WHERE DO BORN GLOBALS COME FROM?
A NEO-CONFIGURATIONAL INSTITUTIONAL THEORY

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ABSTRACT

Born globals, recently established firms that obtain a substantial share of their revenue from foreign sales, can help strengthen countries' economic vitality and increase innovation levels. The extent of born global formation varies considerably across countries, yet it is unclear why this is the case. Drawing on the neo-configurational institutional perspective, we develop a typology of institutional contexts associated with high born global formation rates. We posit that high rates of born global formation occur where institutional features favorable to border-spanning activities complement institutional features conducive to entrepreneurial activity, thus forming an institutional configuration that enables, equips, and motivates more societal members to launch born globals. Accordingly, we hypothesize a primary institutional configuration where international transaction facilitators, entrepreneurial educational capital, and entrepreneurial norms combine to propel born global formation. Further, we draw on the internationalization literature to propose two alternative types of institutional configurations conducive to born global formation. These two types provide functional substitutes for the primary type and are distinctly propelled by (1) escapism from low quality public governance institutions, or (2) immigrant entrepreneurship. Fuzzy-set Qualitative Comparative Analysis on data from 66 countries supports our typology and illustrates why born global activity may thrive even in contexts with institutional weaknesses. Our study develops a neo-configurational model to advance holistic understanding of the born global phenomenon's theoretical drivers, contributing to research on comparative capitalism and international entrepreneurship.

Keywords: Born global; International Entrepreneurship; National institutional context; Neo-configurational approach; Fuzzy-set Qualitative Comparative Analysis

INTRODUCTION

Born globals, "young companies that derive a significant portion of their revenue from international sales," (Cavusgil & Knight, 2015: 4) have become prevalent worldwide. This form of international entrepreneurship can help boost countries' economic vitality, employment, and innovation levels (Hessels & van Stel, 2011; Moen, 2002). Although early internationalization entails an "exponentially more complex and vastly expanded" economic and political landscape to navigate for entrepreneurs (McNaughton & Pellegrino, 2014: 235), noteworthy numbers of young ventures from many countries overcome these challenges to pursue business opportunities abroad from inception or very shortly thereafter. However, the extent of born global formation varies significantly across countries, and there are unanswered questions as to why (Reuber, Dimitriatos, & Kuivalainen, 2017). For instance, why does the Netherlands' born global formation rate more than double Denmark's, and Peru's more than quadruple Ecuador's?[1] Indeed, there is substantial variation among all income levels and regions; this variation is not incidental and cannot be adequately explained by economic wealth levels.[2]

A limited stream of research argues that the national institutional context is important in influencing young ventures' propensity to create value across borders (Fan & Phan, 2007). This notion is consistent with the view that the broader institutional context plays an important role in "shaping who decides to found an organization, the types of organizations that are founded, and their structures" (Sine & David, 2010: 2). Yet theory on institutional drivers of early internationalization remains nascent (McNaughton & Pellegrino, 2014). While international business literature is replete with theories of internationalization, they are not well suited to born global firms (Cavusgil & Knight, 2015). Such firms rely more heavily on the institutional context for resources and are more susceptible to its adverse conditions (Bruton, Ahlstom, & Li, 2010). Unfortunately, it is particularly for these firms that we have less understanding of the role of institutional context.

[1] All born global formation rates referenced in this paper are derived from calculations we made using Global Entrepreneurship Monitor (2012-2014) data.
[2] The correlation between GDP per capita (PPP) and born global formation rate is 0.26 for the year 2014 (based on authors' calculation).

In this study, we help address this shortcoming in the literature by developing a typological theory of the ways in which the national institutional context propels born global formation. We depart from prior, linear methods-based work on the institutions-entrepreneurship link (Stenholm, Acs, & Wuebker, 2013) and draw on a neo-configurational institutional approach (Misangyi, Greckhamer, Furnari, Fiss, Crilly, & Aguilera, 2017), whereby different features of the national institutional context are examined in concert. That is, features that combine into equifinal institutional configurations, complementing or substituting for each other to channel societal member effort toward born global formation.[3] Such an approach is particularly appropriate to examine born global formation due to the inherent complexity and multiple challenges involved in early internationalization (Madsen & Servais, 1997).

Building from groundwork laid by Thornton (1999) and based on our synthesis of existing research, we hypothesize a primary type of institutional configuration whereby countries combine (1) demand-pull institutional features facilitating international commercial and financial transactions with institutional features favorable to the supply of high-potential new ventures, specifically (2) educational systems that promote entrepreneurial skills (Levie & Autio, 2008), and (3) entrepreneurial norms in society (Alvarez, Urbano, Coduras, & Ruiz, 2011). Although the presence of each of these three features of the institutional context, in isolation, falls short in propelling high born global formation rates, when all three are present together, it creates a tripod that enables, equips, and motivates societal members to form born global firms.

But this is not the only type of institutional configuration conducive to high born global formation rates. Born globals are also flourishing in countries with weaknesses in at least one of the institutional features of the primary type (Tiwari, Sen, & Shaik, 2016). This presents a challenge to existing literature,

[3] Complementarity in the neo-configurational perspective emerges when the presence of one condition is associated with the presence of the outcome only when one or more additional conditions are present, akin to a contingency. These instances are described as conjunctural causation or co-presence in prior research (Schneider & Wagemann, 2012). Similarly, substitution is functional, in that causal conditions (singular or plural) may compensate for the non-presence of others (Crouch, 2005).

which has focused mostly on firm-and individual-level explanations in advanced economies (Sapienza, Autio, George, & Zahra 2006), and has, consequently, been piecemeal and atheoretical (Knight & Liesch, 2016). Accordingly, we draw from adjacent internationalization literature to propose two additional types of institutional configurations favorable to high rates of born global formation. These two types provide functional substitutes for the primary type and are distinctly propelled by the respective mechanisms of *escapism* (Dickson, Weaver, & Vosikis, 2013; Noorderhaven, Thurik, Wennekers, & van Stel, 2004) and *immigrant entrepreneurship* (Drori, Honig, & Wright, 2009). In the former, low quality public governance institutions motivate societal members to resort to launching new ventures oriented towards foreign markets (Witt & Lewin, 2007), thus acting as a functional substitute for the motivation that comes from entrepreneurial norms in other contexts. In other contexts where entrepreneurial norms and/or educational systems promoting entrepreneurial skills are weak, entrepreneurs from immigrant communities may offset such weaknesses (Drori et al., 2009). We find support for our proposed typology using fuzzy-set Qualitative Comparative Analysis (fsQCA) and data covering 66 countries. In addition, our analysis yields another, unexpected institutional configuration anchored in high quality public governance, allowing us to refine and extend the typology.

Our study bolsters understanding of the foundations of born global formation by introducing a typology encompassing both developed and developing economies. This typology explicates the key complementarities and substitutions among features of the institutional context driving born global formation, and it demonstrates why born global activity thrives even in contexts with institutional weaknesses. Departing from piecemeal approaches characterizing prior research, our neo-configurational approach leverages the notions of conjunctural causation and equifinality to demonstrate the importance of institutional bundles in born global formation, extending the neo-configurational perspective to international entrepreneurship research (Hiatt & Sine, 2014; Tolbert, David, & Sine, 2011). Further, we advance research on the institutional drivers of different *types* of entrepreneurship (e.g. Bowen & De Clercq, 2008; Stenholm, et al., 2013), thus contributing to a more accurate understanding of how national institutional features may propel one type of entrepreneurial activity but not others (Bowen & De Clercq,

2008; Stephan, Uhlaner, & Stride, 2014; Terjesen & Hessels, 2009).

INSTITUTIONAL CONTEXT AND BORN GLOBAL FORMATION

The consensus of systematic reviews on the drivers of internationalization of smaller and younger firms has been that the literature is fragmented and lacks conceptual clarity (Knight & Liesch, 2016). This is particularly the case at the country level, despite the wealth of research on country-level drivers of entrepreneurship in general (Bruton, et al., 2010). For instance, McNaughton and Pellegrino (2014) note that the literature on institutional drivers of the formation of international entrepreneurial firms remains scant, and Keupp and Gassman (2009: 602) point out that prior studies "have not used any specific theoretical framework at all, neither from IB [international business] nor from entrepreneurship theory" in examining why some countries are more internationally entrepreneurial than others.[4] This is a major shortcoming of the born global literature because institutions have a disproportionate impact on smaller and younger firms (Li Puma, Newbert, & Doh, 2013), but institution-based theorizing on internationalization has primarily focused on larger and older firms.

Despite these shortcomings, there have been important findings that can serve to identify key features of the institutional context for born global formation. Thornton (1999) argues for the need to combine supply and demand-side explanations to offer a complete understanding of variation in entrepreneurial phenomena. The supply side perspective "focuses on the availability of suitable individuals to occupy entrepreneurial roles" (p.20), while the demand side perspective focuses on the contextual features that shape the economic payoff for entrepreneurial activity (see also Casson, 1995; Choi & Phan, 2010). In our model of born global formation rates, institutional features that relax international transaction barriers, or *internationa*l *transaction facilitators*, present individuals with international opportunities and pull these entrepreneurs across borders on the demand-side. Alternatively, *entrepreneurial educational capital* supported by formal educational institutions and entrepreneurial

[4] This is partly due to the focus of prior research on country case studies, usually conducting in-depth examinations of a single advanced economy (e.g., Andersson & Evangelista, 2005; Loane & Bell, 2006; Simões, Rocha, Mello, & Carneiro, 2015).

motivations stemming from societal norms, *entrepreneurial norms*, act on the supply-side to push individuals to create new ventures.[5] We discuss each of them in turn.

International Transaction Facilitators

A key feature of the institutional context that emerges from the literature are regulatory institutions shaping the demand-side of, or opportunities for, born global formation (Cavusgil & Knight, 2015; Efrat & Shoham, 2012; Fan & Phan, 2007; Mudambi & Zahra, 2007). Two such international transaction facilitators are highly relevant in allowing young ventures to create value in foreign markets.

First, evidence shows that there are more opportunities for early internationalization in economically open countries where the regulatory burden on *cross-border flows of goods and services* is low (De Clercq et al., 2008). Limited governmental intervention in cross-border flows reduces transaction costs and allows small new ventures to benefit from foreign opportunities (Portes & Rey, 2005). A survey in Canada showed that 78% of ventures reacted positively to free trade agreements, although it took them a few periods to internalize the shift in government policy into their organizational processes (Julien, Joyal, & Deshaies, 1994). Minimizing cross-border barriers can also facilitate access to international knowledge flows (Grossman & Helpman, 1991) and, thus, the ability to identify business opportunities in foreign markets. Indeed, a critical way in which born global ventures can leapfrog slower internationalization approaches is by relying on networks and strategic alliances to leverage the resources and capabilities of other firms (Freeman, Edwards, & Schroeder, 2006). Such a strategy requires that the ventures have the opportunity to engage and transact with stakeholders across borders. Acs and Szerb (2007: 113), for instance, argue that entrepreneurs who aspire to compete globally require "the ability to move quickly and contract for the least cost, highest quality inputs, wherever they may be found. They

[5]The Ability-Motivation-Opportunity (AMO) framework developed from human resource management scholarship, provides a helpful analog in delineating the mechanisms driving individuals action. It argues that employee initiative depends on the *simultaneous* presence of ability, motivation, and opportunity (Jiang et al., 2012). That is, behavioral outcomes can be explained by the combination of (1) knowledge, skills, and abilities, (2) the direction, intensity, and duration of effort, and (3) the opportunity to exert such effort and apply said skills. The institutional features we outline above suggest a similar approach: A system of mutually reinforcing institutional features fostering born global formation.

also need to sell to purchasers wherever they may be located." This is not feasible in economies in which there are government-imposed barriers that inhibit the international flow of economic inputs and final products.

