

The Role of Culture on SME Access to Credit: Implications for Developing Nations

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The literature suggests that small and medium-sized enterprises (SMEs) are critical to the advancement of developing economies. Yet, SMEs in developing nations are constrained with capital accessibility, which is complicated by societal values (culture). In this paper, we examine the impact of culture (as a moderating variable) on firm size and funding source (independent variables) with regard to access to capital (dependent variable) by looking at 2,185 SMEs from 27 developing economies. Our results indicate that state-owned banks, set up with the objective of providing capital to SMEs in developing economies, have not lived up to expectations. Governments of developing economies should put mechanisms in place to address this challenge.

Keywords: small and medium-sized enterprises (SMEs), access to capital, firm size, funding source, Hofstede's cultural dimensions

INTRODUCTION

Although small and medium-sized enterprise (SMEs) form the bedrock of developing economies, they face numerous financing challenges (Asare *et al.* 2020, Chai *et al.* 2019, Chand and Parmar 2018, Afrifa and Tingbani, Neagu 2016, Beck *et al.* 2005, Beck *et al.* 2008). Critical determinants such as availability of audited financial statements, firm size, funding source, banking relationship, collateral, credit scores, cultural factors, etc. impact their financing (O'Donohoe *et al.* 2008, Dong and Men 2014, Asare *et al.* 2020, Wellalage *et al.* 2019, Berger and Udell 2006). Although these challenges are global, they are more pronounced in developing nations. For example, audited financial statements are almost nonexistent among SMEs in developing and emerging economies (Wellalage and Locke 2016, Wellalage *et al.* 2019, Dong and Men 2014). Similarly, the complex credit scoring modules that lenders in advanced economies use to

determine loan default risks are not available in most developing countries due to information opacity (Asare *et al.* 2020, Distinguin *et al.* 2010).

Moreover, societal values such as individualism, collectivism, uncertainty avoidance, and power distance can further impact lender and borrower behaviors at the individual and national levels. Despite the importance of these cultural factors, cross-cultural studies on SME financing among developing nations have not received much attention in the accounting literature. While the entrepreneurship literature has tried to shed some light on this issue, the focus has been on individual economies, with less emphasis on cross-cultural studies (Berger *et al.* 1998, Berger and Udell 2006, Beck *et al.* 2005, Beck *et al.* 2008, Wellalage and Locke 2016, Wellalage *et al.* 2019). In this paper, we examine the impact of culture on two determinants of SME access to financing in developing nations: SME firm size and funding source.

To investigate this, we analyzed the impact of firm size on SME access to financing from the perspective of the cost versus benefit of disclosing pertinent firm-specific information (Ogden and Clarke 2005, Verrecchia 1999, Cheng *et al.* 2013). That is, *ceteris paribus*, larger organizations usually have the means of providing quality and credible information about their businesses, placing them in a better position to access financing. The concept of cost versus benefit of disclosing pertinent financial information is a well-grounded concept of analyzing credit worthiness in developed economies, which are often more individualistic cultures. However, the concept has not been well-studied in developing and emerging economies, which are often more collectivistic.

We also analyzed the impact of funding sources from the social and agency views of state-owned enterprises (SOEs) (Hart *et al.* 1997, Banjeree 1997, Atkinson and Stiglitz 1980). According to the social view of SOEs (public banks), SOEs can buffer shocks in economic development by addressing market failures when corresponding social benefits exceed costs (Atkinson and Stiglitz 1980, Sapienza 2004). From this perspective, we view public banks as SOEs created by states to provide financing to SMEs to foster economic development. Thus, everything being equal, public banks are expected to make financing more accessible to SMEs compared to private banks. On the other hand, the agency view perceives SOEs as institutions that were created to benefit the public, but that can be susceptible to corruption (Hart *et al.* 1997, Banjeree 1997, Sapienza 2004). From this perspective, bureaucracies in SOEs can result in the misapplication of state-owned assets due to weak internal managerial controls (Tirole 1994, Sapienza 2004). The social and agency views of SOEs have been widely discussed in the economics and politics literature, but the cultural impacts of the social and agency views from the perspectives of SME financing is largely absent in the accounting literature.

