Intergovernmental Organizations and Entrepreneurship

Understanding the Relationship Between the Supranational, National, and Individual Level

Moore, Elizabeth M.; Brandl, Kristin; Dau, Luis Alfonso

Journal of International Business Policy
https://doi.org/10.1057/s42214-024-00204-4

Intergovernmental organizations and entrepreneurship: understanding the relationship between the supranational, national, and individual level

Elizabeth M. Moore[1] · Kristin Brandl[2] · Luis Alfonso Dau[3]

Received: 5 September 2023 / Revised: 16 September 2024 / Accepted: 17 September 2024

Abstract
Intergovernmental organizations (IGOs), such as the World Trade Organization, the United Nations Trade and Development and the World Bank, promote stability, security and development for member states and their citizens via supranational institutional influences. However, their influence on individuals, especially their entrepreneurial business activities, is unclear. As policymakers decide when more (or less) IGO involvement best serves their countries and citizens, we must better understand the connection of the supranational, national, and individual levels. Thus, we study how IGO membership influences entrepreneurial opportunities and focus on two activities that impact a country's economy differently: formal and informal entrepreneurship. Moreover, we identify how national institutional ecologies build the bridge between the supranational and the individual level and mediate the relationships. Using a sample of 68 countries, their entrepreneurial environment, and their connection to IGOs, we find that IGO memberships enhance opportunities for entrepreneurship. Moreover, IGOs promote formal entrepreneurial activities while discouraging informal entrepreneurial activities, mediated by the country's institutional ecology. We combine insights from international relations, institutional theory, and strategic entrepreneurship to highlight how institutions at different levels influence entrepreneurial opportunities and discuss the policy implications of our findings.

Keywords Intergovernmental organizations · Institutional ecologies · Entrepreneurial opportunities · Formal entrepreneurship · Informal entrepreneurship · Generalized least squares regression

Introduction

Intergovernmental organizations (IGOs), such as the United Nations Conference on Trade and Development (UNCTAD), the World Trade Organization (WTO), and the World Bank (WB), aim to promote stability, development, and security to develop business environments that provide more and better opportunities for member states and their citizens (Volgy et al., 2008). However, IGOs operate mainly at the supranational level, establishing supranational policies and regulations, i.e., supranational institutions (Boehmer & Nordstrom, 2008) that are expected to be translated into national-level policies and regulations (Johnson, 2011), i.e., national institutions (North, 1990). These national institutions then transitively influence local business environments and individual citizens of member states. The connection between IGOs and the individual level is often challenging to recognize, especially for citizens of these countries (Petersmann, 2000). Consequently, many IGOs have started to promote

Accepted by Walid Hejazi, Consulting Editor, 17 September 2024. This article has been with the authors for four revisions.

✉ Elizabeth M. Moore
e.moore@northeastern.edu

Kristin Brandl
kbrandl@uvic.ca; kb.egb@cbs.dk

Luis Alfonso Dau
L.Dau@northeastern.edu

[1] Northeastern University, 305b Hayden Hall, Boston, MA 02115, USA

[2] Copenhagen Business School and Gustavson School of Business, University of Victoria, Victoria, BC, Canada

[3] Northeastern University, 309 Hayden Hall, Boston, MA 02115, USA

Published online: 06 November 2024

various individual-level activities and programmes, i.e. the United Nations Industrial Development Organization's (UNIDO) 'Productive Work for Youth Program' that assists young entrepreneurs in analyzing markets and value chains through educational opportunities (UN, 2014), or the United Nations Educational, Scientific, and Cultural Organization's (UNESCO) 'Furthering Entrepreneurship Programme,' which encourages competitiveness, innovation, and new technology development in high-risk entrepreneurial cultures (UNESCO, 2019); the program aims to create policies and regulations supporting individual entrepreneurs and their business ventures, fostering and promoting entrepreneurial opportunities (ibid.). IGOs' interest in promoting entrepreneurship is based on the possibility of enhancing local business activities and economic growth (Shockley & Frank, 2011).

However, due to the spanning of various levels, i.e., the IGO's supranational institutional level, the country's national institutional level and the individual level, research on the influence of IGOs on individuals is rare, and if studied is mainly related to human rights violations (e.g., Petersmann, 2000). The focus has often remained on the influence of supranational policy on nation-states and their institutions (e.g. Börzel et al., 2017; Snidal, 1992). A recent literature review by Hartmann et al. (2022) clearly identifies this gap of cross-level insights on how the supranational level influences the firm and individual entrepreneurial level. Moreover, while new institutional economics (NIE) (North, 1990, 1991) acknowledges various actors that influence the different institutional environments, such as IGOs and their supranational institutions (Lupu, 2014), it is also limited in theorizing how these supranational institutional environments influence individual business opportunities. Understanding the link between supranational institutions, national institutions, and individual business activities is necessary to help unpack the policy complexities faced by actors in a global context (Baker et al., 2016). This complex relationship is critical for policymakers as they need to understand when to engage more (or less) with IGOs to serve their respective countries and citizens (and perhaps consider policies to address the potential influence of IGO membership on informal entrepreneurs within the domestic economy).

Thus, we study how IGO membership influences entrepreneurial opportunities. To provide further nuance and identify why this influence is important, we focus on two types of entrepreneurial activities that enhance a country's economy differently: formal and informal entrepreneurship. Formal entrepreneurial activities lay within a country's regulatory parameters, driving regulated business and economic growth (Aparicio et al., 2021; Acs et al., 2008; Karlsson & Acs, 2002), while informal entrepreneurial activities are outside these parameters, challenging regulated economic activities but also filling gaps when these do not exist (Dau & Cuervo-Cazurra, 2014; Fadahunsi, 2000). To understand the connection between IGOs and individuals, we consider the national level a bridge and identify how national institutional ecologies (their weaknesses or strengths) mediate the relationships between IGOs and entrepreneurial activities.

We examine the study's predictions using a unique panel dataset covering the IGO memberships of 68 countries over 19 years (2000–2019). Exploiting this panel of 464 country-year observations, we find that IGO membership enhances the perception of entrepreneurial opportunities in member states. However, we recognize and find that these opportunities created by IGOs are not symmetric for all types of entrepreneurial activities. Specifically, we find that IGO membership encourages formal entrepreneurial activities while discouraging informal entrepreneurial activities. We outline that the mechanism through which IGOs influence entrepreneurship is the strength of the institutional ecology of the member countries. Thus, we test this mechanism using a mediation analysis and a novel measure of national institutional ecology. We find that the strength of the institutional ecology of a country mediates the negative relationship between IGO membership and informal entrepreneurial activities and enhances the relationship between IGOs and formal entrepreneurial activities.

This study provides several contributions. We use arguments from political science/international relations (e.g., Stoker, 1995) to outline the supranational institutions supported by IGOs. We theorize the interconnection of these institutions with national institutional ecologies by applying new institutional economics (North, 1990, 1991) and further study the influence of multi-level institutional environments on entrepreneurial opportunities and activities (see also Stephen et al., 2005). This combination is also crucial as it allows connecting the global environment and political science with the national business environment and its actors, which is called for by various researchers (e.g., Buckley et al., 2017; Hartmann et al., 2022; Hitt et al., 2016). We contribute to this discussion with a better theoretical understanding of how supranational institutions can influence national institutional environments and transitively individual-level entrepreneurial activities. We do so by utilizing a novel measure of institutional ecology that allows for this connection to be made.

Moreover, the political science literature has given little consideration to the influence of IGOs on the business environment and its actors (e.g., individual entrepreneurial activities) (see a call for more research on the topic by Bruton et al., 2013). Thus, by joining conversations often held in silos in neighbouring disciplines, we can provide a better understanding of the role that IGOs play in influencing the business environment and entrepreneurial activities of countries. This connection is imperative for policymakers and advisors to fully understand the influence of IGO

membership on their countries and citizens. Lastly, past entrepreneurship scholarship (e.g., Baumol, 1993; Welter, 2011) predominately focused on individual-level entrepreneurship determinants, such as the resources that encourage and discourage these business activities (see Aparicio et al., 2021 for an exception). We contribute to this literature with macro-level determinants, i.e., the supranational and national institutional environment.

Background literature

Intergovernmental organizations

IGO enhances collaborative efforts between and among countries through their aim to collectively solve various global problems (Abbott & Snidal, 1998; Keohane, 1984). Through these efforts, IGOs promote peace and intercultural exchange between member states, reduce inter-state conflict, and increase the relative power of members (Abbott & Snidal, 1998; Haftel & Thompson, 2018; Keohane, 1984), fostering their "socialization." They aim to create networks that improve transparency, lines of communication, and information transfer between members, especially when dealing with challenging global problems (Rey & Barkdull, 2005; Taninchev, 2015). These objectives are consistent across all s regardless of their individual objectives, subject, size, and membership criteria. Indeed, IGOs range from large IGOs aiming for world peace (e.g., UN) to narrowly scoped and smaller IGOs commonly connected to regions or niche subjects (e.g., the Caribbean Postal Union). Their unique rules and regulations aim to support member states' political, social, and economic environment and development (Bearce & Bondanella, 2007).

To address different global problems and add stability to the international system, IGOs create supranational policies, rules, and guidelines, i.e., supranational institutions, (Boehmer & Nordstrom, 2008) that need to be followed by countries when they sign and ratify membership (Johnson, 2011; Volgy et al., 2008). While member states still control their decisions on policy processes and structures (Machida, 2009), they face increased supranational pressures to align these policies with the supranational institutions (Johnson, 2011). Functionally, IGOs carry out concrete operations, provide a forum for the coalition, and supervise the enforcement of the regulatory standards put in place (Ekman, 2009; Kahler, 2013). Normatively, they shape and define the supranational institutions to which member states adhere (Abbott, 1999; Buzan, 1993).

Political science, especially the stream of international regulations, has traditionally focused on IGOs and their influence on countries and their citizens (Buzan, 1993). Although the literature emphasizes the interplay between national actors and the global system in which they co-exist (Panke & Petersohn, 2016; Sending & Neumann, 2006), research has concentrated on the country level and the economic, social, political, and socio-economic influences of IGOs. Less is known about IGO influences on managerial and business activities (Hartmann et al., 2022), particularly as the management and international management literature have largely neglected the influence of these supranational organizations (for exceptions, see Brandl et al., 2019; Moore et al., 2020). The connection between the supranational IGO level, national business environments, and individual business activities is even less known due to the vast discrepancies in analysis levels from a global to an individual level (Hartmann et al., 2022). However, we see the need to study these different levels to identify the influence of a country's IGO engagement on entrepreneurial activities and understand how IGOs can and should influence business environments.

