Evguenii Zazdravnykh

They are Different, They are Similar:
A Comparison of the Levels of Entrepreneurship in Germany and Russia
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Abstract

This paper investigates the differences in entrepreneurial activity between Germany and Russia. It covers analysis at national and regional levels using data from the Global Entrepreneurship Monitor and official statistics. The results show that Russia has more potential for entrepreneurship than Germany, but this potential is underused in contrast to Germany because Russia has worse institutions and mobility of people.
Introduction

It is well known that entrepreneurship stimulates economic development by launching new products, ways of production and innovations into an economy. (Acs, Desai and Hessels 2008) (W. J. Baumol 1986) (Bruton, Ketchen and Ireland 2013) (Davis 2010)

There are two points of view on the role of entrepreneurs in economic development. The first point of view is based on the theory of the managerial type of economy. It means that development is dependent on the performance of large firms only, while the impact of entrepreneurship is as small as possible. All new goods reaching the market are developed via incremental modernization with little innovation. The low shares of new ideas are determined by difficulties related to a lot of bureaucracy and formal rules in big firms. This economy has the special industrial organization and usually is associated with mass production. In 1950s almost all economies were of the managerial type. This was the case both for market economies and “socialist” systems. But the situation had changed by the 1990s. (Acs, Desai and Hessels 2008)

The second point of view treats entrepreneurship as an engine of economic development. It is based on the theory of the entrepreneurial economy which means that innovations and new ideas are more important for growth than modernization. Hence small and medium firms are more influential for development because it is easier to launch innovative decisions inside smaller enterprises. Higher paces of economic growth correlate with bigger share of small and medium enterprises’ output in the total output of the whole economy (or employment). In contrast to the managerial type, this economic model is associated with breakthrough technologies, products and services. (Acs, Desai and Hessels 2008)

The transition from managerial to entrepreneurial economy began in 1980-s in the United States and Western Europe. National governments recognized that it was impossible to achieve higher economic growth based simply on economies of scale in in large firms. Hence they needed more small firms because these usually grew faster than big ones. Consequential reforms were launched. And today we have many entrepreneurial economies worldwide. (Acs, Desai and Hessels 2008)

But there was a second reason for this transition. This was rooted in the political competition between socialism and capitalism. The power of large companies reduced democratic processes in many capitalistic countries and it had significant influence on politicians and public leaders though lobbying for decisions that would be in the interests of big business. It was felt that the creation of an entrepreneurial economy could solve this problem. Entrepreneurship requires more freedoms and democracy. (Acs, Desai and Hessels 2008) (Basareva 2002) (Aidis, Estrin and Mickiewicz 2008) (Ageev, Gratchev and Hisrich 1995)
The cases of Germany and Russia are interesting in this light. The former experienced the unification and achieved the level of a developed entrepreneurial economy. At this time, Russian growth is still based on the activity of big companies, hence it is a managerial economy. It might be valuable to compare the experience of those two economies. Firstly, it is important to understand the differences related attitudes to entrepreneurship. Secondly it is interesting to investigate its spatial allocation. Finally, are the laws of entrepreneurial behavior far different at a national level? This question is also required for this analysis.

In the first part of this paper I explain theoretical ideas and in the second part I describe the data and methods of estimations. At the end, results of estimations and conclusions were drawn.

1. The Theory of Entrepreneurship and Institutional Development

The term “entrepreneurship” has broad definitions because there is no exact definition of an entrepreneur and, hence, of entrepreneurship. (Parker 2004). For this reason we outline its meaning briefly without deep semantic analysis.

Richard Cantillion provided one of the earliest definitions of entrepreneurship. He defined an entrepreneurship as the number of people who operated independent business, i.e. self-employed. J.-B. Say defined an entrepreneurship as an activity of people who possessed the special qualities and skills necessary for the operation of a business and who operated their own business and bore its risks. (Say 1803, 1971).

