficiency?
- What are the main strengths and weaknesses of such a policy?
- What are the institutional settings involved in such strengths and weaknesses?

This point will be developed for all the countries inside the Triad. The general point of view constructed above will offer a basic theoretical model to explain the rationale of cluster policy in particular.

Results

The model expected and constructed should be an adaptation of the complementary methodologies drawn from regulation and evolutionary theories. It is an attempt to link qualitative considerations on the innovation system and data analysis techniques to validate this point of view in a more statistical dimension. As an illustration of the use of such a model, the cluster policy will be studied and put into perspective in the framework developed in the project.

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Annexes

Annex I

Table 1: Regulation's typology for innovation systems

System	Market	Corporatist	Public/integration	Social democrat
	UK, US, Canada, Australia	**Japan**	**France, Italy, Germany, Netherlands**	**Sweden, Finland, Norway**
Main Principle				
	Market driven configuration	Innovation and competencies driven by large companies	Innovation and regulation modes set by the public sector	Mechanisms and consequences of innovation are socialized by institutions and negociations
Implications				
Science	Competition between the actors of the research system	Deconnexion of the academic system from the technological applications	Fundamental research, with little connection to product development	Activities oriented by natural disponibilities and social needs
Technology	Patents and copyright are the main incentive to innovate	Non codified and tacit knowledge specific to the firm	Impulsed by public procurement or learning process on equipment goods	All sectors, from natural resources to TIC are mobilized
Human resources	Polarization between high qualification in high tech sectors and low qualification in production activities	Homogenous education and specialization by working in the firm	External mobility organized and polarization of qualifications	Egalitarian ideal in terms of compensation and education.
Finance	Sophistication	Stability, credit tradition and long term point of view	Importance of the bank system, difficulties to finance new innovators	Rudimentary
Products	Constant renewal of products	Adaptation of products and process first, innovation afterwards	Slow adaptation to the market	Focus on quality, service and differenciation
Other specificities				
	Large public programmes balancing private innovation	No large public programmes. Strong nationalization of the innovation process	Significant differences between European countries, due to the decentralization of the public decision	Widely open to the rest of the world

Source: Amable, Barré & Boyer (1997)

Annex II

Table 2. Distribution of STI policy measures in Belgium (%)

Objectives / Institutions	Creative Capacity	Transfer Capacity	Absorptive Capacity	Total
Large Companies	15.3	1.5	0.3	17.1
Small and Medium Enterprises	48.6	3.7	2.5	54.8
Higher Education Institutions	8.6	1.1		9.7
Research and Technology Organisations	8.6	3.3		11.9
Public Authorities				
Individuals	2.2		4.3	6.5
Abroad Sector				
Total	83.3	9.5	7.1	100

Note: This table should be read as follows. In Belgium, it appears that 54.8% of all STI policy actions are devoted to support SME's activities, of which 88.7% in order to stimulate their creative objective (48.6% of the total).

Source: Bikar, Cincera and Capron (2006)

Meltenisova, Ekaterina[1]: **Restructuring of Russian Power Industry: Cross-Country analysis**

Abstract: *In this project the effectiveness of institutional change in Russian Power Sector is analyzed. The analysis is based on comparison with received results for American power companies. As one of the most important aims of restructuring in both countries was to attract investments into the field the investment environment of the field was chosen as factor of restructuring process' effectiveness. As a result we found that factors forming the investment attractiveness of Russian and American power companies differ drastically, that could be explained with some specific features of Russian Power Sector and emphasize its weaknesses and problems which have to be solved.*

Introduction

As it's known in 2001 sector structure was changed: separation of natural monopoly functions (power transmission, dispatching) from potentially competitive ones (producing and supply, repair works and service) was made, new structures responsible for separate activity types are being created instead of former vertically integrated companies, which exercised all the above mentioned functions.

The similar scenario of industry restructuring had place in USA some years ago, other words processes of institutional change passed in Power Industry in Russia and USA were the same. Today restructuring of Russian Power Industry is over: new players and market rules have been already created. So I find it interesting to evaluate the effectiveness of industry changes in Russia and to compare it with American Power Industry, that will allow from one hand to define whether the same restructuring process causes the same results in Power Industry and from another – to understand distinctive features of institutional change in Russia.

Aim of the project

The aim of this project is to understand and evaluate the results of Russian Power Industry restructuring process, particularly by understanding whether the attractive for investors conditions have been created in industry.

Hypothesis and methodology

As it was already mentioned the institutional change passed in Russia and USA according to the similar scenario. So I made the assumption that this process leads the same results both in Russia and in USA. Also I suggested that according to empirical results possible problems of "new" Russian energy market could be found, and finally recommendations of their solving were supposed to be offered.

The main goal of restructuring process in USA and Russia was to attract investment into the field. So to understand the effectiveness of restructuring it's needless to understand whether companies are able to meet investors' requirements. Having found significant factors of investment environment in power industry and compared results for Russian and American companies I will be able to make a conclusion about differences/similarities in investment environment in both countries and consequently to compare the results of institutional change. For having empirical

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results we used panel data analysis for Russian and American companies making research for last 5 years.

Results

Finally it was found that there are significant differences between process of institutional changes in Russia and USA despite on made assumption. Investment into Russian companies demonstrated dependence from both industrial indicators (tariff's rate, electricity production) and high dependence on financial performance at the same time a few significant factors (only factors of financial performance) were found for American energy companies. It could mean that despite on the same process of restructuring we could observe different results. It could be explained with the "age" of industry: Russian power sector is quite young and market rules for new players haven't worked effectively yet. Moreover it was found that institutional transformation in Russian power industry caused the quite competitive generation market and created fair "rules of play". In American power sector there are more than 240 investor-owned electric utilities, 2 000 publicly owned electric utilities, 900-plus consumer-owned rural electric co-operatives, and 10 federal electric utilities, however 70% on electricity is produced by 10 main players, power utilities. Surprisingly all 10 companies include not only generation, but also such functions as transmission, distribution and service, gaining the competitive advantage in this way. I suppose that maybe in the future Russian energy companies will follow their examples.

Moreover due to received results the problems of new market were found and recommendation for solving them were offered (predominantly according on the American companies' experience).

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Morozov, Ilya[1]; Podkolzina, Elena[2]: **Revealing conspiracy in procurement auctions: Evidence from Novosibirsk district regional highway construction[3]**

Abstract: *This study proposes an approach to identify and test for collusion between suppliers in procurement auctions. Various methods were suggested in the literature, however they were all based on a priori knowledge about cartel existence. We propose cluster analysis as a method which helps to detect collusion without this knowledge. It divides all auctions into groups, which are significantly different. Regression analysis can be used then to determine, what cluster is more likely to be collusive. The approach is illustrated by applying it to detailed data from procurement auctions for highway construction. We find that in the one of obtained clusters both frequency of auctions and firms' experience of participation in joint auctions have positive effect on the winning bid, which is a sign of collusive bidding behavior.*

Introduction

Collusion is a hot topic. Even in private sector owner should design the procedure to break possible collusive behavior of the agents. The problem is more acute in state sector where purchasers of goods lack of incentives to maintain healthy competition. As for government procurements, lack of incentives makes it unprofitable for government purchaser to control the quality of the public works being done. Thus only one (apart from consumers) who is interested in quality of the ultimate good and in the presence of fair competition in the auctions is anti-trust agency. If it fails to maintain competitive environment, it will have been a favorable conditions for the participants to collude.

Many authors suggested various methods of collusion detection. We point out two groups of researches here. The first is concentrated on the bids distribution and thus offers methods of structural analysis, which implies assumptions about the distributions of values. For example, Baldwin et al. (1997) use data on submitted bids in forest timber purchase auctions and reveal that in the case when bidders with the first and the second lowest values become cartel members – winning bid can rise sharply from second-order statistic to the lowest non-cartel firm's valuation. Similarly, Bajari and Summers (2002), and Bajari and Ye (2003) suggested to examine two 'necessary and sufficient' conditions: independency of participants bids and the dependency of the bids on production costs. They found that only a couple of pairs of firms, which, for that matter, were previously sanctioned for collusion in this market, appeared not to satisfy theoretical conditions.

The second group of articles focuses on the determinants of winning bids. For instance, Hendricks and Porter (1988) analyze drainage auctions. They found that the winning bids in drainage auctions with incumbents do not depend on the number of bidders, which is consistent with submitting only one serious bid and creating appearance of competition by phony bidding. Similar logic is used in Porter and Zona's (1999) case of Ohio school milk markets. Their econometric analysis showed that distant bids were comparatively low, while in the local auctions firms submitted much

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higher bids. An assumption that collusion members bid less aggressively than non-cartel firms was also proved in Pesendorfer (2000). Author used his knowledge about the presence of two cartels in Florida and Texas school milk markets. He tested for the asymmetries between bidders in two groups and showed that raw material price has on average significantly lower influence on collusion members' bids that on the bids of non-cartel firms.

Aim of the project

The main drawback of all collusion detection methods proposed in the literature is that they all based on a priori knowledge about existing of cartel in the market. However, the key question here is whether we can reveal a conspiracy without using any information about competitive environment. In our research we suggest two-variable cluster analysis as a method, which allows us to detect cartel without any a priori knowledge about the market under consideration[1]. We show that, using this statistical tool, we can divide auctions into homogeneous groups. We can then examine bidding patterns in obtained groups and define where collusion is the most likely to appear.

Hypotheses and methodology

To divide procurement auctions into clusters we use Hierarchical cluster analysis by two variables – so called 'ratio' (which is calculated as winning bid divided by the reserve price of the auction) and number of firms who applied for a tender. The idea is that price alone does not show us complete picture of reality until we don't know how many bidders participated in auction. Thus, applying cluster analysis by two variables gives us a chance to reveal auctions, in which, for instance, number of participants doesn't affect significantly the level of price decrease.

We suggest using regression analysis in order to distinguish different bidding patterns in obtained clusters. We expect that in those auctions, where number of bidders has no significant influence on 'ratio', cartel is more likely to exist. Also, we use a couple of determinants, which reflect incentives of firms to collude. The first variable is a number of lots: as one auction can be split into smaller parts, many simultaneous auctions instead of one can increase cartel's ability to distribute contracts among its members and, therefore, can raise incentives to collude. The second determinant is a frequency of interactions. Some bidders participate in joint auctions more frequently than others; it decreases coordination costs and pushes up potential future profits, which makes participation in conspiracy more profitable. We calculate 'interaction index' (in three different ways) which is higher when firms, which applied for an auction, have reach experience of joint bidding in the past. We expect that in collusive auctions both high number of lots and high 'interaction index' will show positive influence on 'ratio' (negative influence on price decrease).

Results

Highway construction is traditionally attractive for collusion because of high potential spoils. Moreover, there are traditionally only few construction firms in the market who have sufficient technical capacity to perform big contracts. It makes coordination much easier for the agents. The data set used in our analysis is on the Highway building and maintenance contracts in Novosibirsk region. The sample consists

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[1] Two-step cluster analysis was suggested to apply in detecting collusion by Padhi and Mohaparta (2011). However, authors used only one variable – price – to divide auctions into groups, which merely offers us one-sided view of the problem. To shore up this approach, we use two-variable cluster analysis.

of 189 contracts awarded in 2010 by Territorial Highway Administration (THA) – the last is responsible for all state purchases in highway industry in the regional level. The following information about these contracts was gathered: date of the procedure, initial price, the lowest bid, winner of the auction and all participants, deadline and region of the works. All procedures in our sample are open first-price auctions.

We applied two-variable cluster analysis to our sample and got two clusters of auctions[1]. The first consists of 52 procedures, where ratio varied from 0,23 to 0,99. Competition was significant in this group as there were 5,4 applications in one auction on average. The second cluster is less competitive, it includes 78 auctions with practically zero decrease in price (with unit ratio). Number of applications varied from 2 to 8, however, the level of price decrease was always less than 1%, which can be a sign of cartel existence, which use scheme of 'fake applications' in order to create an illusion of competition and then get contracts at the highest possible prices[2].

To define in which cluster collusion is more likely to appear, we conducted regression analysis with dependent variable 'ratio' and the following determinants: number of applications, cluster dummy, number of lots, index of interaction[3] and intercepts. The results of the analysis can be shortly presented in the following Table:

Table 1. Signs of OLS regression coefficients in two clusters.

	Cluster 1	Cluster 2
N. of applications	– –	no
N. of lots	+ +	+
Interaction index	+	+ +

Where "+" shows positive influence of variable on ratio, and "– " - negative one, and "no" stands for the absence of statistically significant effect (on the 1% level of significance).

We found that in Cluster 1 number of applications has a negative influence on winning-bid-to-reserve ratio, however, in Cluster 2 there is no influence at all. The last is consistent with the existence of cartel, which use 'fake applications'. As in this collusion scheme only one participant show up in each auction, number of applications shouldn't have significant effect on the coefficient of price decrease (ratio). And that is exactly what we see in the second group of auctions. Moreover, both number of lots and interaction indexes increase price ratio significantly in Cluster 2, so the higher incentives to collude (measured by these determinants), the higher the winning bid in relation to the maximum price. Thus, firms' behavior patterns in Cluster 2 are more consistent with collusion theory, and thus, collusion is more likely to appear in this second group of auctions.