Formal and informal entrepreneurial activities

The entrepreneurship literature has identified how environments influence entrepreneurial activities (e.g. Klapper et al., 2007; Moore et al., 2021, 2022). Various entrepreneurial activities exist, but two particularly impact a country's business environment: formal and informal entrepreneurship. Formal entrepreneurship is defined as business activities within the legal boundaries of a country (Klapper et al., 2007). Conversely, informal entrepreneurship is defined as activities that are unregistered and thus unregulated (Nyström, 2008). These activities are also often related to informal economies and reflect the informality of the activities in an economy (Webb et al., 2018; Webb et al., 2009). Informal entrepreneurship lies outside the formal institutional boundaries, as the means and ends of the activities do not comply with formalized laws and regulations (ibid.). However, these often self-employed individuals and non-standard wage workers produce 'legal' goods and services using irregular and unregulated means (Chen, 2007).

Traditionally, the entrepreneurship literature focused on formally registered businesses within society (Gedeon, 2010; Wiklund et al., 2011) as they bring value to society and propel economic growth and change within the country (Schumpeter, 1946; Shockley & Frank, 2011; Aparicio et al., 2016). Informal entrepreneurship can challenge economic development and is difficult to measure (e.g., Turkina & Thai, 2014). While extant scholarship has started to uncover some relationships between contextual factors and informality (c.f. Ault & Spicer, 2024; Heredia et al., 2023), many areas remain unexplored that merit further academic inquiry. This distinction is also important as it suggests that formal and informal entrepreneurship differs across institutional environments (Ault & Spicer, 2024; De Castro et al.,

2014). For example, formal entrepreneurship is argued to suffer more from institutional voids and volatile institutional environments (McCarthy & Puffer, 2016), while informal entrepreneurship can successfully navigate and exploit them (Castellacci, 2015; Dau et al., 2016a, 2016b; Williams & Nadin, 2010). Thus, to examine the relationship between IGO membership and formal and informal entrepreneurship, particular focus needs to be placed on the institutions (supranational and national) that influence them.

Theory and hypothesis development

New institutional economics (e.g., North, 1990, 1991) addresses the influence of various actors and pressures on institutional systems. The theory often focuses on the national institutional level but also considers supranational influences (North, 1990). Various factors shape these institutions based on different interests of engagement, incentives, and power dynamics (Fiori, 2002). For example, IGOs create policies, rules, and regulations that influence supranational institutions (Lupu, 2014; Hartmann et al., 2022). These supranational institutions are collectively created by all IGO members and must be signed and ratified by them when joining the organization (Börzel et al., 2017; Snidal, 1992). Thus, the supranational institutions are represented in the national institutions and influence the institutions that govern national business environments (Johnson, 2011). Supranational institutions strengthen member states' institutions through harmonization, policy learning, and emulation (Cao, 2009). While we acknowledge that there might be institutional misalignments between supranational and national institutions, i.e., institutional schisms (Moore et al., 2021), the general expectation is that once a member country joins the IGO, it aligns its national institutions with the supranational institutions (Johnson, 2011). This means that supranational institutions influence national institutions.

These national institutional environments have a distinct combination of formal institutions, such as policies, rules and regulations, and informal institutions, such as norms, values, and traditions (North, 1991), depending on a variety of factors, i.e., the social, economic, and political conditions of a country (Williamson, 2009). A robust institutional ecology has a functional balance, a.k.a. equilibrium, between informal and formal institutions (Helmke & Levitsky, 2004). The changes in each institution cause the equilibrium to rebalance (for a discussion of a variety of these equilibria, see Helmke & Levitsky, 2004). For example, in developing countries, the dynamic creation of new formal institutions to overcome institutional voids causes a more pronounced fluctuation between changing formal and adapting informal institutions to maintain an equilibrium (Mahoney & Thelen, 2010). These fluctuating conditions make developing countries' institutional ecologies more unstable and vulnerable to exogenous influences (Williamson, 2009), e.g., from foreign MNEs or IGOs (Brandl et al., 2018). We use these theoretical arguments as the underlying foundation for our hypotheses.

IGOs and entrepreneurial opportunities

IGOs intend to bring about both tangible (Deutsche et al., 1957; Ingram et al., 2005) and intangible benefits for the economy of member states (Bearce & Bondanella, 2007; Wendt, 1994). Tangible benefits include increased foreign direct investment, reduced transaction costs for international activities of firms, and various training programs and platforms designed to increase development opportunities (Greif, 1994; Ingram et al., 2005; Macaulay, 1963). Non-tangible benefits include promoting information sharing, intercultural exchange, increased trust between members, and adopting shared norms and rules that provide frameworks for countries to strengthen their domestic institutions (Checkel, 2005; Wendt, 1994).

The benefits are created through financial assistance and advisory support (UN, 2014). IGOs have a long history of holding expert panels and summit discussions, offering expert policy advice to member states, and setting up educational and technical programs providing invaluable functional and institutional support (Boardman, 1994). These efforts help "knit together social science [and other] scholars of the world" (Angell, 1950, p. 282) to combine and diffuse best practices. Many of these programs are explicitly designed to improve employment opportunities and cultivate entrepreneurial activities as a catalyst to drive economic growth (Aparicio et al., 2021) and country development (Dau et al., 2018). Based on curricula and training objectives created by the IGOs, these programs are established directly in communities that lack educational materials and resources. The programs are designed to empower would-be entrepreneurs and offer financial literacy education and information on taking a good idea or necessity and turning it into an operable and profitable business (Resnik, 2006; Rutkowski, 2007). Further, these programs target marginalized communities or areas where entrepreneurial opportunities are particularly stunted.

Various narrative illustrations abound, such as the United Nations Inter-Agency Network on Youth Development, the International Labour Organization Youth Employment program initiative, and the International Trade Center's Global Platform for Action and Entrepreneurial Education (UN, 2019). These programs target increasing the relevant skills, technical knowledge, and employment opportunities within member states. They help cultivate increased entrepreneurial opportunities. As a result of the tangible and non-tangible benefits of IGO membership, we expect a positive influence

on the entrepreneurial opportunities in member states. The preceding logic leads to the following hypothesis:

Hypothesis 1 A country with more IGO memberships has a business environment with more entrepreneurial opportunities.

IGO and informal/formal entrepreneurship

While we predict that IGO membership will create more entrepreneurial opportunities, we do not expect these opportunities to be the same for all entrepreneurial activities. One specific distinction that has been a focal point is between formal and informal entrepreneurial activities. This distinction has also received increased scholarly attention, given the unique ways formal and informal entrepreneurship influence domestic environments and growth (Dau & Cuervo-Cazurra, 2014; Moore et al., 2020; Thai & Turkina, 2014).

The IGO aims to provide a business environment that supports the entrepreneur's progress and is safe and aligned with the IGO's principles, even if these are as general as encouraging peace and reducing conflict. Thus, the IGO suggests supranational institutions enhance the safety and certainty of the business environment for entrepreneurs, even if IGOs are not directly targeting entrepreneurial activities and are directed towards the general business environment or well-being of individuals (e.g., reduce conflict and support peace). This policy sharing and pressure to align more with the IGO's highly formalized institutional aims to create an integrated, transnational society that allows actors to interact effectively under the institutional umbrella (Fligstein & Stone Sweet, 2002). Thus, IGOs and their formalized supranational institutions align well with formalized entrepreneurial activities.

Informal entrepreneurship is often considered a way out of poverty (ILO; 2018; UN, 2014). In many developing countries, being entrepreneurial is the only means of surviving, given the lack of social systems that can act as security nets (Ault & Spicer, 2024). As a result, informal entrepreneurship is an attractive strategic choice for individuals looking to improve their economic well-being and situation. However, these informal entrepreneurs lack property ownership rights and socio-economic systems, such as labor rights, insurance, or health and safety rules (UNCTAD, 2014), countering many IGO belief systems.

The support for formal entrepreneurship over informal entrepreneurship by IGOs has also been based on the arguments that formal entrepreneurship brings value to society and propels economic growth and change within the country (Schumpeter, 1946; Shockley & Frank, 2011), objectives that align with the IGOs. Formal entrepreneurs pay taxes and formally contribute to the economy with measurable outputs and under intellectual property protection standards. On the other hand, informal entrepreneurship can challenge the economic growth of a country, not least because it is difficult to recognize (Turkina & Thai, 2014). This policy sharing and aligning with the IGO's formalized and supranational institutions supports formal entrepreneurial activities and reduces informal entrepreneurial activities. The preceding logic leads to the following hypothesis:

Hypothesis 2 A country with more IGO memberships has a) more formal entrepreneurial activities and b) less informal entrepreneurial activities.

IGOs, institutional ecologies and informal/formal entrepreneurial activities

The country's national-level or existing institutional ecology is the bridge that connects the supranational IGO level and the individual entrepreneurial activity level. These national institutions influence the environment in which entrepreneurs operate (Batjargal et al., 2013; Henrekson et al., 2011; Hitt, 2016; Hitt et al., 2016). The supranational institutions aim to strengthen member states' national institutional ecology by harmonizing the different institutional environments (Cao, 2009). This influence varies based on the existing strength of the institutional ecology. Strong institutional ecologies are expected to experience easier alignment processes with the IGO's supranational institutions, as they have strong existing formal institutions that help facilitate alignment with the supranational institutions created by the IGOs. Limited influences on the institutional environment and equilibrium are likely for these countries because the ecology's strength can counteract the exogenous effects. Weak institutional ecologies are expected to be more exposed and influenced. In these ecologies, the transformation of institutions is more in flux, unstable, and vulnerable to exogenously influenced changes (Brandl et al., 2018; Williamson, 2009). For example, many developing countries are in a state of transformation, reflecting the dynamic creation of new formal institutions to overcome institutional voids or formalize informal institutions, such as traditions or norms used to govern business activities (Mahoney & Thelen, 2010). The supranational institutions promoted by IGOs aim to stabilize these environments and reduce the volatility by providing solid formal institutions, i.e., solid institutional ecologies become even more robust and stable, and weak institutional ecologies are pushed to go through transitions influenced by supranational pressures (Williamson, 2009).

