Why is export-oriented entrepreneurship more prevalent in some countries than others?

Contextual antecedents and economic consequences

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Abstract

Drawing on institutional economics, this article investigates how different contexts condition the prevalence of export-oriented entrepreneurship, which affects economic growth. We place emphasis on the differences between developed and developing countries through interaction effects that allow us to test for differential validity. Using simultaneous equation panel data models for a sample of 43 countries (2004–2012), we find that access to credit and access to communications are the most significant factors in explaining the export-oriented entrepreneurship required for economic growth. Policy implications for both developed and developing countries are suggested to enhance economic performance under specific context characteristics through export-oriented entrepreneurship.

Keywords: Export-oriented entrepreneurship; economic growth; institutional context; institutional economics; international entrepreneurship; developing and developed countries.

1. Introduction

The intersection between international business and entrepreneurship (i.e. international entrepreneurship, or IE) has raised important questions amongst scholars as a phenomenon demanding further comprehension at both the organisational (McDougall & Oviatt, 2000; Ojala, Evers, & Rialp, 2018; Teece, 2014) and country level (Chowdhury & Audretsch, 2020; Hessels & van Stel, 2011; Terjesen, Hessels, & Li, 2016). Even though there is not a unique definition of international entrepreneurship, Zahra, Newey, and Li (2014) have gone beyond the organisational perspective by building a new concept that takes into account the effects of IE on economic wellbeing. Consistent with some of the traditional definitions of (international) entrepreneurship (see Oviatt & McDougall, 2005; Shane & Venkataram, 2000; Zahra & George, 2002), Zahra et al. (2014, p. 138) suggest that IE may be defined as "the recognition, formation, evaluation, and exploitation of opportunities across national borders to create new businesses, models, and solutions for value creation, including financial, social, and environmental". On this basis, some authors have been motivated to explore those possible effects of local and international entrepreneurship on outcomes such as unemployment, exports and economic growth (Contractor & Kundu, 2004; Cumming, Johan, & Zhang, 2014; Erken, Donselaar, & Thurik, 2018; Galiando & Méndez-Picazo, 2013; Hessels & van Stel, 2011; Urbano & Aparicio, 2016).

Yet it turns out that the association between entrepreneurship and economic outcomes does not occur in isolation. Instead, the existence of a certain institutional context related to regulations, procedures, culture, networks, corruption and so on in developed and developing countries conditions such a relationship (Baumol & Strom, 2017; Bjørnskov & Foss, 2016; Urbano, Aparicio, & Audretsch, 2019a, 2019b; Zahra, 2020). However, while only a few studies are focused on international entrepreneurship and economic growth (Contractor & Kundu, 2004; González-Pernía & Peña-Legazkue, 2015; Hessels & van Stel, 2011), there is also a lack of evidence on other factors that characterise the institutional context of countries (Ault & Spicer, 2019; Fainshmidt, Judge,

Aguilera, & Smith, 2018), and hence the export intensity of entrepreneurs that spurs performance and economic growth (Audretsch, Heger, & Veith, 2015; Cumming, Fischer, & Peridis, 2015; Cumming, Johan, & Zhang, 2018; De Clercq, Hessels, & van Stel, 2008; Urbano et al., 2019a). Based on the contextual elements suggested by Gnyawali and Fogel (1994), it is possible to ask what the role of a context characterised by a specific human development level, the capacity of recognising new opportunities, financial support, and communication infrastructures is in explaining a higher prevalence of export-oriented entrepreneurship distinguishing by developing and developed countries. In the spirit of North (1990, 2005) and North and Thomas (1973), we also ask what the catalyst role of this type of entrepreneurial activity is in different outcomes such as economic growth and development.

Therefore, drawing on institutional economics, this article investigates how different contexts condition the prevalence of export-oriented entrepreneurship, which affects economic growth. Based on a sample of 43 countries in the period 2004–2012, and considering developed and developing countries, we analyse the interactions between these two groups of countries and the institutional context (characterised by human development level, capacity of recognising opportunities, access to credit, and access to communications), as well as the different levels of export-oriented entrepreneurship. Using simultaneous equations and lagged variables, we find that factors such as private coverage to obtain credit and access to communications are the most significant in explaining the export-oriented entrepreneurship required for economic growth.

Through our findings, we contribute to discussions on entrepreneurship, international business, economics and strategy, amongst other related areas. First, we build on the ideas of Gnyawali and Fogel (1994) and North and Thomas (1973) about institutional factors for international entrepreneurship and economic development. Here, we suggest export-oriented entrepreneurship as an additional mechanism that transfers the influence of contexts to economic outcomes (Bjørnskov & Foss, 2016; Urbano et al., 2019a; Zahra et al., 2014). In this regard, this type of entrepreneurial activity is not only a conduit of knowledge (Acs, Audretsch, & Lehmann,

3

2013; Fraccastoro, Gabrielsson, & Chetty, 2020; Rialp, Merigó, Cancino, & Urbano, 2019; Schwens et al., 2018), but also embraces other external factors needed for growth. Second, policymakers might be interested in the significant differences between developed and developing countries (Fainshmidt et al., 2018). As these differences are notorious for access to credit and communication infrastructure, our findings provide new insights into designing and implementing policies that look for private and public investors to be part of the environment for entrepreneurs, who can also provide other non-financial services such as business advice (Coad, Frankish, Roberts, & Storey, 2016; Cumming et al., 2018; Murtinu & Scalera, 2016).

The remainder of this article is organised as follows. In section 2, we present the theoretical framework drawing from institutional economics. In section 3, we outline the econometric modelling approach and describe the data used. Section 4 reports the results, and section 5 discusses the implications and main conclusions of the study.

2. The context for export-oriented entrepreneurship and economic performance

Motivated by an inquiry into the differences in contexts across groups of developed and developing countries that create divergent outcomes, we draw on North (1990, 2005) and North and Thomas (1973) to understand those possible antecedents of productive activities that lead to different economic growth processes. North (1990, pp. 3–4) defines institutions as "a guide to human interactions [that allows] knowing (or learning) how to perform the tasks […] Institutions include any form of constraint that human beings devise to shape human interactions." According to North (1990, 2005), institutions vary across countries given their differences in institutional contexts, and thus institutions define whether societies are limited (e.g. developing countries) or open (e.g. developed countries). The former are less prosperous than the latter. An open society is an egalitarian and productive society, in which personal exchange is guaranteed (North, 1990). Hence, the interactions between institutions could generate some efficient regulations, depending on the cultural values and intentionality of a society. These social intentions and values reduce the

uncertainty that places constraints on the institutions (e.g. laws, norms, etc.) that reduce transaction costs and vice versa (North, 2005). It is important to emphasise that regulations and laws can change easily, depending on the current government, whereas culture tends to be modified only in the long term (Williamson, 2000). According to North and Thomas (1973), the dynamic formation of contexts constitutes the fundamental determinants that condition the link between proximate determinants (i.e. productive activities) and economic growth. From this theoretical viewpoint, it is possible to understand the role of context in enabling different productive mechanisms that contribute to growth and development (Acemoglu, Gallego, & Robinson, 2014), facilitating objective debates and design of policies.

Thus, specific efforts by governments or individuals can potentially contribute to an environment that defines the intentions toward progress of that society (North, 2005). According to Bruton, Ahlstrom, and Li (2010), analysis of the institutional context is especially helpful in understanding entrepreneurial behaviour. In that sense, the intentionality of individuals in respect of entrepreneurial decisions could depend on the environment in which they make decisions, and thus could define the level of development (Bruton et al., 2010, p. 426). Hence, analysis of contexts has gained relevance for scholars in the entrepreneurship literature (see, inter alia, Acs, Estrin, Mickiewicz, & Szerb, 2018; Aidis, Estrin, & Mickiewicz, 2008; Salimath & Cullen, 2010; Thornton, Ribeiro-Soriano, & Urbano, 2011; Welter, 2005, 2011). The literature on institutions and international business and entrepreneurship is also abundant and still growing (Dau, 2017; Eden, 2010; Schwens & Kabst, 2011; Teagarden, Von Glinow, & Mellahi, 2018; Vanacker, Zahra, & Holmes Jr., 2020). Scholars interested in analysing this subject have provided salient evidence of intersections between these variables, though in some cases the analysis remains limited to the organisational level. In fact, Coeurderoy and Murray (2008), McGaughey, Kumaraswamy, and Liesch (2016), and Yamakawa et al. (2008), inter alia, emphasise that the formation of new international ventures across regions and their subsequent development are attributable to those regional specific characteristics and differences in contexts.

It has been argued that certain variables related to context influence those new ventures and small firms oriented towards local markets and international activities (amongst others, Gaur, Kumar, & Singh, 2014; Marano et al., 2016; Muralidharan & Pathak, 2017; Ojala, 2015; Oparaocha, 2015; Rialp et al., 2019). Indeed, Bjørnskov and Foss (2016), Urbano et al. (2019a) and Zhai, Su, Ye, and Xu (2019) have reviewed the existing literature on institutional contexts and (international) entrepreneurship. From these analyses, it is possible to identify an abundant number of works analysing regulations such as taxation, procedures and other legal variables (e.g. Acs et al., 2018; Belitski, Chowdhury, & Desai, 2016; Cumming et al., 2014), as well as social norms and culture (e.g. Cumming et al., 2014; Liñán, Paul, & Fayolle, 2019; Stenholm, Acs, & Wuebker, 2013). According to Sartor and Beamish (2014), this mass of evidence leaves room to explore how other environmental factors affect international business at all stages and sizes. Acs et al. (2018), Urbano et al. (2019a) and Zhai et al. (2019) suggest that other factors representing national contexts, such as the economic wellbeing of the whole population, cognitive dimensions (e.g. opportunity recognition, entrepreneurial potential, and so on), financial system (e.g. commercial banks, private equity, etc.), and communication and general infrastructure are needed to extend our knowledge about local and international entrepreneurial activity and economic growth.

Gnyawali and Fogel (1994, p. 46) suggest a related approach to understanding the environment for entrepreneurship development, based upon social and economic factors, entrepreneurial and business skills, financial assistance, and non-financial assistance, among others. Although these authors do not explicitly address the role of institutions, they do suggest that these environmental factors belong to the context in which business opportunities are identified and transformed into new ventures. According to Gnyawali and Fogel (1994), the analysis of the environment for entrepreneurship development has been used to explore several determinants of entrepreneurial activity across countries, and especially to understand new business creation in different development contexts. In this line, Bruton, Ahlstrom, and Puky (2009) analyse the institutional differences between Latin American and Asian countries, and suggest that supportive

institutions for entrepreneurship explain the progress in innovation, entrepreneurial activity and industry development in some Asian countries. Also using this approach, Manolova, Eunni, and Gyoshev (2008) explore the environmental factors most conducive to entrepreneurship development in the context of developing countries, specifically in Eastern Europe. Similarly, Chowdhury and Audretsch (2020) and Chowdhury, Audretsch, and Belitski (2015) provide evidence suggesting that certain contextual factors, mostly associated with costs and corruption, have an impact on international entrepreneurship. In particular, they find that depending upon the level of corruption in developed and developing countries, the effect of procedures on export-oriented entrepreneurship may differ considerably, encouraging or discouraging this particular kind of entrepreneurial activity. Heidenreich, Mohr, and Puck (2015) also emphasise the importance of complementary policy strategies as mechanisms affecting international entrepreneurship. By analysing one developing country (Ghana), they argue that the uncertainty faced by internationally oriented entrepreneurs is influenced by policy interventions that impact the decision-making of investment and market participation. Hence, there are plenty of studies exploring the influence of context on entrepreneurial activity, acting locally and internationally.

Drawing on Gnyawali and Fogel's (1994) work, Spencer and Gómez (2004) empirically show that the economic context (aggregated income, unemployment, etc.) defines how markets work across countries to influence the level of entrepreneurial activity. Following studies such as Manolova et al. (2008), which explore differences across countries, it is suggested that political, social and economic conditions determine export-oriented entrepreneurship. Baumol (1992) highlights the importance of free markets for innovation and entrepreneurship. According to the author, the level of economic development may reflect a kind of context that hampers or fosters the innovation capacity. Similarly, Carree et al. (2007) find that the level of economic development partly explains the number of entrepreneurs in each country. They also find that there is a U-shaped curve relating entrepreneurship to economic development. Acs et al. (2008) and Wennekers, van

Stel, Thurik, and Reynolds (2005) have also find evidence of the U-shaped curve, which explains how the development level influences entrepreneurial activity.

One important conclusion from these articles is that a low development level is associated with a higher number of entrepreneurs driven by necessity. The development stage characterising transition economies also affects opportunity-driven entrepreneurs, who face trade-offs between innovation and internationalisation (Bahl, Lahiri, & Mukherjee, 2020). Reynolds et al. (2005) explain that total entrepreneurial activity (TEA), a variable used in most of the previous studies, implicitly contains export-oriented entrepreneurship. In this context, export-oriented entrepreneurship is associated with high added value entrepreneurial activity, the most prevalent found in those knowledge economies where technology, institutions, socio-political conditions and education are in abundance for export-oriented entrepreneurs, encouraging them to develop and exploit opportunities (Kim & Li, 2014; Reynolds et al., 2005). Arin et al. (2015) also show that human and development mechanisms such as unemployment and other macroeconomic variables are fundamental when defining the national rate of entrepreneurship. In this regard, restrictive contexts may act through high inflation and unemployment, as well as a poor and limited health system, deterring the level of entrepreneurial activity (Gai & Minniti, 2015a). Thus, we hypothesise that:

> **Hypothesis 1a.** A higher human development level has a positive effect on export-oriented entrepreneurship.

In developing countries, which are burdened by institutional weaknesses, individuals make the decision to become an entrepreneur out of necessity for their family to survive or to have a minimal income (Kim & Li, 2014; Reynolds et al., 2005; Smith, Judge, Pezeshkan, & Nair, 2016). According to Acs et al. (2008), the higher level of early stage entrepreneurship in developing economies is related to the local institutional and contextual conditions for entrepreneurs and the levels of economic development, which provide higher safety and trust for those entrepreneurs who

are pursuing foreign markets. Similarly, Chowdhury et al. (2015), by controlling for GDP per capita, discuss the importance of strong contexts with a mandate to control corruption and encourage exports. Chowdhury et al.'s (2015) and Fainshmidt et al.'s (2018) evidence suggest that the developing country context is highly sensitive to political, social and economic stability, reflecting a better quality of life, higher levels of entrepreneurial activity and a willingness to incur risks. In providing similar evidence from Latin American countries, Amorós, Fernández, and Tapia (2012) suggest that the development stage of these emerging economies is crucial to improving the competitiveness of new ventures in order to compete globally. Furthermore, Gittins, Lang, and Sass (2015), González-Pernía and Peña-Legazkue (2015) and Kim and Li (2014) suggest that favourable economic conditions provide greater incentives to incorporate those export-oriented entrepreneurs in the different markets, reflected in the benefits of greater access to formal financing and labour contracts, as well as in the tax system and standard of living. Similarly, Hessels and Parker (2013) assess the importance of a positive economic environment in increasing the level of international entrepreneurship. In particular, they find for a large sample of firms located within developed and developing countries in Europe that the stability of the local economy encourages entrepreneurs to engage in international activities. In this regard, we believe that international entrepreneurs in developing economies are more sensitive to changes in the economic context than those in developed countries. Therefore, we propose the following hypothesis:

> **Hypothesis 1b.** The relationship between the human development level and export-oriented entrepreneurship is less pronounced in developed countries than in developing countries.

Regarding entrepreneurial and business skills, Krueger and Brazeal (1994, p. 92) define entrepreneurial potential as the capacity of a country (or community) to provide particular skills for undertaking new ventures without having lots of entrepreneurs. That is, people might (not) have the intention to move entrepreneurial projects forward, but they have the capacity to identify opportunities in the market and lead different productive projects. In this regard, Krueger and

Brazeal (1994) suggest that the context of countries may be characterised by this entrepreneurial potential. Gnyawali and Fogel (1994) suggest that education, experience and the ability to recognise opportunities to create new business are important in overcoming problems in the entrepreneurship process. Additionally, Gnyawali and Fogel (1994) emphasise the importance of the environmental factors in emerging market economies where there is a lack of basic business skills. Spencer and Gómez (2004) underline the importance of this variable as a proxy of context due to the cognition process lived in a specific country, which may lead entrepreneurs to the better identification of opportunities.

According to Jones and Casulli (2014), international entrepreneurship provides better opportunities because of the acquisition of experience and reasoning in decision-making under conditions of high uncertainty in both the local and the foreign country. It has generally been recognised that individuals who have attained a level of knowledge and training tend to identify opportunities easily, which is required to enhance international entrepreneurship (Evers & O'Gorman, 2011; Zahra, Korri, & Yu, 2005). To some extent, culture determines how entrepreneurs perceive opportunities not only in local markets, but also in foreign ones (Dimitratos, Johnson, Plakoyiannaki, & Young, 2016). For example, Ojala et al. (2018) and Tolstoy, Nordman, Hånell, and Özbek (2020) show that new cultural trends related to shopping through online platforms and e-commerce constitute an opportunity that entrepreneurs perceive to expand the new ventures internationally. Based on the work of Dimitratos et al. (2016), it might seem that new international ventures from developed countries are better equipped at identifying international opportunities than are their counterparts located in less developed countries. International entrepreneurs are able to adapt themselves not only to local markets, but also to international ones. In this sense, Schwens and Kabst (2011) suggest that young firms succeed when they know and recognise the context of foreigner markets. Hence, we suggest the following hypothesis:

Hypothesis 2a. Opportunity recognition has a positive influence on export-oriented entrepreneurship.

