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Formal and Informal Institutional Nexus with Entrepreneurial Growth: The Role of the Political Development Index

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Abstract

The study aims to examine the interaction of formal and informal institutions for strengthening economic development, particularly entrepreneurship growth. The research will also assess the impact of control variables on political index within the formal and informal markets. The research is quantitative, which analyses panel data of 6 years in 22 countries comprising middle and high-income countries with diversified and unique political, economic, and social systems. The findings suggested that reducing the entry regulation and promoting the social capital within the formal and informal institutions would grow formal and informal entrepreneurship and be a greater source for new venture creation. Moreover, the political index, a control variable, was found significant in the relationship of institutional mix with formal and informal entrepreneurship. Entry regulations in formal and informal institutions are a complex phenomenon in the entrepreneurship literature, moderated by the political development index as tested by the current study. The time horizon for this paper is much longer since it analyzes 6 years (2014–2019) of data on 22 developing and developed countries to see the entrepreneurial growth across multiple regions on different income levels, geographic conditions, and contrasting political and social systems.

Keywords: Formal Institutions, Informal Institutions, Formal Entrepreneurship, Informal Entrepreneurship, Institutional Mix

JEL Classification Code: E26, L26, L30, L31, O17

1. Introduction

Entrepreneurship is a subject of utmost significance that has received consideration in the present era (Jimenez et al., 2021; Lv et al., 2021; Saunoris & Sajny, 2017). This emerging field is trying to explore its relationship with economic growth and wealth maximization and is of great interest to

scholars in this field and policymakers alike. Primarily, to ascertain the elements that promote entrepreneurship helpful in removing the stringent rule and regulations that impede the relationship of formal and informal institutions with the socio-economic system. Helpful in managing both peace and conflict between formal and informal rules that could be an aspect of dynamism. Impacting institutions that are products of a past and present process, which influence future choices (Fuentelsaz et al., 2019).

Existing literature provided empirical evidence, mostly from monographs and survey reports, showing the exponential growth of entrepreneurship and new venture creation varies greatly across countries (Chambers & Munemo, 2019; Fuentelsaz et al., 2019). In this regard, the most recent stream of research develops the idea of reducing the entry regulation and promoting social capital are responsible for entrepreneurial growth, suggesting a need for more in-depth analysis (Chambers & Munemo, 2019; Chowdhury et al., 2019). Therefore, to move further or one step ahead means to dive into exploring country differences paying heed to the entrepreneurship levels and types that characterize a specific region (Fuentelsaz et al., 2019) and operational factors of institutions. The institutional framework of a country

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framework is pivotal for entrepreneurs and an impetus to economic growth (Sendra-Pons et al., 2022). For appraising the differences in institutional dynamics across the countries, the institutional integrant has been introduced as an enabler or impediment of entrepreneurial activity in literature (Eesley et al., 2018; Jimenez et al., 2021; Nair & Njolomole, 2020; Saunoris & Sajny, 2017; Minniti, 2008; Webb et al., 2020). In this regard, ample studies present that are assessing the impact of institutions on various types of entrepreneurial drives, thus highlighting the gaps found to be underexplored in literature.

The study is different from Estrin et al. (2013a, 2013b) and other related research in various ways. First, it contributes to the existing literature by approaching institutional mix with a different approach. The joint analysis of formal and informal entrepreneurship with an institutional mix in the presence of softened entry regulation and increasing social capital boost the entrepreneurship growth constitutes. Meanwhile, Entry regulations are an intricate occurrence, and the study considers a moderating variable such as the political index, which has a substantial role in the literature on entrepreneurship. Second, the time horizon of this study is relatively longer than the studies such as Estrin et al. (2013a, 2013b), etc. Much of these studies used the data for five years or less, but our analysis is based on data ranging from 2014–2019. Third, the sample of this is based on both developing and developed countries (22), and what is more important, entrepreneurial growth across multiple regions since the selected data set represents multiple income levels, different geographic conditions, and contrasting political and social systems. This international socio-political aspect and the inclusion of countries from diverse economic environments provide enough variability in the institutional dimensions, substantially considered while analyzing the role of institutional factors (Franke & Richey, 2010). A study shows that during COVID-19 many businesses converted to online mode, and specifically entrepreneurial intention among the university students in Pakistan moved towards entrepreneurial education (Sohu et al., 2022; Hutzschenreuter et al., 2016). Further Efrata et al. (2021) explored the correlation between entrepreneurial education and entrepreneurial role models.