From past research, we know that strong institutional environments based on formal institutions promote formal entrepreneurship (Dau & Cuervo-Cazurra, 2014), as uncertainty and volatile institutional environments are not conducive to formal business activities (McCarthy & Puffer, 2016). Thus, we argue that IGOs positively influence formal

entrepreneurship if the member country has a strong institutional ecology because membership in the IGOs reinforces and provides additional stability to member states. Conversely, weak institutional ecologies and a volatile and uncertain environment are better navigated and exploited by informal entrepreneurship (Castellacci, 2015; Dau et al., 2016a, 2016b; Williams & Nadin, 2010). Differently formulated, we argue that the mechanism through which IGO membership influences formal or informal entrepreneurial activities is based on the strength of the national institutional ecology; the stronger the ecology, the more positive the influence of IGO membership on formal entrepreneurship and the more negative the influence on informal entrepreneurship. The preceding logic leads to the following hypothesis:

Hypothesis 3 The strength of the national institutional ecologies mediates the relationship between a country's number of IGO memberships and a) its formal and b) informal entrepreneurial activities.

Methods

Sources and data samples

To best test the hypotheses, we construct a novel dataset that utilizes and extends the years of coverage of the measure for informal entrepreneurship created by Dau and Cuervo-Cazurra (2014) while combining it with additional dependent variables from the Global Entrepreneurship Monitor to explore entrepreneurial opportunities and types. In the 2014 article, the authors develop a novel measure of informal entrepreneurship using data from the Global Entrepreneurship Monitor (GEM) on total entrepreneurship (Bosma et al., 2012; GEM, 2013a, 2013b) and from the WB Entrepreneurship Survey (WBES) on formal entrepreneurship (Klapper et al., 2007; World Bank, 2019a, 2019b) intended to be used in subsequent research efforts (see below for a detailed discussion of the operationalization of informal entrepreneurship).

We use the calculation provided from this prior research on formal and informal entrepreneurship and extend the data to include additional years. The measure of formal entrepreneurship has been collected annually since 1999 and covers 127 countries. We extend the measure of informal entrepreneurship by ten years and two countries (68 countries from 2000 to 2019) based on available data and using the same approach used in the original paper (see Dau & Cuervo-Cazurra, 2014 for the calculation). We updated the measure for all years of data available from the Global Entrepreneurship Monitor, which offers data until 2019. Using this previously calculated measure and including new variables (described below), our study builds upon this existing research program to provide a more nuanced and comprehensive narrative of formal and informal entrepreneurship.

We complement these variables with data from the Correlates of War Formal Alliances dataset. This data represents the most official and comprehensive data on IGOs at the country level. The Correlates of War dataset has been collected annually since 1897 and includes 1571 IGOs. It records the name of each formally registered IGO since its formation. It includes what countries have joined, when they joined, the level of their membership, when (if) they exited, how many members are formally registered, and what sector they operate in. We offer a novel measurement of the concept of institutional ecology through this research program. To measure the direct and mediation effect of the institutional ecology (see detailed description below), we collect data on the strength of formal and informal institutions of each country from the WB Governance Indicators (World Bank, 2019b) database (WBGI). We also obtained additional country-level data for control variables from the WB Development Indicators (World Bank, 2019a) dataset (WBDI), the WTO's Regional Agreements Dataset, and the Heritage Foundation. Finally, given that we use panel data, we can account for temporal changes to institutional conditions. For consistency, we drop any country-year observations when one of our primary independent variables does not have available data, which happens most often regarding our measure for informal entrepreneurship. After dropping these observations, our final sample covers 464 country-year observations across 68 countries and 19 years of data (2000-2019). See Table 1 for a complete list of countries by development level (as classified by the WB based on 2019, the last year in our sample).

Measures and variables

Table 2 summarizes the measures and data sources used in this project.

Dependent variables

This article employs three main dependent variables: *Entrepreneurial Opportunities, Formal Entrepreneurship,* and *Informal Entrepreneurship. Entrepreneurial opportunity* is a continuous variable that captures the perception of the internal market openness and opportunities for entrepreneurs per country per year as calculated by the Global Entrepreneurship Monitor. It is important to note that this does not measure actual entrepreneurial opportunities undertaken but rather the perception that those opportunities exist. Specifically, it measures the percentage of the working-age population (18-64 years old) who see positive opportunities to start a firm. This variable is operationalized using data

Table 1 List of countries by development level

High	Middle	Low
Australia	Algeria	Syria
Austria	Argentina	Uganda
Belgium	Bolivia	
Canada	Bosnia & Herzegovina	
Chile	Brazil	
Croatia	Colombia	
Denmark	Czech Republic	
Finland	Dominican Republic	
France	Egypt	
Germany	Guatemala	
Greece	India	
Hong Kong	Indonesia	
Hungary	Iran	
Iceland	Jamaica	
Ireland	Jordan	
Israel	Kazakhstan	
Italy	Korea	
Japan	Macedonia	
Latvia	Malaysia	
Netherlands	Mexico	
New Zealand	Morocco	
Norway	Peru	
Panama	Philippines	
Poland	Russia	
Portugal	Serbia	
Romania	South Africa	
Saudi Arabia	Thailand	
Singapore	Tonga	
Slovenia	Tunisia	
Spain	Turkey	
Sweden		
Switzerland		
United Arab Emirates		
United Kingdom		
United States		
Uruguay		

As defined by the World Bank based on the year 2019

from the Global Entrepreneurship Monitor and is collected annually from their Adult Population Survey. It is important to note that the data only goes until 2019, as they do not release data until three years after it was collected. Thus, our sample represents the most recent data available. *Formal Entrepreneurship* is a continuous variable that captures the percentage of new formally registered firms created within a country in a given year as a percentage of the working-age population (e.g., ages 16-64 as defined by the WB). It was collected from the WB Group's Entrepreneurship Survey. Prior work supports the use of this measure to assess formal entrepreneurship (e.g., Audretsch, 2012; Klapper & Klapper, 2006; Klapper, 2007). *Informal Entrepreneurship* is a continuous variable that captures the percentage of new informally or unregistered firms created within a country in a given year as a percentage of the working-age population. This variable was created by Dau and Cuervo-Cazurra (2014), and the calculation used in this research uses the same calculation while extending the data by nine years. The measure was "calculated by subtracting the ratio of new total (formal and informal) businesses as a percentage of the working-age population (using GEM data) minus the ratio of new formal businesses as a percentage of the working-age population (using WBGES data)' (Dau & Cuervo-Cazurra, 2014, p. 674). To extend the data for our research project, we use the same calculation (calculation 2, Dau & Cuervo-Cazurra, 2014; p. 647). Prior work supports using this measure to assess informal entrepreneurship (Dau & Cuervo-Cazurra, 2014; Moore et al., 2020).

Independent variables

The main independent variable is *IGO membership*, which we measure as a continuous variable that captures the total number of IGOs in which a country is a formal member in good standing per year. This measure is captured annually and compiled from the Correlates of War Formal Alliances dataset. Further, this data can account for a formal IGO and its corresponding branches when a country exits, either willingly or through expulsion due to non-compliance. Within our sample, it is more common for countries to augment the total number of IGOs they are members of; however, exiting does occur, such as when the United Kingdom left the European Union.

Moderating variable

We use *institutional ecology* as a mediating variable. For this research, we created a unique measure for institutional ecology that captures the balance of formal and informal institutions in a country. We generate this measure since it does not yet exist to the best of our knowledge, but we base it on measures most commonly used to measure formal and informal institutions. To do so, we take the ratio of regulatory quality, a measure commonly used to capture formal institutional strength, to corruption, a measure commonly used to capture the informal institutional strength of a country. These measures are collected from the WBDI annually and have been used as reliable proxies for formal and informal institutions. First, we make both corruption and regulatory quality positive and continuous to avoid complications with negative values. Second, we invert the scores for corruption as presented in the WBDI since their measure captures control of corruption as a higher score, not

Table 2 Variables and measures

Variable	Description	Measure	Source
Informal entrepreneurship	Number of total new businesses created (both registered and unregistered) divided by the total working population minus the value for formal entrepreneurship per year.	Ratio	Dau and Cuervo-Cazurra (2014)
Formal entrepreneurship	Number of formally registered new business ventures divided by the total working age population per year.	Ratio	World Bank Group's Entrepreneurship Survey
Entrepreneurial opportunities	Percentage of 18-64 population who see good opportunities to start a firm in the area where they live	Ratio	Global Entrepreneurship Monitor
IGO membership	Captures the total amount of IGOs that a country is involved with in formal alliances and agreements	Continuous	Correlates of War Dataset
Institutional ecology	A measure that captures the ratio of formal institutional strength to informal institutional strength in a country. A higher number indicates a stronger and more balanced institutional ecology in a country. See in-text description for greater detail	Ratio	Author's Calculation
GDP growth	GDP growth is calculated by measuring the percentage change in real GDP, which is GDP adjusted for inflation.	Ratio	World Bank Development Indicators
Education expenditures	Percentage of gross domestic product a government allocates for education spending.	Ratio	World Bank Development Indicators
Immigration	Immigration as a percentage of the total population	Ratio	World Bank Development Indicators
Trade agreements	Indicator to measure the total number of trade agreements a country is in and in good standing in per year	Continuous	World Trade Organization Regional Trade Agreements Database
Official development assistance	Measures the total amount (in current US dollars) of aid a country receives from all inter-governmental organizations aggregated in a given year (in millions of dollars)	Continuous	World Bank Development Indicators
Population density	Measure of the number of citizens per square mile living within a country in a given year (in millions of people)	Continuous	World Bank Development Indicators
National governance	Composite score of a country's national governance effectiveness & integrity	Continuous	Heritage Foundation

corruption itself. Third, we then take the ratio and use it to measure the strength of the institutional ecology through the ratio of formal and informal institutions in a country.

