Business entry rates across Europe and the factors of influence.

ERASMUS UNIVERSITY ROTTERDAM
Erasmus School of Economics
Department of Economics

Supervisor: Italo Colantone

Name: Petru Didenco
Exam number: 303557pd
E-mail address: p.didenco@gmail.com

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Introduction

Small businesses are considered to account for a substantial part of the economic growth and they are the ultimate competition and innovation drivers. Small businesses cover almost every possible sphere of economic activity in both industry and service. Small-sized firms are usually more flexible and agile than big corporations, but at the same time they are more sensitive and vulnerable to economic instability, political perturbations, globalization and other external factors. Although small firms are getting more and more attention from both economists and researchers, big enterprises and multinationals are still considered by many to be the indicator of a healthy economy. Analysts follow big public companies (i.e. companies included in the S&P 500 for United States) to monitor and forecast the state of the economy while leaving the small business out. While it is clear that bigger firms can have a significant impact on the economy of a particular country, smaller businesses usually, if added together, account for more than half of the GDP of a country. For example, in the European Union, 91.5 percent of all enterprises can be attributed to micro enterprises (number of employees range from 1 to 9).[1] In addition, 67 percent of the jobs in the private sector in Europe are found within the small-medium enterprises.[2]

While the importance of small firms for an economy is clear, they encounter more difficulties than big firms do. First, small firms are more sensitive to economical, political and regulatory entry barriers, since they usually do not possess the necessary amount of cash to be kept as a cushion against shocks within an economy. Second, they do not have the lobbying power that big companies do and thus any regulation favoring a corporation might hurt enormously the small business sector. Third, small firms face serious competition and they often cannot afford to compete with natural monopolies or big players experiencing higher efficiency in terms of costs or production processes. There is therefore a high turnover in the small business sector, which adds to the high riskiness of the business. Since the small business sector is very important for an economy, it is essential to facilitate the startups by creating favorable conditions via government regulations. For example, Georgia has decreased the profit tax from 57 percent in 2006 to 15.3 percent in 2010, which might have a significant impact on the number of firms entering or exiting a business.

[1] See "Putting small business first" report by European Commission
[2] See "Putting small business first" report by European Commission

In this paper I attempt to look deeper into the entry barrier problem and business friendliness across multiple European countries while putting the accent on small businesses. My goal is to identify factors that can be perceived as barriers to entry and see the extent of their implication onto the process. In addition, I strive to identify the factors, which could influence the entry rate of small firms in European countries by means of regression analysis.

There are numerous regulations, which can either help or impede new entrants to the market. In order to be able to compare countries and to identify which ones offer the most favorable conditions for opening or conducting a firm I rely on the database of World Bank. They proposed their own measure, a rank called "Ease of doing business". A number that places a country into a world rank, and thus determines how "friendly" the country is for small businesses expresses the rank. The ranking is calculated based on ten indicators and provides a quantitative measure of regulations for:

1. Starting a business
2. Dealing with construction permits
3. Employing workers
4. Registering property
5. Getting credit
6. Protecting investors
7. Paying taxes
8. Trading across borders
9. Enforcing contracts
10. Closing a business

Although this rank cannot account for all the factors that can influence the business, it can be considered as a reasonable and potential measure to track the performance of a country in the field.

In Section 1 I put entrepreneurship into economic perspective and look at existing research.

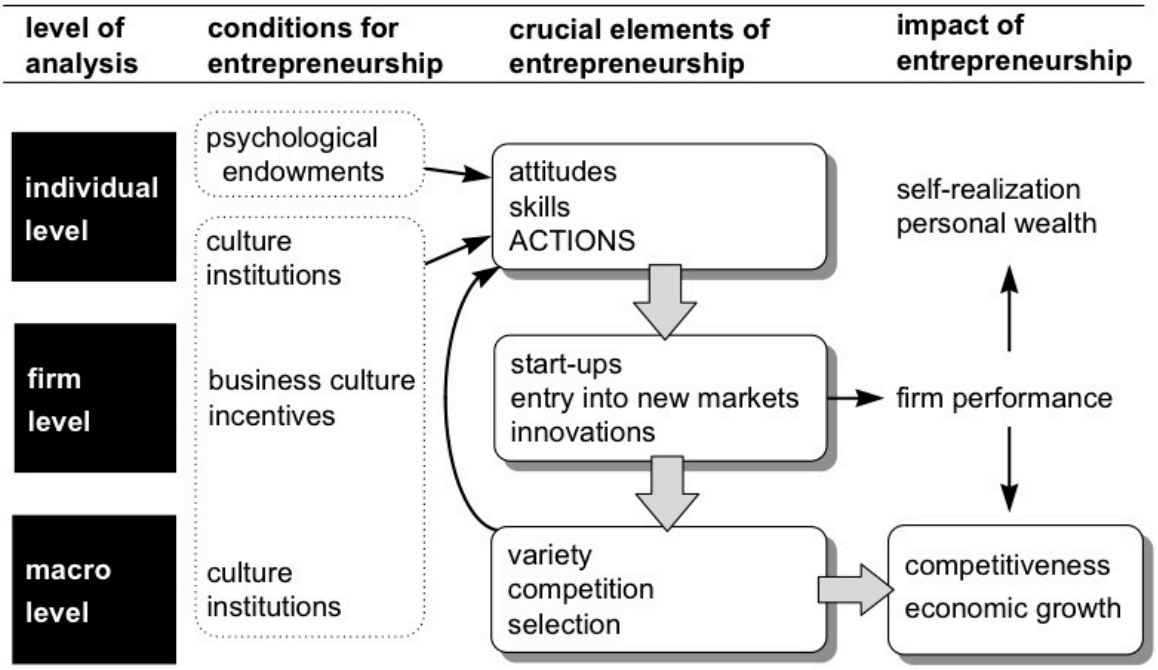
In Section 2 I present the key indicators and methodology used by World Bank. In Section 3 I present the data used in my analysis. Section 4 provides the theoretical model and the methodology I will employ for my research. Section 5 presents the empirical results but where I show that policies do have a statistically significant effect on entry rates. Section 6 gives an insight on the possible drawbacks of this paper. I conclude in section 7 of the paper.