A second international transaction facilitator that can aid in increasing the born global formation rate is the degree to which a country's financial system is integrated into the global financial system. *Financial integration* increases foreign venture capital investment (Alhorr, Moore, & Payne, 2008), thus promoting born global ventures, which require capital for rapid scaling (Gabrielsson & Kirpalani, 2004). At the country level, fragmented financial systems "constrain the range of financing sources and investment opportunities, limit scale economies and leave possible liquidity advantages unexploited" (Hartmann, Heider, Papaioannou, & Lo Duca, 2007: 14). Conservative measures such as bootstrapping or borrowing funds from friends and family may be inadequate for the scale and capabilities required for early internationalization. A globally integrated set of financial institutions allows risk sharing, as financial institutions cooperate and compete across borders (Alfaro & Charlton, 2006), which in turn decreases the cost of capital and financial exchange abroad. Having such financial allies may also help safeguard new ventures from bankruptcy and reduce concerns about expropriation or contract repudiation by the government or other powerful actors both at home and in foreign locations (Li Puma et al., 2013).

However, exclusively focusing on international transaction facilitators of the institutional context is insufficient. South Korea and France exhibit international transaction facilitators, yet these countries yield relatively low born global formation rates. If the supply of abilities and motivation to launch ambitious new ventures among societal members is not prevalent, these international transaction facilitators may not result in increasing born global formation rates. A more holistic conceptual framework of complementary institutional features is warranted.

Entrepreneurial Norms

Existing research suggests that another key piece is *entrepreneurial norms* fostering motivation among societal members. Forming new ambitious ventures, such as those aiming to cross national borders, involves high risk and large amounts of time, effort, and resource commitment. Commitment to

go “all in” on the venture is often critical, but such motivation may vary across countries. Terjesen and Hessels (2009) find that young firms in Asian countries, even those with high quality formal institutions (i.e., laws and regulations favoring the creation of new ventures) are less likely to internationalize, possibly due to weak entrepreneurial norms acting as deterrents. Prior work points to normative societal characteristics that influence the willingness of societal members to engage in entrepreneurship (Steensma, Marino, Weaver, & Dickson, 2000), namely “the extent to which existing social and cultural norms encourage, or do not discourage, individual actions that may lead to new ways of conducting business or economic activities” (Alvarez et al., 2011: 124).

Entrepreneurial norms provide cues of taken-for-granted behaviors that may include a fondness for risk, proactiveness, and optimism. At the country level, the prevalence of such dispositions and their associated behaviors varies significantly. For instance, Simmons et al. (2018) argue that societal stigmas surrounding entrepreneurs who fail can negatively influence entrepreneurs’ entry decisions. Furthermore, the relative unwillingness of individuals in society to take risks may lead to negative consequences for individuals if they do fail (Cacciotti et al. 2016; Hessels et al. 2011; Vaillant & Lafuente 2007). All of this reduces motivation to take business risks. According to Turro, Urbano, and Perios-Ortiz (2014), “business formation rates vary from society to society… these differences occur because different cultures hold different beliefs about the desirability and feasibility of beginning a new enterprise” (p. 362). For instance, in 2014, 79% of the Dutch viewed entrepreneurship as a good career choice compared with just 30% of Japanese (Global Entrepreneurship Monitor, 2014). Entrepreneurial norms are thus a critical feature of the institutional context surrounding the launching of ambitious ventures, including born globals (Mueller & Thomas, 2001).

Again, however, this explanation of born global formation rates is insufficient. Several countries with prevalent entrepreneurial norms, do not have societal members who engage extensively in born global activities. Uganda and Ecuador display strong entrepreneurial norms, evident in their high total entrepreneurship rates, but neither have high born global formation rates. For born global formation to occur at a relatively high rate in a country, motivation stemming from entrepreneurial norms is likely a

key ingredient, but it must be examined in conjunction with complementary features of the institutional context that provide international transaction opportunities and instill abilities to identify and seize such opportunities (Shane, Locke, & Collins, 2003), thus channeling effort into born global formation.

Entrepreneurial Educational Capital

Prior research suggests that entrepreneurs' knowledge and capabilities are also salient for launching ambitious new ventures (Del Sarto et al., 2019; McGaughey, 2007; Prange & Verdier, 2011; Weerawardena, Mort, Liesch, & Knight, 2007; Oviatt & McDougall, 1994; Acedo & Jones, 2007; Madsen & Servais, 1997; Zhou, 2007). Work on entrepreneurial scripts and other cognitive structures indicates that these abilities can be developed via training, deliberate experiences, and education (Mitchell & Chesteen, 1995; Smith, Judge, Pezeshkan, & Nair, 2016; Van der Sluis, Van Praag, & Vijverberg, 2008). Education specifically focusing on the promotion of entrepreneurship is instrumental in driving a country's entrepreneurial effort (Bowen & De Clercq, 2008; Solomon, Weaver, & Fernald; 1994) because educational systems that allocate specific consideration to entrepreneurship are more likely to generate individuals who can identify and pursue promising market opportunities (Chen, Greene, & Crick, 1998). Similar to Bowen and De Clercq (2008), we term this institutional feature, *entrepreneurial educational capital*. As human capital theory notes, the more tailored a human capital investment is to its planned future use, the greater the expected yield (Becker, 1975).

The comparative capitalism literature provides ample evidence for the substantial cross-country differences among human capital formation systems (Goergen, Brewster, Wood, & Wilkinson, 2012), including differences in the extent to which the educational system encourages entrepreneurship and instills knowledge pertaining to market principles and the starting of a new business to exploit market opportunities (Knight & Cavusgil, 2004; Bowen & De Clercq, 2008). The educational system also plays a critical role in shaping the entrepreneurial abilities of societal members by diffusing logics that shape societal member cognition toward entrepreneurial opportunities. Countries where the educational system emphasizes entrepreneurship are more likely to produce entrepreneurial educational capital, a supply of

individuals with an entrepreneurial mindset calibrated toward sensing and acting on market opportunities (Haynie, Shepherd, Mosakowski, & Earley, 2010).

However, an explanation for differing born global formation rates across countries that relies solely on entrepreneurial educational capital is again insufficient. Norway and Finland, for instance, have relatively low born global formation rates despite their advanced entrepreneurial educational capital. Yet, other countries with very similar wealth, size, and entrepreneurial educational capital (e.g., Austria and Switzerland) have much higher born global formation rates. Consistent with the idea of resource churn (Lazzarini, 2015), Wennekers (2006) argues that institutional features such as entrepreneurial educational capital may propel the supply-side of entrepreneurial activities, but features that shape the demand side, such as those affecting the cost of doing business, are just as important. Stenholm, Acs, and Wuebker (2013) argue that "[E]ven in an otherwise fertile environment for born global formation, there may be institutional limits that further promote or inhibit productive, growth and innovation oriented entrepreneurial activity" (p.182). If these limits are sufficiently high, like in the case where societal norms discourage risk-taking or the regulatory environment does not provide opportunities for crossing national borders, born global formation may not be realized in high quantities (Langlois & Robertson, 1995).

A NEO-CONFIGURATIONAL INSTITUTIONAL EXPLANATION OF BORN GLOBAL FORMATION RATES

The theoretical issues and examples detailed above suggest that to account for country-level differences in born global formation rates, we should consider the three features provided by the institutional context simultaneously. The comparative capitalism literature indeed highlights that the choices of economic actors are shaped by varying gestalts of interacting institutions (Jackson & Deeg, 2008). Accordingly, we use a neo-configurational approach to piece together various conceptual fragments at the country level in a way that both reflects the empirical reality and provides a parsimonious and generalizable institution-based model. A neo-configurational perspective on institutions implies that these institutional features are complementary and combine to form an institutional context that propels born global enterprise formation. Further, institutional features conducive to born global

formation in some contexts may be irrelevant in other contexts due to alternative pathways that involve a (partially) different set of institutional features that act as functional substitutes. These neo-configurational notions of conjunctural causation and equifinality allow us to build a typology of how the key features of the institutional context identified above, complement or substitute for one another in producing born-global-propelling types (Misangyi, et al., 2017).[6] We propose three types and label them.

Institutional Configurations and Born Global Formation Rates: A Polythetic Typology

Type 1: The Loam Soil. We label the first, primary type of institutional configuration *Loam Soil*. Loam soil is the ideal combination of the three main types of soil (sand, silt, and clay) that is ideal for fostering most plant life. Analogously, this foundational type of institutional configuration conducive to high born global formation rates stems from our overarching theoretical premise that countries combine three key features: (1) international transaction facilitators, (2) entrepreneurial norms, and (3) entrepreneurial educational capital to yield high rates of born global formation.

To enable new ventures to cross borders, the Loam Soil type features international transaction facilitators: cross-border economic freedom to allow for the flow of economic inputs and outputs (Portes & Rey, 2005) and financial system global integration enabling the flow of critical financial capital to new ventures as well as the movement of capital to finance foreign operations (Alhorr, Moore, & Payne, 2008). Additionally, the Loam Soil type exhibits entrepreneurial norms. The higher risk associated with launching new ventures into foreign locations (Zahra, Korri, & Yu, 2005), makes them much more likely to emerge in countries where norms such as risk-taking and self-efficacy are prevalent (Busenitz, Gomez, & Spencer, 2000; Thomas & Mueller, 2000; Zhang & Dodgson, 2007) and thus reduce its members'

[6] A key feature of the neo-configurational approach is the flexibility to develop polythetic typological theories (Fiss, 2011; Misangyi et al., 2017). Polythetic typologies use criteria (i.e., the presence or absence of conditions) without considering all criteria as necessary or sufficient for membership. Conversely, monothetic typologies require that each type exhibits values on all dimensions of the typology and specify that exhibiting particular features is sufficient for membership (Bailey, 1973). In polythetic typologies, a given attribute may be important to some types but may not necessarily matter for others. A closely related feature of polythethic typologies allows for types that combine institutional features that are not necessarily coherent. Witt and Jackson (2016: 782) note that requiring types to combine only internally consistent features "implies a very restrictive view of how institutions combine", as institutions that are not necessarily internally consistent may still collectively generate particular outcomes.

hesitancy to find innovative economic solutions in unfamiliar yet promising markets (Hechavarría, 2015). Indeed, in countries where entrepreneurial norms are dominant, engaging in new ventures is often perceived as an ordinary and even laudable pursuit (Greenman, 2013). As successful individuals and groups are observed and celebrated, society becomes more positively inclined towards launching ambitious ventures. Finally, in Loam Soil type institutional configurations, the country's educational and training system generates entrepreneurial educational capital by providing instruction in market principles, adequate attention to processes involved in new firm creation, and the ability to recognize opportunities (Baron, 2006).

In the Loam Soil type, institutional features reinforce each other. For instance, the educational system and entrepreneurial norms instill societal members with the abilities and motivation to launch high potential new ventures. Yet, if international transactions are burdensome or costly, societal members will be more likely to allocate their entrepreneurial efforts domestically. Alternatively, high entrepreneurial educational capital may be insufficient if societal norms do not support entrepreneurial behaviors. In such cases, the supply of entrepreneurs sufficiently motivated to engage in born global formation may be limited, and societal members might channel their efforts towards intrapreneurship as employees of larger, existing organizations. In sum, by combining the complementary features discussed above, the Loam Soil institutional configuration provides for high rates of born global formation.

