

# Cómo algunas barreras y cargas afectan la actividad emprendedora motivada por oportunidad y necesidad

## How do some “barriers” and “burdens” affect opportunity and necessity driven entrepreneurial activity

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### Resumen

El emprendimiento es considerado como insumo importante para el crecimiento económico, ya que a más de generar empleo, fomenta la innovación y la productividad. Sin embargo, los emprendedores enfrentan barreras y cargas sociales, económicas y políticas. El objetivo de este artículo es determinar si existe un efecto significativo de estas barreras y cargas en la actividad empresarial impulsada por las oportunidades y la necesidad en los países de América Latina y el Caribe. Para evaluar las hipótesis se seleccionó una muestra de los datos disponibles para 12 países de la base de datos Global Entrepreneurship Monitor (GEM) y el informe anual de Doing Business, y se elaboró un modelo econométrico de datos de panel. Como resultado, hay un impacto negativo más fuerte en el emprendimiento impulsado por las oportunidades que por la necesidad. Al final se aconseja sobre decisiones políticas que podrían fomentar la actividad empresarial en la región.

### Palabras Clave:

*Emprendimiento, Oportunidad, Necesidad, Doing Business, barreras, cargas.*

**Clasificación JEL:** L26.

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### Abstract

Entrepreneurship has been regarded as an important input for the economic growth. It does not only fetch employment, which entails development, but also fosters innovation and productivity. Nevertheless, Entrepreneurs face many social, economic and political barriers and burdens. The aim of this paper is to find if there is a significant effect of these barriers and burdens on opportunity and necessity driven entrepreneurial activity in Latin American and the Caribbean countries. A sample of the available data for 12 countries was selected from the Global Entrepreneurship Monitor (GEM) database and Doing Business annual report. To evaluate the hypotheses, a panel data econometric model was used. As a result, there is a stronger negative impact on opportunity-driven than on necessity-driven entrepreneurship. The paper ends with some advice on policy decisions that could foster entrepreneurial activity in the region.

### Keywords

*Entrepreneurship, Opportunity, Necessity, Doing Business, barriers, burdens.*

**JEL Classification:** L26.

## Introduction

Entrepreneurship can be one of the key factors for countries like human capital, technology to foster economic growth and development. Although there has been a broad discussion around the definition of the term, entrepreneurship can be defined as the phenomena associated with “the enterprising human action in pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets” (Ahmad & Seymour, 2006, p. 14). Entrepreneurship can be therefore not only a desirable but also a necessary element, as it makes an important contribution to the success of a country’s economy (Cowling & Bygrave, 2003) and lead to higher overall social welfare levels (Martins, Couchi, Parat, Carmine, Doneddu, & Salmon, 2004; van Stel, Storey & Thurik, 2007).

Entrepreneurial-type economies are characterized by a great relevance of entrepreneurship in terms of small and new ventures for the creation of innovative activity and the improvement of macroeconomic performance (Okamuro, Van Stel, & Verheul, 2010). Hence, understanding which factors can have an effect on entrepreneurship becomes relevant for policy makers in order to identify those elements that can lead to an increase in the entrepreneurial activity.

Van Stel, Storey and Thurik (2007) noted that governments have a wide range of policies to foment the creation and growth of Small and Medium-sized

Enterprises (SMEs). Policy choices faced by governments to foster entrepreneurial activity can be categorized, into three broad policy options. The first one focuses on decreasing the entry “barriers” to the new firm formation, encompassing policies such as diminishing the number and cost of any permits and licenses required, lowering minimum capital requirements to constitute a new firm or shortening the time required to start a business. The second policy option is to reduce the “burdens” on established SMEs, such as diminishing difficulties to hire and fire workers, access to credit, tax regime, among others. The third policy option refers to the use of public funds to support starting and established SMEs through direct and indirect financing or by providing advice, training or information through the so-called “support programs” (Dennis Jr., 2011; Okamuro, Van Stel & Verheul, 2010; Van Stel, Storey & Thurik, 2007).

