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BUSINESS ENVIRONMENT AND ECONOMIC GROWTH: IS THERE A LINK?

JEL classification: L26, O57

Abstract

What role does the business play in economic growth? What circumstances are necessary for the stable business development? Recent literature focuses on the factors of business environment promoting or constraining firm growth. Using the country aggregate values of the firm-level World Bank Enterprise Survey (WBES) data on the subjective estimates of the business obstacles 128 countries are classified into six clusters. Due to the fact that firms report many obstacles to growth the contributions of 13 obstacles to business environment are recalculated for understanding the major business constraints. Lastly, cross tables analysis finds that there is a correlation between the prevalence of the business obstacles and national income growth, export growth, high-technology export. The results have important implications for the priority of reforms. Corruption, electricity and tax rates are the main business constraints in the world. Moreover, access to finance and competition in the informal sector of economy are also the major obstacles for business in the part of the countries.

Key words: business environment, economic growth

1. INTRODUCTION

Business development takes an important place in economic growth at national, regional and international level. At the same time, various macroeconomic factors influence on business development. Firms report macroeconomic and policy instability, corruption and crime, inefficient functioning of financial markets and legal systems, excessive taxation and regulations, poor infrastructure as significant constraints for their performance. Many of these perceived obstacles are correlated with low firm growth.

This evidence can inform policy makers who substantially determine country business environment by legal system, taxation, bank system, courts system. However, even if firm performance is likely to benefit from improvements in all dimensions of business environment, addressing all of them at once would be challenging for any government (Ayyagari, Demirgüç-Kunt and Malsimovic, 2008, p.484) For this reason, understanding how numerous obstacles interact, which of them have a direct impact on firm growth are important for prioritizing reforms. Moreover, the relative impact of obstacles varies across regions and countries which should be taken into account by policy makers.

This paper aims to classify countries by the prevalence of business obstacles. It also analyzes the contributions of various business obstacles to the whole business environment according the opinions of business owners and top managers. Finally, it shows a significant correlation between business environment and the indicators of economic growth.

The paper is based on the firm-level World Bank Enterprise Survey (WBES). The analysis is built on the country-level averages of top managers' respondents about business obstacles. An obstacle is defined as a constraint if a top manager considers this as a major or very severe obstacle.

The rest of the paper is organized as follows. The next section presents a literature overview of the factors of business environment and their influence on firm and economic growth. The third section describes data and methodology. Then the regional differences of business environment are discussed. The fifth section includes correlation and factor analysis of the business obstacles. The classification of the countries by the business obstacles is in the sixth section. In addition, the impact of the business obstacles on the indicators of economic growth is also analyzed in this section. The last section consists of the main results and conclusions.

2. LITERATURE OVERVIEW

Firm growth is the key factor of the development process, which makes it a much researched area in economics. A new focus of the field is the broader business environment where firms operate (Ayyagari, Demirgüç-Kunt and Maksimovic, 2008, p.483). Recent investigations show that firms report many features of their business environment as obstacles to their growth. The features of business environment cover corruption, crime (Gaviria, 2002), legal system (Beck, Demirgüç-Kunt and Maksimovic , 2005; La Porta et al., 1998; Durnev and Han Kim, 2005), policy instability, finance (Rajan and Zinglales, 1998; Wurgler, 2000; Galindo and Micco, 2007; Ayyagari, 2008), taxation (Fisman and Svensson, 2005), business regulations (Djankov et al., 2002; Klapper, Laeven and Rajan, 2004), employment regulations (Botero et al., 2004; Besley and Burgess, 2004; Autor, Kerr and Kugler, 2007), informality, competition (Schwab, 2014), infrastructure (Aterido, Hallward-Driemeir, Pages, 2009), macroeconomic factors (Levine and Renelt,1992).

Described above factors are highly correlated. Gaviria (2002) notes the high crime rate in countries where corruption exists. The regulations of entry become effective in less corrupt countries whereas red tape contributes to bribery (Shleifer and Vishny, 1997; Djankov et al., 2002). Moreover, the factors of business environment influence on business activity both directly and through other factors. In particular, Claessens (2006) indicates institutional environment, including weak legal system, information infrastructure, the lack of competition in bank system as the causes of financial obstacles for business. In contrast, low financial barriers connect with open and competitive bank systems, characterized private bank ownership, foreign participation, strong legal, information and physical infrastructure (Beck, Demirgüç-Kunt and Soledad Martinez Peria, 2008). Overall, correlations between long-term firm growth and separate macroeconomic indicators are less robust that indicates the complex influence of macroeconomic factors (Levine and Renelt, 1992). Kaufmann, Kraay and Zoido-Lobaton (1999) grouped more than 30 governance indicators in three clusters, rule of law, government effectiveness, and graft, and mentioned that aggregate indicators can provide more precise measures of governance than individual indicators.

