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A Cross Country Assessment of Business Environment in the Central and Eastern Europe

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Abstract

Location decision of production, its direct and indirect consequences on regional economies are densely investigated by the new economic of geography (NEG) literature. Among numerous channels, formation of a sound business environment and the behavior of new firms in an economy are used in order to understand locational differences. This study adopts the approach offered by the NEG to scrutinize the dynamics and the differentiation of the business environment among the CEE countries. Focusing on the pre-2008 Global Financial Crisis era, findings indicate that domestic and external demand potential and macroeconomic stability stimulate the development of the business environment in the region. On the other hand, estimation results show that the financial deepening has negative impact on the industrial business sectors. The models estimated do not detect any relation between development of business environment and other variables considered such as geographic proximity, level of integration, the institutional background and governance.

JEL Codes: C33, O50, R12
Keywords: Business environment, panel data, transition economies.

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Orta ve Doğu Avrupa'da İş Ortamının Ülkeler Arası Değerlendirmesi

Öz

Üretimin mekân seçimi, bunun bölgesel ekonomi üzerindeki etkisi yeni ekonomik coğrafya (YEC) tarafından yoğun biçimde incelenmektedir. Sayısız kanallar arasında, bir ekonomide sağlam bir iş ortamı ve yeni firmaların davranışı mekânsal farklılıkların anlaşılmasında kullanılır. Bu çalışma YEC'in önerdiği yaklaşımı uyarlayarak Orta ve Doğu Avrupa ülkeleri arasında iş ortamında farklılaşmanın dinamiklerini inceliyor. 2008 Küresel Finans Krizi öncesi dönemine odaklanarak, bulgular iç ve dış talep ile makro ekonomik istikrarın bölgede iş ortamının gelişmesini uyardığını işaret ediyor. Diğer taraftan, tahmin sonuçları finansal derinleşmenin endüstriyel iş sektörleri üzerinde negatif etki yaptığını gösteriyor. Tahmin edilen modeller iş ortamının gelişmesi ile coğrafik yakınlık, bütünleşme düzeyi, kurumsal zemin ve yönetişim gibi diğer değişkenler arasında herhangi bir ilişki saptamadı.

JEL Kodları: C33, O50, R12

Anahtar Kelimeler: İş ortamı, panel veri, geçiş ekonomileri.

1. Introduction

Cross country differences are mostly investigated from a growth-oriented point of view. Origins of the growth models rely on the capital accumulation, technological development and human capital based developments which at the end generate differences in cross country income levels or growths trajectories. However, investigating the differences in the business environments of the economies to understand cross country differences is relatively rare. In such a perspective business environment of economies can be regarded as an important benchmark in terms of the economic activity differentiations. In order to investigate the differences of business environments across countries, both the location theory as well as the contemporary developments in growth theories should be used simultaneously.

Historically the central discussions of the location theory are constructed on von Thünen (1826) and Marshall (1920). With the rise of NEG, remarks of Krugman (1991a) give a complementary understanding to see why specific economic activities choose to locate in specific location. Krugman (1991a) is also vital as the approach enables us to carry out the discussion to the cross-country level. However, it is interesting that empirical studies originating from Krugman (1991a) mostly prefers to observe the intra country decision of the location choice of production. Among various mechanisms of the NEG, the place of business environment starts to earn increasing attention. The reason is that business environment of a country or a region contains valuable information both about the economic activity level as well as the future capacity of the location. Originating from this argument one can link the location choice of production with the health of the business environment of a geography. In that sense, developments in the location theory, as well as the most recent empirical analyses done to investigate the distribution of business environment prepare a solid background to question the cross-country disparities. However, it is inevitable to underline that observing the cross-country differences of business environment has different implications in terms of the location choice of production. Formation of a business environment within a country can be directly linked with the location choice of production. On the contrary, exploring the differentiation of business environment is more meaningful when the discussion is carried out at the cross-country level. Hence, using the mechanics defined by the growth theories, which will have direct and indirect influence on the private investment, is also found to be valuable.

In the light of the discussions above, this study investigates Central and Eastern Europe (CEE) economies in terms of business environment differentiation. We believe trying to compare the distribution of production at cross country level may give a new insight to compare these transition economies for the period before 2008 Financial Crisis which were trying to integrate with the World economy.

Focusing on the core objective of the study, the paper is organized as follows: In the following section we will first review the developments in the location theory and give an insight to the reader about the conceptual difficulties arisen when trying to carry the discussions towards a cross country analysis. Section 3 is devoted to the introduction the CEE economies with special emphasis on the developments of the business environment. Section 4 will summarize the panel data methodology and define the data sets to test the central hypotheses of the paper. Finally, Section 5 will give the results regarding the major reasons behind the differentiation of business environment in the CEE region. The study will end with a conclusion.