Although there might be some countries, as those in the European Union (EU) like Spain, France and Italy, that have favored the third policy option in recent years, a broad amount of countries have approached entrepreneurship-related policy making by focusing on the first two policy options (Van Stel, Storey & Thurik, 2007). Beyond the general trend in policy choices to foster the entrepreneurial activity, the focus on altering barriers and burdens might be because of their wider and faster impact and relatively lower public resources invested per firm affected. As Dennis Jr. (2011) indicated, policies altering impediments (including barriers and burdens) tend to be broad and

have a larger effect in terms of the number of businesses and owners reached in a non-personalized manner, affecting all registrants quicker as they self-adjust to the changes and implying a lower public cost-per-firm affected. In contrast, this author noted that support policies have a narrower impact since they are subject to a finite budget that tends to be marginal even in the wealthiest countries, and they are slower to implement as they imply a one-on-one treatment of firms and/or persons, with individual application and approval processes.

Several studies have tried to approach the study of entrepreneurship considering the regulatory framework that can create barriers and burdens to entrepreneurial activity. In this sense Angulo-Guerrero, Pérez-Moreno & Abad-Guerrero (2017) find that economic liberalization tends to encourage opportunity entrepreneurship and to discourage necessity entrepreneurship; Djankov, La Porta, Lopez-de-Silanes, & Shleifer (2002) find that countries with heavier regulation of entry have higher corruption and larger unofficial economies, but not better quality of public or private goods. Countries with more democratic and limited governments have lighter regulation of entry; Spencer & Gómez (2004) conclude that normative institutions were marginally associated with the most basic form of entrepreneurship and Van Stel, Storey & Thurik (2007) find the minimum capital requirement required to start a business lowers entrepreneurship rates across countries, as do labour market regulations. However, when analyzing entrepreneurial

activity, it shall be considered that entrepreneurship is not always driven by the same motivations.

In this sense, the Global Entrepreneurship Monitor (GEM) distinguishes between two motivations for starting a business and has created separate measures of opportunity-driven entrepreneurship and necessity-driven entrepreneurship. Such differentiation in terms of motivation is made by the GEM within the population in working age that is either a nascent entrepreneur or owner-manager of a new business. Opportunity-Driven Entrepreneurial Activity is the proportion of those individuals who claim to be driven by opportunity and which indicate the main driver for being involved in this opportunity is being independent or increasing their income, while Necessity-Driven Entrepreneurial Activity is the proportion of those who are involved in entrepreneurship because they had no other option for work (Global Entrepreneurship Research Association, 2017).

Some studies have focused on the effects of entry barriers and regulatory burdens on entrepreneurship at an aggregate level, without going deeper into the analysis of its effects on both opportunity and necessity-driven entrepreneurial activity (Van Stel, Storey & Thurik, 2007). Ardagna & Lusardi, (2008) they have taken them as an aggregate index which impedes focusing on the individual effects of such variables. This situation uncovers a potential unexploited area of research that requires further analysis.

The relevance of assessing the effects of barriers and burdens, has been broadly discussed by the Organization for Economic Co-operation and Development (OECD). While advising governments on the effective use of regulation to achieve better social, environmental and economic outcomes, the OECD recommends to foster regulatory quality by actively providing oversight of regulatory policy procedures and goals by, among other things, while eliminating or replacing those which are obsolete, insufficient or inefficient. Therefore, information on the performance of regulatory programs is necessary to identify and evaluate if policies are being implemented effectively and if reforms are having the desired impact (OECD, 2010; OECD, 2012).

Based upon this theoretical background and remarking the relevance of taking a different approach on both types of motivations, the present study intends to explore the effects that “barriers” and “burdens” have on opportunity-driven and necessity-driven entrepreneurial activity. Hypotheses will be tested through an empirical analysis based on an econometric regression incorporating the largest possible database. This approach will not only seek to review the theoretical effects of “barriers” and “burdens” on entrepreneurship, but to analyze whether there is a statistical relationship based on the data, to disentangle if such effects vary based on the factors that motivate entrepreneurial activity. The data for “barriers” and “burdens” includes 10 indicators from the Doing Business annual report published by the World Bank Group, while the

opportunity and necessity-driven entrepreneurial activity data are obtained from the Global Entrepreneurship Monitor (GEM) database developed by the Global Entrepreneurship Research Association (GERA).