To sum up, we suggested cluster analysis as a method of conspiracy revealing, which doesn't require a priori knowledge about cartel existence. We divided our sample

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[1] Before clustering we excluded all procedures where there was initially only one application for a tender. So, in fact, we have 130 auctions in our sample instead of 189.

[2] In fact, in this second cluster, firms, which made applications for a tender, often didn't show up then. Thus, even when the number of applications was about 6-8, only one participant came and got a contract at the maximum price.

[3] We calculated interaction index in three ways. For each auction we constructed all possible pairs of those firms, who applied for a tender. Then we calculated number of meetings of every pair totally in 2010. First interaction index, thus, equals average number of meetings among pairs in the particular auction. Second is dummy, which equals "1" if number of meetings in all pairs exceeds "3" (if all of those, who applied, are in close connection with each other). And third index is calculated as a share of those, who met with others more than 3 times in total number of applications sent to the auctioneer. Coefficients are stable in specifications with different interaction indices.

in two clusters and used regression analysis to detect collusive behavior. We showed that the first cluster is consistent with competitive pattern of participating and bidding in auctions, however the second cluster is more likely to contain collusive procedures.

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Orlova, Iaroslava[1]: Geographic Localization of Technology Diffusion in High-Tech Industries

Abstract: *The paper examines technology diffusion across four high-tech industries following the idea that production relates to domestic R&D and is also attributed to local pool of R&D efforts shedding from technology frontiers. Empirical analysis comprises OECD industry panel data over the period 1987-2006. Primary results rely on two linear specifications constructed after critical revision of the estimations based on Keller's exponential decay function in distance. The results indicate that only office and computing machinery gains from R&D spillovers which become more global, mostly due to imitating orientation. In the rest three high-tech industries, local technology flows impose deleterious effect on productivity. This finding is in line with a notion that knowledge spillovers go along with R&D races. The results also confirm strong beneficial effect of domestic R&D efforts which varies from 0.3% to 0.8% depending on industry.*

Introduction

Technological change is one of the challenges facing world economies. Over the last decades, the issue of impact of technologically advanced industries on the economic growth has attracted great attention of economists as well as policy makers. Appealing to endogenous growth theory (Romer, 1990; Grossman and Helpman, 1991; Aghion and Howitt, 1992), it has been widely stressed that technologies appear to be major factor in stimulating productivity growth, employment, profits and thereby national economic development. There are two key aspects at the heart of industrial innovation process based on new knowledge. First aspect is that knowledge has characteristics inherent in public goods: non rivalry and incomplete excludability (Romer, 1990). Inventions are built at least partly on the preceding ideas, "the public stock of knowledge that accumulates from the spillovers of previous inventions is thus a fundamental input in the technology to generate new ideas" (Caballero and Jaffe, 1993, p. 16). Other aspect is affiliated to competing profit-seeking incentives of innovative firms to develop new better goods which displace the old ones undergoing the process of "creative destruction". This process generates the incentives for industrial innovation and simultaneously destroys private value of new inventions.

A large body of empirical research supports the idea of beneficial effects of international R&D spillovers on productivity of domestic firms and industries, and emphasizes throughout that openness to international trade, soft FDI conditions, deeper economic integration intensify international transmission of R&D benefits. However, despite of accelerating international trade-interdependence, there has not been notable evidence of catching up with global advanced-technology leaders in terms of growth, productivity advantage. This in fact has raised a great concern among European governors (European Commission, 2010). Innovation development of the world-leading economies as well as emerging countries creates new technology trends and cooperation potential for the rest world, but at the same time generates considerable competitive pressure so that it becomes more difficult to sustain effectiveness of R&D efforts and catch up with global knowledge trends.

Despite an increasing importance of knowledge and technology intensive manufacturing for economic growth and national strategic priorities, the questions of

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international technology spillovers in high-tech industries has received little attention. Previous studies have basically analyzed manufacturing as a whole or at sub-total levels. In contrast, this paper focuses on disaggregate level of high-tech manufactures.

Aim of the Project

Given the reverse side of technology spillovers due to product market rivalry which is especially strong in technology advanced sectors, it remains an empirical issue to estimate the direction, magnitude and spatial scope of foreign R&D spillovers effect on productivity performance. The aim of the project is to address these issues across high-technology industries – pharmaceuticals (ISIC 2423), office and accounting machinery (ISIC 30), telecommunications (ISIC 32), medical and optical instruments (ISIC 33) – in eight OECD countries using the latest available macro data for the period from 1987 to 2006.

Hypothesis and Methodology

According to the methodology developed by Keller (2002), the main assumption of the model is that trade as a channel of technology spillovers is geographically localized.

I formulate the key predictions which will be empirically tested in the next sections of the paper: domestic productivity is positively related to home- as well as foreign level of technology which is proportional to R&D efforts; localization prediction: the effectiveness of foreign R&D outcomes (as a proxy of international technology spillovers) is falling with the distance from the foreign economy.

Model 1: Domestic R&D OLS

I start our analysis with a basic linear model where I estimate industry-specific impact of domestic R&D on TFP assuming that there is no international technology diffusion:

$$lnF_{ct} = \alpha_c + \alpha_t + \beta^D lnS_{ct} + \varepsilon_{ct} \,, \tag{1}$$

where α_c and α_t are country and time fixed effects respectively. Both dependent and controlled variables are expressed in logs, hence, β^D is the elasticity of TFP with respect to domestic R&D, S_{ct}. To estimate this function we use fixed effect model.

Model 2: Foreign R&D exponential

The second specification permits the presence of international R&D spillover effect from G-5 countries on domestic productivity of 8 countries. I employ the following exponential functional specification as proposed in Keller:

$$lnF_{ct} = \alpha_c + \alpha_t + \beta ln\left[S_{ct} + \sum_{g \in G5} S_{gt} e^{-\delta D_{cg}}\right] + \varepsilon_{ct} \tag{2}$$

Here, the first term, α_c, is a country constant that reflects a time-independent productivity advantage/disadvantage in that country. The second term, α_t, means productivity change over time that affects all countries. The expression in square brackets $S_{ct} + \sum_{g \in G5} S_{gt} e^{-\delta D_{cg}}$ is cumulative R&D spending of domestic and foreign R&D stocks and captures the technology improvement relevant to productivity in the domestic industry. International technology diffusion conditional on geographic distance is obtained by taking the sum of R&D stocks of G-5 countries multiplied by $e^{-\delta D_{cg}}$- exponential function in distance D_{cg} between technology recipient country - c and technology sender country - g. This exponential term provides the measure of weight of foreign R&D stock.

The coefficients β and δ are of central interest. β-coefficient denotes the elasticity of TFP with respect to the joint domestic and foreign R&D stocks. The distance

parameter δ captures the degree of localization of foreign technology. Positive estimates of δ would mean that foreign technology does not diffuse perfectly to recipient countries, that is R&D conducted in geographically proximate countries will induce larger contribution to variations of productivity, while knowledge capital generated in countries located relatively far away will spill over smaller effective R&D, therefore recipient country will benefit less from foreign technology creation. By contrast, negative estimates of distance parameter would mean that the strength of R&D is increasing in distance; and $\delta=0$ would suggest that distance does not matter much on the scope of knowledge spillovers. Relative location variable, D_{cg}, denotes the distance between capital cities of G-5 countries and 8 recipient countries. I normalize distance to one, so that the smallest distance in the sample, which is 212 kilometers between Germany and the Netherlands, is assumed to be one.

Model 3: Foreign R&D OLS

I also test technology spillovers conditional to distance using simple OLS models, where technology diffusion term is expressed in two ways: as sum of foreign R&D expenditures from G-5 countries divided by distance and R&D stocks from the closest country:

$$lnF_{ct} = \alpha_c + \alpha_t + \beta^D lnS_{ct} + \beta^F \sum_{g\epsilon G5} \left. S_{gt} \middle/ D_{cg} \right. + \varepsilon_{ct} \qquad (3)$$

$$lnF_{ct} = \alpha_c + \alpha_t + \beta^D lnS_{ct} + \beta^F S_{closest\ t} + \varepsilon_{ct} \qquad (4)$$

The relative total factor productivity of industry i in country c at point of time t is calculated as follows:

$$lnF_{cit} - \overline{lnF_{it}} = \left(lnY_{cit} - \frac{1}{c}\sum_c lnY_{cit}\right) - \frac{1}{2}\left(\sigma_{cit} + \frac{1}{c}\sum_c \sigma_{cit}\right)\left(\ln L_{cit} - \frac{1}{c}\sum_c lnL_{cit}\right) -$$
$$\left[1 - \frac{1}{2}\left(\sigma_{cit} + \frac{1}{c}\sum_c \sigma_{cit}\right)\right]\left(\ln K_{cit} - \frac{1}{c}\sum_c lnK_{cit}\right) \qquad (5)$$

where c - country's index and t is time; $c = 1,\dots,8; i = 4; t = 1,\dots,20;$ Y is value added; F is TFP; L and K are labor and capital inputs, respectively, σ is a labor cost share, $0 < \sigma < 1$.

The R&D stocks of knowledge capital are calculated using perpetual inventory method:

$$S_{cit}^{R\&D} = (1 - \delta)S_{cit-1}^{R\&D} + R\&D_{cit},$$
$$S_{ci1} = \frac{R\&D_{ci1}}{\delta + g_{ci}} = \frac{R\&D_{ci1}}{\delta + \frac{\sum_t g_{cit}}{T}},$$

The depreciation rate for knowledge capital is 0.15 (following Coe and Helpman, 2009).

Results

The results are sensitive to estimation strategy. Exploiting Keller's exponential specification with some modifications, the estimations provide support that, overall, the effect of cumulative R&D on productivity level is positive and highly significant; technology spillovers are strongly localized only in radio, television and communication equipment industry. However, I have indicated that exponential model is limited mainly due to the risk of local optimum and convergence constrains, and provides biased estimations. The model is improved by constructing two simple linear specifications. Alternative linear model's outcome reveals new economic issues hidden in Keller's approach. Further, I base my main findings according to econometric tests of linear specifications:

- Allowing for heterogeneity across industries, there are similar patterns for three high-tech industries, however, the magnitude of estimated effects is to a substantial degree industry-specific.

- I confirm the hypothesis of fairly robust positive relationship between productivity and own R&D efforts, except for computing machinery where there is no statistically significant feedback from the mid of 90th. The highest elasticity with respect to own R&D stocks is represented in telecommunications and until 1997 in computing machinery, and is roughly 0.8 % – this effect is 4 times higher than in pharmaceuticals and twice than in medical and optical instruments.

- There is strong evidence of negative effect of distance-weighted knowledge externalities on pharma, telecom, medical instruments and optical equipment industries. Pharmaceuticals and telecom are affected the most.

- Diffusion is associated with competitive pressures accompanied by accelerating pace and difficulty of innovation development. This notion justifies detrimental effect of R&D diffusion on domestic productivity performance. I suggest that negative impact overlaps positive spillover benefits which actually take place.

- Computer production is drastically determined by international trend of R&D: beta estimate reaches up 3.3%. Positive effect owes to imitation-oriented core of the industry.

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Osabuohien, Evans S.[1]; Efobi, Uchenna R.[2]: Economic Performance, ICT Utilization and Institutional Quality in Africa

Abstract: Strong institutional quality and improved income are essential factors that can drive the utilization of Information and Communication Technology (ICT) in a country. This is crucial for African countries where the indicators of ICT utilization are relatively low. Given the above, this study empirically explores the nexus between economic performance, ICT utilization and institutional quality in Africa using a panel of 45 countries (1995-2008). The study found that a unit improvement in institutional quality and human capital development will improve the level of ICT utilization by 0.28 and 1.22 units, respectively. The study submits that strengthening institutional quality, improving level of human capital development are imperative in promoting ICT utilization. Thus, human capital development built on strong institutional quality is paramount for enhancing ICT utilization in Africa.

Introduction/Aim

The advancement and growth in the level of Information and Communication Technology (ICT) utilization has been witnessed in many parts of the world especially in the 21st century. This was made possible, among others, through the use of ICT for electronic payments in the financial sector, the operations of the government and administrative procedures (*egovernance*), in education (*elearning*), improved business activities (*ebusiness*), transportation especially the rail and air transport (*eticketing*), and so on (Mukoyama, 2003; Osabuohien and Efobi, 2012).

Despite the upsurge of ICT utilization across the world, in many African countries the level of ICT utilization using some indicators is lower than those of other regions of the world. For example, the average internet usage per 100 persons in Sub-Saharan Africa (SSA) was 3.97 between 2005 and 2008 compared to other developing regions like Latin America and the Caribbean (LAC) and the global average that had the values of 16.37 and 20.58, respectively (World Bank, 2011). Many factors have been observed to have accounted for the low level of ICT utilization in Africa. Some of them include: low level of educational attainment/low literacy rate, low per-capita income, poor infrastructural development, outbreak of diseases, weak institutional quality, among others (Dimitrios and Ourania, 2003; Musa, Meso and Mbarika, 2005; Osabuohien and Efobi, 2012).