According to Aidis et al. (2008) and Fraccastoro et al. (2020), opportunity recognition may be stimulated in contexts where social networks are present. These authors provide evidence of entrepreneurs from Russia, Finland, New Zealand and Sweden, respectively, for whom networks were an effective source of opportunity recognition that had a positive impact on entrepreneurship and international new ventures. Perri, Scalera, and Mudambi (2017) find that networks related to innovation enable foreign knowledge inflows. Ciravegna, Lopez, and Kundu (2014) obtained similar results for international entrepreneurs who enhanced their opportunity recognition through client-supplier relationships, personal contacts, chance and network-building strategies in the contexts of Costa Rica (emerging economy) and Italy (developed country). Similarly, Kontinen and Ojala (2011) find that trustfulness and ties are networking sources that encourage opportunity recognition, which is positively related to export-oriented entrepreneurship. Hence, it has been argued that opportunity recognition is a tool for detecting the meaningful patterns required for valuable entrepreneurial activity (Alvarez, Barney, & Anderson, 2013; Chandra, Styles, & Wilkinson, 2015). Furthermore, according to the literature review by Rezvani, Shariatmadari, and Ghahramani (2014), opportunity recognition is a common element in small-business performance and international entrepreneurship. Nonetheless, there are studies arguing that less developed countries tend to face higher barriers in identifying opportunities to increase export performance (Cadot, Iacovone, Pierola, & Rauch, 2013). Bahar, Hausmann, and Hidalgo (2014) and Hausmann, Hwang, and Rodrik (2007) show that developing countries generally have lower levels of export diversification, since their trade policies are not conducive to the type of opportunity recognition needed to expand the export basket. These results are consistent with Norris and Brazeal's (1994) idea on entrepreneurial potential, through which one may expect that developed countries have higher educational standards than developing countries, thus affecting the skills necessary to

recognise new opportunities (Arin et al., 2015; Hafer & Jones, 2015; van Stel & van der Zwan, 2019). Given this discussion, we propose the following hypothesis:

Hypothesis 2b. The association between opportunity recognition and export-oriented entrepreneurship is stronger in developed countries than in developing countries.

Gnyawali and Fogel (1994) suggest another dimension with regard to financial assistance. Research related to alternative funding sources (e.g. private equity, crowdfunding, initial public offer –IPO) has recently emerged and grown considerably (Cumming et al., 2018; Cumming, Leboeuf, & Schwienbacher, 2020; Cumming, Werth, & Zhang, 2019; Kgoroeadira, Burke, & van Stel, 2019; LiPuma & Park, 2014, inter alia). However, these sorts of funding alternative might still be incipient in less favoured regions and countries (Gai & Minniti, 2015b; Wright, Lockett, & Pruthi, 2002; Wright, Pruthi, & Lockett, 2005), making a cross-country comparison difficult. Instead, retailing or commercial banking is observed more often in both developing and developed countries, though access to this financial system might not be equally affordable for everybody (Aparicio, Urbano, & Audretsch, 2016; Beck & Demirgüç-Kunt, 2008). Similar to this idea, Van Auken (1999) argues that potential entrepreneurs with no access to the financial system tend to face more challenges and have a lower survival rate than those entrepreneurs with financial support. According to Aparicio, Urbano, and Audretsch (2016), the available funding in a given economy could represent the rules that the financial system sets in terms of interest rate, loans, etc., which vary from country to country. Thus, a kind of context may exist to affect entrepreneurial activity. In this sense, various barriers and impediments could hinder the entrepreneurial process, as well as causing high failure rates among new businesses (von Broembsen, Wood, & Herrington, 2005). Some studies suggest that increasing access to bank credit, creating investment companies, and providing credit with low interest rates and credit guarantee schemes are successful strategies for promoting entrepreneurship (Gnyawali & Fogel, 1994; van Gelderen, Thurik, & Bosma, 2005). The consistency of these types of policy involves not just the start-up process, but also the sustainability

capacity and survival of new international ventures (Riding, Orser, Spence, & Belanger, 2012). Fan and Phan (2007), Hadded and Hornuf (2018) and Jinb, Wooc, and Chungd (2015) find that the rate of international new venture creation is positively related to access to financial resources. Parada Balderrama, Alemany, and Planellas Arán (2009) also show that commercial banks are expanding their international frontiers. These authors discuss the importance of opening new subsidiaries to offer financial services to different countries. Although retail banking wins with this strategy, entrepreneurs from developed and developing countries also benefit by having additional alternatives within the financial system. On these bases, we suggest that:

>   **Hypothesis 3a.** Access to bank credit has a positive influence on export-oriented
>   entrepreneurship.

Regarding the importance of access to bank credit for developing countries, Wang (2012) finds that in the case of China, some internal reforms have led to reduced labour mobility costs and alleviated credit constraints in order to achieve higher rates of entrepreneurship. Rock and Ahmed (2014) show the importance of financial support from the state to facilitate entrepreneurial access to international fairs and financial sources. However, changes in favour of credit access in developing countries require the removal of barriers to obtaining more credit (Fatoki & Odeyemi, 2010; Urbano, Audretsch, Aparicio, & Noguera, 2020). In that context, Herrington, Kew, and Kew (2009) and Maas and Herrington (2006) claim that access to finance is a major problem for South African entrepreneurs. The authors of these two works conclude that a paucity of financial support is one of the main reasons for low levels of new firm creation and internationalisation, as well as their high rates of failure in South Africa. Fan and Phan (2007) argue that many entrepreneurs obtain financial support from their own or their family's savings, which are often inadequate, rather than approaching formal banks or other firms for external finance. Traditional analyses of entrepreneurship suggest that funding is crucial for entrepreneurial activity and internationalisation (Van Auken, 1999). In this sense, not only does the creation of new banks or opening of

subsidiaries bring new opportunities for entrepreneurs in developing countries, but so too does the implementation of other funding mechanisms (Cumming et al., 2018; Wright et al., 2005). Aparicio, Urbano, and Audretsch (2016) offer evidence of Latin American entrepreneurs, who are more sensitive when changes in access to credit take place. Puente, González Espitia, and Cervilla (2019) offer a similar explanation when discussing the existence of necessity-driven entrepreneurs, who are highly abundant in developing countries. Although these entrepreneurs are necessity-oriented, they may also have the intention to grow and enter into international markets, and the role of the financial system is key to achieve such goals. This view fully complements the Global Entrepreneurship Monitor (GEM) framework (Reynolds et al., 2005), which suggests that developing countries are differentiated from their developed counterparts in terms of the type and level of entrepreneurial activity. Given the U-shaped distribution of entrepreneurship across developed and developing countries (Wennekers et al., 2005), one may think that further access to credit will create a higher response in developing than in developed countries. Taking this into account, the importance of having access to bank credit in developing countries could be more significant for international entrepreneurship development. Therefore, the following hypothesis is proposed:

Hypothesis 3b. The relationship between access to bank credit and export-oriented entrepreneurship is stronger in developing countries than in developed countries.

Gnyawali and Fogel (1994) also point out non-financial assistance, which involves characteristics such as support services, entrepreneurial networks, incubator facilities, modern transport and communication facilities. They find that developing economies have low levels of these infrastructures, which discourage the decision to be an entrepreneur. Drawing on the analysis of contexts, Audretsch et al. (2015) explore how different types of infrastructure impact entrepreneurship. They conclude that although general infrastructure influences entrepreneurial activity, broadband and communication technology are more beneficial for entrepreneurs than are

14

highways and railroads which, in any case, respond to approved laws and governmental decisions. Fraccastoro et al. (2020) and Kaleka (2012) discuss the importance of communication to enhance the informational capabilities of new international ventures, since it enables an increasing network of customers and suppliers in the overseas markets. Additionally, Audretsch et al. (2015) posit that infrastructure enhances connectivity and linkages that facilitate the recognition of entrepreneurial opportunities and the ability of entrepreneurs to actualise those opportunities. In particular, they hypothesise that some types of infrastructure, such as communication technologies (broadband), would be expected to be particularly conducive to entrepreneurial activity in industry contexts such as software. Analysing export entrepreneurship for different industries in Spain, Navarro-García (2016) finds that resources associated with telecommunications have a positive influence on international entrepreneurship and on the performance of entrepreneurial firms in foreign markets. Sinkovics, Sinkovics, and Jean (2013) find that online sales can improve the performance of born-global firms, though the authors also mention that new international ventures could fall into the "virtuality trap". In this regard, Eslava, Haltiwanger, Kugler, and Kugler (2013) emphasise that public policies related to the provision of stable infrastructure should be in accordance with the capacity of international firms. Building on these discussions and evidences, we suggest that:

> **Hypothesis 4a.** Access to communications has a positive influence on export-oriented entrepreneurship.

Analysing industries in a developing country, Eslava et al. (2013) find that increasing prices in the electricity structure deteriorate the export performance and contribute to higher firm exit rates. Bennett (2019) also shows evidence for US regions in terms of infrastructure. Interestingly, this author finds that private investment in infrastructure attracts entrepreneurship, whereas public investment repels it. This result may suggest exploring country and regional differences, as developing countries may be more dependent on subsidies and international aid than developed ones. In this regard, important differences might emerge between these two groups of countries

when the context is characterised by changes in infrastructure. However, in their analysis of Central America, Padilla-Pérez and Gaudin (2014) show that investment in infrastructure for innovation, entrepreneurship and internationalisation has increased in the past decade. Urbano et al. (2020) found in the literature that the different achievements in infrastructure such as communication technologies have been particularly crucial to entrepreneurship and export orientation in these developing countries. Thus, the literature highlights the importance of infrastructure development, such as communications for international entrepreneurial activity, such that the policy should ensure access to the internet and mobile phone networks, among other things, which are scarce in developing economies. Although little evidence was found, previous results indicate that the lack of infrastructure in developing countries provides an opportunity to develop new businesses that are accompanied by advances in projects such as ports, highways, airports, etc. Thus, the following hypothesis is proposed:

> **Hypothesis 4b.** The relationship between access to communications and export-oriented entrepreneurship is stronger in developing countries than in developed countries.

It is argued that all of the above institutional factors influence the level of entrepreneurial activity, which at the same time is thought to serve as a key element for economic growth. According to seminal literature (e.g. Schumpeter, 1934), it is possible to link entrepreneurship to economic growth. Minniti and Lévesque (2010), among others, have empirically confirmed the Schumpeterian hypothesis, albeit their findings are conditioned by the type of entrepreneurial activity in each economy. They find that entrepreneurs located in developed economies tend to be more innovative, whereas entrepreneurs in developing economies tend to be more imitative. Similarly, González-Pernía and Peña-Legazkue (2015) and Navarro-García, Calvo-Mora Schmidt, and Rey-Moreno (2015) show that highly developed regions in Spain tend to exhibit higher levels of export-oriented entrepreneurship, which in turn has a greater impact on regional economic growth. Public policies for lagging regions should take into account those factors encouraging

16

international entrepreneurs, among other things, which should serve to spur economic growth (Hessels & van Stel, 2011; González-Pernía & Peña-Legazkue, 2015). Naudé (2011) argues that if demand for entrepreneurship is higher in developing countries, as is normally expected, entrepreneurship is a more important factor in these countries than in developed ones. Sanyang and Huang (2010) concur, emphasising the importance of programmes that support entrepreneurial initiatives in developing economies. Some authors have come to recognise the capacities of potential export-oriented entrepreneurship and growth, along with their significant contribution to prosperity and economic welfare (De Clercq et al., 2008; Hessels & van Stel, 2011). According to De Clercq et al. (2008), new ventures' export orientation takes knowledge-based opportunities and develops them into new products and markets. This increases the amount of knowledge spillover and has a positive impact on economic performance (De Clercq et al., 2008). The authors also find that export-oriented entrepreneurs who invest in the development of new products and services based on new knowledge as a business opportunity are more proficient at taking advantage of those opportunities than other entrepreneurs in internal and external markets. Therefore, the following hypothesis is suggested:

Hypothesis 5a. Export-oriented entrepreneurship has a positive effect on economic growth.

Terjesen et al. (2016) discuss that international entrepreneurship has a positive impact on economic growth, enhancing the learning process of countries, organisations and individuals. Therefore, international entrepreneurship is an important mechanism in the transformation of new knowledge into economic performance (De Clercq et al., 2008). In this context, Hessels and van Stel (2011) point out that export-oriented entrepreneurship rates reflect the creation of knowledge and technology and have a positive impact on economic growth. Hidalgo, Klinger, Barabási, and Hausmann (2007) find that countries such as Colombia or Malaysia could achieve a similar income level to developed countries by expanding the product space and the complexity of the export basket, which implies a combination of innovation and export-oriented entrepreneurs. Aparicio,

Urbano, and Gómez (2016), simulating future Colombian scenarios, provide evidence that higher long-term economic growth could be accomplished if there were policies encouraging innovative entrepreneurs oriented towards external markets. Contractor and Kundu (2004) explore how export-oriented entrepreneurship creates different effects on the economic development of India, China and Taiwan. Although there is a positive influence of the qualification of entrepreneurs, important differences are found when analysing the context of those entrepreneurs. Basically, these authors find that factors such as better economic conditions, technical abilities, infrastructure and entrepreneurial values are necessary conditions for international entrepreneurs to contribute to the economy. This is similar to Cumming et al.'s (2014) analysis, which show that certain cultural values and legal costs condition the effect of entrepreneurship not only on economic growth, but also on export and unemployment. Certainly, developed and developing countries are both distinctly characterised in terms of values and other institutional factors, though the latter tend to show less risk aversion than former. Due to these differences in favour of developing countries, we propose the following hypothesis:

> **Hypothesis 5b.** The relationship between export-oriented entrepreneurship and economic growth is stronger in developing countries than in developed countries.

> Figure 1 summarises the main relationships suggested in our hypotheses.

Figure 1. A suggested model for institutional context, export-oriented entrepreneurship and economic performance
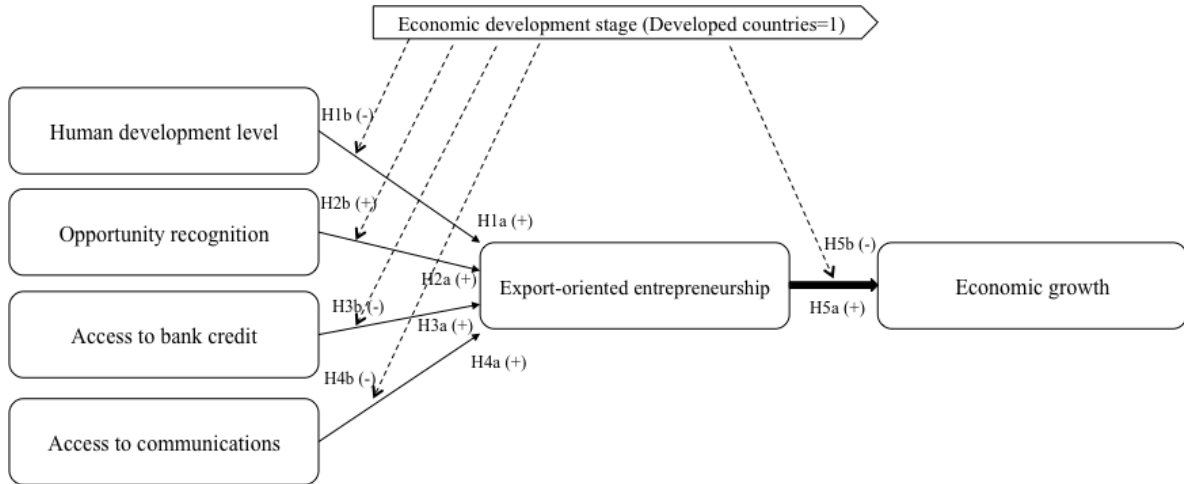
3. Methods

The specification of a simple production function assumes implicitly that international entrepreneurship is exogenous. Nonetheless, an inverse causal relationship has been shown to exist between international entrepreneurship and economic growth (González-Pernía & Peña-Legazkue, 2015). In addition, as we argued above, export-oriented entrepreneurship is influenced by institutions. Taking this into consideration, we specify the first equation in order to take this recursive structure explicitly into account, as well as the other variables that affect export-oriented entrepreneurship. In its general form, this equation is specified as:

$$EOE_{it} = f(IC_{it-1}, v_{it-1}) \quad\quad\quad (1)$$

where IC_{it-1} is the matrix associated with the institutional context, and v_{it-1} represents the control variables that influence export-oriented entrepreneurship in country i at time $t-1$.