In addition to this, the research will also assess the impact of some control variables: political index, and entrepreneurship within the formal and informal institutions (Greenwood et al., 2014; Omri, 2020). Thus, the aim of this study is to assess the role of formal and informal institutions in strengthening economic development, particularly formal and informal entrepreneurship growth.

2. Literature Review and Hypotheses

2.1. Related Literature

The word institution evokes different meanings in the mind. A first interpretation of the term is that concerning its

origin, institutions (institutions) are a body established for the pursuit of a given purpose. In this sense, the term institution indicates a body or organization set up for certain practical purposes (Fuentelsaz et al., 2019; Pande & Udry, 2006). Given this context, the bank is an institution, like states, international regimes, and constitutions; a legal institution is a set of legal rules governing a social phenomenon. From this point of view, the institutions are something tangible, and immediate (Helmke & Levitsky, 2004). Banks are physical structures that can be seen, and touched; the legal rules written on the paper can be read at any moment. These rules and regulations fall under the formal or formally codified institutions (Greenwood et al., 2014).

So, an institution comprises a set of customs, informal rules, moral codes, and routines not formally codified in informal institutions. Therefore, the term institution implies two main categories of meanings. The institution is understood as a concrete structure and codified norms, and an institution is understood as habits, customs, and moral codes that we can consider intangible or unwritten norms (Helmke & Levitsky, 2004). In this sense, the institution becomes synonymous with a cultural archetype that in some way has a significant influence on the formation of individual tastes and preferences (Simón-Moya et al., 2014; Stiglitz, 2000).

The institution is a collection of related behaviors and procedures that reflect “game rules” that govern all of our daily activities. With this in mind, the term institution has a variety of connotations. From handshakes to eating schedules, such as cooking meals, providing a university lecture, the rule of not talking during a lesson, customer-shopkeeper or patient-doctor relationships, and so on (Williamson, 2009). While not acting as a reference for a given social order in the sense that they do not specify the key values, this set of institutions is essential to the normal day-to-day functioning of an “enlarged” social and economic system. Without this tremendous mass of informal conventions and practices that allow subjects to cohabit, social contact would be impossible. It defines the behaviors by reducing the uncertainty of interaction with others and stabilizing their behavioral expectations (Casson et al., 2010).

The term institution also includes social structure aspects such as the family, associations, familial ties, and in-kind social division of labor. As a result, the social roles and regulations that make up the system of social expectations for various roles and institutions are also widely used symbolic systems. Despite the different terminological interpretations present in the literature, in this headquarters, we mean by the term institution that set of rules, values, and customs that regulate and define the relationships between individuals both within a group and between the individual and a group of which it is not an integral part. Institutions, therefore, regulate both interactions within groups and between groups (Casson et al., 2010).

An institution must go beyond the concept of a single entity because it cannot exist as a single specific and extemporaneous fact between two people. A behavior is considered institutionalized when received as such by the generality of people, regardless of their identities. For this reason, a custom arises from the continuous interaction between individuals, but in turn, it is independent specifically by them. Behavior changes in each circumstance, or whenever the subjects of interaction change, it would not be an institution (Omri, 2020). Often, that institution remains even beyond the existence of those who created it, as it tends to repeat and reproduce itself regardless of the succession of generations. Regarding this, it is interesting to note how institutions hardly ever change with the rhythms of man, that is, with the pace of technological change. Some institutions persist for centuries, and others, are for new social changes and must transform or disappear with the advent of the new generation (Farrell & Heritier, 2003).

The idea is that entrepreneurship is one of the main drivers of economic activity. Consequently, academicians, managers, and politicians have widely studied the development of a country or region in the last decades in relation to the economic growth, job creation, and innovation resulting in a prolific co-research stream that claims to identify and understand the factors that determine the level of entrepreneurship in a country (Held & Nutzinger, 2003). One of the most important conclusions to be drawn from these studies is that it is possible to observe considerable differences in the creation rates of companies between countries (Stenholm et al., 2013), as well as that the determinants of entrepreneurship performance can be studied with different levels of analysis (Verheul et al., 2002). Some studies attempt to explicate these differences from a microeconomic approach, using occupational decision models to explain why individuals choose the option of self-employment versus the alternative of working employed. Other works analyze the phenomenon from a meso-economic perspective and focus on dealing with specific market factors, such as profit, production growth, or investment capital tension, and its influence on the entry and exit of companies. Finally, a third stream uses a macro-economic perspective, where they assess economic, political, social, and cultural factors that would explain the differences between entrepreneurship rates among countries (Verheul et al., 2002).