Being the second largest region in terms of countries covered by GEM report, and noting that this region has an important potential to generate competitiveness and well-being through the generation of new firms (Amorós & Cristi, 2008), Latin America and the Caribbean will be taken as the object of this study. Furthermore, the study of this region becomes even more relevant as it has encountered many barriers hampering the development of innovation, entrepreneurship and the foundation of new businesses, even when it has one of the greatest economic potentials around the globe, due to its diversity in natural resources and its important development in agriculture and workforce, and despite the reforms introduced in recent years to foster the economic growth, democracy, property rights and macroeconomic stability (Amorós, 2011). Specifically, this study will take as sample Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Jamaica, Mexico, Panama, Peru, Uruguay and Trinidad & Tobago. Despite being just a sample of Latin America and the Caribbean countries, it includes Brazil and Mexico, two of the world’s largest economies (Amorós, 2011).

All in one, the objective of this research is to evaluate if the “barriers” and “burdens” covered within the 10 areas

covered by the Doing Business report have a significant impact on both necessity-driven and opportunity-driven entrepreneurial among the twelve selected countries. Furthermore, this study is intended to deepen into this analysis by distinguishing these “barriers” and “burdens affect entrepreneurial activity, dividing such impact by taking into consideration the differences in the motivation behind the entrepreneurial activity. Therefore, this study aims to answer the following research question: How do some specific “barriers” and “burdens” affect entrepreneurial activity motivated by both opportunity and necessity?

### **Literature review**

Entrepreneurship has long been regarded as an important contributor to a country’s performance in terms of innovation, economic growth, job creation and higher levels of economic welfare (Angulo-Guerrero, Pérez-Moreno & Abad-Guerrero, 2017; Bygrave, Hay, Ng & Reynolds, 2003; Dellis, Karkalakos & Kottaridi, 2016; Okamuro et al., 2010). As a consequence of these various positive aspects deriving from entrepreneurship, several policy makers explicitly pursue policies that are aimed at increasing the amount of entrepreneurship (Angulo-Guerrero, Pérez-Moreno & Abad-Guerrero, 2017).

The spectrum of policies that could be undertaken to promote entrepreneurial activity can vary widely. Acs, Åstebro, Audretsch and Robinson (2016) further define such policies by indicating that

entrepreneurship-friendly policies are those which in some way make it easier or cheaper for a person to start a new business, whether they have developed or not a new business idea or product. Van Stel et al. (2007) summarize policy choices into two broad categories, indicating that they either follow a high “support” route or a low regulation route.

When analyzing the former type of policy choice, Dennis Jr., (2011) noted that support policies are slower to implement and have a narrower impact since they rely on a finite allocated budget and on an application and approval process on a one-on-one basis of those firms or entrepreneurs subject to this kind of policies. These types of deformations were foreseen in the seminal study by Baumol (1990) where it was noted that entrepreneurship could also take unproductive forms or even lead to a “parasitical existence” that could actually damage the economy.

Therefore, policy focus should be placed on enhancing the quality of institutions and regulations in such a way that entrepreneurs can direct their efforts towards those “productive” activities. In line with this, Djankov, La Porta, Lopez-de-Silanes and Shleifer (2002) used data on the regulation of entry of start-up firms in 85 countries to measure the impact of three indicators of entry regulation: the number of procedures that firms must go through, the official time required to complete the process, and its official cost, that individuals have to overcome to start a business. These authors show that countries with heavier



regulation of entry have higher corruption and larger unofficial economies, while countries with more democratic and limited governments have lighter regulation of entry. This evidence is used to support the authors' view that entry regulations benefit politicians and bureaucrats, while not necessarily improving the quality of the public or private goods they intend to promote, nor increasing competition.

More aligned with the analysis of the effect of regulation on entrepreneurship, Spencer and Gómez (2004) evaluated the effect of institutional structures and economic factors on entrepreneurship. In this case, the entrepreneurial activity was measured by taking into consideration the number of people who select self-employment as the percentage of all working population in a country. This study serves as an initial step to further clarify the effect of different combinations of normative, cognitive and regulations institutions with the different types of entrepreneurship. Van Stel et al. (2007) further analyzed the relationship between burdens and barriers and entrepreneurship, separated into nascent and young businesses, the results obtained with this study helped authors draw several conclusions. In the first place, their empirical model found no significant impact by administrative variables such as the time, the cost, or the number of procedures needed to start a business, on nascent or young business formations. In the second instance, results showed that labor market regulations are the ones that have a stronger influence upon both the nascent and the young business rate.