To establish the causal chain of institutional context, export-oriented entrepreneurship and economic growth, an augmented production function that includes an explicit measure of export-oriented entrepreneurship is estimated. On this basis, we can analyse in a dynamic way the effect of the institutional context on international entrepreneurial activity on the one hand, and the impact of

this international entrepreneurial activity on economic growth on the other. The second equation is a Cobb–Douglas production function of the form:

$$Y_{it} = \alpha EOE_{it}^{\beta_1} K_{it}^{\beta_2} E_{it}^{\beta_3} GC_{it}^{\beta_4} HE_{it}^{\beta_5} L_{it}^{\beta_6} \qquad (2)$$

Our growth model follows Romer's (1986, p. 1006) assumption regarding the parameter of labour, in which β_6 is settled in one. This assumption implies that there are externalities, knowledge and creativity as entrepreneurial characteristics of a society (Audretsch & Belitski, 2013; Urbano et al., 2020) and capital is foregone consumption. Taking this into account, dividing output by labour in order to preserve a function with constant returns to scale, and introducing lags to consider a dynamic model, we obtain:

$$Y_{it}/L_{it} = \alpha \widehat{EOE}_{it-1}^{\beta_1} K_{it-1}^{\beta_2} E_{it-1}^{\beta_3} GC_{it-1}^{\beta_4} HE_{it-1}^{\beta_5} \qquad (3)$$

where Y_i is the economic output of country i at time t, measured as the gross domestic product (GDP); L_{it} is the total labour force (thus Y_{it}/L_{it} measures labour productivity, which is an alternative of economic performance); $\widehat{EOE}_{it-1}$ represents the endowment of export-oriented entrepreneurship (estimated in equation 1); K_{it-1} is country i's endowment of capital; E_{it-1} is the level of exports; GC_{it-1} is government consumption; and HE_{it-1} is the health expenditure in each country. Thus, this suggests that export-oriented entrepreneurship contributes to the economic performance across countries. With equation 3, our approach enables analysis of the impact of institutions on international entrepreneurship and the subsequent effect on economic performance (Aparicio, Urbano, & Audretsch, 2016; Bosma et al., 2018); hence, we focus on equations 1 and 3, which are linearized according to Acs et al. (2012), Wong, Ho, and Autio (2005), and Urbano et al. (2020). Natural logarithms have been used in the variables that represent institutional factors as well as the endowments assessed in our growth model. In particular, we estimate these two equations simultaneously, using lagged variables in one year and three-stage least-squares regression (3SLS)

to correct for the simultaneity bias (e.g. Intriligator, Bodkin, & Hsiao, 1996). The relevance of this methodological approach in entrepreneurship research has been highlighted, especially to tackle the bi-causality issue between the analysed variables (Audretsch & Keilbach, 2008; Aparicio, Urbano, & Audretsch, 2016; Bjørnskov & Foss, 2016). The 3SLS enables estimation to be asymptotically more efficient by taking into account the correlation among the errors of each of the simultaneous equations (Wooldridge, 2010; Zellner & Theil, 1962). In addition, by applying 3SLS, it is possible to adjust the weighting matrix for potential heteroskedasticity of the errors, which estimates the coefficients through generalised least square (GLS).

This technique is applied to an unbalanced panel data for the period 2004–2012. Our dependent variable for equation 1 is export-oriented entrepreneurship, which is measured at three levels: those entrepreneurs selling 0 per cent of their output in international markets; those who sell between 1 and 25 per cent; and those who have more than 26 per cent external sales. We use information from the GEM and, more specifically, from the Adult Population Survey (APS). The second dependent variable (Equation 3) is the economic performance indicator, which is measured as GDP at constant 2005 $US divided by the total labour force (L), which is one of the best-known proxies for economic growth. The source of data to measure this dependent variable is the World Development Indicator (WDI) of the World Bank.

The independent variables, particularly those associated with the institutional context, were obtained from Doing Business (private coverage to getting credit), the United Nations Development Programme -UNDP- (human development level), the GEM Adult Population Survey -APS- (opportunity recognition) and the GEM National Experts Survey -NES- (access to communications). Similarly, data on the rate of GDP growth, the percentage of people under 15 and older than 64 years, the level of the industrial sector, population density, control of corruption, and inflation were obtained from the WDI database. According to Bleaney and Nishiyama (2002), some control variables should be included in the production function, such as gross capital formation (K), exports (E), government consumption (GC) and health expenditures (HE), which were obtained

from the WDI. The variable K is measured in constant values in 2005 \$US, E is the value of the goods and services sold abroad, GC is a percentage of GDP, and HE is a percentage of government expenditure. We use the natural logarithm to estimate the two equations. The final sample has 43 countries with a regular time series (2004–2012). It should be emphasised that given the availability of data regarding the human development level, we match this variable with the entire sample using information from 2005–2013. Table 1 presents a list of the dependent and independent variables used in this study, including their sources. Our final sample consists of panel data with 258 observations and 43 countries. See Appendix 1 for a list of countries and average values of the main dependent and independent variables.

Table 1. Description of variables

Equation 1		
Dependent variable	**Description**	**Source**
Export-oriented TEA 0%	Number of entrepreneurs selling 0% of their output in external markets	GEM APS for the period 2004 to 2012
Export-oriented TEA 1-25%	Number of entrepreneurs selling between 1-25% of their output in external markets	GEM APS for the period 2004 to 2012
Export-oriented TEA 26-100%	Number of entrepreneurs selling between 26-100% of their output in external markets	GEM APS for the period 2004 to 2012
Independent variable	**Description**	**Source**
Institutional context		
Human development level	Human Development Index. Average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living.	UNDP 2005 to 2013
Opportunity recognition	Percentage of individuals who answer whether they perceive good conditions to start business in where they live.	GEM APS for the period 2004 to 2012
Private coverage to getting credit	Percentage of adult population that has a least one credit by a private bank.	Doing Business for the period 2004 to 2012
Access to communications	Average value of experts' perception about good access to communications for new or growing firms.	GEM NES for the period 2004 to 2012
Control variables		

Rate of GDP	GDP rate at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. Data are in constant 2005 U.S. dollars.	WDI for the period 2004 to 2012
Age	People younger than 15 or older than 64 that are dependent of to the working-age population. Proportion of dependents per 100 working-age population.	WDI for the period 2004 to 2012
Age^2	Square of people younger than 15 or older than 64 that are dependent of to the working-age population.	WDI for the period 2004 to 2012
Industry sector	Value added of the industrial sector (constant 2010 US$)	WDI for the period 2004 to 2012
Population density	Number of people per square km of land area	WDI for the period 2004 to 2012
Control of corruption	Capturing perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. The values are between −2.5 and 2.5 with higher scores corresponding to better outcomes of institutions	WDI for the period 2004 to 2012
Inflation	Percentage change of the price consumer index for every country	WDI for the period 2004 to 2012

Equation 3

Dependent variable	Description	Source
Labour productivity (Y/L)	GDP value at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. Data are in constant 2005 U.S. dollars. This variable is divided by the employment to population, which is the number of a country's population that is employed.	WDI for the period 2004 to 2012

Independent variable	Description	Source
Gross capital formation (constant 2005 US$)	Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Data are in constant 2005 U.S. dollars.	WDI for the period 2004 to 2012
Exports	Value of all goods and other market services provided to the rest of the world. Data are in constant 2010 U.S. dollars.	WDI for the period 2004 to 2012
Government consumption	Government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditures on national defence and security but excludes government military expenditures that are part of government capital formation. (% of GDP).	WDI for the period 2004 to 2012

| Health expenditure | Capital spending from government (central and local) budgets, external borrowings and grants (including donations from international agencies and nongovernmental organizations), and social (or compulsory) health insurance funds. (% of government expenditure). | WDI for the period 2004 to 2012 |

4. Findings

4.1. Main results

We have calculated the mean, standard deviation, maximum and minimum values for all countries (see Table 2). Table 2 shows that, in our sample, the average of export-oriented entrepreneurship with no external sales is higher than the other levels of export intensity, as expected (González-Pernía & Peña-Legazkue, 2015). Table 3 presents the correlation matrix for the variables of the econometric model presented previously for all countries. Table 3 also suggests relationships between the variables analysed, which in various cases met our expectations.

Table 2. Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Ln export-oriented TEA 0%	257	4.370	1.114	1.099	7.365
Ln export-oriented TEA 1-25%	258	3.857	0.960	0.000	6.860
Ln export-oriented TEA 26-100%	255	3.180	0.987	0.000	5.974
Ln Y/L	258	10.409	0.982	7.671	11.751
Ln Human development level	258	-0.195	0.113	-0.693	-0.058
Ln Opportunity recognition	258	3.491	0.541	1.048	4.449
Ln Private coverage to getting credit	202	3.677	1.010	0.336	4.605
Ln Access to communications	218	1.354	0.138	0.806	1.558
Rate of GDP	258	2.307	3.900	-17.955	12.233
Age	258	50.159	7.228	35.532	88.493
Age^2	258	2567.962	850.505	1262.541	7831.001
Ln Industry sector	258	25.420	1.677	21.783	28.836
Ln Population density	258	4.230	1.325	0.963	8.926
Ln Control of corruption	190	-0.011	1.040	-4.605	0.936
Ln Inflation	237	1.068	0.804	-2.848	2.735

Ln Capital	253	25.086	1.627	21.244	28.766
Ln Exports	258	3.530	0.553	2.264	5.299
Ln Government consumption	258	2.870	0.301	1.843	3.334
Ln Health expenditure	258	2.640	0.307	1.548	3.226

Table 3. Correlation matrix

Variables	1	2	3	4	5	6	7	8	9
1 Ln export-oriented TEA 0%	1								
2 Ln export-oriented TEA 1-25%	**0.573**	1							
3 Ln export-oriented TEA 26-100%	**0.573**	**0.807**	1						
4 Ln Y/L	**-0.200**	0.046	0.049	1					
5 Ln Human development level	**-0.129**	0.082	0.014	**0.843**	1				
6 Ln Opportunity recognition	**0.016**	0.033	**-0.008**	**0.177**	0.074	1			
7 Ln Private coverage to getting credit	-0.208	**0.083**	-0.097	**0.05**	0.112	0.181	1		
8 Ln Access to communications	**-0.190**	0.027	0.000	0.257	0.481	0.13	0.07	1	
9 Rate of GDP	**0.086**	0.049	-0.06	**-0.289**	**-0.192**	**0.336**	0.083	0.147	1
10 Age	0.026	-0.15	-0.07	0.046	**-0.155**	**0.509**	0.129	-0.218	-0.06
11 Age^2	**0.013**	-0.16	-0.07	**0.019**	**-0.171**	**0.506**	0.151	-0.209	-0.043
12 Ln Industry sector	0.199	0.267	0.059	**0.296**	**0.282**	**-0.214**	0.147	**-0.249**	-0.092
13 Ln Population density	**-0.032**	-0.01	0.076	-0.053	0.05	**-0.526**	-0.12	-0.188	-0.158
14 Ln Control of corruption	0.039	0.179	0.198	**0.543**	**0.608**	**0.392**	-0.02	**0.457**	0.062
15 Ln Inflation	0.081	0.110	0.197	**-0.469**	**-0.496**	-0.059	**0.053**	-0.081	**0.159**
16 Ln Capital	0.210	0.306	0.104	**0.344**	**0.319**	**-0.234**	0.109	**-0.243**	-0.096
17 Ln Exports	**-0.301**	-0.28	-0.1	**-0.01**	0.076	-0.083	-0.09	**0.236**	-0.019
18 Ln Government consumption	**-0.003**	-0.18	-0.09	**0.415**	0.177	0.122	-0.21	-0.108	**-0.437**
19 Ln Health expenditure	0.052	**0.321**	**0.317**	**0.482**	**0.473**	0.303	**0.217**	0.167	-0.104

Variables	10	11	12	13	14	15	16	17	18
10 Age	1								
11 Age^2	**0.997**	1							
12 Ln Industry sector	-0.210	-0.228	1						
13 Ln Population density	-0.445	-0.427	**0.369**	1					
14 Ln Control of corruption	0.129	0.129	0.031	-0.163	1				
15 Ln Inflation	0.001	0.028	**-0.347**	-0.193	-0.199	1			
16 Ln Capital	**-0.231**	**-0.252**	**0.984**	**0.372**	0.033	**-0.323**	1		
17 Ln Exports	**-0.322**	**-0.305**	**-0.346**	**0.396**	0.122	-0.140	**-0.406**	1	
18 Ln Government consumption	0.345	**0.312**	-0.085	-0.165	0.096	**-0.115**	-0.037	-0.049	1
19 Ln Health expenditure	0.362	0.357	0.167	-0.214	**0.513**	**-0.191**	**0.198**	-0.353	**0.127**

Note: Correlations in bold are significant at $p < 0.01$.

We calculated the variance inflation factor (VIF) for each individual predictor to assess whether problems of multicollinearity exist. However, because the technique we used (3SLS) does not allow a straightforward VIF computation, we calculated for the two equations separately. We

obtained average values of VIF (lower than 1.44 for equation 1 and 1.18 for equation 3). The regression results shown in Table 4 report the estimated coefficients and standard errors in parentheses for the two sets of models, which were estimated by 3SLS. All of the models are highly significant ($p \leq 0.000$). The first set of models (1–3) presents the regression results for the institutional context and export-oriented entrepreneurship at all levels (Eq. 1) and the link between these variables and economic performance (Eq. 3). All of these models are estimated for all countries, and include time fixed-effects to control for the business cycle and potential effects of the economic crisis (González-Pernía et al., 2018; Vegetti & Adăscăliţei, 2017). For the purposes of regional analysis, the second set of models (4–6) presents the results for the simultaneous equations by adding interaction terms between a dummy variable representing developed countries and each institution already defined (Eq. 1), as well as interactions between a developed country dummy variable and each level of export-oriented entrepreneurship in order to explain their differentiated importance in the economic growth process (Eq. 3). Finally, following Arenius and Minniti (2005), Bleaney and Nishiyama (2002), Langowitz and Minniti (2007) and Weenekers et al. (2005), we include control variables related to macro-economic factors in all models estimated (rate of GDP and the number of population according to certain age for Eq. 1; and capital, government consumption and health expenditures for Eq. 3) in order to analyse export-oriented entrepreneurship, and its effect on economic performance.

Table 4. Results of simultaneous equations

Equation 1. Dep. variable export-oriented TEA	(1) Ln export-oriented TEA 0%	(2) Ln export-oriented TEA 1-25%	(3) Ln export-oriented TEA 26-100%	(4) Ln export-oriented TEA 0%	(5) Ln export-oriented TEA 1-25%	(6) Ln export-oriented TEA 26-100%
Institutional context						
Ln Human development level *(t-1)*	11.953	12.186	23.277*	2.432	9.720	21.600
	(13.947)	(13.182)	(13.019)	(16.393)	(15.076)	(14.996)
Ln Opportunity recognition *(t-1)*	0.508*	0.390	0.459*	0.541	0.115	0.340
	(0.294)	(0.277)	(0.274)	(0.536)	(0.492)	(0.490)
Ln Private coverage to getting credit *(t-1)*	0.512*	0.302	0.307	0.684	1.258*	1.410**
	(0.309)	(0.292)	(0.289)	(0.778)	(0.715)	(0.711)
Ln Access to communications *(t-1)*	0.269	0.501	0.081	2.106*	1.790+	2.089*
	(0.826)	(0.780)	(0.770)	(1.214)	(1.117)	(1.110)
Control variables						
Rate of GDP *(t-1)*	-0.003	-0.019	-0.007	-0.004	-0.019	-0.005
	(0.031)	(0.029)	(0.029)	(0.030)	(0.028)	(0.027)
Age *(t-1)*	1.368	0.402	-0.757	2.495*	2.021*	0.787
	(1.270)	(1.201)	(1.186)	(1.276)	(1.174)	(1.168)
Age^2 *(t-1)*	-0.014	-0.007	0.005	-0.025**	-0.022*	-0.009
	(0.012)	(0.012)	(0.012)	(0.012)	(0.011)	(0.011)
Ln Industry sector *(t-1)*	-0.162	0.598	-0.885	0.195	0.689	-0.880
	(1.661)	(1.570)	(1.551)	(1.573)	(1.446)	(1.440)
Ln Population density *(t-1)*	-7.910	-10.649**	-14.147***	-5.371	-6.825	-10.333**
	(5.190)	(4.906)	(4.846)	(5.103)	(4.692)	(4.672)
Ln Control of corruption *(t-1)*	-0.097	-0.077	0.005	-0.221	-0.142	-0.049
	(0.163)	(0.154)	(0.152)	(0.167)	(0.154)	(0.153)

Ln Inflation *(t-1)*	-0.026	-0.202	-0.007	-0.011	-0.191	0.008
	(0.141)	(0.134)	(0.132)	(0.132)	(0.121)	(0.121)
Dummy developed countries				-10.167	-20.459	-21.956*
				(14.528)	(13.360)	(13.300)
Interactions: developed vs. Developing countries						
Ln Human development level *(t-1)* x Developed countries				12.937	-6.525	-11.160
				(25.519)	(23.470)	(23.326)
Ln Opportunity recognition *(t-1)* x Developed countries				0.478	0.943*	0.711
				(0.621)	(0.571)	(0.568)
Ln Private coverage to getting credit *(t-1)* x Developed countries				-1.845**	-1.702**	-1.800**
				(0.862)	(0.792)	(0.788)
Ln Access to communications *(t-1)* x Developed countries				3.502**	3.158**	2.713*
				(1.569)	(1.443)	(1.435)
Constant	-15.456	-6.545	64.675	-46.875	-36.713	39.690
	(58.893)	(55.672)	(54.992)	(57.694)	(53.045)	(52.789)
R^2	0.812	0.792	0.798	0.838	0.831	0.833
Equation 3. Dep. variable Y/L	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**
Ln export-oriented TEA 0% *(t-1)*	0.010***			0.016*		
	(0.004)			(0.009)		
Ln export-oriented TEA 1-25% *(t-1)*		0.010***			0.044***	
		(0.003)			(0.010)	
Ln export-oriented TEA 26-100% *(t-1)*			0.012***			0.031***
			(0.004)			(0.009)
Ln Capital *(t-1)*	0.128***	0.123***	0.140***	0.128***	0.124***	0.133***
	(0.033)	(0.033)	(0.032)	(0.033)	(0.031)	(0.032)
Ln Exports *(t-1)*	0.098**	0.091**	0.109***	0.096**	0.089**	0.099**
	(0.043)	(0.043)	(0.042)	(0.043)	(0.040)	(0.042)