Business environment and, as a result, business obstacles vary across regions. In the majority of countries, the financing obstacle is the major obstacle for business development. Overall, the obstacles tend to be lower in developed countries compared to those in developing countries (Beck, Demirguc-Kunt and Maksimovic, 2005). The estimations of the business obstacles by firms vary according to income level in a country (Gelb et al., 2007). Comparing the business obstacles in countries with various income levels, Ayyagari, Demirguc-Kunt and Maksimovic (2008) conclude that finance, crime and policy instability are more common for middle-income countries. Corruption and crime are much greater in Latin America than in O.E.C.D countries (Gaviria, 2002). In African countries the major obstacles for business are corruption and poor infrastructure (Ayyagari, Demirguc-Kunt and Maksimovic, 2008).

Overall, the existing literature show that business environment influences on firm growth. Considering individual firm characteristics (industry, firm size, the age of firm, the proportion of state ownership, the proportion of foreign ownership), business obstacles have a significant impact on business development and economic growth on the whole.

3. METHODOLOGY

This paper is based on the Enterprise Surveys conducted by the World Bank. The World Bank Enterprise Survey (WBES) is a firm-level survey of a representative sample of an economy's private sector. The respondents of WBES are mainly business owners and top managers, company accounts and human resources managers for the sales and labor sections of the survey.

Typically 150, 360 and 1200-1800 interviews take place for small, medium-sized and large economies correspondingly. WBES covers manufacturing and services (construction, retail, restaurants, transport, storage, communications, IT) sectors. Additionally, education and health-related businesses are included in the survey in a few countries. The survey includes formal (registered) firms with 5 and more employees. Companies with 100% government/state ownership do not participate in the survey.

WBES include topics describing firm characteristics, business-government relations, informality, taxation, innovation and technology, access to finance, infrastructure and others. Over 90% of the questionnaire characterizes country's business environment although another part of the questions present business obstacles according to the respondents' opinions.

The sampling methodology for WBES is stratified random sampling where firm size, business sector and geographic region are the strata. The majority of firms are small and medium-sized thus the Enterprise Survey oversample large firms.

Firm size is a composite measure of permanent and temporary workers. The number of temporary workers is adjusted by the average number of months in a year. Small, medium-sized and large companies have 5-19, 20-99, 100 and more workers correspondingly.

WBES covers selected regions within a country provided the largest centers of production and business. Business sector stratification divides manufacturing and services companies. Additionally, there is a more detailed stratification in larger economies.

Considering a large number of the countries in WBES the time period of the data varies from 2005 (Germany, Greece, Korea, Portugal and others) to 2014 (Afghanistan and Myanmar).

13 questions about major business constraints are selected for the current research. They cover various aspects of business environment: regulations and taxes, corruption, crime, informal economy, access to finance, infrastructure, and workforce. The questions are formed as "To what degree is [the name of the obstacle] an obstacle to the current operations of this establish?" There are 5 degrees for the respondents' choice: (0) No obstacle; (1) Minor obstacle; (2) Moderate obstacle; (3) Major obstacle; (4) Very severe obstacle. Percentage of firms identifying a "major" or "very severe" obstacle is calculated as a result. See Table 1 for the selected business obstacles.

Table 1

WBES questions

Business obstacles	Variable
Corruption	X_1
Functioning of the courts	X_2
Crime, theft and disorder	X_3
Access/cost of finance	X_4
Practices of competitors in the informal sector	X_5
Electricity	X_6
Transportation	X_7
Tax rates	X_8
Tax administration	X_9
Business licensing and permits	X_{10}
Customs and trade regulations	X_{11}
Labor regulations	X_{12}
Labor skill level	X_{13}

Source: Enterprise Surveys Indicator Descriptions (2014). IFC World Bank Group

The final part of the analysis is based on the World Development Indicators (WDI) provided by the World Bank. WDI cover various topics of development in 117 countries. Selected indicators for the analysis are in Table 2.