In Marshall’s Principles of Economics (Marshall 1920), entrepreneurs were described as suppliers of products and services and providers of innovations and progress. Joseph Shumpeter determined an entrepreneurship as the process of searching for innovations that were maximizing a firm’s profit. He stated that the formation of new firms encouraged economic and social development. (Schumpeter 1911)

Frank Knight (Knight 1921) developed Cantillion’s view on entrepreneurship. He created the theory that determined entrepreneurs as arbitrageurs rather than innovators and provided a more robust analysis of risk in entrepreneurial activity. The other well-known economist – Izrael Kirzner described entrepreneurship as discovering and exploiting profit opportunities, he also emphasized their role as arbitrageurs rather than innovators.

I mean by the word “entrepreneurship” the creation of new businesses by one person or a group of individuals.

It was mentioned above that entrepreneurship is associated with economic growth. This point of view should be clarified for the purposes of the paper.

The share of entrepreneurs among the employable population is a natural value. It can be explained by the fact that entrepreneurial skill is a randomly
distributed talent which is a natural characteristic of a generation. Hence we can't significantly increase the number of entrepreneurs because we can't change the distribution of talents in the society.

William Baumol clarified this problem in 1990. He argued that the share of entrepreneurs in a society is not important for growth. He supposed that in fact the distribution of talented persons between productive and unproductive activities is the key factor for economic development. He proved this statement using case-study analysis. By unproductive activity he meant rent-seeking business. For example, trade, speculations and some simple services. Productive activity usually meant the producing or development of material goods. William Baumol suggested that the distribution of entrepreneurs is dependent on institutions that encourage each type of activity. For example, if people have positive attitudes to the productive entrepreneurial activity and the economy brings more money there, the person will choose it. (W. Baumol 1990)

Hence, different countries have different and substantial shares of entrepreneurs. And many papers confirmed large variations of this rate among countries. But many scholars showed that this rate was significantly changed over time. In addition a “U-shape” relationship was found between the level of entrepreneurship (measured by Total Entrepreneurial Activity from Global Entrepreneurship Monitor (GEM)), and the level of Gross Domestic Product (GDP) per person. This means that the level of entrepreneurship is higher in low-income and high-income countries simultaneously than in middle-income economies. But the distribution of entrepreneurial activity among productive and unproductive activities is absolutely different in low-income and high-income economies. (Wennekers and Thurik 1999), (Acs, Desai and Hessels 2008)

Thus Baumol’s hypothesis is fair for short term periods. But is it fair for countries with high paces of change? For example, is it correct to use Baumol’s hypothesis for the analysis of entrepreneurship in developing or emerging countries? The next part investigates this question using the comparative analysis for Germany and Russia.

2. The Comparison of Entrepreneurship in Russia and Germany at a National Level

It was mentioned above that the term “entrepreneurship” has broad meaning. For this reason we do not have a robust measurement of entrepreneurship. Instead we have several approaches for measuring it. Some of them are based on official statistics. For example, the number of start-ups (i.e. newly registered firms), employment by small and medium enterprises, the output of small and medium enterprises might be used for this purposes. Other metrics are national and international surveys. In Germany we have SOEP (Socio-economic panel by DIW Berlin) and in Russia we have RLMS (Russian Longitudinal Monitoring Survey by Higher School of Economics). These surveys provide individual level
data that covers all possible characteristics: gender, age, education, occupations, attitudes and etc. But for comparative analysis we will use international level data from the Global Entrepreneurship Monitoring (GEM).

Global Entrepreneurship Monitoring (GEM) is an annual survey of the adult population related to entrepreneurial activity at a national level. The purpose of GEM is to measure the individual involvement in venture creation. The survey is conducted worldwide and covers around 100 countries. Notice, that it measures both formal and informal firm creation. This is important for developing countries where almost 80% of entrepreneurial activity is not registered. In addition, the survey measures personal characteristics and attitudes to self-employment. Sample sizes for both economies are in Table 1.