2. Cross Country Investigation of the Business Environment

Interaction between urban and regional economics as well as the growing prominence of location in the international trade theories can be best understood by referring to the new economics of geography (NEG) literature. While numerous channels are defined in this literature, it is vital to concentrate on the location choice of production. However, it is noteworthy to remark that use of location theory at cross country level will have different implications compared to intra country analyses. It is where some contemporary debates about macroeconomic factors affecting the private investment, hence business environment will need increasing insight.

While urban and regional theories explore the location choice of production from different perspectives, and they are mostly motivated by the intra and inter regional discussions originated by the book of von Thünen (1826). The formation of a central town is at the center of urban economics. Rather than trying to see the major dynamics behind the formation of an urban area (or a city center or a town area) the core discussion is directed towards the distribution of economic activity within a given geography. However, the strength of the idea behind the Isolated State of von Thünen (1826) makes the approach a unique benchmark and also a starting point both for regional and urban economics. The tradeoff between the land rent and the transportation costs is central to the Isolated State. Moreover, the emphasis on the link between the type of production and the most physical suitable location for the production influence various studies such as Hoover (1963) and Alonso (1964). This framework is later combined with the prominent contributions of Marshall (1920). Marshall (1920) pinpoints three major building blocks that can be generalized in order to understand the clustering of production (industrial districts). Labor market pooling, knowledge spillovers and provision of non-tradable inputs are the three major pillars of the Marshalian type localization.

While von Thünen (1826) and Marshall (1920) are well beyond their ages, the arguments of Isard (1954) and Helpman and Krugman (1985), and Grossman and Helpman (1991) developed a perspective to incorporate the location theory into trade theories. Based on this, one can assess the major reasons behind the production

specialization in different regions from the point of view of location and international trade theories. The major difficulty of these theoretical discussions lies in the definition of region. Therefore, it is necessary to carry out the discussion towards the more contemporary theoretical models of the NEG. Fujita (1988), Krugman (1991a, b, c) and Venables (1996) are the major building blocks of the NEG literature. Later, Fujita et al. (1999) construct the two-sector model to examine why economic activity agglomerates in specific regions and some regions remain less developed in terms of economic activity. Other pioneering contributions to the NEG literatures are Krugman (1992) and (1995) which classifies centripetal and centrifugal forces and relates the social and economic environments of the regions with the level of economic activity.

While the location choice of production is investigated via different theoretical setups, most recently this issue is intensely discussed by focusing on the business environment of countries. In this framework, it is the rise of more recent entrepreneurial based growth models to question the impact of new firms (entrepreneurs) to understand the soundness of economic activity. The concept of economic activity is mostly proxied by using the firm level data (i.e. number of new firm start-ups). The job creation capacities of new firms (Storey, 1994), but more importantly, specific role of new firms through innovation and knowledge diffusions (Acs et al., 2003, Audretsch and Keilbach, 2004) are the major motivations for using new firms as a proxy to understand the level of economic activity. Later, Storey (1994), Reynolds et al. (1994), Sutaria and Hicks (2004) investigate the regional distribution of new firms and question the underlying reasons of this dispersion by testing different hypotheses of the NEG setup. Overall, both the theoretical models and the findings of the empirical studies remark that studying the reasons behind location choice of production is a way to understand the health of business environment in a region. We argue that, using the theoretical framework of the NEG based location theories can also shed light on the business environment of different countries.

While both the theoretical background of NEG as well as the empirical studies prefer to focus on intra-country variations, we believe all these discussions can be carried out to a cross country investigation. However, we are aware that a direct replication of the theoretical setup will not be possible. Hence, it will be compulsory to revise new economic geography's perspective while switching the focus of the study from intra country to cross country analysis of the diversification in the business environment. Most prominent difference will be regarding the role of externalities in the geographic models, which has to be substituted by the dynamics behind private investment decisions. We believe such a substitution can be best understood by examining the possible conceptual similarities between growth and location theories. A number of channels can be listed which may determine the business environment differentiation among the CEE economies. Among them we will concentrate on

financial development, macroeconomic stability, market access of economies, integration with the World, absorption of FDI and governance indicators.