Table 2

The World Development Indicators

Indicator name	Description	Time period
Adjusted net national income (annual percentage growth)	GNI minus consumption of fixed capital and natural resources depletion	2010-2012
Adjusted net national income per capita (annual percentage growth)		2010-2012
Exports of goods and services (annual percentage growth)	The value of all goods and services provided to the rest of the world including the value of merchandise, freight, insurance, transport, royalties, license fees, and other services and excluding compensation of employees and investment income (formally called factor services) and transfer payments	2010-2013
High-technology exports (percentage of manufactured exports)	Products with high R&D intensity, such as in aerospace, computers, pharmaceuticals, scientific instruments, and electrical machinery	2010-2012

Source: The World Bank

Considering the time period of the last WBES the average values of the indicators described in the table are used in the analysis.

4. REGIONAL DIFFERENCES

Business obstacles vary across countries and regions. According to WBES the most common obstacles for business in the world are corruption (33.7%), electricity (33.5%) and tax rates (30.5%). Almost one third of top managers consider access to finance (28.70%) and competition in the informal sector (27.90%) as business constraints. However, there is a significant diversity of the respondents' answers concerning business obstacles. As an example, top managers estimate corruption as a major obstacle for business from 0.0% in Dominica and Eritrea to 83.7% in Niger.

High-income OECD countries, Eastern Europe & Central Asia, East Asia & Pacific have less business obstacles than other regions. Only 11.9% of managers consider corruption as a major constraint in high-income OECD countries. In Eastern Europe & Central Asia and East Asia & Pacific this value is twice higher.

High-income non-OECD countries have similar values as regions described above. However, there is the highest value for the tax rates – 43.70%. Electricity (31.1%) and labor skill level (31.2%) are also common problems for business in these countries.

South Asia demonstrates higher values for the majority of the variables than Europe, Central Asia and East Asia & Pacific. It has the largest constraints with electricity (43.60%), corruption (35.70%) and access to finance (34.20%).

Latin America & Caribbean is the leader among regions in courts system (29.10%), access to finance (35.90%), labor regulations (17.90%) and labor skill level (35.90%). It also has significant problems with corruption (44.90%).

Middle East & North Africa has the highest values in corruption (50.20%), electricity (45.80%) and business licensing and permits (20.20%). Therefore, access to finance as a major constraint is 38.50% which is more than average across all regions.

Lastly, Sub-Saharan Africa shows higher values for all described variables than the world average. This region is the leader in several constraints: access to finance (41.60%), competition in the informal sector (40.80%), transport (28.60%), tax administration (28.70%), customs and trade regulations (25.40%). Electricity is almost the highest (44.80%), corruption (42.60%) and crime (28.00%) are significantly higher than the world average.

Figure 1 presents three common world obstacles for business across regions.

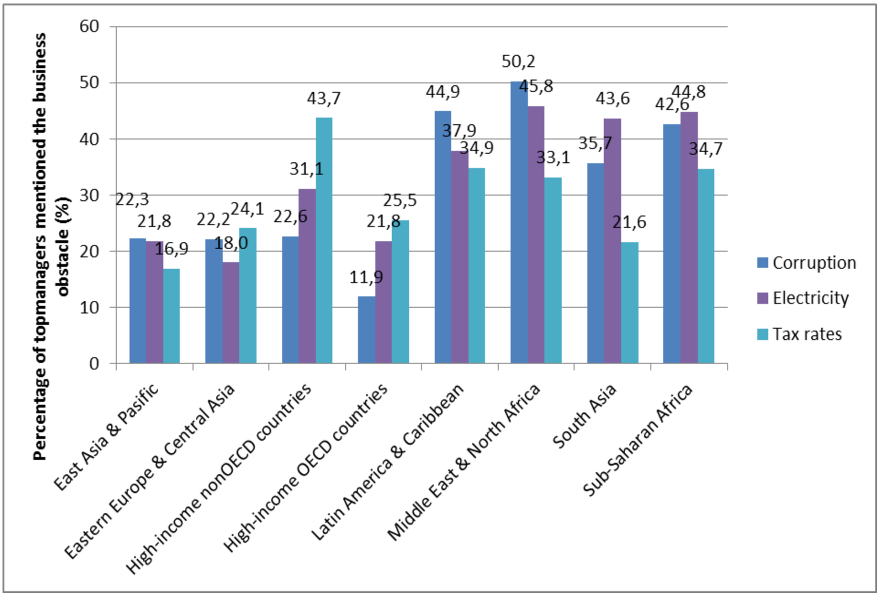

Figure 1 Three major business obstacles across regions

Source: the World Bank

5. CORRELATION OF BUSINESS OBSTACLES

Correlation analysis of the business obstacles shows the significant direct correlations between the business constraints. In particular, there is a strong correlation between corruption (X_1) and courts system (X_2), tax rates (X_8) and tax administration (X_9). See Table 3 for more details.