In extant literature, evidence abounds that the nexus between institutional quality and ICT utilization vis-à-vis economic performance has not been accorded much attention. This makes this study relevant because factors such as institutions, rules designed to govern human behaviour in a given society, can exert influence on economic outcomes including ICT utilization (North, 1994; Williamson, 2000; Rodrik, 2008; Acemoglu, 2010; Osabuohien and Efobi, 2011). Furthermore, Baliamoune-Lutz (2003) observed that the empirical literature that examines the determinant of ICT diffusion assumes a contemporaneous causality without considering the lagged effect in the

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models generated. Thus, this study contributes by considering institutional quality and economic performance in explaining the level of ICT diffusion in Africa.

The study formulates empirical model on a panel of 45 African countries across the five sub-regions, namely: Central, East, North, Southern and West Africa for the period 1995 to 2008. Variables in the model were described before econometric techniques were applied to investigate the level of influence of institutional quality, and economic performance on ICT utilization. The Generalized Method of Moments (GMM) technique was employed in estimating the model in order to handle the issue of endogeneity and to consider the gap observed by Baliamoune-Lutz (2003).

Hypotheses and methodology

The study engaged two main methods of analysis to achieve its objectives, which include: descriptive and econometric analyses. The former involves the use of summary statistics on the indicators of ICT utilization, economic performance, and institutional quality. The second aspect of the analysis used the Generalized Method of Moments (GMM) econometric technique to capture the relationship between the indicators of ICT utilization, economic performance, and institutional quality.

Econometric Model

The extent of ICT utilization has been measured in extant literature using different approaches such as internet users per capita, mobile phone subscribers per capita (Baliamoune-Lutz, 2003; Beilock and Dimitrova, 2003; Wunnava and Leiter, 2008), expenditure on information technology (Luciani and Padoan, 2007), personal computer per capita (Haller and Traistaru-Siedschlag, 2007), among others. Some others have used the extent of utilization of ICT for economic activities like purchasing, email account per person, email users (Bayo-Moriones and Lera-Lopez, 2007), the price of ICT services (Kiiski and Pohjola, 2002). Some of these measures are not accessible, for instance reliable data for price of ICT services and expenditure on information technology are not available for African countries. Also, email account per person, utilization of ICT for economic activities can be accessed for micro studies but are not available for macro studies such as this. Thus, similar measure of ICT utilization used by Baliamoune-Lutz (2003) was applied for this study.

The econometric model formulated for this study gleans on Baliamoune-Lutz (2003) determinants of equilibrium level of ICT utilization. The model examines the relationship between technology utilization-T, income and a vector Z, which includes other variables like institutions, openness of the economy and level of education. This is expressed in equation (1) as:

$$Ln\ T^*_I = \beta_0 + \beta_1\ ln\ INCOME_i + \lambda^i Zi \qquad\qquad (1)$$

Equation (1) can be extended by considering the possibility of institutional quality influencing human capital and income level of a country (Fosu, 2011). This is expressed in an interaction form including the interaction between institutional quality (*Instq*) and the economic performance variables (*human capital development-Hdev* and *income-Rpgdp*). These are denoted as *Instq*Hdev* and *Instq*Rpgdp.*

Therefore, the empirical model for the study is stated as:

$$ICTuti_{it} = \beta_0 + \beta_1\ Instq^n{}_{it} + \beta_2 Hdev_{it} + \beta_3 Rpgdp_{it} + \beta_4\ Instq^*Hdev_{it} + \beta_5\ Instq^*Rpgdp_{it} + U_{it}\ (2)$$

Where:

ICTuti: Indicator of ICT utilization measured as the simple average of three main indicators of ICT, namely: telephone and mobile phone utilization (*Tel)*, internet utilization (*Itnet*), and personal computer usage (*Pcom*) per 100 persons.

Instq: Indicator of institutional quality derived from the simple average of rule of law (*Rl*) and regulatory quality (*Rq*). This approach has been used recently by Fosu

(2011), who compared the terms of trade between Nigeria and Botswana by focusing on their institutional quality. The measures *Rl* and *Rq* are essential indicators of institutional quality because the rule of law *(Rl)* explains the extent by which economic agents have confidence in and abide by the rules in a country, thus translating to the protection of property rights. It includes the effectiveness of the judiciary system, the incidence of crime and the enforceability of contract. Likewise, the regulatory quality *(Rq)* measures the incidence of market friendly policies in the country. Thus, reflects the ability of the government to formulate and implement sound policy that will enhance the private sector development, thus translating to ICT utilization. The values of *Rl* and *Rq* as computed by Kaufmann, Kraay and Mastruzzi (2009) range from -2.5 to +2.5, the higher, the stronger the institutional quality.

Hdev: Human capital development was measured using the Human Development Index (HDI). The HDI shows the extent of human capital in the country taking into consideration the health, education and income status of the population in a given country. The index is ranged between 0 and 1, with the higher value signifying better human development. A country with HDI value above 0.80 is regarded as high; those between 0.50 and 0.80 are regarded as medium; while below 0.50 is regarded as low human developed country (UNDP, 2010).

Rpgdp: Growth rate of the real per capita income of the country measures the growth rate of the real gross domestic products (GDP) at 1990 constant prices.

*Instq*Hdev*: The interaction between the institutional quality and the level of human development in the country.

*Instq*Rpgdp:* The interaction between the institutional quality and the growth rate of real per capita GDP.

U_{it}: The error term that captures other factors influencing ICT utilization not included in the model. They are assumed to be identically and independently distributed (*iid*) with zero mean and constant variance.

it: Country's and time identifiers.

The *apriori* expectation is such that: β_i (i =1-3) > 0. This implies that an improvement of institutional quality, human capital development and real per capita income growth rate will lead to better level of ICT utilization. The signs of β_4 and β_5 can be negative or positive (-/+) depending on the nature of interactions between institutional quality and the indicators of economic performance. When the coefficient of *Instq*Hdev* is positive, it suggests that institutional quality enhances ICT utilization in a country where human capital is developed. Thus, better institutional quality is complementing human capital development to improve ICT utilization, vice versa. Similarly, when the coefficient of *Instq*Rpgdp* is positive, it implies that better institutional quality is congruent with per capita income growth to enhance ICT utilization, the converse holds if the coefficient is negative.

Estimation Technique

The model formulated in equation (2) was estimated using econometric technique, using static and dynamic panel data estimators. The static panel analysis was done with Fixed Effects (FE) estimator. The choice of FE over the Random Effects (RE) was based on Hausman test. The dynamic panel data estimator was carried out using the Generalized Method of Moments (GMM). The GMM is similar to the Two Stage Least Squares (2SLS) for 'just identified' models. However, the GMM gives precise estimates with 'over-identified' models. The GMM estimation is considered appropriate for this study because it internally generates the instruments used in the estimation process unlike the 2SLS method where the researcher has to look for valid external instrumental variables. In addition, innovations in current technology usage can affect future

utilization. This is represented in the model as lagged dependent variable [*ICTuti (-1)*]. This introduces the issue of autocorrelation and endogeneity in the model, which can be handled by the GMM estimator compared to the 2SLS (Arellano and Bond, 1991; Grubler, 1991; Jovanovic and Iach, 2007).

In view of the above, equation (2) can be modified to include the lagged dependent variable and stating it in GMM model format as:

$ICTuti_{it} = \beta_0 + \beta_1 \Delta ICTuti(-1) + \beta_2 \Delta Instq^n_{it} + B_3 \Delta Hdev_{it} + \beta_4 \Delta Rpgdp_{it} + \beta_5 \Delta Instq*Hdev_{it} + \beta_6 \Delta Instq*Rpgdp_{it} + \Delta\mu_{it}$ (3)

The sign 'Δ' is the change coefficient that represents the dynamic mechanism in the model.

Results

The analyses relate the relationship between the indicators of economic performance, ICT utilization and institutional quality using selected African countries. The data engaged were sourced from the World Development Indicators (WDI) of the World Bank (2010) and the Human Development Indicators (HDI) of the UNDP (2010) for the period 1995-2008. The analysis was carried out using STATA 11.1 software. 45 countries in Africa were selected based on data availability. The list of countries selected is in the Table 1.

Table 1 List of Selected Countries

Central Africa	East Africa	North Africa	Southern Africa	West Africa
Cameroon	Comoros	Algeria	Angola	Benin
Central Africa Rep.	Djibouti	Egypt	Botswana	Burkina Faso
Chad	Eritrea	Libya	Mozambique	Cape Verde
Congo, DR	Ethiopia	Morocco	Namibia	Cote d'Ivoire
Congo, Republic	Kenya	Tunisia	South Africa	Gambia
Equatorial Guinea	Madagascar		Swaziland	Ghana
Gabon	Malawi		Zambia	Guinea
	Mauritius		Zimbabwe	Guinea Bissau
	Sudan			Mali
	Tanzania			Mauritania
	Uganda			Niger
				Nigeria
				Senegal
				Togo

Source: Authors' compilation from UNCTAD (2009).

The sampled countries represent over 80% of the countries in Africa covering the five sub-regions, namely: Central, East, North, Southern and West Africa.

Descriptive Analysis

The descriptive analysis of the variables especially the indicators of ICT utilization and institutional quality was carried out using their respective indicators instead of the average with a view to observing their nature as reported in Table 3.2. From Table 2, the selected African countries had low values in the indicators of ICT utilization with respect to internet usage (*Itnet*) and personal computer usage (*Pcom*) per 100 persons. The average utilization rate was 2.09 for personal computer usage per 100 persons and 2.40 internet users per 100 persons. The telephone usage (*Tel*) had the mean value of 13.29 users per 100 persons, which equally appeared low. Using the

minimum and maximum values, it could be inferred that the difference between the country with the ICT utilization rate and that of the least was as much as 24, 39 and 125 for personal computer, internet and telephone usage per 100 persons. This implies the existence of disparity in ICT utilization in Africa.

Table 2   Descriptive Statistics of Variables

Variable	Mean	Std. deviation	Minimum	Maximum	Observations
Economic Performance Indicators					
Rpgdp	2.74	7.14	-29.63	65.77	626
Hdev	0.51	0.13	0.27	0.85	542
Institutional Quality Indicators					
Rl	-0.62	0.63	-1.88	1.00	449
Rq	-0.49	0.71	-2.37	1.75	448
	ICT Utilization Indicators				
Pcom	2.09	3.73	0.02	24.04	471
Tel	13.29	21.73	0.07	125.72	601
Itnet	2.40	4.77	0	38.98	601

Source: Authors' computation.

Indicators of institutional quality as reported in Table 3.2 had the mean values of -0.63 and -0.49 for regulatory quality (*Rq*) and rule of law (*Rl*) for the sampled countries. The minimum value for the selected countries was as low as -1.88 for rule of law and even lower for regulatory quality with the value of -2.37. The implication of the above is that, on the average, the strength of institutional quality of the sampled countries is relatively weak. This observation is similar to the submission of Sanjeev and Ourvashi (2006) who noted that the strength of African institutions may be one of the reasons for the low growth in investment as investors (inclusive of ICT devices) can be encouraged to invest in countries with reliable institutional quality.

The indicators of economic performance, namely: human capital development *(Hdev)* and the growth rate of the real per capita GDP *(Rpgdg)* show that the sampled African countries have mean value of 0.51 and 2.74% for *Hdev* and *Rpgdg*. The range between the country with the highest GDP per capita growth rate and that of the lowest is as much as 95.40%. Similarly, the country with highest value in *Hdev* and the lowest was as much 0.58. This reflects the huge difference among African countries with regard to the indicators of economic performance.

From the descriptive analysis, the study observes that in the selected African countries, there is a prevalence of low values indicators of ICT utilization, economic performance and institutional quality. Thus, the level of impact of economic performance and institutional quality has on ICT utilization is reported in the next sub-section using econometric technique.

Econometric Results
The results from the econometric analysis using Fixed Effects (FE) and Generalized Method of Moments (GMM) are reported in Table 3.