Regarding financial development, two different approaches can be followed. First one is coming from the theories based on entrepreneurial approach, other originating from growth models. From a Schumpeterian (1912) perspective Evans and Jovanovic (1989) emphasized that new business units, mature private investment, will be more productive however most of the time will not be endowed with the required sources. Therefore, these units mostly operate under liquidity constraints. This view underlines that developed financial markets will give new opportunities for these innovative agents. This approach is highly criticized by Emran and Stiglitz (2009) due to the fact that advances in financial markets will bring some institutional as well as legislative rigidities, which will prevent financial agents to lend to new private investments (new firms or entrepreneurs) expected to be riskier. On the other hand, growth theories originating from McKinnon and Shaw (1979) hypothesis remark the importance of financial development for cross country differences in growth levels. More contemporary studies such as Bencivenga and Smith (1991) and Bencivenga et al (1996), underline that money and capital markets are vital elements of a well working financing system. From this perspective while financial development is an important factor, it can also signal to increasing domestic instabilities, that have negative impacts on the private investment. This could be linked with the importance attributed to macroeconomic stability (Serven and Solimano, 1993, Serven 1998, Aysan et al., 2006). In this context, an uncertain environment will discourage private investment resulting a slowdown in capital accumulation and economic development.

Connected with these two channels another noteworthy dimension that has to be defined is the openness level of the CEE economies. Increasing integration with both the European Union and the rest of the World have repercussions on the business side of the region. Increasing openness will enable these transition countries to reach new markets both in terms of supply and demand opportunities (Frankel and Romer, 1999). Additionally, performance of foreign investors within these markets is also crucial. At this stage we prefer to omit the movements of security and portfolio flows due to the shallow capital markets in CEE economies. Instead, we concentrate on the foreign direct investment absorption capacity of these CEE countries. FDI represents direct physical capital inflow and increase in production capacity for the host economy. Moreover, as a central argument of the growth theory FDI will also contribute to the research and development (R&D) stock of host economies and will stimulate knowledge diffusion between different set of countries (Borensztein et al., 1998 and Alfora et al., 2004).

Furthermore, another important discussion is related with the market access of countries, which is linked with the domestic business environment. While Harris (1954) type of market access approach is popular to see the market potential of

economies in international trade, some more recent empirical models also use the geographic location of economies with respect to a benchmark economic activity center (Rodriguez et al. 2007). Harris (1954) remarks that the market access of a region is positively associated with other regions' income levels but is negatively associated with the distance between the regions. Rodriguez et al. (2007) later uses this approach and calculated market access as follows:

$$MA_i = \sum_{j=1}^{K} \frac{Y_j}{T_{ij}} \cdot$$

Y represents income and T represents the distance between regions i and j.

Although observing the general integration of the CEE economies with the region and the world is informative, assuming that these economies belong to the same path in terms of integration can be misleading. As underlined by Dogruel and Dogruel (2011) initial conditions of economies can matter for their growth performance. Therefore, it will not be naive to expect that initial conditions will have influence on the business environments. Finally, another important factor that can have impact on the business environment via private investment is the institutional and the legislative milieu of the CEE economies (Beck and Laeven, 2005). Different factors running from direct regulations affecting the business and investment environment are crucial. Moreover, certain properties of governments or regulatory authorities which represent a solid benchmark to observe the legislative structure earn increasing importance.

3. Differentiation of Business Environment among CEE Countries

CEE economies, which are also classified as the transition economies, have witnessed fundamental transformations in their legislative and institutional structures following the collapse the East Block and the Soviet Union. During this period, they also gave priority to open up and integrate their economies into the western economies. Consequently, it is not possible to observe a conventional path in these economies for the post 1989 period. This section will focus on the developments in the business environment as well its legislative and institutional background of the CEE countries. Our aim is to descriptively show the similarities and differences in terms of institutional battery of the CEE countries. Overall, these initial findings will be more meaningful after the assessment of the empirical model in the following section.

Table 1: Strength of Business Environment in CEE (2004-2010 averages)

	Ease of Doing Business Rank	Starting a Business Rank	Procedures (number)	Time (days)	Cost (% of income per capita)	Min. capital (% of income per capita)
Baltic						
Estonia	23	30	5.571	33.571	4.6	36.2
Latvia	28.5	43	5	16	4.929	28.2
Lithuania	25.5	88	7.429	26	3.129	50.014
Eastern Europe						
Albania	85.5	57	9.286	30.143	30.143	32.829
Bosnia and Herzegovina	117.5	161	12	56.429	35.1	88.986
Bulgaria	43	65.5	8.429	32.429	7.186	61.429
Macedonia, FYR	50.5	9.5	9.857	27.143	7.9	58.5
Romania	50	36	5.571	16.143	5.6	1.729
Serbia	89	90.5	10.714	31	10.957	35.886
Central Europe						
Croatia	106.5	100.5	9.429	25.429	11.9	20.229
Czech Republic	70	102	9.429	27.286	9.8	37.843
Hungary	44	34	5.429	29.286	20.1	60.388
Slovak Republic	38.5	57.5	8.287	37.429	4.929	37.829
Slovenia	55.5	34	7.571	46.429	8.329	35.686
Poland	72	131	9.429	31.143	20.471	184.386