<table>
<thead>
<tr>
<th>Year</th>
<th>Russia</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>2012</td>
<td>7058</td>
</tr>
<tr>
<td>2002</td>
<td>2190</td>
<td>15041</td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td>7534</td>
</tr>
<tr>
<td>2004</td>
<td></td>
<td>7523</td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td>6577</td>
</tr>
<tr>
<td>2006</td>
<td>1894</td>
<td>4049</td>
</tr>
<tr>
<td>2007</td>
<td>1939</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>1660</td>
<td>4751</td>
</tr>
<tr>
<td>2009</td>
<td>1695</td>
<td>6032</td>
</tr>
<tr>
<td>2010</td>
<td>1736</td>
<td>5552</td>
</tr>
</tbody>
</table>

Table 1. Sample size of Global Entrepreneurship Monitoring survey
Source: GEM 2001-2010 APS sample sizes

First and the most general and well-known measurement of entrepreneurship is Total early-stage Entrepreneurial activity (TEA). It evaluates the percentage of people aged 18-64 who are either a nascent entrepreneur or an owner-manager of a new business.

The entrepreneurial activity in Germany has decreased since 2001 (see Figure 1). German TEA was at a minimum level several years before the financial crisis and during the recession (2008-2009). At this moment the Russian indicator was going up. Entrepreneurial activity in Russia and Germany.

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1 See the document here: http://www.gemconsortium.org/docs/413/gem-2001-2010-aps-sample-sizes. The Russian survey is conducted by Higher School of Economics and Graduate School of Management, Saint-Petersburg State University. The German team is from Leibniz University of Hannover and Employment Research Institute. All data is representative at a national level.
But Russian growth is "necessity based" rather than opportunity driven (see Figure 2). The necessity of entrepreneurship was the driver of the growth in Germany before the crises. Meanwhile, it was the main engine for 2002-2012 year in Russia. Moreover, the impact of this factor increased after 2008 in Russia. It is an important detail because the people who become entrepreneurs by necessity are usually less successful than opportunity-driven ones. In addition the increasing rate of necessity entrepreneurship shows that opportunities are not interesting or available or visible for those who intend to become an entrepreneur by their own decision. Thus German entrepreneurs might be more successful than Russian (see Figure 3).
simultaneously with the reduction of the necessity-driven entrepreneurs and steady level of TEA. (see Figure 3)

The Russian case is absolutely different. We see the growth of TEA and the necessity entrepreneurship level in Russia. At this moment, the share of respondents who perceive opportunities for creation of a new business in the area where they live has been falling since 2007-2008 years.

It is important to point out the increase of the latter indicator in 2008. (Figure 3) It was caused by the fact that during the crisis people saw more chances for establishing new enterprises due to reduction of competition and bankruptcies of some of the existing firms. But further stagnation of the Russian economy changed this trend and made local opportunities less visible and attractive for prospective businessmen.

The absence of local opportunities might be explained by several reasons. (see Appendix)

Russian prospective entrepreneurs are less skilled than German ones. The indicator “Percentage of 18-64 population who believe to have the required skills and knowledge to start a business” is lower for Russia than for Germany. It might be suggested that regions with the bigger share of high-skilled workers is more entrepreneurial.

![Figure 3. Percentage of 18-64 who see good opportunities to start a firm in the area where they live](Source: GEM)

Russian and German people have the same attitudes to entrepreneurship as a desirable career choice. The share of the employable population who know someone who started a business in the past two years is almost the same for both countries and equals nearly 30%. The share of 18-64 aged population with positive perceived opportunities who indicate that fear of failure would prevent them from setting up a business has also almost the same ratio (30-
40%) for Russia and Germany. In Russia more than a half (60-70%) of respondents answered that in their country most people consider starting a business as a desirable career choice. At this time this share is lower (40-50%) for Germany. On the other hand 70-80% of Russian respondents agreed with the statement that successful entrepreneurs receive high status in their country. This indicator is 10% higher for Germany.

But Russian start-ups do not survive with the same probability as in Germany. The percentage of 18-64 population who are currently an owner-manager of a new business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than three months, but not more than 42 months is the same between Russia and Germany. But the percentage of 18-64 population who are currently owner-manager of an established business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than 42 months is higher in Germany and lower in Russia. Therefore there are some reasons that make German start-ups more likely to survive.

