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# Home country institutions and exports of firms in transition economies: Does innovation matter?

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ABSTRACT

We draw on institutional theory and the resource-based view to analyze the relation between home-country governance imperfections and the export intensity of firms in transition economies, including an examination of the moderating role of innovation. We propose that greater governance imperfections result in lower export intensity and that innovation mitigates the constraints of operating with weak home-country institutions. Analyses of panel data from the Business Environment and Enterprise Performance Survey (BEEPS) on firms from transition economies provide support for our arguments. Our findings allow us to conclude that although firms from transition economies face difficulties to export due to the regulatory constraints of their home countries, a strategy based on innovation represents a viable way of overcoming these limitations.

## Introduction

Despite the growing importance of the internationalization of firms from emerging countries, the influence of home-country institutions on international expansion is still not well understood (Cuervo-Cazurra et al., 2019). The existing literature provides contrasting views. Indeed, wide debate continues over how the conditions of home-country institutions affect outward internationalization strategies. Some studies in this research stream suggest that weak institutions foster the international expansion of firms (Witt and Lewin, 2007), while others indicate that strong institutions promote it (Marano et al., 2016). The former argue that corruption, protectionism, and coercive pressures may produce an 'escape effect' on firms from developing countries (Cuervo-Cazurra et al., 2015b; Krammer et al., 2018; Lee et al., 2015; Stoian and Mohr, 2016). In contrast, the latter find that higher quality institutions provide greater resources and reduce transaction costs and uncertainty, thereby strengthening firms' foreign operations (Sun et al., 2015; Wu and Chen, 2014). Our study adds to this stream of research on firms that operate in weaker institutional contexts than those in developed countries and that consequently take internationalization decisions in a different manner (Gaffney et al., 2014; Hoskisson et al., 2013; Wright et al., 2005).

Specifically, we aim to advance our knowledge of the relation between home-country institutions[1] and the internationalization of firms in Central and Eastern European (CEE) countries. With this goal in mind, we connect institutional theory and the resource-based view to argue firstly that governance imperfections are negatively related with the internationalization of firms in CEE transition economies. And secondly, we posit that in these contexts firms' resources and capabilities to innovate may be a key factor in the

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[1] In this study we use the following terms interchangeably to refer to home-country institutional conditions: governance infrastructure; institutions; and regulatory development.

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relation between home-country institutions and internationalization. In particular, we propose that innovation outcomes positively moderate the relation between home-country governance imperfections and export intensity. As stated, we focus on firms from transition economies, specifically from CEE countries. Countries from this region make up a sub-set of emerging economies, as formerly socialist countries that have transitioned from central planning to market competition. Because they share some similarities, these countries have often been studied as if they were all part of a uniform bloc of post-communist countries. And yet, political, social, economic, and historical differences (as well as those linked to size and resources) exist among them and have led them to follow individual transition paths (Askarov and Doucouliagos, 2015; Jaklic et al., 2018; Kafouros and Aliyev, 2016). Although many CEE countries are current EU members, institutional diversity among them remains in terms of business, governance, and the level of government control over the economy—a state of affairs that makes research into these countries attractive (Jaklič et al., 2020). For these reasons, the CEE region is a particularly challenging context for the study of institutional environments and their impact on business strategy (Krasniqi and Desai, 2016; Lee et al., 2015). International business (IB) research into this region is, then, especially interesting for both managers and scholars (Meyer and Peng, 2005, 2016).

The theoretical contribution of this study is twofold. First, our focus on CEE firms makes it possible to test IB business theories in alternative environments, while also answering the recent call to deepen knowledge about the international behavior of CEE firms (Jaklič et al., 2020). Although these theories are context sensitive, they are typically applied to firms in countries in which institutions are taken for granted (Musteen et al., 2014). Thus, we contribute to understanding the relation between home-country institutions and the internationalization of firms in the specific context of transition economies (Peng et al., 2008). Building on institutional theory, we advance on work that examines how different home-country institutions may affect internationalization (Lee and Weng, 2013; Gao et al., 2010; Sun et al., 2015). These studies—along with others—analyze some home-country institutional variables, especially those related to corruption. Individual indicators of the regulatory environment, however, offer no more than a 'narrow view,' as they measure only part of the formal institutional development of the context in question (Cherchye and Verriest, 2016). To address this shortcoming and capture the regulatory development of the country of origin more completely, we analyze formal institutional development via an indicator that aggregates aspects that affect its quality in political, judicial and administrative terms, components that make up the framework for the economic, legal and social relations of any country (Garrido et al., 2015; Globerman and Shapiro, 2003). In line with previous studies, we measure the institutional development of each country in negative terms by defining the level of governance imperfections (Slangen and Beugelsdijk, 2010).

Second, this study acts as a bridge between different research streams, connecting topics such as institutions, internationalization, and innovation (Newburry et al., 2016; Kumar et al., 2013). Building on the resource-based view and linking it with institutional theory, we focus on internal factors and analyze how the relation between home-country governance imperfections and export intensity may be modified by the innovation results of firms. Firm-specific factors may explain differences in behavior and performance in specific environmental conditions (Fan et al., 2019). Up to now, few studies of emerging countries have examined the interactions between variables related to the origin country and the firm (Cuervo-Cazurra et al., 2019; Estrin et al., 2016; Musteen et al., 2014). In particular, we highlight the important role of resource endowments (e.g., innovation) in overcoming the obstacles to internationalization caused by existing institutional limitations in the countries of origin of these firms. This is highly relevant in transition economies because the communist legacy of heavy bureaucracy, centralized decision-making and risk avoidance still color the formal institutions and behavior of firms (Makhija, 2003; Tonoyan et al., 2010). In fact, the development of innovation capabilities in firms from transition countries is a major concern (Apanasovich et al., 2016; Ramadani et al., 2019). Thus, it is important to understand how an innovation strategy could help firms to overcome local governance imperfections when considering international expansion.

To perform our empirical analysis, we use the panel dataset based on the BEEPS IV and V waves, generated by The Enterprise Surveys (The World Bank, 2013). This database contains information on firms from 19 CEE countries for 2008 and 2012. The availability of data from a wide range of transition countries with different levels of development enriches our study and allows us to reach conclusions that may be generalizable. The opportunity to analyze the data in two waves also allows us to exploit the longitudinal capacity of the survey, in line with other recent studies (Vendrell-Herrero et al., 2020).

The paper is organized as follows. The next section addresses the relevant theoretical aspects and research hypotheses. The subsequent sections then go on to describe the sample, variables, and methodology, followed by a discussion of the results and their implications. The paper finishes with our conclusions, along with a description of the study's limitations and some suggestions for future lines of research.

## Theory and hypotheses

### *The role of formal institutions in internationalization*

The institutional-based view suggests that institutional factors lie behind a country's 'rules of the game' and standards. In other words, these are factors that may limit or reinforce certain behaviors (North, 1990). Institutional factors can be divided into three categories: regulatory, normative and cognitive-cultural factors (Scott, 2001). Although all three are relevant and influence firms in the different contexts in which they operate, regulatory factors are particularly interesting because governments are capable of defining levels of development and generating positive conditions for investment and economic growth (Cuervo-Cazurra and Genc, 2008; Globerman and Shapiro, 2003; Meyer et al., 2009).

