



Influence of National Institutions on Entrepreneurship: The Case of Women Entrepreneurship

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Abstract. The importance of the role of institutions on entrepreneurship is widely accepted. In this paper, we use a specific case (or class) of entrepreneurship, namely women entrepreneurship, to explore how national institutions influence entrepreneurship. Despite evidence showing that women are affected by institutions, little is known about the role of institutions on women entrepreneurship. We contribute to epistemology by exploring the influence of cognitive, normative and regulatory pillars of national institutions on women entrepreneurship. We also explore the impact of interactions of these three pillars of institutions on women entrepreneurship. We rely on the World Development Indicators, the World Value Survey and GLOBE for data. We sensitize readers about how women face hardships in their pursuits of entrepreneurship. Further, we give some pointers as to how policy makers could focus on gradual progression and holistic growth of entrepreneurship in an economy by considering marginalized groups like the class of women entrepreneurs.

Keywords: institutions, women entrepreneurship, in-group collectivism, institutional collectivism, trust, ease of doing business.

1. Introduction

Using an aggregate production function, Solow (1957) in his growth model, found that only 13% of explained growth in Gross Domestic Product (GDP) of USA was accounted for by factor inputs (Acs et al., 2018). This finding triggered a plethora of studies looking for explanations of what caused the remaining unexplained growth of 87%. Several studies looked at human capital and technology (among others), as the possible explanatory variables in Solow's model that predicts the remaining economic growth. However, these studies were not conclusive. In fact, they built the base for further studies to look beyond factor inputs, human capital, and technology in order to emphasize the role of 'national' entrepreneurship and entrepreneurial institutions as an explanation; a point that Solow's model possibly missed out on (Acemoglu and Robinson, 2012; Acs et al., 2018). Baumol and Strom (2007) took this stream of research further to state that even if all countries had a similar supply of entrepreneurs, the institutional structure of a country

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would effectively determine resource allocation within that economy; and that since institutions in different countries are heterogeneous and have differing incentives for entrepreneurship, economic growth and entrepreneurial performance of these countries would vary.

To take care of such divergent views about entrepreneurship or institutions as being the explanatory variables, Acs et al. (2018) incorporated the joint effect of entrepreneurship and institutions in Solow's model. They stated: "...entrepreneurship and institutions, in combination as an entrepreneurial ecosystem, can be viewed as a "missing link" in an aggregate production function analysis of cross-country differences in economic growth" (p. 501). Earlier, Spigel (2017) reviewed the literature on entrepreneurial ecosystems, innovation systems, clusters, and economic geography to suggest that though these concepts might have different theoretical and empirical bases, they all share a common belief: "certain attributes exist outside of the firm but within a region that contribute to the competitiveness of a new venture" (p. 51). Steyaert and Katz (2004) proposed that entrepreneurship is not a standalone activity, where a few individuals participate and which has little impact on society; rather, society had a profound effect on entrepreneurial activities. Hence, entrepreneurship is a socio-cultural process that is affected through everyday activities in geographical spaces, which is constituted in neighbourhoods, communities and so on. Simultaneously, it is also affected through everyday activities in political spaces, in which a variety of discourses prevail and where dynamics of power operate. Therefore, they argued that entrepreneurship essentially is embedded in society and is rarely untouched by geopolitical happenings of everyday lives in any area under consideration. Sine and David (2010, p. 2) stated: "...most prior work on entrepreneurship has paid little attention to the social construction of entrepreneurship: how social norms, values, taken-for-granted-beliefs, and explicit and implicit regulatory exigencies shape opportunities and affect whether or not individuals choose to engage in entrepreneurial activity".

Discovering the influence of institutions on entrepreneurship across nations has thereby been accepted as an important contribution towards the epistemology of entrepreneurship. However, there is a paucity of works in this area to understand the link between institutions and entrepreneurship, especially when considering specific classes or cases of entrepreneurship, and a need to observe how national institutions influence distinct classes differently. There is a research gap that needs to be addressed. Our paper intends to contribute to this area to fill this gap by acknowledging gender differences in the relationship between institutions and entrepreneurship, and focusing on the class of women entrepreneurship in particular.

National institutions tend to exert different pressures on men and women entrepreneurs. Sperber and Linder (2019) investigated how men and women perceived or experienced support from institutions for their ventures, differently. Moreover, they suggested that this perceived or experienced difference actually

goes on to affect the way women entrepreneurs manage their businesses. Similarly, Simmons et al. (2019) contended that the odds of re-entry after a business failure for women entrepreneurs are significantly lower than for men. This difference increases as the public stigma that is associated with entrepreneurial failure, increases within an economy. They also contended that at the national level, the prevailing societal perception about those who fail in business, affect formal business regulations. Thus, regulations are often a product of perceptions, which trigger situations, wherein nations' regulatory bodies tighten control over national institutions to influence entry, exit and potential re-entry decisions. Based on these research outputs, it is evident that there are genuine reasons why gender matters while considering the influence of national institutions. These institutions tend to affect women's decision to pursue entrepreneurship; and if women choose to pursue entrepreneurship despite these institutions, then these institutions determine how they affect women entrepreneurs, and how well they shall be able to perform their entrepreneurial activities within that country (Boz Semerci, 2020; Darnihamedani and Terjesen, 2020). Brush et al. (2019, p. 397) suggested that regulatory, normative and cognitive institutions can all be of a 'gendered' nature. They stated: "*think successful entrepreneur – think male*" is hard-wired in social consciousness and continues to endure even today. Hanson (2009) investigated how women entrepreneurship (WE) is affected by habitualized patterns and interactions. Moreover, Hanson also investigated how these habitualized patterns and interactions simultaneously influenced institutions, thereby, creating greater gender heterogeneity. However, despite evidence that women are affected by institutions, little theoretical and empirical work has emerged that is focused on the topic of the influence of institutions on WE. The present paper explores how WE is influenced by national institutions.

Institutions have regulatory, normative and cultural-cognitive dimensions, as their three pillars. These are interrelated, but are easily distinguishable, based on how they enforce legitimacy (Pocek, 2020; Scott, 2008; Sine and David, 2010). The '*regulatory pillars*' emphasize adherence to rules for legitimacy, while the '*normative pillars*' stress upon a moral basis by adhering to legitimacy norms. Moreover, the '*cultural-cognitive*' pillars emphasize legitimacy by conforming to taken-for-granted understandings, roles and templates. Interestingly, both the normative and cultural-cognitive pillars account for socio-cultural attitudes towards entrepreneurial efforts and activities (DiMaggio and Powell, 1983), and serve as an individual's source of motivation to take risks, and pursue his/her goals (Lee and Peterson, 2000), while regulatory pillars are emphasized upon by institutional economists, economic sociologists, and political scientists, who focus on rule-setting, monitoring, and sanctioning activities (Scott, 2008). In this study, we use the construct *collectivism* to capture the cultural-cognitive pillar. Earlier studies have adopted other cultural dimensions in their cross-cultural analysis, which may apply equally to all entrepreneurs within a given cultural