Thirdly, the authors found substantial differences between the determinants of opportunity entrepreneurship and those of necessity entrepreneurship. These conclusions show the relevance on making further research taking into account the differences between necessity and opportunity-driven entrepreneurship.

In a more recent study, Angulo-Guerrero, Pérez-Moreno and Abad-Guerrero (2017) evaluated the impact of economic freedom, as measured by the Economic Freedom of the World Index (EFI), upon both opportunity and necessity-driven entrepreneurship. These authors found that economic liberalization tends to encourage opportunity entrepreneurship and, in particular, opportunity entrepreneurship seems to benefit from improvements in legal structure and security of property rights and in the regulation of credit, labor, and business. On the other hand, this study suggests that economic freedom tends to discourage necessity entrepreneurship.

Specific literature on the behavior of entrepreneurship in Latin America and, moreover, the effects of the barriers and burdens on it, is limited. Amorós and Cristi (2008) observed that entrepreneurship phenomenon is a relatively new subject area in Latin America, and noted that countries in this region have an important potential to generate competitiveness and well-being through the creation of new firms but have not managed to consolidate the entrepreneurial dynamics.

Going deeper into the characteristics of entrepreneurial activity in Latin

America, in a literature review performed by Amorós (2011) it was noted that within GEM studies, countries within Latin American region have, on average, high levels of diverse indicators of entrepreneurial aspirations, with a significant proportion of the population indicating that there exist good opportunities to perform businesses in their countries. However, on relative terms, this author finds that entrepreneurs in Latin America are mostly driven by necessity, as a way to find a productive source employment. Amorós (2011) remarked that previous studies have noted that weak institutional environments have created an informal lifestyle and the surge of these survival entrepreneurs.

More recently, Amorós, Borraz and Veiga (2016) studied the effect of various socioeconomic indicators on both entrepreneurial activity in Latin America. Their results pointed that economic growth is positively related to opportunity-based entrepreneurship, while other factors like inflation, informality, and transparency are positively related to major prevalence rates of the necessity-based rates.

On the grounds of the analysis of barriers and burdens, these authors analyzed previous literature, which suggested that income taxes encouraged necessity-based entrepreneurship since agents foresee how much income will be deducted and try to adjust their net income in order to be able to maintain income in real terms. Although focusing on youth entrepreneurship, Llisterri,

Kantis, Angelelli and Tejerina (2006) studied entrepreneurship in the region and reviewed the scope and quality of policies and programs that governments, development agencies and civil society were implementing to support young entrepreneurs. These authors discussed the importance of creating a better regulatory environment, more cost-effective programs and better access to financing to encourage young people interested in becoming entrepreneurs. In United States, a geographic variation can potentially capture different changes in the business climate, as states differ in regulations across a range of dimensions including occupational licensing requirements, banking regulations, tax burden for businesses and households, employment protection regulations, minimum wages, and others (Mckenzie, Bank, & Newell, 2014).

Based upon the relatively unexplored research areas this literature review has drawn, the present study is intended to develop hypotheses that could be empirically tested to further analyze the effects of both “barriers” and “burdens” on opportunity-driven and necessity-driven entrepreneurial activity, respectively. Moreover, this study aims to focus on Latin America in order to make further contributions to the study of entrepreneurship in this region, which can help unleash the potential of this geographic area to generate competitiveness through the motivations of entrepreneurs that can foster the creation of new firms.



## Methodology

In order to evaluate the aforementioned hypotheses, it was estimated a panel data econometric model as a recommendation of Ahn & Schmidt (1993) by the structure of the data which includes the 9-years observations for the twelve countries in the region with the help of STATA. Since a macro panel is not available, limitations in the sample in terms of the relatively reduced amount of countries included, the time series available and the missing values have to be noted. Then it cannot be assumed that residuals are independent from the observations (Montero, 2011). Thus, there might exist other relevant variables that are unobserved, but correlated with the observed variables. To obtain valid statistical inferences in the presence of potential unobserved heterogeneity, the panel data regressions will be estimated using a random effects model to control for this heterogeneity, gaining efficiency in exchange of consistency in the estimator. Moreover,

Hausman Test shows that random effects estimators are more efficient than fixed effects estimators for TEANEC and TEA.

