

Obstacles from workforce: labor regulations and human capital inadequacy as obstacles to firms in emerging countries

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1. Introduction

A firm may face many obstacles, among internal and external conditions, to achieve its best performance. A difficult access to finance, corruption, political instability, too heavy taxation, etc. Some of such obstacles, often recognized among the most relevant, are of main interest for the labor economics, involving firm's human resources. A high level of human capital is unanimously recognized as a source of innovation, productivity gains, competitiveness; therefore a shortage of human capital (a poorly educated or not trained labor force) may be a reason for firms not reaching the performances it may reach thanks to other resources: the lack of human capital may cause the firm to perform below its potential.

The previous concise list of obstacles makes it clear that a good institutional environment is the basis of good performance of the firm. Labor market regulation is the institutional aspect directly involving human resources, better the relationship between firm and labor. Identifying what is a "good" labor market is of course a controversial aspect, as the relationship between employer and employee is contractual and, in general terms, what is better for one part is worse for the other (while an advancement of human capital is a common advantage, for the whole society too). Anyway, we focus on what firms consider as a "bad" functioning (on their point of view) of labor market regulations and such bad functioning may be seen, from the firm's point of view, as a severe obstacle to its good performance.

In this paper, we study the relevance of these two kinds of obstacles involving human resources (poor workforce education, bad labor regulation) among the different obstacles faced by the firms. We also study the relationship between the perception of the intensity of such obstacles with some firm characteristics and performances. In particular, we study if there is a relationship between the intensity of this perception and the firm size, its degree of innovativeness, of technological level, of internationalization. The context where

this study happens is not irrelevant: we analyze a database of more than three thousand companies located in countries with medium and medium-high level of development from Europe, Asia and Northern Africa. We consider, therefore, countries that are close to catching up the more advanced economy, where some constraints deriving from the recent past may still be present and viewed with particular impatience.

As many areas are present in this database, we also try to trace a geographic profile of the relevance of the obstacles, trying to connect it with some institutional, historic, cultural characteristics.

We suppose that the intensity of the obstacles may be perceived more not by the firms and the countries where some shortages and limits are “objectively” stronger, but by the advanced firms and countries, that perceive such obstacles as the last constraints to “take to last flight”, to reach to more advanced economic reality.

2. Data and variables

We employ firm-level data on innovation and corruption from the Business Environment and Performance Survey (BEEPS), a joint initiative of the European Bank for Reconstruction and Development and the World Bank group which covers 36 emerging markets, including more advanced Central and Eastern European countries, transition economies from the Balkans and Central Asia plus Turkey. The major advantage of using BEEPS is that data are collected systematically, following stratified sampling techniques and standardized surveys which ensure both national representativeness and cross-country compatibility. Two surveys are merged, the V and VI survey for years 2012-2014 and 2018 -2019 respectively, resulting in a balanced panel with 3916 establishments, belonging to formal firms located in 24 countries. Three out of 24 countries are classified by UNCTADSTAT as Developing countries (for Asia and Africa), 16 as transition countries and 5 as Developed countries (Europe). The last ones refer to countries like Latvia, Lithuania, Estonia, Slovenia and Poland whose transition from a socialist to a market economy has been accompanied by a transition from a regional economy to a national economy within the European Union (EU). Table A1 in the Appendix reports firms by country under inspection.

The unit of analysis of these surveys are the establishment with its own management and control over its workforce. The establishment is a physical location where business is carried out, industrial operations take place, or services are provided. Firms are business organization composed of one or more establishments¹. In less than ten per cent of the observations (precisely 9.43%)

¹ As the Guide to the VI survey (“Understanding the questionnaire”) reports, an establishment is “the physical location where business is carried out, industrial operations take place, or services are provided”. The guide also clarifies that “a firm may be comprised of one or more establishments [...]. To qualify for this survey, an establishment must have its own management and control over its workforce. In practical terms, all establishments from multi-establishment firms are included except headquarters that have no production or sales or establishments that do not have their own management and control over their workforce.”

the establishment is part of a larger firm; in the other cases the establishment is a firm on its own. This is the reason why in the following we use the term firm indicating the unit of analysis.

Firms were asked "To what degree are each of the following an obstacle to the current operations of this establishment? Labor regulation – Inadequately educated labor force". The possible answers were: No obstacle (0) – Minor obstacle (1) – Moderate obstacle (2) – Major obstacle (3) – Very severe obstacle (4). The number in brackets are indicated in the survey itself, and we attributed that score to those answers (therefore we attributed score 0 to the answer "No obstacle", up to 4 for "Very severe obstacle"). Therefore, we obtained two ordinated categorical variable, for labor market regulation (`labreg_obst`) and inadequately educated labor force (`nonedu_obst`) as obstacles for the firm. The proper model with this kind of dependent variable is an ordered logit or ordered probit: we estimated an ordered probit. In STATA such kind of model is implemented with random effects only. Anyway, for robustness check, we also estimated a linear regression (with fixed effect, random effects and a pooled model: we may anticipate that the results of the ordered logit are substantially confirmed).

