Cross-regional variations of the opportunity driven entrepreneurial activity in emerging market economies: Russia as a case

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Problem: state of the art

- **Regional disparity of entrepreneurial activity, measured by varying rates of *already existing* SMEs as well as by the frequency of *start-ups* and business closures, is a widely recognized problem**

- **Various approaches in the literature searching for factors which significantly influence regional variation in new firm birth rates within the *labor market analysis* (unemployment and general skills), *firms' ecology* (industrial structure of regional economy by size and branch), *demography* (population density/growth, human capital), and *financial infrastructure* (availability of financing, etc.) (Zhao and Seibert 2006; Rauch et al. 2009; Zhao et al. 2010; Sorgner and Fritsch 2013; Fritsch & Storey 2014; Caliendo et al. 2015).**

- **Our focus is even narrower: which variables could explain the difference in the quality of entrepreneurial activity (necessity vs. opportunity driven entrepreneurship prevalence)? across regions of the same country?**

Importance of the issue

- It is widely accepted that the impact of opportunity-driven entrepreneurs on economic growth and wellbeing is higher than the impact of necessity-driven entrepreneurs (Van Stel et al. 2005; Wennekers et al. 2005; Wong et al. 2005; Hessels et al. 2008; Koellinger 2008; Valliere and Peterson 2009; Chepurenko et al. 2011 etc.)

- To explore the factors of cross-regional differentiation in it, we took Russia as a country with very diverse levels of entrepreneurial activity and its structure across regions and invented a GEM based indicator, **SOBE**

- The **share of opportunity-based early entrepreneurs (SOBE)** = the percentage of EARLY STAGE ENTREPRENEURS (i.e. nascent entrepreneurs + new business owners) driven by the *search for new opportunities* and towards the *realization of their own values* within ALL early stage entrepreneurs

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Data, sampling and questionnaire

- FOM 'Georating', 2011
- A 3-stage stratified household sampling procedure
- Primary sampling units (PSU) represent 79 (of 82) Russian regions with 139.9 million inhabitants, or 98.6% of the population of the Russian Federation
- The PSU sample size between 500 – 800 respondents, depending on the size of this region's population
- The total sample = 56.900 adults, 18 years +
- Questionnaire of 18 questions, 8 related to socio-demographic characteristics (gender, age, education, professional occupation and status, wellbeing) and 10 referred to issues of entrepreneurial potential and the activity of the population in accordance with the GEM methodology (Obraztsova & Popovskaya, 2012).

Russian regions' distribution by the SOBE level

Map Legend

Zero Level	white
Low Level	light grey
Below than Average Level	grey
Average Level	dark grey
Above than Average Level	grey black
High Level	black

Hypotheses

Cross-regional specifics:

- **H1. Cross-regional differences in the SOBE level may reflect a certain set of regional social and economic factors *with an one-year or two-year lag*.**

- **H2. Cross-regional differences in the SOBE level may depend on the *tempo of changes* in a certain set of variables reflecting the social and economic development in given regions.**

General factors:

- **H 3.1. A *growth of private investment* in the regional economy could decrease a region's SOBE level.**

- **H 3.2. An *increase of wages of the employed population* could decrease a region's SOBE level.**

- **H 4. High *penetration of the digital* economy could increase a region's SOBE level.**

Table A1.1 Main descriptive statistics of the SOBE level variation among regions

Distribution Indicators	
Mean, %	44,02
Mode,%	42,58
Median, %	39,22
The Standard Deviation, %	15,34
The Variation Coefficient	0,35
1-st Decile, %	26,33
9-th Decile, %	64,20
The Decile Differentiation	2,44
The 1-st Quartile, %	34,57
The 3-d Quartile. %	54,58
The ½ Quartile Variation	0,255
The Range of variation, %	75,00
The semi-quartile range	0,582
The share of regions where the SOBE level is less than Mode	0,443
The share of regions where the SOBE level is less than Mean $_{Russia}$	0,468
The share of regions where the SOBE level is less than Mean $_{GEM2011}$	0,190
The Lindberg's Excess	0,136
The Lindberg's Skewness	-0,260
The Pearson's Skewness	0,094

Design of the analysis

- *Standard variation analysis* to study regions' SOBE distributions.
- A *multi-dimensional analysis* of factors influencing the SOBE structure.
- Non-parametric scales, coefficients and methods used as the distribution of the regions by SOBE level differs significantly from a normal distribution (t-criteria with p-value 0.005).
- 123 variables, reflecting economic and social items, demography, wellbeing, criminal situation, information society etc. – according to the Rosstat, 2009-2011
- Spearman's Rho coefficient to measure the relationship between SOBE level and regional external factors
- The list of 24 independent variables as a result of plotting pairs of independent variables to check whether the relationships among them are approximately linear
- FLDA to find a linear combination of factors which separate low, average and high SOBE level groups of Russian regions.

Results: Factors influencing the SOBE level difference between regions, by character and time-lag

- **Positively** with *one-year-lag*:
- The increase of the share of households with dwelling problems;
- the increase of the registered SMEs in the respective region;
- the increasing unemployment rate;
- the increasing average size of the bank deposits of population in foreign currency in Sberbank; the number of recorded crimes.
- **positively** with *two-years-lag*:
- the positive unemployment rate dynamics.

- **Negatively** with *one-year-lag*:
- the positive dynamics of the investment in fixed capital;
- the growing ratio of the average income per official subsistence level;
- **negatively** with *two-years-lag*:
- living space per capita;
- the share of households with dwelling problems (negative impact, i.e. an increase of this share bring down a SOBE level in the given region).

Conclusions

- **H1 and H2 are confirmed: there is a set of regional social and economic factors influencing the difference between the SOBE levels of the regions with 1 or 2-year lag, either positively or negatively**

- **H 3.1 is confirmed: persons with higher human and social capital choose rather a better paid employment in a growing big firm than a new venture establishment**

- **H 3.2 is confirmed for short-term (one-year) gap: the impact of the tempo of wages' increase in a region on the SOBE level with 1-year lag exists, and is negative**

- **H4 is confirmed; possessing over a PC and a stable Internet access at home is a factor increasing the SOBE levels in respective Russian regions**

Evidence: The view that any advantages in economic activity in the region foster chances for a growing opportunity-driven entrepreneurial activity not supported

- the SOBE level may diminish, *if the investment in fixed capital per capita in the respective region has grown in the previous year*, or if the tempo of wage increased in the previous year, as persons with higher human and social capital may choose a better paid employment in big businesses than establishing of a new venture

Evidence: A direct and strong correlation between the development of the 'information society' and opportunity-driven entrepreneurial activity

- possessing over a PC and a stable internet access is a *factor increasing the SOBE levels in Russian regions.*

- policy makers on the regional level should consider that *indirect support of entrepreneurship such as growing IT-literacy, widening of broad-band internet access and diminishing the digital divide may enhance the chances for* opportunity-driven entrepreneurship even more significantly than simple providing of small scale start-up funding

Thank you for attention!

Questions are welcomed