Ln Government consumption *(t-1)*	-0.015	0.011	0.044	-0.020	0.043	0.047
	(0.078)	(0.076)	(0.076)	(0.077)	(0.073)	(0.074)
Ln Health expenditure *(t-1)*	0.246***	0.232***	0.224***	0.248***	0.211***	0.232***
	(0.035)	(0.035)	(0.034)	(0.035)	(0.033)	(0.033)
Dummy developed countries				1.182***	1.283***	1.182***
				(0.129)	(0.119)	(0.123)
Year 2002	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2003	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2004	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2005	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2006	0.026**	0.027**	0.031***	0.026**	0.035***	0.034***
	(0.012)	(0.011)	(0.011)	(0.012)	(0.011)	(0.011)
Year 2007	0.016	0.020*	0.022**	0.016	0.030***	0.024**
	(0.011)	(0.010)	(0.010)	(0.011)	(0.010)	(0.010)
Year 2008	0.001	0.006	0.006	0.002	0.014	0.010
	(0.011)	(0.011)	(0.011)	(0.012)	(0.011)	(0.011)
Year 2009	-0.046***	-0.047***	-0.048***	-0.047***	-0.042***	-0.047***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.008)	(0.009)
Year 2010	0.012	0.010	0.013	0.012	0.014	0.013
	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)	(0.009)
Year 2011	0.012**	0.010	0.014**	0.013**	0.010*	0.015**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Year 2012	0.000	0.000	0.000	0.000	0.000	0.000

	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Interactions: developed vs. Developing countries						
Ln export-oriented TEA 0% *(t-1)* x Developed countries				-0.008		
				(0.010)		
Ln export-oriented TEA 1-25% *(t-1)* x Developed countries					-0.039***	
					(0.011)	
Ln export-oriented TEA 26-100% *(t-1)* x Developed countries						-0.021**
						(0.009)
Constant	6.761***	6.907***	6.335***	5.599***	5.571***	5.324***
	(0.985)	(0.978)	(0.964)	(0.867)	(0.810)	(0.834)
Country fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	173	174	173	173	174	173
R^2	0.999	0.999	0.999	0.999	0.999	0.999

Note: + p = 0.10, * p < 0.10, ** p < 0.05, *** p < 0.01. Standard errors in parentheses. Dep. variable: Dependent variable.
Estimates for country fixed-effects dummies are not presented but can be supplied upon request.

Concerning the testing of hypotheses, hypothesis 1a asserts that a higher human development level has a positive influence on export-oriented entrepreneurship; however, hypothesis 1b suggests that this relationship is not as strong in developed countries as it is in developing countries. All models reveal a positive influence of this variable on export-oriented entrepreneurship, though only model 3 is statistically significant. In this case, both hypotheses are partially supported. Based on this particular model, we could say that a 1 per cent increase in the human development level effects a 23.277 per cent change in export-oriented entrepreneurship. Although the interaction term of developed countries and the human development level in models 4–6 is not statistically significant, the relationship estimated in model 5 and model 6 is expected. Based on this result, it is possible to infer that the human development level might be a favourable mechanism to enhance the local market and socioeconomic conditions, which at the same time reduces the uncertainty faced by those entrepreneurs contemplating international opportunities (Hessels & Parker, 2013). Our results may suggest that, in addition, independent of the development stage of each country, the human development level matters for international entrepreneurs.

Regarding the second set of hypotheses, hypothesis 2a proposes that opportunity recognition has a positive influence on export-oriented entrepreneurship, while hypothesis 2b asserts that this relationship is stronger in developed countries than in developing countries. These hypotheses are partially supported by our data, in line with the literature—the capacity to perceive opportunities increases the rate of international entrepreneurship (Ciravegna et al., 2014; Kontinen & Ojala, 2011; Tolstoy et al., 2020). All models show that opportunity recognition has a positive influence on export-oriented entrepreneurship in all countries. Nonetheless, only models 1 and 3 show this to be statistically significant. In this case, and without taking into consideration differences in the development stage, it is possible to say that a 1 per cent change in opportunity recognition creates a 0.508 per cent and 0.459 per cent change in local and export-oriented entrepreneurship (26–100%), respectively. For the remaining models, this variable is not statistically significant, but the causal relationship is expected. This might imply that, after

controlling for different groups of countries, the ability to recognise new opportunities is highly significant for those entrepreneurs pursuing international markets. This idea is consistent with Cadot et al.'s (2013) and Tolstoy et al.'s (2020) findings that the performance of international entrepreneurship depends on the ability to perceive opportunities, at the same time enhancing the capacity to increase the markets of customers and suppliers. Similar to hypothesis 1b, we do not find significant differences between groups of countries through the interaction effect. Although Nowiński and Rialp (2013) argue that less developed countries may present barriers to increasing the number of international entrepreneurs, resulting in diminished opportunities to recognise entrepreneurial projects, opportunity recognition is still a meaningful tool required to undertake new projects at both the local and international level, no matter the type of country (Chandra et al., 2015; Rezvani et al., 2014). The interactions found in models 4–6 may suggest that the number of international entrepreneurs is higher in developed than in developing economies, when opportunity recognition varies. As Bahar et al. (2014) and Hausmann et al. (2007) find, this difference could be attributable to the propensity for less developed countries to exhibit lower levels of export diversification, production therefore being oriented towards the local market. By contrast, developed countries tend to have products with more complexity and a higher level of innovation, implying that a longer period is required to identify new opportunities and enlarge the export basket (Hausmann et al., 2007).

Hypothesis 3a posits that access to bank credit has a positive influence on export-oriented entrepreneurship, while hypothesis 3b suggests that the relationship is stronger in developing countries than in developed countries. These hypotheses are strongly supported by our results. Models 1, 5 and 6 show a positive effect of access to bank credit on international entrepreneurship in all countries, and the difference is significantly greater in developing than in developed economies. The magnitude of model 1 (without interactions) and models 5 and 6 (with interactions) is higher than in models 2–3 and model 4, respectively. For example, model 1 suggests that a 1 per cent increase in the private coverage to getting credit affects a 0.512 per cent change in local

entrepreneurship, whilst models 5 and 6 show that a 1 per cent change in this variable affects 1.258 per cent and 1.410 per cent of international entrepreneurs having between 1 and 25%, as well as 26 and 100% external sales, respectively. As Gnyawali and Fogel (1994) and Van Auken (1999) suggest, access to financial resources is one of the most important elements for entrepreneurial activity, especially if the entrepreneurship is pursuing overseas markets characterised by greater uncertainty. As Fan and Phan (2007) and Jinb et al. (2015) find, our results suggest that by mitigating financial barriers in developing countries, it is possible to increase not only the number of international entrepreneurs, but also their performance, since there is strong support from the government and banking sector to provide the resources needed to negotiate the higher uncertainty characteristic of international markets. As Rock and Ahmed (2014) and Wang (2012) point out, China and Chile have implemented public strategies to overcome financial barriers, and have been rewarded by a higher number of small firms with better export performance.

Hypothesis 4a suggests that access to communications has a positive influence on export-oriented entrepreneurship, while hypothesis 4b proposes that this relationship is stronger in developing countries than in developed countries. These hypotheses are partially supported by our data, as models 1–3 are not statistically significant (though the sign meets our expectations). In accordance with the literature, the infrastructure, and specifically access to communications, encourages the rate of international entrepreneurial activity (Audretsch et al., 2015; Fraccastoro et al., 2020; Padilla-Pérez & Gaudin, 2014). Models 4–6 show that this variable has a positive and significant influence on entrepreneurship with a local and international orientation in all countries. Whilst a 1 per cent increase in access to communications affects a 2.106 per cent change in local entrepreneurship (model 4), models 5 and 6 show that a 1 per cent change in this institutional variable affects 1.790 per cent and 2.089 per cent of international entrepreneurs having between 1–25 per cent and between 26–100 per cent external sales, respectively. Similar to hypothesis 2b, the statistical significance of the interaction term suggests that the competitiveness efforts (e.g. highways, railways, electricity, telecommunications, etc.) have been quite effective for those

developed countries. In this case, developing countries can learn from these sorts of initiative. For instance, public policies oriented towards stabilising the prices generated by the infrastructure improvements could enhance the performance of small firms pursuing international markets (Eslava et al., 2013). Contrasting this idea with our findings may suggest that a better telecommunications infrastructure is the most effective tool to increase the competitiveness of those international entrepreneurs with a higher proportion of external sales.

The last hypotheses analysed in this paper propose that economic growth is positively influenced by export-oriented entrepreneurship (hypothesis 5a), and that the relationship is stronger in developing countries than in developed countries (hypothesis 5b). We find that export-oriented entrepreneurship at all levels has a positive effect on economic performance. Although the interaction term in model 4 is not statistically significant, the relationship found in models 4–6 has the expected sign. These findings are consistent with the literature, since the effect of entrepreneurial activity with international sales is marginally higher in developing countries (Aparicio, Urbano, & Audretsch, 2016; Hessels & van Stel, 2011). According to De Clercq et al. (2008), a positive and significant effect on economic growth of export-oriented new ventures means that the country is generating a fertile context to transfer knowledge spillovers across industries. Similar to Cadot et al. (2013), one of the success factors of international firms is that they share similar market connections, as well as specific knowledge to adapt to those overseas markets. Similarly, Aparicio, Urbano, and Gómez (2016) emphasise the importance of innovative entrepreneurs' orientation towards international markets for long-term economic growth. Comparing our results with those of Hessels and van Stel (2011), the coefficients are remarkably stable between the two samples of countries. While Hessels and van Stel (2011) find that the effect of export-oriented new ventures on economic growth is equal to 0.048 ($p < 0.05$), our findings indicate that a 1 per cent change in export-oriented entrepreneurship creates a 0.012 per cent ($p < 0.01$, model 3) or a 0.031 per cent ($p < 0.01$, model 6) increase in economic performance. These results enable us to clarify the relative importance of this type of entrepreneurial activity to obtain

higher growth rates across countries, which may suggest that specialised entrepreneurial activity, affected by certain institutions, is also needed to enhance economic development.

4.2. Robustness check

We conducted four additional tests to check the robustness of our results. These are related to changes in the estimation technique, as well as variables that may represent different alternatives of local entrepreneurial activity, international entrepreneurship and economic performance compared to main results in Table 4. Firstly, in line with Aparicio, Urbano, and Audretsch (2016) and Bosma et al. (2018), we estimated the same models as Table 4 through ordinary least squares (OLS). As Appendix 2 shows, though the significance level of the institutional variables is higher than 0.1, the magnitude and sign remain similar to the main results. However, it is worth noting that the interactions for getting credit are still negative (i.e. in favour of developing countries) and statistically significant. Moreover, the effect of local and international entrepreneurship (and their interaction with the dummy representing developed countries) is strong in terms of significance (especially for export-oriented TEA with 1–25% of foreign customers). Although this estimation method may constitute a base line to explore possible relationships between dependent and independent variables, Wooldridge (2010) suggests that results through OLS may be biased. That is why we prefer to keep the results in Table 4 as the main ones.

Secondly, in the spirit of Bosma et al. (2018) and Terjesen and Hessels (2009), we changed our measures of entrepreneurial activity to check whether relationships hold. On the one hand, we used opportunity-driven entrepreneurship, which takes into consideration those entrepreneurs that identify opportunities in the local market (Reynolds et al., 2005); on the other hand, we focused our attention on what Terjesen and Hessels (2009) call "substantial export orientation", which is the percentage of entrepreneurs with a higher number of foreign customers. In our particular case, we have used a variable that measures those entrepreneurs with more than 50 per cent foreigner customers. As Appendix 3 shows, the main institutional variables present similar results, though

private coverage to getting credit (model 1) and the human development level (for all models) are the only statistically significant factors explaining opportunity TEA and export-oriented TEA (50–100% of external sales). Likewise, these two types of entrepreneurial activity might also explain economic growth. Although entrepreneurship driven by opportunity is not statistically significant, its sign and magnitude are similar to those displayed in Table 4—that is, local entrepreneurial activity might have less influence on economic growth than substantial export orientation, which is highly significant, as model 4 shows.

Thirdly, we changed the variable that may be representative of economic growth. According to van Stel, Thurik, and Carree (2005), national income might be equivalent to labour productivity, as it expresses the purchasing power parity per US\$. Our intention involves checking whether export-oriented entrepreneurship has a similar effect on this alternative to economic growth. Appendix 4 shows that not only does the influence of international entrepreneurial activity on national income remain similar to those results observed in Table 4, but the effects of institutions on export-oriented entrepreneurship are also quite similar to our main results. The findings in this appendix even show that the human development level is highly significant for those entrepreneurs with more than 26 per cent foreign customers. The interaction between coverage to getting credit and the dummy representing the development stage is in favour of developing countries, which is consistent with the main results.

Finally, we checked whether the financial crisis has influenced our initial specification and expectations. It has been suggested that internal and external shocks such as crises, regardless of their nature, change people's perception in relation to becoming entrepreneurs and the functioning of firms (Doern, Williams, & Vorley, 2019; Vegetti & Adăscăliţei, 2017). However, Appendix 5 shows that our specification in terms of magnitude and sign remains unchanged when running new models for the period 2002–2007. There are, though, some statistically significant results in favour of the human development level, which is assumed to be important when the economy is working properly (Arin et al., 2015). Consistent with the main results, private coverage to getting credit is

significant and more important for developing than for developed countries. Export-oriented entrepreneurship is also relevant for economic growth, though entrepreneurs with a maximum of 25 per cent external clients are statistically significant for growth, in favour of developing countries.

In sum, we are confident that our results create a reliable analysis. Thus, we believe that the specification we have proposed yields reasonable insights into the institutional predictors of export-oriented entrepreneurship, and the links to economic outcomes. In this regard, theoretical and policy implications can be discussed by taking into consideration our main and alternative findings.

5. Discussion and conclusions

In this paper, unbalanced panel data for the period 2004-2012 were used to investigate empirically how different institutional contexts (characterised by human development level, capacity of recognising opportunities, access to credit, and access to communications) condition the prevalence of export-oriented entrepreneurship, which affects economic growth.

The extant literature on international entrepreneurship has explored different drivers of export-oriented entrepreneurial activity, at the same time recognising that environmental factors are highly relevant for entrepreneurship development, which in turn is positively associated with economic performance (Terjesen et al., 2016; Vanacker et al., 2020; Zahra, 2020). In particular, it is possible to derive five important results in the light of international entrepreneurship literature. First, we identify for all countries that an adequate development environment is required to encourage international entrepreneurial activity. The results of this paper clearly suggest that the development context concerning the quality of life and standard of living generates an entrepreneurial environment for those individuals who perceive the opportunity to create a new international venture. Regarding the differences between groups of countries, although there is no statistical significance, it may be that the development stage matters in those emerging economies that are developing in terms of standard of living (Carree et al., 2007). Following Gnyawali and Fogel (1994), this development context provides social stability in which education, health

insurance, perfect markets (accurate prices and guaranteed quantities), and increasing levels of income are generated for and by all society. Second, our findings emphasise that the ability to perceive opportunities is important in all countries, which implies that a long-term policy of education, experience acquisition and entrepreneurial culture should be implemented. In line with Alvarez et al. (2013) and Chandra et al. (2015), a context where different actors (consumers and suppliers) constantly interact is primarily the result of trust and reasoning; it also has an element of building up the ecosystem needed to create opportunities in international markets (De Cock, Andries, & Clarysse, 2020). Third, as it has been found in the literature, the effect of access to bank credit on export-oriented entrepreneurship in developing countries is greater than in developed countries, suggesting that the banking system is an important element of international entrepreneurial development in these economies, which provides support for entrepreneurs and SMEs. Thus, increasing export intensity implies greater access to the bank system to implement economic activity. It may imply better strategies in terms of entrepreneurial finance in order to create a solid local financial structure (Cumming, 2007) in which investors and entrepreneurs operate, at the same time attracting potential investors from overseas. Fourth, access to communications is important to entrepreneurs in foreign markets, where communications is relevant to expand the new venture (Audretsch et al., 2015; Padilla-Pérez & Gaudin, 2014). The fifth result concerns the link between export-oriented entrepreneurship and economic performance, where our findings are highly suggestive of differences across groups of countries, as well as amongst types of local and international entrepreneurial activities. As expected, the effect of locally-oriented entrepreneurship is less than entrepreneurial activity with external sales. This may suggest that once the entrepreneurs access international markets, they must compete and face greater uncertainty (De Clercq et al., 2008), and disadvantages therefore arise in export-oriented entrepreneurship. In this case, higher risks are associated with higher returns for entrepreneurs and societies. These results, however, are similar in terms of magnitude to the findings of Hessels and van Stel (2011), in that export-oriented entrepreneurship is important for economic growth, especially in developing

countries. Therefore, we can infer that entrepreneurship (internally or externally-oriented) has an important role in promoting economic development, for which institutional endowment is an important factor. As De Clercq et al. (2008) conclude, export-oriented entrepreneurial activity is one missing link in converting knowledge as an implicit factor into the growth process; therefore, spillovers could be generated to spur economic development. Also, Bjørnskov and Foss (2016) and Urbano et al. (2019a) have discussed the possible link between institutions, entrepreneurship and economic growth. According to Terjesen et al. (2016), this link, when applied to international entrepreneurship, may offer promising insights in terms of theory and policymaking.