> **Hypothesis 1***: The Loam Soil national institutional configuration will be conducive to high rates of born global formation at the country-level.*

The Loam Soil represents a logical and internally coherent institutional configuration for fostering high born global formation rates. However, recent literature and notable anecdotal evidence suggest that many countries with weaknesses in some of the institutional features discussed above also exhibit substantial levels of born global formation (e.g., Dib, da Rocha, & da Silva, 2010; Varma, 2011). For instance, a number of countries from Africa, Latin America, and Eastern Europe show relatively high levels of born global formation rates despite institutional features that are inconsistent with the Loam Soil type, which is more prevalent in advanced economies (Peng, Yamakawa, & Lee, 2010). Accordingly, we build on prior

research to propose two alternative types of institutional configurations conducive to born global formation. These institutional configurations provide functional substitutes to some features of the Loam Soil type, thus forming alternative gestalts that propel the formation of born globals.

Type 2: The Coiled Spring. Coiled springs store potential energy that may be released. This energy seeks to escape but only does so under the right conditions, the removal of constraints. Analogously, the *Coiled Spring* type of institutional configuration produces high born global formation rates via escapism. The notion of escapism stems in part from the international business literature, which increasingly recognizes that firms and entrepreneurs resort to the internationalization of business activities to escape challenging institutional contexts (Witt & Lewin, 2007). For instance, Fan and Phan (2007) find that international new ventures in the airline industry are largely a product of constraining home country institutional features. Dickson et al. (2013) suggest that traditional models of internationalization may not apply well to young, small firms because they rely more heavily on the external environment than larger, more munificent and capable firms. In a sample of small firms from nine countries, they find that internationalization is driven by seeking economic environments with better property protection frameworks. In the Coiled Spring type, we argue that the absence of high-quality public governance serves as a push motivational factor, thus substituting for entrepreneurial norms by increasing willingness to launch born globals where such norms are weak. Public governance quality refers to the degree to which government institutions are reliable, maintain public order, and promote the rule of law (Fainshmidt, Smith, & Judge, 2016). Anecdotally, Romania, Panama, and South Africa all have relatively weaker entrepreneurial norms but high born global formation rates, which may be fueled by entrepreneurs' desire to escape weak public governance institutions.

There are at least three interrelated weaknesses in public governance that may motivate entrepreneurs to explore international rather than domestic markets.[7] First, political instability increases

[7] This is not to say that weak public governance institutions are a net positive for a society; rather, their ability to propel born global formation is simply a positive externality of having weak institutions. The more prevailing negative impact of weak public governance generally reduces domestic entrepreneurship and even leads to destructive entrepreneurship (Baumol, 1996). Even in the case of born global formation, as we note below, weak

uncertainty about the continuity of laws and regulations. Unstable regimes lead to cynicism about the future (Pelletier and Bligh, 2006). Indeed, a strong likelihood of political turmoil can shape resource allocation decisions (e.g., Hoffmann, Trautmann, and Hamprecht, 2009; Huang et al., 2015), with individuals less likely to invest in their respective futures, directly reducing entrepreneurship and other risk-taking behaviors locally.

A second major channel in which weakness in public governance reroutes domestic entrepreneurship into foreign markets is through poor property rights protection, which can drastically increase transaction costs due to high levels of uncertainty and opportunism (De Soto, 2000; Williamson, 2000). That is, fear of expropriation or broken contractual obligations make entrepreneurs hesitant to form lasting local commitments. In response to this climate, entrepreneurial individuals may channel their effort into foreign markets (or even into illegal activities).

Third, corruption causes a litany of problems for individuals seeking to create businesses locally. In societies with high levels of corruption in the public sector, entrepreneurs face a substantial risk that local partners, state officials, and powerful business elites will behave opportunistically (Anokhin & Schulze, 2009). This makes attaining important permits and patents difficult. "Since demand for these endorsements is high, their dissemination tends to be marked by corruption in many societies" (Fainshmidt *et al.*, 2016: 87). Corruption also reduces information flows, jeopardizes contracts, and creates uncertainty in strategic planning (Gabrielsson & Kirpalani, 2004; Freeman et al., 2006). Rather than local innovation and production, talent and effort may be allocated internationally.

Despite the outward push that low quality public governance institutions may exert, we argue that for substantial born global formation to take place in such contexts, both entrepreneurial educational capital and international transaction facilitators are also needed. Without a system to instill entrepreneurship abilities and mindset in a society, fewer societal members will be able to leverage their

institutions propel high levels of born global formation only in conjunction with other contextual features. Pinpointing when such a normally detrimental condition can have positive impact on a given outcome is one of the strengths of the neo-configurational perspective.

motivation into border spanning ventures because they lack foundational knowledge regarding market principles and the entrepreneurial process (Van der Sluis, Van Praag, & Vijverberg, 2008). Entrepreneurial educational capital makes more societal members likely to seek and identify business opportunities (Mitchell & Chesteen, 1995), thus channeling their frustration with domestic public governance into business opportunities abroad. Similarly, international transaction facilitators allow potential entrepreneurs to interact and efficiently transact with stakeholders abroad, thus drawing more societal members to channel domestic institutional obstructions into born global ventures (Maas et al., 2015). In such situations, societal members may seek suppliers, customers, and business partners in foreign locations. Furthermore, free trade allows born global firms to connect with, in many cases, superior institutional frameworks outside their own country and further aid in their escape even as they benefit from cost advantages in their home countries (Ginsburg, 2005). Weak public governance is not necessarily internally consistent with these positive aspects of the institutional context, but when it configures with entrepreneurial educational capital and international transaction facilitators, it spurs adaptive behaviors conducive to high born global formation rates.

> **Hypothesis 2***: Weak public governance can act as a functional substitute motivating born global formation under conditions of low entrepreneurial norms; hence, the Coiled Spring type of national institutional configuration will be conducive to high rates of born global formation at the country-level.*

Type 3: The Magnet. In another situation where not all features of the Loam Soil are present, the Magnet type of institutional configurations is a viable alternative with features that *pull* would-be international entrepreneurs (i.e., immigrants) from the outside. Prior research highlights the important role that immigrant populations can play in the formation of border spanning ventures (Drori et al., 2009). Yet countries differ in the prevalence of immigrant populations (Salaff, Greve, Siu-Lun, & Ping, 2003). In Qatar, Israel, Singapore, and Kazakhstan, among others, immigrants make up over 20% of the population, and these countries exhibit high born global formation rates.

The Magnet configuration relies on populations embedded in dual contexts to substitute for entrepreneurial educational capital and entrepreneurial norms. In terms of entrepreneurial ability,

immigrants can identify market inefficiencies and international opportunities not recognized by natives (Drori et al., 2009; Dutia, 2012). According to Achidi, Ndofor, and Priem (2011), a large portion of immigrant entrepreneurs possess substantial social and human capital conducive to ambitious forms of entrepreneurship. Social capital grants immigrant entrepreneurs contact with various information streams about entrepreneurial opportunities, and their dual embeddedness affords unique human capital, including cultural skills that increase their latitude in pinpointing cross-border prospects and negotiating with intermediaries. Immigrant entrepreneurs use ethnic networks to locate suppliers, customers, employees, and capital in order to launch born global companies (Salaff et al., 2003) as well as leverage contacts overseas and within the local diaspora to manage the business formation process (Dutia, 2012). Morgan, Sui, and Baum (2018) found that immigrant entrepreneurs have enhanced cognitive resources stemming from prior knowledge and international experiences, which allows them to identify opportunities that they are personally well-suited to exploit (i.e., first person rather than third person opportunities) (Haynie, Shepherd, McMullen, 2009). The human and social capital of immigrants often enables the sensing and pursuing of opportunities to internationalize back to the home country or region (Casson & Della Giusta, 2007). Consequently, the abilities of immigrant populations increase their likelihood to form a born global firm and may thus serve as an alternative to a country's entrepreneurial educational capital.

A substantial immigrant population may also serve as a substitute for a country's entrepreneurial norms in that immigrants tend to be more inclined toward risky, entrepreneurial behaviors. Two arguments are relevant here. First, populations who are willing to start a new life in a new country are more likely to be risk neutral or even risk seeking (Busenitz & Lau, 1996). For instance, Vandor (2020) found that immigrants' proclivity for entrepreneurship occurs in large part due to their greater willingness to take risks and need for achievement. Furthermore, due to this willingness to take risks, immigrant entrepreneurs are more likely to pursue risky opportunities in competitive environments (Kerr & Kerr, 2016), including international markets (Morgan et al., 2018). That is, immigrant populations are likely self-selecting, possessing the kinds of motivational dispositions conducive to born global formation. Second, in many cases, it is more difficult for immigrant populations to find local jobs due to language

and cultural barriers, lack of locally valued educational credentials, and the relatively slow process of integration (Bailey, 1987; Sanders, Nee, & Sernau, 2002). Thus, immigrants often have greater motivation to identify other means of self-support, rendering immigrant populations predisposed toward and supportive of entrepreneurial pursuits, even in contexts where local entrepreneurial norms are weak.

However, the unique abilities and motivation to form born globals that immigrants possess cannot be implemented in a stultifying context that erects financial and trade barriers to born global formation. In such an environment, the abilities and motivation of would-be entrepreneurs may be negated as the economic attractiveness of international opportunities is reduced. Consequently, immigrants would likely channel their entrepreneurship toward serving the local diaspora or general population rather than venturing abroad. Accordingly, we argue that in the Magnet type, the combination of a substantial immigrant population and international transaction facilitators will yield high born global formation rates.

> **Hypothesis 3***: A substantial immigrant population can act as a functional substitute under conditions of low entrepreneurial norms and entrepreneurial educational capital; hence, the Magnet type of national institutional configuration will be conducive to high rates of born global formation at the country-level*.

METHOD

Sample and Data

Like much prior research (e.g., Anokhin & Wincent, 2012; Autio, Pathak, & Wennberg, 2015), data for born global formation rates are derived from the Global Entrepreneurship Monitor's (GEM) survey. GEM samples from a representative portion of the population and uses demographics-based weights to collect reliable country estimates. As such, it captures the breadth of entrepreneurial activity in a country to the greatest extent currently possible. "The broad and randomized nature of sampling in GEM… greatly improves the trustworthiness, generalizability, and repeatability" of findings produced using that database (Young, Welter & Conger, 2018: 417).

GEM is the only extensive cross-country source for a wide variety of entrepreneurship related data including born global activity – data on international entrepreneurship were not available for a large

number of countries before 2010-2011. We use the responses from the latest survey year of each country from 2012-2014 to obtain data for 66 countries from six continents covering a wide range of income levels. Countries in the sample accounted for 88% of the world's GDP and 84% of the world's population in 2015. Each country surveyed had at least 2,000 respondents, and the average number of respondents per country was 2,932. Table 1 presents descriptive statistics and born global formation rate data of the sample countries.

INSERT TABLE 1 ABOUT HERE

Following comparative institutional studies focused on entrepreneurship rates (e.g., Arenius & Minniti, 2005; Bowen & De Clercq, 2007; Busenitz *et. al.,* 2000) and studies in the born global literature, we measure *born global formation rate* within a given country by coding the percentage of societal members between the ages of 18-64 who report to have started a venture in the last three years and where the venture has at least 25% of its customer base from foreign countries. Using a 25% cutoff of foreign sales is consistent with prior literature (Knight & Cavusgil, 2004) and with the definition of born globals as "young companies that derive a significant portion of their revenue from international sales." (Cavusgil & Knight, 2015: 4). A self-reported measure of societal members' current pursuit of a new, internationally oriented venture is appropriate for our study because it captures the extent to which societal members aim for a particular unrealized, intangible opportunity (Ramoglou & Tsang, 2016). Such data, as opposed to, for instance, measuring the rate of successful born global ventures, avoids bias toward only born global ventures that are visible ex post (Young et al., 2018).

