HOW THE LEGAL ENVIRONMENT AFFECTS THE STRUCTURE OF EMPLOYMENT

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Abstract

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The quality of the institutional environment is considered a crucial determinant of economic growth. Low quality of the formal institutional environment can slow down economic development via various mechanisms described in the literature. The present paper will analyse formal institutional factors leading to the structure of employment that Murphy, Shleifer and Vishny (The Quarterly Journal of Economics, 1991) found to be associated with lower rate of economic growth. They assumed that a high proportion of lawyers in the country may be associated with slower economic development. Thus, the aim of the paper is to examine some of the parameters of institutional environment that can lead to such a distribution. Results show that quality of law measured by the World Bank (Doing Business database) and the Corruption Perception Index obtained from Transparency International may have some explanatory abilities regarding the structure of employment.

Keywords: labour market, law, lawyers, education, Corruption Perception Index, doing business

INTRODUCTION

Poor quality of institutions is considered to be a crucial factor that prevents countries from catching up with more developed ones. North (1990), Hall and Jones (1999), Acemoglu, Johnson and Robinson (2004) and many others have described, in particular, the relationship between the quality of institutions and economic development.

Less work has been done on the research of the exact channels that transmit signals from institutions (formal in our case) to the economy itself. In Litzman and Kouba (2013), we developed a simple model of spillovers between two markets – one demanded by the customers and another demanded by the law. We considered the latter "market" created by the law as being created every time any legislative duty has to be fulfilled. Since every modern economy has these duties, we expected the markets to exist in every economy. What differs are their sizes; we expected that the poor quality of formal institutions was connected with big "legislative" markets, as inefficiencies forced economic subjects to spend more resources to fulfil the law.

In the same way, workers have to follow signals coming from the market. Therefore, part of the labour force has to be allocated to jobs that firms are obliged to create.

High demand for workers skilled in a profession results in high wages in the sector. Though standard microeconomic theory expects workers to move from a low-wages sector to one with high wages, the current situation on labour markets does not allow them to move freely. Many professions require high, time-consuming investments into human capital. For example, becoming a fully qualified doctor in the Czech Republic takes about ten years, more than a fifth of one's productive life.

Although the literature at least from Mankiw, Romer and Weil (1990) stress the crucial role of the quantity of human capital for further development, its structure is discussed very rarely in the literature. Among the first who stated that structure of human capital matters were Murphy, Shleifer and Vishny (1990). In their study, they performed a simple analysis that showed that long-run economic growth is associated with the structure of employment, in their point of view proxied by the ratio of law and engineering students. Law

students, in their eyes, are working in jobs related to rent seeking rather than providing traditional innovative entrepreneurial activities. This may lead to slowdown, as stated by Baumol (1990)

The present study does not deal with wages; we use the numbers of students studying in specific fields instead. Using this variable, the research expects to observe a general opinion about an individual's future, in particular in the economy sector. This does not involve only wages which can somehow be regulated (i.e. doctors in government-owned hospitals can be paid according to government regulations that are not directly dependent on the market wage); university applicants value their ability to be employed in their desired profession as well.

Observing the number of students is in accordance with Murphy, Shleifer and Vishny (1990), who published a paper evaluating how the number of law students is associated with economic growth in countries. The paper proved the relationship between a high number of law students and lower economic growth. The paper explained this through expected returns of the investment into human capital. The authors expected that students were motivated to enter a law school if rent seeking is highly profitable. This idea is further developed in Murphy, Shleifer and Vishny (1993).

Therefore, we expect that the structure of employment may be connected with the quality of institutional environment. The purpose of this paper is to examine the impact of legislative indicators on labour markets represented by the demand for education in particular fields.

METHODOLOGY AND DATA

There are multiple datasets containing data that could be used as proxies for the quality of the institutional environment. From among them, we chose data provided by the Doing Business database, which is published by the World Bank on a yearly basis. This database allowed the testing of variables that directly measure the quality of law procedures in specific areas.

Furthermore, this paper employs the Corruption Perception Index by Transparency International. This index is used to express the state of corruption in different countries. Although the CP Index is sometimes criticised (as discussed i.e. in Andersson

and Heywood, 2009), due to its methodology, we considered it to be an appropriate measure for our research since the index is based on human perceptions. The effects this paper describes are based on perceptions as well: the applicant's perception of their future job and its quality, in this case.

The rest of the data comes from Eurostat. From this database, the paper obtained the GDP per capita and the data regarding education structure; those are focused on tertiary education (ISCED 5 and 6). To measure the number of law students, the paper uses a corresponding group coded EF38 in Eurostat encoding.

The dataset contains data for the whole EU28, apart from Luxembourg, which the paper considered too specific. The research used all the data for 2012.

We performed analysis using classical cross-section regression. All the analysis were using Stata 12.1 software.

Tab. I shows a basic statistical description of the data. All the variables obtained from the World Banks' Doing Business database are used as rankings. The paper did not use specific values for calculating total rankings. Rankings are structured so that the better the ranking, the lower value the variable has. Similarly, the higher CPI score a country achieves, the less corruption perceptions are present in a particular country.