In line with this, the IB literature typically focuses on the institutional development of the host country (Wu et al., 2016). Different studies examine how governance infrastructure in the host country affects decisions on entry mode (Dikova and Witteloostuijn, 2007; Slangen and Van Tulder, 2009); location (Coeurderoy and Murray, 2008); investment (Globerman and Shaphiro, 2003); and

performance (Chan et al., 2008). Regulatory institutions in emerging countries do not a priori offer the same guarantees as in developed countries (Luo and Tung, 2007; Gelbuda et al., 2008; Peng et al., 2008). Indeed, institutions in emerging countries not only do not reduce uncertainty but may actually act as a source of uncertainty (Xu and Meyer, 2013). Formal institutions in these countries tend to be relatively underdeveloped, with weak legal systems, poorly protected property rights, and constantly changing policies that fail to provide legal security (Dikova and Van Witteloostuijn, 2007; Hong et al., 2015; Xu and Meyer, 2013). The institutional conditions in these countries increase information asymmetries and transaction costs not only for foreign firms (Meyer, 2001; Meyer et al., 2009), but also for local ones (Wright et al., 2005). In fact, these national institutional weaknesses put firms from developing countries at a competitive disadvantage compared to those from developed countries (Young et al., 2014).

These regulatory factors are also important because they define local access to resources, which may affect firms' abilities to compete locally and abroad (Marano et al., 2016). Firms from different countries vary in their abilities to internationalize because the context-specific conditions require them to develop distinct resource endowments (Cuervo-Cazurra et al., 2015a). Thus, firms from developing countries may display behaviors and strategies that differ from those of firms from developed ones, particularly when it comes to internationalization strategies (Cuervo-Cazurra and Genc, 2008; Makino et al., 2002).

Important differences exist between developing countries governed under capitalist systems (albeit with high levels of government control) and those that were governed under a communist system (Cuervo-Cazurra, 2015). CEE transition economies fall into this second group. These are countries that have changed—and continue to change—their institutional contexts (especially the regulatory context) from central planning to market competition (Peng, 2003; Dikova and Van Witteloostuijn, 2007). Because of this communist past, most of these countries share characteristics that set them apart from other emerging countries (Apanasovich et al., 2016; Jaklič et al., 2020). First, many of them are small markets, with good natural resources, large industrial cities, and technically skilled labor forces (Gurau and Dana, 2010). Second, during the transition process they have introduced policies to close the gap with other more developed European democracies. Indeed, recently some of these countries have even become EU members, while others aspire to do so in the future. Their legal systems and institutions, however, remain half-baked in many aspects and improvements to the regulatory framework are being made at a slow pace (Wadhwa et al., 2017; Dikova et al., 2016). In fact, not all these countries have reached the same phase after implementing pro-market reforms (Kaforuos and Aliyev, 2016; Hoskisson et al., 2013; Shinkle and Kriauciunas, 2010). Varying degrees of the communist legacy remain such as an inconsistent and discretionary implementation of rules (Krasniqi and Desai, 2016), as well as government involvement in business activity (Bruton et al., 2014). For these reasons, a significant part of the business fabric in these countries continues to operate under the 'old rules' of the former political and economic systems (Banalieva et al., 2017; Jacklic et al., 2018). The specific characteristics of the institutional systems of these transition economies, then, are an important factor to bear in mind when analyzing internationalization processes.

*Governance imperfections in transition economies and the export activities of domestic firms*

An important research stream suggests that institutions are rather more than simple background conditions and that together with the resource endowments of firms they play a key role in molding business strategies (Meyer et al., 2009; Meyer and Peng, 2005). Conditions in the country of origin provide firms with unique resource endowments and different abilities to internationalize (Cuervo-Cazurra et al., 2015a; Luo and Wang, 2012). Most studies of home-country institutions and internationalization argue that excellent home-country regulatory institutions promote international expansion (Wan and Hoskisson, 2003; He and Lin, 2012). This institutional-support perspective suggests that good governance infrastructure protects contracts and intellectual property; reduces risks of expropriation, opportunistic behaviors, and uncertainty (La Porta et al., 2000; Wan and Hoskisson, 2003; Chen et al., 2018); produces stronger economies with more resources (Kirca et al., 2012); and drives economic growth (Globerman and Shapiro, 2003). In particular, local policies designed to improve the legal system contribute to the internationalization of firms in emerging countries (Sun et al., 2015). Likewise, reforms that promote stronger institutions help firms make efficiency and productivity gains that are important for their international growth (Stoian, 2013; Gaffney et al., 2014). The development of more transparent rules and market efficiency helps them reduce transaction and agency costs, which in turn strengthens the business environment and promotes exports (Gao et al., 2010). In addition, policies introduced by some of these emerging countries to boost international initiatives can be crucial to mitigate risks and encourage local firms to move into foreign markets (Hoskisson et al., 2013; Gammeltoft et al., 2012). Other scholars, however, adopt an institutional-void perspective to suggest that the absence of an advanced regulatory framework fosters internationalization by generating an 'escape effect' from the limitations of the origin country (Witt and Lewin, 2007). These studies argue that corruption, protectionism and other coercive pressures could push firms to internationalize as a means of escaping their origin countries (Cuervo-Cazurra et al., 2015b; Cheng and Yu, 2008; Krammer et al., 2018; Stoian and Mohr, 2016). In line with this, Lee et al. (2015) find that corruption in transition economies makes it necessary for new ventures to escape from national markets to survive.

Transition economies that move from central planning to market competition, however, display institutional and regulatory features that go beyond corruption (Dikova and Witteloostuijn, 2007). Moreover, these features may affect the activities of their firms in international markets, especially as these former socialist systems had a monopoly on exports (Filatotchev et al., 2001). The governance dimensions analyzed by the World Bank (Kaufmann et al., 2011)—voice and accountability; political stability; government effectiveness; regulatory quality; rule of law; and control of corruption—to determine levels of regulatory development (Cuervo--Cazurra and Genc, 2008; Wu et al., 2016, among others) reveal some idiosyncratic features of countries in transition. Concerning voice and accountability (which defines the degree of democracy and civic participation in selecting the government), some authors note that many countries in transition are flawed democracies, anocracies or autocracies (Askarov and Doucouliagos, 2015). Given the lack of political stability in these countries, other scholars observe that sudden policy changes are common during the transition to market economies and that these changes do little to help business activity (Ahlstrom and Bruton, 2010).

A consideration of the effectiveness of government in these countries (defined in terms of the bureaucratic quality or independence of public services) uncovers different levels of administrative and legal barriers (Krammer and Jimenez, 2020; Makhija, 2003). Regulatory quality is another important dimension that captures the existence of excessive or constantly changing regulations. These countries have introduced numerous regulatory changes—though at differing speeds—to come into line with market economies (Drahokoupil and Myant, 2015). In some of these countries, 'market-unfriendly' policies persist, with the existence of protected sectors, excessive regulation or high levels of government involvement in the economy (Bruton et al., 2014). As far as the rule of law is concerned, weaknesses in the legal system continue (Dikova and Van Witteloostuijn, 2007), along with cases of volatility and inconsistent enforcement or discretionary implementation of rules (Krasniqi and Desai, 2016). The European Commission, for example, points out that Bulgaria and Romania are still to rectify certain outstanding institutional issues, including some related to the legal system and the response to organized crime (European Commission, 2017a, 2017b). Lastly, regarding the control of corruption, in many of these countries bribery remains widespread. This practice acts as a barrier that generates higher transaction costs by inflating the price of obtaining licenses and permits (Shirokova and Tsukanova, 2013). For example, on January 31, 2017 Romania approved a decree decriminalizing some aspects of corruption (The Guardian, 2017). Therefore, in countries in which institutional reforms are yet to be implemented, governments with communist values continue to control and intervene in economic activities, which in turn exerts a direct impact on firm behavior, including export growth (Shinkle and Kriauciaunas, 2010).