1. Economic importance and existing research

It has been discussed for years whether entrepreneurship is to be considered the main driving force behind economic growth. Joseph Schumpeter was one of the few pioneers to elaborate on the role of entrepreneurship in the economy. In his early works Schumpeter saw entrepreneurs as the main source of innovation and technological progress, moving the economy forward. He referred to entrepreneurs as "Wild Spirits". This term depicts the essential behavioral characteristics of a classic entrepreneur, because being an entrepreneur involves risk, innovation, confidence, and moral strength.

Although the entrepreneur has been defined and considered to be the "innovation driver" not many papers present extensive research, emphasizing the direct link between entrepreneurship and economic growth. However, Wennekers and Thurik (1999) developed a framework, which explains and shows the relationship mentioned above. The framework is presented in figure 1.

Figure 1: The framework identifying the impact of entrepreneurship on three levels of analysis: the individual level, firm level and the macro level



Source: Winnekers and Thurik (1999)

The framework in figure 1 distinguishes among three levels of analysis: individual level, firm level and the macro level, thus showing the relationship between the entrepreneur and the economic growth. In order to transform their personal ambitions and qualities into actions entrepreneurs need a tool and small firms are a perfect tool for this task. Authors do not imply

that innovation and growth only come from small firms and individuals, as big firms innovate as well, but to do so they often exert a behavior sometimes called "mimicking smallness ". This behavior can take a form of business unit or a joint venture for example. Although the relationship between culture and entrepreneurship cannot be described as simple or transparent, authors state that history has shown a positive relationship between "cultural vitality" and the state of entrepreneurship.

Wennekers and Thurik (1999) suggest that firm level entrepreneurial manifestations have to do with newness. It can be represented through a product, process or organizational innovations. All of this leads to higher competition and eventually, to the displacement of the weak players. The process can be compared to the Darwinian natural selection in the sense that it may be harmful for some entrants or existing firms, but this process is natural and leads to better efficiency and higher outputs in the long run. Policies and regulations, on the other hand, may choke the business if applied excessively.

2 Starting a business and entry regulations

The term "starting a business" incorporates challenges, which a starting entrepreneur has to overcome in order to register a firm. This includes the total number of steps one must expect before launch, average time spent taking these steps, cost of capital and a minimum required capital (as percentage of gross national income per capita).

For example: It takes 1 day to register a business in New Zeeland and it is done through just one procedure. In order to start a business it is sufficient to fill an online form. The cost is 0.4 percent of income per capita and the minimal starting capital is zero. Greece, in contrast, has much more severe regulations: a person has to undergo 15 procedures, which will last approximately 20 days and will cost 10.9 percent of income per capita, which is roughly translated to €2500 in absolute terms[3].

There is currently an ongoing debate on the topic of entry regulations. On one hand entry regulations increase transparency and help prevent cheats, but on the other hand regulations only hinder business and nurture corruption. Unlike politicians, scientists have some proven answers to the question. The work of Klapper, Laeven and Rajan (2006) is spot on the problem.

[3] *http://www.doingbusiness.org/*

Through their research the authors find that entry regulations, in fact, may hinder entry rates. In addition, they mention that this holds true especially in industries that naturally should have high entry. Due to regulations the barriers to entry for small players are unbearably high, while i.e. multinational players in have fewer difficulties due to the availability of resources, such as legal support, lobbyists in high governmental positions and the higher financial possibilities.

Another significant factor that can prevent start-ups is the cost of bankruptcy. This includes all costs a company incurs in case of default. The regression model presented by *Klaper et al. (2006)* shows that the cost of bankruptcy is negatively correlated with the number of startups, the higher the cost the lower the number of startups. With the high exit costs, future entrepreneurs are more careful while evaluating pros and cons of entering the game. Authors of the article also come to a conclusion that entry regulations, when seen as an instrument to combat cheating and violation of rules, is only effective in developed countries, countries where there is an established and effective way to enforce the regulations and laws. Developing countries, on the other hand, do not benefit from strict regulations because they only nurture corruption and bureaucracy. Corruption is like a plague or a parasite, it is present at all levels of the state and, already being a severe problem for regular citizens, it only creates additional barriers for starting entrepreneurs.

3. Data

My research will be focused on 33 countries. Although this doesn't include all the European countries, this fact will unlikely affect my conclusions since my dataset still comprises most of the European countries and it is thus a representative dataset of Europe as a whole. I could find the ranking composition for each rank mentioned in appendix. I will therefore use the ranking composition variables as proxy for the ranks themselves to track whether they have any impact on the entry rate.

I rely on World Bank database and their indicators to collect the data. I collected the data for the years 2004-2007. On one hand a more recent data would be desirable since it reflects the actual situation. However, given the difficult market situation starting from the end of 2008 onwards, it would be also reasonable to exclude these years from the analysis, since they would, by definition, be outliers.

In this section I will describe the proxies I use for the 10 ranks explained in the appendix as well as show the notations for every variable.

Starting a business. For this area I use 3 proxy variables:

nr_proc- the number of procedures necessary to start a business.

cost_IPC- the cost represented in percentage of income per capita which is necessary to cover all costs associated with the start-up.

mincapital- the minimum capital required to start running the business. It is expressed in percentage of income per capita.

Ex-ante I would expect that the higher the initial cost is the higher will be the barrier to open a business, thus there should be a negative relationship between the entry rate and any of these proxy variables.

Dealing with construction permits. For this rank there were 3 proxy indicators available: number of procedures, time variable and the cost. In order to avoid collinearity issues later on I have decided to filter the variables and I will thus exclude the variables of time as well as the number of procedures. The proxy for this rank is therefore the cost variable:

cost_IPC1- the cost necessary to get the required construction permits. The cost is expressed as a percentage of income per capita.

I expect a negative relationship between the cost of construction and the entry rate.