In line with this last approach, studies such as that of van Stel et al. (2005) suggest clear differences in entrepreneurship rates contingent upon the level of growth and advancement that exists in each country. Along this same line of reasoning, Wennekers et al. (2005) contribute to their research by giving empirical evidence of the complex relationship between development and entrepreneurship. These authors show the existence of a relationship in the U-shape between these two dimensions. The highest business creation rates are in

the countries with the lowest income levels and the most developed economies (Wennekers et al., 2005). However, the relative status of differences in levels of entrepreneurship between countries over time suggests that there are other factors, apart from the strictly economic, capable of explaining these differences (Freitag & Thurik, 2007). Some authors suggest that institutional factors can help us better understand the phenomenon of entrepreneurship and the differences observed between countries (Aidis et al., 2012; Stenholm et al., 2013). We should not be surprised by the fundamental amount of role played by these institutions in the business creation process, as they constitute the incentive structure that conditions the actions of the different agents and with their behavior can facilitate (also obstruct) the development of business activities (Stenholm et al., 2013).

In the perspective of Knight (1997, p. 696), “it is not possible to understand the rationality of the individual’s action regardless of the institutional context and culture where decisions are made”. Empirically, one of the first works to relate institutional quality and entrepreneurial activity is that of (Baumol, 1990), who argues that the differences in the levels of entrepreneurship between countries, among others, are the institutional factors. In addition, institutions influence the entrepreneurial activity rate and the type of entrepreneurship or entrepreneur. This author argues that when there are quality institutional structures, represented by the protection of property rights, a fair judicial system, and certain government’s ability to transfer wealth through fiscal policy and regulation, entrepreneurs are encouraged to be productive, which is the true generator of economic growth (Eliasson & Henrekson, 2004). It seems reasonable to assume that the institutions – formal or informal - will affect both the attitude towards the risk (Kreiser et al., 2010) as well as the opportunities that people perceive (Hwang & Powell, 2005), after organizations that originate (Baumol, 1990), strategic decisions (Peng et al., 2008) or the growth achieved (Estrin et al., 2013b). Likewise, other studies consider the impact of institutions in reducing transaction costs, as well as the opportunity costs of the company (McMullen et al., 2008) or in promoting incentives for capital investment risk, and also one of the most relevant financing resources for the creation of new companies (Li & Zahra, 2012).

Some studies have addressed the analysis of the entrepreneur based on the distinction above discussed between formal and informal institutions. However, it is generally accepted that informal institutions can influence the level of entrepreneurship. Aidis et al. (2012) concluded that the choice to be an entrepreneur depends on two fundamental aspects: the size of the public sector and the freedom of corruption. (Lim et al., 2010) confirm that forced protection of property rights and regimes with less complex regulatory measures leads to a high willingness to create companies. In the same line, authors such as (Anokhin &

Schulze, 2009) conclude that efforts to control corruption increase the confidence of individuals in the government and favor entrepreneurial activity. Other authors go one step further and analyze the influence of institutional turns at the level and type of entrepreneur. For example, (Estrin et al., 2013a.) discuss how formal and informal institutions affect the growth aspirations of the new business.

Regarding the second, the informal ones, and the institutional theory understands them as cultural norms that infuse into values and individual behavior. Culture affects how information is processed affecting behavior patterns among entrepreneurs (Boyd & Richerson, 1994). Lee and Peterson (2000) demonstrated how cultural variables help to increase entrepreneurial orientation. Mudjijah et al. (2022) further discussed the positive relationship between the talent culture of an organization with the entrepreneurial orientation. Similarly, Yeboah (2014) and Wennekers and Uhlaner (2002) highlighted the importance of culture as a construct in social research about entrepreneurship. They concluded in their study that the various cultural factors influence the ratio of new entrepreneurs and decision-makers in a set of OECD countries.