Table 3 Econometric Results using FE and GMM (1995-2008)

			Dependent Variable: ICTuti			
	FE			*GMM*		
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Cons	-41.4716[a]	-40.3222[a]	-42.1045[a]	-0.2977[a]	-0.2428[a]	-0.2821[a]
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0002)	(0.0001)
Hdev	90.9007[a]	89.6643[a]	91.9470[a]	1.2181[a]	1.0729[a]	1.2013[a]
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0001)
Rpgdp	0.0217	0.0273		0.0023[a]	0.0014[a]	0.0199[a]
	(0.6468)	(0.5604)		(0.0000)	(0.0076)	(0.0000)
Instq	2.3558[c]		2.6324[b]	0.2750[a]		
	(0.0821)		(0.0410)	(0.0000)		
Instq*Hdev		3.0337			0.6918[a]	
		(0.3416)			(0.0000)	
Instq*Rpgdp			0.0712			0.0243[a]
			(0.1530)			(0.0030)
ICTuti (-1)				1.1726[a]	1.1741[a]	1.1727[a]
				(0.0000)	(0.0000)	(0.0000)
R-squared	0.8234	0.8219	0.8240			
F-Stat.	20.3321	20.1320	20.4149			
	(0.0000)	(0.0000)	(0.0000)			
Breuch Pagan	53.1592	44.4885	52.2964			
	(0.0000)	(0.0000)	(0.0000)			
Hausman Test	12.5963	13.5694	13.1559			
	(0.0056)	(0.0036)	(0.0000)			
AR (1)				-1.2833	-1.2885	-1.2832
				(0.1994)	(0.1976)	(0.1994)
AR (2)				-0.1422	-0.1658	-0.1418
				(0.8869)	(0.8683)	(0.8872)
Sargan Test				42.3883	42.4138	42.5136
				(0.9786)	(0.9784)	(0.9778)
Number of Countries	45	45	45	45	45	45

Note: Values in bracket are the probability values. Superscripts [a], [b] and [c] represent significant at 1, 5 and 10%, respectively.
Source: Authors' computation.

The choice of FE over Random Effect (RE) was based on the Hausman test as the estimates from the FE was observed to be more efficient that RE. However, only the results of FE are reported in columns 1-3 in Table 3.3 for sake of brevity. As noted in the preceding sub-section, there was huge difference in the range of values of the respective variables, which suggest the existence of country fixed effect, thus making a case for the use of FE[1]. From the Table, the coefficients of institutional quality and human capital development significantly influenced ICT utilization. However, the issue of endogeneity may still persist using FE. Thus, the GMM results, which help to resolve the issue of endogeneity, are reported in columns 4-6 of Table 3.3. Based on the above, the study focuses discussion on the estimates from GMM technique.

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[1] The respective country fixed effect was not reported as it was not the main focus of the study and for sake of brevity.

To evaluate whether the problem of endogeneity was handled as well as test the validity of the instruments, the Sagan/Hansen[1] test for over identifying restrictions and the second order serial correlation test *AR (2)* test were carried out. From Table 3.3, it can be observed that the instruments were valid given the fact that the probability values for the Sagan/Hansen test and the *AR(2)* test were not significant at 5%. There was no first order serial correlation-*AR(1)* from the results; however, *AR(2)* and the validity from the Sagan/Hansen test shows that the instruments were not over-identified.

An examination of the coefficients of the explanatory variables in columns 4, 5 and 6 of Table 3.3 shows that the significant level of institutional quality changed from 10% and 5% to 1%, which is an indicator of improvement of the results using the GMM estimator. The result helps to establish the fact that a unit improvement in the quality of institutional quality in Africa will help to boost the rate of ICT utilization by 0.28 units. The implication of the above is that for African countries to advance in ICT utilization, there is a need to improve the quality of their institutional quality especially adherence to rule of law and improvement of regulatory quality. This submission is crucial given the fact that most of the 'stimulants' of ICT utilization such as property rights and innovations are to be protected by law in order to give the needed incentive for idea generation that are imperative for ICT utilization.

The results in Table 3.3, indicates that human capital development has positive impact on ICT utilization, which is statistically significant at 1%. The coefficient denotes that a unit increase in the rate of human capital development will result in about 1.22 units improvement in the level of ICT utilization. The implication of this finding, among others, is that there is need to enhance the quality of human capital in Africa with a view to improving the level of ICT utilization. This can be driven by improvement in functional educational system, continuous relevant on-the-job training, which will help boost innovation and technical know-how. This is because technical skills are essential for enhancing ICT utilization.

The growth rate of real per capita income *(Rpgdp)* was found to significantly exert positive influence on ICT utilization. This tends to support the fact that the income level in the country can affect the rate of ICT utilization. The above observation is in line with the rank order model of ICT utilization, where wealth of the individuals in a country can influence the rate of ICT usage (Karshenas and Stoneman, 1993; Caselli and Coleman, 2001). Another observation from columns 4, 5 and 6 is that the previous level of ICT utilization can influence its current value. This implies that ICT utilization is time dependent (Radolfo and Ananth, 2003). Thus, current level of ICT utilization can be used to predict its future level. The connotation of this is that immediate efforts geared towards improving ICT utilization will have long-run effect on the level of ICT utilization in Africa, *the earlier the better.*

Other findings that can be made from the study are based on the two interacting variables presented in columns 5 and 6 of Table 3.3. The result from column 5 reveals that the coefficient of the interaction between institutional quality and human capital development had significant and positive influence on ICT utilization. The implication of this finding is that institutional quality will enhance ICT utilization in a country given the complimentarity of human capital development. Thus, in Africa improving institutional quality in the light of developing human capital is essential for ICT utilization. This is may be interpreted based on the relevance of human capital development process such

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[1] The Sagan/Hansen test is asymptotically distributed as a chi-square with degree of freedom equal to the number of instruments less the number of parameters. For the model to be correctly specified, the variables in the instrument set should be uncorrelated with the idiosyncratic component of the error term (Layero and Morrissey, 2010).

as education and health built on strong institutional quality for improving ICT utilization, which cannot be overemphasized.

Similar result was observed for the interaction between ICT utilization and the growth rate of real per capita income, which came out with a positive sign and significant at 10%. The result reveals that institutional quality can complement real growth of per capita income in enhancing ICT utilization in the selected African countries. Thus, the growth rate of per capita income in a country has important influence on ICT utilization especially where the institutional quality is relatively strong.

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Ostrovnaya, Maria[1]; Podkolzina, Elena[2]: **"Fundamental transformation" and fake competition in public drug procurement**[3]

Abstract On 2nd July 2009 the Federal antimonopoly service issued a statement revealing illegal long-term relationships between the procurer and his favourite supplier. By this the FAS tried to raise competition and reduce drug prices, as far as the further limitations of competition might lead to greater punishments. However, after the decision of the FAS the relationships between the procurer and the favourite supplier seemed to remain the same. So the aim of our research is to examine the actual influence of the FAS on the price and competition strategy of the favourite supplier and to explain it. As we found out, the decision of the FAS led to higher relative prices of the lots purchased by the regional procurers and had no specific influence on the relative prices of the lots purchased by the analyzed one. What was the reason for these unexpected results? In our opinion, the decision of the FAS did not decrease the incentives of the procurer and the favourite supplier to cheat, but raised the risks of being caught. We believe that after it was made the supplier simulated higher competition using phony bidders who participated in the auctions, but did not decrease final lot prices.

Introduction

Russian antimonopoly legislative prohibits long-term relationships between procurers and suppliers. Meanwhile in fact these relationships seem to be wide-spread in Russian public procurement. One of the examples of such relationships is the case of public drug procurement in St. Petersburg. In 2008-2010 one of the regional procurers systematically made contracts with one pharmaceutical distributor (favourite). The Federal antimonopoly service (FAS) warned the procurer about severe punishments for the further cooperation with this company to stimulate competition in the market and decrease drug prices. According to the studies by Azfar et. al (2001) and Jain (2002), if the risks of being punished increases, the rent-seeking behavior tends to be less probable. However we found out that FAS did not achieve all his goals. In this research project we state that after the decision of the FAS the favourite decreased relative lot prices for the analyzed procurer, but increased them for other regional procurers and used fake bidders in order to make semblance of competition.

Aim of the project

The main purpose of this project is to answer the question: how the FAS influenced on the price and competition strategy of the favourite?

Hypotheses and methodology

The decision of the Federal antimonopoly service did not eliminate the incentives of the procurer and the favourite to enter into the long-term relationships (corruption and the minimization of the contract risks [Palay, 1984, 1985, Stuckey, 1983]), but increased the costs of implementing them [Azfar et. al, 2001, Jain, 2002]. Therefore we

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suggest that after the decision of the FAS the favourite made higher bids in the biddings organized by other procurers, but arranged fake competition trying to minimize the risk of being punished.

We state the following hypotheses:

1. The joint participation of the bidder and the analyzed procurer in the bidding raised the relative lot price, whereas the decision of the FAS decreased it.

2. The FAS had no significant influence on the relative prices of the lots purchased by other procurers.

3. Passive bidding behavior of competitors (not to bid) increased relative price of the lot.

We have obtained the data from the official web-site of the region (http://www.gz-spb.ru/) where the long-term relationships between the procurer and the favourite discussed above were developing. The database consists of 357 observations and includes the following information for each lot: date and type of the auction, main procurer, number of bidders, reserve and final prices. All considered lots were won by the favourite in the public drug procurement in the St. Petersburg. The main procurers of the biddings were the regional procurers, including the analyzed one. The database contains the biddings held in the end of 2007-2010; the public contracts related to these biddings were signed and executed in 2008-2010. The dependent and explanatory variables used in the estimations that follow are summarized in Table 1.

Table 1 Variables

Variable	Definition	Minimum	Maximum	Mean
RELATIVE PRICE	= the ratio between the final and reserve price of the lot (price ratio)	,41000	1,000	,964
FAS	= 1, if the bidding is organized after the decision of the FAS, = 0, if the bidding is organized before the decision of the FAS	0	1	,33
PROCURER	= 1, if the main procurer of the bidding is the analyzed procurer, = 0, if the main procurer of the bidding is not the analyzed procurer	0	1	,66
PROCURER*FAS	= 1, if the main procurer of the bidding is the analyzed procurer, and the bidding is organized after the decision of the FAS, = 0, if the main procurer of the bidding is not the analyzed procurer and / or the bidding is organized before the decision of the FAS	0	1	,16
PASSIVE	= 1, if there are two or more bidders, but no bids made by favourite's competitors = 0, otherwise	0	1	,90
COMPETITORS	= the number of the favourite's competitors participated in the bidding	0	9	,97
RESERVE PRICE	= the reserve price of the lot, rubles	3556,72	89902357,00	11952336,05
E-AUCTION	= 1, if the form of the bidding is e-auction, = 0, if the form of the bidding is open auction	0	1	,20
OPEN	= 1, if the form of the bidding is open auction, = 0, if the form of the bidding is e-auction	0	1	,80

Valid N (listwise) 357

We use OLS regression and difference in differences method to test the following hypothesis. The empirical relationship describing the price ratio may be written as

$$Y_i = \alpha_0 + \alpha_1 \cdot procurer_i + \alpha_2 \cdot FAS_i + \alpha_3 \cdot procurer_i \cdot FAS_i + \alpha_4 \cdot passive_i + \alpha_5 \cdot control_i + \varepsilon_i,$$

where Y_i is the relative price of the lot i; $procurer_i$ – the participation of both analyzed procurer and the favourite in the bidding for the lot i; FAS_i - the impact of the FAS on the bidding for the lot i; $procurer_i \cdot FAS_i$ - the impact of the FAS on the bidding for the lot i organized by the analyzed procurer; $passive_i$ - passive bidding behavior of the favourite's competitors in the bidding for the lot i; $control_i$ - control variables (number of favourite's competitors participated in the bidding, reserve price of the lot and type of the bidding procedure: open auction or e-auction).

Results

The preliminary results of the regressions are shown in the Table 2. They support our first hypothesis.

Table 2 OLS Estimations Results
Dependent variable – RELATIVE PRICE

	(1)	(2)	(3)
(Constant)	,956****	,957****	,946****
PROCURER	,043****	,038****	,049****
FAS	,057****	,057****	,033***
PROCURER*FAS	-,072****	-,077****	-,054***
PASSIVE	,045***	,043***	,046****
COMPETITORS	-,034****	-,035****	-,039****
RESERVE PRICE		3,451E-10*	,053****
E-AUCTION			4,079E-10**
R^2	0,446	0,452	0,482
*- significant beyond the 10% level,			
**- significant beyond the 5% level,			
***- significant beyond the 1% level,			
****- significant beyond the 0% level			
Observations	357	357	357

Firstly, before the decision of the FAS relative prices of lots purchased by the analyzed procurer was 4,3% - 5,4% ($\alpha_1 + \alpha_2 \cdot FAS = \alpha_1$) higher than relative prices of lots purchased by others. This link indicates the validity of the antitrust measures adopted by the FAS. The decision of the FAS increased the risks of analyzed procurer and favourite of being caught and punished for the cooperation and led to decrease in relative prices of the lots purchased by the analyzed procurer ($\alpha_1 + \alpha_2 \cdot FAS = \alpha_1 + \alpha_2$).

Secondly, the decision of the FAS, in contrast, had significant positive impact on the relative prices of the lots purchased by other procurers. After the decision of the FAS relative prices of the lots purchased by them increased by 3,3-5,7% ($\alpha_2 + \alpha_3 \cdot procurer = \alpha_2$). This significant connection may reflect changes of favourite's strategy. Trying not to be punished for the interaction with analyzed procurer, favourite harder reduced the relative prices of lots purchased by analyzed procurer, and colluded with competitors in biddings organized by the other regional procurers. By this favourite could escape punishment and compensate his financial losses.