Employing workers. This rank contains 5 indexes ranging from 0 to 100:

RoE- the rigidity of employment index. This index is in a way similar to the previous one, since it reflects the difficulty of firing an employee. If firing entails a significant compensation to the employee, the entrepreneurs will be more cautious in selecting the employees, or will hire less in the first place. The more rigid the employment is the higher will be the value of the index.

RC_WoS- the redundancy costs index. The index measures the magnitude of costs in terms of weeks of average salary which an employer faces firing a redundant worker.

Registering property.

CoP- the cost necessary for registering a property expressed as a percentage of property value.

Getting credit. Ease of getting credit

SoLR- The strength of legal rights index ranging from 0 to 10. The higher the strength of legal rights the higher is the index value.

DoCI- The depth of credit information available to the starting entrepreneur. The more detailed information is higher the index. The index value ranges from 0 to 6.

PRC- the public registry coverage expressed as a percentage of adults.

PBC- the private bureau coverage expressed as a percentage of adults.

Ex-ante I expect a positive relationship for all proxies within this rank except the cases where information availability has adverse effects on borrowers. The strength of legal rights reduces the risk and should thus either stimulate new entrants or at least not reduce it.

Protecting investors. This rank includes four proxies**:**

EoD- the extent of disclosure index. This index indicates whether enough information about the company is disclosed to investors or shareholders. The index value ranges from 0 to 10.

EoDL- the extent of director liability index. The index shows to what extent the head of the company bears the risks associated with his decisions. The index value ranges from 0 to 10.

EoSS- the ease of shareholder suits index. The index shows the shareholders' ability to sue officers and directors for misconduct. The index value ranges from 0 to 10.

I expect a positive relationship between the entry rate and the proxies for protecting investors rank. If investor protection is reinforced by the authorities, then more capital should be invested in startups since it gives investors certainty that they will get their money back and that the game is fair.

Paying taxes. This rank includes numerous proxies, which reflect different partial taxes required for running the business. I have however selected only the total tax rate as the relevant proxy for this rank.

TTR- the total tax rate expressed as a percentage.

There should be a negative relationship between the entry rate and the tax rate since higher taxes will create natural barriers to entry and will increase the opportunity cost of not investing but saving money in a bank account.

Trading across borders.

TtE- the time to export. The proxy indicates how many days are needed to export goods or services.

I expect a negative relationship with the entry rate. Waiting more in order to export will firstly limit the business variety and secondly might affect business activity in general since it might restrict the export activity, which will be less attractive for investors.

Enforcing contracts. This index includes three proxies:

proc3- the number of procedures needed to enforce the contracts.

Timedays3- the amount of days necessary to enforce a contract.

CoC- the cost associated with enforcing a contract expressed as a percentage of the claim

The higher the values for all three proxies the more negative impact this should have on the entry rate.

Closing a business. This rank contains two proxies:

RR- the recovery rate expressed in cents on a US dollar. The proxy shows how much can be recovered in case the business needs to be closed.

CoE- the cost associated with closing a business expressed in percentage of estate.

A higher recovery rate should influence the entry rate positively since it reduces the risk of losing the initial investment. A higher cost associated with closing a business should have a negative impact on the entry rate.

Entry rate. I use World Bank Group entrepreneurship survey data to estimate the entry rate. To estimate the entry rate I have calculated the ratio of the number of new firms in a year per country to the total number of businesses in a particular year per country. Thus formally I used the formula (1) to derive the ratio:

$$\frac{new\ firms_{i,t}}{total\ firms_{i,t}} \tag{1}$$

where *new firms* is the number of firms which registered in country *i* at time *t* and *total firms* is the total number of firms in country *i* at time *t*.

4. Methodology

The purpose of my study is to assess whether the number of new businesses is in fact affected by the restrictions imposed by governments, which create market inefficiencies. If this is true then the proxies presented above should significantly influence the entry level and therefore countries with more rigid rules should have lower entry levels.

I use a panel regression to identify which ranking composition factors have influenced the entry rate over the years 2004-2007. Thus my analysis will be restricted to a pooled regression where I identify which factors have a significant impact on the entry rate.

I use formula (2) to perform the regression analysis:

$$\begin{aligned} entryrate_t = {} & \beta_0 + \beta_1 nr_proc_t + \beta_2 cost_IPC_t + \beta_3 mincapital_t + \beta_4 cost_IPC1_t + \beta_5 RoE_t + \beta_6 RC_WoS_t \\ & + \beta_7 CoP_t + \beta_8 SoLR_t + \beta_9 DoCI_t + \beta_{10} PRC_t + \beta_{11} PBC_t + \beta_{12} EoD_t + \beta_{13} EoDL_t + \beta_{14} EoSS_t + \beta_{15} SoIP_t \\ & + \beta_{16} TTR_t + \beta_{17} TtE_t + \beta_{18} Ttl_t + \beta_{19} proc3_t + \beta_{20} timedays3_t + \beta_{21} CoC_t + \beta_{22} RR_t + \beta_{23} CoE_t + \varepsilon_t \end{aligned} \tag{2}$$

where entryrate is the dependent variable, β_0 is the intercept, β_i is the sensitivity of the entry rate to the rank proxies, the independent variables are all described in section 3 and ε_t is the error term of the regression.

5. Empirical Analysis

5.1 Descriptives

Table 4 shows the average entry level per country as well as the total average over the years 2004-2007.