RESULTS

The analysis begins with a basic model based on an idea by Murphy, Shleifer and Vishny (1990) to determine whether it is still valid for the European Union twenty years after its publication. We use quite similar data to the original paper, meaning the number of students at law schools was compared to the total number of students.

Since the structure of Europe's economics has changed in the last 24 years, the paper did not employ the number of engineering students, which is in contrast to the original article. This is caused by the changing technological environment, which is more focused on other economic sectors and less on manufacturing. Manufacturing only constitutes about a quarter of the EU labour market these days.

The second modification performed is replacing economic growth in the variable being

I: *Basic statistics*

Variable	Meaning	Source	Mean	Std. Dev.	Min	Max	N
CPI	Corruption Perception Index	Transparency Int.	62.41	15.67	36	90	27
cons	Dealing with construction permits	Doing Business	83.52	48.48	5	181	27
credit	Getting Credit	Doing Business	50.00	36.84	6	170	27
invprot	Investor protection	Doing Business	45.41	29.39	4	109	27
enf	Enforcing a Contract	Doing Business	49.39	43.45	5	155	27
gdppc	GDP per capita	Eurostat	20,247	12,211	3,340	43,659	27
leg	Share of law students in total students	Eurostat	0.055	0.027	0.015	0.114	27

explained with GDP per capita, thus measuring economic performance in a static view. We were unable to construct the same regression due to the unavailability of historical data on education in some countries.

The final model can be written as follows:

$$gdppc_i = \alpha + \beta leg_i + \varepsilon, \qquad (1)$$

where *gdppc* means GDP per capita in country *i*, α is the constant, β is the coefficient, *leg* is the share of law students in the total number of students in tertiary education in country *i* and ε is the error term. The results are presented in Tab. II and graphically in Fig. 1.

A negative sign characterises the regression results shown in Tab. I in all variants and in both variables. This can be interpreted as the negative relationship between the economic development and the number of law students (or business and administration students) compared to the total number of students. This means that in countries with a lower GDP per capita, relatively more students attend law and economic schools than in high-performing ones.

The paper expected that to be related to the quality of the institutional environment leading to the model explaining the number of law students.

II: *Regression on the number of law students to the GDP per capita*

	gdppc
leg	−145,152.5
	(0.106)
_cons	28,208.1***
	(0.000)
N	27
R²	0.101
F	2.806

We assume that the proportion of students in any field to the total number of university students is an indicator of the attractiveness of such a field.

One may ask what determines the number of law students. We expect that the most important factor may be the quality of formal institutions in a particular country. We use the following indicators for such description.
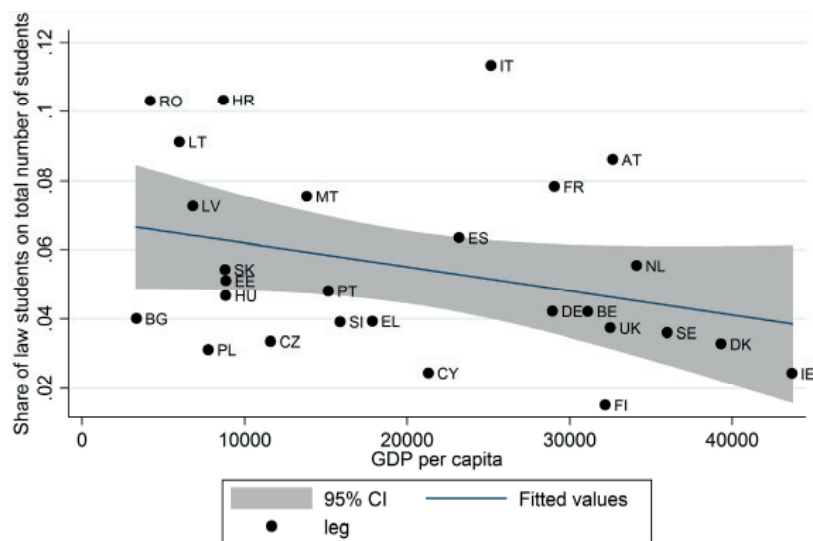
The Corruption Perception Index obtained from Transparency International is used to cover the quality of decision-making processes in economics. We are not suggesting that students go to law faculties because they expect that they can get easily corrupted and earn some extra money. Instead, the paper expects a high demand for lawyers in countries where firms and individuals expect some non-standard practices, especially in official procedures. In such cases, it is necessary for a firm or an individual to hire a specialist that knows how the system works.

From the spectrum of variables obtainable from Doing Business, we determined the most relevant categories. We used the Getting Credit index, which covers the quality of bankruptcy laws and percentages of credit registry coverage. In the category of protecting minority investors, we assumed a proxy for the classic Roman maxim *Vigilantibus iura scripta sunt*, law is written for the keepers. If the investors' protection is weak, once can expect that it is necessary to have a specialist that maintains all the investments. Dealing with construction permits represents quite a basic administrative act which can be highly complicated. If the administrative act is complicated, it is more likely that the subject uses a lawyer. And finally, in the Enforcing a Contract variable, the paper observes an indicator as to whether it is necessary to have an attorney or not while taking civil action.