Finally, passive behavior of favourite's competitors significantly increased the relative price of the lot. If they did not bid, the relative price of the lot was higher by about 4.5%. Such passive bidding behavior of favourite's competitors may be one of the ways of collusion. The reason of it is that several bidders were fake; they participated in the auction, but did not bid and did not decrease the price of the lot. Therefore, the relative price of the lot depended on the active bidding behavior of the favourite's

competitors. If the favourite sharply decreased lot price by one bid, the absence of other bids did not mean the lack of real competition. However, if the first decrease in lot price was minor, passive bidding behavior of the competitors became the sign of fake competition in the bidding. Further research will be devoted to the study of factors affecting the passive bidding behavior of favourite's competitors in the auctions.

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Pivovarova, Svetlana[1]: The Effect of Repeated Interactions on the Price of Public Procurement Contracts[2]

Abstract: *The project studies repeated interactions (the cases of repeated contracting with one supplier) in Russian public procurement and their effect on contract prices. Though repeated interactions may happen in the competitive environment, they should not affect the prices arising as outcomes of equilibrium bidding behavior in auctions. The analysis of data on public procurement auctions in several Russian regions shows that it is not always the case: prices within the chain of repeated interactions might be lower (if government demand is a large share of overall demand for the product) or higher (if government demand is negligible) than the price of average public procurement contract.*

Introduction

When quality of the purchased good is important and hard to enforce, parties tend to engage in repeated interactions creating bilateral reputation. The availability of informal reputation enforcement systems is particularly important when formal enforcement is imperfect (Koford, Miller 2006; Hendley et. al 2000). Using repeated contracting with reputation can also solve the problem of distorted bidding in the incomplete information environment with imperfect formal enforcement (Spulber 1990, Doni 2006) leading to additional incentives to breach the contract. Yet public procurement setting makes repeated interactions illegal and hence costly. I am trying to establish: weather repeated interactions are "good" or "bad" from the viewpoint of social welfare, and what kind of restrictions are prohibitive for establishing the chain of repeated interactions.

I study repeated interactions in government procurement of gasoline in Russian regions. Government contracts for gasoline provide grounds for inter-regional comparison since they are performed frequently in all regions, and since the prices for gasoline in the private market are wildly available and can be used as a common benchmark. Although the contracts studied are designed to purchase a simple search good, gasoline, they include the provision of continuous services through gas stations. While the quality of gasoline itself if easy to establish, the quality of service provided through these contracts is hard to measure and enforce.

Aim of the project

The aim of the project is to isolate the patterns of dependency of the prices for public procurement contracts on repeated interactions between the procurer and the supplier and to link the identified patterns to the characteristics of regional market and institutional environment.

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Hypotheses and methodology

I suggest that the price of government contract on average:

− is the same within repeated interactions as in the market as a whole, if the manipulation of public procurement procedures is hindered or the level of regulatory control is high in the region;

− is lower within repeated interactions than in the market as a whole, if regulatory control is weak and the suppliers hold sufficient value in government contracts;

− is higher within repeated interactions than in the market as a whole, if suppliers are indifferent between government contracts and consumer market.

I use the data set of 531 public procurement contracts of gasoline performed in 2009-2010 in three Russian regions. The data on each contract includes information on the identity of procurer, volume and duration of the contract, reserve price of the auction, type of procedure used (open-bid or sealed-bid auction; e-auction), number of bidders taking part in the auction, and the identity of supplier. I also use the Market Leader dummy variable to control for participation of the supplier with the market share of 30% or more in each region.

Comparing the regions I utilize the fact that e-auctions, which are hard to manipulated, are the primarily used public procurement procedure in Region2. I also utilize the fact that the consumer market in Region 1 is comparatively smaller than the markets in Regions 2 and 3.

To test the hypotheses stated above I use separate OLS regressions for each region with Relative Price[1] of the government contract as an independent variable and the characteristics of the contract and the procurement procedure as control variables.

Results

The results are presented in Table 1. Specifications 1-3 study the influence of the mere fact of repeated interaction on the relative price of the contract. In conformity with the hypotheses, relative prices in Region 2 are on average equal within and without the repeated interactions, prices in Region 1 are lower, while prices in Region 3 are higher within repeated interactions.

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[1] Relative price = (Price of the government contract)/(Market price of the same volume)

Table 1

VARIABLES	Region 1 Relative Price	Region 2 Relative Price	Region 3 Relative Price	Region 1 Relative Price	Region 3 Relative Price
Open Auction[1]	**0.0490***	**0.0285***	**-0.0506**	**0.144***	**0.000768**
	(0.0267)	(0.0148)	(0.0542)	(0.0296)	(0.0205)
Number of bidders	**-0.0376***	**-0.0294***	**-0.00564**	**-0.0207***	**-0.00526**
	(0.00907)	(0.00625)	(0.00645)	(0.0105)	(0.00650)
Contract Duration	0.000677***	0.000128	0.000148***	-0.000487*	5.48e-05
	(0.000157)	(0.000165)	(4.94e-05)	(0.000251)	(4.61e-05)
Reserve Price	-5.70e-10**	-6.56e-08***	7.65e-09		
	(2.30e-10)	(1.61e-08)	(1.44e-08)		
Repeated	**-0.0904***	**-0.0155**	**0.0164***		
	(0.0323)	(0.0245)	(0.00879)		
Market Leader	-0.0265	0.0140	0.00354	0.0521**	0.00375
	(0.0259)	(0.0142)	(0.0109)	(0.0227)	(0.00978)
(Market Leader) × (Repeated)	**0.129***	**-0.00654**	**-0.00371**		
	(0.0374)	(0.0323)	(0.0160)		
Length of interaction				**0.0208***	**0.00960***
				(0.00548)	(0.00226)
Lag [Relative Price]				**0.402***	**0.0541***
				(0.0797)	(0.0173)
Constant	1.019***	1.025***	0.980***	0.578***	0.920***
	(0.0398)	(0.0218)	(0.0165)	(0.0742)	(0.0281)
Observations	105	111	315	58	224
R-squared	0.510	0.284	0.160	0.700	0.189

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Specifications 4-5 take a closer look at the situation in Regions 1 and 3. For this specifications I use only the data on the procurers that have performed 2 or more purchases during 2009-2010 and study the influence of the length of relationships within the chain of repeated interactions on the relative price of the contract. The results show that although the average prices within repeated interactions are lower in Region 1 than in Region 3, the dynamics of price formation within the chains follows the same pattern in both regions: the longer is the chain the higher are the prices of public procurement contracts. It is also worth noting that the level of competition (number of bidders in the auction) and the type of procedure influence the relative prices not only in Region 2, where seldom facts of repeated interactions seemingly do not destroy the competitive bidding, but also in Region 1, since securing the government contract may be of more importance for the "preferred" supplier in absence of sufficient consumer demand.

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Prakhov, Ilya[1]; Yudkevich, Maria[2]: **Unified Admission in Russia: Do The Wealthier Benefit from Standardized Exams?[3]**

Abstract: *This paper examines the impact of family income on the results of the Unified State Examination (the USE) and university choice in Russia. We argue that, even under the USE, which was introduced instead of high school exit exams and university-specific entrance exams, entrants from wealthy households still have an advantage in terms of access to higher education, since income positively affects USE scores through the channel of a higher level of investment in pre-entry coaching. Moreover, richer households make more effective decisions about university. We have found positive and significant relationships between the level of income and USE results for high school graduates, with an equal achievement before coaching. We subsequently propose that students from the most affluent households do invest more in additional types of preparation (pre-entry courses and individual lessons with tutors), and those extra classes provide a higher return for children from this particular income group. Finally, we show that holding the result of the USE equal, students with good and fair marks from wealthy families are admitted to universities with higher average USE score than those from poorer families. As a result, we can observe that income status is a factor that significantly influences enrollment to university.*

Introduction

One of the aims of introduction of the Unified state examination of high school graduates (the USE) in Russia in 2009, which has replaced the system of university-specific entry exams, was to increase the accessibility and equity of higher education. It was assumed that under the new institutional settings, students from disadvantaged backgrounds would have more opportunities to be enrolled in universities due to a reduction in expenditures on general and specific investments related to admission (university pre-entry courses, corruption payments etc.), as well as the minimization of transaction costs concerning the application process. However, high school graduates from wealthier households still could have some significant advantages, since they have more resources to invest in the general preparation process during their last year at high school. That, in turn, may improve their final USE scores and hence chances for better placement.

Income may affect the university admission results of an individual in at least two ways. Firstly, via USE scores: additional investments in pre-entry coaching and a wider choice of preparation programs can improve the final result. Secondly, even with their USE scores being equal, students from different income groups may make different decisions about where to apply. Indeed, the level of income is related to revealed risk aversion. Richer households feel more secure about the final outcome (the result of applying to university), and in case of failing to be admitted to a state-subsidized place (when the student's total score is not high enough to study on a tuition-free basis) richer students have sufficient financial resources to cover the tuition fees, whereas poorer students do not and are forced to choose an institution of a lower quality, but with a

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higher probability of enrollment, with a lower level of competition between applicants. We will analyze both channels of the influence of income on educational trajectories.

Aim of the project

      The main objective of this project is to analyze the differences in USE results for students from different income groups, in order to see how income status (family income level) influences the educational strategies of students (in particular, their choice of type of pre-entry coaching, as well as the level of time and financial investment in the process of preparation), their actual USE scores, and to confirm whether or not it is true that a higher level of income provides more opportunities for admission.

      The problems with the accessibility of higher education and issues concerning the equal opportunities for students from different socio-economic status (such as parental education and level of income) have attracted the attention of many researchers in different countries, and there is a significant amount of papers devoted to the analysis of the effect of income on future educational opportunities. Previous studies show significant influence of income status on students' achievement (Coleman et al, 1966; White, 1982; Hill, O'Neill, 1994; Orr, 2003; Dahl, Lochner, 2005), having offered possible explanations of the fact, why students from high income families do study better (Lebowitz, 1977; Davis-Kean, 2003). It was stated that income is related not only to the greater amount of resources, but to various parental behavioral patterns. In turn, these behavioral characteristics of the family determine a set of preferences of choice of different educational trajectories. Consequently, rich and poor students often make different decisions concerning the university choice.

Hypotheses and methodology

      In our empirical analysis, we use the results of a household survey which was conducted in the fall of 2010 in 16 of the largest cities in Russia[1]. This survey includes data provided by first year students who study at universities, and by their parents. The initial sample consisted of 1600 households (100 households in each city with one parent and one student interviewed per household), but due to data correction the sample was restricted to 1165 observations. The sample was subsequently weighted according to the number of school graduates in the cities above. The data includes information on the socio-economic characteristics of households, the student's achievement (USE scores and high school grades) and their application strategies which covers time and financial investments, sets of universities and disciplines under consideration and the availability of information).

      Initially households were divided into three groups according to the household income level: low, medium, high income groups.

      First, we analyze the relationship between level of income and students' achievement expressed in USE scores on the main subjects. Then we show how the results of the USE vary for students from different income groups, but with the same level of achievement at the end of 9th grade. Next, we analyze which universities students from different backgrounds, but with the same USE results, are admitted to. We show that holding the result of the USE equal, students with good and fair marks from wealthy families are admitted to more selective universities than those from poorer families.

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[1] The survey was conducted as a part of the project "Empirical methods in comparative institutional analysis", run by the Centre for Institutional Studies (CInSt) at the National Research University Higher School of Economics (HSE) in 2011 with the financial support of the Basic Research Program. For further information on CInSt projects see Androushchak, Prakhov, Yudkevich (2008, 2010), and http://cinst.hse.ru/en.

Results

First, we have set a positive relationship between the level of income and USE results in Russian and Mathematics, as well as in the average score on obligatory subjects and the average overall USE result. This tendency is maintained even under fixed prior achievements before the start of the process of pre-entry coaching.

We have subsequently examined how pre-entry coaching affects the achievement of students from different income groups. It was found that students from richer families tend to choose additional ways of preparation more frequently, specifically pre-entry courses and classes with tutors. Nevertheless, the higher amount of investments in pre-entry coaching is made by medium income families, but if we consider the effectiveness of such preparation, the richest students have greater benefits and the poorest gain significantly less. Therefore we can argue that additional pre-entry coaching is effective for high income students and ineffective for low income ones. In other words, in having more resources for preparation, wealthier students do seem to gain better results in the USE.

We addressed the separate question as to how students with different income backgrounds and with equal USE scores manage their USE results. As an indicator of university choice we have chosen the average USE result of students who were admitted to state subsidized positions. We have revealed a positive relationship between the level of income and the average USE score for low achievers and medium achievers. This means that under these levels of achievement richer students manage their scores more effectively than poorer ones. However, among high achievers (expressed in USE scores) the relationship between the level of income and university choice was ambiguous. On one hand, this could be due to the small number of observations noted. On the other hand, high achievers from richer families may have the same chances for successful admission as those from poorer households, so the institution of access to higher education provides equal opportunities for high achievers regardless of the level of parental income.