As independent variables, we have some characteristics of the firms (size, level of innovation, etc.) and dummy variables for countries and sectors.

3. Some (very) preliminary result

The preliminary analysis, conducted with bivariate (correlations, comparisons of means, etc) and multivariate (bivariate and ordered logit and probit with random and fixed effects) seem to confirm our hypothesis formulated at the end of the Introduction.

For example, we can report that the low quality of labor market regulation is perceived is more intensely in a country like Poland. Considering that Poland is a member of EU, we can suppose that the rules about labor market are not archaic and backward, not more than in other countries of our database. But Poland is a rapidly developing countries, where firms more intensely perceive some constraints or limits as hardly tolerable, as a burden that prevents reaching the most advanced and dynamic European realities.

Similarly, the obstacle represented by a poorly educated workforce is not perceived more by less innovative firms, where technological level is lower or workforce is less educated, but often the opposite is true: innovative firms perceive they have a potential that is not fully expressed because of some shortcomings in internal resources, like workforce education. The most innovative companies also more frequently identify "bad" labor market regulations as an obstacle to good performance. On the same line of these results is the fact countries like Estonia and Latvia, Slovenia and Croatia, among the most advanced inside our database, more than others signal a poor level of workforce education as a severe obstacle for their firm. And it is also significant that larger firms, usually identified as more productive and efficient, perceive more heavily the intensity of such obstacles.

Of course, this interpretative line (the more the firms are close to the “top”, the more they suffer their limit) is not the only possible one. This kind of analysis may also be useful in identifying some less “pockets of suffering” that are less visible: national education systems that let people reach “formally” high level of education which do not correspond to an intrinsic quality, at least on the firm’s point of view or in relation to firm’s needs; advanced legislative systems where market regulation suffers from some backwardness or inadequacy to an advanced economy, etc.

The room for space for in-depth and complex analyzes is large; the paper will try to take at least a few small steps in this direction, trying to keep together the firm and country level.

Table 1 and Table 2 reports the result of the ordered probit (panel model with random effect) having respectively *labreg_obst* and *nonedu_obst* as dependent variable. This is the “basic” model, therefore as independent variables there are only Size (the logarithm of the employee’s number), and Innoprod (if the firm introduced a product innovation in last three years); besides, there are the dummy variables for countries (the reference country is Morocco).

Table 1 – Determinants of labor regulation perceived as obstacle for firms

Random-effects ordered logistic regression	Number of obs	=	7,577
Group variable: FID	Number of groups	=	3,915
Random effects u_i ~ Gaussian	Obs per group:		
	min =		1
	avg =		1.9
	max =		2
Integration method: mvaghermite	Integration pts.	=	12
	Wald chi2(25)	=	705.92
Log likelihood = -8257.6363	Prob > chi2	=	0.0000

Labreg_obst	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
Size	.111768	.0185076	6.04	0.000	.0754938 .1480422
Innoprod	.0494557	.0554762	0.89	0.373	-.0592756 .1581869
COUNTRIES					
(ref: Morocco)					
Albania	-1.374752	.1748474	-7.86	0.000	-1.717447 -1.032058
Belarus	-1.470006	.1699223	-8.65	0.000	-1.803048 -1.136965
Georgia	-2.349986	.2364689	-9.94	0.000	-2.813456 -1.886515
Tajikistan	-1.760274	.2040402	-8.63	0.000	-2.160185 -1.360362
Turkey	-.2685931	.1248353	-2.15	0.031	-.5132658 -.0239205
Ukraine	-.2595619	.1552807	-1.67	0.095	-.5639065 .0447826
Uzbekistan	-2.960422	.2357266	-12.56	0.000	-3.422438 -2.498406
Russia	-.9113789	.1304194	-6.99	0.000	-1.166996 -.6557615
Poland	.3525798	.1468167	2.40	0.016	.0648244 .6403353
Serbia	-.606299	.1581983	-3.83	0.000	-.916362 -.2962361
Kazakhstan	-1.561465	.1792543	-8.71	0.000	-1.912797 -1.210133
Moldova	-1.234191	.1732721	-7.12	0.000	-1.573798 -.8945838
Bosnia and Herzegovina	-.6039449	.160609	-3.76	0.000	-.9187327 -.289157
Kyrgyz Republic	-2.272852	.2101199	-10.82	0.000	-2.684679 -1.861024
Mongolia	-.9919939	.1549903	-6.40	0.000	-1.295769 -.6882184
Estonia	-.9727992	.2128456	-4.57	0.000	-1.389969 -.5556296
Kosovo	-.3981451	.202629	-1.96	0.049	-.7952906 -.0009997
Latvia	-.8235513	.1908314	-4.32	0.000	-1.197574 -.4495287
Lithuania	-.5333547	.1961654	-2.72	0.007	-.9178318 -.1488776
Slovenia	.0238138	.1842272	0.13	0.897	-.3372648 .3848924