Control variables

To account for other factors that may influence entrepreneurial opportunities and activity and eliminate alternate explanations, we include a variety of control variables at the country level. Moreover, we maintain consistency of control variables with previous literature examining formal and informal entrepreneurship (e.g., Dau & Cuervo-Cazurra, 2014; Klapper et al., 2007) while also adding additional relevant controls for added rigour. First, we control for the *year* of analysis to account for the different temporal contexts and events that may influence the levels of entrepreneurship across different countries (Tao & Yu, 2012). Second, we include a *region* dummy since different geographic regions experience different political and social climates that may influence entrepreneurial strategic choices and opportunities. Third, we control for *gross domestic product growth* since the business cycle is likely to influence entrepreneurial activity (Dau & Cuervo-Cazurra, 2014).[1] Fourth, we control *national governance* since the capability of enforcement

[1] Prior research typically controls gross domestic product growth and gross domestic product per capita (Dau & Cuervo-Cazurra, 2014; Klapper et al., 2007). However, given that our moderator, development level, is partly categorized by gross domestic product per capita (World Bank, 2019a, 2019b), we did not include this variable as a control as it is already accounted for in the model.

mechanisms within a country can play an essential role in facilitating or impeding entrepreneurial ventures and performance (Dau & Cuervo-Cazurra, 2009; Dau et al., 2015; Webb et al., 2014). Fifth, we control for *immigration* since cross-border flows of individuals likely change the entrepreneurial landscape of a country (Li et al., 2018). Sixth, we control for *trade agreements* (measured by the total number of trade agreements a country is in) since economic liberalization can affect entrepreneurial opportunities and resource availability (Baier et al., 2014; Ganuza & Hauk, 2004).[2] We add nuance to the models with the addition of the following controls. Seventh, we control *education expenditures*, as captured by the percentage of gross domestic product spent on education in a given year, since prior work has found that education levels can influence opportunities, resources, and knowledge flows (Fayolle & Gailly, 2015). Eighth, we control *official development assistance* since monetary aid flows are likely to influence the institutions shaping the entrepreneurial field (Moore et al., 2020). Ninth, we control for *population density* because the number of people (e.g., potential entrepreneurs and consumers) in a country impacts the number of entrepreneurial ventures that can take place (Goel et al., 2015). Finally, as commonly done in the literature, we lag the data by one year to allow for the influences of IGO membership and institutional ecology to influence entrepreneurial environments and activities (Kutner et al., 2004; Tao & Yu, 2012).

Research design

To obtain robust and reliable results, we employ multiple different methods. The primary methods used are a time-series cross-sectional generalized least squares (GLS) regression model with corrections for both heteroscedasticity and panel-specific autocorrelation (for Hypotheses 1, 2) and the *medeff* (mediation) method created by Imai et al. (2010) for use in STATA (for Hypothesis 3). The GLS regression method is appropriate within the panel data structure and can adequately account for the continuous nature of the independent and dependent variables (Bell & Jones, 2015; Long & Freese, 2006). The observations are captured at the country level and structured per country per year. The method helps account for unobserved heterogeneity and the differences among the variables (Bell & Jones, 2015; Blundell & Bond, 1998; Woolridge, 2002).

This method's models follow the testing guidelines established by Frazier, Tix and Barron (2004). The models are ordered sequentially to improve the reliability of the results (Polyhart et al., 2002). Furthermore, the continuous variables are standardized to lessen the potential effects of multicollinearity. (Baltagi, 2008; Hoffman & Gavin, 1998). The following are the three specific models used to test the six hypotheses:

$$\begin{aligned}&\text{Entrepreneurial Opportunities}_{kt}\\&\quad=\beta_0+\beta_1\text{IGO Membership}_{kt-1}\\&\qquad+\beta_m\text{Control Variables}_{kt-1}+\varepsilon\end{aligned}$$

$$\begin{aligned}&\text{Formal Entrepreneurship}_{kt}\\&\quad=\beta_0+\beta_1\text{IGO Membership}_{kt-1}\\&\qquad+\beta_m\text{Control Variables}_{kt-1}+\varepsilon\end{aligned}$$

$$\begin{aligned}&\text{Informal Entrepreneurship}_{kt}\\&\quad=\beta_0+\beta_1\text{IGO Membership}_{kt-1}\\&\qquad+\beta_m\text{Control Variables}_{kt-1}+\varepsilon\end{aligned}$$

When testing hypothesis 1, the first full model above is used. If (β_1) is significant and positive, the influence of *IGO membership* on *entrepreneurial opportunities* is positive. The second full model is used when testing hypothesis H2a (focusing on formal entrepreneurship). When testing hypothesis H2a, if (β_1) is positive and significant, then *IGO membership* positively influences *formal entrepreneurship*. When testing hypothesis 2b (focusing on informal entrepreneurship the third full model is used. When testing hypotheses H2b, if (β_1) is positive and significant, then *IGO membership* positively influences *informal entrepreneurship*. When testing hypotheses 3a and 3b (the mediating effect of institutional ecology on formal and informal entrepreneurship, respectively), we employ the *medeff* mediation package created to estimate the role of casual mechanisms in STATA (Imai et al., 2010). This method is appropriate to deal with the continuous nature of the independent, dependent, and mediating variables.

Results

Summary statistics and correlations of the variables are portrayed in Table 3. Generally, the correlations are low, except for the correlations between *gross domestic product growth* and *trade agreements.* As a robustness check, we removed these control variables, reran the analyses, and obtained consistent results to address any issues from high

[2] Prior research has used economic liberalization as a control variable (Dau & Cuervo-Cazurra, 2014). Economic liberalization represents a composite score based on the openness of an economy in a given country and year. In this study, we add nuance to this measure by using economic integration. This richer measure captures the amount and weight of global trade integration per country per year. As we note in the robustness test section, whether we control for economic liberalization or economic integration, the results are consistent.

Table 3 Descriptive statistics and correlations matrix

	Variable	Mean	s.d.	1	2	4	5	6	7	8	9	10	11
1.	Entrepreneurial opportunities	39.82154	13.41										
2.	Formal entrepreneurship	8.38	6.83	0.38									
3.	Informal entrepreneurship	5.18	3.72	0.46	0.40								
4.	IGO membership	50.34	18.46	− 0.23	− 0.10	− 0.44							
5.	GDP growth	3.90	3.40	0.30	0.15	0.13	− 0.26						
6.	Education expenditures	4.45	0.85	0.10	− 0.31	− 0.15	0.22	− 0.30					
7.	Immigration	2.52	5.18	− 0.26	− 0.19	− 0.51	0.18	− 0.04	0.16				
8.	Trade agreements	16.15	17.54	− 0.33	− 0.24	− 0.60	0.65	− 0.32	0.25	0.35			
9.	Official development assistance	339.00	379.00	0.08	0.11	0.17	0.02	0.09	− 0.14	− 0.26	− 0.19		
10.	Population	103.00	116.00	− 0.04	− 0.04	0.36	− 0.22	0.11	− 0.11	− 0.37	− 0.34	0.19	
11.	National governance	65.14	6.92	− 0.01	0.17	− 0.34	0.28	− 0.06	− 0.10	0.40	0.48	− 0.08	− 0.49

Correlations with an absolute value greater than or equal to 0.01 are significant at 0.05 level (two-tailed)

Descriptives for the 19 years are not included for the sake of parsimony

$n = 464$

correlations between variables. We kept these variables in the main analyses because of their theoretical relevance and importance in the study. Additionally, the mean VIF score is 4.81. This is well below the accepted 10.0 standard, indicating that multicollinearity is non-consequential for the results (Hsiao, 2007).

Main test results

Tables 4 and 5 depict the results of the GLS Regression models and the *medeff* models for the association between *IGO membership* on *entrepreneurial opportunities* and *formal* and *informal entrepreneurship*, as mediated by *institutional ecology*. Table 4, Model 4 provides the results for analyzing the effects of *IGO membership* on *entrepreneurial opportunities.* This yields the results for Hypothesis 1. Table 4, Model 5 provides the results for the analyses of IGO membership and formal entrepreneurship effects. This yields the test results for Hypotheses 2a. Table 4, Model 6 depicts the analyses of the influence of *IGO membership* on *informal entrepreneurship*, providing the test results for Hypotheses 2b. The models within this table are organized sequentially as variables are systematically added. It is important to note that while the independent variable remains the same across all models, the dependent variable changes for Models 4, 5, and 6 to measure the effects of *IGO membership* on *entrepreneurial opportunities, formal entrepreneurship*, and *informal entrepreneurship,* respectively. Models 1, 2, and 3 include only control variables for the three respective dependent variables. Models 4, 5, and 6 introduce the main independent variable of interest, *IGO membership*, thus testing Hypotheses 1, 2a, and 2b.

Table 5, Model 7 depicts results for the mediating effect of *institutional ecology* on *formal entrepreneurship*, testing Hypothesis 3a. Finally, Table 5, Model 8, provides the results for the mediating effect of *institutional ecology* for *informal entrepreneurship,* testing Hypothesis 3b.

Model 4 yields a statistically significant (coefficient 2.072, std. error 0.682, $p = 0.002$) effect of *IGO membership* on entrepreneurial opportunities. Model 5 tests the effect of the relationship between *IGO membership* and *formal entrepreneurship*. The coefficient of *IGO membership* (coefficient 0.831, std. error 0.3003, $p = 0.006$). This indicates that *IGO membership* has a positive influence on *formal entrepreneurship.* Model 6 tests the effect of the relationship between *IGO membership* and *informal entrepreneurship*. The coefficient of *IGO membership* (coefficient − 0.390, std. error 0.146, $p = 0.007$) is negative and statistically significant. This indicates that *IGO membership* has a highly statistically significant negative influence on *informal entrepreneurship.*

Models 7 and 8 test the mediating effect of *institutional ecology* on the relationship between *IGO membership* and *formal* and *informal entrepreneurship,* respectively. Model 7 demonstrates that *institutional ecology* has a − 28.3% mediation effect. This negative mediation effect indicates that institutional ecology has a suppression effect on the relationship between IGO membership and formal entrepreneurship (MacKinnon et al., 2000), meaning it increases the predictive value of *IGO membership* on *formal entrepreneurship.* Further, the results meet the three conditions necessary to corroborate these findings, as MacKinnon et al. (2000) outlined. Specifically, our results indicate that (1) there is a significant relationship between the independent variable and the dependent variable, (2) there is a significant relationship between the independent variable and the mediating variable, and (3) the mediator is a significant predictor

Table 4 Results of the GLS regression analyses of the influence of IGO membership on entrepreneurial opportunities, formal entrepreneurship, and informal entrepreneurship