Source: WB, Doing Business Survey (2010)

To our knowledge the best indicator to see the strength of business environment at the country level is supplied by the "Doing Business Survey" of World Bank (WB).[1] Two major indicators (Ease of Doing Business Rank and Starting a Business Rank) and four major variables (procedures, time, cost, minimum capital) are defined to assess the health and the strength of the business environment (Table 1).[2] CEE Countries are grouped under three sub groups: Baltic, Central Europe and Eastern Europe respectively.[3]

Results reported in Table 1 can be summarized based on the ease of doing business rank and starting a business rank which are lists 186 countries. Based on the ease of

[1] Doing Business survey results are supplied for a relatively short time period (2004-2010) and cannot be used in the panel data models that are constructed in the empirical part of the paper. A discussion about the right proxy to assess the developments of the business environment will be carried out at the end of Section 2.

[2] For a brief representation of the index see Djankov et al. (2002).

[3] This classification will also be followed for Tables 2 and 3.

doing business ranking Estonia is the leading transition CEE economy and followed by Lithuania and Latvia. Note that, geographically they share the common Baltic region. Moreover, for the starting a business ranking; Macedonia (FYR) is the leading economy and followed by Estonia, Hungary and Slovenia. Decomposition of the starting a business index can also be observed from Table 1. While average number of procedures varies between 5 and 11 for CEE countries, average days that is necessary to start a new business unit takes 16 days for Latvia but 56 days for Bosnia and Herzegovina. Finally, overall cost and capital requirements relative to per capita income in CEE economies remark that there are significant differences among the CEE region countries. Overall, other than the Baltic Area countries, we fail to determine a homogeneous structure for the subgroups.

Table 2: Legislative Background of Business Environment in CEE (2009)

	Competition office	Quality of insolvency law	Secured transactions law	Quality of corporate governance law	Quality of securities market laws
Baltic					
Estonia	yes	medium	inefficient	medium	high
Latvia	yes	medium	some defects	medium	medium
Lithuania	yes	medium	modern/defects	medium	low
Eastern Europe					
Albania	yes	high	advanced	low	low
Bosnia and Herzegovina	yes	high	modern/defects	low	high
Bulgaria	yes	high	advanced	medium	high
Macedonia, FYR	yes	medium	modern/defects	medium	high
Romania	yes	high	advanced	low	full
Serbia	yes	high	modern/defects	medium	low
Central Europe					
Croatia	yes	high	inefficient	medium	high
Czech Republic	yes	medium	inefficient	medium	high
Hungary	yes	medium	advanced	high	medium
Slovak Republic	yes	medium	advanced	high	full
Slovenia	yes	low	inefficient	high	full
Poland	yes	medium	inefficient	medium	full

Source: EBRD

While the differentiation of the business environment will be done in Section 5, a brief outlook at the legislative environment of these CEE economies can be informative. Table 2 gives a snapshot of the legislative background as of 2009. Data for the legislative environment of the CEE countries is from European Bank for

Reconstruction and Development (EBRD). For the whole CEE economies, a common pattern is the presence of a competition office. Leaving this fact on one side; Table 2 points out the nature of the Baltic economies in terms of legislative environment. Considering the insolvency law quality, other than Slovenia CEE economies are above the quality average. When the Eastern and Central European Economies are compared, Eastern economies seems to be more successful. A similar pattern is also persistent for the secured transactions law. However, regarding the corporate governance law and the securities market law the Central European economies are observed to be doing better in terms of quality. Note that, these remarks are preliminary and descriptive. However as 8 economies for insolvency law, 12 economies for corporate governance law and 5 economies for the securities market law (out of the 15 CEE countries) are at the or below the average of the quality standard, highlighting the problematic legislative environment of the CEE economies is noteworthy. We have to note that, in the core understanding of this study, developments in the business environment can be highly influenced by the legislative background of the CEE countries.

Table 3: Institutional Background of CEE Economies (1989-2008 averages)

	Enterprise Reform Index	Competition Policy Index	Banking Sector Reform Index	Infrastructure Reform Index
Baltic				
Estonia	2.9	2.4	3.1	2.6
Latvia	2.4	2.2	2.9	2.3
Lithuania	2.4	2.3	2.7	2.1
Eastern Europe				
Albania	1.8	1.5	2.0	1.6
Bosnia and Herzegovina	1.5	1.1	1.8	1.6
Bulgaria	2.1	2.2	2.6	2.6
Macedonia, FYR	1.9	1.5	2.3	1.8
Romania	1.9	1.8	2.4	2.2
Serbia	1.4	1.1	1.6	1.6
Central Europe				
Croatia	*2.3*	1.9	2.8	2.2
Czech Republic	2.8	2.6	3.1	2.5
Hungary	3.0	2.7	3.3	3.1
Slovak Republic	2.9	2.7	2.9	2.0
Slovenia	2.4	2.1	2.8	2.3
Poland	3.0	2.7	3.0	2.7

Source: EBRD

As discussed in the previous section, institutional developments are also connected with the legislative environment. Table 3 gives a general outlook for the post collapse period of 1989. Four major indices developed by EBRD are compared among the CEE region economies. The most remarkable finding is regarding the lagging institutional background of the Eastern European economies. Although Baltic and Central European economies have some differences, their institutional reform performances during the post collapse period seem in general to be similar.