Additionally, our measure of the born global formation rate is a proportion of the population rather than the proportion of entrepreneurs. This approach avoids coding countries as highly internationally entrepreneurial when the overall level of entrepreneurial activity is low. Rather, it captures the country's propensity of individuals to launch born globals. The measure ranges from a high of 4.3% in Latvia to a low of 0.1% in the Philippines. Note that in a country with a population of 24.3 million people, the median country size in our sample, an increase of 0.1% indicates nearly 25,000 additional

individuals who are forming born globals economy-wide.[8] The born global formation rate in our sample correlates modestly with a country's export to GDP ($r = 0.17$, $p < 0.05$) and outward FDI to GDP ($r = 0.10$, $p < 0.10$) ratios, lending further support to its validity.

To operationalize the explanatory factors in our conceptual framework, we use data from the International Monetary Fund (IMF), Global Entrepreneurship Monitor's *National Expert Survey* (NES), and the World Bank's *Doing Business Survey* (DBS) and *World Governance Indicators* (WGI). The NES, DBS, and WGI, datasets are based on large-scale surveys that capture expert judgements to evaluate specific national conditions. We acknowledge that making strong causal claims without a multiyear panel is not ideal, but the data for causal conditions are taken one year prior to the data for born global formation rate, except for four countries for which lagged data was not available. This approach allows us to make "qualified causal inferences" (Young et al., 2018: 418). We revisit this issue below as part of several robustness tests. Table 2 summarizes the data source, measures, and calibration procedure for born global formation rate and each causal condition.

INSERT TABLE 2 ABOUT HERE

Data for *cross border economic freedom* are taken from the "trading across borders" component of the DBS. This composite index assesses the degree to which a country's regulatory framework supports international business, including observations for the number of days for and costs of engaging in international trade activities. Data for the degree of *financial system global integration* come from the IMF's Financial Integration Index (see Fernández, Klein, Rebucci, Schindler, & Uribe, 2016). This index measures the degree to which the inflow and outflow of equity, debt, money market instruments, and

[8] This survey item potentially includes instances where foreigners buy from an entrepreneur in his or her home country. For instance, it is plausible that a shopkeeper or restaurant entrepreneur might say that more than 25% of their customers come from abroad. However, because the GEM survey is a random sample of the entire country, it seems unlikely that such responses could substantially bias the measure. The correlation between born global formation rates and the number of tourists per capita was 0.15 ($p > 0.10$). By comparison, the correlation between tourists per capita and GDP per capita was 0.48 ($p < 0.05$).

other financial transactions are permitted in countries around the world.

Following prior literature, we measure *entrepreneurial norms* using an average of five 5-point items in the NES (Alvarez et al., 2011; Bosma, Stam, & Wennekers, 2013). These items measure the degree to which societal members of a country value individual success, autonomy, risk-taking, creativity and innovativeness, and personal responsibility, capturing normative support for entrepreneurship as reflected in micro insights derived from entrepreneurial trait research (*c.f.,* Suddle, Beugelsdijk, & Wennekers, 2006). Hence, the items capture well the essence of national entrepreneurial norms as conceptualized in our framework (Alvarez et al., 2011). The items exhibited acceptable reliability (Cronbach's $\alpha = 0.944$). Additionally, scores on this construct exhibited a negative, modest correlation ($r = -0.25$, $p < 0.10$) with uncertainty avoidance, providing further evidence of criterion validity consistent with theoretical expectations that uncertainty avoidance in society tends to discourage entrepreneurship (Hayton, George, & Zahra, 2002).

To measure *entrepreneurial educational capital*, we use the same items as Levie and Autio (2008) and average two sub-indices based on five 5-point Likert scale items from the NES. These items assess the degree to which colleges and universities offer adequate preparation for starting and growing new firms and the degree to which vocational, professional, and continuing education systems provide adequate preparation for starting and growing new firms (Bowen & De Clercq, 2008). Consistent with prior research, these items were weighed equally and exhibited acceptable reliability (Cronbach's $\alpha = 0.899$).

For *public governance quality*, data are taken from the World Governance Indicators. We averaged three items, measuring the control of corruption, rule of law in society, and political stability. Consistent with prior research (e.g., Fainshmidt et al., 2016), these items were weighed equally and exhibited high reliability (Cronbach's $\alpha = 0.976$). Higher scores reflect more sound formal institutions governing economic activity.

First-generation *immigrant population* as percent of the general population is taken from the World Bank. Although human capital from immigrants often extends beyond the first generation, this

variable is a good indicator of the inflow of this unique form of human capital and its prevalence in society (Friedberg & Hunt, 1995). It reflects a set of underlying policies and institutions facilitating the inflow of immigrant populations.

Finally, prior literature suggests that societal members in larger economies may have less incentive to cross borders with new ventures, as in such contexts the domestic market offers more opportunities, and early internationalization might be less compelling (De Clercq et al., 2008). Furthermore, if a country is surrounded by large economies, there may be easier access to foreign markets. Accordingly, we include a causal condition capturing the ratio between (1) the sum of the GDP of all bordering nations using both land and maritime borders, and (2) the domestic market size. We label this condition, *relative adjacent market size*.[9] The idea is that the higher the ratio the greater likelihood that an entrepreneur will look abroad rather than within his or her own domestic context for market opportunities. We measure both the numerator and denominator of this ratio using country GDP in constant 2010 dollars from the World Bank.

Fuzzy-set Analysis and Calibration

We use fsQCA to test our hypotheses (Ragin & Fiss, 2017). FsQCA examines how the membership of cases (i.e., countries) in causal conditions (i.e., features of the institutional context) is related to their degree of membership in the outcome (i.e., born global formation rate). Based on Boolean algebra, this set-theoretic technique allows for both *conjunctural causation*, in which we examine the causal conditions in concert, and *equifinality*, whereby multiple combinations of causal conditions can be associated with the outcome. These features of FsQCA accommodate the systemic nature of our polythetic typology and yield institutional configurations that emerge from the data, both of which make fsQCA particularly well suited to our study. FsQCA considers all possible combinations, subject to select specifications we discuss below. The inductive aspect of fsQCA is a strength of the technique and enables us to detect novel patterns, or combinations, that we did not theorize *a priori*.

[9] We thank an anonymous reviewer for this suggestion.

FsQCA operates on conditions and therefore requires that raw data be calibrated into membership scores over the interval [0, 1]. A calibrated score of 1.00 indicates full membership in a set (i.e., presence of a condition), a calibrated score of 0.5 indicates the crossover point where there is ambiguity as to whether a condition is present or absent (e.g., relatively high or low), and a calibrated score of 0.0 indicates full non-membership in a set (i.e., absence of a condition). Following Ragin (2008), we employ the "direct method" for born global formation rates, relative adjacent market size, and immigrant population (see Table 1), as these variables are continuous and do not exhibit natural anchors. Similar to Fiss (2011), we use the 75th percentile, the 25th percentile, and the mean based on available data in each variable's data source (Greckhamer, 2016), including countries that are not part of final sample of 66 (except for relative adjacent market size), to denote full membership, non-membership, and the crossover point, respectively. Our approach increases generalizability of patterns, as it ensures that calibration is not driven by the sample, rather it is reflective of each nation's membership in conditions relative to all or most countries around the world.

For the scaled data that integrates multiple archival sources, we utilized the absolute positions of countries on each scale. For instance, for the cross-border economic freedom condition, a score of 100 translated to a 1.00, a score of 90 to a 0.90, and so on (See Table 2 for more details).

As for two of the survey data items (public governance and entrepreneurial norms), the instruments provide natural anchors that can substantiate calibration decisions (Fiss, 2011). For instance, a score of 4 on a 7-point Likert scale is typically characterized by ambiguity such that it is not clear if a condition is present or absent. We use the midway scale score between the minimum and maximum in the original datasets for each variable, as the crossover point. The 75th percentile and 25th percentile serve as the full membership and full non-membership points respectively.

Finally, we calibrated entrepreneurial educational capital somewhat differently due to the structure of that data.[10] Rather than using the Likert scale anchors, we used the entire population of GEM sampled

[10] The global average of this construct was 2.42, and 97% of observations fell below the scale midpoint of 3. Many countries that have a reputation for having an educational system that equips societal members to become

countries and designated the 75th percentile, 25th percentile, and population mean to denote full membership, non-membership, and the crossover point, respectively. To simplify interpretation, we refer to the presence of a condition (i.e., above the crossover point) as "high" or "strong," depending on the condition discussed.

Next, fsQCA requires that we determine the minimum level of membership in the outcome needed for a configuration to be said to exhibit that outcome (consistency threshold). We use 0.80 as the consistency threshold, in line with prior literature (Bell, Filatotchev, & Aguilera, 2014). All rows in the truth table designated as consistent with the outcome had a PRI consistency greater than 0.60 (Greckhamer et al., 2018; Schneider & Wagemann, 2012). Finally, we determine a frequency cutoff for the minimum number of cases needed for a configuration to be retained for analysis. We set the frequency threshold to one in order to identify all configurations of institutional conditions associated with the outcome. In other words, each possible configuration must have at least a single representative case (i.e., one country) in order to qualify for further analysis. In our data, 35 possible combinations are exhibited by at least one case, and ten of these combinations are consistent with a high born global formation rate (see Table 5A in the appendix for a nested truth table). One reason we did not use a higher frequency threshold is because any frequency threshold must result in the inclusion of at least 75% of the cases (Ragin, 2008). Increasing the frequency threshold from 1 to 2 would have decreased the proportion of cases analyzed to 57%.

RESULTS

Prior to testing our hypotheses, we conducted a Necessity Analysis on all causal conditions in our model. Necessity is determined by a consistency score capturing the degree to which the outcome is a

entrepreneurs (e.g., Switzerland scoring 2.80, the United States scoring 2.59) fall below 3 on the Likert scale. The Netherlands with a score of 3.16 had the world's highest rated entrepreneurial educational capital. Hence, it appears that the data systematically rates counties low on this institutional feature despite apparent validity with respect to the ordering of the countries. Given our interest in conducting a *comparative* institutional analysis and our access to data on this variable essentially for the world population of countries, we deemed a simple anchoring in the Likert scale problematic. This approach is consistent with Ragin's (2008) recommendation that researcher utilize substantive, empirical, and context-specific knowledge to calibrate conditions.

subset of the causal condition. Schneider and Wagemann (2012) suggest that a consistency score above 0.90 suggests a causal condition is "almost always necessary" and thus need to be present to bring about the outcome (Ragin, 2006). Results indicate that neither the presence nor the absence of any causal condition is necessary for achieving a high born global formation rate, highlighting the appropriateness of a neo-configurational approach.