Due to the different degrees of remaining governance imperfections, many firms continue to operate on the basis of former political and economic systems (Banaileva et al., 2017; Krammer and Jimenez, 2020). Administrative and legal barriers such as protectionism and governmental intervention affect these countries' firms because they prevent them from functioning as private companies, competing openly or following market demands (Makhija, 2003; Cuervo-Cazurra, 2015). Firms in transition countries tend to be less constrained by market dynamics and to face more difficulties gaining access to capabilities from global networks than those that operate in environments with higher levels of international openness (Kafouros and Aliyev, 2016). Moreover, greater regulatory inconsistencies and the discretionary implementation of rules raise costs and oblige firms to redirect resources to different activities designed to promote growth (Krasniqi and Dasai, 2016).

In sum, firms from transition countries with greater governance imperfections are less prepared for the demands of the highly dynamic international marketplace, making it more difficult for them to compete and grow in foreign markets. These arguments lead us to posit the following hypothesis:

**Hypothesis 1**. Higher levels of governance imperfections in the home transition country are related to lower levels of export intensity in firms.

*The moderating role of innovation*

We set out to clarify the relation between governance imperfections in transition economies and the export activities of domestic firms by examining the role of innovation. In accordance with the call from Meyer et al. (2009), we adopt an integrative perspective that considers both institutional effects and firms' resource endowments. Because contextual conditions influence which resources provide competitive advantages, these conditions will in turn influence how firms develop and manage their resources. Indeed, development, exploitation and resource transfer processes vary in transition contexts (Meyer and Peng, 2005).

Institutional characteristics affect the collective knowledge available to firms in a given context (Teixeira, 2014; Watkings et al., 2015), as well as the possibility to generate resources and capabilities for innovation (Mudambi and Navarra, 2002). Most European transition countries belong to the so-called 'European imitative innovation area' and share narrow knowledge and innovation profiles (Capello and Lenzi, 2013). In fact, transition economies are considered to be less advanced due to their lower levels of investment, specialization and lack of state-of-the-art technologies, a circumstance largely due to the legacy of former communist regimes (Krammer, 2009; Maksimov et al., 2017). Thus, firms from these countries have traditionally displayed lower levels of innovativeness (Crowley and McCann, 2018). Compared to firms in developed economies, firms in developing markets are commonly seen as innovation latecomers. Latecomer firms experience disadvantages on the supply side (operating in isolation far from world centers of innovation) and the demand side (finding themselves disconnected from international market trends and possessing less market knowledge to innovate) (Li et al., 2010). Moreover, firms in transition countries face additional difficulties to innovate caused by factors such as: poor access to financial capital; a lack of interpersonal trust; and little experience in innovation management (Apanasovich et al., 2016). Although innovation can be difficult in these contexts, firms from countries with weaker institutional frameworks can certainly produce successful innovation results (Ramadani et al., 2017; Wadhwa et al., 2017).

In these contexts, competitive advantages are gained from different resources (Meyer and Peng, 2005). Context-specific resources such as business networks (Peng and Heath, 1996), process-related capabilities and human capital may be especially important (Meyer and Peng, 2005). Indeed, firms in transition countries base their activities on collaboration strategies to overcome internal limitations and external factors (Musteen et al., 2014; Manolova et al., 2010). And interaction with other firms provides opportunities to source and learn from positive technology spillovers (Krammer, 2010; Silajdzic and Mehic, 2015). As previous studies point out, spillovers for less R&D-intensive contexts such as transition economies are particularly important (Crowley and McCann, 2018; Krammer, 2010). The absorptive capacity of firms in transition countries may also be boosted by the high levels of human capital and specific work-based knowledge they possess (Apanasovich et al., 2016). Firms, then, that develop network strategies and capabilities based on human capital are able to manage and combine knowledge that will be highly valuable for innovation. In short, firms that innovate in these contexts show above-average capacities by having mitigated the barriers to obtaining resources they face in their institutional contexts.

In these contexts, innovation can act as a lever to modify the relation between the level of development of formal institutions and internationalization. And innovation capacity can be the cornerstone for them to achieve sustainable competitive advantages in rapidly evolving environments (Dixon et al., 2014). These advantages are likely to be especially important in contexts in which institutions are underdeveloped and firms face governance imperfections. Thus, firms from transition economies—with products traditionally inherited from a command economy (Carlin et al., 2014) and managers more worried about acquiring and transforming inputs than about reacting to market needs with innovative behavior (Makhija, 2003)—find innovation to be a way of creating a competitive advantage.

Given that these are environments in which innovation has not been encouraged, innovative firms are those that are better able to develop and exploit the resources available to them. Competence exploitation and competence exploration are the most important capabilities behind innovation (Atuahene-Gima, 2005); the former has to do with refining and extending existing capabilities, while the latter involves seeking and applying new options (March, 1991). Innovative firms, therefore, are able to develop exploitative and/or explorative capabilities that lead them to achieve novel applications. On the one hand, these firms prove able to boost their resource endowments and perform existing activities with greater efficiency and reliability, and/or on the other they prove able to acquire and experiment with new knowledge, skills and processes.

Additionally, the interactions that innovative firms have with other enterprises or organizations can enable them to discover valuable market information (Nieto and Santamaría, 2007; Un and Rodríguez, 2018). Other studies note that market orientation plays a key role in developing firm capabilities for innovation (Atuahene-Gima and Ko 2001; Slater and Narver 1995). Innovative firms, then, have superior market knowledge at their disposal.

Firms that innovate in these contexts display capabilities related to market knowledge, market orientation, connections, and networks. The improved resources and capabilities derived from innovating make these firms better able to export more and reduce the negative effect of governance imperfections on export intensity. Therefore, we posit that the overall negative effect of governance imperfections in the home country on export intensity will be reduced as firms from transition economies innovate. In line with this, we put forward the following hypothesis:

**Hypothesis 2**. Innovation positively moderates the relation between home-country governance imperfections and the export intensity of firms from transition economies.

Fig. 1 illustrates the relations analyzed in the paper. In Hypothesis 1 we propose a negative relation between the levels of governance imperfections in the home transition country and the export intensity in firms. And in Hypothesis 2 we propose that innovation performance modifies the influence of the home country's institutional conditions on the export intensity of firms from transition economies.

## Empirical analysis

### *Sample*

To perform the empirical analysis and test our hypotheses, we use data from the Business Environment and Enterprise Performance Survey (BEEPS). The BEEPS project is run by the European Bank for Reconstruction and Development (EBRD) and the World Bank Group. These surveys have been used in studies by other scholars to analyze firms from emerging contexts (Luo and Bu, 2016; Tajeddin and Carney, 2019; Vendrell-Herrero et al., 2017). Specifically, we use the Business Environment and Enterprise Performance Survey of Eastern European countries, in line with previous studies (Krammer and Jimenez, 2020; Ramadani et al., 2019). The BEEPS project adopts a standard methodology that covers different environmental aspects such as access to finance and levels of corruption, infrastructure and crime, as well as data on the firm and the degree of competition. The surveys were completed by managing directors, accountants, and human resource managers, among others; the data is collected via standardized instruments and a uniform sampling methodology to minimize measurement errors and yield data that are comparable across different economies. Moreover, the surveys examine registered businesses and follow a stratified random sampling methodology, thereby ensuring sufficiently large and representative samples from different countries.

These surveys have been conducted in different periods, generating several waves. In this study, we use information from firms participating in the most recent waves: BEEPS IV and V (corresponding to information collected in 2008 and 2012, respectively). In total, we have data from 1260 firms from 19 CEE transition economies. Additionally, to define the variables related to the home country, we rely on the World Bank datasets.

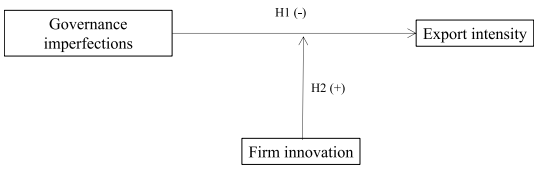


**Fig. 1.** Theoretical framework.

*Variables*

In this section we define the variables used in our study; this information is summarized in Table 1, including the data source used for each one.