Since the aim of this study is to find the effect of existing barriers and burdens on TEAOPP (opportunity-driven entrepreneurial activity) and TEANEC (necessity-driven entrepreneurial activity) separately in order to find if the motivation behind entrepreneurial activity in some way conditions the effect of such factors, two isolated regressions were run with the same set of independent variables but with each of the two types of entrepreneurial activities as the dependent variable for each case. The independent explanatory variables are the “barriers” and “burdens” covered within the 10 areas covered by the Doing Business report (i.e. starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency).

Hence, the resulting regressions were estimated as follows:

$$TEAOPP_{it} = \alpha_{it} + \beta_1 SB_{it} + \beta_2 DWCP_{it} + \beta_3 GE_{it} + \beta_4 RP_{it} + \beta_5 GC_{it} + \beta_6 TAB_{it} + \beta_7 PMI_{it} \\ + \beta_8 PT_{it} + \beta_9 EC_{it} + \beta_{10} RI_{it} + \varepsilon_{it}$$

$$TEANEC_{it} = \alpha_{it} + \beta_1 SB_{it} + \beta_2 DWCP_{it} + \beta_3 GE_{it} + \beta_4 RP_{it} + \beta_5 GC_{it} + \beta_6 TAB_{it} + \beta_7 PMI_{it} \\ + \beta_8 PT_{it} + \beta_9 EC_{it} + \beta_{10} RI_{it} + \varepsilon_{it}$$

The two regressions in the model will evaluate “barriers” and “burdens” as explanatory variables to describe the behavior of necessity-driven and opportunity-driven entrepreneurial activity. The “barriers” and “burdens” considered within this study would be those covered by the indicators calculated

for the 10 different areas within the Doing Business, which have been defined, classified and summarized following the definition of barriers and burdens provided by the literature (Dennis Jr. , 2011; Okamuro, van Stel & Verheul, 2010; Van Stel, Storey & Thurik, 2007).

*And the hypothesis are:*

*Hypothesis 1a: Barriers have a negative effect on opportunity-driven entrepreneurship*

*Hypothesis 1b: Burdens have a negative effect on opportunity-driven entrepreneurship*

*Hypothesis 2a: Barriers have a negative effect on necessity-driven entrepreneurship*

*Hypothesis 2b: Burdens have a negative effect on necessity-driven entrepreneurship*

## **Results**

Most of the correlations between opportunity-driven entrepreneurship and “barriers” and “burdens” are as expected by the hypotheses 1a and 1b, where a positive relationship is displayed between opportunity-driven entrepreneurial activity and 7 of the 10 explanatory variables. However, necessity-driven entrepreneurship

reflects negative correlations with the majority of the “barriers” and “burdens” under analysis. This situation is not consistent with hypotheses 2a and 2b. Then, to understand the nature of these relationships, the multivariate analyses would be more appropriate. Table 1 shows the econometric estimate results obtained from the regressions:

Tabla 1.  
*Entrepreneurship panel data models*

<i>Classification</i>	<i>Independent variables</i>	<i>TEAOPP</i>	<i>TEANEC</i>
<i>Constant</i>	Constant	.0912459 (.0965571)	.0724957 (.0460736)
<i>Barriers</i>	Starting a business	-.0001496 (.0007663)	-.0000774 (.0003657)
	Dealing with Construction Permits	.0013871* (.0007129)	.0008905*** (.0003402)
	Getting Electricity	.0003327 (.000669)	.0004582 (.0003192)
	Registering Property	.0020708*** (.0006823)	.0005087 (.0003256)
	Getting Credit	-.0008697 (.0005843)	-.0006797** (.0002788)
	<i>Burdens</i>	Trading Across Borders	-.0022157*** (.0008311)
Protecting Minority Investors		.0017465*** (.0006534)	-.000025 (.0003118)
Paying Taxes		-.0000246 (.0005467)	.0001742 (.0002609)
Enforcing Contracts		.0002273 (.0005438)	.0002015 (.0002595)
Resolving Insolvency		-.0002149 (.0004934)	-.0002663 (.0002354)
<i>Control Variables</i>		GDP per Capita	1.04e-06 (1.39e-06)
	Economic growth	-.0031008 (.0020191)	-.0006111 (.0009634)
	Inflation	-.0000586 (.0000398)	5.84e-06 (.000019)
	Unemployment	-.0092469*** (.0030379)	-.0006668 (.0014496)
	Corruption	-.0003956 (.0005153)	-.0004634* (.0002459)
	R <sup>2</sup> overall	0.6189	0.6236
	Observations	76	76
	Number of countries	12	12
	Sample	2008-2016	2008-2016

Notes: Standard Error in parenthesis  
\*p < .10; \*\*p < .05; \*\*\* p < .01.