The first one is related to access to finance. We see that the percentage of the population aged 18-64 who have personally provided funds for a new business started by someone else, in the past three years is almost twice as high in Germany as it is in Russia.

The second one is infrastructure. At first glance it might seem that railroads and motorways create opportunities for the creation of new companies. On the other hand, developed infrastructure attracts large companies that usually drive out small ones from a market. In addition the absence of infrastructure creates barriers for large businesses and protects opportunities for local necessity entrepreneurs.

The other explanation is the share of young population. In the case of Russia older people experienced the period of socialism and ideological pressure and eventually the transition. They might be less informed about market institutions and prefer stable but lower paid work at a large company. At this time, the young population is more oriented towards a business career and more open for foreign experience. But the absence of significant professional experience among young people might reduce their chances of a successful entrepreneurial career. Professional experience is the only source of innovations and business ideas in places where there is no innovative environment around universities.

The specialization of the local economy is also important for decisions about choosing occupations. In the regions with developed manufacturing there is more likelihood of entrepreneurship emerging in manufacturing industry. This is due to the fact that employees move out from existing companies and create their own business, there are a lot of people with skills in manufacturing etc.

Human capital is also an important determinant for the explanation of differences between regions and countries. It can be measured by the persistence of educated people. Consequently they are more likely to apply for a job and make saving for future business. Moreover they usually possess
necessary experience that was achieved during their career in managerial roles.

In addition the effects of urbanization and agglomeration are also important. Urban areas are attractive places for sharing new ideas or searching for resources such as experienced professionals, finance or innovative equipment. Moreover universities and other educational institutions are usually located in cities hence the innovative environment is also there (all data from GEM is in Appendix).

3. The Comparison of Regional Differences in Entrepreneurship Between Germany and Russia at a Regional Level

3.1 Measuring of Entrepreneurship at a Regional Level

Different interpretations of entrepreneurship lead to differing measures of the concept using official statistics. One approach is based on the proposition that one entrepreneur is equal to one firm. This point suggests that entrepreneurship can be measured as the self-employment rate. This measure has been employed by several scholars (Evans and Jovanovic n.d.), (Blanchflower and Oswald 1998). However, others note that shares of self-employment are small and hence very heavily influenced by high growth rates of entrepreneurship (Glaeser and Kerr, Local Industrial Conditions and Entrepreneurship: How Much of the Spatial Distribution Can We Explain? 2009)

Another way to measure entrepreneurship is to quantify new and existing enterprises. However, this approach might lead to biased conclusions. The large number of firms that were created only for transactions, which would be included in the dataset, is most problematic aspect of this approach. Because Russia contains many of these companies, I did not utilize this type of measure. Previous research has also measured new startups in a particular industry (Saxenian 1994) (Feldman 2003), new product launches or venture capital placement. These measures are closer to the spirit of entrepreneurship and can describe both its static and dynamic aspects. However, these data are less available and were not utilized in this paper.

I measured entrepreneurship as the number of people employed by small and medium sized enterprises because this approach counts real working firms only. This approach is similar to the measurement employed in research papers by (Glaeser and Kerr, Local Industrial Conditions and Entrepreneurship: How Much of the Spatial Distribution Can We Explain? 2009) (Ghani, Kerr and O'Connell 2011).
3.2 Estimations for Germany

3.2.1 Data for Germany

The data for Germany is at regional level (kreis). It was collected by Federal Statistics Office (Destatis) – Regional Database Germany and data on skills is from IAB Regional database.

The dependent variable is the share of employed population by small firm in manufacturing industry to total population of a region. This ratio is not dependent on variations of employment during economic cycles.

Urban effects are measured by the density of population because the data on the shares of urban population at a regional level is absent. This measurement is comparable to the share of urban population because the density of population is obviously higher in regions with bigger metropolitan areas.

The density of railroads and motorways is the sum of railroads’ and motorways’ square per 1000 km sq.