***Dependent variable.*** *Export intensity* is the proportion of sales generated from international markets calculated as the percentage of total sales (Agnihotri and Bhattacharya, 2015; Capar and Kotabe, 2003; Fernández and Nieto, 2006).

***Independent and moderator variables.*** *Governance imperfections* measures the regulatory development of the country of origin. To calculate this variable, we use the World Bank's Governance Matters database. Different editions of this database have been widely used in the literature to empirically analyze the impact of countries' regulatory or formal institutions (Cuervo-Cazurra and Genc, 2008; Dikova and Van Witteloostuijn, 2007; Garrido et al., 2015). Specifically, this database measures six dimensions of institutional development: voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; rule of law; and control of corruption. These indicators capture how governments are chosen, controlled and replaced; their capacity to formulate and implement policies; and the level of respect of the citizens and the state for the institutions that govern economic and social interactions. We perform a factorial analysis of these indicators and identify a single factor that defines the degree of regulatory development of the country of origin. To construct this in negative terms and define a continuous variable that captures the degree of 'imperfection' of each country of origin, we reverse the scores so that higher values indicate higher levels of governance imperfections (Slangen and Beugelsdijk, 2010).

We also include the variable *Innovation* to gauge the moderating effect of this strategy. This variable captures information linked to the introduction of products or services into the market that are new or that offer a significant upgrade on existing ones in the three previous years (Gashi et al., 2014). This is a dummy variable that takes value 1 when the firm has innovated and value 0 otherwise, in accordance with the previous literature (Bertrand and Mol, 2013; Nieto and Rodríguez, 2011; among others).

***Control variables.*** We include controls for firm characteristics, ownership structure and industrial activity in all the models. Specifically, we control for firm age to capture the level of experience or learning, as this is a factor that can have an impact on international operations (Elango and Pattnaik, 2007). We measure *Firm age* via the logarithm of the number of years the firm has been in existence (Oxelheim and Randoy, 2003). We also control for firm size to gauge its effect on internationalization (Estrin et al., 2016; Sun et al., 2015). Firm size has been used frequently as a control variable because it is useful to measure the impact of scale economies and diseconomies (Hitt et al., 1997). *Firm size* is a continuous variable that is defined by the logarithm of the number of employees (Nieto and Rodríguez, 2011). In addition, we include a variable that measures the effect of ownership by a larger firm. Scholars have identified that membership of a business group may help firms to internationalize (Rodríguez and Nieto, 2012). Moreover, business groups are especially important in emerging economies, because they may exist as substitutes for well-functioning markets (Yi et al., 2013). Consequently, we measure *Part larger firm* via a dummy variable that takes value 1 when the firm is owned by a larger organization, and value 0 otherwise (Garg and Delios, 2007; Rodríguez and Nieto, 2016). We also include a dummy variable that captures if the firm has an internationally recognized quality certification, a measure used by other scholars to study exports (Boehe, 2013). *Certification* is a dichotomous variable that takes value 1 when the firm has this certification, and value 0 otherwise (Wu and Voss, 2015).

Additional controls take into account the ownership structure of the firm, as different structures will have specific characteristics that may affect international behavior (Fernández and Nieto, 2006; Majumdar et al., 2012). Specifically, we identify whether the firm is a public or private shareholding company *(Shareholding)*; a sole proprietorship *(Sole);* a partnership *(Partnership)*; or some other

**Table 1**
Variables included in the analyses.

| Variables | Definition | Source |
|---|---|---|
| ***Dependent variable:*** *Export intensity* | Percentage of international sales to total sales | BEEPS Survey (IV & V) |
| ***Independent variables:*** *Governance imperfections* | Level of home country's institutional development in negative terms | World Bank's Governance Matters Dataset. |
| *Innovation* | The firm has introduced product or services innovations into the market that are new or that offer a significant upgrade in the previous 3 years; (0,1) dummy used | BEEPS Survey (IV & V) |
| ***Control variables:*** *Firm age* | Logarithm of the number of years operating in the market | BEEPS Survey (IV & V) |
| *Firm size* | Logarithm of the number of employees | BEEPS Survey (IV & V) |
| *Part larger firm* | The firm belongs to a larger organization; (0,1) dummy used | BEEPS Survey (IV & V) |
| *Certification* | The firm has an international certification; (0,1) dummy used | BEEPS Survey (IV & V) |
| *Ownership structure* | The firm follows any of these ownership types:<br>Public or private shareholding<br>Sole proprietorship<br>Partnership<br>Other structures (0,1) dummies used | BEEPS Survey (IV & V) |
| *Industry* | The firm belongs to any of these industries:<br>Manufacture<br>Transport<br>Retail<br>Other services (0,1) dummies used | BEEPS Survey (IV & V) |
| *Population home country* | Logarithm of the home country population | World Bank data |

structure *(Other)*. As before, to avoid problems of multicollinearity, *Shareholding* is excluded from the models and is used only as the baseline category.

Beyond controls at firm level, we include sectorial dummies to capture the effects of industry characteristics, given the differences in innovation (Malerba, 2005) and internationalization strategies (Buckley et al., 1992; Rodríguez and Nieto, 2012). We differentiate sectors via dummy variables such as *Manufacture, Transport, Retail* and *Other services*. *Other services* is excluded from the models and is used only as the baseline category. Lastly, we include control variables at country-of-origin level. Specifically, we use a continuous variable that measures the size of the home country in terms of population (*Population home country*). This variable is calculated via the logarithm of the population (Stoian, 2013) with the information obtained from the World Bank data for each year considered in the analysis.

*Methodology*

To test our hypotheses, we estimate multilevel mixed effects Tobit regression models. We need to take into account the hierarchical structure of our data because the firms (level 1) are nested in countries (level 2) (Li, 2020; Spencer and Gomez, 2011) and a possibility exists that heterogeneity in the higher units could affect the lower-level units (Raudenbush and Bryk, 2002). Moreover, given the nature of our dependent variable (*Export intensity*), which is bounded in the 0–1 interval with a large pile-up at 0 (which captures the non-exporter firms), a Tobit model should be specified (Amore and Murtinu, 2019; Wulff and Villadsen, 2020). These models are commonly used in studies that use export intensity to measure the degree of internationalization (Agnihotri and Bhattacharya, 2015; Estrin et al., 2016; Fernández and Nieto, 2006; Rodríguez and Nieto, 2012). A Tobit specification is used when the dependent variable shows many zeros, and these zeros are *true zeros* that represent the decision of the firm (in our study) to not export (Amore and Murtinu, 2019; Wulff and Villadsen, 2020). Tobit models are a hybrid between Probit and multiple regression models that make it possible to calculate consistent estimations—something that would be impossible when working solely with ordinary least square (OLS) models. Considering both aspects (the multilevel approach and the nature of our dependent variable), we have performed multilevel mixed effects Tobit regression models that allow us to combine fixed and random effects (Aarstad et al., 2019). In statistical terms, the observed outcome is defined as:

$y_{ij}$ if $0 < y_{ij} < 1$

$Y^*_{ij} = 0$ if $y_{ij} \leq 0$

1 if $y_{ij} \geq 1$

Moreover, the model can be expressed as follows:

(1) Level 1 model $Y_{ij} = \beta_{0j} + \Sigma\beta_n x_{nij} + e_{ij}$
(2) Level 2 model $\beta_{0j} = \beta_0 + U_{0j}$

In the equation (1) $Y_{ij}$ is the dependent variable (*Export intensity*) for each firm i (level 1) from a country j (level 2). $\beta_{0j}$ is the intercept, which represents random differences between countries. $X_{nij}$ corresponds to the independent variables. Lastly, $e_{ij}$ represents residuals at level 1. In equation (2) the effects of level 2 take into account that a variation exists between firms within the nested countries ($U_{oj}$) where $\beta_{0j}$ continues a normal distribution with variance $\tau_0$. In this way, we are able to define the complete model (3) as follows:

(3) $Y_{ij} = \beta_0 + \Sigma\beta_n x_{nij} + U_{oj} + e_{ij}$

**Table 2**
Descriptive statistics.

| Variable | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|
| Export intensity | 0,15 | 0,30 | 0 | 1 |
| Governance imperfections | −0,24 | 0,95 | −2,20 | 1,03 |
| Product Innovation | 0,47 | 0,50 | 0 | 1 |
| Age (ln) | 2,88 | 0,59 | 1,10 | 5,24 |
| Size (ln) | 3,24 | 1,30 | 0,69 | 9,16 |
| Part larger firm | 0,08 | 0,27 | 0 | 1 |
| Certification | 0,29 | 0,46 | 0 | 1 |
| Shareholding | 0,87 | 0.33 | 0 | 1 |
| Sole proprietorship | 0,08 | 0,27 | 0 | 1 |
| Partnership | 0,03 | 0,16 | 0 | 1 |
| Other | 0,02 | 0,15 | 0 | 1 |
| Manufacturing | 0,41 | 0,49 | 0 | 1 |
| Retail | 0,44 | 0,50 | 0 | 1 |
| Transport | 0,06 | 0,23 | 0 | 1 |
| Other services | 0,09 | 0,29 | 0 | 1 |
| Population home country (ln) | 15,21 | 0,93 | 13,33 | 17,46 |

Number of observations. 2520.

where $\beta_n$ are the fixed effects regression coefficients, $U_{oj}$ and $e_{ij}$ are the random effects showing the variance estimated at country level and the level of the overall error term, respectively.

In addition, we address potential endogeneity problems by: i) taking advantage of a panel structure of data and controlling for time-invariant unobserved firm heterogeneity (Cassiman and Golovko, 2011); ii) using an independent variable that supplies information on the innovation of the firm in the three previous years and a dependent variable (*Export intensity*) that refers to information from the last fiscal year (Gashi et al., 2014).

## Analysis and results

### *A preliminary descriptive analysis*

Table 2 displays the descriptive statistics included in the models and Table 3 contains the correlations and collinearity diagnostics of the variables used in the study. We performed an analysis of the variance inflation factor (VIF) to identify potential problems of multicollinearity. Individual VIF values greater than 10.0, combined with average VIF values greater than 6.0, indicate a problem of multicollinearity (Neter et al., 1989). The highest VIF individual value and the mean value in the models are lower than the threshold points, suggesting the absence of multicollinearity.

Table 4 displays the descriptive statistics for the sample, organized by size and sectorial categories. Interesting differences related to innovation and export intensity exist for the varying sizes of firms. Firms with fewer than five employees innovate less than do any other group. In contrast, firms with more than 100 employees display the highest innovation percentages. For their part, the rest of the firms display similar percentages for innovation. The propensity to export grows in step with the increasing size of firms. Thus, only 18 percent of firms with fewer than five employees export, while 62 percent of firms with more than 100 employees do so. Regarding sector, manufacturing firms have a higher percentage of export activity than do firms from service sectors, especially compared with those from retail and other service sectors.

Fig. 2 contains a country level cluster analysis. The analysis identifies the clusters of countries for the key variables in our analyses (i.e., quality of institutions and percentage of firms exporting and innovating in each country in the sample). Additionally, we have divided the figure into two parts. The right-hand section includes countries whose percentage of innovating firms is above the average of the sample, while the left-hand section includes countries whose percentage of innovating firms is below the average of the sample. Representing the firms in two dimensions—governance imperfections and percentage of exporters—makes it possible to appreciate at country-level the negative relation between governance imperfections and the percentage of exporting firms. This relation is clearly indicated by both parts of Fig. 2. The two-part representation shows that the countries on the right (with an above-average percentage of innovating firms) have a higher mean percentage of exporters than those on the left (with a below-average percentage of innovating firms). These preliminary analyses at country-level are coherent with the relations posited in Hypothesis 1 and Hypothesis 2 (i.e., a negative relation between institutional quality and exports, one that is corrected in countries with a high percentage of innovating firms).

The table in Appendix A presents the distribution of the firms, classified by country of origin and level of economic development.

### *Empirical results*

Table 5 shows the multilevel mixed effects Tobit regression analyses on export intensity for the three models used in this study. The LR tests displayed at the bottom of the table compare the multilevel models with the single-level models; these tests clearly show the superiority of the multilevel models. The Wald $\chi^2$ for the different models reveal a better fit for the model including the independent variables and the interaction between them. Model 1 focuses exclusively on the control variables; model 2 incorporates the direct effects of the independent variables; and model 3 includes the interaction between *Governance imperfections* and *Innovation*. We use the results from model 3 to test the hypotheses.

As the coefficient for *Governance imperfections* is negative and statistically significant, we find support for Hypothesis 1. This result indicates that weak regulatory controls in the country of origin are negatively related with export intensity. We also find support for Hypothesis 2, as the coefficient for the interaction between *Innovation* and *Governance imperfections* is positive and significant. This result indicates that *Innovation* has a positive and significant moderating role on the negative relation between *Governance imperfections* and *Export intensity*. Thus, an innovation-based strategy weakens the relation between poor institutional conditions and the export behavior of firms.

Given that Tobit models are nonlinear, it is necessary to calculate marginal effects and predictions in order to better understand the moderating effects of innovation on the relation between governance imperfections and export intensity (Amore and Murtinu, 2019; Wulff and Vidladsen 2020). We have calculated these marginal effects and represented them graphically. Fig. 1 displays the predictions of the relation between governance imperfections and export intensity (comparing innovating and non-innovating firms); as can be seen, inferior institutional conditions (i.e., greater governance imperfections) in the country of origin are related to lower levels of export intensity. Beyond this, Fig. 3 shows that this negative relation between governance imperfections and export intensity weakens when firms innovate.

Concerning the control variables, the coefficient for *Age* is negative and significant, suggesting that older firms export less than younger ones. Moreover, the coefficient for *Firm size* is positive and significant in explaining export intensity. This result suggests that larger firms export more than smaller ones. This finding is due to the fact that smaller firms have fewer resources and capabilities to perform international operations. The coefficient for *Part larger firm* is positive and significant, which suggests that firms belonging to a group are more likely to export. Similarly, the coefficient for *Certification* is positive and significant, implying that quality certifications ease sales to international markets. The coefficient for *Sole proprietorship* is negative and significant, which suggests that these firms are