context (both men and women). However, unlike other cultural dimensions, 'collectivism' as a cultural construct, primarily applies to women, in a very different way than it does to men (Kashima et al., 1995). Furthermore, under any setting, collectivism alludes to a very different set of beliefs and practices, specifically applicable to women. Thus, we look at collectivism as one of the most important attributes of culture that has a discriminating effect on WE as opposed to other attributes of culture. Additionally, resources and information are critical for entrepreneurs to meet the necessities of a new venture. Entrepreneurs obtain these from their social contexts, which might comprise of mentors, venture capitalists (VCs), and resource providers, along with certifications and professional associations as integral elements, with whom these entrepreneurs form ties or contacts in their social networks. The richness of such ties and contacts (social networks) is depicted in the social capital that they possess. Further, *trust* represents one of the key properties of social capital, which establishes the norms of relational transactions (Anderson and Jack, 2002). In fact, in social capital literature, trust is known to be a lubricant, without which, exchanges of resources and information among ties or contacts is not possible. OECD guidelines on measuring trust define it as "a person's belief that another person or institution will act consistently with their expectations of positive behaviour" (Algan, 2018, p. 289). In this study, we use '*trust*' to capture the normative pillar of institutions, and propose that trust mediates the relationship between collectivism, both in-group collectivism (IGC) and institutional collectivism (IC), and WE. Further, formal institutions like the government, along with its policies and regulations, universities, incubators, and markets go on to affect entrepreneurship. Based on the same, we use *ease of doing business* as a proxy to capture regulatory institutions of various countries, which undertake various policy measures and mechanisms to foster entrepreneurship within their respective country. Several studies in the past have examined the link between institutions and entrepreneurship. However, only a few have included all three pillars (or both formal and informal institutions) in the same study. Moreover, very few of them have examined the moderating and/or mediating effects of institutions, that is, complex relationships of institutions. Thus, in our study, we contribute towards fulfilling a much-needed research gap in the literature, and contribute to the epistemology of how entrepreneurship is influenced by national institutions by utilizing a specific case (or class) of entrepreneurship, viz. WE.

We rely on three secondary databases to obtain data; they include the GLOBE study, the World Value Survey (WVS) and the World Development Indicators (WDI) (World Bank, 2016). We used stepwise hierarchical regression analysis to observe all direct curvilinear relationships between institutions and entrepreneurship. For analysis of moderation of curvilinear relationships, we adopt a step-wise hierarchical regression method. Further, we use MEDCURVE for examining the mediating effect of trust on the curvilinear relationship between collectivism (IGC and IC) and WE (Hayes and Preacher, 2010). As few studies

(12 publications in reputed journals) have used this method for testing mediation in curvilinear relationships, one of our salient contributions is to exemplify how one can do so, without compromising on parsimony.

The rest of the paper is organized as follows. The following section discusses literature, examining the link between institutions and entrepreneurship in general, while outlining the research gap in the context of WE. Section 3 includes theory and hypotheses building. Section 4 outlines the methodology, presents the data and operationalizes institutional pillars. Section 5 presents the analysis and results. Section 6 concludes the paper, while presenting policy implications and discussing limitations and future research directions.

2. Institutions and Entrepreneurship: The Case of Women Entrepreneurship

Women entrepreneurs are often unfairly treated due to their gender. Firstly, due to the continued historical predominance of men in positions of power, and/or due to women's lower ascribed status², women face challenges in pursuing entrepreneurship compared to men, who tend to have higher control over resources and information, on which entrepreneurship is dependent. Secondly, gender manifestation continues in most countries due to institutional norms, beliefs and/or regulations, which indirectly affects women entrepreneurs (Chappell and Waylen, 2013; Boz Semerci, 2020). Here, it is important to note that the perception of support from a societal context (or a lack of it) has a direct bearing on a firm's founding conditions (Sperber and Linder, 2019). The perception of strong support might create a pull-condition for an entrepreneur towards starting a firm by providing for social, financial and cognitive requirements of a new venture. The decision of founding, in essence, depends upon the perception of support from one's country and one's community and family, which in turn informs the entrepreneur, about how much personal effort s/he needs to put in. Most importantly, entrepreneurship in itself cannot be considered to be gender-neutral in our 'unequal world' (Bullough, Renko, and Abdelzaher, 2017; Bøgenhold and Klinglmair, 2015; Desta, Tedla and Zerom, 2015; Prasad et al., 2013; Roomi, 2009).

2. Ascribed status is given to an individual by society since birth or attributed to an individual without one's effort, for instance based on gender, race, or religion.

2.1. Institutions: Impact on Entrepreneurship

2.1.1. Effect of Cultural-cognitive Dimension

The cultural-cognitive dimension of institutions of a region includes its ideologies, beliefs, logics, and/or cognitive frames that are deeply embedded within the system, and developed over time in shared cultural understandings and institutional environments of countries. These beliefs and practices in turn, either ease or deter inter-firm cooperation, knowledge-sharing and mobility. Many studies in the past have shown the effect of cultural variables like collectivism, power distance, masculinity, and uncertainty avoidance on entrepreneurship (Hayton, George and Zahra, 2002; Kara and Peterson, 2019). Specifically, many of these studies have focused on how motives for entrepreneurship are supported or thwarted by cultural characteristics of various countries. These studies have gone on to highlight how various cognitive-cultural institutions shape the motives for entrepreneurship in people undertaking it (Kibler, Kautonen and Fink, 2014). For example, entrepreneurship is found to flourish in those cultures that respect entrepreneurship as a career choice, accept failures in a particular career pursuit as an expected cultural trait, rather than as a failure of an entire career. Notably, collectivism provides benefits to individuals as well as puts controls on them. Nations with a high degree of collectivism tend to have a strong societal structure at a consensus for risk-sharing, which, in turn, effectively encourages individuals to pursue their growth aspirations (Steensma et al., 2000), with more confidence of support from their filial ties. However, collectivism is also known to inhibit the initiatives and personal growth of individuals. Collective decision-making entails arriving at a consensus, which delays decisions. If entrepreneurship is seen to induce changes and risks, which are considered to be detrimental to the interest of a group per se, then an individual's interests might be compromised for the common interest of the group (McMullen and Shepherd, 2006). We, thereby, choose to use the construct of collectivism as a proxy for the cognitive-cultural institutional pillar. Brewer and Venaik (2011) suggested that the construct of collectivism in the GLOBE database has good content validity, and therefore, it captures the aspects of collectivism more aptly than the Hofstede et al. (2004) model does. Notably, the GLOBE database captures the construct of collectivism at two levels, viz. IGC, applicable at a meso-level (at the level of family and of local community), and IC, applicable at a macro level (at the level of larger society or of the economy). Brewer and Venaik (2011) went on to suggest that the nature of collectivism is significantly different at both levels, captured through very different sets of questions at each level. We acknowledge this observation and thereby have chosen to use both forms of collectivism.

2.1.1.1. Cultural-cognitive Institutions at Meso Level (In-Group Collectivism or IGC)

Family is an important unit in the human social system (Parsons and Bales, 1955) that has an on-going intricate set of interactions to make it an interactional system, which is interlinked and interwoven to influence individuals' socializations and personalities (Loukas et al., 1998). Burgess (1926) stated that family is a gestalt of individuals; it shapes their roles and relationships. Notably, at one extreme, families from less developed economies live a clan-like life, where there is no concept of individuality of a human being. Families take a high degree of pride in their customs, norms and beliefs to the exclusion of individualistic needs or requirements. At another extreme, families from industrialized and developed economies nurture and cherish companionship, individualism, and secularism (Bengtson, 2001). The loyalty and cohesion between family members define the degree of IGC (Aldrich and Cliff, 2003; Bullough et al., 2017; Mandel and Semyonov, 2005). Prevalence of high loyalty and cohesion in high IGC strongly distinguishes between members of in-group and out-group. However, the highly entrenched family-embeddedness in high IGC does restrict individuals to discover new possibilities. For example, the family members, herein, may expect benefits in return for providing support (Dawa and Namatovu, 2015).