4. Methodology and Data

Following panel data model is defined to examine the sources of the differentiation in the business environment among the CEE region countries:

$$y_{i,t} = \alpha + \beta X_{i,t} + u_{i,t} \quad (1)$$

where "y" represents the annual percentage change in the industrial value added and "X" is the vector of the explanatory variables which we define as the determinants of the business environment in the region.

The error component (one way) can be decomposed as follows; $u_{i,t} = \mu_i + v_{i,t}$ where μ_i denotes the unobserved individual effects and $v_{i,t}$ indicate the remaining errors. Main issue here is the unobserved individual effects, which are somehow related with each cross section. The major question is whether these effects are fixed or random. In the case of fixed effect models μ_i is, by definition, correlated with explanatory variables unlike the random effect model. This correlation will prevent stable estimation results due to collinear relationships, thus has to be somehow eliminated. The logic behind the fixed effect model estimation is related with the removal of this the unobserved effect. Baltagi (2005) explains that the within transformation, fixed effects transformation, is the precise process. On the other hand, random effect model assumes that the unobserved effect is random, thus cannot be correlated with any of the variables contained in vector "X". As argued by Baltagi (2005), if the expected individual effects are uncorrelated with the regressors, unlike the fixed effect models, then modeling the individual specific constant terms by randomly distributing across cross section units will be more appropriate. The efficiency is that random effect model accounts for the implied serial correlation in the composite error component by using a Generalized Least Squares (GLS) analysis (Baltagi, 2005). In all cases, $v_{i,t}$ is the IID (0, σ^2_v) stochastic disturbance, and "X" must not be correlated with $v_{i,t}$. Here, decision between the fixed and the random effect models can be done following Baltagi (2005). Baltagi (2005) mentions that in case one prefers to use the cross sections taken as given from a general population (regions, cities of a country etc.) use

of fixed effect models will be appropriate. However, if due to any reason cross sections are chosen randomly, preferring random effect models is more accurate; hence the random effect (GLS) estimators give more efficient results. At this point another issue is to see whether efficient random effect estimator also give consistent results. Hausman (1978) introduces a test to see the efficiency as well as consistency of the estimators. Note that Hausman (1978) test will not be a guide to compare two models, rather it is a test to see whether the efficient GLS estimator is also consistent like the within estimator.

Considering the discussions outlined in Section 2, the elements of the explanatory variables vector X are selected considering several mechanisms which, we think, may define the formation of the business environment.

i) In order to see the impact of the demand, annual growth rate of final consumption expenditures as the indicator of the domestic demand and annual growth rate of exports as the indicator of the external demand are used.

ii) The impact of financial deepening is tested by using the growth of money supply (M2 growth).

iii) Inflation rate as the indicator of change in price levels is used to capture the relative weight of the positive expansionary effect of price increases and the negative effect of domestic market instability.

iv) The effect of the public sector is controlled by using budget deficit.

v) For the impact of physical capital inflow, foreign direct investment (FDI) as percentage of GDP is employed.

vi) To test the role of the geographical proximity distance to Luxemburg is used. Moreover, market access index is also computed and linked with the formation of the domestic business environment. These two indicators will show the role of geography on domestic the business environment.