5.1. Implications for theory

With regard to the theoretical contribution, Verbeke and Kano (2013) suggested that drawing on the institutional approach in future research may provide new insights into why entrepreneurs and businesses behave differently in developing compared to developed countries. Terjesen et al. (2016), conducting a literature analysis, found that this gap could particularly enhance our understanding of the importance of context not only for international entrepreneurship, but also for economic outcomes.

Our paper has taken as its basis two complementary approaches which explain the environmental factors affecting entrepreneurship (Gnyawali & Fogel, 1994) and how these factors enable the link between productive activities (such as entrepreneurship) and economic growth (North & Thomas, 1973). Though Gnyawali and Fogel's (1994) work is more focused on a particular area -namely, entrepreneurship- their approach allows a better understanding of the entrepreneurial process. We move beyond the comprehension of entrepreneurship as an event by trying to embrace those possible environmental factors that take place during the process that starts with the identification of the idea and ends with the formation of the new business (Shane, 2012).

Bringing together Gnyawali and Fogel's (1994) approach and the dichotomy of understanding entrepreneurship as either an event or a process (Shane, 2012), we advance theory on international entrepreneurship in which different factors such as the human development level, opportunity recognition, access to credit and access to communications surround the process and formation of new ventures oriented towards local and international markets. This is also consistent with Shane and Venkataram (2000) and Zahra et al. (2014), who define (international) entrepreneurship as a process of identification, evaluation and exploitation of business opportunities to contribute to economic wellbeing. Our results and analyses imply not only the association of variables but, most importantly, understanding of a process for international entrepreneurship and economic development.

North and Thomas (1973) offer consistent reasoning for the development process, where different fundamental and proximate determinants exist to explain cross-country differences. Acemoglu et al. (2014) provide evidence of the role played by human capital as a conduit of institutions through the formation of knowledge and experience for economic growth. Aparicio, Urbano, and Audretsch (2016) introduce evidence for entrepreneurship by exploring opportunity entrepreneurship as a mechanism that transfers institutional changes to economic growth. Drawing on this work, Bosma et al. (2018) show that other types of local entrepreneurship, such as early stage entrepreneurial activity (i.e. TEA), entrepreneurial activity with growth aspirations and entrepreneurship with job creation, are also affected by institutions, and are proximate determinants of economic growth.

In line with this evidence and Zahra et al.'s (2014) definition, our results and analyses also move forward the understanding of economic development through export-oriented entrepreneurship. This implies that entrepreneurs oriented towards external markets are key for the long-term economic development process, as they absorb and take support from the context, and translate what is happening into benefits for the entire society. Indeed, export-oriented entrepreneurial activity may provide direct employment, generate positive externalities through

40

knowledge spillovers, and consequently stimulate economic growth (Branstetter, 2001; Coviello, McDougall, & Oviatt, 2011; Hessels & van Stel, 2011). Thus, the importance of export-oriented entrepreneurship shown here revitalises the long debate in both academic and policy spheres about its advantages and related determinants (Cavusgil & Knight, 2015; Hisrich et al., 1996).

Although few studies exist analysing the links between international entrepreneurship and economic performance at the regional and country levels, De Clercq et al. (2008), Hessels and van Stel (2011), and Sternberg and Müller (2010), amongst others, focus on the particular types of entrepreneurship most conducive to economic growth.

5.2. Implications for policy

A better understanding of the complex interactions between environmental factors, export-oriented entrepreneurship and economic performance is needed to enhance the efficacy of economic policies (Lee & Peerson, 2001; Terjesen et al., 2016). This suggests that it is important to understand the context, such as socio-political issues, poverty and unofficial economy (Bruton, Ketchen, & Ireland, 2013; Kim & Li, 2014), confronting mainly developing countries. With regard to these issues, our findings suggest that particular strategies that are related to those significant environmental factors have a positive effect on export-oriented entrepreneurship (directly) and economic growth (indirectly). Regarding financial assistance, not only removing credit constraints but also improving and increasing financial sources could be significant strategies for entrepreneurship development in all countries.

The financial system is crucial to provide sufficient tools for entrepreneurs, who are constantly in pursuit of opportunities. Therefore, an ecosystem of entrepreneurship is required within each developing country to motivate the permanent generation of ideas (Ács, Autio, & Szerb, 2014; De Cock et al., 2020). According to these authors, every government at the regional and national level should pay attention to the systems of entrepreneurship, which are fundamentally networks that are driven by the pursuit of opportunity at the individual level, allowing the creation

of new firms either internally or externally-oriented. Furthermore, those policies to promote entrepreneurship should extend the vision to achieve long-term results most in developing countries. Therefore, financial goals can be included in the picture as long as the organisation has an influence on the economy and society. Thus, both growth and development result from promoting sustainable entrepreneurship in all economies through a higher financial system structure (Ansari, Munir, & Gregg, 2012). In this regard, developing countries should allow the expansion of commercial banks (both internal and external brands) and create incentives for private capital, which is very much needed for international entrepreneurship (Cumming et al., 2018; Parada Balderrama et al., 2009; Wright et al., 2005). New and greater supply from banks not only enhances funding opportunities but also improves the financial system, as this should be better structured to manage and regulate competition in favour of the society.

The existence of more banks with a globalised mindset in developing countries also serves as a mechanism for incentive programmes that provide advisory services. Coad et al. (2016) show that these strategies are highly beneficial for entrepreneurs in the UK, as they acquire knowledge for better financial management. Gai and Minniti (2015b) present similar evidence for less favoured communities in the US, while Cumming et al. (2014) show how important a publicly-funded business advisory service is for international entrepreneurship. This wide evidence suggests that public and private initiatives are important for the sustainability and expansion of local and international entrepreneurial activities. One particular strategy focuses on non-financial assistance, such as the infrastructure, which should contain elements of distribution (entrepreneurs with markets), communications (entrepreneurs with information) and networks (entrepreneurs with other entrepreneurs, government, education system, civil society, etc.); this is highly recommended for all countries, but particularly for emerging economies, which have a poor infrastructure. This entrepreneurial infrastructure and its outcomes should be regulated by country-specific institutional characteristics in order to achieve higher outcomes in terms of growth and welfare (Padilla-Pérez & Gaudin, 2014). According to Audretsch et al. (2015) and Bennett (2019), the infrastructure is a

source of competitiveness, where entrepreneurs participate through the development of new products and services, and are constantly searching for new (international) markets.

To achieve an increased network, useful for the value chain of new international ventures (Fraccastoro et al., 2020), it is important that governments in developed and developing countries guarantee and regulate the communication infrastructure in favour of households and businesses, involving broadband, phone and mobile services, among others. With this in mind, some literature is discussed by Padilla-Pérez and Gaudin (2014), who analyse the importance of communication in Central America.

Governments, education systems, the financial infrastructure, productive sectors and civil society must constantly interact to achieve a better performance in terms of increasing the number of international entrepreneurs and hence achieving higher levels of inclusive economic growth. In this context, Ács et al. (2014) propose an index of national systems of entrepreneurship which has the capacity to identify the components that compose entrepreneurial systems, the factors that discourage their performance, and the context in which the entrepreneurial systems are embedded. The role of venture capitalists and other sorts of investor in shaping a better ecosystem for entrepreneurs is also important (Cumming et al., 2019). Here, initiatives from public and private organisations in terms of funding support might serve to explore both new products and international markets, all of them aimed at increasing performance, and thereby economic growth (Croce, Martí, & Murtinu, 2013).

5.3. Limitations and future research

Finally, some limitations regarding the sample size, especially for developing countries, must be emphasised. Other datasets could provide a larger sample for both heterogeneous and specific groups of countries over longer periods of time, which would allow more precise estimators to be obtained through dynamic analysis. Additional instruments should be considered, especially if there is an intention to move from a general analysis of context to explorations of formal and

informal institutions. For example, future works might be interested in tackling questions related to cultural aspects (e.g. Cumming et al., 2014; Stephan & Uhlaner, 2010), legal costs (e.g. Cumming et al., 2014; Djankov et al., 2002), financial assistance from emerging platforms and private equity (e.g. Cumming et al., 2018; LiPuma & Park, 2014), non-financial assistance coming from public and private organisations (e.g. Coad et al., 2016; Cumming et al., 2015), and corporate envision through intrapreneurship with international orientation (Maksimov & Luo, 2020; Vanacker et al., 2020). Formal and informal institutional dynamics should also be captured in future research. In particular, changes in formal institutions such as new regulations or reforms (Cumming & Knill, 2012) would enhance the analysis of entrepreneurship, entrepreneurial finance and internationalisation. Existing information to test these questions would encourage the possibility of extending the objective presented in this paper by exploring and including additional institutional factors into the export-oriented entrepreneurship equation. In that context, it is possible to follow the studies by Aidis et al. (2008), Bruno, Bytchkova, and Estrin (2013), Bruton et al. (2009), and Welter (2011) in order to analyse how other types of institution could also encourage entrepreneurial behaviour and therefore generate higher economic growth rates.

As Muralidharan and Pathak (2017) outline, the exploration of alternative institutions might facilitate an analysis of how formal and informal institutions complement each other to explain international entrepreneurship. At the same time, further analysis in this line may serve to compare whether informal institutions matter more for export-oriented entrepreneurship than formal ones (Aparicio, Urbano, & Audretsch, 2016), ultimately explaining economic outcomes. The main challenge is to find the appropriate data at the country level that allow for simultaneous evaluation of the effect of institutional context on entrepreneurship and its subsequent impact on economic growth, with regard also to dynamic analysis.

References

Acemoglu, D., Gallego, F. A., & Robinson, J. A. 2014. Institutions, human capital, and development. *Annual Review of Economics*, 6(1): 875-912.

Acs, Z. J., Audretsch, D. B., Braunerhjelm, P., & Carlsson, B. 2012. Growth and entrepreneurship. *Small Business Economics*, 39(2): 289-300.

Acs, Z. J., Audretsch, D. B., & Lehmann, E. E. 2013. The knowledge spillover theory of entrepreneurship. *Small Business Economics*, 41(4): 757-774.

Ács, Z. J., Autio, E., & Szerb, L. 2014. National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy*, 43(3): 476–494.

Acs, Z., Desai, S., & Klapper, L. F. 2008. What does "entrepreneurship" data really show?. *Small Business Economics*, 31(3): 265–281.

Acs, Z. J., Estrin, S., Mickiewicz, T., & Szerb, L. 2018. Entrepreneurship, institutional economics, and economic growth: an ecosystem perspective. *Small Business Economics*, 51(2): 501-514.

Aidis, R., Estrin, S., & Mickiewicz, T. 2008. Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of Business Venturing*, 23(6): 656–672.

Alvarez, S. A., Barney, J. B., & Anderson, P. 2013. Forming and exploiting opportunities: The implications of discovery and creation processes for entrepreneurial and organizational research. *Organization Science*, 24(1): 301-317.

Amorós, J. E., Fernández, C., & Tapia, J. 2012. Quantifying the relationship between entrepreneurship and competitiveness development stages in Latin America. *International Entrepreneurship and Management Journal*, 8(3): 249-270.

Ansari, S., Munir, K., & Gregg, T. 2012. Impact at the 'bottom of the pyramid': the role of social capital in capability development and community empowerment. *Journal of Management Studies*, 49(4): 813-842.

Aparicio, S., Urbano, D., & Audretsch, D. 2016. Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological Forecasting and Social Change*, 102: 45-61.

Aparicio, S., Urbano, D., & Gómez, D. 2016. The role of innovative entrepreneurship within Colombian business cycle scenarios: A system dynamics approach. *Futures*, 81: 130-147.

Arenius, P., & Minniti, M. 2005. Perceptual variables and nascent entrepreneurship. *Small Business Economics*, 24(3): 233-247.

Arin, K. P., Huang, V. Z., Minniti, M., Nandialath, A. M., & Reich, O. F. 2015. Revisiting the determinants of entrepreneurship: A Bayesian approach. *Journal of Management*, 41(2): 607-631.

Audretsch, D. B., & Belitski, M. 2013. The missing pillar: The creativity theory of knowledge spillover entrepreneurship. *Small Business Economics*, 41(4): 819-836.

Audretsch, D. B., Heger, D., & Veith, T. 2015. Infrastructure and entrepreneurship. *Small Business Economics*, 44(2): 219-230.

Audretsch, D. B., & Keilbach, M. 2008. Resolving the knowledge paradox: Knowledge-spillover entrepreneurship and economic growth. *Research Policy*, 37(10): 1697-1705.

Ault, J. K., & Spicer, A. 2019. State fragility as a multi-dimensional construct for international entrepreneurship research and practice. *Asia Pacific Journal of Management*. In press, doi: 10.1007/s10490-018-09641-1.

Bahar, D., Hausmann, R., & Hidalgo, C. A. 2014. Neighbors and the evolution of the comparative advantage of nations: Evidence of international knowledge diffusion? *Journal of International Economics*, 92(1): 111-123.

Bahl, M., Lahiri, S., & Mukherjee, D. 2020. Managing Internationalization and Innovation Tradeoffs in Entrepreneurial Firms: Evidence from Transition Economies. *Journal of World Business*. Forthcoming.

Baumol, W. J. 2002. The Free-Market Innovation Machine – Analyzing the Growth Miracle of

Capitalism. Princeton and Oxford: Princeton University Press.

Baumol, W. J., & Strom, R. J. 2007. Entrepreneurship and economic growth. *Strategic Entrepreneurship Journal*, 1(34): 233-237.

Beck, T., & Demirgüç-Kunt, A. 2008. Access to finance: An unfinished agenda. *The world bank Economic Review*, 22(3): 383-396.

Belitski, M., Chowdhury, F., & Desai, S. 2016. Taxes, corruption, and entry. *Small Business Economics*, 47(1): 201-216.

Bennett, D. L. 2019. Infrastructure investments and entrepreneurial dynamism in the US. *Journal of Business Venturing*, 34(5): 105907.

Bjørnskov, C., & Foss, N. J. 2016. Institutions, Entrepreneurship, and Economic Growth: What Do We Know and What Do We Still Need to Know? *The Academy of Management Perspectives,* 30(3): 292-315.

Bleaney, M., & Nishiyama, A. 2002. Explaining growth: a contest between models. *Journal of Economic Growth*, 7(1): 43-56.

Bosma, N., Content, J., Sanders, M., & Stam, E. 2018. Institutions, entrepreneurship, and economic growth in Europe. *Small Business Economics*, 51(2): 483-499.

Branstetter, L. G. 2001. Are knowledge spillovers international or intranational in scope? Microeconometric evidence from the U.S. and Japan. *Journal of International Economics*, 53(1): 53–79.

Bruno, R. L., Bytchkova, M., & Estrin, S. 2013. Institutional determinants of new firm entry in Russia: A cross-regional analysis. *Review of Economics and Statistics*, 95(5): 1740-1749.

Bruton, G. D., Ahlstrom, D., & Li, H. L. 2010. Institutional theory and entrepreneurship: where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice*, 34(3): 421-440.

Bruton, G. D., Ahlstrom, D., & Puky, T. 2009. Institutional differences and the development of entrepreneurial ventures: A comparison of the venture capital industries in Latin America and Asia. *Journal of International Business Studies*, 40(5): 762-778.

Bruton, G. D., Ketchen, D. J., & Ireland, R. D. 2013. Entrepreneurship as a solution to poverty. *Journal of Business Venturing*, 28(6): 683-689.

Cadot, O., Iacovone, L., Pierola, M. D., & Rauch, F. 2013. Success and failure of African exporters. *Journal of Development Economics*, 101: 284-296.

Carree, M., Van Stel, A., Thurik, R., & Wennekers, S. 2007. The relationship between economic development and business ownership revisited. *Entrepreneurship & Regional Development*, 19(3): 281-291.

Cavusgil, S. T., & Knight, G. 2015. The born global firm: An entrepreneurial and capabilities perspective on early and rapid internationalization. *Journal of International Business Studies*, 46(1): 3-16.

Chandra, Y., Styles, C., & Wilkinson, I. F. 2015. Opportunity portfolio: Moving beyond single opportunity explanations in international entrepreneurship research. *Asia Pacific Journal of Management*, 32(1): 199-228.

Chowdhury, F., & Audretsch, D. B. 2020. Do corruption and regulations matter for home country nascent international entrepreneurship? *The Journal of Technology Transfer*. In press, doi: 10.1007/s10961-020-09797-3.

Chowdhury, F., Desai, S., Audretsch, D. B., & Belitski, M. 2015. Does corruption matter for international entrepreneurship? *International Entrepreneurship and Management Journal*, 11(4): 959-980.

Ciravegna, L., Lopez, L., & Kundu, S. 2014. Country of origin and network effects on internationalization: A comparative study of SMEs from an emerging and developed economy. *Journal of Business Research*, 67(5): 916-923.