2.1.1.2. Cultural-cognitive Institutions at Society Level (Institutional Collectivism or IC)

Beyond the family, other societal institutional structures exist; they include the state, professional associations, universities, and/or community organizations (Parsons and Bales, 1955). Participation in a wider system of society widens one's role repertoire and role differentiation. The interconnections or cohesiveness among individuals in society determines the degree of collectivism of an institution. Thus, this is referred to as IC. In cultures with high IC, individuals are highly attached to their community and are interdependent on them for support. They embrace group cohesion and demand for societal acceptance and legitimacy concerning an individual's actions or decisions (Steensma et al., 2000). On the other hand, in countries with low IC, collective expectations and norms are fewer. Hereby, more emphasis is given to the pursuit and attainment of individualistic goals, and independence of groups or communities (Buunk, Park, and Duncan, 2010; Pinillos and Reyes, 2011).

2.1.2. Effect of Normative Dimension

The normative dimension of an institution refers to norms and values in a society, which the actors construct after evaluating what is good or appropriate for its members. To the extent that members of society meet these expectations, they find more support for their efforts from other members. Sine and David (2010, p.

7) stated: “*normative dimension captures not only deeply held values and norms but also those actors responsible for creating and enforcing such norms. Normative actors are of primary importance in facilitating and guiding entrepreneurial processes and shaping entrepreneurial outcomes.*” Further, normative institutions include actors like industry and professional associations, certification organizations, among others within the normative dimension that constitutes the social capital of entrepreneurs. The ties with these actors act as conduits for new knowledge about opportunities and technologies and help in obtaining financing and other support. The normative dimension of the institution, along with the cultural-cognitive dimension embeds social actors thereof. Further, these actors that constitute the social capital of entrepreneurs, in turn, are connected to entrepreneurs through their social networks (Spigel, 2017). Notably, these social networks help in reducing information asymmetry between entrepreneurs and resource providers, and in the process, trust develops between them. Trust further encourages an exchange and sharing of scarce resources at lower costs, as compared to market exchanges. Therefore, we anticipate that cultural-cognitive institutions shall be mediated by the normative dimension in affecting WE.

Extant research suggested that trust acts as a social lubricant within the social capital, which in turn facilitates innovative and risk-taking behavior of entrepreneurship (Realo and Allik, 2009; Westlund and Bolton, 2003). Moreover, trust helps in reducing uncertainties and complexities, and acts as a sanctioning mechanism, either by complementing the regulatory institutional framework or by substituting for a weaker regulatory framework (Omeihe et al., 2020). For example, trust helps in reducing information asymmetry for institutionalized investors, so that they could invest in an entrepreneurial community. Trust within social relationships ensures that investments are properly used, and that the favor is returned later. Likewise, mentors or dealers proactively connect entrepreneurs to resource and technology providers. These individuals help in building a sustainable ecosystem by developing new business skills and a skilled workforce, which are important for entrepreneurship to thrive and survive within a region. Therefore, to capture whether or not the cultural-cognitive dimension does mediate through the normative dimension towards influencing WE, we use ‘trust’ as a proxy for the normative dimension. Specifically, we use ‘inter-personal trust’ in an economy or a region, as given in the WVS.

WE scholars in the past have been highly critical of women’s social capital. They stated that due to women’s lower ascribed status, they are mostly at a disadvantage in developing their social capital (Brush et al., 2019; Ibarra, 1992; McAdam, Harrison, and Leitch, 2019; McPherson and Smith-Lovin, 1987). For example, women-only networks have negative connotations; thus, women refrain from being affiliated to these networks, as it reduces their legitimacy and accrual of symbolic capital (Brush et al., 2019). Thus, the masculine ethos inherently

shapes and influences the access to social capital in the networks (McAdam et al., 2019). This construct is therefore interesting to observe in a study of WE.

2.1.3. Effect of Regulatory Dimension

Finally, the regulatory dimension of an institution relates to rule-setting, monitoring and sanctioning activities within an economy. It includes laws and administrative guidelines that constitute the basic rules governing market transactions (Scott, 2008). In fact, these form the more structured part of the institution in itself (Davidsson and Wiklund, 1997). They might also include a more tangible presence of those physical spaces like universities, incubators, well-regulated markets or formalized rules like entrepreneurial policies (Spigel, 2017). In turn, they create new opportunities either by developing new technologies, as in universities, and/or by providing support service and access to key actors such as legal experts, accountants and market analysts, who are accustomed to handling the challenges of new firms and can provide services aimed at early ventures. Holistically, policies that ease the conduct of business help new ventures to acquire and develop capabilities, which otherwise is not available to them.

We chose to use ‘ease of doing business’ from WDI as a proxy for regulatory institutions. It is a regulatory framework that guarantees and protects property rights in an economy. A lower ranking order indicates that the government, along with its enforcement agencies, is highly focused on guaranteeing and protecting them. Further, a lower ranking order is also indicative that the laws and policies of the land emphasizes upon institutional arrangements like disclosure agreements in third-party transactions. It indicates government focus on simplifying regulations related to commercial activities, which might include fostering entrepreneurship by creating a one-stop-shop for fulfilling business start-up requirements and formalities. Additionally, these formal institutional arrangements provide confidence to various stakeholders in terms of accountability, transparency and contract enforcement, which in turn assist them to be actively involved in the entrepreneurial ecosystem as a whole.

Entrepreneurs within the ambit of high ease of doing business rely more on regulatory institutions, such as government programs, training or quotas, and/or on institutions like VCs and banks. These help entrepreneurs overcome liabilities of newness and smallness (Cable and Shane, 1997; Hoang and Antoncic, 2003). Thus, the regulatory institutional dimension as proxied by the ease of doing business is expected to influence the extent of initiatives undertaken by entrepreneurs.

2.2. Institutions: Impact on Women Entrepreneurship

Extant literature found that women often have a negative perception of government policies. For example, women find government resources to be directed towards industries like technology and manufacturing, where women are generally less involved (Farr-Wharton and Brunetto, 2007) and are skeptical of business initiatives within a politically-constructed network (Berger and Kuckertz, 2016), as they feel that such initiatives entail hegemony of a few individuals, who are generally males of the old boys network. These individuals in institutions, like those of banks, VCs, cooperatives, mentors and deal makers, who act as gatekeepers, often have regressive attitudes that associate gender with the capability to pursue entrepreneurship (Bradley et al., 2013; Hanson, 2009; Malmström, Johansson, and Wincent, 2017).

2.3. Push Factors and Pull Factors: Impact on Women Entrepreneurship

Extant literature discussed two categories of motivations driving individuals' entry to entrepreneurship: push factors and pull factors (Hisrich and Brush, 1986; Kirkwood, 2009). Push factors are characterized by a lack of alternative opportunities for growth that push someone to take up entrepreneurship like insufficient family income, job dissatisfaction, difficulty in finding work and need for flexibility in work schedule due to family responsibilities and so on (Hisrich and Brush, 1986; Kirkwood, 2009). Additionally, sometimes external circumstances create conditions that force individuals to take up entrepreneurship, for instance being passed over for promotion in their job might push workers to quit their job altogether and start a new venture or the death of a breadwinner may push someone to start a new venture and so on. Push factors arise from general dissatisfaction with current situations and often have negative connotations (Hisrich and Brush, 1986; Kirkwood, 2009).

Pull factors draw people to start businesses and avail opportunities that entrepreneurship provides (Kirkwood, 2009). For example, pull motivations might include the need for achievement and recognition that is gratified when the person successfully establishes and runs his/her enterprise or an individual's desire to be independent, in their quest to self-realization.