**Table 3**
Correlation matrix and collinearity diagnostics.

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | *VIF* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Governance imperfections | 1 | | | | | | | | | | | | | | | 1.10 |
| 2 | Product innovation | −0.04 | 1 | | | | | | | | | | | | | | 1.04 |
| 3 | Age | −0.11*** | −0.06** | 1 | | | | | | | | | | | | | 1.12 |
| 4 | Size | −0.07*** | 0.13*** | 0.26*** | 1 | | | | | | | | | | | | 1.30 |
| 5 | Part larger firm | −0.05* | 0.06** | 0.03 | 0.18*** | 1 | | | | | | | | | | | 1.05 |
| 6 | Certification | −0.08*** | 0.1*** | 0.12*** | 0.33*** | 0.13*** | 1 | | | | | | | | | | 1.17 |
| 7 | Shareholding | −0.08*** | −0.04 | −0.00 | 0.1*** | 0.03 | 0.08*** | 1 | | | | | | | | | 5.08 |
| 8 | Sole proprietorship | 0.1*** | 0.04 | −0.06** | −0.14*** | −0.04 | −0.08*** | −0.76*** | 1 | | | | | | | | 4.15 |
| 9 | Partnership | −0.01 | 0.01 | 0.01 | 0.03 | 0.01 | −0.003 | −0.43*** | −0.05* | 1 | | | | | | | 2.13 |
| 10 | Other | 0.01 | 0.03 | 0.13*** | 0.02 | −0.01 | −0.02 | −0.40*** | −0.05* | −0.03 | 1 | | | | | | |
| 11 | Manufacturing | −0.08*** | 0.08*** | 0.11*** | 0.20*** | 0.01 | 0.18*** | 0.01 | −0.03 | 0.02 | 0.01 | 1 | | | | | 3.38 |
| 12 | Transport | 0.01 | −0.06** | −0.04 | 0.05* | −0.02 | 0.03 | 0.06** | −0.04* | −0.02 | −0.03 | −0.21*** | 1 | | | | 1.58 |
| 13 | Retail | 0.08*** | −0.04 | −0.05* | −0.18*** | 0.0003 | −0.17*** | −0.02 | 0.03 | −0.03 | 0.02 | −0.74*** | −0.22*** | 1 | | | 3.33 |
| 14 | Other services | 0.002 | −0.02 | −0.07*** | −0.07*** | 0.01 | −0.05* | −0.03 | 0.03 | 0.03 | −0.02 | −0.26*** | −0.08*** | −0.28*** | 1 | | |
| 15 | Population home country | 0.25*** | 0.04 | 0.03 | 0.09*** | 0.01 | 0.05* | −0.07*** | 0.01 | 0.1*** | 0.04* | −0.002 | 0.03 | 0.002 | −0.03 | 1 | 1.10 |
| | | | | | | | | | | | | | | | | Mean VIF | 2.12 |

*p < 0.05: **p < 0.01, ***p < 0.001.

**Table 4**
Innovation and export propensity by firm size and sectorial category.

| Percentage of firms | Full Sample | Export propensity | Product Innovation |
|---|---|---|---|
| *Size* | | | |
| <5 employees | 5.91 | 18.79 | 31.54 |
| 5-19 employees | 44.88 | 23.61 | 44.47 |
| 20-99 employees | 33.02 | 39.90 | 47.36 |
| ≥100 employees | 16.19 | 62.75 | 57.84 |
| *Sector* | | | |
| Manufacture | 40.75 | 54.14 | 51.31 |
| Transport | 5.83 | 51.70 | 35.37 |
| Retail | 44.45 | 18. 93 | 44.82 |
| Other services | 8.97 | 17.26 | 43.81 |

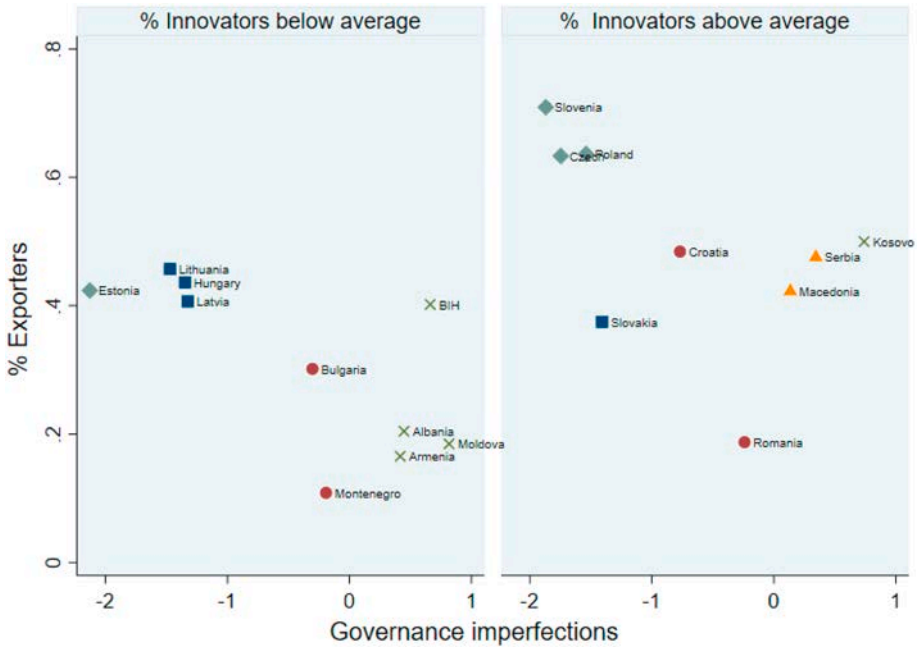


**Fig. 2.** Country-level cluster analysis of exporters and governance imperfections.

less likely to export than public or private shareholding firms.

*Additional analyses and robustness checks*

We have performed additional analyses to test the robustness of our results. First, we conducted an analysis using fractional regression models for panel data—an extension of the generalized linear model (Papke and Wooldrige, 1996, 2008). These models work as a robustness check (Wulff and Villadsen, 2020) and are frequently used by scholars analyzing export intensity as a dependent variable (Laursen et al., 2012). In these models, the dependent variable is defined as a proportion, taking values from 0 to 1, with many limit observations. For export intensity, Wullf and Villadsen (2020) identify Tobit and fractional regression models as being particularly pertinent to the international business field. The former assume a normally distributed error, while the latter do not make such assumptions, thus making estimated coefficients for fractional models consistent even when the conditional distribution deviates from normality (Papke and Wooldridge, 1996, 2008).

Second, we performed Tobit and fractional regression models without applying panel data techniques (including the years of the survey waves as dummy variables). Here again, the results obtained do not differ from those presented in this paper.

Third, we replicated our main analyses with information from the 'Institutional Profiles' database compiled by CEPII.[2] Specifically, we used the indicators for political institutions included in the section on Public Institutions and Civil Society. These indicators cover similar points to those in our variable *Governance imperfections*. Similarly, we replicated the analysis measuring the level of governance

[2] Database available at http://www.cepii.fr/cepii/en/bdd_modele/bdd.asp.

**Table 5**
Results using mixed effects Tobit regression models of export intensity in transition economies.

| | (1) | (2) | (3) |
|---|---|---|---|
| | Export intensity | Export intensity | Export intensity |
| Governance imperfections | | −0.102*** (0.039) | −0.137*** (0.042) |
| Product innovation | | 0.060* (0.032) | 0.081** (0.033) |
| Product innovation X Governance imperfections | | | 0.060** (0.031) |
| Age | −0.083*** (0.028) | −0.077*** (0.028) | −0.075*** (0.028) |
| Size | 0.167*** (0.013) | 0.165*** (0.013) | 0.165*** (0.013) |
| Part larger firm | 0.096* (0.051) | 0.093* (0.051) | 0.089* (0.051) |
| Certification | 0.089*** (0.033) | 0.084** (0.033) | 0.084** (0.033) |
| Sole proprietorship | −0.131* (0.067) | −0.129* (0.067) | −0.133** (0.067) |
| Partnership | −0.010 (0.098) | −0.013 (0.098) | −0.013 (0.098) |
| Other | −0.134 (0.108) | −0.139 (0.109) | −0.135 (0.108) |
| Population home county | −0.002 (0.035) | −0.0002 (0.0318) | −0.004 (0.032) |
| Industry | Included | Included | Included |
| Year | Included | Included | Included |
| Constant | −0.844 (0.541) | −0.965* (0.500) | −0.923* (0.500) |
| *Random effects* | | | |
| var(_cons[country_id]) | 0.0348*** (0.0133) | 0.0218** (0.00897) | 0.0218** (0.00892) |
| var(e.exports) | 0.328*** (0.0186) | 0.329*** (0.0187) | 0.328*** (0.0186) |
| *Number of observations* | 2520 | 2520 | 2520 |
| *Number of countries* | 19 | 19 | 19 |
| Wald $\chi 2$ | 539.4*** | 544.7*** | 547.1*** |
| Log likelihood | −1460.6 | −1456.1 | −1454.1 |
| LR test vs. one level model | 110.02*** | 65.15*** | 65.79*** |
| LR test model 2 vs. model 3 | | | 3.89** |

