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Institutional economics and firm creation in the hospitality and tourism industry: A comparative analysis of developing and developed economies

By: Mehmet Altin, Esra Memili, Sevil Sönmez

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Abstract:

Despite its importance for the global hospitality and tourism industry, firm creation remains an under-researched activity, particularly in terms of differences across developing and developed economies. By examining the impact of institutional structure on firm creation across economies of varying development levels, this study aims to address gaps in the literature and inform theory, practice, and public policymaking. More specifically, formal institutions such as government size, protection of property rights, sound money, free trade, and regulation are examined to understand their impacts on firm creation. This study draws upon institutional theory and uses panel data (2001–2012) from the Global Entrepreneurship Monitor and Economic Freedom of the World index to test hypotheses with a sample of 37 developing and 28 developed countries. Analyses reveal differential effects of formal institutions on firm creation in developing and developed economies. Implications for future research, practice, and public policy are further discussed.

Keywords: economic freedom | firm creation | formal and informal institutions | institutional economics

Article:

Introduction

Firm creation plays a vital role in gross domestic product (GDP) growth, by expanding the range of available products and services, fueling competition, lowering prices, driving job growth, strengthening industries, potentially facilitating technology adoption, and fueling economic dynamism (Acs et al., 2004; Antoncic et al., 2016; Reynolds et al., 1999). Despite the foregoing, research on firm creation across countries—particularly comparative studies examining nations at different stages of economic development—remains surprisingly limited (Klapper et al., 2010). Research on firm creation in the hospitality and tourism (HT) industry is even more scant,

with few studies focusing on entrepreneurship (e.g. Brookes and Altinay, 2015; Campopiano et al., 2016; Enz and Harrison, 2008; Morrison and Thomas, 1999).

Studies of venture creation in the HT industry suggest that entrepreneurship is a key driver of economic development across countries but also that country-level conditions affect firm creation (Hechavarria and Reynolds, 2009; Stenholm et al., 2013; Wennekers, 2006; Wong et al., 2005). Entrepreneurship research on firm creation in the HT industry is limited, particularly those that factor in the economic development levels of nations. The gap in literature and need for comparative studies that examine contextual issues become even more pronounced, considering the significant economic impacts of HT at local, national, and global levels, the expectation that "small firms will continue to play an important role in the development of the hospitality industry well into the 21st century" (Morrison and Thomas, 1999: 153), and the belief that entrepreneurship has potential to revolutionize the HT sector and stimulate competition.

This study aims to contribute to closing this gap by examining firm creation in the HT industry employing institutional theory. More specifically, it focuses on the impact of certain formal institutions (i.e. size of government, protection of property rights, sound money, free trade, and regulation) on firm creation by comparing developing and developed economies. By drawing upon the main tenets of institutional economics, we use Global Entrepreneurship Monitor (GEM, 2016) and Economic Freedom of the World (EFW) index panel data from 2001 to 2012 in 37 developing and 28 developed countries. Findings suggest differential effects of the foregoing institutional factors on firm creation contingent upon a nation's level of economic development.

Therefore, this study makes several contributions to academics, managers, and policymakers. It contributes to both the HT and entrepreneurship literature by incorporating the level of economic development in the analysis and by enhancing current understanding of the facilitating or hindering role of formal institutions in venture firm creation. As such, our findings attempt to directly address calls to refine current understanding of the differences not just between developing and developed economies, but also about formal institutions that exert influence on the HT industry. In addition, this study offers managers a better understanding of firm creation from the perspective of formal and informal institutions and offers policymakers information that can be directed toward creating an entrepreneur-friendly environment in order to encourage new ventures to form.

Theoretical foundation

The goal of institutional economics is to understand the role of institutions and their evolutionary process in shaping economic activity. More specifically, institutional theory (Scott, 1995) sets out to reveal how structures, rules, and norms become established in a society in the form of authoritative guidelines or institutions. Other researchers have suggested that firms located in different levels of economic development react differently to similar challenges but overall tend to perform more efficiently when they receive institutional support (Knetter, 1989). Together, these serve as the theoretical basis for our efforts to understand how certain formal institutions impact firm creation across countries at different levels of economic development.

While there are numerous approaches to defining entrepreneurship (e.g. firm creation, new ventures, and self-employment), we refer to entrepreneurship as "any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business" (GEM, 2016).