Variables	Model 1*		Model 2**		Model 3***		Model 4*		Model 5**		Model 6***	
Intercept	− 2.72	(9.01)	− 7.00†	(4.40)	8.11***	(2.04)	− 0.61	(8.94)	− 9.98*	(4.34)	7.88***	(2.06)
GDP growth	7.84***	(1.04)	1.75***	(0.51)	− 0.27	(0.23)	8.52***	(1.07)	1.71***	(0.51)	− 0.42†	(0.24)
Education expenditures	5.88***	(0.79)	− 1.57***	(0.39)	0.18	(0.18)	5.92***	(0.79)	− 1.33***	(0.37)	0.20	(0.18)
Immigration	− 2.64***	(0.91)	− 1.80***	(0.46)	− 1.79***	(0.23)	− 0.29**	(0.10)	− 0.13**	(0.05)	− 1.69***	(0.23)
Trade agreements	− 5.27***	(0.89)	− 0.84*	(0.42)	− 1.93***	(0.21)	− 6.79***	(1.15)	− 1.41**	(0.49)	− 1.68***	(0.26)
Official development assistance	− 0.26	(0.43)	− 0.18	(0.22)	0.10	(0.37)	− 0.71	(0.44)	4.74***	(0.81)	0.89*	(0.41)
Population	− 3.01***	(0.79)	− 0.45	(0.34)	0.20	(0.17)	− 2.98***	(0.78)	− 0.25	(0.39)	0.19	(0.22)
National governance	0.65***	(0.10)	0.28***	(0.05)	− 0.01	(0.02)	0.65***	(0.10)	0.34***	(0.05)	− 0.02	(0.03)
Region control	Included		Included		Included		Included		Included		Included	
Year control	Included		Included		Included		Included		Included		Included	
IGO involvement							2.07**	(0.68)	0.8307**	(0.30)	− 0.3903**	(0.15)
Wald χ^2	315.11***		276.14***		589.35		322.70***		355.99***		590.09***	
Log likelihood	− 1788.92		− 1628.57		− 942.383		− 1754.112		− 1571.68		− 900.955	
Countries	68		68		68		68		68		68	
Observations (n)	464		464		464		464		464		464	

Indicators for each year (19) are included in the models, but their coefficients are not reported for the sake of brevity

Standard errors appear in parentheses. Significance levels (2-tailed): $^{\dagger}p < 0.10$, *p < 0.05, **p < 0.01, ***p < 0.001

*Dependent variable = entrepreneurial opportunities

**Dependent variable = formal entrepreneurship

***Dependent variable = informal entrepreneurship

Table 5 Results of the mediation analyses (medeff package) of institutional ecology

Variables	Model 7**		Model 8***	
intercept	− 18.55***	(3.31)	2.98*	(1.52)
GDP growth	0.07	(0.33)	− 0.57**	(0.21)
Education expenditures	− 0.37	(0.48)	0.46*	(0.21)
Immigration	− 0.74*	(0.38)	− 1.67***	(0.17)
Trade agreements	− 1.87***	(0.40)	− 1.49***	(0.20)
Official development assistance	2.45***	(0.76)	1.15***	(0.35)
Population density	− 0.20	(0.36)	0.42*	(0.18)
National governance	0.46***	(0.05)	0.06*	(0.02)
Region control	Included		Included	
Year control	Included		Included	
IGO membership	0.787**	(0.29)	− 0.34*	(0.14)
Institutional ecology	− 2.15***	(0.51)	− 0.62**	(0.22)
Adjusted R^2	.2361***		0.4839***	
Countries	68		68	
Observations (n)	464		464	
% of Tot Eff mediated	− 28.3		− 9.01	

Indicators for each year (19) are included in the models, but their coefficients are not reported for the sake of brevity

Standard errors appear in parentheses. Significance levels (2-tailed): $^{\dagger}p < 0.10$, *p < 0.05, **p < 0.01, ***p < 0.001

**Dependent variable = formal entrepreneurship

***Dependent variable = informal entrepreneurship

of the dependent variable in the model using both the mediator and independent variable. Model 8 demonstrates that *institutional ecology* has a − 9.1% mediation effect. This negative mediation effect indicates that in the relationship between *IGO membership* and *informal entrepreneurship*, *institutional ecology* further enhances the negative influence of IGOs on informal entrepreneurship. In sum, Models 7 and 8 offer support for partial mediation.

Robustness tests

We conducted several other analyses not presented for brevity to provide additional support for the findings and demonstrate that they are not due to alternative explanations. The results across all alternate methods and measures detailed below corroborate the initial findings.

Alternate test designs

We use two alternate methods for hypotheses 1 and 2. First, we use an ordinary least squares (OLS) regression with correction for panel-specific autocorrelation and heteroscedasticity. The results are as follows: support for H1 (coefficient 2.07, std. error 0.702, *p* value=0.003), support for H2a (coefficient 0.831, std. error 0.308, *p* value=0.007), and support for H2b (coefficient-0.39, std. error 0.151, *p* value=0.010). Second, we use a generalized estimation equation (GEE) model. This method is intended to reduce the bias from ignoring longitudinal correlation and to account for temporal dependence amongst variables (Baltagi, 2001; Bryk & Raudenbush, 1992). The results are as follows: no statistical support for H1but the direction of signs of the coefficients remain the same, no support for H2a but the direction of signs of the coefficients remain the same, and marginal support for H2b (coefficient − 0.624, std. error 0.2328, *p* value = 0.058). It is important to note that while the GEE models can help reduce bias, they are limited in yielding consistent results when there are outliers, which can be a result of a long-time series longitudinal dataset. Thus, while the results of these tests do not yield direct support for H1 and H2a, the consistent sign and direction of the coefficients are a good indication of support. Additionally, we used an alternate method for the *medeff* package, testing hypothesis 3. As an alternative, we use Baron and Kenny's (1986) 4-Stage mediation technique followed by a Sobel test to ensure the significance of the mediation. The results confirm that *institutional ecology* has a suppression effect on the relationship between *IGO membership* and *formal entrepreneurship* and on the relationship between *IGO membership* and *informal entrepreneurship (for formal entrepreneurship: Sobel Test: 1.8217, std. error 0.0522, p = 0.0468 for informal entrepreneurship: Sobel Test: − 1.977, std. error 0.0515, p = 0.0480).*

Alternate dependent variables

We employ an alternate measure for both *formal* and *informal entrepreneurship.* We use the number of new formal firms for formal entrepreneurship, which captures the total number of new formal firms created instead of as a percentage of the working-age population. The results uphold our initial findings for H2a (coefficient 83.08, std. error 30.03, *p* value=0.006). For *informal entrepreneurship*, we use the number of new informal firms, which captures the total number of new informal firms created instead of as a percentage of the working-age population. The results uphold our initial findings for H2b (coefficient − 42.13, std. error 15.07, *p* value=0.005).

Alternate independent variables

As an alternate measure of *IGO membership,* we use *IGO Ties*. This measure captures the total number of country-ties a given country has through IGOs. For example, when a country signs onto an IGO, it connects to all the other countries involved in that IGO. This measure thus calculates all the country ties experienced through IGO involvement.

Moreover, the variable records when countries enter and exit IGOs in a given year. This variable is captured from the Correlates of War dataset. The results uphold our initial findings for H1 (coefficient 2.17, std. error 0.693, p value = 0.002); H2a (coefficient 0.834, std. error 0.304, p value = 0.006); H2b (coefficient − 0.380, std. error 0.148, p value = 0.010); and the mediation analyses (− 27% for formal and − 8.7% for informal).

Post-hoc analyses

Interestingly, we coded each of the IGOs listed within the Correlates of War Dataset by basic type into *economic*, *political*, and *social-based* IGOs on the objectives and missions stated. We initially assumed that different types of IGOs would have differential effects on entrepreneurship. Surprisingly, however, we found no significant differences based on the types of IGOs. After revisiting the IGOs, we believe we did not find significant results because the initial coding by type we employed is too coarsely-grained. With over 1500 officially registered IGOs, future scholars must investigate a richer typology of IGOs adequately. This leaves promising questions for future scholarship surrounding the presence of IGOs and their influence on national and supranational institutions.

Additionally, while examining the influence of the country's level of economic development exceeding the scope of this research, we conducted a post-hoc analysis to examine the moderating effect of the level of economic development (as proxied by GDP per capita) and economic growth. Interestingly, our findings indicate that higher levels of economic development positively moderate the relationship between IGOs and entrepreneurial opportunities and IGOs and formal entrepreneurship (H1 and H2a) but do not significantly influence the relationship between IGOs and informal entrepreneurship. We also look at gross domestic product per capita as an additional moderating variable. Interestingly, GDP per capita yields a positive moderation for H1 and H2b (informal entrepreneurship) but no significant results for H2a (formal entrepreneurship). We believe that our varying results corroborate the reality that different measures of economic development and growth capture distinct and unique parts of a country's economy. We hope that future scholars continue to examine these relationships.

Endogeneity

We employ techniques to address endogeneity in our GLS regressions and our mediation analyses. To address reverse causality concerns and omitted variable bias in our GLS regressions for Hypotheses 1 and 2, we employ an instrumental variables regression with random effects for panel data for the models where *IGO membership* is the independent variable (see Table 6). We use the Land Area and Size

Table 6 Results of the instrumental variables regression models for H1 and H2

Variables	Model 1*		Model 2**		Model 3***	
Intercept	63.27***	(13.28)	18.56*	(8.99)	6.78***	(1.83)
GDP growth	6.62***	(0.88)	1.10*	(0.47)	− 0.66**	(0.27)
Education expenditures	1.22	(1.59)	1.21	(1.06)	0.35	(0.31)
Immigration	0.21*	(0.09)	− 0.13*	(0.07)	− 0.04**	(0.02)
Trade agreements	− 2.18	(1.96)	1.03	(1.30)	0.60	(0.45)
Official development assistance	1.24	(2.26)	7.67***	(1.34)	1.00*	(0.46)
Population	− 3.70***	(0.95)	0.02	(0.70)	− 0.32†	(0.18)
National governance	0.10	(0.13)	0.04	(0.08)	− 0.04†	(0.03)
Region control	Included		Included		Included	
Year control	Included		Included		Included	
IGO involvement	5.50†	(3.00)	− 0.08	(2.71)	− 1.38***	(0.42)
Wald χ^2	142.41***		91.56***		464.38**	
Overall R^2	0.2755		0.3509		0.5465	
Countries	68		68		68	
Observations (n)	464		464		464	

Indicators for each year (19) are included in the models, but their coefficients are not reported for the sake of brevity

Standard errors appear in parentheses. Significance levels (2-tailed): †p<0.10, *p<0.05, **p<0.01, ***p<0.001

*Dependent variable = entrepreneurial opportunities

**Dependent variable = formal entrepreneurship

***Dependent variable = informal entrepreneurship

of the Armed Forces in these models as our instruments. We expect each of these variables to influence the amount of IGOs in a country. Also, we should observe the influence of these instruments on entrepreneurial opportunities and the formalization of entrepreneurship through the number of IGOs a country is a member of. We expect the *Land Area* and *Size of the Armed Forces* to influence our dependent variables but only through other variables in our model.