Table 3

Correlation matrix

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
X_1	1,000	0,729	0,676	0,504	0,650	0,544	0,648	0,496	0,639	0,633	0,596	0,466	0,569
X_2		1,000	0,592	0,282	0,469	0,424	0,473	0,371	0,574	0,669	0,508	0,626	0,570
X_3			1,000	0,450	0,522	0,528	0,661	0,425	0,505	0,508	0,600	0,391	0,553
X_4				1,000	0,585	0,668	0,667	0,557	0,552	0,432	0,599	0,205	0,257
X_5					1,000	0,468	0,583	0,538	0,670	0,526	0,592	0,439	0,510
X_6						1,000	0,692	0,426	0,473	0,452	0,513	0,176	0,292
X_7							1,000	0,452	0,533	0,573	0,670	0,346	0,519
X_8								1,000	0,781	0,405	0,547	0,429	0,461
X_9									1,000	0,585	0,646	0,537	0,502
X_{10}										1,000	0,574	0,668	0,523
X_{11}											1,000	0,402	0,518
X_{12}												1,000	0,658
X_{13}													1,000

Source: author's calculations

High values of correlation coefficients demonstrate multicollinearity of the business obstacles. Due to this the next step of the research is factor analysis. This method allows decreasing the number of the business obstacles and eliminating multicollinearity between them. According to the factor analysis 13 business obstacles are grouped in three factors which describe 74.5% of total dispersion. The first factor includes corruption, courts system, crime, and also business licensing and permits, labour regulations and labor skill level. Access to finance, infrastructure (electricity and transport), and trade regulations form the second factor. At last, competition in the informal sector, tax rates and tax administration are the third factor. Table 4 includes matrix of factors.

Table 4

Factor matrix

	Factor 1	Factor 2	Factor 3
Corruption	**0,628**	0,528	0,236
Courts system	**0,805**	0,323	0,091
Crime	**0,621**	0,560	0,096
Access to finance	0,008	**0,741**	0,505
Competition in the informal sector	0,378	0,465	**0,523**
Electricity	0,123	**0,848**	0,190
Transport	0,402	**0,772**	0,193
Tax rates	0,227	0,228	**0,869**
Tax administration	0,401	0,350	**0,745**
Business licensing ad permits	**0,682**	0,382	0,223
Customs and trade regulations	0,390	**0,592**	0,410
Labor regulations	**0,805**	-0,069	0,359
Labor skill level	**0,767**	0,125	0,269

Source: author's calculations

The results show that the individual indicators of business environment are highly correlated. In particular, licenses and permits are more onerously in corrupt countries. Courts system also does not function effectively that creates additional barriers to business. High tax rates and the poor quality of tax administration' work promote the informal sector of economy.

Further country classification is based on three obtained factors.

6. COUNTRIES CLASSIFICATION

According to Ward's method of clustering 128 countries are classified into 3 clusters. The first cluster consists of 38 countries and includes Afghanistan, Argentina, Brazil, Chile, Egypt, Iraq, Mexico, Peru and others. The main feature of this cluster is high values of the majority of business obstacles. The average proportion of top managers who consider corruption as a major constraint equals 53.3% whereas this value is 20.2% and 37.4% in the second and third clusters correspondingly.

The second cluster includes 64 countries (European and CIS countries, China, South Africa, Vietnam and others) characterized relatively low values of the business constraints. Only 7.2% of top managers estimate courts system as a major constraint vs. 29.2% and 13.1% in the first and the third clusters correspondingly. Access to finance is the business obstacle for 18.9% of top managers in compare with the world average 30.1%.

Access to finance, competition in the informal sector, infrastructure, and trade regulation are the business constraints for the countries of the third cluster. This cluster includes 26 countries: Algeria, Benin, Central African Republic, Kosovo, Nepal, Senegal and others. According to top managers' responses, the biggest business obstacle is electricity (57.8%). Transport is a major business obstacle for 27.2% of top managers. Competition in the informal sector is a significant business obstacle both for the countries of the first (38.1%) and the third (38.8%) clusters.

The average values of the business obstacles for each cluster are presented on Figure 2.