The preceding discussion should lead us to conclude that institutions play an important role in the decisions and actions of the different actors of society in general and the entrepreneurial growth across economies (Simón-Moya et al., 2014). However, despite growing interest in the influence that institutions have over entrepreneurship, there is little consensus about the most relevant dimensions and how they affect the rate of entrepreneurship growth (Estrin et al., 2013a). This work intends to adhere to the previous, in-depth debate concerning the relationship between institutions and entrepreneurship. For this purpose, this quantitative research study tests two competing hypotheses groups regarding the individual effects of formal and informal institutions versus the interaction effect of these institutions within the informal and formal milieu to offer a complete and more disaggregated graph of the phenomenon object of study.

2.2. Hypotheses Development

The above discussion of the previous literature allowed us to assume the following research hypotheses:

2.2.1. Formal Institution and Formal Entrepreneurship

When an entrepreneur decides to start a new company, he has to bear one of the transaction costs: the entry regulation (Klapper et al., 2006). These low-cost and simplified regulations have both direct and indirect effects such as reduction in the transaction costs as well as other benefits of being a part of the formal economy like training, financing, infrastructure, and information (Djankov, 2016; Klapper et al., 2006).

H1: *Formal institution investigated through entry regulation is negatively impacting formal entrepreneurship.*

2.2.2. Informal Institution and Informal Entrepreneurship

Social capital is a good effect of human connection that includes helpful information, inventive ideas, and future prospects, and it can be tangible or intangible. In business terminology, social capital is attributed to human ties and networks both inside and outside the firm that contribute to corporate performance. The sum of current and potential resources mobilized through membership in social networks of actors and organizations is known as social capital. Social capital allows the development of trust and cooperation among individuals and social networks. Entrepreneurs who become part of the informal economy rely heavily on their social networks since their transactions relate to anonymous individuals and non-legal entities (Santarelli & Tran, 2013). Altercation in the informal market relies highly on strong links within the social network, shared trust, and interdependence amongst the affiliates of the social network. Hence, the hypothesis is as follows:

H2: *Informal institution investigated through social capital has a positive impact on informal entrepreneurship.*

2.2.3. Formal Entrepreneurship and Institutional Mix

Research indicates that economic growth does not occur only due to the actions of formal and informal institutions. Instead, the interactions of these two types of institutions lead to the creation of entrepreneurship in society. The efficiency of this institutional mix is directly responsible for the level of entrepreneurship in the informal and formal markets. Entrepreneurship within the formal marketplace can be strong if the relations between entry regulation and social capital eliminate formal operational costs (Castiglione et al., 2008). The existence of high levels of shared confidence, maintained by access to funds via social networking, assisted by active social capital collaboration accompanied by effective administration, will lead to decreased entry regulations, reducing the overall business creation costs (Cersosimo & Nistico, 2008). Hence, the hypothesis is as follows:

H3: *The relationship of formal entrepreneurship with social capital is impacting entry regulation on the institutional mix.*

2.2.4. Informal Entrepreneurship and Institutional Mix

When the complexities of entry regulation and social capital become too difficult and expensive for entrepreneurs

to handle, they may choose to establish their firms in the informal market (Djankov et al., 2006). Unnecessary regulations that raise the financing costs of formalizing a business can become a precursor for informal sector practice (Djankov, 2009). Despite its drawbacks, informal entrepreneurship can lead to investment prospects as it provides some returns. These include the feeling of success and personal gratification, source of income, as well as evasion from the expense of laws and regulations (Kaplan et al., 2011). Because the high level of entry controls, as well as the existence of high social capital, leads to complicated formalization; as a result, an entrepreneur can be encouraged to achieve his or her entrepreneurial target outside the formal sector. Many people who do not want to or cannot comply with formal standards can seek help starting their business through their social network. Furthermore, many people do not consider formalization because they have significant support from their social networks. Thus, social capital promotes entrepreneurship within the informal sector with high levels of shared trust and highly functional social networks (Kaplan et al., 2006). Hence, the hypothesis is as follows:

H4: The relationship between informal entrepreneurship and entry regulation is contingent upon the provisional impact of social capital on the institutional mix.

3. Research Methodology

3.1. Research Design

A quantitative research study comprises a data set of 22 countries over six years, i.e., from 2014 to 2019. Initially, a total of 30 countries were selected for the analysis purpose. The world value survey, which is one of the central resources for data generation, does not collect data from all countries across the globe. Those countries are made part of the dataset, for whom the data can be easily extracted from the World Value Survey and other resources used for the collection of data. The 22 countries (Table 1) span a wide range of income levels, political systems, and geographic locations.