The first-stage results indicate that the instruments we selected were valid ($\chi^2 = 143.01$, $p = 0.00$ for entrepreneurial opportunities, $\chi^2 = 92.04$, $p = 0.00$ for formal entrepreneurship models, and $\chi^2 = 468.01$, $p = 0.00$ for informal entrepreneurship models). The second-stage models indicate that H1 (marginally) and H2b are upheld while H2a is not.

We take several steps outlined by Baron and Kenny (1986) to address endogeneity concerns in our mediation analyses. First, we theoretically eliminate the potential for reverse causality, which is a critical step according to Baron & Kenny. Second, we run the mediation analyses switching the mediator and the dependent variable. According to Baron and Kenny, endogeneity is a reduced concern if the results are distinct from the original mediation analyses. The results of our reverse mediation are distinct, thus reducing the concern for endogeneity.

Alternate control variables

To ensure added validity of the results, we also provide alternative measures of the control variables. First, we use population total as an alternate measure to population density, collected from the WBDI database. The variable is recorded on a continuous scale and captures how many people are registered within a country. Second, we use two alternative measures for *trade agreements*. First, we use *goods agreements*. This continuous variable was also collected from the WTO Regional Trade Agreement Database. It captures a country's total number of goods agreements in a given year. Second, we use *service agreements*. This continuous variable was also collected from the WTO Regional Trade Agreement Database. It captures a country's total number of service agreements in a given year. Third, we use net migration as an alternative measure for immigration, which accounts for the total migration patterns exiting and entering a country in a given year. Both measures are continuous.

Temporal effects

Our relationships rely on the influence of IGO involvement on formal and informal entrepreneurship. As such, it is important to note that it may take varying amounts of time for the effects of these interactions to influence the entrepreneurial environment and changes to policy and resources that influence entrepreneurial decisions. To account for this variance, we test our models using one-, two-, and three-year lag structures. All main results are upheld. This indicates the long-term effects of IGOs on formal and informal entrepreneurship.

Discussion

We set out to study the influence of IGO membership on entrepreneurial opportunities. We find that IGO membership can lead to more entrepreneurial opportunities, as it brings tangible (Deutsche et al., 1957; Ingram et al., 2005) and intangible benefits to the economy of member states (Bearce & Bondanella, 2007; Wendt, 1994). However, based on the objectives of the IGOs and prior literature, we recognize that these opportunities are not symmetric for all types of entrepreneurial activities and that they differently influence country growth. Thus, we distinguish entrepreneurial activities into formal and informal entrepreneurship. We find that IGO membership encourages formal entrepreneurship while discouraging informal entrepreneurship. Informal entrepreneurship lacks property ownership rights and socio-economic systems, such as labour rights, insurance, or health and safety rules (UNCTAD, 2014), which counter the IGO's belief system to protect the well-being of individuals. Moreover, formal entrepreneurship has been found to bring value to society and propel economic growth and change within the country (Schumpeter, 1946; Shockley & Frank, 2011). Thus, the IGO's formalized institutions align better with formal entrepreneurship over informal entrepreneurship.

We argue that the institutional ecology of IGO member states is a critical explanatory mechanism through which these relationships unfold. The supranational institutions of IGOs influence this institutional ecology and then transitively influence the environment and entrepreneurial activities. We find that the strength of the institutional ecology mediates the relationship between IGO membership and informal entrepreneurship, leading to a further reduction of informal entrepreneurship. Additionally, institutional ecology strengthens (is a suppressor variable) the explanatory power of IGOs membership on formal entrepreneurship, further enhancing formal entrepreneurship. This finding supports the argument that strong institutional environments based on formal institutions promote formal entrepreneurship (Dau & Cuervo-Cazurra, 2014), as uncertainty and volatile institutional environments are not conducive to formal business activities (McCarthy & Puffer, 2016). In sum, we find that the mechanism through which IGOs influence formal or informal entrepreneurial activities is based on the strength of the national institutional ecology of member states; the more balanced and robust the ecology, the more positive the influence of IGO membership on formal

entrepreneurship and the more negative is the influence on informal entrepreneurship.

Academic implications

This article has implications for theory and literature. First, while political science traditionally deals with creating supranational institutions in the international community (Park, 2005; Stoker, 1995), institutional theory in the management literature predominantly considers national institutions and external factors that might influence them (North, 1990, 1991). This is unfortunate, given how influential global forces are in shaping and influencing nation-states and the actors that reside within them. Combining such a global conceptual framework and a national-centred theory allows for identifying how IGOs, i.e., international actors related to supranational institutions, influence entrepreneurship, i.e., individual actors related to national institutions. Thus, we recognize and theorize about a direct connection between supranational and individual-level actors via the national institutional environment. This connection is also essential as it connects the global environment and political science with the national business environment and its actors, which has been called for (Buckley et al., 2017; Hartmann et al., 2022; Hitt et al., 2016). Thus, by teasing out this connection and theorizing and demonstrating the mechanisms through which this connection occurs, we offer a more finely variegated lens through which institutions can be understood.

Previous research on the influence of IGOs on the global community (e.g., Ingram et al., 2005; McCormick & Kihl, 1979) suggested that IGOs affect the international system as they help make sense of power structures (McCormick, 1980; Merlingen, 2003; Volgy et al., 2008). However, limited attention has been given to understanding how these institutions influence individual-level activities, i.e., entrepreneurship. We provide a better understanding of the role IGOs play in influencing countries' institutional and entrepreneurial environments. This allows us to outline the influences of IGOs on the business community beyond the political sphere, having implications for a neighbouring discipline. We broaden the political sciences' understanding of IGOs, their influence on individual citizens, and the role that national policies can play. We hope our study is a launching point for future scholars to continue cultivating the connection between political science/international relations and management.

Lastly, the extant entrepreneurship scholarship (e.g., Baumol, 1993; Welter, 2011) has primarily focused on individual-level entrepreneurship determinants, i.e., the resources that encourage and discourage these business activities. We focus on macro-level determinants, i.e., the supranational and national institutional environment. We think this focus is essential considering the influence of IGOs on individual and country-level activities. This focus teases out the different determinants of formal and informal entrepreneurship that have continued to garner attention in scholarship, given the importance of informal entrepreneurs in different regions of the world (e.g., Ault & Spicer, 2024; Dau & Cuervo-Cazurra, 2014; Salvi et al, 2023; Thai & Turkina, 2014; Williams & Shahid, 2016).

Implications for policy and practice

Policymakers must understand the effects of national and supranational institutions on entrepreneurial opportunities and activities and consider these influences when deciding whether to engage more (or less) with IGOs. While we find that IGO membership positively influences entrepreneurial opportunities, we find diverse influences on formal and informal entrepreneurial activities. These differences are important for policymakers of differently developed countries to consider. While informal entrepreneurship is typically considered the quickest vehicle to income (UN, 2014) and is thus an attractive solution to poverty alleviation for individuals in developing countries, policymakers must consider the transaction costs and entrepreneurial opportunities available to individuals in their countries. We demonstrate (specifically through our mediation analysis) that IGOs and being members shape and influence these entrepreneurial opportunities.

However, it is also important to consider that policymakers may face difficult decisions as their short- and long-term goals may differ from those of their citizens. For example, while literature has demonstrated that informal entrepreneurship may be the quickest (and first used) vehicle to alleviate immediate poverty, policymakers may have different objectives and may actually want to transition informal entrepreneurs to the formal sector to avoid the adverse effects of informal entrepreneurship. Policymakers may see the lack of paying taxes or following strict employment codes as detrimental to the country's long-term economic development and growth. In this scenario, they may be willing to sacrifice short-term poverty alleviation for longer-term economic development that may come with formal entrepreneurship and thus engage more with IGOs. Conversely, they may recognize the benefits of informality for the local entrepreneurs and communities and thus avoid deeper interactions with IGOs. Herein lies the complexity of the relationship between supranational and national-level institutions because policymaking is an active choice.

Furthermore, understanding the role that IGOs play is essential for policymakers that influence whether or not a country becomes or remains a member of an IGO, especially regarding its national institutional ecology. While policymakers may traditionally consider the implications of IGO

membership in terms of peace prospects and international solidarity, our findings highlight the individual influences of IGO membership that are frequently detached from these discussions. As countries worldwide face challenging decisions regarding IGO membership and their participation in the international community, understanding implications at all levels can help inform more holistic decisions. Moreover, policy advisers in IGOs can draw from this research to understand how IGO policies influence national business environments and individual citizens. As debated in the paper, while policies are created for the betterment of member countries and their citizens, how these policies influence citizens is rarely studied. We remedy this lack of research and provide valuable insights into the connection between IGOs and entrepreneurship.

Limitations and future research

Several limitations can be identified and built upon in future research. Although we use robust and reliable measures for countries' IGO membership, it is inherently difficult to determine the full implications of IGOs on member states and even less so on non-member states. In this article, we are only interested in IGO member states; we do not consider the influence of IGOs on non-member states. Very little research has studied this connection, even though the interconnectedness of the global world (e.g., via Global Value Chains) would allow us to infer that the influence of IGOs goes beyond the member state. More research on these implications on national and global business environments is needed.

Moreover, we are only interested in understanding the influence of IGOs on one business activity: entrepreneurship. We dissect differences in how formal and informal entrepreneurship respond to IGOs. Scholars could expand upon this research by examining alternative business-level outcomes, such as the influence of IGOs on innovation activity or performance, etc. We consider entrepreneurship on an accumulated country level by looking at opportunities and two types of entrepreneurial activities: formal and informal. That said, other types of entrepreneurship exist (e.g. social entrepreneurship). Due to data limitations, we are not able to measure all types of entrepreneurs, but we hope future scholars continue to examine more types (see also a call by Myyryläinen et al., 2022; Peredo et al., 2006; and Sud et al., 2009). Moreover, it would be interesting for future scholars to look at the push/pull effect between formal and informal entrepreneurship to see if there are transitions between the two types due to changing supranational and national institutional contexts.

Moreover, we acknowledge that IGOs vary and that these differences could affect our findings. Some IGOs have mechanisms to ensure the application of their supranational policies, while others do not. The IGO's scope also changes, as do the types of policies. However, it is critical to point out that our measure for IGO membership measures quantity, not quality or strength, of IGO membership, nor does it measure policy compliance. In an ideal research setting, future scholars could account for IGO differences and policy compliance (see discussion in Moore et al., 2023 for the conceptualization of compliance to IGOs) of each country, but due to data limitations, this is not currently feasible to the best of our knowledge.