Coad, A., Frankish, J. S., Roberts, R. G., & Storey, D. J. 2016. Why should banks provide entrepreneurship training seminars? *International Small Business Journal*, 34(6): 733-759.

Coeurderoy, R., & Murray, G. 2008. Regulatory environments and the location decision: Evidence from the early foreign market entries of new-technology-based firms. *Journal of International Business Studies*, 39(4): 670-687.

Contractor, F. J., & Kundu, S. 2004. The role of export-driven entrepreneurship in economic development: A comparison of software exports from India, China, and Taiwan. *Technological Forecasting and Social Change*, 71(8): 799-822.

Coviello, N. E., McDougall, P. P., & Oviatt, B. M. 2011. The emergence, advance and future of international entrepreneurship research—An introduction to the special forum. *Journal of Business Venturing*, 26(6): 625–631.

Croce, A., Martí, J., & Murtinu, S. 2013. The impact of venture capital on the productivity growth of European entrepreneurial firms:'Screening'or 'value added'effect? *Journal of Business Venturing*, 28(4), 489-510.

Cumming, D. 2007. Government policy towards entrepreneurial finance: Innovation investment funds. *Journal of Business Venturin*g, 22(2), 193-235.

Cumming, D., & Knill, A. 2012. Disclosure, venture capital and entrepreneurial spawning. *Journal of International Business Studies*, 43(6), 563-590.

Cumming, D., Fischer, E., & Peridis, T. 2015. Publicly funded business advisory services and entrepreneurial internationalization. *International Small Business Journal*, 33(8): 824-839.

Cumming, D., Johan, S., & Zhang, M. 2014. The economic impact of entrepreneurship: Comparing international datasets. *Corporate Governance: An International Review*, 22(2): 162-178.

Cumming, D., Johan, S., & Zhang, Y. 2018. Public policy towards entrepreneurial finance: spillovers and the scale-up gap. *Oxford Review of Economic Policy*, 34(4): 652-675.

Cumming, D. J., Leboeuf, G., & Schwienbacher, A. 2020. Crowdfunding models: Keep-it-all vs. all-or-nothing. *Financial Management*, 49(2): 331-360.

Cumming, D., Werth, J. C., & Zhang, Y. 2019. Governance in entrepreneurial ecosystems: venture capitalists vs. technology parks. *Small Business Economics*, 52(2): 455-484.

Dau, L. A. 2016. Contextualizing international learning: The moderating effects of mode of entry and subsidiary networks on the relationship between reforms and profitability. *Journal of World Business*. In press, doi: 10.1016/j.jwb.2016.10.005.

De Clercq, D., Hessels, J., & van Stel, A. 2008. Knowledge spillovers and new ventures' export orientation. *Small Business Economics*, 31(3): 283–303.

De Cock, R., Andries, P., & Clarysse, B. 2020. How founder characteristics imprint ventures' internationalization processes: The role of international experience and cognitive beliefs. *Journal of World Business*. Forthcoming.

Dimitratos, P., Johnson, J. E., Plakoyiannaki, E., & Young, S. 2016. SME internationalization: How does the opportunity-based international entrepreneurial culture matter? *International Business Review*, 25(6): 1211-1222.

Djankov S., La Porta R., Lopez-De-Salines F. and Shleifer A., The regulation of entry. *Quarterly Journal of Economics* 117 (1), 2002, 1–37.

Doern, R., Williams, N., & Vorley, T. 2019. Special issue on entrepreneurship and crises: business as usual? An introduction and review of the literature. *Entrepreneurship & Regional Development*, 31(5-6): 400-412.

Eden, L. 2010. Letter from the Editor-in-Chief: Lifting the veil on how institutions matter in IB research. *Journal of International Business Studies*, 41(2): 175-177.

Erken, H., Donselaar, P., & Thurik, R. 2018. Total factor productivity and the role of entrepreneurship. *The Journal of Technology Transfer*, 43(6): 1493-1521.

Eslava, M., Haltiwanger, J., Kugler, A., & Kugler, M. 2013. Trade and market selection: Evidence from manufacturing plants in Colombia. *Review of Economic Dynamics*, 16(1): 135-158.

Evers, N., & O'Gorman, C. 2011. Improvised internationalization in new ventures: The role of prior knowledge and networks. *Entrepreneurship & Regional Development*, 23(7-8): 549-574.

Fainshmidt, S., Judge, W. Q., Aguilera, R. V., & Smith, A. 2018. Varieties of institutional systems: A contextual taxonomy of understudied countries. *Journal of World Business*, 53(3): 307-322.

Fan, T., & Phan, P. 2007. International new ventures: revisiting the influences behind the 'born-global' firm. *Journal of International Business Studies*, 38(7): 1113-1131.

Fatoki, O., & Odeyemi, A. 2010. The determinants of access to trade credit by new SMEs in South Africa. *African Journal of Business Management*, 4(13): 2763-2770.

Fraccastoro, S., Gabrielsson, M., & Chetty, S. 2020. Social Media Firm Specific Advantages as Enablers of Network Embeddedness of International Entrepreneurial Ventures. *Journal of World Business*. Forthcoming.

Gai, Y., & Minniti, M. (2015a). Health insurance, job lock, and the supply of self-employment. *Journal of Small Business Management*, 53(2): 558-580.

Gai, Y., & Minniti, M. (2015b). External Financing and the Survival of Black-Owned Start-Ups in the US. *Eastern Economic Journal*, 41(3): 387-410.

Galindo, M.-Á., & Méndez-Picazo, M-T. 2013. Innovation, entrepreneurship and economic growth. *Management Decision*, 51(3): 501-514.

Gaur, A. S., Kumar, V., & Singh, D. 2014. Institutions, resources, and internationalization of emerging economy firms. *Journal of World Business*, 49(1): 12-20.

Gittins, T., Lang, R., & Sass, M. 2015. The effect of return migration driven social capital on SME internationalisation: a comparative case study of IT sector entrepreneurs in Central and Eastern Europe. *Review of Managerial Science*, 9(2): 385-409.

Gnyawali, D. R., & Fogel, D.S. 1994. Environments for entrepreneurship development: key dimensions and research implications. *Entrepreneurship Theory and Practice*, 18: 43–62.

González-Pernía, J. L., Guerrero, M., Jung, A., & Peña-Legazkue, I. 2018. Economic recession shake-out and entrepreneurship: Evidence from Spain. *BRQ Business Research Quarterly, 21*(3), 153-167.

González-Pernía, J. L., & Peña-Legazkue, I. 2015. Export-oriented entrepreneurship and regional economic growth. *Small Business Economics*, 45(3): 505-522.

Haddad, C., & Hornuf, L. 2018. The emergence of the global fintech market: Economic and technological determinants. *Small Business Economics*. In press, doi: 10.1007/s11187-018-9991-x

Hafer, R. W., & Jones, G. 2015. Are entrepreneurship and cognitive skills related? Some international evidence. *Small Business Economics*, 44(2): 283-298.

Hausmann, R., Hwang, J., & Rodrik, D. 2007. What you export matters. *Journal of Economic Growth*, 12(1): 1-25.

Heidenreich, S., Mohr, A., & Puck, J. 2015. Political strategies, entrepreneurial overconfidence and foreign direct investment in developing countries. *Journal of World Business*, 50(4): 793-803.

Herrington, M., Kew, J., & Kew P. 2009. Global Entrepreneurship Monitor, South African report. http://www.gbs.nct.ac.za/gbswebb/userfiles/gemsouthafrica2000pdf. Accessed 29 September 2015.

Hessels, J., & Parker, S. C. 2013. Constraints, internationalization and growth: A cross-country analysis of European SMEs. *Journal of World Business*, 48(1): 137-148.

Hessels, J., & van Stel, A. 2011. Entrepreneurship, export orientation, and economic growth. *Small Business Economics*, 37(2): 255–268.

Hidalgo, C. A., Klinger, B., Barabási, A. L., & Hausmann, R. 2007. The product space conditions the development of nations. *Science*, 317(5837): 482-487.

Hisrich, R. D., Honig-Haftel, S., McDougall, P. P., & Oviatt, B. M. 1996. International entrepreneurship: Past, present, and future. *Entrepreneurship Theory and Practice*, 20(4): 5-8.

Intriligator, M., Bodkin, R., & Hsiao, C. 1996. *Econometric Models, Techniques and Applications* (2nd Ed.). Upper Saddle River: Prentice Hall.

Jinb, B., Wooc, H., & Chungd, J. E. 2015. How Are Born Globals Different from Non-Born Global Firms? Evidence from Korean Small-and Medium-Sized Enterprises. *Journal of Korea Trade*, 19(3): 1-19.

Jones, M. V., & Casulli, L. 2014. International entrepreneurship: Exploring the logic and utility of individual experience through comparative reasoning approaches. *Entrepreneurship Theory and Practice*, 38(1): 45-69.

Kaleka, A. 2012. Studying resource and capability effects on export venture performance. *Journal of World Business*, 47(1): 93-105.

Kgoroeadira, R., Burke, A., & van Stel, A. 2019. Small business online loan crowdfunding: who gets funded and what determines the rate of interest? *Small Business Economics*, 52(1): 67-87.

Kim, P. H., & Li, M. 2014. Injecting demand through spillovers: Foreign direct investment, domestic socio-political conditions, and host-country entrepreneurial activity. *Journal of Business Venturing*, 29(2): 210-231.

Kontinen, T., & Ojala, A. 2011. Network ties in the international opportunity recognition of family SMEs. *International Business Review*, 20(4): 440-453.

Krueger Jr, N. F., & Brazeal, D. V. 1994. Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship Theory and Practice*, 18(3): 91-104.

Langowitz, N., & Minniti, M. 2007. The entrepreneurial propensity of women. *Entrepreneurship Theory and Practice*, 31(3): 341-364.

Lee, S. M., & Peterson, S. J. 2001. Culture, entrepreneurial orientation, and global competitiveness. *Journal of World Business*, 35(4): 401-416.

Liñán, F., Paul, J., & Fayolle, A. 2019. SMEs and entrepreneurship in the era of globalization: advances and theoretical approaches. *Small Business Economics*. In press, doi: 10.1007/s11187-019-00180-7.

LiPuma, J. A., & Park, S. (2014). Venture capitalists' risk mitigation of portfolio company internationalization. *Entrepreneurship Theory and Practice*, 38(5): 1183-1205.

Maksimov, V. & Luo, Y. 2020. International Springboard as an Entrepreneurial Act. *Journal of World Business*. Forthcoming.

Manolova, T. S., Eunni, R. V., & Gyoshev, B. S. 2008. Institutional environments for entrepreneurship: Evidence from emerging economies in Eastern Europe. *Entrepreneurship Theory and Practice*, 32(1): 203-218.

Maas, G., & Herrington, M. 2006. Global Entrepreneurship Monitor South Africa report. http://www.gemconsortium.org/document.aspx?id756. Accessed 5 October 2015.

Marano, V., Arregle, J. L., Hitt, M. A., Spadafora, E., & van Essen, M. 2016. Home country institutions and the internationalization-performance relationship: A meta-analytic review. *Journal of Management*, 42(5), 1075-1110.

McDougall, P. P., & Oviatt, B. M. 2000. International entrepreneurship: the intersection of two research paths. *Academy of Management Journal*, 43(5): 902–906.

McGaughey, S. L., Kumaraswamy, A., & Liesch, P. W. 2016. Institutions, entrepreneurship and co-evolution in international business. *Journal of World Business*, 51(6): 871-881.

Minniti, M., & Lévesque, M. 2010. Entrepreneurial types and economic growth. *Journal of Business Venturing*, 25(3): 305-314.

Muralidharan, E., & Pathak, S. 2017. Informal institutions and international entrepreneurship. *International Business Review*, 26(2): 288-302.

Murtinu, S., & Scalera, V. G. 2016. Sovereign wealth funds' internationalization strategies: the use of investment vehicles. *Journal of International Management*, 22(3), 249-264.

Naudé, W. 2011. Entrepreneurship is not a binding constraint on growth and development in the poorest countries. *World Development*, 39(1): 33-44.

Navarro-García, A. 2016. Drivers of export entrepreneurship. *International Business Review*, 25(1): 244-254.

Navarro-García, A., Calvo-Moreno Schmidt, A. C. M., & Rey-Moreno, M. 2015. Antecedents and consequences of export entrepreneurship. *Journal of Business Research*, 68(7): 1532-1538.

North, D.C. 1990. *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.

North, D.C. 2005. *Understanding the Process of Economic Change*. Princeton: Princeton University Press.

North, D. C., & Thomas, R. P. 1973. *The Rise of the Western World: A New Economic History*. Cambridge: Cambridge University Press.

Nowiński, W., & Rialp, A. 2013. Drivers and strategies of international new ventures from a Central European transition economy. *Journal for East European Management Studies*, 18(2): 191-231.

Ojala, A. 2015. Geographic, cultural, and psychic distance to foreign markets in the context of small and new ventures. *International Business Review*, 24(5): 825-835.

Ojala, A., Evers, N., & Rialp, A. 2018. Extending the international new venture phenomenon to digital platform providers: A longitudinal case study. *Journal of World Business*, 53(5): 725-739.

Oparaocha, G. O. 2015. SMEs and international entrepreneurship: An institutional network perspective. *International Business Review*, 24(5): 861-863.

Oviatt B.M. and McDougall P.P., Defining international entrepreneurship and modeling the speed of internationalization. *Entrepreneurship Theory and Practice* 29 (5), 2005, 537–553.

Padilla-Pérez, R., & Gaudin, Y. 2014. Science, technology and innovation policies in small and developing economies: The case of Central America. *Research Policy*, 43(4): 749-759.

Parada Balderrama, P., Alemany, L. & Planellas Arán, M. 2009. The internationalisation of retail banking: Banco Santander's journey towards globalisation. *Long Range Planning*, 42 (5-6): 654-677.

Perri, A., Scalera, V. G., & Mudambi, R. 2017. What are the most promising conduits for foreign knowledge inflows? innovation networks in the Chinese pharmaceutical industry. *Industrial and Corporate Change*, 26(2), 333-355.

Puente, R., González Espitia, C. G., & Cervilla, M. A. 2019. Necessity entrepreneurship in Latin America: it´s not that simple. *Entrepreneurship & Regional Development*, 31(9-10): 953-983.

Rezvani, M., Shariatmadari, H., & Ghahramani, S. 2014. International Entrepreneurial Opportunity: A Meta-Synthesis of Previous Researches. In P. Dover, S. Hariharan, & M. Cummings (Eds.), *Proceedings of the 2nd International Conference on Management, Leadership and Governance: ICMLG 2014*: 388-396. Academic Conferences Limited.

Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., Lopez-Garcia, P., & Chin, N. 2005. Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics*, 24(3): 205-231.

Rialp, A., Merigó, J. M., Cancino, C. A., & Urbano, D. 2019. Twenty-five years (1992–2016) of the International Business Review: A bibliometric overview. *International Business Review*, 28(6): 101587.

Riding, A., Orser, B. J., Spence, M., & Belanger, B. 2012. Financing new venture exporters. *Small Business Economics*, 38(2): 147-163.

Rock, J., & Ahmed, S. A. 2014. Resources, capabilities and export performance: multidimensional evidence of Chile. *Academia Revista Latinoamericana de Administración*, 27(1): 108-137.

Romer, P. M. 1986. Increasing returns and long-run growth. *The Journal of Political Economy,* 94(5): 1002–1037.

Salimath, M. S., & Cullen, J. B. 2010. Formal and informal institutional effects on entrepreneurship: a synthesis of nation-level research. *International Journal of Organizational Analysis*, 18(3): 358-385.

Sanyang, S. E., & Huang, W. C. 2010. Entrepreneurship and economic development: The EMPRETEC showcase. *International Entrepreneurship and Management Journal*, 6(3): 317-329.

Sartor, M. A., & Beamish, P. W. 2014. Offshoring innovation to emerging markets: Organizational control and informal institutional distance. *Journal of International Business Studies*, 45(9): 1072-1095.

Schumpeter, J. A. 1934. *The Theory of Economic Development: An Inquiry into profits, capital, credit, interest, and the business cycle*. Transaction Books.

Schwens, C. & Kabst, R. 2011. Internationalization of young technology firms: A complementary per- spective on antecedents of foreign market familiarity. International Business Review, 20(1): 60–74.

Schwens, C., Zapkau, F. B., Bierwerth, M., Isidor, R., Knight, G., & Kabst, R. 2018. International Entrepreneurship: A Meta–Analysis on the Internationalization and Performance Relationship. *Entrepreneurship Theory and Practice*, 42(5): 734-768.

Shane, S. 2012. Reflections on the 2010 AMR decade award: delivering on the promise of entrepreneurship as a field of research. *Academy of Management Review*, 37(1): 10–20.

Shane, S., & Venkataraman, S. 2000. The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1): 217-226.

Sinkovics, N., Sinkovics, R. R., & Jean, R. J. 2013. The internet as an alternative path to internationalization? *International Marketing Review*, 30(2): 130-155.

Smith, A., Judge, W., Pezeshkan, A., & Nair, A. 2016. Institutionalizing entrepreneurial expertise in subsistence economies. *Journal of World Business*, 51(6): 910-922.

Spencer, J. W., & Gómez, C. 2004. The relationship among national institutional structures, economic factors, and domestic entrepreneurial activity: a multicountry study. *Journal of Business Research*, 57(10). 1098-1107.