Extant literature notes that businesses started by entrepreneurs driven by push motivations are less successful (financially) than those that are built upon pull factors (Amit and Muller, 1995). Studies have also noted that women were more motivated by family-related push factors than their men counterparts to pursue entrepreneurship (Kirkwood, 2009). For example, Patrick, Stephens, and Weinstein (2016) found that push factors like an absence of a breadwinner (i.e. divorce, widowhood) and/or providing for child responsibilities when earnings of husband or others are not sufficient, drives women to undertake entrepreneurship.

Notably, this scenario is more prevalent in emerging economies (Van der Zwan et al., 2016). Not only that, even larger collectivistic societies have also been found to be supportive of women undertaking entrepreneurship, when they are driven by push factors, both at family and community levels. They are also supported when they take up entrepreneurship for family-related push factors at national institutional levels, through policies and intervention mechanisms. This is because in value-systems of these economies women are supported to play the role of a primary bread-earner, when her male counterpart is unable to do so (George et al., 2016; Van der Zwan et al., 2016).

3. Theory and Hypotheses

In the preceding sections, we discussed how the three pillars of institutions affect entrepreneurship in general and WE in particular. In this section, we investigate the constructs that have been used to proxy these institutional pillars and we derive hypotheses on their effects on WE.

3.1. In-Group Collectivism and Women Entrepreneurship

An in-group is an exclusive group of people with a shared interest or identity (e.g., families, friends, organizations). IGC is defined as “the degree to which individuals express pride, loyalty, and cohesiveness in their organizations or families” (House et al., 2004, p. 12). Women are stereotyped as being the primary caregiver for the family across the globe. How far she could go to place her self-interest before those of others (i.e. family) depends on the level of expectations that are placed in her from her family members. Thus, the degree of IGC is expected to influence women-owned businesses (Aldrich and Cliff, 2003; Bullough et al., 2017).

In low-IGC cultures, social norms strongly promote and legitimize an individual’s desire for autonomy and greater control (Cassar, 2007). This freedom supports the intrinsic motivations to pursue entrepreneurship and acts as a pull factor (Cassar, 2007; Kirkwood, 2009), wherein families encourage women entrepreneurs to work, to start and run their businesses and to pursue their dreams (Bullough et al., 2017).

High-IGC cultures are generally more traditional, and thereby seen in emerging economies (Allik and Realo, 2004), which are typically characterized by a sizeable number of citizens having low household incomes, and a sizeable number of families are even forced to destitution. Extant feminism literature suggests that women are more empathetic, communal and emotional. Thus, sufferings of family members affect them greatly (George et al., 2016; Paul and Sarma, 2013). These conditions lead to a cognitive trigger in women, compelling

them to generate a new source of income; so, primarily women are driven towards entrepreneurship by push factors in these economies (Hechavarría and Brieger, 2020).

In cultures with medium levels of IGC, women's needs are taken care of, and their economic security is provided for, by their families (Bullough et al., 2017). Therefore, they may not have a pressing need to take up any self-employment by engaging in WE (Bullough et al., 2017; Datta and Gailey, 2012). Based on the above arguments, we hypothesize:

Hypothesis 1: Women entrepreneurship is more prevalent in countries with high or low levels of in-group collectivism than in countries with medium levels of in-group collectivism (U-shaped relationship).

3.2. Trust and Women Entrepreneurship

Extant literature discussed the continuum approach of social capital; herein, trust is categorized from being “localized” (particularized) to “generalized” (Claridge, 2018; Uslaner, 2000, p. 573). On the left side of this continuum, social capital is associated with the closed, often dense network, in which members have strong mutual connections and have similar socio-economic status (Fisher, 2013; High et al., 2005; Putnam, 2000). Localized trust is generally formed between members of homogeneous close-knit groups, who, over time, form similar views and share common values (Lin, 2001; Burt, 2001). This leads individuals to involve themselves in their communities, but “*in their communities only*” (Uslaner, 2000, p. 573), isolating them from wider social exchanges. It is also often referred to as bonding social capital. Localized trust and the commitment that is embedded in it assure entrepreneurs of assistance from their family members or their ethnic communities and it entails long-term and intense relationships that provides emotional support, access to unpaid labor, and timely access to needed resources. This facilitates WE.

At the middle level of the social capital continuum lie relationships that are based on looser relational connections, geographical proximity or technological reachability. Trust is developed among these individuals, who might share contacts in different social networks as a part of their bridging roles, but these networks are different in their values and social backgrounds (Heenan, 2010; High et al., 2005; Klerkx and Proctor, 2013). Notably, this trust is less strong than ‘in-group’ trust, as it extends beyond close-knit groups (High et al., 2005; Klerkx and Proctor, 2013). Social capital that is obtained from such connections is commonly referred to as bridging social capital. Herein, one is required to invest considerably in maintaining weak ties with a number of important contacts and resources that could be bridged by these individuals, due to their capability or positioning in their own networks; attributes which not everyone might possess.

Maintaining such weak ties requires a lot of time and involvement along with a good network size of their own and a good network position. Extant literature states that women generally have less time at their disposal, less network size and position; thus, they lack on both of these aspects that entail bridging social capital (Prasad et al., 2013). So, they are disadvantaged at medium levels of trust (bridging social capital).

At the other extreme, social capital is also developed by extending connections to individuals and groups in different social strata, within disparate networks and social hierarchies, where power, social status and wealth are accessed by different individuals in any region or economy (Klerkx et al., 2012; Oreszczyn et al., 2010; Woolcock, 2001). Herein, women coming from different levels of society interact with other individuals, groups, corporate actors, schools, legal institutions and religious/political groups (Healy, 2002). Here, an encounter with individuals having different values and worldviews often builds key sites for developing common interest, wherein, these interests are not assumed, rather they are negotiated. Social capital, herein, is referred to as linking social capital. These networks have relatively weaker connections than bridging social capital that is formed at moderate levels of trust. In such context, generalized trust occurs between members, who have negotiated to come together for a common interest like individuals bound by some informal contracts. Thus, it is expected that too much work in sustaining these ties is not required; rather it is the performance on the negotiated terms that might foster more generalized trust in these networks. Exchanges are based on generalized trust that helps entrepreneurs to take risk. Thus, in such scenarios, women are able to extend their social capital and build generalized trust, while accessing the necessary information and resources for pursuing entrepreneurship (Lo and Fan, 2020; Szreter, 2002). Therefore, we posit:

Hypothesis 2: Women entrepreneurship is more prevalent in countries with a high or low level of trust than in countries with medium levels of trust (U-shape).

3.2.1. In-group Collectivism, Trust and Women Entrepreneurship

As noted earlier, individuals in high-IGC cultures have high interdependence and loyalty only to their family members, friends and relatives (Realo, Allik and Greenfield, 2008). However, this emphasis on strong ties is essentially exclusionary. It is less likely that in-group members would trust others, beyond their family and friends, and even if they develop a relationship with out-groups, individuals are cautious and even skeptical (Yamagishi, 1988). This skepticism triggers from a lack of trust. The trust factor is highly localized in such contexts (Allik and Realo, 2004; Fukuyama, 1995; Putnam, 2000), which in turn, increases

the transaction costs and limits opportunities (Huff and Kelley, 2003; Yamagishi, 1988). When women entrepreneurs are pushed to entrepreneurship, they are under an implied threat of insecurity. They might perceive others with skepticism, as individuals wanting to take advantage of their vulnerability (Cook, Rice, and Gerbasi, 2004; George et al., 2016). This insecurity could possibly be assuaged by resorting to localized trust within in-group members in her dense social network. Additionally, relation-specific assets, such as mutual understanding or warm and pleasant memories make for support in high-IGC countries. Thus, high-IGC countries induce localized trust among its members, constituting thereby the social capital of women entrepreneurs that primarily is inward-looking, reinforcing similar identities (Putnam, 2000). This in effect, makes women more comfortable and secure while undertaking business activities.