3.2. Variable Lists

Table 2 summarises the factors that were used in this research study to achieve its goal. Formal and informal entrepreneurship are the two key dependent variables in this study. The table shows that formal entrepreneurship is measured via business (LLC establishment) registration density out of 1,000 people, and informal entrepreneurship is measured through the Social Capital Index. This index is adapted from (Schneider et al., 2010). The index is based on two main variables, i.e., trust of others measured from

Table 1: Income-Based Classification of Countries

Lower-Middle Income Economies	Upper-Middle Income Economies	High-Income Countries
Tunisia	Argentina	Japan
Philippines	Brazil	New Zealand
Indonesia	Kazakhstan	Chile
Nigeria	Colombia	Germany
Pakistan	Mexico	Hong Kong
Zimbabwe	Romania	Korea
	Russian Federation	
	Turkey	
	Malaysia	
	Peru	

Source: The World Bank Open Data, 2021.

the WVS and the membership of any church or religious organization, also measured from the WVS. In addition to these, the independent variables in this study are formal institutions, assessed via several procedures required to initiate a business, and the informal entrepreneurship measured via the informal sector index, represented by the percentage of official GDP. The research study also uses three control variables: economic development, level of control of corruption, and the level of political stability measured from the World Bank Governance Indicators (World Bank, 2021).

3.3. Description of Data

With a density rate of 0.04 per 1,000 people, Pakistan has the lowest level of formal entrepreneurship, according to the data in figure 1. In comparison, Hong Kong, with an average density rate of 31.1 per 1,000 people, has the highest level of formal entrepreneurship. Germany has the lowest amount of informal entrepreneurship at 9.2 percent of GDP, while Nigeria has the most at 57.45 percent of GDP. The lowest number of procedures required to start a business in New Zealand, followed by two procedures in Korea, with the highest number of procedures standing at 17 for the Philippines. The lowest GDP PPP per capita is Zimbabwe, i.e., \$2612, while the highest GDP per capita is Hong Kong (\$62551). Concerning trust in other people, calculated by the World Value Survey (WVS), Zimbabwe has the lowest percentage of people (2.1%) saying that they trusted others. On the other hand, the highest level of trust in people is 56.6% in New Zealand.

The data on membership indicated that people in Tunisia hold the lowest level of membership (0.6%) from any church or religious organization. Comparatively, Nigeria has the

Table 2: Variable Lists

Variables	Proxy Measures	Description	Unit of Observation	Scale
Formal Institutions	Entry Regulations	Number of procedure without any intermediaries required to start a business	Number	2 to 17 procedures
	Social Capital Index	Combination of structural (voluntary organization membership) and cognitive (Generalized trust) social capital	Percentage of survey participants	
Informal Institutions	Trust of other people	Percentage of people who responded “Yes” to the question, “Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?” (WVS Database, 2021)	Percentage of survey participants	2% to 57%
	Voluntary Organization Membership	Percentage of respondents answering that they belong to at least one associational category: church or religious organizations (WVS Database, 2021)	Percentage of survey participants	0.6% to 78%
Formal Entrepreneurship	Business Registration Density	Business Registration Density out of 1,000 people	Number of newly registered limited companies per 1,000 working age population (those ages 15–64)	0.04 to 31.1/1,000 people
Informal Entrepreneurship	Informal Sector Index by Schneider, Bueha and Montenegro (2010)	“All market-based production of goods and services that are deliberately concealed from public authorities to avoid payment of income, value added or other taxes; to avoid payment of social security contributions; having to meet certain legal labor market standards, such as minimum wages, maximum working hours, safety standards, etc; and complying with certain administrative procedures, such as completing statistical questionnaires or administrative forms” (Schneider, Bueha and Montenegro 2010, 444).	Percentage of 'official' GDP	9.2% to 57.4% of GDP
Level of Economic Development	GDP per PPP	GDP per PPP	\$ value	\$2612 to \$ 62,551
Level of Political Stability	Level of Political Stability Index	Measure of political stability by Governance Indicator: “The likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism” (Kraay et al. 2010).	Range of –2 to 2.2, being the best	–2.48 to 1.58
Control of Corruption	Level of Control of Corruption	Measure of levels of control of corruption by Governance Indicator: “The extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as ‘capture’ of the state by elites and private interests” (Kraay et al. 2010).	Range of –2 to 2.2 being the best	–1.39 to 2.28