Nevertheless, income status is a significant factor which determines achievement (expressed in USE results), characteristics of pre-entry coaching and university choice. Thus, we cannot conclude that the introduction of the USE has provided equal access to higher education for all income groups of students.

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Rassadovskaya, Anastasia[1]; Aistov, Andrey[2]: **Anticorruption Legislation and Individual Propensity to Bribery in Russia**

Abstract: *Though more than 20 years have come since the disintegration of the USSR, the problems that have roots in socialist regime are still of interest for the majority of post-soviet countries. One of them is corruption, which has not only political but also economical consequences. Non-transparent economies are considered to be a threat to the world's financial stability, so they often face loss of confidence to them. The purpose of the current research is to provide empirical evidence for the relations between macroeconomic, political and legislative factors and grassroots corruption in Russia. The dominating goal of the research is to analyze the dynamics of factors, that create incentives for passive bribery at individual level and to reveal if there are structural breaks in the model related to the changes in anticorruption laws. Empirical part of the research is mainly based on the data of the "Russia Longitudinal Monitoring survey, RLMS-HSE", conducted by Higher School of Economics and ZAO "Demoscope" together with Carolina Population Center, University of North Carolina at Chapel Hill and the Institute of Sociology RAS (RLMS-HSE).*

Research problem

The first problem within the scope of the research is overlook of the factors stimulating illegal behavior and factors creating incentives for passive bribery at individual level in Russia. The second part of the project is analysis of structural breaks in corruptive behavior associated with new anticorruption laws adoption.

While analyzing factors significant for individuals to break law we based on the investigations of Andrienko (2002), Levitt, Miles (2006), Levin (2000, 2012). Researches consider a hypothesis that development is criminogenic: in particular, developing countries (transitional economies) are subject to growing crime level. Furthermore, they investigate the effect of changes in punishment on the crime level. It is proved that increase in severity of punishment reduces the number of related crimes, but the authors warn that the net effect to the society may be negative as all the costs of implementing a higher level of punishment or the increase in control should be taken into account.

Levin, Saratov (2000) examine Russian Federation in post-transition years and describe the institutions and social norms that have accommodated corruption. Levin (2012) introduces a list of myths about corruption that hinder the fight against corruption in Russia. It is necessary to admit here that according to the article whereas there are countries with corruption only at the high level of administrative system, there is not a single economy with only grassroots bribery – due to the fact that everyday bureaucracy and common individual kickbacks usually sprout higher.

Aim of the project

The purpose is to observe the factors, creating incentives for illegal behavior and in particular to corruption, trace their dynamics and reveal if there are structural breaks caused by changes in the legislation system.

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Main hypothesis

1.	Russia is subject to corruption on individual level due to the lack of trust to the government and society – not because of the difference in welfare. The roots of discredit come from the Soviet Union times.

2.	The adoption of new anticorruption laws introduces structural breaks in the factors significant for participation in passive bribery.

Methodology

The empirical analysis is mainly held using the RLMS-HSE data set. The hypotheses are tested using GMM-estimators.

Results

The first part of the research revealed factors affecting law evasion. It was detected that compared to some individual characteristics (education, gender, age and sphere of occupation) or social factors (trust, work in the government organization, presence of subordinates), the difference in welfare doesn't seem to have significant effect on the participation in the corruption act, so it's not income inequality which the government has to fight against.

The second part of the research has to be completed in June 2012. Preliminary results show that the hypothesis that newly adopted laws makes change in the behavior should be rejected, but further clarifying of the models ought to be made, using methodology that will allow to eliminate the effect of a relatively small sample.

Moreover, it's worth mentioning that, as the Federal Law #273 from 25.12.2008 assume that if the bribe-giver is subjected to extortion, he is to be pardoned, we also reveal that there is a significant relation between the attitude towards the state of corruption in Russia and the intentions to give bribes. Precisely, if the individual notes that the level of corruption is high, he decides that he is not only allowed to act 'like everybody does', but he will also have a chance to shift all the blame to the bribe-taker. That means that, as Savenkov [10] claimed, the government won't win the fight against grafts until strict measures towards active bribery are adopted.

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

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Szakonyi, David[1]: **Resurrecting Industry: The Politics and Economics of Monogorods in Post-Crisis Russia**

Abstract: *How is industrial policy set in non-democratic regimes? What is the role of political factors in determining economic winners and losers during periods of crisis? After a brief spell of disinterest, a new surge of literature has renewed the debate over the efficacy of industrial policy in driving economic development. Given the recent financial crisis, governments across the world have intervened substantially in the activities of firms, providing targeted subsidies to maintain production and employment levels. However, we know little about variation in policy across regime type, including how and why unaccountable governments make allocation and redistribution decisions. In this paper, I examine the large-scale rescue package of single-industry towns in Russia in the post-2008 crisis period. Using an original dataset built from primary source government documents, I test competing hypotheses about the factors behind redistribution decisions, as well as effects of financial infusions on firm survival.*

Introduction

Since late 2008, the worldwide economic crisis has hit Russia especially hard. Falling commodity prices crippled the main budget lifeline of the government while also exposing overleveraged firms in both the public and private sectors to margin calls from foreign banks. In general, observers commended the response of Russian state authorities (nationalizing banks, implementing a stimulus package to maintain high levels of aggregate demand, etc.). However, a highly salient critique has been the use of inefficient subsidies to prop up flailing industries. The goal of this research project will be to examine in detail one subset of the industrial sector that received these targeted transfers : the single-industry towns that dot Russia's economic landscape.

A remnant of the Soviet era, a single-industry town (or 'monogorod') is defined as a town where one enterprise either provides 25% of the total employment or 50% of industrial output. Recent estimates place the total number across Russia at roughly 350, comprising nearly a quarter of Russia's population and nearly half of its overall industrial output. However, these towns' outdated technology and inflexible organization have led to an increasing risk of extinction in the evolving global marketplace. Monogorods may be vital to Russian economy, but the consequences of their demographic and economic decline spell nightmares for the government. Over the past three years, headline-grabbing actions of workers at Pikalyovo and other factories (stand-ins, blocking roads, and street demonstrations) have set the tone of public rage against sliding living standards. Various state interventions have been then brought forward to address the plight of the striking workers and revive industries that keep them employed.

Aim of the Project

The objective of this research project is to pursue a targeted study of the main program designed to subsidize these monogorods over the last three years and derive hypotheses based on this exploratory work. In 2009, the Ministry of Economic Development began a pilot program to organize state-financed transfers into monogorods, surrounding infrastructure, and communal apartments. In 2010, 27 out of

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335 potential monogorods received over 25 billion RUB in financing, creating an interesting puzzle of why these were chosen as the most worthy. The second wave of the program included an additional 10 towns and 12 billion RUB allocated. In all, at least three ministries, a state committee and numerous regional governments have been involved in the plans, but no research has been conducted into economic and political calculations behind the various overlapping programs. Moreover, we know little about the effectiveness of the intervention, one of numerous state-sponsored initiatives to promote internal economic development.

The first focus on the project (Part I) will be on the selection of monogorods for federal financing and assistance. During times of crisis, why did some single-industry towns receive government bailouts while others didn't? How do autocratic governments pick economic 'winners' and 'losers'? What were the political and economic rationales behind the state-sponsored program to intervene and allocate scare resources to some parties? This project sets out to test various hypotheses derived from a close reading of the literature on distribution under democracy and apply them to the autocratic regime of Russia. Focusing on a set of like units that are integral to a national economy will shed light on components of a larger autocratic modernization strategy. Do autocratic governments follow the logic of courting swing over core voters (Dixit and Londregan 1995)? The hypotheses derived below offer explanations of the top-down economic strategy that the Russian government has been so prone to adopting.

After explaining the selection process, Part II then looks at the political and economic effects of the program. How effective are these types of subsidies at reviving the fortunes of the single-industry towns, for example by preventing layoffs or increasing output? Did these one-time transfers affect the productivity of monogorod enterprises? It was also presumed that decisions about loans and transfers were designed to curb public discontent with authorities. One indicator of that consequence would be electoral results for United Russia in either regional elections or the 2011 parliamentary polls.

Hypotheses and Methodology

Broken down between the selection (Part I) and the effects (Part I), I examine in turn political and economic motivations as well as a variety of possible consequences of the program. This project thus will attempt to adjudicate between varying competing hypotheses with the models present below in the section on 'Methodology.'

Part I: Explaining the Selection of Monogorods

First, I argue there were strong political logics for selecting the first two waves of monogorods for inclusion in the bailout program. Fearing continued unrest after highly pubilicized incidents, the central authorities acted first and foremost to defuse anger over the effects of the worldwide economic crisis. As such, they acted swiftly to prevent rising unemployment as well as to buttress their political ratings in so-called 'swing' regions, places with a higher propensity to vote against the government. Political connections also may have played a big role, as firm owners and directors with strong ties to ruling officials may have been able to lobby more effectively for support.

Hypothesis 1: Larger towns as well as monogorods with specific industries that provided the vast majority (over 75%) of employment in the towns are more likely to receive financing.

Hypothesis 2: The lower the vote share of United Russia in the 2007 State Duma Elections, the more likely a town will receive financing.

Hypothesis 3: Firms with strong political ties to either center or regional authorities will be more likely to see their town receive government support.

Alongside political explanations, a variety of possible economic factors may have held sway. For example, government officials are keenly aware of market prices for many of the natural resources that these industries are involved in expropriating. In addition, officials care about creating sustainable economic growth and not needlessly investing money in dying sectors or in places without prospects for competitive integration into the world economy. Therefore, temporary drops in mineral or energy prices may require financing for certain industries, whereas intervening to save an industry on the downslide for several years (and only furthering declining because of the crisis) could appear wasteful.

Hypothesis 4: Single-industry towns with industries shocked by a sudden drop in commodity prices will be more likely to receive support.

Hypothesis 5: Export-oriented enterprises will be more likely to receive financing.

Part II: Output, Productivity and Political Consequences of Intervention

The second set of hypotheses deals instead with the political and economic consequences of this targeted program. I argue that although these cash infusions will delay firings and maintain previous employment levels, the single-town industries receiving support will actually experience decreases in productivity and profitability in the short run. The short-term bailout disincentivized reform and innovation, leaving redundant workers on the books and the firms even more dependent on state support instead of their own development. Politically speaking however, those towns that received support will reward the offering with increased vote totals for the ruling party. Jobs will have been saved, incomes boosted, and government attention secured in targeted towns; those ignored will have experience declines in welfare and punish the government accordingly.

Hypothesis 6: Enterprises in single-industry towns receiving support will maintain employment levels, but experience decreases in productivity and output.

Hypothesis 7: Single-industry towns receiving support will vote in larger numbers for United Russia in the 2011 State Duma elections.

To test these hypotheses, I in the process of creating an original dataset of the 335 eligible towns, matching both city-level data and firm-level data from the SPARK database. Information on financing has come from primary-source government documents that detail the beneficiary and level of spending. For Part I hypotheses, I plan on using Heckman selection models to examine how towns were chosen as well as how money was distributed among those that made the cut. Part II models will employ matching techniques (specifically GenMatch software for R, Sekhon 2011) to match monogorods that received financing with comparable towns that did not. Once matched, I will use a difference-in-differences approach to examine the effect on the treatment (financing) on productivity, output, and political outcomes.

Data that will be included in the original dataset:

City-level:
- Region (Rosstat)
- Population (Rosstat)
- Average education level (Rosstat)
- Average income (Rosstat)
- Territory (Rosstat)
- Previous investment (Rosstat)
- 2007 and 2011 Election Results (CEC)
- Selection and level of financing form 2009 program (MERT documents)

Firm-level (SPARK Database):
- Sector
- Profitability
- Size of workforce
- Export vs. Import
- Productivity
- Investment levels

Results

Unfortunately, I have only just completed compiling the dataset, but expect to have preliminary results to present at the summer school. I'm very interested in receiving feedback on the theoretical framework and empirical design from school participants.

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Tétényi, András[1]: The Effects of Education on Economic Development in the Republic of South Africa

Abstract: *The Republic of South Africa is a unique place on the African continent in a way: it was the only place which had a bloodless transition process (in 1994), when the regime changed from a minority and authoritarian government to a majority and democratic one. During the transition period unemployment was at an average of 13 percent, which can be considered quite decent for any developing and African country. However unemployment rose to 30 percent in just six years time and according to the most recent data it is still around 25,3 percent. Our paper analyses the question what kind of effect does education have on unemployment and economic development in the Republic of South Africa. We find that unemployment is highest among those who have not completed secondary school or have not graduated from secondary school, whereas those who have received tertiary training unemployment rate is 20 percentage points lower. Based on statistical analysis we will show in our paper in what ways have the quality and quantity of education improved since the transition process and how did it affect the unemployment rates and economic development in the country.*

Introduction

The Republic of South Africa is a unique place on the African continent in a way: it was the only place which had a bloodless transition process (in 1994), when the regime changed from a minority and authoritarian government to a majority and democratic one. During the transition period unemployment was at an average of 13 percent, which can be considered quite decent for any developing and African country. However unemployment rose to 30 percent in just six years time and according to the most recent data it is still around 25,3 percent. This has understandably led many people to question the achievements of regime change and large parts of the population may wonder in what ways have they benefited from getting the African National Congress (ANC) to lead the country instead of the National Party (NP). As Nelson Mandela famously remarked *"We do not want freedom without bread, nor do we want bread without freedom. We must provide for all the fundamental rights and freedoms associated with a democratic society."* (Steyn 2010:2) Unfortunately it seems that although the regime change did create opportunities for some parts of the population the previously quoted unemployment figures in addition to the 0,7 Gini coefficient based inequality figures suggest that there is still room for improvement.