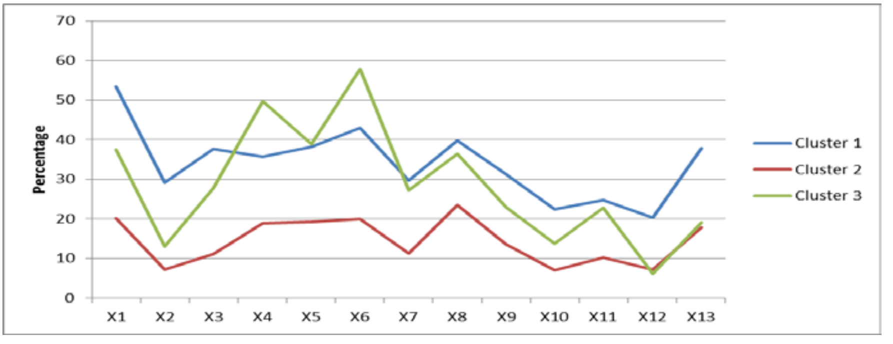

Figure 2 The average values in the clusters (the first classification)

Notes: X_1 – corruption; X_2 - courts system; X_3 – crime; X_4 – access to finance; X_5 – competition in the informal sector; X_6 – electricity; X_7 – transport; X_8 – tax rates; X_9 – tax administration; X_{10} – business licensing and permits; X_{11} – customs and trade regulations; X_{12} – labor regulations; X_{13} – labor skill level.

Source: author's calculations

The figure above shows that the second cluster has the lowest values of the business obstacles. The first cluster includes countries with the highest values of business obstacles excluding access to finance and electricity which are more common in the countries of the third cluster.

Further countries classification divides the first cluster into two clusters including 30 and 8 countries correspondingly. These clusters have similar values of corruption, crime, electricity, business licensing, and trade regulation as business obstacles. However, tax rates and tax administration are significantly more common in the second cluster (Cluster 1_2). The proportion of top managers considering tax rates as a major constraint is twice higher in the second cluster than in the first one (Cluster 1_1). Tax administration has the same difference between these clusters. Moreover, access to finance and competition in the informal sector are major obstacles for almost 50% of top managers in the countries of the second cluster whereas only one third of their peers consider the same in the countries of the first cluster. Labor regulation and inadequately educated workforce are more common business constraints in the second cluster. In contrast, there is higher proportion of top managers considering courts system and transport as major constraints in the first cluster than in the second one.

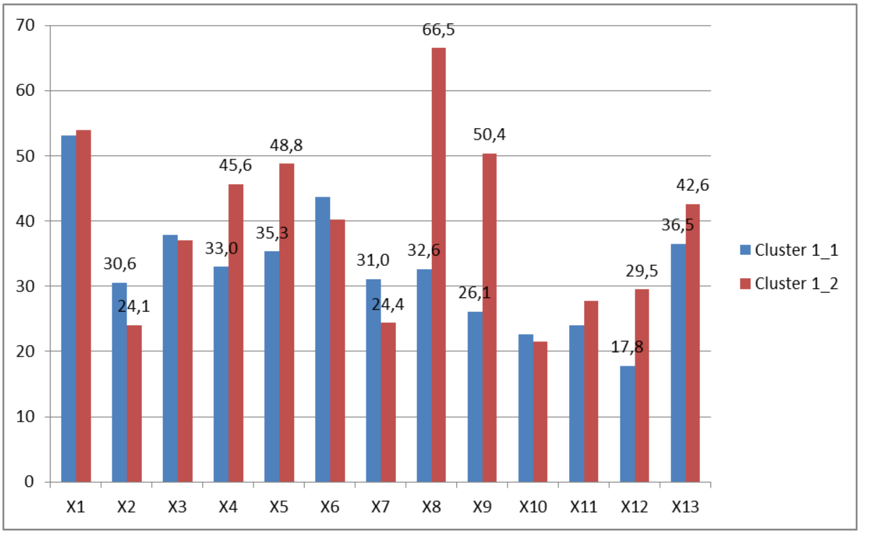

Figure 3 The average values in the clusters (the first classification)

Notes: X_1 – corruption; X_2 - courts system; X_3 – crime; X_4 – access to finance; X_5 – competition in the informal sector; X_6 – electricity; X_7 – transport; X_8 – tax rates; X_9 – tax administration; X_{10} – business licensing and permits; X_{11} – customs and trade regulations; X_{12} – labor regulations; X_{13} – labor skill level.