Source: Adapted 7 from Raveloharimisy (2011).

highest number of individuals (78.7%) members of some religious organizations. The most stable country with the highest level of political stability is New Zealand, with 1.58 points. On the other hand, Pakistan appears to be the least stable country, with a political stability index of -2.48 points. Zimbabwe has the lowest control of corruption index with a -1.39 score, and the highest control of corruption index is 2.28 representing New Zealand.

3.4. Data Analysis

The data analysis took place using E-views Version 9 through the Panel Least Squares method to test the four hypotheses and draw conclusions.

4. Results and Discussion

4.1. Hypothesis 1: Formal Institutions and Formal Entrepreneurship

Entry regulations as a part of formal institutions have inversely impacted formal entrepreneurship. The results of the hypothesis affirm the inverse relationship. The result interpreted that as the number of procedures to start a business increases by 1, the number of newly registered companies per 1,000 working-age population would decrease by 0.7 percent. The outputs from the regression results are presented in Table 3.

The above finding is consistent with previous literature that says that easiness in entry regulations directly impacts entrepreneurship growth (van Stel et al., 2005). On the

contrary, when these regulations are complex and burdensome would impede the development of entrepreneurship within the formal sector. Thus, simplifying and reducing the steps in regulations would be the impetus for the growth of economic activities (Heckelman & Stroup, 2000). A prolonged entry into the market can lead to demotivation and encumbrance of the entrepreneur's growth within the formal economy (Kaplan et al., 2006; Miller et al., 2010).

In addition to this, the above-given outputs also found a social capital index of informal institutions significant to formal entrepreneurship. The statistically significant relationship shows that if the social capital index increases by 0.06 %, the number of entrepreneurial ventures increases by one within the formal market. Furthermore, the final association examined in the above output is that between formal entrepreneurship and PEDI: the political and economic development index, which includes economic development, political stability, and corruption control. The factor analysis method was used to create this index (Lawley & Maxwell, 1962). The correlation appears to be statistically significant, indicating that formal entrepreneurship rises in lockstep with economic progress, political stability, and anti-corruption efforts.

4.2. Hypothesis 2: Informal Institution and Informal Entrepreneurship

The second hypothesis measures the relationship between informal entrepreneurship and informal institutions measured via the social capital index. The results undermentioned in Table 4 indicates that a statistically

Table 3: Test of Hypothesis 1

Variables	Coefficient	Std. Error	t-Statistic	Prob.
Constant	8.838279	1.287279	6.865863	0.0000*
Formal Institutions	-0.763870	0.142005	-5.379179	0.0000*
PEDI	1.684493	0.320913	5.249066	0.0000*
Informal Institutions	0.062874	0.023389	2.688156	0.0081*

Notes: *Significant at $p < 0.05$, **Significant at $p < 0.10$.

Table 4: Test of Hypothesis 2

Variables	Coefficient	Std. Error	t-Statistic	Prob.
Constant	29.98123	2.002079	14.97505	0.0000*
Formal Institutions	-0.321418	0.220857	-1.455320	0.1479**
PEDI	-6.056311	0.499109	-12.13423	0.0000*
Informal Institutions	0.066136	0.036377	1.818080	0.0713*

Notes: *Significant at $p < 0.05$, **Significant at $p < 0.10$.

significant relationship between the social capital index and the level of entrepreneurship (measured through the percentage of official GDP) also increases in the informal sector. An increase in the number of voluntary organizational members and trust in other people leads to strong social networks, which provides the impetus for enterprise creation within informal markets.

The result from this hypothesis is also consistent with the previous literature, which indicates that informal institutions can lead to entrepreneurial venture creation within the informal sector. According to the previous literature, informal institutions create and control entrepreneurship through substitution, encouragement, enforcement, providing information, domination, and creating competing milieus. These informal institutions comprise collective social customs, moral principles, shared trust, and conventions that provide an impetus for organizations and individuals to pursue their goals and meet the expectations of each other (Cornia & Popov, 2001). When firms receive information from informal institutional networks, their transaction costs decrease for social, political, and economic initiatives (Proctor, 2007).