New venture start-ups are challenging for entrepreneurs not only because they require a substantial amount of personal perseverance and commitment (Busenitz and Lau, 1996; Gatewood et al., 1995; Markman et al., 2002) but also because unfriendly institutional environments exacerbate difficulties. When examined through the lens of institutional economics and institutional theory, institutions appear to set "the rules of the game" by determining incentives, influencing transaction costs, reducing uncertainty, and influencing interactions among market players (North, 1990). Given the important role that institutions play in affecting incentives and uncertainty in a society and how they, in turn, affect economic performance, it can be assumed that institutions are influential in the firm creation decisions of entrepreneurs (Nyström, 2008; Terjesen et al., 2016). Although there is "no single and universally agreed definition of an 'institution' in the institutional school of thought" (Scott, 1995: 235), they are often classified as formal (e.g. economic, legal, and political) or informal (e.g. norms, values, beliefs, and attitudes). Informal institutions evolve from culture, experiences, and religious beliefs of societies, whereas formal institutions emerge from legal and regulatory environments (Williamson, 2000). The decision to start a business is often influenced by a number of reasons such as individual characteristics of firms and owners as well as the external environment in which firms operate (e.g. wealth, unemployment levels, and other in/formal institutions).

In one study that examined how various aspects of psychological and sociocultural theories impact HT entrepreneurship, using a perceptual (normative) outlook (Ramos-Rodríguez et al., 2012), the apparent number of business opportunities and fear of failure were found to significantly influence entrepreneurship decisions. Interestingly, in this study, societal perceptions regarding improvement in social status and attractiveness of the profession were not significant predictors. From the cognitive dimension, both confidence in one's skills and educational level were found to significantly influence the likelihood of entrepreneurial activity. Additional significant factors influencing the probability of entrepreneurship were gender (Hallak et al., 2015), household income, work status, connections to other entrepreneurs (Strobl and Kronenberg, 2016), and business start-up costs (Ramos-Rodríguez et al., 2012). Entrepreneurial incompetence (e.g. business inexperience) and lack of capital (Hoogendoorn and Fitchett, 2016) were found to substantially contribute to failure (Parsa et al., 2005; Ramos-Rodríguez et al., 2012). Using a formal institutional approach, other researchers investigated impacts of the rule of law, government policies, regulatory quality, and business support structure on the tourism sector of the Philippines (Roxas and Chadee, 2013), and found that improvements to the quality of formal institutions have positive impacts on the performance of firms by inspiring an entrepreneurial orientation. Similarly, Saha et al. (2016) investigated impact of economic and political freedom on tourist arrivals and found that economic freedom enhances inbound tourism and expands the country's tourism industry.

As part of the sociocultural environment, informal institutions come from socially transmitted information and can take a long time to be altered. Considering this argument, we believe that

formal institutions can be altered relatively easier and faster than informal institutions. Formal institutions and their impact on entrepreneurship in the HT industry have received little research attention. Therefore, as a starting point to guide policymaking, the focus of this study is on formal institutions (i.e. size of government, protection of property rights, sound money, free trade, and regulation) and their impact on firm creation across developing and developed economies.

Differences among formal institutions can create cross-country variation in firm creation. The institutional framework, both at the national level and within firms, not only defines incentives for individuals to invest in firm creation and become entrepreneurs but also determines the barriers to their success (Eesley, 2016; Wennekers and Thurik, 1999). Formal institutions can be in the form of political, legal, and economic norms and rules. In our study, we employ the economic freedom approach to measure formal institutions (Altin, 2014; Bjørnskov and Foss, 2008; Campbell et al., 2012; Díaz-Casero et al., 2012; Fayissa et al., 2008; Kreft and Sobel, 2005; McMullen et al., 2008; Nyström, 2008). The phenomenon of economic freedom—the "freedom to choose which goods or services to buy, where to invest, and with whom to trade, and to set a mutually acceptable exchange price"—exists when property rights are protected, government is small, taxes are low, currency is sound, and few government restrictions are placed on an individual's ability to contract with other parties (Gwartney and Lawson, 2003; Gwartney et al., 2004; Kuckertz et al., 2016).

Firm creation hypotheses

Understanding the impact of formal institutions on entrepreneurship can guide policymakers to provide short-term initiatives and programs to encourage entrepreneurship, whereas informal institutions tend to be more resistant to change. Economic freedom is viewed as an indicator of the quality of institutions in a given economy (Acemoglu and Johnson, 2005; Gwartney et al., 2004; Nyström, 2008).