Source: author's calculations

The first cluster (Cluster 1_1) includes Afghanistan, Angola, Bolivia, Chile, Kenya, Paraguay, Peru, Venezuela and other countries. The second cluster consists of Antigua and Barbuda, Argentina, Brazil, Burkina Faso, Cameroon, Egypt, Jamaica and Romania.

The next classification allows dividing the first cluster (Cluster 1_1) into two smaller clusters of 18 and 12 countries correspondingly. Comparing these clusters, the first cluster (Cluster 1_1_1) demonstrates higher values of corruption, access to finance, electricity, tax rates, tax administration, business licensing and trade regulation as major constraints than the second one. The differences between the proportions of top managers answering about the business constraints in the described clusters reach almost 20 percentage points for access to finance, electricity and tax rates. Courts system and crime are slightly more common in the second cluster (Cluster 1_1_2).

Lastly, the second initial cluster including 64 countries and characterizing relatively low values of business obstacles divides into two clusters of 36 and 28 countries. They have similar low values of the obstacles excluding tax rates and tax administration. 32.6% of top managers in the countries of the second cluster (Cluster 2_2) consider tax rates as a major constraint whereas this value equals only 16.5% in the countries of the first cluster (Cluster 2_1). Similarly, the obstacle of tax administration is more common in the second cluster than in the first one (17.7% vs. 10.4%).

Overall, the final classification of the 128 countries in six clusters is presented on Figure 4.

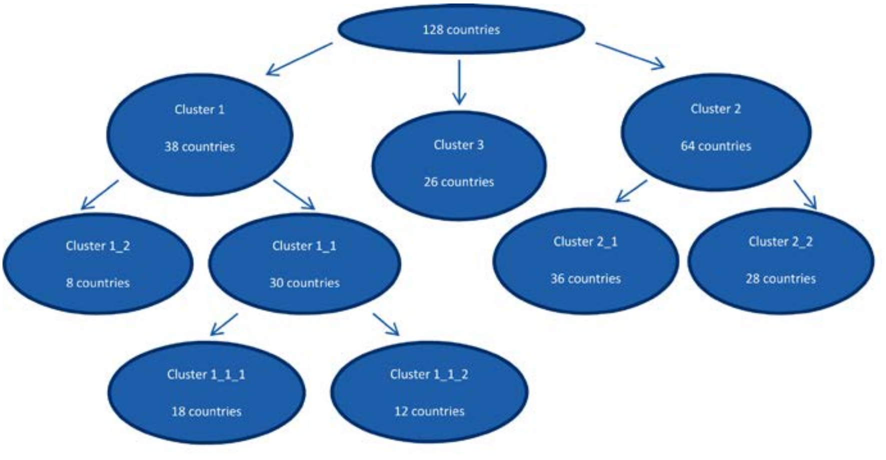

Figure 4 Final countries classification

Source: author's calculations

The list of countries in each cluster is in Table 5.

Table 5

Final countries classification

Cluster 1_1_1	Cluster 1_1_2	Cluster 1_2	Cluster 2_1	Cluster 2_2	Cluster 3
Afghanistan	Bolivia	Antigua and Barbuda	Albania	Armenia	Algeria
Angola	Chile	Argentina	Azerbaijan	Belarus	Benin
Belize	Ecuador	Brazil	Bahamas	Bhutan	Burundi
Chad	El Salvador	Burkina Faso	Bangladesh	Bosnia and Herzegovina	Cabo Verde
Colombia	Guatemala	Cameroon	Barbados	Bulgaria	Central African Republic
Congo Dem. Rep.	Honduras	Egypt	Botswana	Croatia	Dominica
Congo Rep.	Kenya	Jamaica	Cambodia	Ethiopia	Gambia
Costa Rica	Nicaragua	Romania	China	Fiji	Ghana
Cote d'Ivoire	Paraguay		Czech Republic	Georgia	Guinea
Dominican Republic	Peru		Djibouti	Grenada	Guinea-Bissau
Gabon	Suriname		Eritrea	Hungary	Kosovo
Guyana	Venezuela		Estonia	Jordan	Lebanon
Iraq			Indonesia	Latvia	Liberia
Lesotho			Israel	Lithuania	Malawi
Mauritius			Kazakhstan	Mauritania	Mali
Mexico			Kyrgyz Republic	Morocco	Mozambique
Tanzania			Lao PDR	Poland	Nepal
Yemen			Macedonia	Russian Federation	Niger
			Micronesia	Rwanda	Senegal
			Moldova	Serbia	Sierra Leone
			Mongolia	Slovak Republic	St. Kitts and Nevis
			Montenegro	Slovenia	St. Lucia
			Myanmar	Sri Lanka	Timor-Leste
			Namibia	Tajikistan	Togo
			Panama	Tonga	West Bank and Gaza
			Philippines	Turkey	Zimbabwe
			Samoa	Ukraine	
			South Africa	Uruguay	