On the other hand, the relationship of informal entrepreneurship with formal institutions appears to be statistically significant (p -value < 0.10) but inversely proportional. The formal institutions measured by entry regulation procedures increase by 0.06 percent, then the level of entrepreneurship creation decreases within the informal market. This result supports by previous literature (Acs et al., 2008). Suppose the level of complexity in the entry regulations becomes too complex. In that case, the enterprise creation also decreases as it discourages individuals from pursuing their goal of initiating their own business. Lastly, the relationship between the political and economic development index and informal entrepreneurship is significant but negative. It implies that an increase in political instability, corruption, and low levels of economic development, will augment the levels of enterprise creation within informal markets.

4.3. Hypothesis 3: Institutional Mix and Formal Entrepreneurship

Table 5 presents the findings from the third hypothesis which states that formal entrepreneurship with social capital is contingent upon the provisional impact of entry regulation on the institutional mix. The result was insignificant, implying that the institutional mix having the conditional impact of the entry regulations does not influence entrepreneurship development within the formal economy while keeping all the variables constant. Hence, from the above results, it can be assumed that complex entry regulations are burdensome for entrepreneurship growth. In the same manner, more and more regulations impede the growth in the informal sector.

One of the main conclusions drawn from these results is that the social capital index based on membership of organizations and trust leads to the development of shared values and cooperation among people. These values allow individuals to trust each other within and outside their member organization, leading to strengthened social networks (Brehm & Rahn, 1997; Putnam, 2001). These solid social networks produce circumstances that facilitate the exchange of knowledge, information, and financial resources, in the long run creating new ventures within the informal sector. Moreover, the results also indicate that the relationship between formal institutions and formal entrepreneurship is negatively significant, similar to Hypothesis 1. Further strengthens the findings that increasing the number of procedures decreases venture creation in the formal economy. Lastly, the relationship between PEDI and formal entrepreneurship is also the same as projected in previous hypotheses.

4.4. Hypothesis 4: Institutional Mix and Informal Entrepreneurship

The fourth hypothesis stated that the relationship between informal entrepreneurship and entry regulation is contingent upon the provisional impact of social capital on

Table 5: Test of Hypothesis 3: Interaction Hypothesis

Variables	Coefficient	Std. Error	t-Statistic	Prob.
Constant	10.00628	1.242469	8.053549	0.0000*
Institutional Mix	0.001060	0.002819	0.375899	0.7076*
Formal Institutions	-0.787957	0.181230	-4.347822	0.0000*
PEDI	1.476319	0.320443	4.607120	0.0000*

Notes: *Significant at $p < 0.05$, **Significant at $p < 0.10$.

Table 6: Test of Hypothesis 4: Interaction Hypothesis

Variables	Coefficient	Std. Error	t-Statistic	Prob.
Constant	31.16597	1.885034	16.53337	0.0000*
Institutional Mix	0.007471	0.004276	1.746944	0.0829*
Formal Institutions	-0.590186	0.274957	-2.146470	0.0336*
PEDI	-6.309574	0.486166	-12.97823	0.0000*

Notes: *Significant at $p < 0.05$, **Significant at $p < 0.10$

the institutional mix. As per the assumptions, this relationship should be positive since the social capital index can positively impact venture creation in strong social networks and less complicated entry regulations. The results from Table 6 indicate a significantly positive relationship between institutional mix and informal entrepreneurship while keeping all other variables constant. Hence, the prediction affirmed that less complex entry regulations, better social networks, and shared trust facilitate an entrepreneur to start his initiative within the informal sector.

These results conform to the previous literature, indicating that informal institutions, mainly voluntary organizational membership, support the growth and development of new ventures within the society. When strong social networks are present within the society due to pre-existing social networks and voluntary organizational membership, the creation and growth of ventures within the country augment. The interaction among the members of the society due to social networks or memberships within similar organizations can strengthen the informal institutions, which ultimately increases the size of the informal economy (Seligson, 1999; Stolle & Rochon, 1998).

The relationship between formal institutions measured by entry regulation procedures and informal entrepreneurship appears to be significant and negative. Similarly, the PEDI appears to be negatively significant, as mentioned in hypothesis 2. The reason lies in the political instability, rampant corruption, sluggish economic growth, and intricate procedures that decrease entrepreneurship within the country.