Aim of the project

The aim of this project is to analyze and look for the casual relationship between one of the major problems in the Republic of South Africa: that of unemployment and education. This paper would like to add to the existing literature in the field of education and development economics. We believe that it is impossible to list all the major development issues the Republic of South Africa is endeavouring to tackle in one paper, therefore we chose one which nevertheless has got some far reaching and long term effects on the whole country. During apartheid schools and educational facilities were segregated: that is Africans could not attend the same institutes of education as whites. The funding also varied: schools where white pupils and scholars were educated, on an

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average received 6-7 times as many resources as those institutions where only Africans were educated. This not surprisingly has led to the vast differences in the quality and quantity of education different races received. Since unemployment is a major problem in present day South Africa with a 25 percent level, and those people who have not received tertiary education and good quality secondary education are mainly from the African part of the population, and the level of unemployment among Africans is the highest, in our paper we shall be aiming to answer the question: is unemployment high because of the lack of quality education people are receiving? We shall be also endeavouring to address the question what are the causes for the low quality of education, and why a disproportionately large number of Africans are still unemployed.

Hypothesis and methodology

The hypothesis of the paper is the following: *unemployment in the Republic of South Africa is high because of the low quality of education people are receiving*. The methodology of the paper is based for the most part on the comparative statistical analyses of the data provided by the official Statistical Agency of the Republic of South Africa on unemployment, activity in the labour market and education received by different races. Unfortunately time series data does not exist on the quality of education received by different population groups in South Africa and indeed quantity in some cases is missing, therefore we shall not be able to adapt regression analysis and will have to rely on results of Censuses conducted in 1996, 2000 and 2011, the afore mentioned data provided by Statistics South Africa and on field research done by colleagues of the University of Stellenbosch, when endeavouring to answer our hypothesis. Since the country is divided into nine provinces we shall also be looking at the question to what rate does the level of economic development of certain provinces determine the level of education received there and also the unemployment rates.

Results

We find that although the regime changed from an authoritarian and minority one in 1994 to a democratic and majority one; the long term effects of apartheid are still visible. First of all, provinces where the percentage of whites is higher than the average 10 percent as in the country, the levels of unemployment are lower. Also in the provinces where unemployment is lower, the average years spent in education is higher than in other provinces. This suggests on the one hand that there is a path dependant relationship between unemployment, education and the percentage of different population groups living in certain provinces. This is not really surprising since as we have outlined previously, whites have received far more resources during apartheid both in the field of education and other fields as well as opposed to Africans. Even though since 1994 the government had notable achievements by getting Africans to attend schools for approximately the same years as whites, when the quantity of years spent in education is measured besides the quality of education received, the facts tells us the story that Africans still fare far worse when having to solve mathematical and reading tests as opposed to whites. This suggests that the quality of education is different in the schools attended by the two population groups, which is still a result of the different funding under apartheid. Thus if we look at, in what population group is the unemployment highest and what population group receives the worse quality education the casual relationship is quite self explanatory: the funding differences that existed under apartheid exist still partially in the post-apartheid society which accounts for the lower quality of schooling received by Africans which determines directly their employment possibilities which negatively effects economic development in the Republic of South Africa.

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Tsytsulina, Dina[1]: **The Analysis of Mergers Influence on Stock Prices: Evidence from Metal Industry in Russia**

Abstract The research objective is to analyse the mergers influence on stock market in metal industry. Our results are based on event study method. According to it we calculate cumulative average abnormal returns for a certain period around the merger and then use standard parametric tests to assess the statistical significance of these parameters. We find the empirical evidence that the stock market assessment of mergers influence in Russian metal industry is the similar with the predictions of market structure theory so that the stock prices analysis gives an objective result. The main result is that the stock market evaluates Russian merger deals as very negative for competition only on domestic market, for foreign companies the effect of such deals is neutral. That is why not the mergers itself damage the competition in Russian metal industry but Russian metal market is unfavourable for competition.

Introduction

From the society`s perspective a merger can lead to positive or negative outcomes. This depends on effect of a deal. If it creates the synergy effects and increase efficiency due to cost savings then the effect is positive. On the contrary if the increased market power is a result of a merger and it leads to prices increase in the market hence there is a negative outcome on the society. Since this topic is very interesting there are a lot of researches analyzing the effects of mergers in the world. But unfortunately deals with participation of Russian companies have not been covered yet. During the last twenty years the process of Russian companies transnazionalisation have taken place, so that the assessment of Russian deals effects and the comparison with foreign deals are of main interest.

In this research we analyze mergers in metal industry. The choice of the industry is stipulated by several facts. Firstly this industry is highly exposed by government regulation. Secondly the vertical integration in this market is very high. Thirdly this market is high-concentrated. Due to these peculiarities of the industry it is more probably that mergers influence the stock market.

Aim of the project

The main aim of the project is to assess the mergers and acquisitions influence on the stock prices of companies in metal industry from 1999-2011 and to detect the difference (or the similarity) in the market reaction for deals between foreign companies and Russian deals. In particular we try to find the effects on the parties of a deal, on their rivals and consumers.

Hypothesis and methodology

The tested hypotheses are the following:

H1: The market evaluates Russian merger deals as more negative for competition.

Historically it is more usual for companies in Russian metal industry to act as monopolists, they are more likely to use their market power.

H1a: The negative mergers influence is higher for rivals than for competitors

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H1b: Mergers with Russian companies have a negative impact on Russian companies, but the effect for foreign companies is neutral.

In studies devoted to mergers analysis there are a lot of evidence for the fact, that a creation of value for the shareholders of both firms is positive and statistically significant.. (Aktas et al. (2003). This happens due to revaluation of new company with perspectives of future higher profit. Two main hypothesis can explain the creation of wealth - the Market Power Hypothesis (MPH) and the Economic Efficiency Hypothesis (EH), and their implications for the behavior of the stock prices of bidders, targets and competitors. Market power can be based on either the ability of a new company to influence the market or collusion with other companies in the industry. Eckbo and Wier (1985) distinguish two sub-hypothesis of Market power theory:

- *The collusion hypothesis*: the merger leads to cooperation among the companies of the merger`s industry. Due to monopoly rent it is necessary to expect positive abnormal returns for the merging firms and their rivals. At the same time it would decrease the wealth of consumers and lead to negative abnormal returns for them.

- *The predatory pricing model*: the merger could help the new firm to engage in predatory conduct and the increase abnormal returns for the parties of a deal. Here it is likely to expect the fall of the rival`s stock prices as survival of merger becomes more likely. Consumers will also face negative abnormal returns. It is necessary to mention that this sub-hypothesis is less likely to be confirmed by empirical analysis because companies in metal industry have a very huge share of fixed costs in production cost and they sell tones of metal all around the world. So that in order to force the company to leave the market the metal products should be sold at unreal low prices.

Economic efficiency theory predicts that a new firm production will be more profitable due to the synergy effect. Moreover it will positively affect the consumers wealth since the decrease of marginal expected costs should lead to prices reduction. As for EH hypothesis two different effects can be distinguished:

- *The productivity effect*: due to economy of scale the new firm can implement a technological innovation that would decrease their average costs and prices for customers and as a result lower the rival`s market value.

- *The information effect:* the competitors will use the same technology as the merged firms, so their costs will be reduced and share price will raise. This sub-hypothesis is also less likely to be proved, because in this industry all technologies are well-known.

It is necessary to mention that without consumer wealth analysis it is impossible to choose between the hypotheses. In particularly, positive abnormal return for parties of a deal and negative abnormal return for competitors support both the predatory pricing model and the information effect. So that abnormal returns for parties of a deal, competitors and consumers are included in our analysis.

The most popular method of evaluating the merger influence on the market and social welfare is the analysis of the stock market reaction. If the hypothesis of the market efficiency is true and all the relevant information that is released is immediately reflected on the stock market price of the specific firm then the market should react on the merger announcement by changing stock market prices.

We use a standard event studies procedure (Brown and Warner, 1985). Firstly, abnormal returns are calculated for each individual firm. These are obtained by removing concurrent general market movements and average long-term returns. The market model is estimated:

$$A_{it} = r_{it} - \hat{\alpha}_i - \hat{\beta}_i r_{mt},$$

where r_{it} is the total stock return of firm i on day t and r_{mt} is the total stock return on the domestic stock market index of the country of firm i on day t. We use an estimation period of 220 trading days that ends 30 days before the event window to estimate α and β.

Then we calculate abnormal returns as follows:

$$AR_{it} = r_{it} - \hat{\alpha}_i - \hat{\beta}_i r_{mt}$$

where AR_{it} is the abnormal return of firm i on day t and $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the estimated parameters from the market model.

One common situation is when date at which the event took place cannot be determined exactly. For example, the news of a possible takeover might spread gradually to the public, and may be reported with some lag in the press. In our situation there is such event uncertainty, so the abnormal returns may be spread out around the chosen event date (t=0). In such circumstances it is necessary to calculate cumulative average abnormal returns (CAAR) as:

$$CAR_i = AR_{it1} + .. + AR2$$

where t_1 is the beginning and t_2 is the end of the event window.

And then find the cross-sectional average:

$$CAAR = \frac{1}{N} \sum_{i=1}^{N} CAR_i$$

For each of the events we compute CAARs on the event day itself and over the event window from five trading days before to five trading days after the event date. Also we examine different event windows: -3/+24, -24/+3.

Finally we use standard parametric tests to assess the statistical significance of the CAARs. These tests are designed to answer the question whether the calculated abnormal returns are significantly different from zero at a certain significance level.

We obtain data on mergers and acquisitions from Thomson one database. It provides a lot of information about the operations such as the deal value, the announcement date, the status of the deal (completed, pending, intended), the mode of payment and information concerning bidders and targets. The sample consists of sixty deals from 1999 to 2011, one half of them are between foreign companies and others should include a Russian company as bidder or as target. Also the sample contains quotes of big rivals both Russian and international, and the largest consumers on the same markets. To get this sample, specific selection criteria were used. Firstly, at least one of the firms should be listed on any stock market. Secondly, the deal should be related to the metal industry. Thirdly, an operation should be completed and have a great deal value.

Results

The results presented in table 1 and table 2 prove our main hypothesis that the market assessment of Russian mergers influence on competition is higher than foreign deals influence. The coefficients in table 2 are greater than the same parameters in table 1.

Table 1 Cumulative average abnormal return relative to the merger announcement (only foreign deals)

	Event period (day 0 – announcement date)		
	(-5,5)	(-3,20)	0
Parties of a deal	0,29	-1,37	-0,36
Competitors:	**-2,03****	**-2,42****	0,99
foreign competitors	0,42	**-2,08****	**2,65*****
domestic competitors	**-2,47****	**-1,68***	-0,26
Consumers:	-1,2	-0,80	-0,54
foreign consumers	-0,67	**-2,05****	-0,92
domestic consumers	-1,02	0,01	-0,18

Significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively

Table 2 Cumulative average abnormal return relative to the merger announcement (only Russian deals)

	Event period (day 0 – announcement date)		
	(-5,5)	(-3,20)	0
Parties of a deal	0,89	-0,82	**2,17****
Competitors:	**-3,35*****	**-1,90***	-1,10
foreign competitors	**-2,23****	0,22	-0,46
domestic competitors	**-2,80*****	**-4,02*****	-1,35
Consumers:	-0,43	-0,20	**-1,66***
foreign consumers	0,82	0,68	-1,04
domestic consumers	**-1,98****	-1,36	-1,42

Significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively

Then we distinguish all deals according to the type of a merger (horizontal, vertical) and results are presented in tables 3 and 4. A very interesting result is obtained here. Horizontal mergers in Russia have a negative and statistically significant effect -1.86% on Russian consumers, but the influence of the same deals on foreign consumers is neutral. It is very consistent with the structure of Russian metal industry, because this market is relatively closed. Metal producers in Russia have a greater market power on domestic market so that they establish higher prices on products for domestic consumers and lower export prices. This fact is confirmed but a lot of researches on markets structure. According to this we can conclude that market assessment of mergers influence in Russian metal industry is the similar with the predictions of market structure theory so that the stock market analysis gives an objective result.

The main result is that the stock market evaluates Russian merger deals as very negative for competition only on domestic market, for foreign companies the effect of such deals is neutral. Not the mergers itself damage the competition in Russian metal industry but Russian metal market is unfavourable for competition.