When the effects of the different “barriers” on TEAOPP activity are evaluated, it can be noted that only Registering Property (RP) and Dealing with Construction Permits (DWCP) are statistically significant at  $p < .01$  and  $p < .10$ , respectively. These results partially support hypothesis 1a, as they indicate that opportunity-driven entrepreneurship (TEAOPP) is positively related to a more favorable environment to constitute a new firm in terms of lower barriers. From these results, it can be derived that the more positive is the business environment through lower barriers in terms of the processes of registering property and obtaining construction permits, the higher the TEAOPP. Despite the significant variables found, hypothesis 1a cannot be fully accepted since three of the barriers were not significant, and the signs of the coefficients for Starting a Business (SB) and Getting Credit (GC) are opposite to the ones that should be obtained to be aligned to the formulated hypothesis.

Similarly to the Hypothesis 1A, only two of the five explanatory variables related burdens affecting TEAOPP activity are statistically significant. As shown in Table 1, both Trading Across Borders (TAB) and Protecting Minority Investors (PMI) are strongly significant at  $p < .01$ . Although the variable related to the protection of minority investors by limiting the extent of conflict of interest and thus protecting shareholders against directors’ misuse of corporate assets for personal gain has the expected positive coefficient associated with TEAOPP, the sign of the coefficient for the variable related to the Trade Across Borders (TAB)

is the opposite from what it could be foreseen in the light of hypothesis 1b.

In this sense, this negative relationship implies that lower scores in the Trading Across Borders (TAB) indicator, suggesting that higher burdens to exporting and importing processes, would cause an increase in the TEAOPP instead of the expected decreasing effect. This generates that hypothesis 1b would only be supported by effects of the protection of minority investors on TEAOPP, while having the aforementioned contradictory effect on the variable related to Trading Across Borders (TAB) and the poor significance of the rest of the burden variables.

On the grounds of TEANEC, only a limited amount of barriers seems to have a statistically significant effect on such sort of entrepreneurship. In line with this, only Dealing with Construction Permits (DWCP) and Getting Credit (GC) were the barriers-related variables significant at  $p < .01$  and  $p < .05$ , respectively. In the former case, the results suggest that a relative ease in Dealing with Construction Permits (DWCP) would have a positive effect on the necessity-driven entrepreneurial activity, which is consistent with hypothesis 2a. However, in the latter case, the results are contrary to what could have been predicted by hypothesis 2a.

Results related to the analysis of the effects of the five explanatory variables categorized as burdens on TEANEC, show no support for hypothesis 2b. In line with this, from the five variables

considered, only Trading Across Borders (TAB) indicator was significant beyond  $p < .10$  (at  $p < .01$ ), but even this variable has an unexpected negative sign in its coefficient. Therefore, based on the results obtained from the effect of the five analyzed burdens on TEANEC, hypothesis 2b is the only one that can be fully rejected. The puzzling results obtained for the effects of Trading Across Borders (TAB) indicator on entrepreneurial activity based on both opportunity and necessity, are worth analyzing since they could uncover an effect that could not be foreseen based on current literature.

Several potential causes for this effect can be identified, which could uncover potential areas for future and more in-depth research. In the first place, since Trading Across Borders (TAB) indicator encompasses the burdens that can be imposed by the time and cost associated to both export and import processes, there might be a perception among entrepreneurs that some of the effects of free trade might not be desirable. In line with this, Meller (2009) noted that trade liberalization generates fierce resistance in a democratic regime as the sectors harmed by tariff reduction, entrepreneurs and workers alike, making them react immediately against it through the political system. Additionally, World Trade Organization (2016) finds the logistics costs tend to be higher for smaller firms, than for the large enterprises. This can make that although Latin American countries have abandoned protectionist policies such as import substitution industrialization and have systematically

dismantled tariff and para-tariff measures (Vaca-Eyzaguirre, 2015), entrepreneurs might still perceive from the effects of external competition and from higher costs that could deter them from engaging in entrepreneurial activity if they perceive that there is an ease of external trade in their countries.