The objective of this study is to answer the following research question: For a given SME size and funding source in a developing economy, does the cultural environment influence access to financing? This research question is critical to enhancing our understanding of the dynamics of the determinants of SME access to credit in developing nations (Berger and Udell 2006, Dong and Men 2014, Asare *et al.* 2020). Over the last couple of decades, the SME financing literature has paid a great deal of attention to the drivers of SME access to financing in local cultural environments. But, there has been little, if any, research when it comes to cross-cultural comparisons of SME access to capital in developing economies.

Berger *et al.* (1998) examined the impact of mergers and acquisitions on small business lending, but they focused solely on the United States. Berger and Udell (2006) proposed a framework of SME lending strategies that acknowledges the importance of culture. Their framework included financial statements, SME credit scoring, assets, leasing, relationships, trade-credit, funding source, market competition, culture, legal, and regulatory environments as important influencers of SME financing. Since Berger and Udell's (2006) work, several studies have given attention to the relationships between these SME financing factors and access to credit, yet with little focus on cross-cultural impacts (Afrifa and Tingbani 2018, Chand and Parmar 2018, Chai *et al.* 2019, Wellalage and Locke 2016, Wellalage *et al.*, 2019).

While understanding the drivers of SME funding decisions in local cultural environments is critical, it is equally important to understand how these funding decisions vary across cultures (Chai *et al.* 2019, Asare *et al.* 2020, Wellalage *et al.* 2019, Wellalage and Locke 2016). A number of studies in the accounting and finance literature suggest that culture is a critical player in business accounting and finance (Chow *et al.* 1995, Arnold *et al.* 2005, Kanagaretnam *et al.* 2011; Kanagaretnam *et al.* 2014, Bell *et al.* 2012, Asare *et al.*

al. 2020, Han *et al.* 2010, Salter *et al.* 2013, Gu *et al.* 2019). In an analysis of banks from 39 countries, Kanagaretnam *et al.* (2011) found that banks in certain cultures are willing to take on more risk in loan underwriting than similar banks in other cultures. Consistent with this finding, Kanagaretnam *et al.* (2014) concluded that national culture influences bank lending and risk-taking behavior in a cross-country analysis of bank lending behavior. Similarly, Han *et al.* (2010) document that national culture influences capital markets, which ultimately impact bank lending behavior. National culture also influences accounting values, which in turn influence bank lending behavior (Bentley and Franklin 2013, Asare *et al.* 2020). Gu *et al.*, (2019) and Bell *et al.*, (2012) document that the national culture in which the firm operates can be a liability in its attempt to access foreign capital. Although these studies provide a rich understanding of the impact of culture on borrower access to capital, they largely focus on large firms in advanced economies with little emphasis on SMEs in developing economies.

Focusing on SMEs in developing economies is necessary because they are the economic backbone of these countries (Berger and Udell 2002, Chai *et al.* 2019, Chhabra and Pattanayak 2014, Wellalage *et al.* 2019, Wellalage and Locke 2016). In fact, SMEs account for over 90% of all businesses in most developing economies and empower economic development through innovation and the production of goods and services (Okafor 2012). Moreover, in economic juggernauts such as China and India, SMEs are abundant. For example, China has about 40 million SMEs, which account for 50% of Chinese gross domestic product (GDP), about 40% of national revenue, and over 70% of all Chinese jobs (Wu *et al.* 2008, Chai *et al.* 2019). In India, SMEs play a critical role in their economy, as well, (Chand and Parmar 2018) with over 48 million SMEs, accounting for about 90% of the country's industries, and about 17% of GDP (Rao *et al.* 2019). Similarly, SMEs are critical to the economies of Mexico, South America, and Africa, spearheading jobs and economic growth (Madill *et al.* 2002, Angeles *et al.* 2019, Parnell 2015, Okafor 2012, Haselip *et al.* 2013).