			St. Vincent and the Grenadines		
			Swaziland		
			Trinidad and Tobago		
			Uganda		
			Uzbekistan		
			Vanuatu		
			Vietnam		
			Zambia		

Comparing the cluster centers with the average values of the selected obstacles across all 128 countries Cluster 2_1 has the lowest values of analyzed business obstacles which do not exceed 0.72 of the world average. Cluster 2_2 shows similar results but tax rates and labor regulations are more common than in the world as a whole.

Cluster 1_2 demonstrates the largest values of the business obstacles which are higher than 1.17 of the world average. Moreover, tax rates and tax administration are twice more common than in the world. The proportion of top managers considering labor regulations as a major constraint is more than three times higher than in the world as a whole.

In Cluster 1_1_1 the average values of the business obstacles vary from 1.31 (tax rates) to 1.94 (courts system) of the world average. Cluster 1_1_2 and Cluster 3 show lower values than the previous one. The main differences between them are the values of courts system and labor regulations as the major constraints. Cluster 3 has the values less than the world average (0.91 and 0.70 correspondingly) whereas these obstacles are twice higher in Cluster 1_1_2 than in the world.

Considering the multiple answers of top managers concerning business obstacles the initial values of the obstacles are recalculated in the proportions giving the sum of 1. These new values mean the contribution of a particular obstacle to all existing business obstacles. This procedure could decrease the values of the obstacles in countries where top managers tend to complain of business constraints. The calculation is the following:

$$X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + X_7 + X_8 + X_9 + X_{10} + X_{11} + X_{12} + X_{13} = \sum X \quad (1)$$

$$\frac{X_1}{\sum x}; \frac{X_2}{\sum x}; \frac{X_3}{\sum x}; \frac{X_4}{\sum x}; \frac{X_5}{\sum x}; \frac{X_6}{\sum x}; \frac{X_7}{\sum x}; \frac{X_8}{\sum x}; \frac{X_9}{\sum x}; \frac{X_{10}}{\sum x}; \frac{X_{11}}{\sum x}; \frac{X_{12}}{\sum x}; \frac{X_{13}}{\sum x} \quad (2)$$

According to the world average values presented by the World Bank, corruption and electricity provide the main contribution to the business constraints (11.3% and 11.2% correspondingly). The proportion of tax rates equals 10.2%. Access to finance and competition in the informal sector provide 9.6% and 9.3% of the business constraints correspondingly. All contributions are in the graph below.

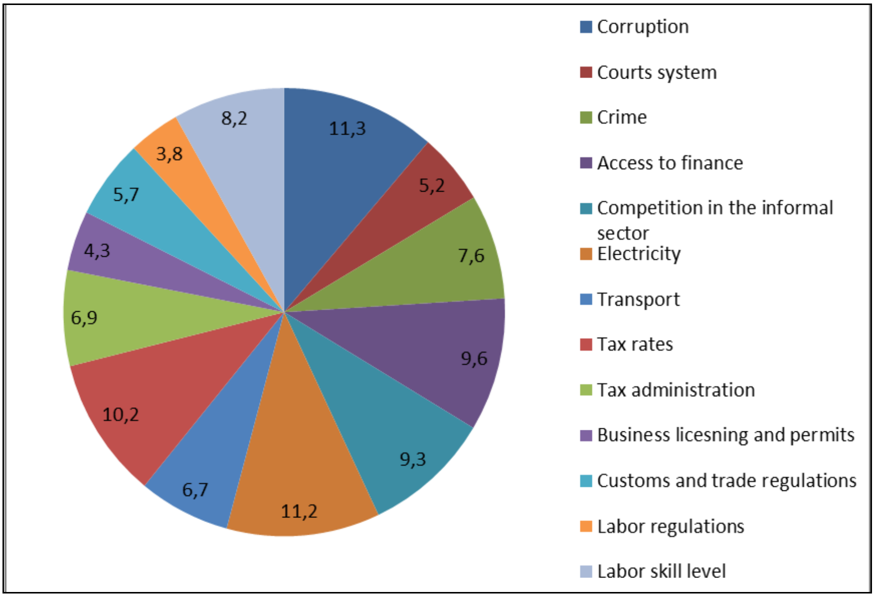

Figure 5 Contributions of the business obstacles (percentage)