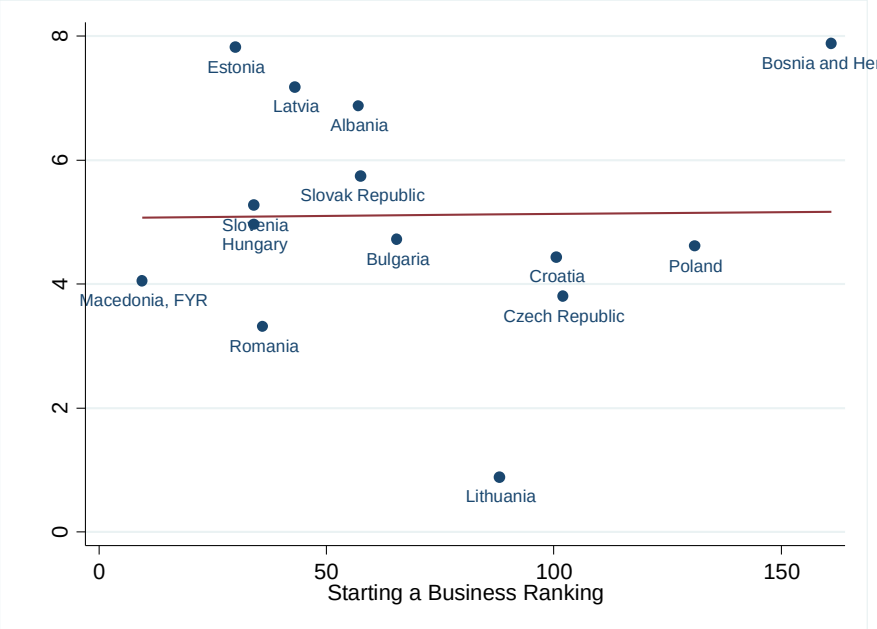
vii) To assess the impact of initial conditions two indicators are constructed. The first one, labeled as static indicator, is the first available per capita real income level of the economies (1989). The second one as the dynamic indicator is the ten-year lag of per capita real income level of the related country (starting from 1989).

viii) The effects of the openness and the integration with the world economy are controlled by using trade volume as a percentage of GDP and globalization index provided by Dreher (2006) and Dreher et al. (2008).

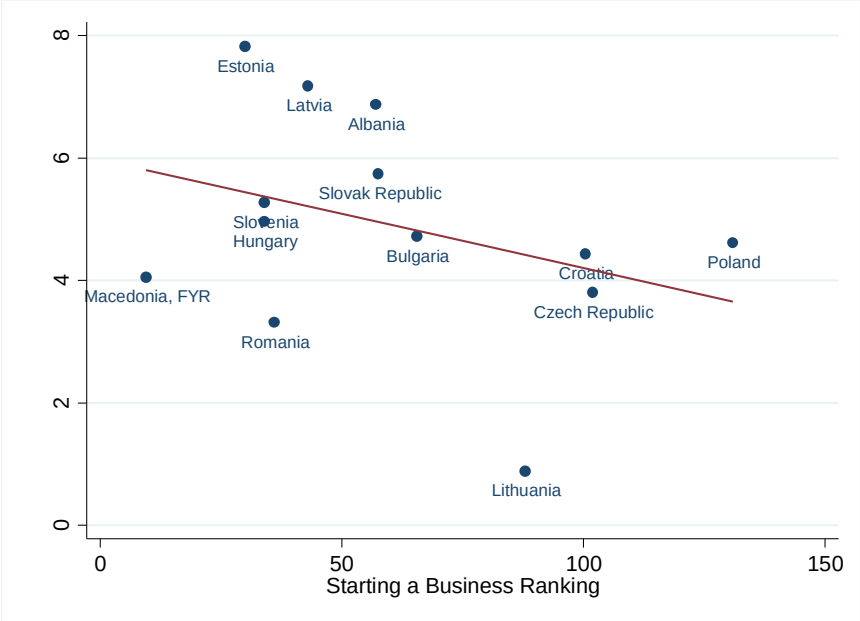
ix) Finally, three governance indicators are introduced: rule of law index, voice of accountability index and government effectiveness index.

Figure 1: Industrial Growth and Business Environment in CEE 1997-2008 averages

(a)



(b)



Source: WB, authors' calculations.

As noted in the previous section, firm specific micro level data is not available to define the business environment in the CEE region. In order to solve this problem, we define a proxy for the developments of the business environment. Among different macroeconomic indicators, change in the industrial value added is considered as an appropriate indicator for assessing the developments in the countries' business environment. Figure-1 compares the change in the industrial value-added and the rank of the CEE economies in the starting a business index. Note that for the whole sample there seems to be a rather weak link (Figure 1a) however ignoring Bosnia and Herzegovina as an outlier, Figure-1b illustrates that the CEE economies with higher average industrial value-added growth also have high starting a business index.

Assuming that the improvements in the business environment mostly stimulates the firm formation, the result displayed in Figure-1 allows us to use the industrial value added as a proxy for the new firm start-ups. However, it is noteworthy to note that the change in industrial value added, particularly increase in, can be related with the three specific changes in the economy; (i) Increase in the average scale of the existing firms, (ii) Technological improvement which creates an increase in productivity, (iii) Increase in the number of firms operating in the industry. To decompose the sources of the change in value added is beyond the scope of this study. However, it is plausible to assume that, in the short run, increase in the value added is basically outcome of the increase in the number of firms rather than the technological improvement or scale change in a developing economy. Therefore, we employed the change in industry value-added as a proper proxy to assess the business environment among the CEE economies.