Given the importance of SMEs to developing economies, we examined the impact of culture on SME financing in these economies, using Hofstede's (1983) cultural dimensions, which have been found to be robust across many cultures over time. The accounting literature, in particular, has assessed the impact of culture utilizing Hofstede's cultural dimensions of individualism/collectivism (IDV), power distance (PDI), and uncertainty avoidance index (UAI) as proxies (Hope 2003, Hope *et al.* 2013; Salter and Niswander 1995, Salter *et al.* 2013, Tsakumis 2007, Kanagaretnam *et al.* 2014, Asare *et al.* 2020, Bentley and Franklin 2013). Each of these cultural dimensions will be discussed in future sections of the paper.

LITERATURE REVIEW AND HYPOTHESES

Firm Size

Extant literature has looked at how firm size is key in enabling organizations to gain access to financial markets (Beck *et al.* 2005, Beck *et al.* 2008, Baiman *et al.* 2010, Sharifi 2014, Xiao and North 2012). In addition, the primary mechanism for minimizing the risk associated with an organization's ability to pay its debt is the availability of audited financial statements (Asare *et al.* 2020, Verrecchia 1999, Armstrong *et al.* 2011, Baiman *et al.* 1996). Compared to smaller organizations, larger firms have the ability to hire large international auditing firms to audit their financial statements, and thus establish credibility, making large organizations more creditworthy than smaller ones (Angori *et al.* 2019, Emmett 2019, Darrrough and Deng 2019, Huang *et al.* 2015, Kira and He 2012).

Using a firm-level survey database covering 54 countries, Beck *et al.* (2005) found that small businesses are constantly constrained with financial obstacles. In fact, the authors found that larger firms were better able to access external financing than smaller firms, even when the larger firms were constrained. Moreover, Thiaw (2019) identified only a few SMEs that applied for loans in the West African region that won approval. Many of the SMEs that were rejected had poor record-keeping, a low credit standing, and the inability to substantiate creditworthiness. And, this trend is consistent across all regions of the world (Sharifi 2014, Kuntchev *et al.* 2013, Yang *et al.* 2013, Luo *et al.* 2016, Audretsch 2002, Parnell 2015, Berger *et al.* 2001). Conversely, larger businesses are able to produce relevant audited documents, which help them gain

access to financing (Barron and Hong 2014, Hail and Serafeim 2011, Bertomeu and Cheynel 2013, Chen *et al.* 2015).

Based on this literature, we expect that as firm size increases, their ability to disclose and substantiate better information to lenders increases, resulting in higher access to financing. Thus, it is hypothesized;

H1: *Compared to smaller SMEs, larger size SMEs in developing economies are more likely to gain access to financing.*

Funding Source

Due to the difficulty in gaining access to financing, private and state-owned banks have developed a myriad of funding programs to allow them to provide funds to SMEs (Beck *et al.* 2011, Berger and Udell 2006, Berger and Udell 1988). For instance, almost all banks in Africa, Asia, Europe, and the Americas have divisions specifically designed to serve SMEs (Okafor 2012, Berger and Udell 2006, Parnell 2015, Chai *et al.* 2019, Rao *et al.* 2019). In addition to banks, other financing institutions such as venture capitalists, microfinance schemes and crowdfunding provide financing to SMEs (Mollick 2014, Belleflame *et al.* 2014, Belleflame *et al.* 2013, Chai *et al.* 2019, Pollack *et al.* 2012). While venture capital and crowdfunding are promising sources of financing for SMEs, they are not very prevalent in developing economies. (Blaseg and Koetter 2015, Agrawal *et al.* 2011, Davidson *et al.* 2013). This leaves banks and microfinancing schemes as the primary sources of funding for SMEs in developing economies.