We then conducted the Sufficiency Analysis to identify the combinations of conditions that are sufficient for the outcome to occur. Sufficiency is determined by a consistency score capturing the degree to which a configuration of causal conditions is a subset of the outcome (Ragin, 2006). Results for the presence of high born global formation rates are presented in Table 3. We display the intermediate solution because it accommodates substantive knowledge of the association between the causal conditions and outcome. By specifying the expected relationships prior to the analysis, the solution may be simplified using "easy" counterfactuals or remainders consistent with theory, such that adding a redundant causal condition to a configuration already linked to the outcome would still produce that outcome (Ragin & Sonnett, 2005). In this study, we follow our theorizing and specify the presence of six of the seven causal conditions as "should be" associated with the outcome. Specifically, *public governance quality* may have a negative impact on some entrepreneurial phenomena, but we hypothesize that it would contribute to high born global formation rates for the Coiled Spring type. For this reason, we are ambivalent regarding its relationship with born global formation rates.[11] We also utilize the parsimonious solution to distinguish core from peripheral conditions.[12]

INSERT TABLE 3 ABOUT HERE

FsQCA results yield five institutional configurations that are sufficient for the presence of high

[11] As two robustness checks, we specified public governance quality as "should be" absent in one and present in another. We attained identical results across these specifications.

[12] The parsimonious solution is a further simplification of the intermediate solution. In addition to "easy" counterfactuals, the parsimonious solution considers "difficult" counterfactuals that may or may not be consistent with researchers' assumptions (Grandori & Furnari, 2013). For core conditions, there is a stronger set relationship between these conditions and the outcome that would be highly unlikely to be reduced in the face of additional information.

born global formation rates. The solution has an overall 0.58 level of coverage and a 0.84 level of consistency. These fit statistics indicate that the configurations account for, or "cover," 58% of membership in the outcome and lead to the outcome 84% of the time they are in place.

Hypotheses Testing

The first configuration is mostly consistent with Hypothesis 1, but it introduces some nuance. We label it Loam Soil A. It contains financial system global integration and entrepreneurial norms as core conditions, entrepreneurial educational capital as a peripheral condition, and, though we did not hypothesize its presence, public governance quality as a core condition. Interestingly, this configuration did not include cross-border economic freedom (it may or may not be present), suggesting that financial system global integration is the key international transaction facilitator in this configuration. Consistent with our theorizing about conjunctural causation, all three features should be present to promote born global formation: (1) international transaction facilitators, (2) entrepreneurial norms, and (3) entrepreneurial educational capital. For example, if financial system global integration is not in place, individuals with sufficient ability and motivation will likely allocate their entrepreneurial efforts domestically. In Loam Soil A, it is also likely that high public governance quality is a complement. It provides for sociopolitical stability such that international transactions are more reliable both from the standpoint of the entrepreneurs and the overseas market. It encourages market activity, which reduces transaction costs and incentivizes individuals to make investments in resources and capabilities conducive to entrepreneurship (Fainshmidt, Smith, & Judge, 2016).

Following Greckhamer et al. (2018), we return to the raw cases ~~data where possible~~ in order to uncover~~facilitate~~ novel theoretical insights and a richer interpretation. With regards to Loam Soil A, advanced economies such as the United States as well as rapidly emerging markets like Latvia are examples of countries exhibiting this type of institutional context. For instance, Latvia has been spotlighted for its rapid implementation of entrepreneurship-friendly economic policies in the early 21st century leading to an entrepreneurial push across many sectors of Latvian society. As part of their Loam Soil recipe, Latvia has made significant inroads integrating with the EU (Brás, 2020), which further

Comentado [AR1]: Feel free to accept or not my suggestions… you are closer to the writing.

Comentado [AR2]: Configuration?

contributed to public governance improvements and market access. Significantly, Varblane and Mets (2010) noted over a decade ago that 71% of Latvian higher education institutions had entrepreneurship curriculum, roughly doubling the commitment of their Baltic counterparts, Lithuania and Estonia. Finally, the Baltic States have been among the leading post-communist states in embracing a market-oriented culture, a staple of which is entrepreneurial attitudes and behaviors (Bohle & Greskovitz, 2012).

Loam Soil B, a configuration closest to Loam Soil A based on shared conditions and the presence of the key three institutional conditions in our hypothesized primary type, did not have a single core condition, meaning that the analysis could not highlight any condition that was indispensable. Countries mapping closely with Loam Soil B include ~~Ireland~~ Sweden and Canada. However, these countries, as well as all other cases with membership in Loam Soil B, are also members of Loam Soil A. It appears that Loam Soil B is a potential sub-type of Loam Soil A, but its lack of any core conditions suggests it is a more tentative configuration in nature. The combined Loam Soil configurations cover the largest proportion of countries with high levels of born global formation rates.

Sweden is noteworthy because it contrasts with close geographic and cultural neighbors, Denmark, Norway, and Finland in its ability to spawn high rates of born globals. All three counterparts have lower levels of entrepreneurial norms and both Denmark and Finland also have lower entrepreneurial educational capital than Sweden. With regards to entrepreneurial norms, the literature notes that Sweden has a more significant tradition of family-owned businesses and self-employment than its ~~counterparts~~neighbours (Johannisson, 2002). Further, prior research ~~has shown~~shows that Sweden emphasizes entrepreneurial education more than other nations, such as Germany (Fuchs, Werner, & Wallau, 2008). This finding is echoed by Dahlstedt and Fejes (2019), who note an increasing proclivity among students in Sweden for market-oriented problem solving and adaptability.

Consistent with Hypothesis 2, the Coiled Spring type was also detected by the analysis, combining financial system global integration, entrepreneurial educational capital, and the *absence* of public governance quality as core conditions. Additionally, the presence of large adjacent markets also serves as a core condition. In the Coiled Spring type, exemplified by Peru and Romania, we observe how

high levels of born global formation can be a silver lining in contexts with weak public institutions. That is, with institutional features that drive entrepreneurial ability (entrepreneurial educational capital) and facilitate international transactions (financial system global integration and cross-border economic freedom) in place, the absence of public governance quality functionally substitutes for entrepreneurial norms. Thus, due to frustration with local institutions, weak public governance seems to increase motivation to engage in entrepreneurship that spans borders. While we did not explicitly theorize it, a large adjacent relative market also plays a key role in motivating born global formation, complementing weak public governance to further pull entrepreneurs into neighboring markets with more abundant opportunities. Finally, the Coiled Spring suggests that international transaction facilitators should span both trade and finance to provide opportunities for high born global formation rates.

Peru's 3.5% born global formation rate contrasts starkly with Ecuador's 0.66%. Both have relatively weak public governance, the primary mechanism for escapism, which is not uncommon in the Latin American region. They are somewhat similar across most relevant features. However, Ecuador lags behind Peru in most categories. In cross-border economic freedom, importantly, Peru scores moderately high and Ecuador scores moderately low. These differences in international opportunities are likely significant, despite similarities in other institutional features, and highlight the notion of conjunctural causation. Cardoza and colleagues (2016), for instance, showed that for SMEs seeking to internationalize from Latin America, less cumbersome paperwork related to exports, lower fees for exporting, and fewer regulatory barriers at the border were decisive for an export orientation. Thus, by providing higher relative cross-border economic freedom, Peru is able to channel frustration with public governance outward, thus outperforming its neighbors' ability to spawn born globals. This suggests that whether weak public governance translates into born global formation is highly sensitive to the opportunity and transaction costs of cross-border ventures. It is further possible that, because many of Peru's regional neighbors are not able or willing to devise transaction facilitating institutions that leverage escapism into born global formation, Peruvian born global ventures enjoy a comparative advantage in the region due to reduced foreign competition.

Comentado [AR3]: Ok here to leave it at the end of the sentence ,... super minor

We also found support for Hypothesis 3. The Magnet configuration substitutes a large immigrant population for the ability (entrepreneurial educational capital) and willingness (entrepreneurial norms) features, in departure from the more archetypal Loam Soil. Uruguay and Austria are prime examples of this configuration. Complementing the immigrant population, cross-border economic freedom and financial system global integration serve as international transaction facilitators. A large adjacent market serves as third a core condition. Possibly, a relatively smaller domestic economy provides additional motivation to internationalize early ~~on~~ in search of market opportunities, thus complementing the international transaction facilitators and multinational demography of this institutional context. A final peripheral condition is high quality public governance, suggesting that in the Magnet type robust formal institutions might be needed to instill confidence in governmental institutions, such as property protection, that could otherwise deter immigrants from risky entrepreneurial endeavors.

Some countries in this configuration, like Uruguay, have enacted specific government policies designed to bolster international entrepreneurship by attracting and specifically targeting *skilled immigrant entrepreneurs* and stipulating that they must create businesses that are international in scope (Frontera, 2014). Austria, another exemplar country of this type, exhibits some of the highest immigration inflows in Europe, and contains several enclaves of immigrants that are highly entrepreneurial (Kurtoglu, 2007). Although these two example countries differ somewhat in their approach to foreign entrepreneurial talent, the Magnet configuration demonstrates how they are similar, yet different from many other nations that ~~exhibit~~count with relatively large immigrant populations (e.g. Costa Rica and France), in leveraging that talent into born global ventures. Their transaction facilitators, proximity to large markets, and high-quality public governance ~~provide~~offer stability and reduce costs for immigrant entrepreneurs, thus outperforming in born global formation other nations with similarly large immigrant populations.

Set-theoretic analysis allows for the rigorous evaluation of formal Boolean expressions against observed configurations (e.g., Frambach et al., 2016). We utilize this test to further evaluate our hypotheses. In our study, the outcome is high rates of born global formation (Y), and the primary causal

Comentado [AR4]: Ok with this.
Frankly… more than I can chew! This is curling the wrinkle… Spanish expression!

Comentado [SF5R4]: This analysis was new to me. I read about it in Ragin and Frambach et al. and think I got the point. I then found an online Boolean algebra to help do the "math" of it. It does make sense, I think. I was also able to get the result of Frambach et al using that calculator. I think and hope what I did is correct.

Comentado [AR6R4]: Thank you! I am delegating this to you!

conditions of interest are cross-border economic freedom (A), financial system global integration (B), entrepreneurial norms (C), entrepreneurial educational capital (D), public governance quality (E), and immigrant population (F). We exclude relative adjacent market size because it is not part of our predictions. Using this notation, where the "+" sign presents the logical "or", the arrow is the logical implication sign, and small case letters denote the absence of a condition, the set of theory-based predictions (T) is as follows:

(T): ABCD + ABDe + ABF → Y

The agreement between (T) and the obtained results (R′) can then be evaluated through their intersection (Ragin, 1987), as follows:

(T)(R′) = (ABCD + ABDe + ABF)(BCDE+BCDF+ABDeF+ABdEF+ABCE)

= ABCDE + ABCDF + ABDeF + ABFdE + ABFCE

Regarding Hypothesis 1, theorizing ABCD leads to ABCDE or ABCDF, which are proper subsets of the hypothesized configuration. Regarding Hypothesis 2, theorizing ABDe leads to ABDeF, which is again a subset in line with the hypothesis. For Hypothesis 3, theorizing ABF leads to ABFdE or ABFCE, both of which are subsets of the theorized configuration. Similar to Frambach et al. (2016), results demonstrate Boolean expressions in subset relations to the hypothesized configurations. We discuss the additional conditions indicating subsets later in the paper, as our main results similarly indicate their role in the configurations associated with a high born global formation rate.

Extending the Typology

The first three institutional configurations largely support the types we theorized; however, an additional configuration emerges from our analysis. This configuration shares much of its conditions with the Loam Soil, but it seems to be sufficiently distinct to warrant further discussion. We label it the Ant Colony. Ant colonies exhibit very orderly societies where behavior is highly predictable and pro-social, fostering strength in numbers and risk-taking in hunting often much larger prey. In the Ant Colony institutional context, exemplified by ~~Singapore~~ Chile and ~~Australia~~Singapore, we tentatively suggest that the presence of strong public governance quality may substitute for entrepreneurial educational capital by

stabilizing the environment. This stability reduces the level of difficulty in identifying and exploiting opportunities, decreasing the need for entrepreneurial educational capital. In such an environment, individuals may also be more likely to proactively glean the necessary capabilities from the dominant market logics (Thornton, Ocasio, & Lounsbury, 2015), even where entrepreneurial educational systems are weak. Additionally, entrepreneurial norms are likely channeled in a positive direction by systems that reward productive rather than unproductive or even destructive entrepreneurship (Baumol, 1996). These conditions are complemented by financial system global integration as a final core -condition, which presents prospective entrepreneurs with opportunities to create value across borders.