However, in low-IGC cultures, generalized trust is extended even to out-group members (Dunbar and Spoors, 1995). The social capital developed herein is more outward-looking, and thereby involves people from different social groups such as mentors and dealmakers, who have high information about resources and non-redundant information in the network. Importantly, generalized trust is expansive in nature (Putnam, 2000). Women entrepreneurs in low-IGC countries proactively build new connections, and their radius of trust expands to people in the community beyond kinship (Allik and Realo, 2004). This exposure and support help women entrepreneurs to maneuver in an uncertain environment and take the risk of developing and growing their business. Thus, low-IGC contexts induce generalized trust, which facilitates WE.

Hypothesis 3: Trust mediates the curvilinear relationship between in-group collectivism and women entrepreneurship.

3.3. Ease of Doing Business and Women Entrepreneurship

When a country operates at low ease of doing business, both the government and society at large seem to be ‘conservative’ in terms of bureaucratic constraints, and/or plagued by immature markets and high corruption indices. As stated by Djankov et al. (2002, p. 35): “*We also find that the countries with less limited, less democratic, and more interventionist governments regulate entry more heavily, even controlling for the level of economic development.*” These institutional conditions lead to information asymmetry, enabling only the ones, who are endowed (for example those who are politically connected), to access valuable resources. Under such scenarios, women are negatively penalized, as the high ascribed status of men provides them with the advantage of being endowed and they are able to competitively secure resources and information, while little might be available for women (Djankov et al., 2002; Hampel-Milagrosa, 2010). On the other hand, when governments take actions to increase the ease of doing business

by modifying laws that guarantee property rights, by reducing the tax burden, and by emphasizing single-window clearances, entrepreneurship is expected to increase. In economies with higher ranking order of ease of doing business, governments focus on providing heavy impetus to business interests, sometimes even to the exclusion of other interests (Hampel-Milagrosa, 2010). Such conditions are conducive for men in the economy to be able to secure the benefit of such impetus, by just being men. For example, one of the constituents of ease of doing business is 'getting credit'. Concerning the reform targeting increasing ease of doing business in economies, Hampel-Milagrosa (2010) stated: "*We argue that these reforms might not have an impact on the majority of women, who do not have credit histories or traditionally are not allowed to own material things.*" (p. 356). Further, they stated "*For women more than men, the decision to start a new business is frequently related to necessity or to flexibility in time and location (Minniti, 2010). This creates significantly different start-up scenarios for men and women (see Davidsson, 1995; Richardson et al., 2004; Verheul et al., 2006), which might not be bridged by Doing Business reforms alone*" (p. 356). Therefore, under such conditions, women who enter entrepreneurship based on pull factors might flourish, while women who are pushed into entrepreneurship might be significantly disadvantaged (McMullen, Bagby, and Palich, 2008; Sambharya and Musteen, 2014).

Interestingly, when ease of doing business is moderate, there may be a gradual progression for development and growth within that economy, triggering thereby, a more holistic growth. In fact, it is expected that providing the highest impetus on business interests is not the only aim, and not the singular focus of the government of such a country (Hampel-Milagrosa, 2010). Such societies might have grown to anticipate holistic growth and affirmative actions from their governments over time (Davidsson, 1995; Djankov et al., 2002). Herein, it is expected that WE shall be more prevalent in moderate levels of ease of doing business. We thereby posit:

Hypothesis 4: Women entrepreneurship is more prevalent in countries with moderate levels of ease of doing business and is less prevalent in countries with higher or lower levels of ease of doing business (inverse U-shape).

3.3.1. IGC, Ease of Doing Business and Women Entrepreneurship

In line with the arguments given earlier, ease of doing business increases competition for acquiring scarce resources in an economy. In low-IGC countries, women are driven by pull factors, and also have many kinds of employment opportunities other than entrepreneurship to choose from (Crompton and Harris, 1998). Thus, competition arising from the ease of doing business might de-incentivize women to opt for entrepreneurship as a career choice over other forms

of employment alternatives that may be available in the country. On the other hand, in high-IGC countries, women are pushed into entrepreneurship, and have fewer earning avenues (George et al., 2016). Herein, women are less equipped for maneuvering activities of a new venture. Therefore, an increase in ease of doing business effectively worsens women entrepreneur's situations. Thus, we propose:

Hypothesis 5: The U-shaped relationship between in-group collectivism and women's entrepreneurship is moderated by the ease of doing business such that the effect becomes less pronounced (i.e., flattens) when a country improves on its ease of doing business.

3.4. Institutional Collectivism and Women Entrepreneurship

IC is defined as “the degree to which organizational and societal institutional practices encourage and reward collective distribution of resources and collective action” (House et al., 2004, p. 12). IC deals with the social structure and societal levels factors like societal roles, acceptance, legitimacy, social cohesion and loyalty. Individuals in high-IC countries see themselves as highly attached to the community at macro levels. Herein, individuals' goals are undermined, while the group's goals are important. Individuals (specifically women) are expected to follow the culture of the region/country, along with the societal norms non-compromisingly. These taken for granted beliefs, norms and assumptions are specifically applicable to women, who are encouraged and rewarded for following the family structure and for accepting the distribution of resources among the members of the community (De Bruin, Brush and Welter, 2007). It is interesting to observe that, even if a woman needs to get into entrepreneurial activities for the sake of their families and are supported by their in-group members at meso levels, the larger community would not be supportive at macro levels, as high-IC countries dislike gender socialization norms to be challenged under any pretext (Bullough et al., 2017). Moreover, mostly in these countries, the regulatory institutions are weak and underdeveloped, which effectively restricts WE. Therefore, individual aspirations of women to grow as an entrepreneur are expected to be systematically thwarted.

On the other hand, low-IC countries do not see much difference between the genders; thus, they are not positively disposed towards women. Women are left on their own, without much affirmative actions based on gender by the state or regulatory institutions. However, women continue to suffer the problems of gender bias, even if the quantum of such biases might be much less in such countries than they are in countries with moderate to high levels of IC. So, in such contexts, while women continue to face discrimination in carrying out entrepreneurial activities due to their gender, they do not get support from regulatory institutions (Bullough et al., 2017). Even institutional support of the

collectives like that of community support, in general, might be absent; in general, a normative expectation of supporting women might be absent. Thus, levels of WE are expected to be low in countries with a low level of IC.

However, in countries where IC is moderate, both government and regulatory institutions play a significantly critical role for WE. In these cultures, institutions, laws and programs are prevalent for encouraging WE, as their low risk-taking attitude is well acknowledged (Kobeissi, 2010). Positive endorsement for risk-taking is provided and innovative ideas are valued and supported. Examples of such support include women's quota, training for women business development, and similar programs for WE (Clark, 2010). These are actively pursued by governments, as they pursue positive discrimination against women in these countries. Therefore, levels of WE are expected to be high in countries with moderate levels of IC. Therefore, we propose:

Hypothesis 6: Women entrepreneurship is less prevalent in countries with high and low levels of institutional collectivism than in countries with medium levels of institutional collectivism (inverse U-shape).