Within the banking industry, there are state-owned and private banks that serve the SME markets (Saparito *et al.* 2004, Amidu *et al.* 2011, Berger and Udell 2002). State-owned banks are owned by the government to promote the development of business to boost the economy (Bisman and Goela 2010, Sharifi 2014, Okafor 2012). Conversely, private banks are owned by individuals or shareholders and provide banking services to firms and individuals. Previous researchers have concluded that state banks are primarily established to provide financing to SMEs (Saparito *et al.* 2004, Chai *et al.* 2019, Audretsch 2002). In addition, Sapienza (2004) found that there are relatively more state-owned banks than private banks in developing economies, and that state-owned banks hold the majority of capital in most of these economies (Sapienza 2004). Thus, state-owned banks usually offer relatively lower interest rates and favorable financing terms to their borrowers, supporting the agency and social views of state-owned enterprises (SOEs).

However, due to corruption (Elamer *et al.* 2019) and political biases in developing economies, state-owned banks often end up favoring larger and state-owned businesses to the detriment of SMEs (Wellalage *et al.* 2019; Hoang and Phung 2019, Sapienza 2004). From an analysis of banks across Italy, Sapienza (2004) found that state-owned banks do not lend to SMEs as much as one would expect due to corruption and political reasons. Wellalage *et al.* (2019) also found that corruption decreased access to financing in South Asian SMEs by as much as 7.63%. Lastly, in a study of over 4,000 banks across 56 countries, Barth *et al.* (2009) found that state-owned banks were more likely to be influenced by corruption compared to private banks. Barry *et al.* (2017) came to a similar conclusion.

Given the literature, we would expect that most SMEs seek funding from private banks rather than from state-owned banks. Thus, it is hypothesized;

H2: *SMEs in developing economies are more likely to seek financing from private banks (than state-owned banks).*

The Impact of Culture

Individualistic Versus Collectivistic Cultures

According to Hofstede and Bond (1988), “Individualism is the extent to which members of society look out for the interests of themselves and those of their immediate family members” (Hofstede and Bond 1988, p. 11). That is, in high individualistic societies, members are conditioned to fend for themselves instead of the society at large. In contrast, in low individualistic (or collectivistic) societies, members of the society rely on in-group memberships for protection and other benefits (Hofstede and Bond 1988). Researchers

have also found that individualism influences banks' propensity to aggressively lend to borrowers through risk-taking and earnings management (Kanagaretnam *et al.* 2011, Kanagaretnam *et al.* 2014, Asare *et al.* 2020). In high individualistic cultures, bankers tend to fend for themselves rather than for the bank, and thus, they are often much more daring and aggressive when underwriting loans, compared to bankers in collectivist cultures (Kanagaretnam *et al.* 2011, Kanagaretnam *et al.* 2014). On the other hand, borrowers in individualistic societies are more transparent and disclose more information about their business. Taken together, the aggressive lending behaviors of banks and the transparency of firms (based on size) favor credit accessibility among borrowers in highly individualistic cultures (Asare *et al.* 2020). Similarly, Kanagaretnam *et al.* (2014) found that compared to collectivist cultures, individualistic cultures are more favorable towards credit and financing accessibility.

In summary, holding SME size and funding source constant, we expect SMEs in developing economies to have more access to financing in high individualistic cultures, compared to low individualistic cultures. Thus, it is hypothesized;

H3a: *The relationship between SME size and access to financing in developing economies will be stronger (weaker) in high (low) individualistic cultures.*

H3b: *The relationship between SME funding source and access to financing in developing economies will be stronger (weaker) in high (low) individualistic cultures.*

