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The ABCs for Smart Regulations: Education and the Quality of Business Regulations

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"Education is what remains after one has forgotten what one has learned in school."
Albert Einstein

Introduction

Do more educated societies have better business regulations? An intuitive answer for many would be a "yes". However, such claim would be much stronger if it was supported by data. A plethora of research discusses the benefits of education for entrepreneurship, the labor force, economic growth, individual earnings, as well as lawmaking (recent work includes for example Barro, 2013; Hanushek and Wößmann, 2007; OECD, 2017; World Bank 2018). More specifically, research suggests a link between education and the efficiency of policymakers and policy implementers (Kim et al., 2018; World Bank, 2019). However, the discussion is lacking regarding the association between education and the quality of business regulations.

The purpose of this paper is to fill this gap and investigate a relationship between education and the quality of the legal framework that regulates local small and medium firms. We conduct the analysis using various metrics of education to account for both its length and quality. As a measure of the quality of business regulations, we use the ease of doing business score, as recorded by the World Bank's *Doing Business* project. We find that schooling is, in fact, strongly associated with quality of business regulations.

Education and business regulations can interact through a variety of factors: better educated policymakers are likely to design a more efficient legal framework; regulations may be better implemented by well-educated officers and public servants; or, a more educated business community can be proactive in lobbying for better preparation of public servants and better quality of regulations. While we do not investigate each of these potential channels individually, we find strong evidence of a positive relationship between the educational system and the quality of business regulations. We find this significant association with the business regulatory framework when we look at education from a variety of angles: literacy rates and educational attainment, years of schooling (nominal and adjusted for quality of education), and harmonized test scores. The ease of doing business, as measured by *Doing Business* project, is positively associated with both the amount and the quality of education.

The remainder of the note is structured as follows. Section 2 provides an overview of the existing literature that links education to the business environment (including economic growth, entrepreneurship, workforce) as well as lawmaking and implementation of policies. It also introduces mechanisms for how education and business regulations may be related. Section 3 describes the data used in the analysis, while Section 4 introduces the empirical methodology. Section 5 documents the findings and discusses the relationship between education and business regulatory framework. Section 6 concludes.

Literature review

Our goal is to study the relationship between education and the business regulatory environment. There is limited available research on this topic. However, we can draw from research on the topic of education and entrepreneurship, economic growth, and individual earnings. There is an abundance of literature discussing beneficial social and economic outcomes from investments in education. Just to mention a few recent examples, research has found a positive relationship between education and economic growth (Altinok et al., 2018; Barro, 2013; Canals, 2017), individual earnings (Hanushek and Wößmann, 2007), quality and employability of the labor force (Berger and Fisher, 2013; OECD, 2017; Roser et al., 2018), and also business creation and growth (Bruhn and Zia, 2011; Greene, 2015; Quatraro and Vivarelli, 2014; Raposo and do Paço, 2011). It is possible that by boosting businesses and employment, education indirectly stimulates the need for efficient regulations that would create a harmonious environment for companies to operate in.

The effect that education has on behavioral patterns of an individual could also contribute to the quality of regulations that govern society. Manley (1903) argues that "character education" is the most practical type of schooling and it has competitive advantages over technical training. He writes: "As between these two requirements, that a student shall have the technical knowledge necessary to do the work of a position, or the qualities of head and heart which he needs to hold that position and gain still higher positions, all know which is more important. The student and his friends insist on technical instruction, nothing else to business education, while employers merrily weed out the ill-mannered and rattle-brained; and the world is satisfied." (Manley, 1903, p. 565) Certainly, educational institutions and research on the matter have substantially evolved since. However, the quality of education continues to play an important role in business development, and a high-quality education goes beyond mere technical skills.

Despite a wide range of research discussing the connection between education and entrepreneurship, one aspect remains untouched: the association between education and the business regulatory framework. This association can potentially be observed through three different mechanisms. First, policymakers' educational background is likely to influence the quality of policies that are drafted and adopted. However, efficient policies are only the first step to a business-friendly regulatory environment. Equally, if not more important, is the implementation of such policies on the ground. Therefore, another mechanism is that well-educated public officers contribute to a more efficient application of the legal framework designed by policymakers. Finally, the third mechanism is that a well-educated business community is