Table 4: The average entry rate per country over the years 2004-2007

Country	Average entry rate
Ukraine	17.1%
Russian Federation	14.1%
Denmark	13.6%
Bulgaria	13.4%
Turkey	12.2%
Serbia	12.2%
Romania	11.7%
Germany	11.5%
Slovak Republic	11.4%
Norway	11.1%
Switzerland	11.0%
Netherlands	10.8%
Latvia	10.8%
France	10.6%
Ireland	10.5%
Hungary	9.8%
Slovenia	9.0%
Moldova	8.5%
Georgia	8.4%
Lithuania	8.4%
Azerbaijan	7.8%
Belgium	7.7%
Sweden	7.4%
Portugal	6.8%
United Kingdom	6.7%
Czech Republic	6.5%
Spain	6.4%
Armenia	5.6%
Greece	5.4%
Poland	5.3%
Bosnia and Herzegovina	5.2%

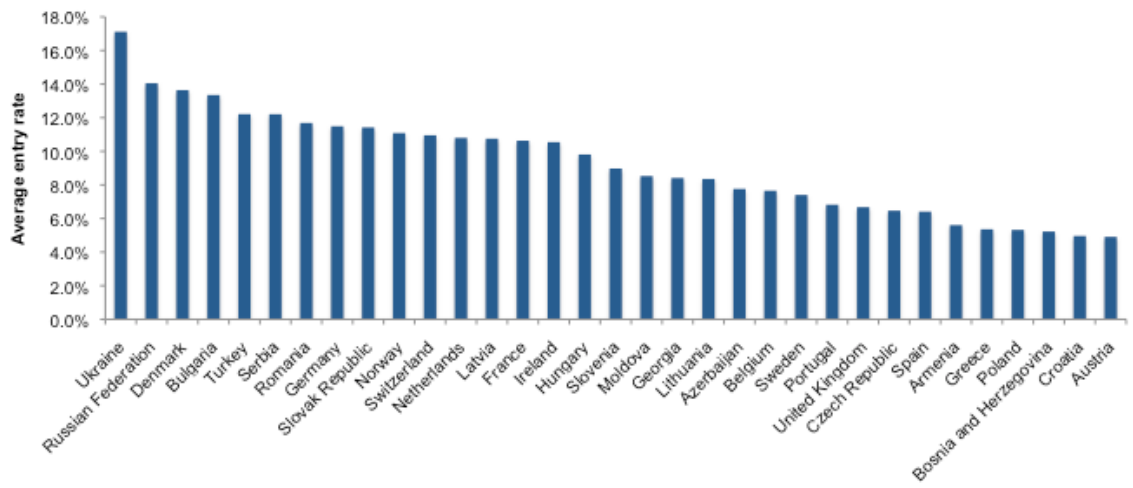
Croatia	5.0%
Austria	4.9%
Average	9.2%

Source: World Bank Group entrepreneurship survey 2008

From table 4 we see that the total average entry level over the years 2004-2007 has been around 9% with Ukraine having the highest entry rate (17.1%). Figure 2 represents graphically the entry levels over the same period.

On one hand we see that countries in the Eastern Europe are at the top of the spectrum, which could lead us to the conclusion that the overall growth of the country might have a significant impact on the entry rate as well. This, however, is not necessarily true since it can be noticed that developed countries such as the Netherlands and Germany are also among the top. As we move to the middle of the graph, there is no clear pattern to be observed in terms of country development. Therefore it is reasonable to assume that there are other underlying factors influencing the entry level.

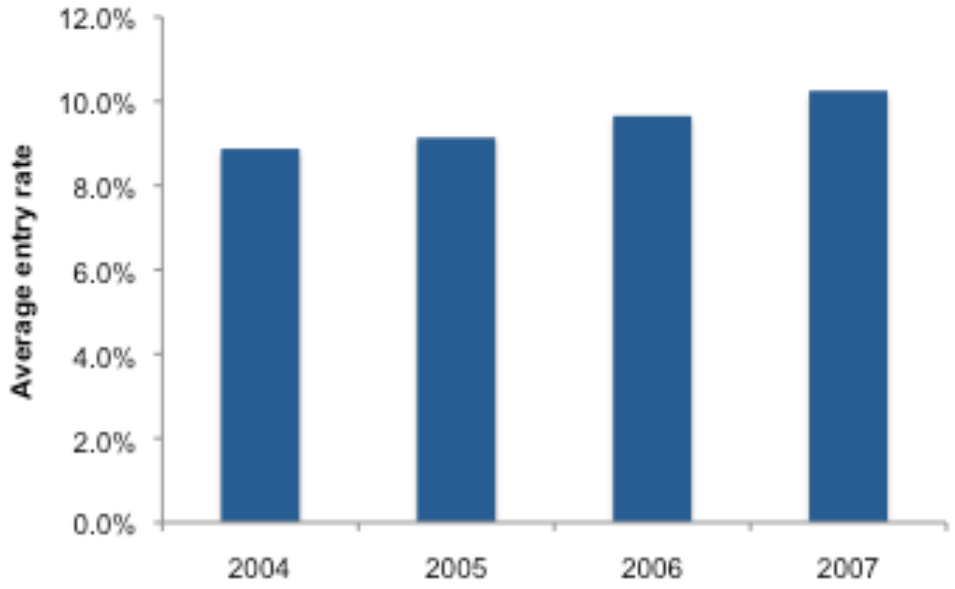
Figure 2: The average entry rate per country over the years 2004-2007



Source: World Bank Group entrepreneurship survey 2008

Figure 3 shows the average entry rate per year. There is an increasing trend in the entry year. The average entry rate in 2004 was around 8.9 percent compared to the 10.3 percent in 2007. Going forward we would expect that the entry rate will drop, but this will merely be caused by the market shocks due to the financial system breakdown, and these are exogenous factors for my research.

Figure 3: The average yearly entry rate for the period 2004-2007



Source: World Bank Group entrepreneurship survey 2008

As stated in section 3, I have excluded several variables in order to potentially reduce the multicollinearity issue. The selected variables however have been selected on an intuitive level and I have selected them purely based on the theoretical relevance of these for my research, rather than as a result of data mining. Since I decided that these variables are not relevant for my research I exclude them totally from my analysis, and I will thus only focus on the variables, which I will use in the regression presented in formula (2).

Table 2 shows the correlation coefficients among the variables I use in the regression analysis. The first thing to notice is that the correlation coefficients between the entry rate and the other variables is in most cases negative, as expected. Secondly, the correlation between the entry rate and the other variables is present but at the same time fairly low, ranging from roughly 1 percent for the rigidity of employment index (RoE) to 42 percent for the depth of credit information index (DoCI).