> Individuals have economic freedom when (a) property they acquire without the use of force, fraud or theft is protected from physical invasions by others and (b) they are free to use, exchange or give their property as long as their actions do not violate the identical rights of others. Thus, an index of economic freedom should measure the extent to which rightly acquired property is protected and individuals are engaged in voluntary transactions. (Gwartney and Lawson, 1996: 12)

Hence, economic freedom indicates strong property rights, free competition and transactions, as well as low level of taxation and business regulations. The Fraser Institute's EFW measures economic freedom with five dimensions: size of government, legal systems and property rights, sound money, freedom to trade internationally, and regulation (Gwartney et al., 2014). In this study, economic freedom has been conceptualized and operationalized in the same manner and discussed below.

Size of government

Size of government measures government consumption, transfer and subsidies, size of government enterprises and investment, and top marginal tax rates. Large governments require more revenue and therefore impose taxes on businesses in a number of ways to generate needed funds. In addition, there are various fees associated with firm creation procedures. Large government-initiated investments may also reduce entrepreneurial activity (Díaz-Casero et al., 2012; Bjørnskov and Foss, 2008; Nyström, 2008). More indirect government control is in the form of trade certification, which tends to create an entry barrier and adds additional cost to firm creation (e.g. hotels and restaurants require certification/licenses such as health inspections). Moreover, large governments are associated with generous social security systems, publicly funded education, and healthcare that offer a living wage and benefits to citizens, which can in turn reduce incentives for wealth formation and entrepreneurship. Large governments that require financing to support aforementioned activities would need to transfer available funds to their own budgets. These transfers restrict investments and create liquidity constraints that lower available capital and raise interest rates. Because of raised interest rates and limited capital availability, access to capital tends to be harder for entrepreneurs' firm creation efforts.

With a focus on the HT sector, when we compare firm creation in developing versus developed economies, we expect smaller government in developing economies to negatively affect firm creation. In light of limited or nonexistent private sector initiatives, governments in developing economies are likely to play a major role in the development of the tourism industry (e.g. building infrastructure and investment incentives) (Akama, 2002; Liu and Wall, 2006; Telfer and Sharpley, 2016). On the other hand, in developed economies, smaller government size is expected to have a positive relationship to firm creation. The difference between developing and developed economies is mostly due to the absence of stable institutions, infrastructure, or industry (e.g. model businesses), which need to be initiated by governments in developing economies. Hence, in developing economies, large government is initially necessary in order to set the stage for economic development, whereas it can be limiting in already developed economies.

> **H1a and b:** The size of government (relatively smaller) (a) negatively affects firm creation in the HT industry in developing economies, whereas (b) a positive relationship is expected in developed economies.

Legal systems and property rights

Legal systems and property rights measure multiple factors, such as independency, integrity and impartiality of legal systems, enforcement of contracts, protection of property rights (the ability to own and accumulate property), reliability of police and military involvement in the rule of law and politics, and business costs of crime. A legal enforcement system is required to protect property rights. Strong property rights could determine the flow of foreign direct investment (Falk, 2016), whereas weak property rights may potentially deter individuals from investing in new businesses owing to uncertainties (Johnson et al., 2002). When there are strong property rights and an effective legal system that reduces uncertainties, transaction costs are also reduced through well-enforced contracts by the judicial system (Besley, 1995). The study on Philippines' tourism industry noted earlier, and found a positive effect of the rule of law and regulatory quality on the entrepreneurial orientation and performance of firms. In addition, Das and

DiRienzo (2010) investigated when legal system has problems (e.g. corruption) and found that reduction on corruption raise tourism competitiveness significantly. We suggest a positive impact of legal systems and property rights on firm creation in the HT sectors in both developing and developed countries.

Therefore,

> **H2a and b**: Protection of property rights is positively related to firm creation in the HT industry in both (a) developing and (b) developed economies.

Access to sound money

Sound money is defined as stable money growth, nonvolatility of inflation, and freedom to have bank accounts in foreign currencies. It measures consistency of monetary policy in the context of long-term price stability (Gwartney et al., 2014). Venture startup is a long-term commitment, which requires access to sound money in a stable monetary environment with low inflation rate volatility (less uncertainty) and a low inflation rate with increases in money supply. Sound money, associated with financial development and financial depth of the country, indicates easier access to capital. Overall, a stable money environment reduces uncertainty and elevates access to capital, which is highly important for firm creation. Hence:

> **H3a and b**: Sound money is positively related to firm creation in the HT industry in both (a) developing and (b) developed economies.