Alternatively, there might be a less fascinating and more structural reason behind these results. When measuring the year-to-year average variation in this indicator among countries, there is a clear unusual value in the period 2014-2015. World Bank Group (2014) noted that for the Doing Business 2015 report, there were some methodological changes affecting several variables. Therefore, there might be a change in the criteria that might have had an impact on the value of this indicator from this year onwards that could have affected the results in this study. Moreover, this same report explicitly mentions a change in the methodology in the measurement of the Getting Credit (GC) indicator. This problem will be a potential issue for future researches.

## Discussion and conclusions

The analysis of the effects of barriers and burdens on the entrepreneurial activity motivated by both TEAOPP and TEANEC is not conclusive. Whereas some of the barriers (i.e. DWPC and RP) and some of the burdens (i.e. TAB and PMI) resulted to be significant to explain opportunity-driven entrepreneurial activity the other 6 explanatory variables considered did not result significant, thus not allowing to fully confirm hypotheses 1a and 1b.

For the case of TEANEC, only DWCP and GC were significant among the five barriers considered within this study, while only TAB was significant among the considered burdens. However, although hypothesis 2a cannot be fully confirmed nor denied, hypothesis 2b does not hold, thus implying that the general notion that lowering burdens would increase entrepreneurial activity (negative relationship) is not applicable for TEANEC. Additionally, results seem to follow the notion stated by Levie and Autio (2011), that barriers and burdens would have a stronger negative impact on TEAOPP than on TEANEC. In line with this, more variables that can be categorized as barriers are significant for TEAOPP than for its TEANEC counterpart; while burdens only resulted to have some negative effect on TEAOPP and not for TEANEC.

For some variables as TAB and GC displayed an unexpected sign in their coefficients, suggesting that for these variables, diminishing burdens and barriers would actually decrease in necessity-driven entrepreneurial activity (and the same unforeseen effect of TAB on TEAOPP). Nevertheless, such effects although striking and requiring further research, could be rooted in methodological changes when capturing the data for Doing Business reports.

Beyond the aspects that have been discussed, these results must be taken with caution. Besides the fact that they are only applicable for the Latin American and Caribbean region, they only include information from 12 of the 52 economies

within this geographic region. Moreover, the time series is relatively short (9 years) and there are some observations missing within the databases used. The evident lack of complete and continued information regarding the behavior of entrepreneurial activity among the countries makes it evident that one of the necessary policy recommendations is to devote more resources or support to initiatives aimed to obtain data to better study this phenomenon.

However, results still suggest that the alleviation of barriers and burdens could be useful to incentivize entrepreneurial activity. Furthermore, beyond the direct impact that the reduction of barriers and burdens could have on entrepreneurship in the region as suggested by the results. Although the costs and time required to complete certain regulatory requirements might not deter individuals to become entrepreneurs, as they do not significantly alter the aforementioned cost analysis, they could still delay the entrepreneurial until such requirements are completed and/or the resources to cover for its associated costs are attained. Additionally, as suggested by various authors (Djankov, La Porta, Lopez-de-Silanes & Shleifer, 2002; Klapper, Laeven and Rajan, 2006) diminishing barriers and burdens might lead to lower levels of corruption.

Finally, the results obtained uncover future research areas that might contribute to further analyze the effects of barriers and burdens on entrepreneurial activity motivated by both. In the first place, finding alternative proxies to measure



both barriers and burdens as well as entrepreneurial activity might contribute to expand the panel used both in terms of countries covered and time series, thus increasing the robustness of the empirical analyses that can be conducted. Although, the 10 areas covered by the Doing Business database constitute an invaluable resource in terms of countries covered and consistency throughout them to allow comparative analysis. Likewise, a deeper research in the components of every of the areas that were analyzed in this study could help further narrow the list of policy actions that could lead to a concrete impact on entrepreneurial activity.

Despite this study analyzed the effect of barriers and burdens on entrepreneurial activity in its early-stage, if the firms that are created are able to survive is another aspect that should be analyzed in order to focus the attention on those aspects that not only could facilitate entrepreneurial activity, but which do so on those entrepreneurs which have better prospects to succeed throughout time. Moreover, a study that could further signal which sectors of the economy is entrepreneurship trying to open its way into, can be helpful to prioritize the mitigation of barriers and burdens, or generating other kinds of policies, that could specifically target these groups and focus policy-making on the areas and sectors which require the most immediate attention.

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