Stephan, U., & Uhlaner, L. M. 2010. Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies*, 41(8): 1347-1364.

Stenholm, P., Acs, Z. J., & Wuebker, R. 2013. Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*, 28(1): 176-193.

Sternberg, R., & Müller, C. 2010. 'New Argonauts' in China–Return Migrants, Transnational Entrepreneurship and Economic Growth in a Regional Innovation System. *Die Erde*, 141(1–2): 103-125.

Teagarden, M. B., Von Glinow, M. A., & Mellahi, K. 2018. Contextualizing international business research: Enhancing rigor and relevance. *Journal of World Business*, 53(3): 303-306.

Teece, D. J. 2014. A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *Journal of International Business Studies*, 45(1): 8-37.

Terjesen, S., & Hessels, J. 2009. Varieties of export-oriented entrepreneurship in Asia. *Asia Pacific Journal of Management*, 26(3): 537-561.

Terjesen, S., Hessels, J., & Li, D. 2016. Comparative International Entrepreneurship A Review and Research Agenda. *Journal of Management*, 42(1): 299-344.

Thornton, P.H., Ribeiro-Soriano, D., & Urbano, D. 2011. Socio-cultural factors and entrepreneurial activity: An overview. *International Small Business Journal,* 29(2): 105-118.

Tolstoy, D., Nordman, E. R., Hånell, S. M., & Özbek, N. 2020. The Development of International E-Commerce in Retail SMEs: An Effectuation Perspective. *Journal of World Business*. Forthcoming.

Urbano D. and Aparicio S., Entrepreneurship capital types and economic growth: international evidence. *Technological Forecasting and Social Change* 102, 2016, 34–44.

Urbano, D., Aparicio, S., & Audretsch, D. 2019a. Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? *Small Business Economics*, 53(1): 21-49.

Urbano, D., Aparicio, S., & Audretsch, D. B. 2019b. *Institutions, entrepreneurship, and economic performance*. Cham: Springer International Publishing.

Urbano, D., Audretsch, D., Aparicio, S., & Noguera, M. 2020. Does entrepreneurial activity matter for economic growth in developing countries? The role of the institutional environment. *International Entrepreneurship and Management Journal*, 16(3): 1065-1099.

Vanacker, T., Zahra, S. A., & Holmes Jr., R. M. 2020. Corporate entrepreneurship, country institutions and firm financial performance. *Journal of World Business*. Forthcoming.

Van Auken, H. E. 1999. Obstacles to business launch. *Journal of Developmental Entrepreneurship*, 4(2): 175-187.

van Gelderen, M., Thurik, R., & Bosma, N. 2005. Success and risk factors in the pre-startup phase. *Small Business Economics*, 24(4): 365-380.

van Stel, A., Carree, M., & Thurik, R. 2005. The effect of entrepreneurial activity on national economic growth. *Small Business Economics*, 24(3): 311-321.

van Stel, A., & van der Zwan, P. 2019. Analyzing the changing education distributions of solo self-employed workers and employer entrepreneurs in Europe. *Small Business Economics*. In press, doi: 10.1007/s11187-019-00243-9.

Vegetti, F., & Adăscăliţei, D. 2017. The impact of the economic crisis on latent and early entrepreneurship in Europe. *International Entrepreneurship and Management Journal*, 13(4): 1289-1314.

Verbeke, A., & Kano, L. 2013. The transaction cost economics (TCE) theory of trading favors. *Asia Pacific Journal of Management*, 30(2): 409-431.

von Broembsen, M., Wood, E., & Herrington, M. 2005. Global Entrepreneurship Monitor South Africa report. http://www.gsb.uct.ac.za/gsbwebb/userfiles/gem.pdf. 15 October 2015.

Wang, S. Y. 2012. Credit constraints, job mobility, and entrepreneurship: evidence from a property reform in china. *Review of Economics and Statistics*, 94(2): 532-551.

Welter, F. 2005. Entrepreneurial behavior in differing environments. In D. B. Audretsch, H. Grimm, & C. W. Wessner (Eds.), *Local heroes in the global village globalization and the new*

entrepreneurship policies. International Studies in Entrepreneurship: 93-112. New York: Springer.

Welter, F. 2011. Contextualizing entrepreneurship—conceptual challenges and ways forward. *Entrepreneurship Theory and Practice*, 35(1): 165-184.

Wennekers, S., van Stel, A., Thurik, R., & Reynolds, P. 2005. Nascent entrepreneurship and the level of economic development. *Small Business Economics*, 24(3): 293-309.

Williamson, O. E. 2000. The new institutional economics: taking stock, looking ahead. *Journal of Economic Literature*, 38(3): 595–613.

Wooldridge, J.M. 2010. *Econometric analysis of Cross-Section and Panel data* (2nd ed.). Cambridge: MIT Press.

Wright, M., Lockett, A., & Pruthi, S. 2002. Internationalization of Western venture capitalists into emerging markets: Risk assessment and information in India. *Small Business Economics*, 19(1): 13-29.

Wright, M., Pruthi, S., & Lockett, A. 2005. International venture capital research: From cross-country comparisons to crossing borders. *International Journal of Management Reviews*, 7(3): 135-165.

Yamakawa, Y., Peng, M. W., & Deeds, D. L. 2008. What drives new ventures to internationalize from emerging to developed economies? *Entrepreneurship Theory and Practice*, 32(1): 59-82.

Zahra, S. A. 2020. International entrepreneurship in the post Covid world. *Journal of World Business*. In press, doi: 10.1016/j.jwb.2020.101143.

Zahra S.A. and George G., International entrepreneurship: The current status of the field and future research agenda. In: Hitt M.A., Ireland R.D., Sexton D.L., and Camp M. (Eds.), *Strategic entrepreneurship: Creating an integrated mindset*, 2005, Blackwell Publishers; Malden, MA, 255–288.

Zahra, S. A., Korri, J. S., & Yu, J. 2005. Cognition and international entrepreneurship: implications for research on international opportunity recognition and exploitation. *International Business Review*, 14(2): 129-146.

Zahra, S. A., Newey, L. R., & Li, Y. 2014. On the frontiers: the implications of social entrepreneurship for international entrepreneurship. *Entrepreneurship Theory and Practice*, 38(1): 137–158.

Zellner, A., & Theil, H. 1962. Three-stage least squares: simultaneous estimation of simultaneous equations. *Econometrica*, 30(1): 54–78.

Zhai, Q., Su, J., Ye, M., & Xu, Y. 2019. How Do Institutions Relate to Entrepreneurship: an Integrative Model. Entrepreneurship Research Journal, 9(2): 1-16.

Appendix 1. List of countries

	Countries	Developed countries	Developing countries	Export-oriented TEA 0%	Export-oriented TEA 1-25%	Export-oriented TEA 26-100%	Human development level	Opportunity recognition	Private coverage to getting credit	Access to communications	Labour productivity (Y/L)
1	Australia	1		88.200	69.400	23.400	0.921	49.858	98.850	3.772	66913.508
2	Belgium	1		24.444	34.667	27.222	0.874	28.466	0.000	3.965	82881.586
3	Bosnia and Herzegovina		0	62.000	31.200	26.200	0.728	31.786	56.800	3.880	9000.033
4	Brazil		0	401.667	25.111	6.778	0.730	43.844	52.737	3.445	10154.153
5	Chile		0	284.625	220.000	71.125	0.806	50.758	26.750	4.123	18721.988
6	China		0	510.250	83.250	11.750	0.711	35.644	0.000		5138.456
7	Colombia		0	481.714	393.143	122.714	0.704	63.969	48.171	3.517	8365.761
8	Croatia			31.667	44.778	34.667	0.801	31.479	50.300	4.142	23807.688
9	Denmark	1		74.222	32.667	28.222	0.896	53.731	7.588	4.005	88917.078
10	Finland	1		67.333	27.778	14.556	0.876	49.417	15.525	4.269	75927.727
11	France	1		26.667	36.778	19.000	0.877	26.540	0.000	4.023	74799.289
12	Germany	1		101.800	124.400	39.400	0.907	29.181	98.640	3.360	70709.773
13	Greece	1		59.667	45.778	20.000	0.856	21.186	41.850	3.714	47230.949
14	Guatemala		0	348.667	10.667	5.000	0.620	57.641	18.967	4.377	5787.473
15	Hungary		0	75.571	26.286	18.714	0.813	18.043	6.733	3.705	25996.346
16	Iceland	1		49.286	102.286	48.857	0.888	53.770	100.000	4.506	92767.938
17	Ireland	1		45.333	45.667	31.000	0.900	24.541	100.000	3.540	96924.750
18	Italy	1		35.714	27.714	11.714	0.866	26.002	68.117	2.550	72031.344
19	Japan	1		34.222	23.556	5.333	0.882	9.204	72.463	4.070	69719.813
20	Korea, Rep.			80.200	42.600	24.400	0.885	12.861	90.340	4.450	40405.543
21	Latvia			54.167	38.667	37.833	0.807	29.951	0.000	4.300	14835.752
22	Malaysia		0	75.250	24.250	6.000	0.769	39.213	66.350	3.830	14897.277
23	Mexico		0	160.667	60.333	12.000	0.754	48.003	82.400	3.760	19383.832
24	Netherlands	1		89.667	54.667	25.444	0.904	40.811	79.325	3.961	59023.090
25	Nigeria			525.500	142.500	94.500	0.502	83.867	4.100	4.140	3376.891
26	Norway	1		58.000	47.000	20.667	0.939	50.422	100.000	4.488	123556.539
27	Pakistan		0	117.333	33.333	23.000	0.534	46.037	1.633	4.373	2153.946
28	Panama			226.000	12.000	50.500	0.763	42.292	42.850	3.900	15348.443

29	Peru		0	304.571	96.143	36.429	0.719	63.936	31.957	3.858	7011.770
30	Poland			50.500	106.500	31.500	0.834	26.761	83.250	4.110	21879.750
31	Portugal	1		36.000	65.000	24.667	0.821	17.724	18.067	4.037	35043.746
32	Romania		0	19.667	34.667	30.833	0.782	26.015	24.433	3.776	11382.888
33	Russian Federation			87.286	6.143	5.857	0.773	21.466	11.271	3.976	11912.525
34	Singapore			18.000	86.500	68.000	0.900	21.976	57.300	4.585	60529.375
35	Slovenia			39.714	47.714	33.429	0.868	35.012	0.000	3.720	37098.980
36	South Africa		0	81.000	64.000	56.200	0.645	37.946	55.700	2.646	15905.082
37	Spain			854.444	234.333	199.889	0.859	25.807	8.313	3.452	52512.605
38	Sweden			49.333	52.667	18.000	0.897	68.023	100.000	4.287	81657.117
39	Switzerland			27.250	49.000	21.750	0.915	37.873	23.650	4.568	94269.492
40	Thailand			399.000	28.000	23.000	0.721	42.373	38.700	4.010	5527.650
41	United Kingdom	1		430.000	212.667	129.333	0.890	33.334	90.387	3.788	75475.984
42	United States	1		81.222	189.556	42.889	0.906	32.762	100.000	4.226	86545.617
43	Uruguay		0	124.000	40.286	30.714	0.779	49.600	93.471	4.022	12824.860

Note: We classify these countries based upon the International Monetary Fund's list on 39 advanced economies. http://www.imf.org/external/pubs/ft/weo/2016/01/pdf/text.pdf

Appendix 2. Estimations results through OLS

Equation 1. Dep. variable export-oriented TEA	(1) Ln export-oriented TEA 0%	(2) Ln export-oriented TEA 1-25%	(3) Ln export-oriented TEA 26-100%	(4) Ln export-oriented TEA 0%	(5) Ln export-oriented TEA 1-25%	(6) Ln export-oriented TEA 26-100%
Institutional context						
Ln Human development level *(t-1)*	12.608	13.209	24.575	4.368	10.394	24.998
	(18.286)	(17.310)	(17.158)	(22.138)	(20.357)	(20.347)
Ln Opportunity recognition *(t-1)*	0.509	0.405	0.465	0.509	0.166	0.312
	(0.385)	(0.365)	(0.361)	(0.723)	(0.665)	(0.665)
Ln Private coverage to getting credit *(t-1)*	0.515	0.303	0.320	0.669	1.322	1.390
	(0.405)	(0.383)	(0.380)	(1.050)	(0.966)	(0.965)
Ln Access to communications *(t-1)*	0.271	0.479	0.141	2.093	1.783	2.132

	(1.084)	(1.026)	(1.017)	(1.640)	(1.508)	(1.508)
Control variables						
Rate of GDP *(t-1)*	-0.003	-0.020	-0.006	-0.004	-0.019	-0.005
	(0.041)	(0.039)	(0.038)	(0.040)	(0.037)	(0.037)
Age *(t-1)*	1.425	0.476	-0.617	2.633	2.091	0.987
	(1.666)	(1.577)	(1.563)	(1.723)	(1.585)	(1.584)
Age^2 *(t-1)*	-0.015	-0.008	0.003	-0.026	-0.023	-0.011
	(0.016)	(0.015)	(0.015)	(0.017)	(0.015)	(0.015)
Ln Industry sector *(t-1)*	-0.226	0.502	-1.076	0.108	0.610	-1.061
	(2.179)	(2.062)	(2.044)	(2.124)	(1.953)	(1.952)
Ln Population density *(t-1)*	-7.857	-10.694*	-14.108**	-4.979	-6.438	-9.658
	(6.804)	(6.441)	(6.384)	(6.889)	(6.335)	(6.331)
Ln Control of corruption *(t-1)*	-0.088	-0.052	0.031	-0.200	-0.118	-0.005
	(0.213)	(0.202)	(0.200)	(0.226)	(0.208)	(0.208)
Ln Inflation *(t-1)*	-0.013	-0.191	0.007	-0.002	-0.183	0.017
	(0.185)	(0.175)	(0.174)	(0.178)	(0.164)	(0.164)
Dummy developed countries				-10.143	-19.418	-21.823
				(19.614)	(18.037)	(18.027)
Interactions: developed vs. Developing countries						
Ln Human development level *(t-1)* x Developed countries				8.068	-9.127	-19.327
				(34.474)	(31.701)	(31.685)
Ln Opportunity recognition *(t-1)* x Developed countries				0.533	0.926	0.782
				(0.839)	(0.771)	(0.771)
Ln Private coverage to getting credit *(t-1)* x Developed countries				-1.848	-1.783*	-1.790*
				(1.164)	(1.070)	(1.070)
Ln Access to communications *(t-1)* x Developed countries				3.450	3.114	2.652
				(2.120)	(1.949)	(1.948)

Constant	-14.417	-4.903	67.615	-48.497	-37.776	38.550
	(77.223)	(73.100)	(72.457)	(77.912)	(71.645)	(71.609)
R^2	0.812	0.792	0.798	0.838	0.831	0.833
Equation 3. Dep. variable Y/L	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**
Ln export-oriented TEA 0% *(t-1)*	0.010**			0.015		
	(0.005)			(0.012)		
Ln export-oriented TEA 1-25% *(t-1)*		0.011**			0.044***	
		(0.005)			(0.013)	
Ln export-oriented TEA 26-100% *(t-1)*			0.012***			0.028**
			(0.005)			(0.012)
Ln Capital *(t-1)*	0.130***	0.130***	0.141***	0.130***	0.130***	0.135***
	(0.044)	(0.043)	(0.043)	(0.043)	(0.041)	(0.042)
Ln Exports *(t-1)*	0.101*	0.102*	0.116**	0.099*	0.098*	0.108*
	(0.056)	(0.056)	(0.055)	(0.056)	(0.052)	(0.055)
Ln Government consumption *(t-1)*	-0.009	0.018	0.052	-0.009	0.053	0.061
	(0.102)	(0.101)	(0.100)	(0.102)	(0.095)	(0.098)
Ln Health expenditure *(t-1)*	0.241***	0.224***	0.223***	0.243***	0.206***	0.230***
	(0.045)	(0.045)	(0.045)	(0.046)	(0.043)	(0.044)
Dummy developed countries				1.162***	1.258***	1.163***
				(0.169)	(0.156)	(0.161)
Year 2002	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2003	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2004	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2005	0.000	0.000	0.000	0.000	0.000	0.000

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2006	0.027*	0.028*	0.033**	0.028*	0.037**	0.036**
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Year 2007	0.016	0.020	0.021	0.017	0.031**	0.025*
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.013)
Year 2008	0.001	0.006	0.007	0.002	0.015	0.011
	(0.015)	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)
Year 2009	-0.046***	-0.048***	-0.048***	-0.046***	-0.042***	-0.047***
	(0.012)	(0.012)	(0.011)	(0.012)	(0.011)	(0.011)
Year 2010	0.012	0.012	0.013	0.012	0.015	0.013
	(0.013)	(0.013)	(0.013)	(0.013)	(0.012)	(0.012)
Year 2011	0.013	0.011	0.014*	0.013	0.011	0.015*
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Year 2012	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Interactions: developed vs. Developing countries						
Ln export-oriented TEA 0% *(t-1)* x Developed countries				-0.005		
				(0.013)		
Ln export-oriented TEA 1-25% *(t-1)* x Developed countries					-0.038***	
					(0.014)	
Ln export-oriented TEA 26-100% *(t-1)* x Developed countries						-0.018
						(0.012)
Constant	6.703***	6.686***	6.271***	5.547***	5.403***	5.233***
	(1.292)	(1.285)	(1.271)	(1.136)	(1.062)	(1.097)
Country fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	173	174	173	173	174	173

R^2		0.999	0.999	0.999	0.999	0.999	0.999

Note: + p = 0.10, * p < 0.10, ** p < 0.05, *** p < 0.01. Standard errors in parentheses. Dep. variable: Dependent variable. Estimates for country fixed-effects dummies are not presented but can be supplied upon request.