14 CEE economies are covered in the study: Estonia, Latvia and Lithuania in the Baltic region; Albania, Bosnia and Herzegovina, Bulgaria, FYR Macedonia, and Romania in Eastern Europe; Czech Republic, Croatia, Slovak Republic, Slovenia, Hungary and Poland in the Central Europe. We do not include Serbia due to data limitations. Data set covers the period of 1997-2008 and obtained from World Bank (WB) and European Bank of Restructuring and Development (EBRD).

5. Empirical Findings

Based on the general equation given in the previous section, we estimate a number of different models. The baseline model, Model-A, is later augmented to control for other possible determinants. As a first stage, Model-A is identified to capture the impact of the domestic demand, external demand, financial deepening, budget deficits and foreign direct investments. The base model is modified by replacing foreign direct investments with other explanatory variables. The estimation results of the models are presented in Table-4 to Table-7. For each model both the fixed as well as the random effect variants are estimated. Hausman (1978) test results reported in Table-4 to Table-7 for all model underlines that random effect estimators are consistent.

Estimation result of the first model reveals that both domestic and foreign demand affect the development of the CEE's business environment positively. In contrast to the widespread expectation on the positive impact of financial deepening, coefficient estimated for money supply is negative and statistically significant in all models. This result implies that financial deepening has a crowding out effect on the development of the business in the industrial sectors of the CEE economies. Model-A shows that the budget balance, as a macroeconomic fundamental, has a positive impact on business environment. On the other hand, foreign direct investment in Model-A does not have any significant effect on the development of the business environment. Inflation rate as a macroeconomic stability indicator is used in Model-B. In order to avoid the possible multicollinearity between inflation rate and money supply, growth of money supply is not included in Model-B. Estimation result shows that deteriorative effect of price stability is dominant.

Table 4: Static Panel Data Models (Fixed Effect and Random Effect Results)

	Model A		**Model B**		**Model C**	
	FE	**RE**	**FE**	**RE**	**FE**	**RE**
Domestic Consumption Growth	0.184 (0.139)	0.241** (0.123)	0.114 (0.14)	0.175 (0.149)	0.170 (0.126)	0.232** (0.117)
Exports Growth	0.363* (0.049)	0.358* (0.046)	0.358* (0.047)	0.357* (0.040)	0.367* (0.047)	0.362* (0.045)
Money Supply Growth	-0.047** (0.019)	-0.051* (0.018)	-	-	-0.048** (0.019)	-0.052* (0.017)
Government Balance	0.760* (0.252)	0.621* (0.168)	0.764* (0.211)	0.563* (0.160)	0.806* (0.238)	0.635* (0.166)
FDI (net % of GDP)	0.081 (0.149)	0.075 (0.121)	-	-	-	-
Inflation Rate	-	-	-0.082 (0.054)	-0.083* (0.016)	-	-
Distance to Luxemburg	-	-	-	-	na	-0.059 (1.886)
R-squared	0.38	0.38	0.37	0.37	0.37	0.38
F/Wald Test (p-value)	15.92 (0.00)	87.84 (0.00)	31.12 (0.00)	189.28 (0.00)	21.78 (0.00)	93.10 (0.00)
Hausman Test (p-value)	2.38 (0.79)		2.37 (0.67)		2.71 (0.61)	

Notes: *, **, *** represents significance at 1%, 5% and 10% respectively
Standard errors for coefficient estimates are in ( )

In the models other than Model-A and B, rest of the indicators considered used as explanatory variables separately. However, none of these indicators has a significant impact on the formation of the business environment. Estimation results of the models do not support the discussions on the potential effectiveness of initial conditions, geographical proximity, market access, quality of governance and openness on the performances of the transition economies.

Table 5: Static Panel Data Models (Fixed Effect and Random Effect Results)

	Model D		Model E		Model F	
	FE	**RE**	**FE**	**RE**	**FE**	**RE**
Domestic Consumption Growth	0.168 (0.127)	0.235** (0.115)	0.163 (0.129)	0.197*** (0.119)	0.177 (0.145)	0.215*** (0.215)
Exports Growth	0.367* (0.047)	0.361* (0.045)	0.363* (0.049)	0.359* (0.046)	0.333* (0.051)	0.331 (0.048)
Money Supply Growth	-0.047** (0.019)	-0.049* (0.018)	-0.049** (0.019)	-0.054* (0.018)	-0.052** (0.020)	-0.055* (0.018)
Government Balance	0.771* (0.258)	0.627* (0.159)	0.774* (0.248)	0.598* (0.164)	0.543*** (0.301)	0.518* (0.175)
Market Access	1.441 (3.948)	1.036 (1.785)	-	-	-	-
Initial Condition (static)	-	-	na	-0.246 (0.295)	-	-
Initial Condition (dynamic)	-	-	-	-	0.031 (0.703)	-0.047 (0.521)
R-squared	0.38	0.38	0.37	0.38	0.36	0.36
F/Wald Test (p-value)	17.34 (0.00)	93.64 (0.00)	20.04 (0.00)	87.37 (0.00)	12.15 (0.00)	71.34 (0.00)
Hausman Test (p-value)	2.64 (0.76)		1.70 (0.79)		0.85 (0.97)	