3.4.1. Institutional Collectivism, Trust and Women Entrepreneurship

In most low-IC countries, governments push for ambitious policies to promote entrepreneurship. However, these countries simultaneously have a lack of social integration, which often translates into a dearth of intermediate organizations such as networked organizations or voluntary organizations that are based on social cooperation and moral community for social integration. These intermediate organizations are themed on embeddedness of social relations, and are often a determinant of economic behavior of individuals (Granovetter, 1985). Therefore, they often serve as a platform for translating the support of government to their beneficiaries. Intermediate organizations bring varied stakeholders together, who might be bounded by shared expertise and vision, and tend to support entrepreneurs. In doing so, they emphasize upon interpersonal relationships that builds mutual trust, creating social capital. For example, network organizations are comprised of multiple networks. Networks are not organization in themselves, but a way to organize and accomplish work. Thus, networked organizations are based on shared goal, work, expertise and decision making through access to critical information. Further, these networks share time horizons, responsibility, accountability and trust. Hence, such organizations develop social capital, which serves as facilitator for exchange of information and resources. Likewise, voluntary associations such as private businesses –both small and large– have individuals who embrace social cooperation and public-spiritedness. They depend on unwritten sets of ethical rules or norms that serve as the basis of social trust for their functioning.

However, there is a lack of such organizations in low-IC contexts, which otherwise might help women entrepreneurs develop their social capital. For instance, France is relatively less family-oriented and society-oriented but has ambitious institutional arrangements, which have failed due to deficient intermediary institutional arrangements (Fukuyama, 1995). Lack of connections among people leads to a narrow radius of contact, and there is thin trust that is primarily developed as a result among societal actors. Such thin trust is more disadvantageous for women, as collective support is minimal, and the institutions in themselves lack the sensitivity to societal issues associated with women. This makes women entrepreneurs assume that the state or the government is the only body that is obligated to support them; they expect minimal support from other collectives. Importantly, even in these economies, gender stereotypes remain prevalent. Women, for example, are given low status in wage employment and job markets, which leads to a lack of development of informal contacts with business-related people (Aldrich, Elam, and Reese, 1997; Thébaud, 2010). Hence, these contextual factors in low-IC countries tend to make women less inclined to pursue entrepreneurship.

At the medium level of IC, the government and the society encourage and provide a platform for women to develop links to a broader network from a variety of work backgrounds (Greene et al., 2003). Hereby, the participation and/or support of collectivism minimize insecurities. The extension of the network and social links, beyond one's kin or immediate network, helps to expand the radius of trust and develop a more generalized trust, that encourages WE. So we hypothesize:

Hypothesis 7: Trust mediates the curvilinear relationship between institutional collectivism and women entrepreneurship.

3.4.2. Institutional Collectivism, Ease of Doing Business and Women Entrepreneurship

In low-IC countries, the differences in entrepreneurial opportunities that are available to women vis-à-vis men are low. Therefore, policies, procedures and programs for ease of doing business in such a context are expected to be relatively gender-neutral. In high-IC countries, it is expected that stakeholders from supporting institutions, such as loan officers or VCs tend to doubt women's entrepreneurial capabilities (Buttner and Rosen, 1988) and consider the business owned by women to be less novel and more traditional. These gender stereotypes put additional credibility and legitimacy questions for women, who are unable to take advantage of high affirmative actions (Godwin, Stevens, and Brenner, 2006). So, we hypothesize:

Hypothesis 8: Ease of doing business moderates the curvilinear relationship between institutional collectivism and women entrepreneurship.

4. Methodology

4.1. Data

We obtained data for the dependent variable (DV) – ‘Self-employed women’ for the period 2004-2008 from WDI and control variables (CVs) for the period 2000-2004. Three CVs in this study viz. unemployment, industry (share manufacturing), and GDP are taken from WDI, while the other two CVs viz. gender egalitarianism and power distance are taken from the GLOBE study, published in 2004. The first three CVs change year-on-year, while the last two CVs are constant being cultural variables. The nature of the CVs is such that they influence entrepreneurship with a time lag (Bullough et al., 2017). Extant literature suggested that the use of 4-5 years of lag is appropriate for such CVs to have an impact on entrepreneurship. Therefore, the CVs are measured four years earlier than the DV. However, there are many missing values for both the DV and CVs in the data. For taking care of missing values, we refer to the Bullough et al. (2017) study, whereby they suggest the pooling of data and the creation of a cross-section data structure to take care of the same. This also works well with cultural CVs, which are constant across time, as well as for independent variables (IVs), which are also cultural variables in this study and are time-invariant. Also, the time frame for the data structure has been consistent.

4.2. Variables and Measures

4.2.1. Dependent Variable: Self-employed Women

The variable ‘Self-employed women’ represents the number of self-employed women with respect to the total number of employed women and was obtained from WDI (World Bank, 2016). For missing values, the mean is calculated from the year 2004 to 2008 (Bullough et al., 2017; Reynolds, 2007). The lowest percentage is for Denmark (5.3%) and the highest is for Zimbabwe (76.87%).

4.2.2. Independent variables: In-Group and Institutional Collectivism

4.2.2.1. **In-group collectivism:** IGC as presented in the GLOBE study was collected based on four items for which the response was collected on a 7-point Likert scale. A sample item for this measure for instance was – “*In this society, children generally live at home with their parents until they get married*” (For more details on items we refer to Brewer and Venaik, 2011). According to Hanges and Dickson (2004), the test of internal consistency for the in-group scale was good with values of equal to 0.77 with high inter-rate reliabilities (Bullough et al., 2017). In the sample, New Zealand (3.58) is lowest and Georgia (6.18) is highest in IGC.

4.2.2.2. **Institutional collectivism:** IC as presented in the GLOBE study was collected based on four items for which the response was collected on a 7-point Likert scale. A sample item for this measure is for instance – “*In this society, leaders encourage group loyalty even if individual goals suffer*”. Brewer and Venaik (2011) confirmed the validity and construct of the items in the IC scale, while Hanges and Dickson (2004) confirmed internal consistency with a value of equal to 0.67, with high inter-rate reliabilities (Bullough et al., 2017). Greece (3.41) is lowest and New Zealand (4.96) is highest in IC in the current study.

4.2.3. Moderator (Ease of Doing Business) and Mediator (Trust)

The ‘Ease of doing business’ ranking order value is used as an independent variable and a moderator in this study (WDI 2000-2004). It is calculated based on the values of dealing with construction permits, enforcing contracts, getting credit, getting electricity, registering property, paying taxes, protecting minority investors, resolving insolvency, starting a business, and trading across borders. A higher ease of doing business ranking order value highlights more restrictions in doing business and vice versa. In our sample, an example of a country having a lower ranking order value of ease of doing business is Australia (3) and the higher ranking order value of ease of doing business is Venezuela (143). Please note that our ranking order value is actually a *reverse* indicator for the ease of doing business (i.e. a higher value for the variable implies a lower ease of doing business). This does not matter though for evaluating Hypothesis 4, as both in terms of the actual ease of doing business, and in terms of our reverse indicator, a moderate value is associated with higher levels of WE, and more extreme (higher or lower) values are associated with lower levels of WE.

Further, interpersonal trust is used as a mediator in this study and is based on the WVS of 1999-2004 by Ronald Inglehart and his colleagues (Inglehart et al., 2014). It is calculated as a percentage of respondents saying ‘*most people can be*

trusted'. The country with the highest score of trust is Denmark (64.1) and the lowest score is for Philippines (8.3).

4.2.4. Control variables

The control variables are from WDI (World Bank, 2016) for the years 2000 to 2004. Current GDP in purchasing power parity (PPP) was used to control for the size of the economy. Manufacturing value-added as a percentage of GDP is used for controlling the business environment specific to each country. Further, gender egalitarianism was added to control for gender differences and gender discrimination in society (House et al., 2004). Power distance as presented in GLOBE and unemployment as presented in WDI were also included.