Source: author's calculations

7. BUSINESS ENVIRONMENT AND ECONOMIC GROWTH

The analysis of cross tables including selected WDI and the results of the classification allows concluding a significant correlation between business environment and economic growth. Chi-squared criteria shows that annual growth of adjusted net national income, annual growth of exports of goods and services, the proportion of high-technology exports in manufactured exports are higher in countries where the proportions of top managers identifying business constraints are lower. The listed WDI are quantitative variables which are converted in categorical variables (3 categories) for the cross tables' analysis. The number of the available observations for these WDI, the variables' categories and chi-squared values are in the table below.

Table 6

Cross tables' analysis

Indicator name	Number of observations	Variable's categories	Chi-squared and significance
Adjusted net national income (annual percentage growth)	103	Less than 100.0% 100.1% - 107.0% More than 107.1%	12.529 (0.014)
Exports of goods and services (annual percentage growth)	109	Less than 105.0% 105.1% - 110.0% More than 110.1%	8.057 (0.090)
High-technology exports (percentage of manufactured exports)	112	Less than 3.0% 3.1% - 7.0% More than 7.1%	8.337 (0.080)

Source: author's calculations

Figure 6 shows the distribution of the countries according to the growth of exports of goods and services. The majority of the countries of the first cluster with the highest values of the business obstacles (almost 85%) have less than 110% of annual growth of exports. More than 40% of the countries of the second cluster demonstrate the export growth more than 110%. More than half counties of the third cluster have annual export growth equaled 105-110%.

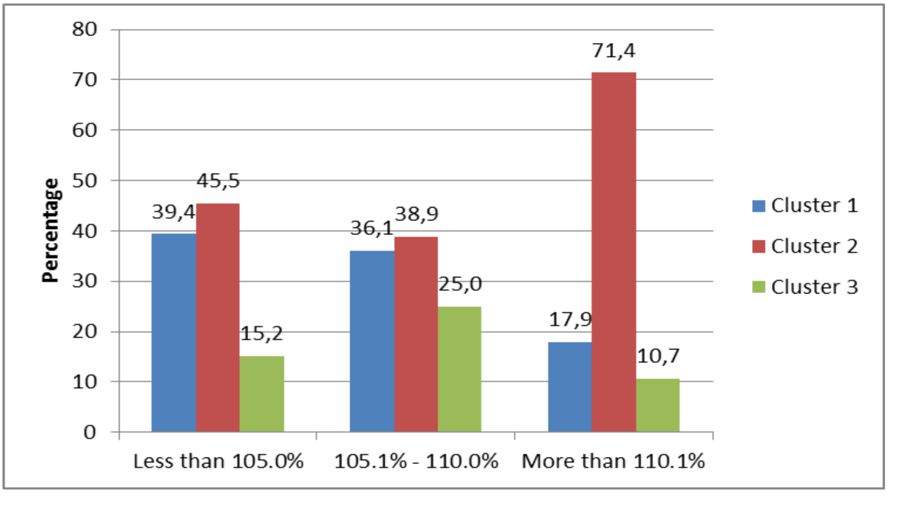

Figure 6 Annual growth of exports of goods and services in cluster gap

Source: author's calculations

8. CONCLUSION

This paper examines the impact of business environment on economic growth and the link between the business obstacles and the indicators of economic development. The results show that countries with low business barriers demonstrate larger annual growth of national income and exports, including high-technology exports.

The research also indicates the regional differences of the business obstacles across countries which allow classifying countries into 3-6 clusters according to the business constraints. The initial classification groups countries in 3 clusters of 38, 64 and 26 countries with high, low and medium business barriers correspondingly. Further classification determines more detailed features of the business environment in the countries' clusters.

To estimate the contribution of particular business obstacle to the whole business environment the initial respondents' answers are recalculated in the proportions giving the sum of 1. Corruption and electricity provide the major constraints for business (more than 11.0% for each other). The contribution of tax rates is slightly lower (10.2%).

The contributions of the business obstacles to business environment could be used for the priority of reforms for business development. Therefore, countries with similar business obstacles could realize successful foreign practices of business development.

This research covers only the subjective estimates of the business obstacles. However, the comparative analysis of business environment across countries requires the analysis of quantitative data from WBES and other data sources including financial and time costs of firms because of business obstacles.

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