Uncertainty Avoidance Cultures

Uncertainty avoidance is "the extent to which members of a society feel uncomfortable about ambiguities" as defined by Hofstede and Bond (1988, p. 11). Members of high uncertainty avoidance societies are prone to minimize risk-taking to avoid future uncertainties (Hofstede and Bond 1988). That is, members of these high uncertainty avoidance societies are more risk-averse and have lower acceptance for ambiguities (Zheng *et al.* 2013). Given their low tolerance for the vague or unknown, members in high uncertainty avoidance cultures express their frustrations in emotions, anxiety, and stress (Hofstede 1983). Therefore, borrowers in high uncertainty avoidance cultures are usually more conservative and have fewer incentives to aggressively seek bank financing. Additionally, to minimize uncertainties, borrowers in high uncertainty avoidance cultures tend to be secretive and disclose less information to lenders (Asare *et al.* 2020, Bentley and Franklin 2013, Salter *et al.* 2013).

Also, uncertainty avoidance has been shown to impact bank lending behavior. In high uncertainty avoidance cultures, lenders often minimize ambiguities, and thus, are more conservative (Kanagaretnam *et al.* 2011, Bentley and Franklin 2013, Kanagaretnam *et al.* 2014). To this end, bankers can be less daring and aggressive when underwriting loans, giving them fewer incentives to manage earnings to declare large profits (Kanagaretnam *et al.* 2014). That is, lenders are more conservative in recognizing earnings and less transparent (more secretive) in reporting income (Kanagaretnam *et al.* 2014). Additionally, due to the low tolerance for uncertainty, lenders are less likely to manage their earnings to meet or exceed prior year numbers (Braun and Rodriguez 2008, Kanagaretnam *et al.* 2011). This high uncertainty avoidance translates to more anxiety, less accuracy in future projections (Sharma 2009) and less risk-taking on the part of lenders (Kanagaretnam *et al.* 2014).

In summary, holding SME size and funding source constant, we expect uncertainty avoidance behaviors to limit credit accessibility to SMEs in developing economies. Thus, it is hypothesized;

H4a: *The relationship between SME size and access to financing in developing economies will be weaker (stronger) in high (low) uncertainty avoidance cultures.*

H4b: *The relationship between SME funding source and access to financing in developing economies will be weaker (stronger) in high (low) uncertainty avoidance cultures.*

Power Distance Cultures

As Hofstede and Bond (1988) outlined, “Power distance is the extent to which members of society believe that power should be shared unequally among members in the society” (Hofstede and Bond 1988, p. 10). That is, members in high power distance cultures are taught to accept that certain members of the society (e.g., bosses, the elderly, and leaders) ought to be treated with respect, and in some instances, their authority should not be questioned. In this regard, we expect SMEs in high power distance cultures to follow along with the demands of their leaders. These demands could be in the form of disclosing more or less information to lenders.

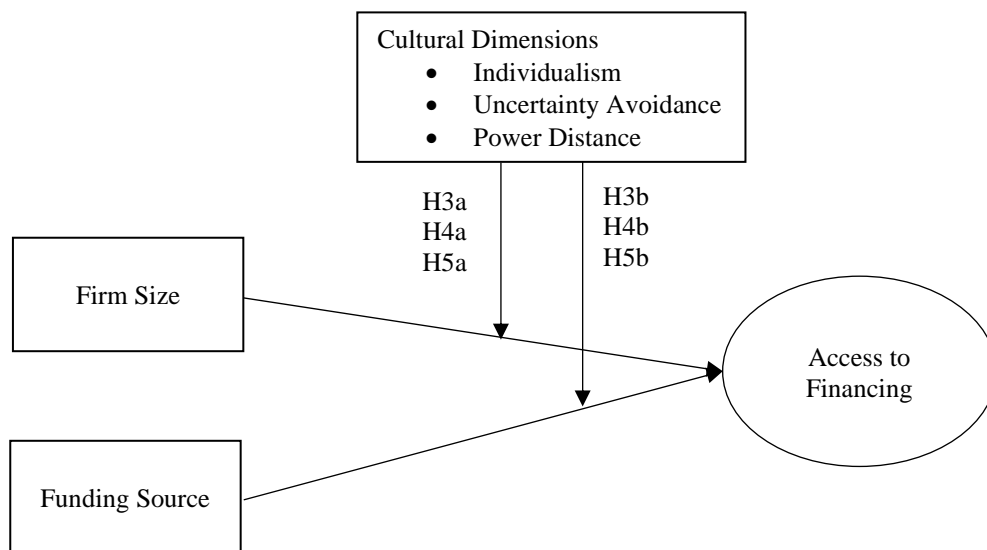
As with borrower behavior, power distance affects bank lending behavior. Extant literature shows that members in high power distance societies are aggressive in borrowing and earnings management (Braun and Rodriguez 2008, Kanagaretnam *et al.* 2011). Conversely, lenders in low power distance societies have been found to be less enthusiastic about managing their earnings to declare higher profits. We expect this disincentive to manage earnings to result in rigorous financing underwriting standards among banks in low power distance cultures with corresponding lower access to credit. Thus, it is hypothesized;