Notably, as an example of the Ant Colony, Chile achieves high born global formation despite low levels of entrepreneurial educational capital. Other countries that are members of this configuration do exhibit high levels of entrepreneurial educational capital, but many of them are also members of other configurations such as the Loam Soil. Importantly, Chile exemplifies how it is possible to do so with higher quality public governance than other countries in Latin America. Chile enacted a number of controversial yet market-focused reforms in the 1980's and 1990's that enabled and protected private property rights, reduced corruption, and eased regulations on (international) business activity (Barro, 1999). By doing so, Chile's government has reduced the cost and uncertainty of entrepreneurship, which has attracted human capital and incentivized knowledge accumulation in the Chilean economy, thus promoting the entrepreneurial skills otherwise promulgated by entrepreneurship education. This combines with entrepreneurial norms and opportunity facilitating institutions to spur high levels of born global formation in Chile. Interestingly, in 2010, Chile's government launched Startup Chile, which has further propelled the country's entrepreneurial activity. Startup Chile is a globally acclaimed seed accelerator with a considerable emphasis on international entrepreneurship (Moed, 2018). As a state-led initiative aimed at providing entrepreneurs stability and skills, it reflects Chile's approach to instilling entrepreneurial skills outside the formal education system.

Additional Analyses

FsQCA allows researchers to explore configurations associated with the absence of an outcome,

in our case the absence of high born global formation rates. Sufficiency Analysis results for this outcome are displayed in Table 4. We identify five configurations, covering a smaller portion (0.37) of the outcome. Notably, none of the five configurations contain a set of three institutional features that need to each be in place for born global formation to occur in our theorizing. These patterns have a few important implications. First, institutional development does not inevitably lead to higher born global formation rates. There are several situations where the presence of key institutional features is associated with low born global formation rates. For instance, in Configuration 2, entrepreneurial educational capital and cross border economic freedom are part of a recipe contributing to low born global formation rates. Second, the patterns bolster the notion that only very specific sets of institutional conditions set in motion the internationalization of many entrepreneurial firms. Thus, it is not surprising that the configurations associated with a low born global formation rate exhibit little internal coherence.

Finally, we conducted several other tests to assess the robustness of our findings. These tests are summarized in the Appendix.

INSERT TABLE 4 ABOUT HERE

DISCUSSION AND CONCLUSION

Existing reviews have documented the limited research exploring comparative international entrepreneurship (Jones, Coviello, & Tang, 2011; Terjesen, Hessels, & Li, 2016), recently lamenting how international entrepreneurship has tacitly been assumed by most prior research to be *acontextual* (Reuber et al., 2017). Using a neo-configurational, institutional approach, we address this shortcoming by developing a polythetic typology capturing the national institutional configurations that shape the context for born global formation. We uncover five configurations associated with high born global formation rates. In doing so, our study advances the conceptual basis of the born global phenomenon and engages more deeply with the conceptual apparatus of institutional theory, thus going beyond prior research which has focused on macroeconomic indicators such as wealth (e.g., Acs & Amoros, 2008) and net trade and FDI flows (De Clercq et al., 2008). We also expand on work that examines a narrow scope of developed

economies and country characteristics by studying a far broader spectrum of countries and a *system* of institutional features. Our findings have important implications for research on born globals and international entrepreneurship more broadly.

Implications

A key theoretical implication that emerges from our study is that the institutional foundation of born global formation rates is configurational, as we highlight the key interactions among national institutional features. Specifically, a high born global formation rate occurs when the national institutional context includes *both* features conducive to entrepreneurial activity *as well as* features conducive to border-spanning activities. With the Loam Soil type being the most common, these institutional features reinforce each other. Entrepreneurship takes place within complex institutional contexts, so a neo-configurational theory that integrates supply-related with demand-related mechanisms (Thornton, 1999) can significantly further our understanding of entrepreneurial phenomena. This conceptual notion extends prior work that explores the impact of international economic openness (De Clercq et al., 2008) but does not account for its interplay with other prominent institutional features. Similarly, while Terjesen and Hessels (2009) utilize the holistic Varieties of Capitalism approach as the theoretical lens for selecting institutional indicators, their reliance on linear methods does not fully capture the richness of that approach because it cannot effectively account for its complexity.

But Loam Soil configurations are not the only ways in which causal conditions combine. That is, there are several configurations of institutional features propelling born global formation. This finding reflects a key aspect of the neo-configurational approach, equifinality, which is especially useful given that scholars examining the institutional basis for born global formation have not been able to formulate a consistent institutions-based theory (Knight & Liesch, 2016). Our study helps remedy this shortcoming by advancing a more comprehensive theory of the multiple paths to high born global formation rates. By relaxing the constraint that causal conditions have a direct relationship to born global formation rates and allowing for alternative pathways, we add accuracy and comprehensiveness to existing explanations.

Specifically, in addition to complementarities, we also observe important functional substitutes.

As a prime example, when comparing the Loam Soil to the Coiled Spring to the Magnet, we find three different motivational mechanisms that are functional substitutes: entrepreneurial norms (Loam Soil), escapism from low quality public governance (Coiled Spring), and immigrants (Magnet). Similarly, when comparing the Loam Soil configurations with the Magnet configuration, it seems that the unique human and social capital embedded in a substantial immigrant population can substitute for entrepreneurial educational capital and even for entrepreneurial norms. These institutional interplays are in keeping with theory that views economies as bundles of institutional features rather than as assortments of institutional variables competing for variance explained in outcomes (e.g., Jackson & Deeg, 2008; Pajunen, 2008).

A corollary of our findings is that the drivers of advanced entrepreneurial activities, such as born globals, often arise from less intuitive sources. For instance, escapism is not ideal for entrepreneurial activity, but within particular institutional combinations it can propel certain types of productive entrepreneurship, such as born global formation, and perhaps ultimately stimulate economic development. Loam Soil institutional combinations are the primary way to achieve high born global formation rates, but they are also difficult to achieve, so many countries may exhibit a relatively high rate of born global formation as a suboptimal equilibrium emerging from institutional weaknesses. This notion is consistent with Rodrik's (2008) notion of "second best" institutions, as improving the quality of public governance is a challenging task. Our study demonstrates that by accounting for how such institutions interact with other features of the institutional environment can enable countries to reap the benefits of entrepreneurship. Attracting immigrant populations, relaxing cross-border regulatory barriers, and infusing the educational system with a focus on entrepreneurship are notable steps countries with formal institutional weaknesses can take toward propelling born global formation.

Another key insight is the tradeoffs implied by the results. That is, a change in one casual condition may lead to different economic outcomes. For instance, in the Coiled Spring, weak public governance helps yield high levels of born global formation. However, many positive economic outcomes, like domestic high growth entrepreneurship and property rights protections for established companies, are made difficult by this weakness. If public governance were strong, in these situations, the

economic activity in such countries would be qualitatively different, and probably more developed, but it might not include high levels of born global formation. Another example of these tradeoffs are situations where societal norms do not support entrepreneurial behaviors, but other features of the Loam Soil are in place. In such cases, like Germany and Czech Republic, there are few born globals, but there is a good deal of intrapreneurship as employees of larger, existing organizations channel their entrepreneurial abilities within existing organizational structures (Brem & Borchardt, 2014). The converse of this would be countries with strong entrepreneurial norms, yet weaknesses in entrepreneurial education capital and international transaction facilitators, like India and Nigeria. In these places the norms serve to spur the overall rate of entrepreneurship, but efforts are consequently channeled towards less productive forms of entrepreneurship. The exploration of such counterfactuals in international entrepreneurship research is a valuable use of the neo-configurational approach.

A fourth implication for theory of international entrepreneurship comes from the importance of financial system global integration to born global formation rates. Although a neo-configurational approach is good for identifying alternative "recipes" for an outcome, the analysis could not identify a path for achieving a high born global formation rate that did not include high integration with the global financial system. This is not to say that it is impossible to have a high born global formation rate without the transaction-facilitating impact of financial system global integration, but without it, we could not identify a *systematic* way for countries to achieve the outcome. Plausibly, a globally integrated financial system eases repatriation of funds, capital movement to set up operations, and access to external financing, all of which are vital for born globals and perhaps comparatively more challenging than trade barriers which can be baked into the business model. Future empirical research could further probe into the importance of financial system global integration as well as examine the specific mechanisms by which more societal members can access these financial services.

Fifth, the results suggest that our predictions might require some nuance, highlighting the complexity of the institutional determinants of born global formation and, hence, the need for the neo-configurational lens. For instance, in several cases a relatively small local economy (near large

neighboring economies) can play a central role in increasing born global formation rates, though there are systematic pathways for high born global formation without this geographic advantage. Further, the role of public governance in the making of born globals is quite diverse and intriguing. In the Coiled Spring, its absence serves as a motivator for escapism out of exasperation with local formal institutions. However, in the emergent Ant Colony, we propose that the presence of high public governance quality can be a functional substitute for entrepreneurial educational capital via better functioning markets. High quality public governance decreases uncertainty about the economic environment (Fainshmidt et al., 2016). This stability leads to greater clarity for more individuals to identify and seize opportunities, and it provides an incentive for individuals to accumulate knowledge that fosters opportunity recognition, even where a more formal entrepreneurial educational system is weak (Walter & Block, 2016; Zahra, 2014). This dovetails with past findings which have shown that high quality public governance fosters absorptive capacity and, consequently, human capital accumulation among societal members that is conducive to entrepreneurial skills (Agostino *et al.*, 2020; Busenitz *et al*., 2000; Rodrik, Subramanian, & Trebbi, 2004). These patterns suggest a complex role for public governance quality: when absent it can serve as motivation but when present it can lessen the exigency of formally acquired entrepreneurial educational capital. Finally, its presence in the Loam Soil configurations may help stabilize a healthy flow of border spanning economic activities in cases where cross border economic freedom is not present. We tentatively speculate that it may do so via its uncertainty reducing mechanisms. That is, born globals from these countries may rely on consistent, even if moderately high, cross border transaction costs and "bake" them into their business model's cost structure. That is, even in cases where trade barriers may be high, they are still predictable, and stability promotes investment (Bleaney, 1996). The ways in which public governance quality relates to born global formation is clearly a fruitful avenue for furthering theory on international entrepreneurship.

Finally, we provide insights to international business theory on the drivers of early internationalization. Most firm internationalization has been traditionally explained by characteristics that can be subsumed under the OLI paradigm (Dunning, 1980). Although the home institutional context can

foster the accumulation of ownership advantages, our model goes beyond traditional interpretations of that framework and enriches the "O"wnership component. For instance, entrepreneurial norms and public governance quality have not been associated with ownership advantages in the past. But these are indeed normative drivers that can facilitate the motivation to create border-spanning new ventures. Considering institutional contexts outside the realm of existing theory allows us to advance the conversation about early internationalization.

Limitations and Future Research

Our study is not without limitations. First, comparative country-level research often encounters potential endogeneity, but our robustness tests in the Appendix do help assuage some concerns about this possibility. Additionally, while it is doubtful that born global formation is driving the institutional features, we do lag the outcome variable. However, because fsQCA does not easily permit the analysis of longitudinal data, we acknowledge that it is difficult to eliminate all endogeneity-related concerns.