Table 3 Cumulative average abnormal return relative to the merger announcement (only horizontal deals)

	All deals	Only foreign bidders	Only Russian bidders
Number of deals	60	20	24
Parties of a deal	0.35772	0.50947	-0.068945
Competitors:	-3.0634***	-1.8862*	-2.4138**
foreign competitors	-1.1651	-0.044993	-1.2297
domestic competitors	-3.2088***	-2.0556**	-2.6215***
Consumers:	-1.3132	-1.4263	-0.49928
foreign consumers	0.58164	-0.064764	0.64833
domestic consumers	-2.2993**	-1.5083	-1.8648*

Significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively

Table 4 Cumulative average abnormal return relative to the merger announcement (only vertical deals)

	All deals	Only foreign bidders	Only Russian bidders
Number of deals	60	10	6
Parties of a deal	0.86033	-0.22464	1.8265*
Competitors:	-2.397**	-0.88132	-2.7277***
foreign competitors	-1.7444*	0.70314	-2.5806***
domestic competitors	-1.661*	-1.3715	-0.99202
Consumers:	-0.046793	-0.089335	0.039668
foreign consumers	-0.093314	-0.95224	0.53749
domestic consumers	0.01188	0.35271	-0.69745

Significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively

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Voytova, Tatiana [1]; Podkolzina, Elena [2]: **The Blacklisting in Russian Public procurement[3]**

Abstract: *The main goal of the reform of public procurement in Russia, initiated in 2005, was to prevent corrupt deals between suppliers and procurers. That is why the public procurement law favors formal mechanisms to govern most of the stages of procurement: the procurer is not allowed to take into account the reputation of the supplier when he announces call for bids and selects the supplier, and he is prescribed to use the legal system (courts) if he is not satisfied with the contract performance. As the efficiency of formal institutions is not very high, these mechanisms are complemented with Blacklist – a «formalized informal instrument» that on the one hand is believed to substitute for reputation mechanisms to support formal mechanisms when they are weak but the other hand is illustration for the formal system work. In the paper we turn attention in which situation the Blacklist is the most efficient that is the procurer uses the Blacklist with minimal costs.*

Introduction

The Public procurement law in Russia favors formal mechanisms to govern most of the stages of procurement. In particular it is concern the stage ex post when because of the information asymmetry the supplier has the incentives to violate the contract. According to the law (FL-94) the procurer is not allowed to take into account the reputation of the supplier when he announces call for bids and selects the supplier not to disturb competition. And he is prescribed to use the legal system (courts) if he is not satisfied with the contract performance. As the efficiency of formal institutions is not very high, these mechanisms are complemented with a «formalized informal instrument» - blacklisting opportunistic suppliers, which is believed to substitute for reputation mechanisms to support formal mechanisms. The question is when the Blacklist is efficient that is the procurer can use it with minimal costs and has high incentives to use it.

Aim of the project

To answer the question we analyze how the probability to win the case (related to contract cancellation) with minimal costs depends on various factors. These factors can be both external related to institutional environment and internal related to characteristics of contracts. The goal of this paper is the analysis of internal factors.

The paper is organized as follows. Firstly we describe the principals of Blacklist functioning and the problems related to it and then we have a regression analysis of the factors.

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Hypotheses and methodology

Our hypothesis is following. The probability to win the lawsuit with minimum costs depends on the value of measurement costs and on the reason of contract breach (verification costs). Low measurement costs and clear reason (low verification costs) raise the probability to win the lawsuit.

So we analyzed two factors. The first is the measurement costs of the supply. We divide all contract subjects into three groups following the goods classification by Darby, Karny and Nelson (Nelson (1970), Darby and Karny (1973)) (see the table 1 in Appendix). The first group includes goods the quality of which can be checked on the view of the good or in the process of performing works and rendering of services. This group is named search goods. The second group included goods the quality of which can be checked during the application of the good. This group is named experience goods. And the last group included goods, works and services the quality of which can't be checked or it is too difficult to do this. This group is named credence goods.

The second factor is the reason to sue. We use the classification of reasons on the ground of their evidence that is how easy the claim can be supported and disputed. We divide all reasons into four groups according to evidence. These are claims of the quality, the out of time deliveries or mismatch to the delivery size, a mismatch to documents standards and the absence of the delivery. The most evident reason is absence of the delivery. Claims of the delivery size are less evident because an additional inspection is needed to check how considerable the breach of the contract was. Claims of the quality are the least evident because in most cases there is no objective test of quality and if the procurer deals with an experimental or a credible good it could be too difficult to estimate the quality and to proof that it doesn't meet the specified quality. This reason to sue is hardly could be proved in court.

We use regression analysis to check the hypothesis and run some probit regressions. We use the data from Blacklist and information from court decisions. Also as control variables we use some regional factors.

Results

The hypothesis is not rejected (see the table 3 and table 4 in Appendix).

We run two series of regression. In the first we don't include some regional factors and in the second we include. The results didn't change.

If the supply is credence the probability to win goes down. And if the supply is experience the probability to win increases (see the table 1 and table 2). And if the reason of cancellation is quite evident such as absence of supply and the costs of verification the violation in the court are low the probability to win is increases.

Table 1. The results without regional factors

VARIABLES	(1) win	(2) win	(3) win	(4) win	(5) win
sec	-0.199*** (0.0568)				
exp		0.268*** (0.0636)			
cred			-0.315*** (0.0681)		
evidence				0.147*** (0.0307)	
gws					0.0992* (0.0518)

Table 2. The results with regional factors.

VARIABLES	(1) win	(2) win	(3) win	(4) win	(5) win
sec	-0.156** (0.0704)				
exp		0.234*** (0.0787)			
cred			-0.254*** (0.0845)		
evidence				0.0910** (0.0378)	
gws					0.0521 (0.0649)

The information about characteristics and terms of contract that related to it can be unobservable or not verifiable by the third party. So the contract is characterized as incomplete and it is impossible to prove the violation of terms in the court. The same idea was described by Shavell (1984) and Schwartz (1992).

So we conclude that using Blacklist when the supple is credence is not reasonable because the costs of using it are high enough. Also this instrument is most efficient when the reason of cancellation is quite evident.

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Appendix

Table 1. Description of variables

Variable	Label	Description
Win the case	win	**1** - if the procurer wins the case at first instance, **0** - if the procurer wins the case at further instances or part of the claims is not satisfied
SEC	sec	**1** - if the supply is a search good, **2** - if the supply is a experience good, **3** - if the supply is a credence good
Experience supply	exp	**1** - if the supply is an experience good, **0** - if other types of goods
Credence supply	cred	**1** - if the supply is an credence good, **0** - if other types of goods
Evidence of reason	evidence	**4** - if the reason of judgment is absence of supply, **3** - if the reason is not full supply or failure to meet a date of supply, **2** - if the reason is the contradiction of supply with the requirements specification, **1** - if the reason is bad quality of supply
Good/work/service	gws	**1** - if the supply is a good, **2** - if the supply is a work, **3** - if the supply is a service
Duration of contract	duration	Duration of contract (number of days)
Material claims	claims	**0** – if material claims is in interval from 0 to 5000 rub. **1** – from 5000 to 50000 rub. **2** – from 50000 to 100000 rub. **3** – from 100000 to 500000 rub. **4** – from 500000 to 1000000 rub. **5** – over 1000000 rub.
Auction	auction	**1** - if the procedure is an auction, **0** - if other
Initiator of case	initiator	**1** - if the initiator of the case is procurer, **0** - if supplier
Presence	presence	**1** - if the supplier is present in the court, **0** - if the supplier is absent in the court
Index2	index2	An indicator reflects the transparency of public procurement system in the region on basis of the availability of information from web sites
Court rate	courtrate	An indicator of the courts functioning
Budget of region	budget	Budget of region
Corruption	corruption	An indicator of corruption in region
Number of bids	bids	Average number of bids in region
Changes rate	changesrate	Number of contracts changes to number of signed contract ratio
Careful administrators	carefuladm	Number of administrators in region who gives the information about procurement activities to number of administrators in region

Table 2. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Win the case	280	0,5642857	0,496738	0	1
SEC	280	2,339286	0,6413691	1	3
Experience supply	280	0,475	0,5002687	0	1
Credence supply	280	0,4321429	0,496261	0	1
Evidence of reason	280	3,085714	1,132674	1	5
Good/work/service	280	1,617857	0,6776269	1	3
Duration of contract	280	174,1	184,9605	0	1089
Material claims	280	1,610714	1,847761	0	5
Auction	280	0,5535714	0,4980119	0	1
Initiator of case	280	0,9714286	0,1668969	0	1
Presence	280	0,2857143	0,4525628	0	1
Index2	261	8060,718	16290,43	0	41058
Court rate	261	469,1379	107,9832	194	879
Budget of region	261	2,41E+08	3,45E+08	1,32E+07	9,32E+08
Corruption	261	0,4682031	0,1541464	0	0,805
Number of bids	261	119016,1	119968	6610	352566
Changes rate	241	0,026833	0,0319473	0,0011183	0,256169
Careful administrators	261	0,9837137	0,0360099	0,8035714	1

Table 3. Quality measurement costs, cancellation reasons and probability of case win

VARIABLES	(1) win	(2) win	(3) win	(4) win	(5) win
sec	-0.199***				
	(0.0568)				
exp		0.268***			
		(0.0636)			
cred			-0.315***		
			(0.0681)		
evidence				0.147***	
				(0.0307)	
gws					0.0992*
					(0.0518)
duration	0.000539***	0.000560***	0.000639***	0.000496**	0.000225
	(0.000203)	(0.000204)	(0.000213)	(0.000197)	(0.000193)
claims	-0.0791***	-0.0816***	-0.0786***	-0.105***	-0.0893***
	(0.0179)	(0.0180)	(0.0181)	(0.0185)	(0.0179)
auctions	-0.0778	-0.109	-0.0804	-0.0751	-0.108
	(0.0700)	(0.0689)	(0.0703)	(0.0702)	(0.0679)
ownership	0.121*	0.141**	0.108	0.109*	0.178***
	(0.0660)	(0.0648)	(0.0663)	(0.0656)	(0.0632)
initiator	0.0795	0.122	0.105	0.0451	0.0669
	(0.199)	(0.204)	(0.205)	(0.186)	(0.190)
presence	-0.0918	-0.118	-0.105	-0.0672	-0.113
	(0.0726)	(0.0728)	(0.0732)	(0.0729)	(0.0718)
Observations	280	280	280	280	280

Standard errors in parentheses

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

Table 4. Quality measurement costs, cancellation reasons, probability of case win and regional factors

VARIABLES	(1) win	(2) win	(3) win	(4) win	(5) win
sec	-0.156** (0.0704)				
exp		0.234*** (0.0787)			
cred			-0.254*** (0.0845)		
evidence				0.0910** (0.0378)	
gws					0.0521 (0.0649)
duration	**0.000586** (0.000255)	**0.000654** (0.000262)	**0.000671** (0.000265)	**0.000553** (0.000249)	**0.000428* (0.000248)
claims	**-0.123*** (0.0222)	**-0.123*** (0.0222)	**-0.120*** (0.0223)	**-0.136*** (0.0218)	**-0.134*** (0.0220)
auctions	0.0336 (0.0854)	0.0197 (0.0852)	0.0342 (0.0858)	0.0181 (0.0842)	0.0150 (0.0838)
ownership	0.0771 (0.0939)	0.107 (0.0931)	0.0792 (0.0940)	0.0604 (0.0948)	0.111 (0.0915)
initiator	0.241 (0.242)	0.288 (0.241)	0.276 (0.240)	0.205 (0.234)	0.208 (0.242)
presence	**-0.207** (0.0883)	**-0.249*** (0.0876)	**-0.220** (0.0882)	**-0.186** (0.0893)	**-0.236*** (0.0867)
index2	**-1.47e-05*** (2.88e-06)	**-1.41e-05*** (2.89e-06)	**-1.42e-05*** (2.91e-06)	**-1.33e-05*** (2.95e-06)	**-1.50e-05*** (2.84e-06)
courtrate	3.20e-05 (0.000385)	0.000125 (0.000389)	0.000107 (0.000389)	-0.000146 (0.000387)	-7.74e-05 (0.000382)
corruption	-0.136 (0.277)	-0.223 (0.276)	-0.155 (0.278)	-0.116 (0.277)	-0.227 (0.271)
budget	**-1.37e-09* (7.37e-10)	**-1.43e-09* (7.33e-10)	**-1.30e-09* (7.41e-10)	**-1.68e-09** (7.20e-10)	**-1.67e-09** (7.14e-10)
bids	**4.33e-06** (2.16e-06)	**4.38e-06** (2.15e-06)	**4.08e-06* (2.17e-06)	**5.19e-06** (2.12e-06)	**5.12e-06** (2.10e-06)
changesrate	-1.544 (1.311)	-0.919 (1.323)	-1.440 (1.317)	-0.987 (1.284)	-0.984 (1.288)
carefuladm	**-2.698* (1.464)	**-2.574* (1.474)	**-2.551* (1.482)	-2.001 (1.450)	**-2.706* (1.474)
Observations	241	241	241	241	241

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

FOR NOTES

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