The share of employed population in manufacturing industry to all employed people measures the specialization of a region.

The age of young population is comparable to Russian statistics and is chosen because it covers period of education and first years of career development. The share of educated employees evaluates people with tertiary education and PhDs.

3.2.2 Descriptive statistics and estimation results

Almost 2% of population is employed by small enterprises. Notice that standard deviation is quite small. Almost one third of the employable population is employed by manufacturing industry. In addition only 8% of employees are high-skilled workers. Nearly 20% of population is 20-35 aged people.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of employed population by small firms to population of a region</td>
<td>0.0184617</td>
<td>0.0067176</td>
</tr>
<tr>
<td>Density of population</td>
<td>517.9792</td>
<td>652.0584</td>
</tr>
<tr>
<td>Density of railroads and motorways</td>
<td>296.2592</td>
<td>250.9303</td>
</tr>
<tr>
<td>Share of employed population in manufacturing to all employed population</td>
<td>0.3285516</td>
<td>0.1216467</td>
</tr>
<tr>
<td>Share of young population (20-35) to population in a region</td>
<td>0.1717151</td>
<td>0.0243831</td>
</tr>
</tbody>
</table>
Estimations are in Table 3. The results obtained using panel data estimation using maximum likelihood methods for models with random effects. It is useful in cases of regional data because it reduces autocorrelation and increases robustness of coefficients. That is, this method gives more exact results.

All variables are significant. But the density of railroads and motorways and density of population are with negative coefficients. There are more self-employed people in less urbanized districts. The share of employed population in manufacturing industry has a positive coefficient. Hence, regions with developed manufacturing industry have more self-employed people in this sector. The biggest coefficient belongs to the share of young population. Thus the persistence of young people is crucial for self-employment in German regions.

<table>
<thead>
<tr>
<th>VARIABLES, dependent variable: log of share of employees in small enterprises in manufacturing industry</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log(Density of population)</td>
<td>-0.215***</td>
</tr>
<tr>
<td></td>
<td>(0.0137)</td>
</tr>
<tr>
<td>Log(Density of railroads and motorways)</td>
<td>-0.184***</td>
</tr>
<tr>
<td></td>
<td>(0.0208)</td>
</tr>
<tr>
<td>Log(Share of employed population in manufacturing to all employed population)</td>
<td>0.377***</td>
</tr>
<tr>
<td></td>
<td>(0.0308)</td>
</tr>
<tr>
<td>Log(Share of young population (20-35) to population in a region)</td>
<td>0.455***</td>
</tr>
<tr>
<td></td>
<td>(0.0574)</td>
</tr>
<tr>
<td>Log(Share of tertiary educated employees to employed population)</td>
<td>0.230***</td>
</tr>
<tr>
<td></td>
<td>(0.0254)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.309***</td>
</tr>
<tr>
<td></td>
<td>(0.0120)</td>
</tr>
<tr>
<td>Observations</td>
<td>1,169</td>
</tr>
<tr>
<td>Number of districts</td>
<td>393</td>
</tr>
</tbody>
</table>

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

Table 3. Estimation results for Germany
Source: own calculations

The persistence of high-skilled people is also significant for start-ups in manufacturing industry.

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2 Data covers 2006-2011 period. This is panel data estimation using maximum likelihood method.
Thus regions are more entrepreneurial (in manufacturing industry) if they have higher shares of young people, more skilled population and bigger share of employment in manufacturing sector.

### 3.3 Estimations for Russia

Russian data is from the Russian Federation Federal State Statistics Service (Rosstat).

Almost 1% of population is employed by small enterprises. Then, 15.2% of employees are in manufacturing firms. Share of young population is 23% and share of employees with tertiary education is 24.7%.