Second, the born global formation rate as well as some of the institutional features we examine may well vary among industries within a country. Some of the types we identify may be more conducive to high-tech born global formation than others. This nuance was impossible to explore within one study. Therefore, future research that examines *within-country* variability will likely be fruitful. Similarly, given the focus of born globals on s*elling* to foreign markets, a natural extension of our study would be to study the institutional drivers of early internationalization by engaging with input markets abroad.

Third, how the institutional configurations in our study come together over time to propel born globals is beyond the scope of this manuscript, but this would be a very interesting research program within the international entrepreneurship as well as development economics literatures. Along similar lines, our study advances the literature by identifying institutional configuration associated with born global formation rates, but the extent to which these born globals survive over time (e.g., Del Sarto et al., 2019), especially in contexts where cross-border transaction facilitators may intensify competition, requires further research.

Finally, our study suggests some less intuitive paths for high rates of born global formation,

especially in developing countries. One potential explanation for this is that new ventures from countries with institutional weaknesses may internationalize to locations where they have a relative rather than an absolute advantage. Future research could examine the role of relative advantage and whether there are different drivers for market-pull versus technology-push born globals. In a similar vein, it would be valuable to analyze what institutional configurations foster developing-developing, developed-developing, or developed-developed born globals.

Conclusion

Our study helps solve some of the challenges that have plagued research on born globals and international entrepreneurship more generally. We draw on the neo-configurational institutional perspective to develop a typology of national institutional features shaping born global formation. We explicate and document institutional configurations that span both developed and understudied developing economies. In response to repeated calls for scholars to better examine the many differing ways in which entrepreneurship is practiced (e.g., Bowen & DeClercq, 2008; Tolbert & Coles, 2018), we also contribute to a growing literature that examines the cross-country institutional drivers of different types of entrepreneurship rather than just a generic self-employment rate. Finally, we answer Misangyi et al.'s (2016) call to more fully exploit the neo-configurational space to detect novel patterns and thus advance new typologies. In doing so, we further advance the use of the neo-configurational institutional perspective in uncovering how institutions combine to spur economically important phenomena.

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Table 1
Key Statistics for Sample Countries

Country	New venture startup rate	Born global formation rate	Born global formation rate calibration	Country	New venture startup rate	Born global formation rate	Born global formation rate calibration
Latvia	13.25%	4.29%	1.00	Turkey	9.95%	1.40%	0.51
Qatar	16.38%	4.16%	1.00	Bolivia	27.40%	1.35%	0.45
Singapore	10.96%	4.07%	1.00	Poland	9.21%	1.35%	0.45
Chile	26.83%	4.05%	1.00	Pakistan	11.57%	1.32%	0.42
Nigeria	39.86%	4.00%	1.00	Czech Rep.	7.33%	1.12%	0.23
Zambia	39.91%	3.60%	1.00	Indonesia	14.20%	1.12%	0.23
Peru	28.81%	3.48%	1.00	Costa Rica	11.33%	1.10%	0.22
Romania	11.35%	3.19%	1.00	France	5.34%	1.10%	0.22
Angola	21.50%	3.08%	1.00	Germany	5.27%	1.05%	0.18
Panama	17.06%	2.72%	0.99	Thailand	23.30%	0.92%	0.11
Canada	13.04%	2.60%	0.99	Italy	4.42%	0.84%	0.09
Israel	10.04%	2.40%	0.98	Korea	6.85%	0.84%	0.09
USA	13.81%	2.40%	0.98	Finland	5.63%	0.78%	0.07
Uruguay	16.08%	2.38%	0.98	El Salvador	19.48%	0.76%	0.06
Colombia	18.55%	2.28%	0.97	Uganda	35.53%	0.72%	0.05
Austria	8.71%	2.25%	0.96	Argentina	14.41%	0.70%	0.05
Portugal	9.97%	2.20%	0.96	Spain	5.47%	0.70%	0.05
Switzerland	7.12%	2.17%	0.95	Ecuador	32.61%	0.66%	0.04
Hungary	9.33%	2.07%	0.93	Denmark	5.47%	0.65%	0.04
Kazakhstan	13.72%	1.96%	0.9	China	15.53%	0.64%	0.04
Slovenia	6.33%	1.92%	0.88	Egypt	7.82%	0.64%	0.04
Jamaica	19.27%	1.90%	0.87	Guatemala	20.39%	0.60%	0.03
Sweden	6.71%	1.89%	0.87	Norway	5.65%	0.60%	0.03
Ghana	25.82%	1.82%	0.83	Algeria	4.89%	0.55%	0.03
South Africa	6.97%	1.82%	0.83	Iran	16.02%	0.48%	0.02
Mexico	18.99%	1.71%	0.77	Japan	3.83%	0.44%	0.02
Ireland	6.53%	1.68%	0.75	India	6.60%	0.35%	0.01
Belgium	5.40%	1.65%	0.72	Vietnam	15.30%	0.30%	0.00
UK	10.66%	1.65%	0.72	Russia	4.69%	0.25%	0.00
Australia	13.14%	1.56%	0.65	Tunisia	4.78%	0.20%	0.00
Georgia	7.22%	1.47%	0.57	Brazil	17.23%	0.17%	0.00
Greece	7.85%	1.44%	0.54	Ethiopia	14.73%	0.15%	0.00
Netherlands	9.46%	1.44%	0.54	Philippines	18.38%	0.10%	0.00

Table 2
Data Sources, Measures, and Calibration Procedure for Each Condition

Condition	Source	Measure(s)	Calibration
Born global formation rate	Global Entrepreneurship Monitor *Adult Population Survey*	The percentage of individuals between the ages of 18-64 in the general population who have started a venture in the last three years that has at least 25% of its customer base from other countries.	**Full membership:** 75th percentile of population (not sample) **Crossover point**: mean of population **Full non-membership:** 25th percentile of population
Entrepreneurial educational capital	Global Entrepreneurship Monitor *National Expert Survey*	Average of two 5-point Likert scale items: (1) The degree to which colleges and universities provide adequate preparation for starting and growing new firms. (2) The degree to which vocational, professional and continuing education systems provide adequate preparation for starting and growing new firms.	**Full membership:** 75th percentile of population (not sample) **Crossover point**: mean of population **Full non-membership:** 25th percentile of population
Entrepreneurial norms	Global Entrepreneurship Monitor *National Expert Survey*	Average of five 5-point Likert Scale items. The degree to which societal norms: (1) support individual success, (2) encourage autonomy, (3) value risk-taking, (4) foster creativity and innovativeness, and (5) emphasize personal responsibility.	**Full membership:** 75th percentile of population **Crossover point:** 3, the midpoint of the Likert Scale. **Full non-membership:** 75th percentile of population
Cross-border economic freedom	World Bank's *Doing Business Survey*	Scaled composite index (0-100) combining data for the number of days, number of procedures, and costs of engaging in international trade.	**Full membership:** 95 **Crossover point**: 50 **Full non-membership:** 5
Financial system global integration	International Monetary Fund, 2010-2012	Scaled composite index (0-1), where 0 is best and 1 is the worst, assessing the degree of inflow and outflow of equity, debt, money market instruments, and other financial transactions in countries around the world.	**Full membership:** 0.05 (reverse coded to be 0.95) **Crossover point**: 0.50 **Full non-membership:** 0.95 (reverse coded to be 0.05)
Public Governance Quality	World Bank's World Governance Indicators, 2012-2014	Average of three of the six world governance indicators: control of corruption, rule of law, and political stability.	**Full membership:** 75th percentile of population (not sample) **Crossover point**: 0, the midpoint of the WGI scale **Full non-membership:** 25th percentile of population
Immigrant population	World Bank's *World Development Indicators,*	First-generation migrants as percent of population.	**Full membership:** 75th percentile of population **Crossover point**: mean of population **Full non-membership:** 25th percentile of population
Relative adjacent markets size	World Bank's *World Development Indicators,*	The ratio of neighbors' combined GDP to domestic GDP.	**Full membership:** 75th percentile of population **Crossover point**: mean of population **Full non-membership:** 25th percentile of population

Table 3
Sufficiency Analysis Results for the Presence of High Born Global Formation Rate

Causal Condition	Loam Soil A	Loam Soil B	Coiled Spring	Magnet	Ant Colony (Emergent)
Cross-Border Economic Freedom			●	●	●
Financial System Global Integration	●	●	●	●	●
Entrepreneurial Norms	●	●			●
Entrepreneurial Educational Capital	●	●	●	⊗	
Public Governance Quality	●		⊗	●	●
Immigrant Population		●	●	●	
Relative adjacent market size		●	●	●	
Exemplar Countries	USA ~~Chile~~Latvia	~~Ireland~~Sweden Canada	Peru Romania	Austria ~~Belgium~~Uruguay	~~Singapore Australia~~Chile Singapore
Raw Coverage	0.36	0.20	0.13	0.16	0.38
Unique Coverage	0.01	0.02	0.06	0.09	0.03
Consistency	0.85	0.88	0.82	0.87	0.84
Solution Coverage	0.58				
Solution Consistency	0.84				

Note: we indicate the presence of a causal condition with a bold circle ("●") and the absence of a causal condition with a crossed circle ("⊗"). A blank space indicates that a condition is either present or absent (i.e., "doesn't matter"). Larger circles denote core conditions.

Table 4
Sufficiency Analysis Results for the Absence of High Born Global Formation Rate

Causal Condition	**C1a**	**C1b**	**C2**	**C3**	**C4**
Cross-Border Economic Freedom		⊗	●		⊗
Financial System Global Integration	⊗	⊗	⊗	⊗	
Entrepreneurial Norms	⊗	⊗			⊗
Entrepreneurial Educational Capital			●	●	⊗
Public Governance Quality	⊗	⊗	⊗	⊗	⊗
Immigrant Population	⊗		⊗	⊗	⊗
Relative adjacent market size				⊗	●
Raw Coverage	0.20	0.18	0.17	0.15	0.09
Unique Coverage	0.04	0.01	0.04	0.05	0.03
Consistency	0.89	0.87	0.86	0.88	0.92
Solution Coverage	0.37				
Solution Consistency	0.86				

Note: we indicate the presence of a causal condition with a bold circle ("●") and the absence of a causal condition with a crossed circle ("⊗"). A blank space indicates that a condition is either present or absent (i.e., "doesn't matter"). Larger circles denote core conditions.

APPENDIX: ROBUSTNESS TESTS AND ADDITIONAL ANALYSES

We conducted several robustness analyses in line with past recommendations and current methodological practices (Schneider & Wagemann, 2012). First, we included an eighth causal condition, the overall startup rate, to alleviate concerns that the born global formation rate is merely a by-product of a high overall startup rate. These results can be seen in Table 1A below. At least one very close analog in subset relation with each of the original configurations can be seen in those results. Notable, as well, each of the three hypothesized configurations (Loam Soil, Coiled Spring, Magnet) can be seen without the presence of the overall startup rate, implying that those patterns are not biased by overall startup rates.

INSERT TABLE 1A ABOUT HERE

Second, we examined the degree to which the model explained the rate of *domestic* entrepreneurship that is not motivated by survival (i.e., necessity entrepreneurship) or other motives that do not center on profit and growth (i.e., lifestyle entrepreneurship). However, this model has weak criterion-related validity, with the absence of many causal conditions related to the outcome. In other words, the conditions we theorize will jointly be associated with the born global formation rate do not appear to be qualitatively similar to those affecting the general opportunity entrepreneurship rate, lending further validity to our theoretical framework. We also examined the degree to which our model explains the overall entrepreneurship rate. Our model identified six configurations. Again, however, 13 of the 25 causal conditions appearing in the solution were absent in association with the outcome, indicating weak criterion-related validity. These two tests indicate that our institutional framework is better tailored for the born global formation rate outcome. Detailed results of these analyses are available from the authors.