Freedom to trade internationally

The freedom to trade internationally index measures tariffs, regulatory trade barriers, black market exchange rates, and most importantly controls of the movement of capital and people. Free trade is international trade and investment without restrictions. Engaging in international trade can create both new opportunities and costs for firm creation. Indeed, nascent entrepreneurs may have to deal with intense competition due to the products and services of foreign competitors, which might require high capital investment for entrepreneurs to be able to outperform their competitors. Additionally, having less control of the movement of capital and especially people (one of the freedom to trade index measures) promotes tourism activity (e.g. relaxing travel documentation requirements), which in turn positively affects overall entrepreneurship in the HT sector.

When firm creation in the HT sector is compared across countries at varying levels of economic development, entrepreneurs in developing host countries are found to have more opportunities to learn from competitors and free trade activities as a result of interactions and information exchanges, which is helpful for starting their own ventures. In contrast, we expect free trade to have negative impact on HT firm creation in developed economies as a result of challenges faced by entrepreneurs in host countries due to well-established large foreign investor companies (e.g. multinational hotel companies or tour operators).

H4a and b: Freedom to trade is (a) positively related to firm creation in the HT industry in developing and (b) negatively related in developed economies.

Regulations

Regulation of economic freedom focuses on credit and labor markets and business regulations. Credit market regulations measure private ownership of banks and how credit is supplied to markets. Labor market regulations measure hiring, firing, and collective bargaining of employees and include minimum wage and hours-of-work regulations. Business regulations measure costs of starting a business, including extra payments (e.g. bribes) in addition to restriction on licenses, administrative requirements, and bureaucracy costs. Regulations concerning new ventures can include a number of procedures, time, and cost (Djankov et al., 2002). Governments need to eliminate or reduce unnecessary procedures to facilitate entrepreneurship in order to avoid discouraging entrepreneurs from starting new ventures (Bruton et al., 2010). For example, Mexico's reduction in the number of its registration procedures was linked to the country's increased number of registered businesses (Bruhn (2011).

Regulations might create the perception of a secure business environment that is much needed in developing economies. Accordingly, regulation is expected to positively influence HT firm creation in developing economies. Conversely, regulation is expected to have the opposite impact in developed economies, such that potential entrepreneurs might decide against firm creation and instead prefer to work for established companies equipped with enough capital and capacity to deal with regulations, afford legal consultants, and train employees. Therefore,

H5a and b: Regulation is (a) positively related to firm creation in the HT industry in developing economies and (b) the relationship is negative in developed economies.

Methodology

Index panel data gathered from GEM (2016), EFW index, and IMF World Economic Outlook (IMF WEO), covering the period of 2001 to 2012 were used for 37 developing and 28 developed countries. Variables and their sources that were used in our analysis are presented in Table 1.

Dependent variables	Definitions	Data source
PerHT	Percentage of HT entrepreneurship	GEM
Formal institutions		
area1	Size of government	EFW
area2	Legal system and property rights	EFW
area3	Sound money	EFW
area4	Freedom to trade internationally	EFW
area5	Regulation	EFW
Informal institutions		
opport	Perceived opportunities	GEM
fear	Fear of failure rate	GEM
career	Entrepreneurship as desirable career choice	GEM
status	High status successful entrepreneurship	GEM
skills	Perceived capabilities	GEM
knowent	Know start-up entrepreneur rate	GEM
Control variables		
invest	Investment (percent of GDP)	IMF WEO
unemp	Unemployment (percent of total labor force)	IMF WEO
lpercap	Log of per capita (GDP per capita current US dollars)	IMF WEO
lpop	Log of population	IMF WEO

Table 1. Definitions of variables

Dependent variables

For country-level comparison of firm creation including developing economies, GEM surveys were used. For developing economies, it is important to note that a strong discrepancy may exist between official numbers and real numbers due to black/informal market operations. This limitation might be offset by the use of GEM in comparing developed economies to those still developing, as the survey involves both formal and informal firms; therefore, the first database used to calculate the dependent variable is GEM. Initiated in 1999 by the London Business School and Babson College (Massachusetts, USA), the GEM project is an annual survey that covers about 75% of the world population and is designed to analyze entrepreneurial behavior of people using over 280 variables.