#### Descriptive statistics for Russia

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>St. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of employed population by small enterprises to all population of a region³</td>
<td>0,01029</td>
<td>0,00590</td>
</tr>
<tr>
<td>Share of urban population in all population of a region⁴</td>
<td>0,6891411</td>
<td>0,13110</td>
</tr>
<tr>
<td>Share of employed population with tertiary education to all employed population⁵</td>
<td>0,24730</td>
<td>0,05304</td>
</tr>
<tr>
<td>Share of employed population in industry⁶</td>
<td>0,15228</td>
<td>0,06265</td>
</tr>
<tr>
<td>Density of roads per 1000 km sq⁷</td>
<td>301,02250</td>
<td>229,43350</td>
</tr>
<tr>
<td>Share of population aged 20-34 to all population of a region⁸</td>
<td>0,23907</td>
<td>0,01628</td>
</tr>
</tbody>
</table>

Table 4. Source: own calculations

All estimations for Russia were made using maximum likelihood estimation for panel data.

Estimations at a national level show that all variables are significant. The highest coefficients belong to the agglomeration effect (the share of urban

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³ Calculated by dividing data «Среднесписочная численность работников (без внесших совместителей)» по виду экономической деятельности «Промышленность» from factbook «Малое и среднее предпринимательство в России» by data «Среднегодовая численность населения» from factbook «Регионы России. Социально-экономические показатели»

⁴ «Регионы России. Социально-экономические показатели», таблица «Удельный вес городского и сельского населения в общей численности населения» multiplied by 100

⁵ «Состав занятого населения по уровню образования», factbook «Регионы России. Социально-экономические показатели»

⁶ «Распределение среднегодовой численности занятых в экономике по видам экономической деятельности», factbook «Регионы России. Социально-экономические показатели»

⁷ The sum of «Плотность зелёных насаждений по видам городской территории» and «Плотность автомобильных дорог общего пользования с твердым покрытием», factbook «Регионы России. Социально-экономические показатели»

⁸ The sum of «Численность постоянно проживающего мужского населения по возрастам на 1 января (человек)» and «Численность постоянно проживающего женского населения - постоянных жителей на 1 января (человек)» to total number of population, EMISS database «Эдиная межведомственная информационно-статистическая система»
population) and to the share of young population. Thus, it is likely that entrepreneurship in manufacturing industry will be higher in those regions with a higher fraction of young people and with big cities.

At the same time, the share of the same industry in a region is important. It is shown by the significance of the coefficient “share of employed people in industry”. However, this coefficient is lower than the ones for agglomeration effect and share of young people.

Not surprisingly, education is also significant, but the coefficient is too low – it is unclear. This low value is might be explained by the fact that people with college education (special education) are more necessary. It is might be predicted by the quality of tertiary education and fraction of graduates in technical sciences. This issue is open for further research.

And the lowest coefficient (0.07) belongs to the variable of infrastructure quality in a region. This result is not clear too. And might be proceeded by uncovered features in this measure of infrastructure: access to it, quality, suitability, costs and load.

**Results of Estimations**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Russia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of urban population</td>
<td>1,13624***</td>
</tr>
<tr>
<td></td>
<td>(0,22983)</td>
</tr>
<tr>
<td>Share of employed population in industry</td>
<td>0,67577***</td>
</tr>
<tr>
<td></td>
<td>(0,09917)</td>
</tr>
<tr>
<td>Density of infrastructure per 1000 km sq</td>
<td>0,07029*</td>
</tr>
<tr>
<td></td>
<td>(0,04003)</td>
</tr>
<tr>
<td>Share of employed population with tertiary education to all employed population</td>
<td>0,18327*</td>
</tr>
<tr>
<td></td>
<td>(0,09407)</td>
</tr>
<tr>
<td>Share of population aged 20-34 in all population of a region</td>
<td>1,52836***</td>
</tr>
<tr>
<td></td>
<td>(0,42122)</td>
</tr>
<tr>
<td>Constant</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>0,88031391</td>
</tr>
<tr>
<td></td>
<td>(0,70478)</td>
</tr>
<tr>
<td>Number of observations</td>
<td>552</td>
</tr>
</tbody>
</table>

Standard errors in parentheses

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

Table 5.
Source: own calculations

Note, that the estimations show the existence of two-way casualty between variables. Thus, if the share of young people with tertiary education increases

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9 Data covers 2006-2011 period. This is panel data estimation using maximum likelihood method.
in a region because young people prefer this place for better higher engineering education, it will enhance development of the regional entrepreneurship in manufacturing. On the other hand regions with developed entrepreneurship are attractive for young people. Thus they immigrate for studying there because they will have higher chances for a successful career in local enterprises.