Third, we explored whether using a more stringent consistency threshold[13] yields configurations "that are not in a subset relation with [those in the main analysis]…or to differences in the parameters of

[13] A more stringent frequency threshold (i.e., 2 instead of 1) should be explored, as long as at least 75% of the cases are covered in the truth table by the higher threshold (Ragin, 2008). In our case, increasing the frequency threshold from 1 to 2 decreased the portion of cases analyzed to 54%.

fit that are large enough to warrant a meaningfully different substantive interpretation" (Schneider & Wagemann, 2012: 286). We first repeated the analysis using a stricter consistency threshold of 0.85 (García-Castro, Aguilera, & Ariño 2013). This increased the number of identified configurations from five to six. As expected, coverage decreased from 0.58 to 0.53, while consistency increased from 0.84 to 0.89. The Magnet, Coiled Spring, and Loam Soil B were exactly replicated. Loam Soil A exhibited the absence of cross border economic freedom in addition to all conditions in the main results. Finally, two configurations highly similar to the Ant Colony were identified. The first additionally included the absence of entrepreneurial educational capital, while the second added the presence of a large immigrant population. These configurations are in strong subset relations to those in the main results.

We, then, twice repeated the analysis using stricter PRI consistency thresholds of 0.70 and 0.75, respectively. Coverage was reduced from 0.58 to 0.49 with the former and to 0.46 with the latter. Consistency increased from 0.84 to 0.88 with the former and to 0.89 with the latter. For the first analysis, five configurations were identified. In comparison with the main analysis, Loam Soil B and the Magnet were exactly replicated. A third configuration was highly consistent with Loam Soil A, adding the absence of cross-border economic freedom. The remaining two configurations are variations of the Ant Colony but with the addition of the presence of immigrant population in one and the absence of entrepreneurial educational capital in the other. One of the five configurations was in subset relations with the Coiled Spring, but public governance quality can be present or absent. For the second analysis, four configurations were identified. The Magnet is again exactly replicated, and two Loam Soil configurations are again identified. The first is Loam Soil A but with the absence of cross-border economic freedom, while the second adds a large immigrant population as a peripheral condition. Similarly, the Ant Colony reemerges with the addition of immigrant population.

Overall, these analysis yield configurations in strong subset relations to the main results, but the Coiled Spring is more sensitive to a stricter PRI consistency, suggesting the need for further research into the conditions rendering constituent cases consistent with the (negation of the) outcome. In our data, there is not a country that is a member of this configuration (calibration > 0.5) and that also has a low born

global formation rate. The sensitivity hence seems to come from the relatively lower membership levels of the three constituent cases (Romania, Georgia, and Peru) in the configuration, which might differ with further research expanding our sample into more institutional contexts where public governance quality is poor. Conversely, this pattern might reflect the difficulty in sustaining entrepreneurship fostering institutions amid weak public governance. Future configurational research into these temporal institutional interactions will be fruitful toward further unpacking the institutional underpinnings of born global formation over time.

Fourth, as a way of analyzing the temporal stability of the born global formation rate, we gathered data for 2008-2011 and analyzed 57 of the 66 countries that we include in the study. The analysis produced three configurations in the intermediate solution, as expected with a reduced sample. Importantly, all three of these configurations are in subset relations with at least one of the five configurations identified in the main analysis. Similarly, each of the five configurations in the main analysis is in subset relations to at least one of the three from the earlier period. For the same purpose, we examined the correlation between the 2011 born global formation rate and the later one used in the paper for the 57 countries. The rate had a correlation coefficient of 0.74, further indicating strong temporal stability. Overall, these analyses indicate our main results are temporally stable, but given the sample size reduction, their tentative nature warrants future studies to reassess our typology as data become more widely available.

Fifth, we explored whether certain types of advanced human capital contribute to the explanation of born global formation. We collected data on human capital from the World Economic Forum's *Executive Opinion Survey*. We used a composite for two Likert-scale items, managerial talent and scientific/technical talent available to firms. Results of this test are similar to the main results. The general level of advanced human capital does not seem to play a key role. The new advanced human capital condition (1) appears twice as a peripheral condition. These results are presented in Table 2A.

INSERT TABLE 2A ABOUT HERE

Sixth, we gathered data on market concentration from the World Economic Forum's *Executive Opinion Survey*. We did so due to the notion that in countries with weaker formal institutional environments, highly concentrated industries can crowd out entrepreneurship. These industries may collaborate with corrupt domestic governments in order to develop their own internal institutional frameworks that are designed to reward existing actors at the expense of newcomers. The *EOS* has a 7-point Likert scale item that asks "In your country, how do you characterize corporate activity? Answers may range from "dominated by a few business groups" to "spread among many firms." Concentrated industry, as perceived by executives, appeared only in one of the configurations. Overall, concentration does not help the model much, though it might be the case that within the ant colony, concentrated industries do help push ventures out. Results appear in Table 3A.

INSERT TABLE 3A ABOUT HERE

Finally, we measured entrepreneurial norms consistent with several prior studies, namely as reflected in the prevalence of traits and behavior associated with entrepreneurship (e.g., Baughn et al., 2006; Levie & Autio, 2008; Stenholm et al., 2013; Teixeira et al., 2018; Hechavaria and Ingram, 2019). Another approach to capturing such norms is by directly gauging the degree to which society places a high value on entrepreneurship as a career path, though this measure comes from the same sample as the measure for born global formation rates. Still, to explore the potential influence of using only our measure, we combined our measure of entrepreneurial norms with the GEM Adult Population Survey item about perceptions of entrepreneurship as a desirable career path, aggregated at the country level.[14] We find that the solution is highly similar to the main results (see Table 4A). There are minor changes to a few of the conditions that are not vital to the inner logic of the configurations: absence of relative adjacent market size in Loam Soil A and Ant Colony as well as the absence of entrepreneurial educational

[14] We thank an anonymous reviewer for this suggestion.

capital no longer being part of the Magnet. The latter is now a doesn't matter condition, which is consistent with immigrant populations functionally substituting for entrepreneurial educational capital.

INSERT TABLE 4A ABOUT HERE

Table 1A: Adding the Overall Startup Rate as a Causal Condition

Consistent with:	**Loam Soil A**	**Loam Soil A**	**Loam Soil B**	**Coiled Spring**	**Coiled Spring**	**Magnet**	**Ant Colony**
Cross-Border Economic Freedom	●			●	⬤	●	●
Financial System Global Integration	●	●	⬤	⬤	●	●	●
Entrepreneurial Norms	⬤	●	⬤		⊗		
Entrepreneurial Educational Capital	●	●	●	⬤	⬤	⊗	●
Public Governance Quality	●	⬤		⊗	⊗	●	⬤
Immigrant Population	⬤		●			⬤	
Relatively large adjacent market			⬤	⬤	●	⬤	
Overall Startup Rate		⬤	⬤	⬤			⬤
Raw Coverage	0.30	0.22	0.12	0.12	0.08	0.16	0.25
Unique Coverage	0.11	0.01	0.02	0.02	0.01	0.09	0.05
Consistency	0.91	0.93	0.91	0.91	0.87	0.87	0.92
Solution Coverage	0.55						
Solution Consistency	0.89						

Table 2A: Adding Advanced Human Capital as a Causal Condition

Consistent with:	**Loam Soil A**	**Loam Soil B**	**Coiled Spring A**	**Coiled Spring B**	**Magnet**	**Ant Colony (Emergent)**
Cross-Border Economic Freedom			•		•	●
Financial System Global Integration	●	•	●	●	•	●
Entrepreneurial Norms	●	●		⊗		●
Entrepreneurial Educational Capital	•	•	●	●	⊗	
Public Governance Quality	●	⊗	⊗	⊗	•	●
Immigrant Population		●	•		●	
Large relative adjacent market		•	●		●	
Advanced Human Capital	•			•		
Raw Coverage	0.32	0.20	0.13	0.05	0.16	0.38
Unique Coverage	0.01	0.02	0.06	0.01	0.09	0.05
Consistency	0.85	0.88	0.82	0.93	0.87	0.84
Solution Coverage	0.56					
Solution Consistency	0.85					

Table 3A: Adding Industry Concentration as a Causal Condition

Consistent with:	**Loam Soil A**	**Ant Colony (partially)**	**Loam Soil B**	**Magnet**	**Coiled Spring**
Cross-Border Economic Freedom		•		•	●
Financial System Global Integration	●	•	•	•	•
Entrepreneurial Norms	●		●		⊗
Entrepreneurial Educational Capital	•		•	⊗	●
Public Governance Quality	●	●		•	⊗
Immigrant Population			●	●	
Large relative adjacent market			•	●	•
Concentrated Industry		●			
Raw Coverage	0.36	0.25	0.20	0.16	0.07
Unique Coverage	0.16	0.09	0.08	0.03	0.01
Consistency	0.86	0.83	0.83	0.85	0.88
Solution Coverage	0.60				
Solution Consistency	0.87				

Table 4A: An Alternative approach to measuring entrepreneurial norms

Consistent with:	**Loam Soil A**	**Loam Soil B**	**Coiled Spring**	**Magnet**	**Ant Colony (Emergent)**
Cross-Border Economic Freedom			•	•	●
Financial System Global Integration	●	•	●	•	●
Entrepreneurial Norms	●	•			●
Entrepreneurial Educational Capital	•	•	●		
Public Governance Quality	●		⊗	•	●
Immigrant Population		•		●	
Relative adjacent market size	⊗	•	●	●	⊗
Raw Coverage	0.23	0.19	0.13	0.30	0.36
Unique Coverage	0.01	0.02	0.06	0.11	0.04
Consistency	0.87	0.83	0.82	0.84	0.86
Solution Coverage	0.58				
Solution Consistency	0.82				

Table 5A: Nested Truth Table

Cross-Border Economic Freedom	Financial System Global Integration	Entrepreneurial Norms	Entrepreneurial Educational Capital	Public Governance Quality	Immigrant Population	Relative Adjacent Market Size	Countries	Consistency with the Outcome
1	1	1	1	1	1	1	5	0.915
						0	7	0.930
					0	0	2	0.801
				0	0	1	2	0.804
						0	1	0.643
			0	1	0	0	1	0.877
				0	0	0	2	0.772
		0	1	1	1	1	2	0.699
						0	1	0.742
					0	1	1	0.721
				0	0	1	1	0.860
			0	1	1	1	5	0.861
						0	3	0.576
					0	1	1	0.738
						0	3	0.654
				0	0	1	1	0.817*
	0	1	1	1	0	0	1	0.792
				0	0	1	2	0.618
						0	2	0.616
			0	0	0	0	2	0.557
		0	0	0	0	1	1	0.698
						0	2	0.478
0	1	1	1	1	0	0	1	0.914
				0	1	1	1	0.861
					0	0	2	0.654
			0	0	0	0	1	0.632
		0	1	0	0	0	1	0.771
			0	0	0	1	1	0.768
						0	2	0.648
	0	1	1	0	0	1	1	0.663
						0	2	0.488
			0	0	0	0	3	0.659
		0	1	0	1	1	1	0.610
					0	1	1	0.799
			0	0	0	0	1	0.528

Notes: * - not included in main analysis due to PRI consistency of 0.45.