Percentage of entrepreneurs in HT: In our study, we examined responses from over 1.6 million participants covering the 2001–2012 period. From these respondents, 88,059 were involved in total early stage entrepreneurial activity (TEA). From all TEA respondents, 10,733 represent HT-related industries: (1) hotel and restaurant (United Nations-International Standard Industrial Classification [UN-ISIC] v3=55) and (2) accommodation and food service (UN-ISIC v4=55–56). For example, the percentage of entrepreneurs in HT (PerHT) was calculated as follows: during 2012 in the United States, there were a total of 5542 respondents surveyed, 497 indicated involvements in early stage entrepreneurial activity and 56 identified as an HT endeavor. These values were used to calculate the percentage of HT firm creation labeled as PerHT = respondents involved in HT entrepreneurship/total surveyed (56/5542 = 1.01%).

Independent variables

Formal institutions: The EFW index, published by the Fraser Institute, has been covering 157 nations since 1996. Data are presented in five categories: (1) size of government, (2) legal

systems and security of property rights, (3) sound money, (4) freedom to trade internationally, and (5) regulation. Index numbers range between 1 and 10, with higher numbers indicating more economic freedom in the selected category.

Informal institutions: As discussed earlier, informal institutions are embedded in sociocultural environments and require a long time to change. They have been included for the purpose of controlling for sociocultural environments with potential to affect entrepreneurship intentions. All measures of informal institution come from GEM's Adult Population Survey (GEM, 2016). For the following variables that represent general public perceptions, individuals involved in any stage of entrepreneurial activity have been excluded.

Venturing opportunities (opport): This variable was operationalized as a percent of the population that perceived opportunities to start a firm in the local area and was measured with the question: "In the next six months, will there be good opportunities for starting a business in the area where you live?"

Fear of failure (fear): This variable was operationalized as a percent of the population that perceived opportunities and indicated that fear of failure would prevent them from setting up a business. It was measured with the question: "Would fear of failure prevent you from starting a business?"

Career choice (career): This variable was operationalized as a percent of the population that agreed with the statement that in their country, most people consider starting a business as a desirable career choice. It was measured with the question: "In your country, do most people consider starting a new business as a desirable career choice?"

Status: This variable was operationalized as a percent of the population who agreed with the statement that successful entrepreneurs are associated with high status in their country. It was measured with the question: "In your country, do those successful at starting a new business have a high level of status and respect?"

Skills: This variable was operationalized as a percent of the population that believes they have the required skills and knowledge to start a business and was measured by the question: "Do you have the knowledge, skills and experience required to start a new business?"

Know start-up entrepreneur (knowent): This variable was operationalized as a percent of population who indicated personally knowing someone who started a business in the previous two years and was measured with the question: "Do you know someone personally who started a business in the past 2 years?"

Control variables

In addition to formal and informal institutions discussed earlier, four control variables were added to the analysis, in order to control for population size and economic conditions of the selected countries, as follows.

Investments (invest): This variable was operationalized as total investment in a country as a percent of GDP and was measured by the total value of gross fixed capital formation and changes in inventories and acquisitions minus disposals of valuables.

Unemployment rate (unemp): This variable was measured as unemployed workers who are currently not working, but are willing, available and able to work for pay and who have actively searched for work.

Log of GDP (lpercap): This variable was measured by dividing GDP by the population to find per capita to reach log of per capita and is GDP expressed in current US dollars per person.

Log of population (lpop): This variable was measured by total population of the country consisting of all individuals within the scope of the census.

Data analysis and results

Pearson product moment correlations (Pearson's r), variance inflation factors (VIFs), and a number of assumption tests were run, followed by panel feasible generalized least squares regression. Table 2 presents descriptive statistics, Pearson's r matrix, and VIFs values. As expected, several highly correlated variables emerged due to the nature of the data; the highest correlation was found between area2 (legal systems and property rights) and per capita of the country (0.81; $p < 0.001$). Naturally, there were also other variables with high correlations; because when economic freedom is high in one area, other areas are also high; however, as stated in VIF values, 10 or below are mostly considered acceptable and free of multicollinearity (highest VIF value was 5.61) (Hair et al., 2010; Kennedy, 1992).