5. Analysis and Results

Table 1 shows the list of countries included in the empirical analysis of the present study, Table 2 reports descriptive statistics and Table 3 reports bivariate correlations between variables. To test the curvilinear relationships and moderation effects, we used step-wise hierarchical regression with mean-centered independent variables. We checked for heteroskedasticity as well as multi-collinearity.

Table 1: List of countries used in this study

Albania	Argentina	Australia
Austria	Bolivia	Canada
Colombia	Denmark	Ecuador
Egypt, Arab Rep.	El Salvador	Finland
Georgia	Germany	Greece
Hungary	Ireland	Israel
Kazakhstan	Netherlands	New Zealand
Philippines	Poland	Portugal
Singapore	Slovenia	South Africa
Spain	Turkey	United Kingdom
Venezuela, RB	Zimbabwe	

Table 2: Descriptive statistics for model variables

	N	Min	Max	Mean	Std. Dev.
Self-employed women	32	5.30	76.87	29.31	22.19
Ln_GDP_PPP	32	23.38	25.81	24.00	1.29
Gender egalitarianism	32	2.90	4.02	3.48	0.31
Power distance	32	4.14	5.70	5.10	0.42
Unemployment	32	3.64	15.65	8.88	3.59
Manufacturing	32	4.16	23.57	15.79	4.69
IC	32	3.41	4.96	4.21	0.39
IGC	32	3.58	6.18	5.09	0.72
Ease of doing business	32	3.00	143.00	93.33	75.98
Trust	29	8.30	64.10	26.92	15.46

Note: GDP_PPP – Gross Domestic Product at Purchasing Power Parity; IGC – In-group Collectivism; IC – Institutional Collectivism

Table 3: Pearson correlation coefficients

		1	2	3	4	5	6	7	8	9
1	Self-employed women	1								
2	Unemployment	.10	1							
3	Manufacturing	-.12	-.20	1						
4	Ln_GDP_PPP	-.55**	-.00	.01	1					
5	Power distance	.11	.34	.16	.10	1				
6	Gender Egalitarianism	-.24	.02	.00	-.01	-.12	1			
7	IC	-.39*	-.35*	.10	.04	-.62**	.00	1		
8	IGC	.64**	.44*	.22	-.34	.41*	-.10	-.51**	1	
9	Trust	-.56**	-.28	-.23	.20	-.48**	.02	.57**	-.80**	1
10	Ease of doing business	.41*	.28	.17	-.19	.44*	-.20	-.53**	.46**	-.44*

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$;

GDP_PPP – Gross Domestic Product at Purchasing Power Parity; IGC – In-Group Collectivism; IC – Institutional Collectivism

One of the central goals of social science is to unravel the process/mechanism of the relationship between variables. In doing so, a linear relationship linking independent variable (X), mediating variable (M), and dependent variable (Y) is generally tested, wherein the indirect effect characterizes the nature of the influence of X on Y through M, across the entire range of X. However, this approach is inconsistent to test mediation involving nonlinear relationships. Hayes and Preacher (2010), based on Stolzenberg (1980) and Stolzenberg and Land (1983), developed a method by introducing an instantaneous indirect effect of X on Y through M. The instantaneous indirect effect quantifies the effect of X

on Y through M as X is changing (Hayes and Preacher, 2010). It can be estimated as the product of the first “partial derivative of the function of M with respect to X and the first partial derivative of the function of Y with respect to M” (Hayes and Preacher, 2010, p. 631). Thus, one must condition the estimate of the instantaneous effect on specific values of X or M such as low, medium or high values. MEDCURVE is based on bootstrapping for arriving at the instantaneous indirect effect. This technique helps to derive the bootstrap confidence interval (CI) that resembles the true sampling distribution of products of normal random variables. Mediation is said to occur if the bias-corrected 95% CI does not include zero. Hayes and Preacher provided a code for Mplus, SPSS and SAS to test mediation in non-linear relationships. In our paper the SPSS-based module MEDCURVE is used. Interestingly, MEDCURVE has not been used extensively in extant literature (we found only 12 publications in reputed journals). Our study uses this method comprehensively to advance usage of MEDCURVE analysis and hence makes a contribution in this area.

Table 4 reports the regression results. Model 1 includes only control variables. Hypothesis 1 predicted a U-shaped relationship between IGC and WE. This was supported in Model 3, although the upward part of the U-curve is more pronounced in our data.³ Hypothesis 2 predicted a U-shaped relationship of trust and WE, which is supported in Model 7. Hypothesis 3 proposed a mediating effect of trust on the curvilinear relationship between IGC and WE, which is supported in Model 8, indicating a negative influence of IGC on WE through trust at medium levels of IGC ($\beta = -29.44$; s.e. = 20.75; 95% CI [-77.45, -6.71]). Further, Hypothesis 4 is supported in Model 3 confirming an inverted curvilinear relationship between ease of doing business and WE. Hypothesis 5 proposed the moderation effect of ease of doing business on the curvilinear relationship between IGC and WE. This is not supported, as shown in Model 10.⁴ Hypothesis 6 is supported in Model 5 confirming an inverted U-shaped relationship between IC and WE, although the downward part of the U-curve is more pronounced in our data. Hypothesis 7 is supported as shown in model 9; it proposed a mediating effect of trust on the curvilinear relationship between IC and WE. For medium levels of IC, increasing IC indicates stronger prediction of WE through trust ($\beta = 16.15$; s.e. = 10.60; 95% CI [0.03, 41.43]). Further, hypothesis 8 proposed the moderation effect of ease of doing business on the curvilinear relationship between IC and WE; it is not supported, as shown in Model 12.⁴

3. For interpreting coefficients, please note again we use *mean-centered* variables.

4. The interaction terms involving squared IGC and IC with the ease of doing business have high multicollinearity (VIF > 5) (as in Model 10 and Model 12). However, Assaf and Tsionas (2019) suggest that one can remove the term X^2Z in the presence of a curvilinear relationship when it is insignificant. Thus, in Model 11 and Model 13 we show the results without the X^2Z term.

Table 4: Regression results explaining self-employment share among employed women