The correlations between the independent variables are similarly fairly low (with some exceprions), which do not necessarily raise the question whether multicollinearity is an issue for my regression analysis. In conclusion, with the results I have obtained I can confidently proceed with the regression analysis to test for significant factors influencing the new firm entry rate.

Table 5: The correlation of the rank proxies

Source: World Bank databank

	entryrate	nr_proc	cost_IPC	mincapita	cost_IPC1	RoE	RC_WoS	CoP	SoLR	DoCI	PRC	PBC	EoD	EoDL	EoSS	SoIP	TTR	TtE	TtI	proc3	timedays3	CoC	RR	CoE
entryrate	1.0000																						
nr_proc	-0.0706	1.0000																					
cost_IPC	-0.1556	0.4020	1.0000																				
mincapital	0.1458	0.3376	0.3019	1.0000																			
cost_IPC1	0.2779	0.4365	-0.0381	0.4255	1.0000																		
RoE	-0.0133	0.1557	0.2201	0.0742	-0.0439	1.0000																	
RC_WoS	-0.2664	0.1837	0.3976	-0.0736	-0.1981	0.4574	1.0000																
CoP	-0.3327	-0.0834	0.4088	0.1415	-0.1130	0.1385	0.4499	1.0000															
SoLR	0.1622	-0.0215	-0.1922	0.2707	0.0882	-0.3129	-0.4252	-0.0930	1.0000														
DoCI	-0.4255	-0.3823	-0.1669	-0.2062	-0.4647	-0.1370	0.2761	0.3235	0.0478	1.0000													
PRC	-0.3134	0.1473	0.2476	-0.0867	-0.0808	0.2653	0.5943	0.5912	-0.4044	0.1766	1.0000												
PBC	-0.1115	-0.3434	-0.3888	-0.0817	-0.2871	-0.1654	0.0790	0.0163	0.1215	0.4190	-0.2199	1.0000											
EoD	-0.1257	-0.1717	-0.0754	-0.2863	-0.1172	0.0543	0.1093	-0.0092	-0.0701	0.0975	0.1795	0.0261	1.0000										
EoDL	-0.1279	-0.4924	-0.2808	-0.2250	-0.4251	-0.1099	0.1524	0.3967	0.0944	0.6442	0.2817	0.4437	0.0554	1.0000									
EoSS	0.0012	0.0837	-0.1439	0.2101	0.2456	-0.2308	-0.1001	0.0060	0.1347	-0.2304	-0.0356	-0.0325	0.1007	-0.3448	1.0000								
SoIP	-0.1571	-0.3287	-0.2598	-0.2333	-0.1814	-0.1054	0.1099	0.1794	0.0554	0.2740	0.2571	0.2173	0.8535	0.3640	0.3591	1.0000							
TTR	-0.1196	0.2671	0.4057	0.2326	0.0472	0.5191	0.2181	0.4235	-0.2950	-0.1525	0.2322	-0.2065	-0.0603	-0.0554	-0.2388	-0.1789	1.0000						
TtE	0.1401	0.5809	0.3275	0.0470	0.3646	0.1018	-0.1208	-0.2954	-0.1562	-0.6839	-0.1394	-0.4369	-0.0482	-0.6990	0.1988	-0.2814	0.1738	1.0000					
TtI	0.1550	0.6387	0.3753	0.1576	0.4378	0.1054	-0.1217	-0.3108	-0.1049	-0.7160	-0.1477	-0.4731	-0.0786	-0.7251	0.2032	-0.3142	0.1805	0.9842	1.0000				
proc3	-0.1426	0.3702	0.3177	-0.1196	0.3343	-0.0316	0.1321	-0.1379	-0.3791	-0.2125	0.1821	-0.4126	0.1693	-0.4048	0.1162	-0.0135	-0.0161	0.4543	0.4537	1.0000			
timedays3	-0.2431	0.1142	0.2715	0.3255	-0.1579	-0.0364	0.1382	0.1610	0.0712	0.1624	0.3366	0.1638	0.1337	0.1324	-0.0068	0.1675	0.1172	-0.1451	-0.0967	0.0117	1.0000		
CoC	0.2307	0.1929	-0.0672	0.3132	0.4190	-0.1426	-0.2351	-0.2434	0.1224	-0.3721	-0.1695	-0.1653	-0.2414	-0.0757	0.0127	-0.2173	0.2161	0.2472	0.2838	0.0105	0.0441	1.0000	
RR	-0.3344	-0.4453	-0.4260	-0.3072	-0.3550	-0.1748	0.1299	0.3610	-0.0454	0.5349	0.3615	0.5368	0.1892	0.6129	0.0067	0.4399	-0.1607	-0.5957	-0.6618	-0.1919	0.0046	-0.4018	1.0000
CoE	0.1655	0.4912	0.3368	0.7703	0.5014	0.2197	0.0080	0.1634	0.2670	-0.3079	-0.0364	-0.1963	-0.3834	-0.1813	0.0871	-0.3413	0.4411	0.1653	0.2841	-0.1634	0.2189	0.4014	-0.4343	1.000

5.2 Regression results

The regression results are presented in table 6. At first glance we notice that 17 out of 23 variables used are significant at 10 percent level, 16 are significant at 5 percent level and 13 at 1 percent level. The signs are however not always as expected. For example, we would expect a negative sign for every cost variable, but this is not the case in the regression output. The coefficients for cost_IPC and mincapital are positive, while we have predicted that they would negatively influence the entry rate. One possible explanation for the negative coefficient is the fact that these variables are expressed as a percentage of income per capita and thus a lower percentage does not mean that the cost will be lower in absolute terms. It is reasonable to assume that the cost should be proportionate with the income level, but we should also take into account that the percentage is based on the average income, while incomes are not totally homogeneous in a country. In conclusion, higher percentages will not always be a higher amount in absolute terms, and thus the positive coefficient is plausible. The same reasoning might be applied to all variables for which the coefficient is positive and significant.