Notes: *, **, *** represents significance at 1%, 5% and 10% respectively
Standard errors for coefficient estimates are in ( )

Table 6: Static Panel Data Models (Fixed Effect and Random Effect Results)

	Model G		Model H		Model I	
	FE	**RE**	**FE**	**RE**	**FE**	**RE**
Domestic Consumption Growth	0.150 (0.130)	0.233** (0.115)	0.215 (0.172)	0.304** (0.154)	0.166 (0.126)	0.231** (0.115)
Exports Growth	0.368* (0.047)	0.362* (0.045)	0.369* (0.046)	0.360* (0.044)	0.351* (0.049)	0.363* (0.045)
Money Supply Growth	-0.048** (0.019)	-0.050* (0.017)	-0.039** (0.019)	-0.039** (0.017)	-0.048** (0.018)	-0.051* (0.017)
Government Balance	0.725* (0.256)	0.588* (0.167)	0.614** (0.249)	0.528* (0.161)	0.829* (0.239)	0.628* (0.159)
Trade Volume (% of GDP)	0.041 (0.047)	0.011 (0.017)	-	-	-	-
Globalization Index	-	-	0.025 (0.121)	0.013 (0.050)	-	-
Rule of Law Index	-	-	-	-	-4.177 (3.811)	0.223 (0.887)
R-squared	0.36	0.38	0.44	0.44	0.30	0.38
F/Wald Test (p-value)	17.21 (0.00)	91.99 (0.00)	16.78 (0.00)	93.65 (0.00)	17.69 (0.00)	93.20 (0.00)
Hausman Test (p-value)	3.08 (0.69)		2.44 (0.79)		4.10 (0.54)	

Notes: *, **, *** represents significance at 1%, 5% and 10% respectively
Standard errors for coefficient estimates are in ( )

Table 7: Static Panel Data Models (Fixed Effect and Random Effect Results)

	Model J		Model K	
	FE	**RE**	**FE**	**RE**
Domestic Consumption Growth	0.168 (0.127)	0.231** (0.114)	0.170 (0.127)	0.235** (0.114)
Exports Growth	0.367* (0.047)	0.363* (0.045)	0.366* (0.048)	0.365* (0.045)
Money Supply Growth	-0.048** (0.019)	-0.049* (0.017)	-0.049** (0.020)	-0.048* (0.018)
Government Balance	0.794* (0.247)	0.625* (0.159)	0.820 (0.254)	0.627* (0.159)
Voice of Accountability Index	0.714 (3.405)	0.721 (1.065)	-	-
Government Effectiveness Index	-	-	-0.502 (3.153)	0.662 (0.873)
R-squared	0.38	0.38	0.37	0.38
F/Wald Test (p-value)	17.31 (0.00)	93.83 (0.00)	17.31 (0.00)	94.02 (0.00)
Hausman Test (p-value)	2.42 (0.79)		2.39 (0.79)	

Notes: *, **, *** represents significance at 1%, 5% and 10% respectively
Standard errors for coefficient estimates are in ( )

6. Conclusion

Formation of a sound business environment is commonly used to assess regional differences in an economy. In this study we employ a similar framework in order to analyze the dynamics and the differentiation of the business environment among the CEE countries. In contrast to the other empirical studies in this field, cross country approach rather than intra country approach is used for the analyses.

14 transition economies in the CEE region are analyzed for the period of 1996-2008. The results obtained from the panel data models reveal that, among the other factors, the internal and the external demand dominate the differentiation of the business environment in the region. On the other hand, financial deepening has a crowding out effect on the firm formation in the industrial sector. Macroeconomic stability measured by inflation rate and the government budget balance are vital elements for the development of the industrial business environment. However, we failed to detect any significant effect of foreign direct investment, initial conditions, geographical positions, openness, legislative and institutional factors on the development of the business environments within the CEE region. Although the weakness of the data set employed hinders robustness of the estimation results, the findings of the study are consistent with the theoretical insights. We expect that the improvement in the quality of data will enlarge the list of the determinants of the

business environment. Moreover, our analyses cover the pre 2008 Financial Crisis period in order to directly focus on the transition phase of these countries. However, additional analyses are required to examine the level of resilience to the 2008 Global Financial Crisis in terms of differences among the business environments of the CEE countries. This stands as valuable line of research on our agenda.

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