5. Conclusion

The growth of entrepreneurial enterprises relies on the effective interaction of formal and informal institutions. The interplay of these formal and informal institutions laid a strong foundation for economic growth and acted as an incubator for enterprise creation. The impact assessed data sets of 22 countries from 2014 to 2019, belonging to different income groups, contrasting political and social scenarios, and diverse economic status overall. The results showed that formal institutions' high and complex entry regulations discourage formal entrepreneurship, thus making their

access difficult in the market. On the other hand, the social capital index, a combined index of trust and membership of the organization, strengthens social networks and ties within the community, providing impetus to individuals for starting their ventures. In addition to this, the findings also delineated that the political development index, which is a combination of economic development, political stability, and a corruption-free environment, also impact entrepreneurship.

Weak political structures in society, which lack democracy and are rife with corruption, obstruct economic development, slowing the establishment of new ventures in both the formal and informal economies. Because of a lack of job prospects, wealth development opportunities, and government backing or social networks, developing countries are more prone to the situation. As a result, the ability of institutions (both formal and informal) to develop an acceptable framework that allows entrepreneurs to make better profits is critical to the distribution of entrepreneurship between formal and informal sectors. The study establishes a system in which entrance regulations and a social capital index accurately reflect the formal and informal sectors that encourage the formation of new businesses. A stable political index, on the other hand, increases the link between official and informal institutions and entrepreneurial development.

The research contributed to assessing the impact of factors of a formal and informal institution on entrepreneurship. The previous literature, as discussed earlier, only assesses the personal impact of these institutions on entrepreneurship. Moreover, these previous studies failed to assume that the interaction of these institutions and the systems together with the networks that are an inherent part of the formal and informal intuitions might produce a different impact on entrepreneurship. The current study assesses the individual impact on entrepreneurship and the interaction effect of institutional mix on entrepreneurship in multiple countries across the globe. The study underscores the entrepreneurial growth across multiple regions of the globe since the selected data set represents multiple income levels, different geographic conditions, and contrasting political and social systems.

Therefore, the research extends the literature on political economy, political science, and also entrepreneurs. A

bureaucratic system such as democracy within a country is closely associated with entrepreneurship as they both fall on the same dimensions of freedom. The capability of an individual to start his own business allows the entrepreneur to express his rights of exploiting the available resources and reap the profits from his initiative. This freedom is synonymous with freedom in a democratic economic setting, allowing consumers to select multiple options for products and services for the entrepreneurs in a market setting. As a result, governmental roles are important in creating and guaranteeing operational policies that encourage prosperity and growth. Thus, both democracy and entrepreneurship are interdependent for efficient and strengthened economic development.

The study implies that practitioners, policymakers, and entrepreneurs suggested that institutional mix and entrepreneurial mindset make up the economy. These institutional arrangements, in turn, foster enterprise creation amid distinctive political systems. Successful entrepreneurial growth not only matters to democracy but also adds to the overall economic development. Economic growth creates a ripple effect through job creation and a reduction in poverty and wealth creation. The growth led to the achievement of the millennium development goals and the country's overall political, social, and economic progression.

Lastly, understanding the synergistic role of formal and informal institutions can allow entrepreneurs to make strategic decisions in making investment plans. When the institutions present in a country are strong, their capacity to produce interactive mechanisms and systems will also be high. Strong institutions are considered those that provide the least transaction cost to an entrepreneur and at the same time provide the maximum profit as well. Smooth and easy-to-follow entry regulations coupled with a strong social network and mutual trust can allow an entrepreneur to decide whether to enter the formal or informal market. Thus, individual, formal, and informal institutions set in motion result in enterprises mushrooming, leading to improved economic growth and a prosperous nation.

The limitation of the study is that the size of the data set comprises 22 countries. Future studies must increase the data set by adding more countries for better comparative analysis. The selection criteria of these countries should not be limited to income. Secondly, the study only uses one proxy on the formal and informal institutions; thus, future studies must include other dimensions such as legal security, independence of the public sector, and ease of financial access. Third, the study is cross-sectional, meaning it tests data during a period of time; in the future, a longitudinal study can verify and support the current variables. Nonetheless, this study adds to the conversation on entrepreneurship and economic liberty by downplaying the importance of industry-specific disparities and spillover effects between formal and informal entrepreneurship.

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