From the regression output in table 6 we also notice that 6 variables out of 23 are not statistically significant. The variables PBC (private bureau coverage), EoD (extent of disclosure index), EoDL (extent of director liability index), EoSS (ease of shareholder suits) and SoIP (strength of investor protection index) have all coefficients with the predicted sign, but they are not statistically significant. From these coefficients it might be concluded that investor protection does not influence the entry rate. This result is striking since we would expect that the degree of investor protection would play a role in new firm entry rate. On the other hand, empirically, we know that investor protection is always weaker in developing countries while the entry rate is high in comparison to the more developed countries on average. One of the potential explanations for this phenomenon might be the fact that the lower investor protection is compensated by the higher return realized in developing countries, or countries, where investor protection is significantly lower.

Table 6: The regression output

	β_i	st. error	t	P-value	Confidence Interval	
a	0.1480**	0.0664	2.23	0.0360	0.0102	0.2857
nr_proc	-0.0094***	0.0027	-3.49	0.0020	-0.0150	-0.0038
cost_IPC	0.0041**	0.0019	2.14	0.0440	0.0001	0.0081
mincapital	0.0005***	0.0002	3.29	0.0030	0.0002	0.0008
cost_IPC1	0.0002***	0.0001	2.90	0.0080	0.0000	0.0003
RoE	-0.0020***	0.0007	-3.01	0.0060	-0.0034	-0.0006
RC_WoS	0.0007*	0.0003	1.90	0.0710	-0.0001	0.0014
CoP	-0.0244***	0.0051	-4.78	0.0000	-0.0350	-0.0138
SoLR	0.0131***	0.0037	3.52	0.0020	0.0054	0.0208
DoCI	-0.0127***	0.0033	-3.81	0.0010	-0.0197	-0.0058
PRC	0.0024***	0.0008	2.83	0.0100	0.0006	0.0041
PBC	0.0003	0.0003	0.96	0.3460	-0.0003	0.0009
EoD	-0.0373	0.0949	-0.39	0.6980	-0.2340	0.1595
EoDL	-0.0107	0.0943	-0.11	0.9110	-0.2063	0.1849
EoSS	-0.0272	0.0950	-0.29	0.7780	-0.2241	0.1698
SoIP	0.1025	0.2840	0.36	0.7220	-0.4865	0.6914
TTR	0.0035***	0.0010	3.58	0.0020	0.0015	0.0056
TtE	0.0159***	0.0040	3.95	0.0010	0.0075	0.0242
TtI	-0.0167***	0.0041	-4.03	0.0010	-0.0253	-0.0081
proc3	-0.0011	0.0016	-0.67	0.5080	-0.0045	0.0023
timedays3	-0.0001**	0.0001	-2.17	0.0410	-0.0003	0.0000
CoC	-0.0042***	0.0009	-4.67	0.0000	-0.0061	-0.0023
RR	-0.0015***	0.0005	-3.01	0.0070	-0.0025	-0.0005
CoE	-0.0002	0.0014	-0.15	0.8830	-0.0030	0.0026
R^2	78.2%					

****-significant at 1 percent level*
***- significant at 5 percent level*
**- significant 10 percent level*

Another striking result is that the taxes are positively related to the entry rate. Ex-ante we would expect that a higher tax rate would impose barriers to entrepreneurs, since they would have to pay higher income taxes. One plausible explanation for the positive coefficient might be the fact that startups usually borrow money to commence a business and thus the higher taxes would create a higher tax shield for entrepreneurs. The deductibility of the interest payments might be one explanation of why the coefficient is significantly positive in our regression analysis.

From the regression output we notice that roughly 78 percent of the variation in the model is explained by the independent variables as expressed by the R^2. Thus the remaining 22 percent remain explained by other factors. Overall we can conclude that the entrance rate is influenced mostly by the costs to be paid by opening a business, by the bureaucracies expressed in terms of the amount of documents and time needed to open a new business, employment terms, as well as taxes.

6. Possible drawbacks

First, the regression analysis might suffer from endogeneity bias. It is still unclear whether the ranks influence the entry rate or whether these ranks are formed as a result of the entry rate. Thus there might be a two-way dependence or it might even be reversed.

Second, in order to be able to compare globally, indices in the data are highly standardized, many of which are built on assumptions. This fact leads to inaccuracies in the dataset and therefore might ultimately alter the results and conclusions.

7. Conclusion

Small businesses account for a substantial par of the economic growth and development of a country. They are the ultimate competition and innovation drivers and therefore their importance should not be understated. Governments act as a regulator and at the same time stimulator of growth. Government regulations might thus help businesses grow or in fact impede their birth in the first place.

In this paper I attempt to describe and analyze the factors influencing new business entry rates. I particularly focus on the variables, which are included in the "Ease of doing business" ranks. I use the data for 33 European countries over the years 2004-2007 and I perform a panel regression to identify which factors have a significant impact on the entry rate. The outcome of my analysis suggests that entry rate is mostly influenced by the costs required to open a business, by the hiring conditions and the time needed to submit the documents needed to open a business. Further research needs to be conducted in order to assess whether the conclusions are robust against data quality issues.

8. Appendix

8.1

Dealing with construction permits is step towards a running business. This does not only include construction per se but also inspections and time to get all the utility connections such as gas, water, electricity etc. Getting all the inspections approved can become extremely challenging in some countries. Inspections may include fire department seal of approval, ecology, sanitary check, terrestrial inventory, police and others.

In order to be able to build the international-index, researchers had to average-out some concepts. For example they use the term "standardized warehouse" as a measure. Information needed to do such standardization is collected from various sources: construction companies, licensing experts, architects, public officials, lawyers and utility service providers. In addition, some assumptions had to be made regarding the construction firms, warehouse, utility supply, procedures, time and costs. First, the construction company is assumed to be a limited liability company, to operate in the biggest city (by population), to be 100 privately owned, to be fully licensed and entitled to execute construction works, to have 60 construction workers, who are technically skilled enough and to have paid all the taxes and insurance costs.