As a rule, the creation of large plants or factories and development of infrastructure enhances the development of entrepreneurship. The estimations confirm these arguments and show positive relations between variables in the model. However, the development of firms requires more infrastructure, which leads to the establishment of big enterprises and consequently leads to growth of the share of employed persons by manufacturing.

3.4 The Comparison of Russia and Germany at a Regional Level

It was mentioned above that there are more entrepreneurs in Germany than in Russia. This follows from GEM results and official statistics. There are some factors which suggest that Russia could have a larger number of potential entrepreneurs: The Russian population is younger, for example in Germany the share of 20-35 aged people is 17% at this moment in Russia the share of 20-34 aged of population is 23%. In addition, the Russian population is more educated. For example, almost 20% of Russian employable population has tertiary education at this moment this share is much lower in Germany – 8%. On the other hand, the share of employees in manufacturing industry is two times higher in Germany than in Russia.

Regarding the estimations for Germany and Russia we see that more entrepreneurial regions of Russia have higher density of motorways and railroads and bigger metropolitan areas. German districts are more entrepreneurial if they have less density of population, motorways and railroads. Other variables have the same effects for both countries. Hence entrepreneurship in the manufacturing sector in Germany is allocated in less developed places and thus it reduces differentiation among districts.

Entrepreneurial activity is allocated in cities and more developed places in Russia. Hence it is more difficult access to the information, technologies and finance outside the urban area and moreover, in some places, it might be almost impossible. Consequently entrepreneurship in rural regions is not developed in Russia despite to the local opportunities for small outlets, shops and lower prices for raw materials for producing.

The fact that German entrepreneurs are active in rural areas leads to the conclusion that they have better access to technologies and innovations. On the one hand it is determined by better railroads and motorways in Germany. On the other hand it is explained by the size of the country and less variation in the population density among regions. That is German entrepreneurs more mobile.
The coefficient for share of people with tertiary education is positive for both countries. Despite the fact that there are more people with degrees in Russia, its rate of entrepreneurship is lower. Actually Russia has greater potential for entrepreneurship: less developed economy leads to a lot of opportunities, younger population and higher share of educated people are good for entrepreneurial activity. But years of central planning and high levels of corruption with strong power of local authorities creates risks for prospective entrepreneurs, and persuades them that employment is a much better and more secure occupation. In addition, the negative portrait of entrepreneurs who began their business in 1990s is still popular among Russian young and middle-aged people. They usually imagine entrepreneurship as an activity that requires giving bribes to authorities by the reason of obtaining guarantees that their property will be saved. Hence they do not want to establish a business with some illegal operations and prefer paid employment.

At this moment German entrepreneurs do not have those problems and therefore business activity is less risky. Thus more people can choose self-employment without any fear of police investigations in the future. In addition the high level of democracy of federal and local governments with public accountability creates guarantees for local entrepreneurs that their property will be safe and that the rule of law will be the main factor in all debates with state authorities. That is, if public servants try to confiscate somebody's business everybody would know about it and claim other governmental bodies to protect it.

Finally Russian and German determinants of entrepreneurship are common in general. Some institutional differences lead to differences between countries. But this issue requires further research about entrepreneurship in Russia and its institutional and cultural features.

Conclusions

In this paper the differences in entrepreneurship between Russia and Germany were analyzed. The data from Global Monitoring of Entrepreneurship (GEM) and official statistic bureaus were used. The analysis covers the years 2006-2012.

The main conclusions are the following:

Firstly, the level of entrepreneurship (TEA from GEM) for Russia and Germany has diverged since 2005-2006. But in Russia it was driven by necessity entrepreneurship at this time German entrepreneurs were opportunity driven.