Additionally, this research attempts to generalize and identify patterns of IGO influences on entrepreneurship while accounting for country and environmental contexts. Within this article, we use the strength of institutional ecologies as mediating variables to assess the differential influences of international organizations on entrepreneurship. We measure the strength of institutional ecologies as the ratio of formal institutional strength to informal institutional strength. A higher number indicates a more robust institutional ecology. Future scholarship can build upon this article by utilizing the novel measure created and examining subsequent mediators or comparative case studies that account for the country's institutional ecologies that influence entrepreneurship.

Conclusion

We set out to study the influence of IGO membership on entrepreneurial opportunities by examining the three interconnected levels involved: the supranational institutions at the IGO level, the strength of the national institutional ecology at the national level, and the entrepreneurial opportunities and activities at the individual level. We grounded our discussion in international relations arguments to make these connections across multiple levels and used institutional theory/new institutional economics to combine the levels. We find that IGO membership cultivates a positive entrepreneurial environment, leading to increased entrepreneurial opportunities within member states, but the opportunities are not symmetric for all types of entrepreneurship. IGO membership encourages formal entrepreneurship more while discouraging informal entrepreneurship, and the more balanced and robust the institutional ecology, the more positive the influence of the membership is on formal entrepreneurship and the more negative the influence is on informal entrepreneurship.

References

Abbott, K. (1999). International relations theory, international law, and the regime governing atrocities in internal conflicts. *American Journal of International Law, 93*(1), 361–380.

Abbott, K. W., & Snidal, D. (1998). Why states act through formal international organizations. *Journal of Conflict Resolution, 42*(1), 3–32.

Acs, Z. J., Desia, S., & Hessels, J. (2008). Entrepreneurship, economic development and institutions. *Small Business Economics, 31*(3), 219–234.

Angell, R. C. (1950). UNESCO and social science research. *American Sociological Review, 15*(2), 282–287.

Aparicio, S., Urbano, D., & Stenholm, P. (2021). Attracting the entrepreneurial potential: A multilevel institutional approach. *Technological Forecasting and Social Change, 168*, 120748.

Audretsch, D. (2012). Entrepreneurship research. *Management Decision, 50*(5), 755–764.

Ault, J. K., & Spicer, A. (2024). Basic-needs social protections and own-account informal entrepreneurship: Implications for policy and cross-national comparative analysis. *Journal of International Business Policy, 7*(3), 295–313.

Baier, S. L., Bergstrand, J. H., & Feng, M. (2014). Economic integration agreements and the margins of international trade. *Journal of International Economics, 93*(2), 339–350.

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economics., 131*(4), 1593–1636. https://doi.org/10.1093/qje/qjw024.

Baltagi, B. H. (2008). Forecasting with panel data. *Journal of Forecasting, 27*(2), 153–173.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173.

Batjargal, B., Hitt, M. A., Tsui, A. S., Arregle, J. L., Webb, J. W., & Miller, T. L. (2013). Institutional polycentrism, entrepreneurs' social networks, and new venture growth. *Academy of Management Journal, 56*(4), 1024–1049.

Baumol, W. J. (1993). Formal entrepreneurship theory in economics: Existence and bounds. *Journal of Business Venturing, 8*(3), 197–210.

Bearce, D. H., & Bondanella, S. (2007). Intergovernmental organizations, socialization and member-state interest convergence. *International Organization, 61*(4), 703–733.

Bell, A., & Jones, K. (2015). Explaining fixed effects: Random effects modeling of time-series cross-sectional and panel data. *Political Science Research and Methods, 3*(1), 133–153.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics, 87*(1), 115–143.

Boardman, R. (1994). Introduction: Political economy and institutional order. In R. Boardman (Ed.), *Post-socialist world orders: Russia, China and the UN System* (pp. 1–8). Palgrave Macmillan.

Boehmer, C., & Nordstrom, T. (2008). Intergovernmental organization memberships: Examining political community and the attributes of international organizations. *International Interactions, 34*(3), 282–309.

Börzel, T. A., Dimitrova, A., & Schimmelfennig, F. (2017). European Union enlargement and integration capacity: concepts, findings, and policy implications. In European Union Enlargement and Integration Capacity (pp. 1–20). Routledge.

Bosma, N., Wennekers, S., & Amorós, J. E. (2012). *Global entrepreneurship monitor 2011 extended report: Entrepreneurs and entrepreneurial employees across the globe*. Global Entrepreneurship Research Association *59*.

Brandl, K., Darendeli, I., & Mudambi, R. (2019). Foreign actors and intellectual property protection regulations in developing countries. *Journal of International Business Studies, 50*(5), 826–846.

Bruton, G. D., Filatotchev, I., Si, S., & Wright, M. (2013). Entrepreneurship and strategy in emerging economies. *Strategic Entrepreneurship Journal, 7*(3), 169–180.

Buckley, P. J., Doh, J. P., & Benischke, M. H. (2017). Towards a renaissance in international business research? Big questions, grand challenges, and the future of IB scholarship. *Journal of International Business Studies, 48*(9), 1045–1064.

Buzan, B. (1993). From international system to international society: Structural realism and regime theory meet the English school. *International Organization, 47*(3), 327–352.

Cao, X. (2009). Networks of intergovernmental organizations and convergence in domestic economic policies. *International Studies Quarterly, 53*(4), 1095–1130.

Castellacci, F. (2015). Institutional voids or organizational resilience? Business groups, innovation, and market development in Latin America. *World Development, 70*, 43–58.

Checkel, J. T. (2005). International institutions and socialization in Europe: Introduction and framework. *International Organization, 59*(4), 801–826.

Chen, M. A. (2007). Rethinking the informal economy: Linkages with the formal economy and the formal regulatory environment. DESA report No. 46. United Nations, Economic & Social Affairs.

Correlates of War Dataset. Political alliances and intergovernmental organizations dataset.

Cuervo-Cazurra, A., & Dau, L. A. (2009). Promarket reforms and firm profitability in developing countries. *Academy of Management Journal, 52*(6), 1348–1368.

Dau, L. A., & Cuervo-Cazurra, A. (2014). To formalize or not to formalize: Entrepreneurship and pro-market institutions. *Journal of Business Venturing, 29*(5), 668–686.

Dau, L. A., Moore, E. M., & Abrahms, M. (2018). *Female entrepreneurship and international organizations*. Emerald Publishing Limited.

Dau, L. A., Moore, E. M., & Bradley, C. (2015). Institutions and international entrepreneurship. *International Business: Research, Teaching and Practice, 9*(1), 1–20.

Dau, L. A., Moore, E. M., & Soto, M. (2016a). The great recession and emerging market firms: Unpacking the divide between global and national level sustainability expectations. In *Lessons from the great recession: At the crossroads of sustainability and recovery* (pp. 165–187). Emerald Group Publishing Limited

Dau, L. A., Moore, E. M., Soto, M., & LeBlanc, C. (2016b). How globalization sparked entrepreneurship in the developing world: The impact of formal economic and political linkages. In B. Christiansen (Ed.), Corporate espionage, geopolitics, and diplomacy issues in international business (1st ed.) (Vol. 1, pp. 72–91). IGI Global

De Castro, J. O., Khavul, S., & Bruton, G. D. (2014). Shades of grey: How do informal firms navigate between macro and meso institutional environments? *Strategic Entrepreneurship Journal, 8*(1), 75–94.

Deutsche, K. W., Burrell, S. A., Kann, R., Lee, M., Lichterman, M., Lindgren, R. E., Loewenhiem, F. L., & Van Wagenen, R. W. (1957). Political community and the North Atlantic Area. Princeton University Pres

Ekman, J. (2009). Political participation and regime stability: A framework for analyzing hybrid regimes. *International Political Science Review, 30*(1), 7–31.

Fadahunsi, A. (2000). Researching informal entrepreneurship in Sub-Saharan Africa: A note on field fmethodology. *Journal of Developmental Entrepreneurship, 5*, 249.

Fayolle, A., & Gailly, B. (2015). The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence. *Journal of Small Business Management, 53*(1), 75–93.

Fiori, S. (2002). Alternative visions of change in Douglass North's new institutionalism. *Journal of Economic Issues, 36*(4), 1025–1043.

Fligstein, N., & Stone Sweet, A. (2002). Constructing polities and markets: An institutionalist account of European integration. *American Journal of Sociology, 107*(5), 1206–1243.

Ganuza, J. J., & Hauk, E. (2004). Economic integration and corruption. *International Journal of Industrial Organization, 22*(10), 1463–1484.

Gedeon, S. (2010). What is entrepreneurship? *Entrepreneurial Practice Review, 1*(3), 16–35.

GEM. (2013a). Global entrepreneurship monitor. http://www.gemconsortium.org.

GEM. (2013b). What does GEM measure? Global Entrepreneurship Monitor.

Goel, R. K., Nelson, M. A., & Payne, J. E. (2015). Entrepreneurship and cross-national economic freedom. In *Economic behavior, economic freedom, and entrepreneurship*. Edward Elgar Publishing

Greif, A. (1994). Cultural beliefs and the organization of society: A historical and theoretical reflection on collectivist and individualist societies. *Journal of Political Economy, 102*(5), 912–950.

Haftel, Y. Z., & Thompson, A. (2018). When do states renegotiate investment agreements? The impact of arbitration. *The Review of International Organizations, 13*(1), 25–48.

Hartmann, S., Lindner, T., Müllner, J., & Puck, J. (2022). Beyond the nation-state: Anchoring supranational institutions in international business research. *Journal of International Business Studies, 53*(6), 1282–1306.

Helmke, G., & Levitsky, S. (2004). Informal institutions and comparative politics: A research agenda. *Perspectives on Politics, 2*(4), 725–740.

Heredia, W., Lecuna, A., Heredia, J., Geldes, C., & Flores, A. (2023). Effect of corruption and crime on growthgr-oriented informal firms. *International Entrepreneurship and Management Journal*, 1–27

Henrekson, M., & Sanandaji, T. (2011). The interaction of entrepreneurship and institutions. *Journal of Institutional Economics, 7*(1), 47–75.

Hitt, M. A. (2016). International strategy and institutional environments. *Cross Cultural and Strategic Management, 23*, 206–215.

Hitt, M. A., Li, D., & Xu, K. (2016). International strategy: From local to global and beyond. *Journal of World Business, 51*, 58–73.

Hoffman, D. A., & Gavin, M. B. (1998). Centering decisions on hierarchical linear models: Theoretical and methodological implications for organizational sciences. *Journal of Management, 23*, 623–641.

Hsiao, C. (2007). Panel data analysis-advantages and challenges. *TEST, 16*(1), 1–22.

Imai, K., Keele, L., & Tingley, D. (2010). A general approach to causal mediation analysis. *Psychological Methods, 15*(4), 309.