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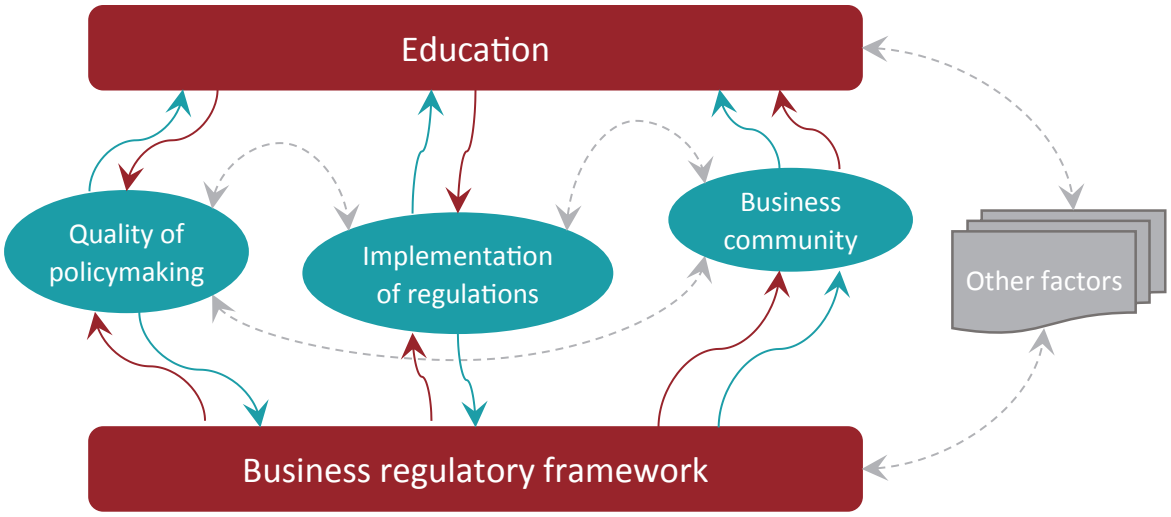
Figure 1. Relational mechanisms between education and business regulatory framework



more likely to actively participate in developing a beneficial business environment – this can be attained through lobbying for efficient regulations, participating in drafting policies and legislation, or engaging in a public-private partnership with educational institutions (figure 1).

To some extent, the hypothesis of these associations is supported by the existing literature. Education can be linked to the efficiency of policymakers as it improves personal decision-making and cognitive skills (Falch and Massih, 2011; Guerra-Carrillo, Katovich and Bunge, 2017; Kim et al., 2018; Morewedge et al., 2018; Ritchie, Bates and Deary, 2015). Training of public officers is associated with the efficiency of implementation of business regulations (World Bank, 2019). Education is also linked to political activism of the general public (UNESCO, 2014), which can help in monitoring how regulations are being implemented in practice. The middle class and the business community can promote efficient lawmaking (Business Roundtable, 2016; Loayza, Rigolini, Llorente, 2012; Jochnick, 2018). However, lobbying by large corporations can pose threats to inclusiveness and fairness of regulations (Corporate Europe Observatory, 2018). At the same time, no research was identified which analyzes the specific association between education and business regulations.

Due to lack of relevant reliable data on a global scale, it is not possible to analyze each of the mechanisms individually. Therefore, we look at the overall relationship between education and efficiency of business regulations. We look at education from three standpoints: amount of education, quality of education, and "hybrid" metrics that account for both quantity and quality of education. There is a variety of sources that allow us to look at this relationship.

Data used in the analysis

We use panel data that cover 11 years of observations in 190 economies. Sample sizes and years of observations vary depending on the specific metric of education used (years of education, standardized testing scores, etc.) due to missing data. Details on data availability are provided in the description of each relevant dataset, and summary statistics are provided in Annex 1.

Datasets used in the analysis:

(i) Data about **regulatory business environment**:

- The ease of doing business score helps assess the quality of business regulations and their implementation over time.[1] It captures the gap of each economy from the best regulatory performance observed on each of the indicators across all economies in the *Doing Business* sample since 2005. One can both see the gap between a particular economy's performance and the best performance at any point in time and assess the absolute change in the economy's regulatory environment over time as measured by *Doing Business*. An economy's ease of doing business score is reflected on a scale from 0 to 100, where 0 represents the lowest and 100 represents the best performance.[2] For example, an ease of doing business score of 75 in *Doing Business 2019* means an economy was 25 percentage points away from the best regulatory performance observed across all economies and across time. A score of 80 in *Doing Business 2020* would indicate that the economy is improving. In the analysis we use 11 years of observations (2008-2018) in 190 economies.

(ii) Data about **the level of education**:

- Literacy rates, including breakdown by gender, and age groups 15-24, 25-64, and 65 and above.[3] The data reflect the percentage of a respective population who can, with understanding, read and write a short, simple statement on their everyday life. Generally, 'literacy' also encompasses 'numeracy', the ability to make simple arithmetic calculations. In the analysis we use 11 years of observations (2008-2018) in 142 economies (the sample varies in each year). For the purposes of this analysis we use data for economies where observations on all groups are available.

- Educational attainment: primary education; for the purposes of this analysis, lower secondary, upper secondary attainment was grouped under secondary education; and post-secondary, Bachelor's or equivalent, Master's or equivalent, Doctoral or equivalent were grouped into tertiary education.[4] The data represent the percentage of a population, ages 25 and over, that completed the respective level of education. In the analysis we use 11 years of observations (2008-2018) in 139 economies (the sample varies in each year).