Standard errors in parentheses.
*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

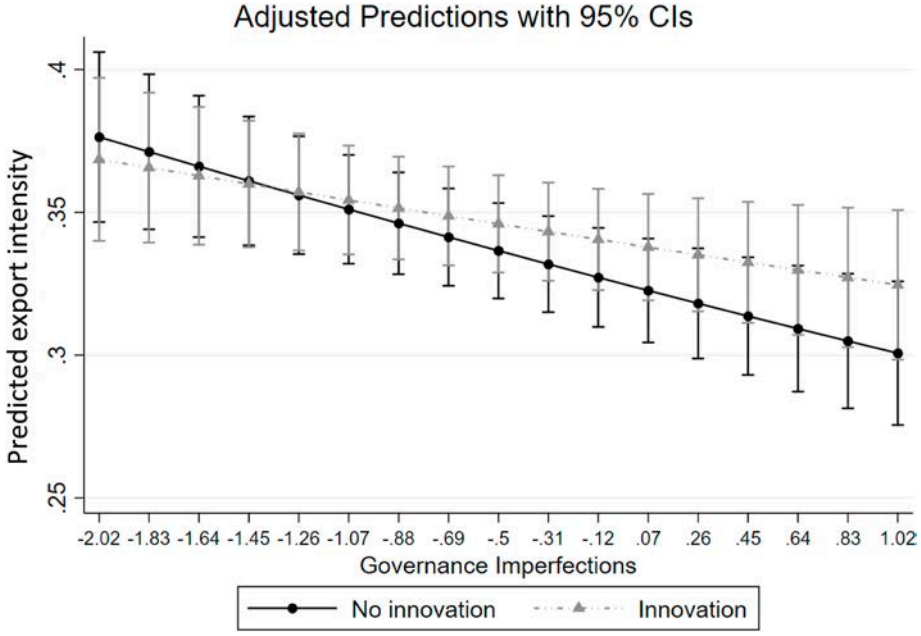


**Fig. 3.** Predicted relation between governance imperfections and export intensity for innovating and non-innovating firms.

imperfections with data from the ranking of the Corruption Perception Index[3] for the years 2008 and 2012. Using the CEPII indicators available for the transition countries in our sample and the ranking from the Corruption Perception Index, we found the same results as those obtained using the indicators from the World Bank's Governance Matters database. Therefore, these results—obtained with information from different databases analyzing institutional quality—provide further support for our arguments.

[3] Data available at https://www.transparency.org/en/cpi#.

Fourth, we conducted multilevel mixed effects Tobit and fractional regression models on two sub-samples of firms (one composed of firms that innovate and the other of those that do not). The results obtained show that the relation between governance imperfections and export intensity is negative and significant in both sub-samples. All the additional analyses performed indicate that our results are consistent and support our conclusions; these analyses are available on request.

Lastly, as part of the literature views exporting as involving a two-step logic—step one, the decision to become an exporter; and step two, the export intensity—we also conducted a robustness check based on it. Specifically, we take into account that firms may self-select into selling abroad and thus cause a possible selection bias (Wulff and Villadsen, 2020). To deal with this issue, we conducted a generalized two-part fractional regression model (the results of this model are displayed in Appendix B). This approach is conceptually similar to that of a Heckman sample selection model, but applied to fractional responses. This generalized two-part fractional regression model, then, is appropriate because it recognizes the fractional nature of our dependent variable (*Export intensity*). These generalized two-part fractional regression models offered similar results to those obtained in the multilevel mixed effects Tobit regressions.

## Discussion and conclusions

An extensive body of literature highlights the importance of home-country institutional factors for internationalization (Cuervo-Cazurra et al., 2019), especially for firms in transition countries (Gelbuda et al., 2008; Lee et al., 2015). The institutional conditions in these countries differ markedly from those in more developed countries, with the latter enjoying markets and a regulatory framework that provide a more favorable environment for international growth. It is for this reason that research on CEE transition countries has expanded enormously in the last decade and become a useful proving ground to test theories and advance our knowledge of international business strategy (Jaklič et al., 2020; Meyer and Peng, 2005).

In line with this, our paper contributes to the literature by combining institutional theory and the resource-based view to explain the relation between home-country institutions and internationalization (Cuervo-Cazurra et al., 2015a; Luo and Wang, 2012). Our study reveals how institution-based and resource-based variables complement each other and can help explain international strategies, adding to work that calls for the integration of the two theoretical frameworks (Meyer et al., 2009). Simply put, we adopt an integrative perspective that specifically examines institutional effects, while at the same time taking into account the resource-based view. These two theoretical frameworks are central for scholars to understand key issues in strategy management and CEE research (Meyer and Peng, 2005, 2016).

We advance in this research stream by addressing two questions. First, we question how governance imperfections influence the export intensity of firms in transition economies. And second, we set out to understand how innovation may modify this relation. Regarding the first question, we argue that firms operating in contexts with low-quality regulatory frameworks (with less developed policies and regulations) and poor levels of government effectiveness and control over corruption will encounter more difficulties to export than will firms from countries with more developed institutional contexts. We find that higher levels of governance imperfections result in lower levels of export intensity for firms in transition economies, confirming that these national institutional weaknesses will burden firms with added difficulties and put them at a competitive disadvantage for international growth.

Concerning the second question, we go on to analyze the positive moderating role of innovation in the previous relation, arguing that firms which develop innovations will see the negative effects of these imperfections on international growth reduced. Although institutions in emerging markets generally hinder business activities (Newburry et al., 2016), numerous successful and innovative firms exist (Apanasovich et al., 2016; Govindarajan and Ramamurti, 2011; Ramadani et al., 2019). Resources and capabilities for innovation, then, are what can make the difference, as firms in transition markets have traditionally operated in contexts with unfavorable institutional factors (Makhija, 2003; Shinkle and Kriauciunas, 2010). For this reason, we argue that innovation capability is a differentiating factor that can moderate the negative relation between environmental conditions and international expansion. Our findings show that the negative impact governance imperfections exert on export intensity is positively moderated when firms achieve innovations. These findings confirm the importance of innovation in contexts in which local institutions are obstacles to internationalization; they also underline the value of combining a resource-based view with an institutional effects perspective to explain the internationalization of firms. In addition, this finding emphasizes the importance of the individual behavior of firms (in terms of strategy and innovation results) when attempting to mitigate the negative effects of home-country institutional factors on business strategy.

This study contributes to the literature in several ways. First, we contribute to the IB literature with arguments and empirical evidence on the internal behavior of firms from CEE transition countries. CEE research has shown the importance of context on business strategy, particularly institutional context (Meyer and Peng, 2005). We deepen the analysis of the relation between governance imperfections and the internationalization of firms from one type of developing country (i.e., transition economies) with specific characteristics (Peng, 2003). An examination of different components allows us to capture in detail the regulatory development of the country of origin. Our work, then, adds to those that argue in favor of giving greater prominence to the role of institutions in the origin country, especially in countries where these institutions are underdeveloped (Stoian and Mohr, 2016; Meyer and Peng, 2016; Sun et al., 2015). In this way, we respond to the call to validate IB theories in different contexts (Cuervo-Cazurra et al., 2015a; Teagarden et al., 2018)—more precisely, in a context such as CEE countries, where institutions are a determining factor (Gelbuda et al., 2008; Jaklič et al., 2020).