Our data set is a form of unbalanced panel data covering 2001 to 2012 for 65 countries, of these 37 are developing economies and 28 are developed, as reported in the IMF WEO report (IMF WEO, 2014). Initially, we performed several tests for assumptions in order to confirm stability of the data and to decide on the best-suited multivariate test for analysis. Due to the potential serial (auto) correlation, which might create spurious results, we employed two tests: first, we investigated the possibility of a serial correlation using Woolridge test for autocorrelation in panel data ($F = 0.01$ and $p = 0.923$) and stationarity of the data using Fisher test for panel unit root using augmented Dickey–Fuller test ($\chi2 = 350.11$ and $p = 0.00$). These results indicate that serial correlation is not a problem and there is no unit root in the panel data. For the multivariate test selection, we started with Wald test ($F = 2.66$ and $p = 0.00$) and Breusch–Pagan Lagrange multiplier test for random effects ($\chi2 = 49.26$ and $p = 0.00$). We identified a problem associated with the homoscedasticity assumption where modified Wald test for groupwise heteroskedasticity ($\chi2 = 1.3e+31$ and $p = 0.00$) rejected the homoscedasticity assumption. Therefore, we employed panel feasible generalized least square approach to address this problem (Table 3).

Because of our primary goal to examine the effect of economic freedom (i.e. formal institutions) on firm creation, we first ran the model with informal institutions and other control variables and thereafter with formal institutions (i.e. independent variables) to compare developing economies with developed economies.

Table 2. Descriptives, correlation, and VIF results.

	Mean	Standard deviation	Minimum	Maximum	PerHT	area1	area2	area3	area4	area5	opport	fearoffail	career	status	skill	knowent	invest	unemp	lpercap	lpop	VIF
PerHT	0.76	0.94	0.01	7.04	1																
area1	5.97	1.32	2.80	9.30	0.33***	1															1.48
area2	6.68	1.52	2.70	9.30	−0.47***	−0.28***	1														5.61
area3	8.78	1.10	3.80	9.90	−0.36***	−0.25***	0.62***	1													2.90
area4	7.78	0.93	2.60	9.60	−0.23***	−0.088	0.57***	0.66***	1												2.57
area5	7.09	0.94	4.50	9.00	−0.28***	−0.025	0.66***	0.48***	0.59***	1											2.56
opport	37.40	16.12	2.85	81.36	0.32***	0.15**	−0.12*	−0.29***	−0.11	0.024	1										2.30
fearoffail	33.46	8.21	10.44	65.32	−0.0070	0.0055	−0.0031	0.069	−0.025	−0.057	−0.29***	1									1.36
career	64.32	13.39	25.35	92.45	0.45***	0.24***	−0.54***	−0.41***	−0.26***	−0.38***	0.41***	−0.15**	1								2.14
status	69.44	9.79	34.47	93.92	0.11	0.13*	−0.037	−0.16**	−0.091	−0.21***	0.40***	−0.086	0.34***	1							1.49
skill	46.86	14.64	9.00	87.69	0.50***	0.30***	−0.48***	−0.35***	−0.19***	−0.27***	0.59***	−0.38***	0.60***	0.33***	1						3.37
knowent	39.43	10.99	12.88	88.10	0.21***	−0.0035	−0.11	−0.27***	−0.15**	−0.10	0.51***	−0.18**	0.26***	0.26***	0.43***	1					2.04
invest	22.50	5.58	10.02	48.24	0.16**	−0.027	−0.12*	−0.15**	−0.26***	−0.11	0.060	0.00079	0.13*	−0.025	−0.035	0.31***	1				1.49
unemp	8.28	5.40	0.40	33.77	0.049	−0.069	−0.40***	−0.18**	−0.19***	−0.28***	−0.11	−0.018	0.19***	−0.037	0.20***	−0.066	−0.22***	1			1.59
lpercap	9.64	1.10	5.62	11.51	−0.46***	−0.34***	0.81***	0.68***	0.52***	0.54***	−0.17**	0.10	−0.52***	−0.12*	−0.41***	−0.27***	−0.25***	−0.36***	1		5.02
lpop	3.06	1.59	−1.24	7.21	0.12*	0.087	−0.26***	−0.12*	−0.31***	−0.34***	−0.23***	0.070	0.11*	−0.018	−0.13*	−0.24***	0.089	0.039	−0.29***	1	1.53

Note: VIF: variance inflation factor. PerHT: percentage of HT entrepreneurs; area1: size of government; area2: legal system and property rights; area3: sound money; area4: freedom to trade internationally; area5: regulation; opport: perceived opportunities; fearoffail: fear of failure rate; career: entrepreneurship as desirable career choice; status: high status successful entrepreneurship; skill: perceived capabilities; knownet: know start-up entrepreneur rate; invest: investment; unemp: unemployment; lpercap: log of per capita; lpop: log of population.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Table 3. Panel feasible generalized least squares regression results.