Appendix 3. Estimations results for opportunity driven TEA and export-oriented TEA with more than 50% of foreigner customers

Equation 1. Dep. variable opportunity and export-oriented TEA	(1)	(2)	(3)	(4)
	Ln opportunity TEA	Ln export-oriented TEA 50-100%	Ln opportunity TEA	Ln export-oriented TEA 50-100%
Institutional context				
Ln Human development level *(t-1)*	15.549***	23.858**	14.171**	24.852*
	(4.453)	(10.935)	(5.587)	(13.642)
Ln Opportunity recognition *(t-1)*	0.141	0.048	0.012	0.191
	(0.094)	(0.230)	(0.182)	(0.446)
Ln Private coverage to getting credit *(t-1)*	0.280***	0.017	0.164	0.010
	(0.099)	(0.242)	(0.265)	(0.647)
Ln Access to communications *(t-1)*	0.198	0.112	0.085	0.179
	(0.264)	(0.648)	(0.414)	(1.011)
Control variables				
Rate of GDP *(t-1)*	0.009	0.005	0.010	0.010
	(0.010)	(0.024)	(0.010)	(0.025)
Age *(t-1)*	-0.856**	-1.327	-0.817*	-0.869
	(0.406)	(0.996)	(0.435)	(1.062)
Age^2 *(t-1)*	0.008**	0.011	0.008*	0.008
	(0.004)	(0.010)	(0.004)	(0.010)
Ln Industry sector *(t-1)*	-0.481	-2.239*	-0.554	-2.566*
	(0.531)	(1.303)	(0.537)	(1.310)
Ln Population density *(t-1)*	-4.033**	-10.808***	-3.728**	-8.307*

	(1.658)	(4.069)	(1.740)	(4.247)
Ln Control of corruption *(t-1)*	0.093*	-0.043	0.090	-0.017
	(0.052)	(0.128)	(0.057)	(0.139)
Ln Inflation *(t-1)*	0.103**	0.174	0.101**	0.177
	(0.045)	(0.111)	(0.045)	(0.110)
Dummy developed countries			-7.980	-13.099
			(4.954)	(12.092)
Interactions: developed vs. Developing countries				
Ln Human development level *(t-1)* x Developed countries			3.700	-10.505
			(8.692)	(21.233)
Ln Opportunity recognition *(t-1)* x Developed countries			0.197	0.508
			(0.212)	(0.517)
Ln Private coverage to getting credit *(t-1)* x Developed countries			0.064	-0.303
			(0.294)	(0.717)
Ln Access to communications *(t-1)* x Developed countries			-0.219	-0.784
			(0.535)	(1.306)
Constant	40.975**	108.810**	50.176**	115.030**
	(18.816)	(46.192)	(19.668)	(48.024)
R^2	0.865	0.843	0.868	0.847
Equation 3. Dep. variable Y/L	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**
Ln opportunity TEA *(t-1)*	0.001		0.007	
	(0.008)		(0.010)	
Ln export-oriented TEA 50-100% *(t-1)*		0.007*		0.020***
		(0.004)		(0.007)
Ln Capital *(t-1)*	0.126***	0.142***	0.128***	0.126***
	(0.035)	(0.035)	(0.035)	(0.035)
Ln Exports *(t-1)*	0.087*	0.112**	0.088*	0.095**

	(0.045)	(0.045)	(0.045)	(0.045)
Ln Government consumption *(t-1)*	0.019	0.049	0.008	0.026
	(0.082)	(0.082)	(0.082)	(0.081)
Ln Health expenditure *(t-1)*	0.240***	0.229***	0.245***	0.248***
	(0.036)	(0.036)	(0.037)	(0.036)
Dummy developed countries			1.171***	1.146***
			(0.130)	(0.128)
Year 2002	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Year 2003	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Year 2004	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Year 2005	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Year 2006	0.027**	0.034***	0.026**	0.032***
	(0.012)	(0.012)	(0.012)	(0.012)
Year 2007	0.024**	0.025**	0.022*	0.025**
	(0.011)	(0.011)	(0.011)	(0.011)
Year 2008	0.007	0.008	0.005	0.009
	(0.012)	(0.012)	(0.012)	(0.011)
Year 2009	-0.042***	-0.043***	-0.043***	-0.043***
	(0.009)	(0.009)	(0.009)	(0.009)
Year 2010	0.012	0.015	0.012	0.013
	(0.010)	(0.010)	(0.010)	(0.010)
Year 2011	0.010	0.013*	0.009	0.013**
	(0.007)	(0.007)	(0.007)	(0.006)

Year 2012	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Interactions: developed vs. Developing countries				
Ln opportunity TEA *(t-1)* x Developed countries			-0.016	
			(0.016)	
Ln export-oriented TEA 50-100% *(t-1)* x Developed countries				-0.017**
				(0.009)
Constant	6.810***	6.274***	5.628***	5.608***
	(1.030)	(1.037)	(0.906)	(0.915)
Country fixed-effects	Yes	Yes	Yes	Yes
Time fixed-effects	Yes	Yes	Yes	Yes
Observations	173	173	173	173
R^2	0.999	0.999	0.999	0.999

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses. Dep. variable: Dependent variable.
Estimates for country fixed-effects dummies are not presented but can be supplied upon request.

Appendix 4. Estimations results for national income

	(1)	(2)	(3)	(4)	(5)	(6)
Equation 1. Dep. variable export-oriented TEA	**Ln export-oriented TEA 0%**	**Ln export-oriented TEA 1-25%**	**Ln export-oriented TEA 26-100%**	**Ln export-oriented TEA 0%**	**Ln export-oriented TEA 1-25%**	**Ln export-oriented TEA 26-100%**
Institutional context						
Ln Human development level *(t-1)*	8.995	14.132	25.237*	3.270	10.949	25.710*
	(13.930)	(13.228)	(13.113)	(16.404)	(15.071)	(15.088)
Ln Opportunity recognition *(t-1)*	0.493*	0.412	0.469*	0.543	0.176	0.296
	(0.293)	(0.279)	(0.276)	(0.536)	(0.492)	(0.493)
Ln Private coverage to getting credit *(t-1)*	0.510*	0.301	0.320	0.700	1.332*	1.372*
	(0.309)	(0.293)	(0.290)	(0.778)	(0.714)	(0.716)

Ln Access to communications *(t-1)*	0.287	0.472	0.149	2.051*	1.840*	2.172*
	(0.825)	(0.784)	(0.777)	(1.215)	(1.116)	(1.118)
Control variables						
Rate of GDP *(t-1)*	-0.005	-0.019	-0.006	-0.005	-0.019	-0.004
	(0.031)	(0.030)	(0.029)	(0.030)	(0.028)	(0.028)
Age *(t-1)*	1.351	0.497	-0.600	2.574**	2.123*	1.018
	(1.269)	(1.205)	(1.195)	(1.277)	(1.173)	(1.175)
Age^2 *(t-1)*	-0.014	-0.008	0.003	-0.025**	-0.023**	-0.012
	(0.012)	(0.012)	(0.012)	(0.012)	(0.011)	(0.011)
Ln Industry sector *(t-1)*	0.289	0.380	-1.171	0.375	0.278	-1.231
	(1.659)	(1.576)	(1.562)	(1.574)	(1.446)	(1.448)
Ln Population density *(t-1)*	-7.144	-10.893**	-14.246***	-4.674	-6.850	-9.859**
	(5.184)	(4.922)	(4.879)	(5.106)	(4.690)	(4.695)
Ln Control of corruption *(t-1)*	-0.117	-0.044	0.037	-0.211	-0.104	0.002
	(0.162)	(0.154)	(0.153)	(0.167)	(0.154)	(0.154)
Ln Inflation *(t-1)*	-0.038	-0.186	0.011	-0.014	-0.168	0.024
	(0.141)	(0.134)	(0.133)	(0.132)	(0.121)	(0.121)
Dummy developed countries				-9.689	-19.364	-22.110*
				(14.537)	(13.357)	(13.369)
Interactions: developed vs. Developing countries						
Ln Human development level *(t-1)* x Developed countries				5.838	-4.503	-17.857
				(25.540)	(23.461)	(23.494)
Ln Opportunity recognition *(t-1)* x Developed countries				0.465	0.971*	0.822
				(0.622)	(0.571)	(0.572)
Ln Private coverage to getting credit *(t-1)* x Developed countries				-1.856**	-1.828**	-1.785**
				(0.862)	(0.792)	(0.793)
Ln Access to communications *(t-1)* x Developed				3.400**	3.185**	2.689*

countries				(1.570)	(1.442)	(1.445)
Constant	-28.410	-1.629	70.090	-55.871	-28.001	43.430
	(58.820)	(55.863)	(55.377)	(57.734)	(53.025)	(53.102)
R^2	0.811	0.792	0.798	0.838	0.831	0.834

Equation 3. Dep. variable National income	Ln National income	Ln National income	Ln National income	Ln National income	Ln National income	Ln National income
Ln export-oriented TEA 0% *(t-1)*	0.013**			0.021		
	(0.007)			(0.017)		
Ln export-oriented TEA 1-25% *(t-1)*		0.012*			0.055***	
		(0.007)			(0.020)	
Ln export-oriented TEA 26-100% *(t-1)*			0.015**			0.035**
			(0.007)			(0.018)
Ln Capital *(t-1)*	0.256***	0.264***	0.274***	0.258***	0.273***	0.267***
	(0.063)	(0.064)	(0.063)	(0.063)	(0.062)	(0.063)
Ln Exports *(t-1)*	0.088	0.099	0.113	0.088	0.109	0.106
	(0.082)	(0.083)	(0.082)	(0.082)	(0.080)	(0.082)
Ln Government consumption *(t-1)*	0.151	0.209	0.247*	0.150	0.275*	0.267*
	(0.148)	(0.148)	(0.148)	(0.148)	(0.145)	(0.147)
Ln Health expenditure *(t-1)*	0.183***	0.147**	0.148**	0.182***	0.116*	0.158**
	(0.066)	(0.067)	(0.066)	(0.067)	(0.066)	(0.066)
Dummy developed countries				2.383***	2.436***	2.360***
				(0.247)	(0.238)	(0.242)
Year 2002	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2003	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2004	0.000	0.000	0.000	0.000	0.000	0.000

	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2005	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year 2006	0.002	0.006	0.012	0.003	0.022	0.018
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Year 2007	-0.014	-0.008	-0.006	-0.015	0.007	-0.001
	(0.020)	(0.020)	(0.020)	(0.021)	(0.021)	(0.020)
Year 2008	-0.053**	-0.048**	-0.046**	-0.054**	-0.034	-0.039*
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Year 2009	-0.077***	-0.079***	-0.078***	-0.078***	-0.070***	-0.076***
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
Year 2010	-0.014	-0.014	-0.013	-0.014	-0.007	-0.013
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Year 2011	-0.008	-0.010	-0.006	-0.008	-0.008	-0.005
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Year 2012	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Interactions: developed vs. Developing countries						
Ln export-oriented TEA 0% *(t-1)* x Developed countries				-0.008		
				(0.018)		
Ln export-oriented TEA 1-25% *(t-1)* x Developed countries					-0.049**	
					(0.022)	
Ln export-oriented TEA 26-100% *(t-1)* x Developed countries						-0.023
						(0.019)
Constant	19.106***	18.819***	18.420***	16.701***	16.047***	16.180***
	(1.875)	(1.897)	(1.890)	(1.656)	(1.620)	(1.649)
Country fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes

Time fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	89	89	89	89	89	89
R^2	0.999	0.999	0.999	0.999	0.999	0.999

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses. Dep. variable: Dependent variable.
Estimates for country fixed-effects dummies are not presented but can be supplied upon request.

Appendix 5. Estimations results before economic crisis

Equation 1. Dep. variable export-oriented TEA	(1) Ln export-oriented TEA 0%	(2) Ln export-oriented TEA 1-25%	(3) Ln export-oriented TEA 26-100%	(4) Ln export-oriented TEA 0%	(5) Ln export-oriented TEA 1-25%	(6) Ln export-oriented TEA 26-100%
Institutional context						
Ln Human development level	4.609	10.158	17.805*	11.873	57.114**	71.852**
	(10.214)	(8.918)	(9.813)	(27.893)	(26.828)	(28.856)
Ln Opportunity recognition	0.884	0.388	0.530	1.794	0.799	1.055
	(0.607)	(0.529)	(0.573)	(1.926)	(1.851)	(1.991)
Ln Private coverage to getting credit	0.095	0.101	0.088	1.295	1.112	2.080**
	(0.182)	(0.161)	(0.173)	(0.863)	(0.830)	(0.893)
Ln Access to communications	0.287	0.712	0.483	3.273	2.124	3.392
	(1.255)	(1.106)	(1.192)	(8.227)	(7.910)	(8.509)
Control variables						
Rate of GDP	0.184	0.228+	0.252*	0.158	0.190+	0.230*
	(0.159)	(0.141)	(0.153)	(0.120)	(0.116)	(0.124)
Age	-3.997**	-1.685	-4.439**	-6.911**	-9.738***	-12.973***
	(1.848)	(1.592)	(1.788)	(2.928)	(2.814)	(3.027)
Age^2	0.038**	0.016	0.043**	0.069**	0.099***	0.131***
	(0.018)	(0.016)	(0.018)	(0.030)	(0.029)	(0.031)
Ln Industry sector	0.125	0.213**	0.086	0.614***	0.345***	0.361***

74

	(0.121)	(0.105)	(0.117)	(0.129)	(0.123)	(0.133)
Ln Population density	0.457***	0.372***	0.546***	0.241***	0.216**	0.350***
	(0.126)	(0.111)	(0.124)	(0.092)	(0.088)	(0.095)
Ln Control of corruption	0.138	0.255	0.142	0.163	0.501	0.348
	(0.389)	(0.344)	(0.370)	(0.331)	(0.319)	(0.343)
Ln Inflation	0.673*	1.250***	1.335***	0.947***	1.180***	1.440***
	(0.370)	(0.326)	(0.360)	(0.288)	(0.277)	(0.298)
Dummy developed countries				-4.684	-16.282	-14.040
				(12.684)	(12.189)	(13.113)
Interactions: developed vs. Developing countries						
Ln Human development level x Developed countries				28.483	68.771**	78.109**
				(29.678)	(28.552)	(30.709)
Ln Opportunity recognition x Developed countries				0.805	0.852	0.795
				(2.016)	(1.938)	(2.084)
Ln Private coverage to getting credit x Developed countries				-1.529*	-1.391	-2.343**
				(0.899)	(0.864)	(0.929)
Ln Access to communications x Developed countries				0.301	0.575	0.289
				(8.238)	(7.921)	(8.520)
Constant	99.714**	38.234	111.210**	153.162**	242.007***	318.416***
	(48.639)	(41.958)	(47.020)	(76.976)	(73.974)	(79.581)
R^2	0.444	0.541	0.508	0.793	0.780	0.798
Equation 3. Dep. variable Y/L	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**
Ln export-oriented TEA 0%	0.167***			0.042		
	(0.050)			(0.184)		
Ln export-oriented TEA 1-25%		0.212***			0.358*	
		(0.068)			(0.184)	
Ln export-oriented TEA 26-100%			0.177***			0.188

			(0.053)			(0.188)
Ln Capital	0.080**	0.073**	0.069**	0.077***	0.035	0.060**
	(0.034)	(0.034)	(0.033)	(0.029)	(0.027)	(0.025)
Ln Exports	-0.100	-0.275*	-0.159	-0.136	-0.044	-0.153
	(0.136)	(0.149)	(0.138)	(0.114)	(0.132)	(0.109)
Ln Government consumption	1.470***	1.753***	1.547***	1.047***	1.143***	1.280***
	(0.369)	(0.380)	(0.372)	(0.384)	(0.315)	(0.333)
Ln Health expenditure	1.667***	2.000***	1.905***	1.545***	1.307***	1.614***
	(0.275)	(0.305)	(0.287)	(0.221)	(0.284)	(0.229)
Dummy developed countries				0.716	1.962***	1.215**
				(0.755)	(0.644)	(0.537)
Interactions: developed vs. Developing countries						
Ln export-oriented TEA 0% x Developed countries				-0.061		
				(0.188)		
Ln export-oriented TEA 1-25% x Developed countries					-0.423**	
					(0.171)	
Ln export-oriented TEA 26-100% x Developed countries						-0.276
						(0.184)
Constant	1.239	0.359	0.692	2.122	1.765	1.023
	(1.448)	(1.474)	(1.453)	(1.965)	(1.119)	(1.331)
Country fixed-effects	No	No	No	No	No	No
Time fixed-effects	No	No	No	No	No	No
Observations	45	45	45	45	45	45
R^2	0.646	0.647	0.654	0.818	0.833	0.828

Note: + p = 0.10, * p < 0.10, ** p < 0.05, *** p < 0.01. Standard errors in parentheses. Dep. variable: Dependent variable.
Estimates for country fixed-effects dummies are not presented but can be supplied upon request.