Second, our findings highlight how firm-specific characteristics moderate the relation between governance imperfections and export intensity. Specifically, we show how innovation can be a crucial factor to mitigate the institutional deficiencies that internationalizing firms may face. And in analyzing innovation as a moderating variable, we add to those studies that recognize that internationalization processes are affected by multi-level factors—in this case, country and firm levels (Estrin et al., 2016; Wu and Chen, 2014; Yi et al., 2013). Although not the main aim of the study, the additional evidence obtained for the sub-sample of innovating

firms makes it possible to show that the self-selection argument is not applicable to all contexts, as suggested by previous scholars (Gomes et al., 2018). Our main findings and the additional tests performed reveal the need to validate IB theories in different contexts. In sum, our work adds to others that attempt to demonstrate the importance of paying attention to context when developing theories (Meyer and Peng, 2016; Xu and Meyer, 2013).

Empirically, our analyses are performed on a wide sample of firms of different sizes and sectors from a set of transition countries. The great diversity of firms from countries with varying degrees of institutional development allows us to draw conclusions that are generalizable to similar contexts. Moreover, the data obtained from the BEEP waves IV and V allow us to go beyond cross-sectional studies and take advantage of the longitudinal capacity of these surveys (Vendrell-Herrero et al., 2020).

The results and conclusions reached in this paper have implications for policy makers and managers in transition economies seeking to improve the internationalization of their firms. Government policy makers and other regulatory institutions can promote internationalization by creating more favorable institutional conditions. Greater controls to prevent corruption, stronger protection of ownership rights, and higher quality regulations and laws are all actions that will improve the image and credibility of public policies and help boost the international competitiveness of local firms. Similarly, governments should introduce policies that support innovation, a step that would aid firms in overcoming the negative impact of regulatory imperfections. Furthermore, managers in these environments possess tools to counteract their relative disadvantages in international markets. Specifically, innovation has been identified as an important instrument to reduce the consequences of institutional limitations. Although context exerts an impact on the possibility of obtaining and developing certain resources, success in improving the resource endowments of firms largely depends on the willingness of managers to take on the necessary investments and challenges. For instance, technological collaboration, open innovation strategies and the search for local or international partners are increasingly available options in today's markets for firms looking to improve innovation performance.

This study is not free of limitations. Indeed, many of these limitations suggest interesting new directions for future research. If information is available, for example, research should be conducted into resources not considered in this paper that may explain international behavior. A promising line of research could be to consider the moderating effect of other resources and capabilities to mitigate institutional factors in internationalization. The international experience of managers, for instance, is often a key factor behind the initial decision and subsequent success or failure of internationalization. Future research could consider managerial knowledge and experience as potential resources that may lessen the external difficulties presented by institutions in underdeveloped markets. Likewise, future studies could examine other decisions such as collaboration strategies to determine if they have a moderating effect on the negative relation between institutional development and internationalization. The context's deficiencies and difficulties may be mitigated by identifying local or international partners who can complement the resource endowment of the firm. Researchers might also explore how firms perform these innovations (e.g., by themselves or in conjunction with other agents) to reveal possible differences in alleviating governance imperfections. Lastly, as mentioned in our paper, although many CEE countries are current EU members, institutional diversity among them persists. In part, this diversity can be explained by the differing dates when countries obtained EU membership (Friesenbichler, 2018). After EU accession, these countries have undergone a multitude of political and legal changes and improved their formal institutional frameworks. As numerous studies show, EU membership has also contributed to boosting the productivity levels of firms (Holscher and Howard-Jones, 2019). Insofar as EU accession is a factor that also explains institutional advances, future studies could examine in greater detail how EU membership affects the international competitiveness and innovation capacity of firms.

## CRediT authorship contribution statement

**Virginia Hernández:** Conceptualization, Methodology, Formal analysis, Writing (Original Draft and Review & Editing). **María Jesús Nieto:** Conceptualization, Methodology, Formal analysis, Writing (Original Draft and Review & Editing. **Alicia Rodríguez:** Conceptualization, Methodology, Formal analysis, Writing (Original Draft and Review & Editing).

## Declarations of competing interest

None.

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## Appendix C. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.lrp.2021.102087.

## Appendix A. Distribution of firms by country of origin

| | | % of firms |
|---|---|---|
| Lower middle income | Armenia | 11.51% |
| | Kosovo | 0.63% |
| | Moldova | 10.95% |
| Upper middle income | Albania | 6.98% |
| | Bosnia & Herzegovina | 7.70% |
| | Bulgaria | 4.60% |
| | Macedonia | 10.24% |
| | Montenegro | 3.65% |
| | Romania | 5.71% |
| | Serbia | 8.18% |
| High income | Croatia | 2.54% |
| | Czech Rep | 1.19% |
| | Estonia | 4.68% |
| | Hungary | 4.37% |
| | Latvia | 5.95% |
| | Lithuania | 2.78% |
| | Poland | 0.87% |
| | Slovakia | 0.64% |
| | Slovenia | 6.83% |
| Total | | 100% |

## Appendix B. Results using generalized two-part fractional regression models

| | (Model 1) | (Model 2) | (Model 3) |
|---|---|---|---|
| **Export intensity** | | | |
| Governance imperfections | | −0.141*** (0.026) | −0.189*** (0.038) |
| Product innovation | | 0.021 (0.057) | 0.054 (0.060) |
| Governance imperfections x product innovation | | | 0.094* (0.051) |
| Size | 0.260*** (0.022) | 0.251*** (0.022) | 0.253*** (0.022) |
| Part larger firm | 0.119 (0.091) | 0.09 (0.091) | 0.083 (0.091) |
| Certification | 0.105* (0.058) | 0.087 (0.058) | 0.086 (0.058) |
| Sole proprietorship | −0.409*** (0.129) | −0.318** (0.130) | −0.328** (0.130) |
| Partnership | 0.051 (0.173) | 0.067 (0.184) | 0.065 (0.072) |
| Other | −0.167 (0.190) | −0.163 (0.184) | −0.153 (0.182) |
| Population home country | −0.127*** (0.033) | −0.095*** (0.034) | −0.098*** (0.034) |
| Industry | Included | Included | Included |
| Year | Included | Included | Included |
| Constant | −0.443 (0.503) | −0.975* (0.526) | −0.942* (0.515) |
| **Export propensity** | | | |
| Governance imperfections | | −0.245*** (0.030) | −0.259*** (0.042) |
| Product innovation | | 0.408*** (0.061) | 0.420*** (0.062) |
| Governance imperfections x product innovation | | | 0.018 (0.059) |
| Age | 0.134*** (0.041) | 0.142*** (0.041) | 0.140*** (0.041) |
| Size | 0.270*** (0.024) | 0.260*** (0.025) | 0.261*** (0.024) |
| Part larger firm | 0.148 (0.105) | 0.120 (0.108) | 0.120 (0.108) |
| Certification | 0.369*** (0.064) | 0.338*** (0.065) | 0.340*** (0.064) |
| Sole proprietorship | −0.240** (0.116) | −0.160 (0.117) | −0.160 (0.117) |
| Partnership | −0.279* (0.162) | −0.306* (0.165) | −0.309*** (0.074) |
| Other | −0.461** (0.183) | −0.495*** (0.191) | −0.492*** (0.190) |
| Population home country | −0.129*** (0.030) | −0.064** (0.031) | −0.064** (0.031) |
| Industry | Included | Included | Included |
| Year | Included | Included | Included |
| Constant | −0.329 (0.487) | −1.658*** (0.503) | −1.651*** (0.496) |
| atanhrho_12_cons | 5.395 (3.374) | 6.087 (8.565) | 11.03*** (3.737) |
| *Number of observations* | 2520 | 2520 | 2520 |
| Wald $\chi 2$ | 707.0*** | 761.1*** | 1429.2*** |
| Log likelihood | −1878.8 | −1814.9 | −1813.8 |

Standard errors in parentheses; *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

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