Assumptions about the warehouse are the following: it has to be used as a general-purpose storage thus not for food, pharmaceuticals, chemicals or any goods requiring special storage conditions, such as temperature or humidity control. The size of the storage facility is considered to be approximately 1300 square meters, having 2 floors 3 meters high each. It should have access to general roads and it is considered to be located in the sub urban area of the biggest city. The site has to be constructed from zero thus no previous construction is allowed. The building has to be finished in 30 weeks; this however does not include possible delays due to administrative requirements.

Work to be done to get all the utility connections running is also based on several assumptions. For water and sewage connections it is assumed that the building is not further from existing taps than 10 meters. Another assumption is that the facility's use of water will be constant through a year.

Time and costs involved in the construction are also generalized for the sake of comparison. The measure used in the ranking uses the median value of the whole range of answers the ex-

perts gave. The shortest time for a procedure to be completed is considered to be 1 day. The company responsible for construction is assumed not to waste time and start building the same exact day as they receive the order. The amount of time needed for the information gathering by the construction company is ignored. Costs include all the permit clearances, before, during and after construction. In case where the experts provide several different estimates, the median value is used for the ranking. The costs are measured in percentage of country's income per capita. In this way it can be compared across multiple countries.

The topic of dealing with construction may seem unscientific or lacking economical background. It is however an important variable in the whole process of starting-up a business. Even when a startup is not planning to construct it's own building it still has to deal with several permits and clearances before the business if allowed to start.

Table 2 shows an example of construction ranking. In order to show a striking difference I use Moldova and Germany as an example.

Table 2: Comparison of construction procedures between Moldova and Germany

	Moldova	Germany
Procedures (Number)	30	12
Time (Days)	292	100
Cost (% of income/capita)	120.5	60.2
World Rank (2010)	161	18

Source: www.doingbusiness.org

From table 2 it can be seen that Moldova is ranked 161 across the globe while Germany has a rank of 18. In order to obtain all necessary construction permits, and entrepreneur in Moldova has to undergo 30 procedures, which last 292 days on average. Germany, in contrast, requires only 12 procedures, which last 100 days on average. Since there is such a significant difference in the ranking and the amount of procedures needed, we would expect that this fact should be reflected in the new business entry rate.

8.2 Employing workers

The employing workers rank covers ease of hiring a worker, firing in case of redundancy and the rigidity of working hours. In 2007 the World Bank improved the employing calculation and research methods. In 2010 a Consultative Group was formed. Besides the authority representatives it also consists of International Labor Organization (ILO) representatives. In the

research of World Bank ILO is an important source of advice and expertise. Since comparing internationally is not always possible using only existing data, the experts decided to make assumptions about the worker and the business. It should however be understood that the assumptions may not reflect the true picture entirely, but they are required if one needs to generalize.

The first assumption is referred to a medium sized company. A medium sized company is defined as an entity having 60 employees. In addition, the calculation formula for the minimum wage ratio was adjusted in such a way that countries who pay less than $1.25 a day would not get a higher ranking (this was the case with previous formula). The change in the formula mentioned above most probably no kink with continental Europe region, but it is still important to mention. The worker is assumed to be a nonexecutive male 42 years of age, with an average salary within the country. The worker should, in addition, be employed at the same company for 20 years and should reside in the largest city, thus with the biggest economy. The employee should not be a member of a labor union, unless it is mandatory.

8.2.1 The rigidity of employment index

The rigidity of employment index includes the following indicators: the difficulty of hiring, fixed term contract limitation and the minimum wage/value added (per worker) ratio. These indicators are discussed in more detail below.

1. Difficulty of hiring index- an economy gets a score of 1 if fixed-term contracts are only limited to permanent tasks. In case where a permanent contract can be applied for any task, economy gets a 0.
2. If a fixed contract is limited to a maximum of 3 years then the economy gets 1 point. If it is between 3 and 5 years it gets a 0.5. If a contract can be longer than 5 years it gets 0 points.
3. The ratio of the minimum wage to the average value added per worker – a score of 1 is given for a ratio of 0.75; a score of 0.67 for a ratio that is between 0.5 and 0.75; a score of 0.33 for a ratio in-between 0.25 and 0.50 and a zero is given for a ratio less than 0.25.

The average of these numbers is adjusted to a scale of 100, resulting into an index.

8.2.2 The rigidity of hours index

The rigidity of hours index is computed from 5 factors. These factors are presented in table 3.

Table 3: The factors compiling the rigidity of hours index

Rigidity of hours marking	Answer (yes/no)	Points
Restrictions on night work	Yes	1
	No	0
Restrictions on weekly holiday work	Yes	1
	No	0
Work week is 5 days	Yes	0
	No	1
Possibility to extend work week to 50 hours or more for 2 moths a year to meet seasonal increase in demand	Yes	0
	No	1
Paid annual vacation is 21 days or fewer	Yes	0
	No	1

Source: www.doingbusiness.org

As can be seen from table 3, the ranking results directly from the answer. The scores are averaged and multiplied by 100 similar to the case of "rigidity of employment".

Another index included in the rigidity of hours index is the "Difficulty of redundancy index". It gives a measure on how difficult it is to fire a worker due to redundancy. Redundancy difficulty consists of 8 components:

1. Whether it is disallowed to terminate an employee with redundancy as a reason.
2. Whether a third party (such as government agency) needs to be notified about termination of just 1 employee.
3. Whether a third party (such as government agency) needs to be notified about termination of 9 employees.
4. Whether there is a need of approval from a third party to fire 1 employee.
5. Whether there is a need of approval from a third party to fire 9 employees.
6. Whether the employer is required by law to retrain or reassign the worker for another position prior to firing with a redundancy reason.
7. Whether there are some priority rules for redundancy.
8. Whether those rules can be applied for reemployment.

If the answer to the first question is yes, then all following questions do not have to be responded and the economy gets 10 points in this case. A positive answer to the fourth question yields 2 points; in case of a yes all other questions give a 1 because more restrictive regulations have greater weight. The final grade is calculated by averaging and adjusting to the scale of 100.