Instead, the paper did not employ the categories of power supply, starting a business, registering

1: *Regression of the number of law students to the GDP per capita*

III: *Regression results*

	leg	leg	leg	leg
cpi	–0.00133***	–0.00119***	–0.00130***	–0.00116***
	(0.002)	(0.001)	(0.001)	(0.001)
cons	–0.0000195	–0.0000163		
	(0.870)	(0.884)		
credit	0.000279**	0.000252**	0.000274**	0.000248**
	(0.033)	(0.045)	(0.021)	(0.031)
invprot	–0.000166		–0.000165	
	(0.326)		(0.316)	
enf	–0.000320*	–0.000257	–0.000321*	–0.000258
	(0.069)	(0.142)	(0.062)	(0.131)
Constant	0.149***	0.130***	0.146***	0.128***
	(0.000)	(0.000)	(0.000)	(0.000)
N	27	27	27	27
R2	0.355	0.328	0.354	0.327
F	4.201	4.912	5.482	6.637

a property, paying taxes, resolving insolvency and trading across borders since these were not relevant for this analysis.

We use the following equation:

$$leg_i = \alpha + \beta_1 cpi_i + \beta_2 cons_i + \beta_3 credit_i + \beta_4 invprot_i + \beta_5 enf_i + \varepsilon, \quad (2)$$

where *leg* is the share of law students in the total number of students at universities in country *i*, α is the constant, β_1 to β_5 are the coefficients, *cpi* is the Corruption Perception Index by Transparency International in country *i*, *cons* stands for the "dealing with construction permits" ranking, *credit* is Getting Credit index in country *i*, *invprot* stands for the investor protection ranking in country *i*, *enf* is the Enforcing a Contract ranking in country *i* and ε is the error term.

As seen in the regression results in Tab. III, CPI (the Corruption Perception Index by Transparency International) is the variable that best describes the number of law students. A negative sign shows that the better the results are in corruption perception measuring, the lower the attractiveness of law education is. As explained earlier, this is the expected result – if people perceive that

administrative tasks may happen in a non-standard way, it is more likely that they will hire an expert.

Variables "dealing with construction permits" and "minority investor protection" are not significant in the model. On the other hand, both Enforcing a Contract and "getting credit" ranking seem to explain the number of law student with an acceptable statistical significance. The positive sign in the significant "getting credit" variable is positively correlated with the share of law students. The Enforcing a Contract variable, which balances on the edge of statistical significance, has a negative sign meaning that the lower the rank is (and the better the country results are), the higher the number of students attracted to law. The negative sign in the contract variable was surprising. We assume that the cause of this sign might be hidden in the number of civil actions taken that the paper does not have data for. Countries with an environment that does not support civil actions may have fewer disputes solved at courts, therefore needing fewer lawyers.

Along with the main model, the research used variations testing the effect of being a CEEC country or a member of the Eurozone. Both tested effects were strongly insignificant.

CONSLUSION

The paper contributes to the discussion about the quality of the legal environment and its impact on the real economy. The paper's evidence shows how the quality of formal institutions is related to the distribution of students between fields. The research focused on the law student share in the total number of students in tertiary education and determined that some formal institutional indicators can explain this proportion in the cross-section regression in EU28 countries.

The paper's results are consistent with literature within the first model which verified the relationship between economic performance and the "law students to the total students" ratio, as proposed by Murphy, Shleifer and Vishny (1990). A slightly modified model showed a correlation on the edge of significance, similar to the result in the above mentioned paper.

In the regression model, we estimated the variables that may have an influence on the ratio mentioned in the paragraph above. The paper used the Corruption Perception Index by Transparency International. This variable significantly explains the share of law students on the total number of university students. This is fully consistent with Tanzi and Davoodi (2002), who performed similar research on a different group of countries, 53 countries from the UNESCO database. Corruption, in their case, was simply explained by the numbers of students in different categories.

Furthermore, this paper used some of the Doing Business rankings as explanatory variables. Both the Getting Credit ranking and enforcing a contract were significant in the model. Nevertheless, the Enforcing a Contract ranking seems to explain the number of law students with a negative sign, which was unexpected.

Our approach has several limitations. We use quite narrow spectre of variables related directly to the quality of law in the defined year. We were unable to take into account other issues related to the application of law, for example the instability of law which forces firms to adapt to new systems (i.e. tax systems, pension insurance, law codes) in short time intervals.

Furthermore, we used lawyers as a proxy for persons who do mostly rent-seeking activities. In some countries, other types of rent-seeking may be common. In the EU, there are many firms or individuals who are working on funding proposals or other projects related directly to EU legislative. Those are mostly economists or students of special programmes and should be included as well. Moreover, one may find a variety of other workers whose job is to fulfil legislative duties, such as communication with administration, safety issues or tax administration.

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