Secondly, despite the fact that more Russian respondents (GEM) answered that an entrepreneurial career is a desirable career choice and an entrepreneur receives a high status, there are fewer entrepreneurs in Russia than in Germany.

Thirdly, there are more people who find opportunities for start-ups in the area where they live in Germany than in Russia. This issue is closely related to
economic environment and human capital. Thus this analysis was disaggregated to the regional level.

At a regional level, less economically developed places in Germany are more attractive for entrepreneurs. Notice that fractions of people with tertiary education, young persons and employment in manufacturing sector have a positive impact on the level of entrepreneurship both in Germany and Russia. Hence variation of the level of entrepreneurship is predicted rather by some unobserved variables than economic determinants. On the other hand economic behavior of entrepreneurs in Russia and Germany is similar.

High shares of necessity entrepreneurship show that actual level of start-up activity is less than the officially recorded one (accordingly by surveys or statistics). By actual activity I mean searching and exploiting opportunities, innovations rather than purchase and selling. Hence entrepreneurial activity in Russia is several times lower than in Germany. This variation is probably also caused by non-economic factors like history, culture and others. But the research of impact of culture on entrepreneurship is outside of the purpose of this paper and might be a good theme for further studies.
References


42. Schumpeter, J. (1911). The theory of economic development.


### Appendix 1. Global Entrepreneurship Monitor data for Russia and Germany, source: GEM data

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<td>Russia</td>
<td>Percentage of 18-64 population who are currently a owner-manager of a new business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than three months, but not more than 42 months</td>
<td>2.3</td>
<td>2.1</td>
<td>2.1</td>
<td>2.4</td>
<td>1.7</td>
<td>1.5</td>
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<td>Germany</td>
<td>Percentage of 18-64 population who have personally provided funds for a new business, started by someone else, in the past three years</td>
<td>1.4</td>
<td>1.4</td>
<td>1.6</td>
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<td>Russia</td>
<td>Percentage of 18-64 population who are currently owner-manager of an established business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than 42 months</td>
<td>4.2</td>
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<td>Germany</td>
<td>Percentage of TEA who indicate that at least 25% of the nascent entrepreneur or owner</td>
<td>36</td>
<td>42</td>
<td>42</td>
<td>57</td>
<td>52</td>
<td>42</td>
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<td>Russia</td>
<td>Percentage of 18-64 population with positive perceived opportunities who indicate that fear of failure would prevent them from setting up a business</td>
<td>42</td>
<td>37</td>
<td>33</td>
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<td>Germany</td>
<td>Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who intend to start a business within three years</td>
<td>2.5</td>
<td>6.1</td>
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<td>Russia</td>
<td>Percentage of 18-64 population who personally know someone who started a business in the past two years</td>
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<td>Germany</td>
<td>Percentage of 18-64 population who agree with the statement that in their country, most people consider starting a business as a desirable career choice</td>
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<td>Percentage of 18-64 population who agree with the statement that in their country, you will often see stories in the public media about successful new businesses</td>
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<td>Percentage of 18-64 population who agree with the statement that in their country, successful entrepreneurs receive high status</td>
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<td>Percentage of 18-64 who see good opportunities to start a firm in the area where they live</td>
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<td>Percentage of 18-64 population who believe to have the required skills and knowledge to start a business</td>
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<td>Percentage of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business</td>
<td>6.3</td>
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<td>Percentage of female 18-64 population who are either a nascent entrepreneur or owner-manager of a new business</td>
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<td>Percentage of TEA who indicate that at least 25% of the customers come from other countries</td>
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<td>Percentage of TEA who expect to employ at least five employees five years from now</td>
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<td>Percentage of male 18-64 population who are either a nascent entrepreneur or owner-manager of a new business</td>
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<td>Germany</td>
<td>Percentage of those involved in TEA who are involved in entrepreneurship because they had no other option for work</td>
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<td>Percentage of TEA who indicate that their product or service is new to at least some customers</td>
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