8.2.3 Redundancy cost

The redundancy cost indicator measures the cost of severance payments and penalties that an employer can incur while firing a worker due to redundancy. Most often it is represented by weeks of salary. In a case when redundancy costs are up to 8 weeks and the worker gets unemployment protection economy gets 0 points. When redundancy costs are up to 8 weeks but the worker can't get unemployment protection a score of 8.1 is assigned. In case where costs are more than 8 weeks, the score translates to the number of weeks. One month is considered to be 4 and 1/3 weeks.

Although it may not seem reasonable that countries with less protection get a higher rank (lower score) it is, in fact, true since the rating is built from the employers' perspective of "ease of hiring and changing personnel". Thus a lower protection is beneficial to the employer, and it thus gets a higher rank.

Concluding section 2.3 the work of Botero et al. (2004) is worth mentioning. The paper is based on the analysis of 85 economies, where the authors find out that strict regulations lead to bad consequences regarding labor participation and unemployment and young people are affected more than others. In addition, there is strong evidence that current regulatory policies directly depend on the origin of the country's laws. This is true for both markets and labor. The hypothesis that stricter regulations have a negative effect on labor productivity and firm size is also tested in the work of Almeida and Carneiro (2009). The focus of this paper is concentrated on Brazil, which is known for strict labor regulations. The research is done on city level within the country and depicts the influence of the regulations on both firm productivity and size. Authors find out that stricter regulations do indeed increase the cost of labor. The requirement to comply with strict rules regarding security, safety, health, and protection brings its costs along.

All these factors lead to a less flexible labor force, which in turn leads to decreased firm growth. Different countries and cultures deal differently with the regulation policies. For example, in countries with higher corruption levels firms try to find ways around the regulations thus making their life easier. These actions, however, further erode the economy. In order to find a balance, policy makers and enforcers have to find ways to improve regulations, making it easier for the employer to hire a worker while keeping the employee secure.

8.4 Registering property

Registering property is a measure of both time and costs involved in the process of acquiring real estate, real property and land. The rating measures several steps such as purchasing the property from another business and the time it takes to fully transfer the proprietary title into buyer's name. It also considers costs and time needed to use already owned property as a collateral for new loans. The transaction is considered complete when the buyer can start using the property, sell it to someone else or use as a collateral. Procedures involved are also quantified. Anything that involves interaction of the buyer and seller is considered to be a procedure. Ranking algorithm assumes that the buyer takes the shortest legal path in the process of the property acquisition and doesn't hire any third party lawyers unless it its required by law. Time is measured in calendar days and not working days. Estimated times are indicated by government officials, lawyers and notaries. If it is possible to accelerate the procedure for an additional payment, it is assumed that the buyer chooses the fastest option. Costs are measured in percentage of property value. This enables the researchers to compare internationally. The rating considers only official costs such as transfer taxes, fees and notaries. Besides the costs that are taken by the buyer, seller costs are also taken into account.

8.5 Getting credit

When starting up a business it is of crucial importance to correctly estimate the needed resources. Depending on the type of startup, it may or may not need high initial investments. However, in this paper, manufacturing related startups will be considered. Those require higher initial investment, as they are mostly production companies. Being in the industry means having a high demand for capital because producing a good or service is always more costly than just reselling.

There is a variety of sources of financing for small startups. Resources can be drawn from venture capitalists, banks, angel investors, governmental subsidies and family. All of the sources mentioned have their own positive and negative aspects, but this is not the scope of the paper. The "easiness" of getting funds is one of the crucial factors in the beginning stages of the business. This is especially true for poor countries. The degree of exclusion from access to finance is higher in less developed countries and is a result of an unstable economy.

8.6 Protecting investors

Knowing today's situation in investment markets and based on experiences from the past, it would be safe to state that there is little place for trust where money is involved. In order to protect investors from fraud governments have to come with efficient and fair policies and

raise investor awareness and education. At the same time those policies have to be transparent and flexible enough so that they don't create additional hurdles for both the investor and the firm.

The index measures the investor's level of protection against misuse of financial assets by directors. It measures transparency of transactions, the extent of manager's liability and the shareholder's ability to sue directors for misconduct. These three proxies form the protecting investors index.

8.7 Paying taxes

The taxation system of a country can influence both entry and exit decisions of a starting firm. Some economies are more small business-friendly than others offering various taxation shields and benefits. A couple of countries from the former soviet union have a 0 percent profit tax for small businesses, a fact that could encourage both startups and functioning firms. The taxation index tracks mandatory contributions and taxes that a firm has to pay during a year. It also measures the administrative load a firm goes through when paying taxes. Included taxes are: profit tax, social contribution taxes, labor taxes, property taxes, road and vehicle taxes, financial transaction taxes etc. The index measures only mandatory government taxes which apply to the standardized business model in model of World Bank.

8.8 Trading across borders

We live in the information and globalization era. Trade borders are more open then ever and the information is more widely available due to the Internet. This phenomenon has created a more intense competition and a strict natural selection among companies. The article by Colantone and Sleuwaegen (2010) researches the influence of globalization on the entry and exit rates in industrial firms across eight European countries for the period 1997-2003. The authors try to take a grasp on the problem in question by constructing a regression model that would explain the influence of each factor. Authors come to a conclusion that at industry levels, increased openness to trade does indeed discourage new entrants. This however holds true in the short run. In order to investigate the long run effects a more extensive data would be needed. Unfortunately there is a limited availability of the data for past years.

8.9 Enforcing contracts

Enforcing contracts index measures the efficiency of the legal system in a country. It takes into consideration the number of legal procedures a firm has to undergo in order to solve a commercial dispute or conflict. Procedures include the filing of a legal case, the trial (if there is one). Apart from the number of procedures the index also measures the time and cost involved in a dispute. The time is measured in calendar days passed from the filing of a complaint until the court decision. The costs are recorded as a percentage of the claimed amount.

8.10 Closing a business

As the previous index this one also measures the time and costs, but in a case of bankruptcy. The third indicator used here is the recovery rate. The recovery rate is measured in cents, it records the amount of cents from a dollar which can be recuperated by the creditors when going through bankruptcy. Although closing a business doesn't mean going bankrupt per se, researchers at World Bank only use this factor. Otherwise it would be very complex to compare internationally.

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