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13
Unemployment	0.12 (1.03)	-1.86** (0.85)	-2.13** (0.79)	-0.17 (0.96)	-0.54 (0.94)	0.29 (0.92)	0.80 (0.81)	-0.23 (0.99)	0.52 (0.85)	-2.01** (0.84)	-1.87** (0.89)	-1.35 (0.97)	-1.36 (0.95)
Gender Egalitarianism	-16.07 (10.77)	-10.20 (8.01)	-11.94 (7.38)	-18.23* (9.96)	-12.15 (10.10)	-17.13* (9.38)	-25.17*** (8.49)	-21.23** (8.33)	-24.62** (9.43)	-10.88 (7.70)	-10.12 (8.25)	-17.76* (9.82)	-16.77* (9.15)
Manufacturing	-0.65 (0.75)	-1.66*** (0.59)	-1.86*** (0.54)	-0.27 (0.71)	-0.28 (0.68)	-0.83 (0.65)	-1.34** (0.58)	-1.60** (0.61)	-1.09* (0.63)	-2.01*** (0.61)	-1.68** (0.63)	-0.65 (0.69)	-0.69 (0.67)
GDP_PPP	-9.75*** (2.6)	-4.69** (2.15)	-3.10 (2.07)	-9.00*** (2.42)	-9.19*** (2.32)	-6.33** (2.31)	-5.07** (2.03)	-3.97* (2.01)	-5.63** (2.10)	-3.09 (2.19)	-4.67** (2.21)	-8.46*** (2.29)	-8.57*** (2.22)
Power distance	8.2 (8.87)	-4.56 (7.11)	-5.50 (6.53)	-6.50 (10.23)	-3.98 (9.89)	-2.37 (8.42)	1.62 (7.35)	1.58 (7.02)	-2.20 (9.63)	-3.92 (6.81)	-4.61 (7.29)	-3.48 (9.53)	-3.07 (9.26)
IGC		21.47*** (4.77)	24.66*** (4.96)					14.14* (7.26)		21.49*** (7.34)	20.97** (7.86)		
Ease of doing business		0.054 (0.04)	0.17** (0.06)							0.05 (0.05)	0.06 (0.06)	0.14** (0.06)	0.14** (0.06)
IGC ²			12.52** (5.31)					4.76 (5.91)					
Ease of doing business ²			-4.594* (2.585)										
IC				-25.42** (10.66)	-24.13** (10.23)				-12.05 (10.99)			-6.75 (13.22)	-5.14 (11.99)
IC ²					-33.84* (18.64)				-14.84 (18.10)				
Trust						-0.71*** (0.23)	-1.20*** (0.25)	-0.78** (0.342)	-1.03*** (0.29)				
Trust ²							0.04*** (0.01)	0.03** (0.01)	0.04*** (0.01)				
IGC * Ease of doing business										-9.77 (7.58)	-0.544 (6.61)		
IGC ² * Ease of doing business										-10.29** (4.90)			
IC * Ease of doing business												14.43** (5.35)	13.99** (5.07)
IC ² * Ease of doing business												-1.52 (4.72)	
R ²	0.41	0.71	0.78	0.52	0.57	0.58	0.70	0.76	0.73	0.76	0.71	0.65	0.65
Adjusted R ²	0.29	0.62	0.69	0.40	0.45	0.46	0.60	0.64	0.60	0.66	0.61	0.50	0.52
R ²		0.07*		0.05**			0.12**			0.05		0.00	

*** p<0.01, ** p<0.05, * p<0.1;

Robust standard errors in parentheses;

GDP_PPP – Gross Domestic Product at Purchasing Power Parity; IGC – In-Group Collectivism; IC – Institutional Collectivism

6. Conclusion

In this paper, we looked at the three institutional pillars of national institutions and explored their influence on women's entrepreneurship, across countries. A

number of studies have looked into the relationship between institutions and entrepreneurship. Nonetheless, only few studies have looked at all three pillars of institutions; even fewer have looked at the moderating and/or mediating impacts of institutions on entrepreneurship. In this paper, we contribute to bridging a critical research gap in the literature by using a specific case (or class) of entrepreneurship, namely WE, to develop an epistemology of how national institutions influence entrepreneurship.

Our second contribution is to WE literature, wherein we show how both bonding social capital and linking social capital might be beneficial to the women entrepreneurs while bridging social capital might not be. We, therefore, propose that women might do better by playing actively in social networks that are highly dense with close-knit ties of family, friends and neighbors as the traditional advice for creating weak ties and high network diversity in their networks might not apply to her as it doesn't tap into her fundamental strength. They might also be better off by participating in networks based on similar interests, even if these are constituted of members, who have highly disparate characteristics. The performance in such disparate member networks shall require them to just keep delivering on the negotiated mutual terms, where talent is evaluated based on delivery on those special interests rather than having to fulfil bridging roles of networks that make demands on their time, which is already scarce; paucity of time and institutional barriers are both barriers to maintaining a centrality in bridging roles in networks.

Our third contribution is also to the WE literature, wherein, by systematically exploring the interaction of the three pillars of institutions and its impact on WE, we sensitize readers about how women face hardships due to socio-cultural norms and beliefs both at the meso and at the macro levels of society. We also sensitize readers about how rule-setting, monitoring and sanctioning activities within a country influence the success of women entrepreneurs.

Our fourth contribution is to methodology. We explain mediation analysis when the relationships between IV and DV are non-linear using MEDCURVE. This helps to understand the mechanism through which In-group collectivism (IGC) and institutional collectivism (IC) influence WE.

6.1. Policy Implications

This study has policy implications. Policy makers have a large role to play at different levels such as removing hurdles for doing business in a country, building generalized trust and creating a conducive societal environment. Our findings show that policy makers should be wary of their unilateral pursuits of promoting a higher ease of doing business to the oblivion of creating more social equality for various classes. Unilateral pursuit may disadvantage weaker classes and may create more barriers than advantages for them. A moderate level of ease of doing

business is seen to benefit WE as policy makers consider more holistic approaches to consider disadvantaged or underrepresented classes. Thus, apart from affirmative actions, providing tax incentives, business training or entrepreneurship education for women would positively and concretely help women entrepreneurs in both acquiring and developing capabilities for pursuing their entrepreneurial endeavours. This insight sensitizes policy makers about how applying a blanket approach for all forms of entrepreneurship in various countries might be dysfunctional at best, and dangerous at worst for the cause of promoting WE.

Further, policy makers should emphasize on building an institutional framework that develops generalized trust between institutional actors and women entrepreneurs. It would help women to develop ties with diverse individuals and facilitate negotiated mutual terms in exchange of sensitive information and resources to pursue entrepreneurship.

Besides, policy makers have also a role to play in improving societal context. A moderate level of IC is beneficial for women and thus, policy makers need to build a social milieu, wherein institutional support of the collectives like that of community support or positive endorsement for risk-taking among women entrepreneurs develops. These supporting mechanisms of the regulatory framework will reduce gender stereotypes and biases, generating a normative expectation for supporting and facilitating women entrepreneurship in the society. Since women take both family and work responsibilities, they are directly influenced by country's policies. Countries with high and low levels of IGC have a higher prevalence of WE. Thus, in high-IGC cultures, government should pay more attention to provide instrumental support to women entrepreneurs, which they don't get from their family. Policies that would help women entrepreneurs are state-funded support, training and business support that have direct impact on their new venture. Also, need for provision of day-care and training on delivering and managing multiple roles is required in such cultures. In case of low IGC, governments need to focus more on providing affective help to women entrepreneurs by formulating programs that will train women to cope with personal problems and stress intensified by competition. Emphasis on involving the entire family and modeling of supporting attitude and behaviours of family members to assist women entrepreneurs may be needed in such cultures.

6.2. Limitations and Future Research Suggestions

In this paper proxies for three institutional pillars, namely the cultural-cognitive, regulatory, and normative pillars, have been used. However, other variables related to institutions (e.g. other dimensions or frameworks of culture, quality of governance index for formal institutions, etc.) might also have significant effects on WE, whereby future studies could examine these links. In the same vein,

alternative operationalisations of entrepreneurship may be employed as well. In this regard, one potential concern is the partial mismatch between the World Bank's ease of doing business indicators, and the self-employment rate. Whereas the ease of doing business indicators are derived for businesses operating in the *formal* sector (e.g. the ease of starting a business indicator refers to starting a limited liability company with between 10 and 50 employees; Djankov et al., 2002), self-employment, our operationalisation of entrepreneurship, often refers to *informal* sector entrepreneurship, especially in lower developed countries (Chen, 2012). Future research may employ indicators of both formal and informal (women) entrepreneurship and investigate if and how determinants differ for these distinct forms of entrepreneurship (Laing, Van Stel and Storey, 2021).

Finally, the curvilinear, moderating, and mediating relationships examined in this paper, specific to women entrepreneurship can be replicated to see if relationships hold for male entrepreneurs and entrepreneurs in general too. Besides, the time frame this study covers is a snapshot. Institutional changes due to worldwide pandemics (e.g. COVID-19) present an opportunity to examine these relationships using other and more recent time frames.

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