Ingram, P., Robinson, J., & Busch, M. L. (2005). The intergovernmental network of world trade: IGO connectedness, governance and embeddedness. *American Journal of Sociology, 111*(3), 824–858.

International Labour Organization. (2018). *Entrepreneurship report: The informal economy*. United Nations.

Johnson, T. (2011). Guilt by association: The link between states' influence and the legitimacy of intergovernmental organizations. *Review of International Organizations, 6*(1), 57–84.

Kahler, M. (2013). Rising powers and global governance: Negotiating change in a resilient status quo. *International Affairs, 89*(3), 711–729.

Karlsson, C., & Acs, Z. J. (2002). Introduction to institutions, entrepreneurship and firm growth: The case of Sweden. *Small Business Economics, 19*(2), 63–67.

Keohane, R. O. (1984). The world political economy and the crisis of embedded liberalism. Order and conflict in contemporary capitalism, 18.

Klapper, L. (2006). Entrepreneurship: New data on business creation and how to promote it.

Klapper, L., Amit, R., Guillén, M. F., & Quesada, J. M. (2007). Entrepreneurship and firm formation across countries. The World Bank.

Kutner, M. H., Nachtsheim, C. J., Neter, J., & Li, W. (2004). *Applied linear regression models* (5th ed.). McGraw-Hill.

Li, C., Isidor, R., Dau, L. A., & Kabst, R. (2018). The more the merrier? Immigrant share and entrepreneurial activities. *Entrepreneurship Theory and Practice, 42*(5), 698–733.

Long, J. S., & Freese, J. (2006). Regression models for categorical dependent variables using Stata. Stata Press

Lupu, N. (2014). Brand dilution and the breakdown of political parties in Latin America. *World Politics, 66*(4), 561–602.

Macaulay, S. (1963). Non-contractual relations in business: A preliminary study. *American Sociological Review, 28*, 55–67.

Machida, S. (2009). Globalization and the legitimacy of intergovernmental organizations. *International Studies, 46*(4), 371–400.

MacKinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). Equivalence of the mediation, confounding and suppression effect. *Prevention Science, 1*(4), 173–181.

Mahoney, J. & Thelen, K. (2010). A theory of gradual institutional change. In Mahoney & Thelen (Eds.), Explaining institutional change: Ambiguity, agency, and power. Cambridge University Press

McCarthy, D. J., & Puffer, S. M. (2016). Institutional voids in an emerging economy: From problem to opportunity. *Journal of Leadership and Organizational Studies, 23*(2), 208–219.

McCormick, J. M. (1980). Intergovernmental organizations and cooperation among variations. *International Studies Quarterly, 24*(1), 75–98.

McCormick, J. M., & Kihl, Y. W. (1979). Intergovernmental organizations and foreign policy behavior: Some empirical findings. *The American Political Science Review, 73*(2), 494.

Merlingen, M. (2003). Towards a Foucauldian framework for the study of IGOs. *Cooperation and Conflict, 38*(4), 361–384.

Moore, E. M., Brandl, K., & Dau, L. A. (2023). Intergovernmental organizations, institutional schisms, and business environments. *Journal of International Business Policy*, 1–18

Moore, E. M., Dau, L. A., & Brandl, K. (2022). IGOs and entrepreneurship: Understanding the impact of policy compliance on formal and informal entrepreneurial activity. *Megatrends in international business: Examining the influence of trends on doing business internationally* (pp. 41–60). Springer International Publishing.

Moore, E. M., Dau, L. A., & Doh, J. (2020). Does monetary aid catalyse new business creation? Analysing the impact of global aid flows on formal and informal entrepreneurship. *Journal of Management Studies, 57*(3), 438–469.

Moore, E. M., Dau, L. A., & Mingo, S. (2021). The effects of trade integration on formal and informal entrepreneurship: The moderating role of economic development. *Journal of International Business Studies, 52*, 746–772.

Myyryläinen, H., & Torkkeli, L. (2022). Corporate social responsibility in social SMEs: Discourses of prosocial behavior in individual, organizational, and societal levels. *Sustainability, 14*(11), 6718.

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

North, D. C. (1991). Institutions. *Journal of Economic Perspectives, 5*(1), 97–112.

Nyström, K. (2008). The institutions of economic freedom and entrepreneurship: evidence from panel data. *Public choice, 136*, 269–282.

Panke, D., & Petersohn, U. (2016). Norm challenges and norm death: The inexplicable? *Cooperation and Conflict, 51*(1), 3–19.

Park, S. (2005). Norm diffusion with international organizations: A case study of the World Bank. *Journal of International Relations and Development, 8*(2), 111–141.

Peredo, A. M., & McLean, M. (2006). Social entrepreneurship: A critical review of the concept. *Journal of World Business, 41*(1), 56–65.

Petersmann, E.-U. (2000). The WTO constitution and human rights. *Journal of International Economic Law, 3*(1), 19–25.

Polyhart, R. E., Holtz, B. C., & Bliese, P. D. (2002). Longitudinal data analysis: Applications of random coefficient modeling to leadership research. *Leadership Quarterly, 13*, 455–486.

Resnik, J. (2006). International organizations, the "education–economic growth" black box, and the development of world education culture. *Comparative Education Review, 50*(2), 173–195.

Rey, D., & Barkdull, J. (2005). Why do some democratic countries join more intergovernmental organizations than others? *Social Science Quarterly, 86*(2), 386–402.

Rutkowski, D. J. (2007). Converging us softly: How intergovernmental organizations promote neoliberal educational policy. *Critical Studies in Education, 48*(2), 229–247.

Salvi, E., Belz, F. M., & Bacq, S. (2023). Informal entrepreneurship: An integrative review and future research agenda. *Entrepreneurship Theory and Practice, 47*(2), 265–303.

Schumpeter, J. A. (1946). Essays: On entrepreneurs, innovations, business cycles, and the evolution of capitalism. Transaction Books.

Sending, O. J., & Neumann, I. B. (2006). Governance to governmentality: Analyzing NGOs, states, and power. *International Studies Quarterly, 50*(3), 651–672.

Shockley, G. E., & Frank, P. M. (2011). Schumpeter, Kirzner, and the field of social entrepreneurship. *Journal of Social Entrepreneurship, 2*(1), 6–26.

Snidal, D. (1992). IGOs, regimes and cooperation: Challenges for international relations theory. In *The United States and multilateral institutions: Patterns of changing instrumentality and influence* (p. 321). Routledge International Press

Stephen, F. H., Urbano, D., & Van Hemmen, S. (2005). The impact of institutions on entrepreneurial activity. *Managerial and Decision Economics, 26*(7), 413–419.

Stoker, G. (1995). Regime theory and urban politics. *Theories of Urban Politics,* 54–71.

Sud, M., VanSandt, C. V., & Baugous, A. M. (2009). Social entrepreneurship: The role of institutions. *Journal of Business Ethics, 85*, 201–216.

Taninchev, S. B. (2015). Intergovernmental organizations, interaction, and member state interest convergence. *International Interactions, 41*(1), 133–157.

Tao, J., & Yu, J. (2012). The spatial time lag in panel data models. *Economics Letters, 117*(3), 544–547.

Thai, M. T. T., & Turkina, E. (2014). Macro-level determinants of formal entrepreneurship versus informal entrepreneurship. *Journal of Business Venturing, 29*(4), 490–510.

United Nations. (2014). United Nations General Assembly Report: Entrepreneurship for Development. A/69/320. New York: United Nations.

United Nations. (2019). United Nations Security Council.

United Nations Council on Trade and Development. (2014). *Trade Profiles and Reports*. United Nations.

Volgy, T. J., Fausett, E., Grant, K. A., & Rodgers, S. (2008). Identifying formal intergovernmental organizations. *Journal of Peace Research, 45*(6), 837–850.

Webb, J. W., Ireland, R. D., & Ketchen, D. J. (2014). Toward a greater understanding of entrepreneurship and strategy in the informal economy. *Strategic Entrepreneurship Journal, 8*(1), 1–15.

Webb, J., Khoury, T., & Hitt, M. A. (2018). The influence of formal and informal institutional voids on productive entrepreneurship in developing economies. *Working Paper, University of North Carolina at Charlotte*

Webb, J. W., Tihanyi, L., Ireland, R. D., & Sirmon, D. G. (2009). You say illegal, I say legitimate: Entrepreneurship in the informal economy. *Academy of Management Review, 34*(3), 492–510.

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

Wendt, A. (1994). Collective identity formation and the international state. *American Political Science Review, 88*, 384–396.

Wiklund, J., Davidsson, P., Audretsch, D. B., & Karlsson, C. (2011). The future of entrepreneurship research. *Entrepreneurship: Theory and Practice, 35*(1), 1–9.

Williams, C. C., & Nadin, S. (2010). Entrepreneurship and the informal economy: An overview. *Journal of Developmental Entrepreneurship, 15*(04), 361–378.

Williams, C. C., & Shahid, M. S. (2016). Informal entrepreneurship and institutional theory: Explaining the varying degrees of (in) formalization of entrepreneurs in Pakistan. *Entrepreneurship & Regional Development, 28*(1–2), 1–25.

Williamson, C. R. (2009). Informal institutions rule: Institutional arrangements and economic performance. *Public Choice, 139*(3–4), 371–387.

Woolridge, J. M. (2002). *Econometric analysis of cross section and panel data*. MIT Press.

World Bank. (2019a). World Bank Development Indicators Dataset.

World Bank. (2019b). World Bank Governance Indicators Dataset.

World Trade Organization. Regional Trade Alliances Dataset.

Elizabeth M. Moore is an Assistant Teaching Professor of International Business & Strategy at the D'Amore-McKim School of Business, Northeastern University, Director of Resilience Research and Network Collaboration at the Global Resilience Institute and an Associate Research Fellow for the Center for Emerging Markets. Her research focuses on supranational institutions, sustainable development, entrepreneurship, and firm and community resilience.

Kristin Brandl is an Associate Professor at the Gustavson School of Business, University of Victoria and Copenhagen Business School. She studies the impact of (national and supranational) policy and regulations on global business environments and firm strategy, particularly in developing countries. She is also interested in global knowledge sourcing and international services management.

Luis Alfonso Dau is an Associate Professor of International Business and Strategy at Northeastern University. His research focuses on the effects of institutional processes on the strategy and performance of emerging market firms. He is also interested in institutional changes, pro-market reforms, business groups, family firms, international corporate social responsibility, sustainability, formal and informal entrepreneurship, and culture.