	Developing economies	Developed economies	Developing economies	Developed economies
Variables	control	control	full	full
Opportunity perception	0.015** (2.97)	−0.000 (−0.05)	0.010* (1.99)	0.004 (1.09)
Fear of failure	0.007 (0.84)	0.023*** (4.06)	0.014+ (1.96)	0.016** (2.82)
Good career	0.016* (2.25)	0.002 (0.56)	0.009 (1.39)	0.009* (1.98)
Social status	−0.006 (−0.73)	−0.009+ (−1.88)	0.001 (0.17)	−0.013** (−2.82)
Confidence in own skills	0.030*** (4.16)	0.022*** (4.49)	0.057*** (8.36)	0.014** (2.82)
Know other entrepreneurs	0.001 (0.19)	−0.017* (−2.57)	−0.012+ (−1.90)	−0.015* (−2.43)
Investment	0.009 (0.90)	0.031** (2.87)	−0.007 (−0.71)	0.016 (1.53)
Unemployment	−0.021+ (−1.86)	0.007 (0.58)	−0.025** (−2.81)	0.018 (1.59)
Log of per capita	−0.321** (−2.76)	−0.183+ (−1.65)	−0.283* (−2.35)	−0.318* (−2.32)
Log of population	0.112* (2.47)	−0.062+ (−1.74)	0.358*** (6.30)	−0.085* (−2.13)
Size of government			−0.233*** (−4.51)	0.193*** (5.57)
Legal system and property rights			0.162* (2.13)	0.097 (1.47)
Sound money			−0.218*** (−4.58)	0.228 (1.54)
Freedom to trade internationally			0.227** (3.24)	−0.133 (−1.56)
Regulation			0.326*** (3.93)	−0.141+ (−1.90)
Constant	−1.017 (−0.65)	−0.318 (−0.24)	−4.082* (−2.52)	−0.148 (−0.07)
N	151	186	151	186
R^2 (adjusted) Buse (1973)	46.68	17.05	53.12	22.73
χ^2	206.149	119.160	517.349	227.855
p	0.00	0.00	0.00	0.00

Note: z-statistics in parentheses.
+$p < 0.10$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Results of hypothesis testing emerged as follows:

Size of government has a negative effect on firm creation in developing economies and a positive effect in developed economies.

H1a and b: The size of government (relatively smaller) (a) negatively affects firm creation in the HT industry in developing economies, whereas (b) a positive relationship is expected in developed economies. Hypothesis 1a was supported at −0.233***, and hypothesis 1b was supported at 0.193***.

Legal systems and property rights have a positive effect in both developed and developing economies, but not a statistically significant effect in developed economies.

H2a and b: Protection of property rights is positively related to firm creation in the HT industry in both (a) developing and (b) developed economies. Hypothesis 2a was

supported at 0.162* but hypothesis 2b, while positive, was not found to be significant at 0.097.

Sound money has a negative effect in developing economies and a positive, though not statistically significant effect in developed economies.

H3a and b: Sound money is positively related to firm creation in the HT industry in both (a) developing and (b) developed economies. Hypothesis 3a was not supported at −0.218***, whereas hypothesis 3b, although positive, was not significant at 0.228.

Freedom to trade internationally has a positive effect in developing economies and negative effect in developed economies, though not statistically significant.

H4a and b: Freedom to trade is (a) positively related with firm creation in HT industry in developing economies and (b) negatively related in developed economies. Hypothesis 4a was supported at 0.227** but hypothesis 4b, while supported, was not found to be significant at −0.113.

Last, regulation has a positive effect in developing economies and negative effect in developed economies.

H5a and b: Regulation is (a) positively related with firm creation in the HT industry in developing economies and (b) the relationship is negative in developed economies. Hypotheses 5a and b were both supported at 0.326*** and −0141+, respectively.

Discussion, implications, and future research

Since entrepreneurship in HT is an important component of economic growth around the world, the aim of this study was to examine formal institutions that facilitate or limit firm creation in developing economies compared with those that are developed. We examined GEM and EFW index panel data to regress firm creation on several formal institutions such as size of government, protection of property rights, sound money, free trade, and regulation. Our results suggest a number of differential effects of formal institutional factors on firm creation in economies of varying levels of development.

Specifically, the size of government (relatively smaller) negatively affects firm creation in the HT industries of developing economies, whereas a positive relationship emerges in countries with developed economies. This suggests that having a large government could set the stage for and promote entrepreneurship—particularly in the HT sector of developing economies that have a critical need for substantial funding support for infrastructure and investment incentives, along with other needs. As for developed economies, results suggest that having a large government might hinder firm creation, as hypothesized.

Legal systems and protection of property rights are positively related to firm creation in the HT sector in developing economies as expected. Interestingly, the hypothesized positive effects on legal systems and property rights on firm creation in HT in developed economies are not strongly

supported because, although positive, effects were not found to be significant. This may be explained by the fact that entrepreneurs would not expect or be concerned about uncertainties regarding this formal institution.

Results of our hypothesis testing of the effects of sound money on firm creation in HT were most surprising for both developing and developed economies. Sound money emerged as negatively related to firm creation in the HT sector, but only in developing economies. In developing economies, there may be uncertainties concerning the allocation of funds and their availability to entrepreneurs. Furthermore, even though they may be available, entrepreneurs may not be effective and efficient in the use of funds due to their lack of experience and/or businesses that could serve as role models. Also, a more stable money environment might trigger investment in different industries. Conversely, in developed economies, these institutional factors were not found to be significantly influential because, as with legal systems and property rights, entrepreneurs might neither expect nor be concerned about these issues.

Freedom to trade does have a positive effect in HT in developing economies, as hypothesized, but does have negative—though not statistically significant—effects on firm creation. It seems that higher freedom to trade in developing economies might create an environment that facilitates both venturing and learning opportunities for locals. Although competition with foreign investors may impose a challenge for entrepreneurs in developed countries, locals are able to compete and are not deterred from starting their own ventures.

Moreover, regulation is positively related to HT firm creation in developing economies, whereas this relationship is negative in countries with more developed economies. In fact, regulation emerged as having the most substantial positive effect on firm creation, which can be explained by the fact that it creates the perception of a safe business environment. The importance of conveying a low-risk business environment is strongly advised for developing economies.

This study makes several important contributions to literature in both the HT and entrepreneurship fields. First, we employ GEM data set in developing countries to calculate firm creation to incorporate both formal and informal institutions. Relying only on government statistics in developing countries could not capture informal markets in those countries. Second, we use both formal and informal institutions in our analysis. In addition to measurements of formal institutions (e.g. Economic Freedom Index) extensively used in the literature, this study also employed a sociocultural approach using public perceptions toward entrepreneurship to control for informal institutions. To the best of our knowledge, this is the first study to combine formal and informal institutions using public perceptions while considering informal markets in developing countries.

This study also provides managers with a better understanding of firm creation from the perspective of formal and informal institutions. Our findings suggest that nations should consider revising their institutional policies in order to foster entrepreneurship and fuel dynamic economic growth, since formal institutions have the ability to limit as well as facilitate entrepreneurship (Bruton and Ahlstrom, 2003; Bruton et al., 2010; Scott, 2007). We suggest to policymakers that they direct their efforts toward creating an entrepreneur-friendly environment, which can encourage new ventures to form and consequently lead to increased economic growth.

When assessing study results, it is important to note several limitations. Owing to the secondary data availability, we were not able to control for source or scale of entrepreneurship, foreign direct investment or domestic investment, and financing options and incentives. These limitations suggest opportunities for future research. For example, the inclusion of incentives associated with new firm creation could be a fruitful and interesting topic to investigate. Furthermore, it would be highly beneficial to investigate outcomes of firm creation in countries by comparing the HT industry with other industries that are likely to have different needs. For instance, it would be important to know whether new ventures become successful or fail in the long run and the impacts of these outcomes on local economies. Therefore, longitudinal studies could examine the outcomes of firm creation in world economies in different industries (e.g. manufacturing) by comparing them to the HT industry. Considering long-term change in informal institutions, future studies might also focus on formal institution differentiation with similar informal institutions (e.g. state systems in the United States). For example, in the United States along with similarities among informal institutions (e.g. social status and fear of failure), there are differences among formal institutions (e.g. taxation, licensing, legal system, and property rights) among the 50 states. Investigating these differences while comparing different industries to HT could prove beneficial. Additionally, instead of focusing only on the creation of firms, future research could also examine the predictive effect of formal institutions on firm failure.

In conclusion, our study has analyzed the effects of formal institutions on firm creation in the HT industry in developing and developed economies. Our findings support our main arguments that there are differential effects of formal institutions on firm creation in economies according to their developmental level.

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