H5a: *The relationship between SME size and access to financing in developing economies will be stronger (weaker) in high (low) power distance cultures.*

H5b: *The relationship between SME funding source and access to financing in developing economies will be stronger (weaker) in high (low) power distance cultures.*

Figure 1 portrays the relationships that are examined in this research. As illustrated, we hypothesize that SME firm size and funding source in developing economies should each have a direct effect on SME access to financing. In addition, we believe that cultural dimensions such as individualism, uncertainty avoidance, and power distance should moderate these relationships. How we plan to test the relationships outlined in Figure 1 will be discussed in the next section.

FIGURE 1
RELATIONSHIPS BEING EXAMINED IN THE STUDY



METHODOLOGY

Sample and Data Description

The data for this research is comprised of firm-level enterprise surveys from developing economies, conducted by the World Bank between 2006 and 2019. After cleaning the data to address missing data issues and unavailability of Hofstede country dimensions, the final sample size was 2,185 SMEs from 27 countries. Industries represented in the sample include metals, chemicals, plastics, electronics, food, furniture, garments, hotels, information technology, leather products, machinery and equipment, minerals, motor vehicles, non-metallic products, and retail. Details about the sample are reported in Table 1.

TABLE 1
COUNTRIES REPRESENTED IN THE STUDY

| COUNTRY | UAI | IND | PDI |
|---------------------|-----|-----|-----|
| Angola | 60 | 18 | 83 |
| Argentina | 86 | 46 | 49 |
| Bhutan | 28 | 52 | 94 |
| Brazil | 76 | 38 | 69 |
| Burkina Faso | 55 | 15 | 70 |
| Cape Verde | 40 | 20 | 75 |
| Chile | 86 | 23 | 63 |
| Colombia | 80 | 13 | 67 |
| Costa Rica | 86 | 15 | 35 |
| Dominican Republic | 45 | 30 | 65 |
| Ecuador | 67 | 8 | 78 |
| El Salvador | 94 | 19 | 66 |
| Fiji | 48 | 14 | 78 |
| Guatemala | 99 | 6 | 95 |
| Honduras | 50 | 20 | 80 |
| Indonesia | 48 | 14 | 78 |
| Jamaica | 13 | 39 | 45 |
| Malawi | 50 | 30 | 70 |
| Mexico | 82 | 30 | 81 |
| Nepal | 40 | 30 | 65 |
| Panama | 86 | 11 | 95 |
| Peru | 87 | 16 | 64 |
| Philippines | 44 | 32 | 94 |
| Trinidad and Tobago | 55 | 16 | 47 |
| Uruguay | 99 | 36 | 61 |
| Venezuela | 76 | 12 | 81 |
| Vietnam | 30 | 20 | 70 |

Measures

The variables measured in this study include borrower access to financing (ACS), SME size, SME funding source, individualism (IND), uncertainty avoidance index (UAI), and power distance index (PDI). ACS was measured as the average of three question items such as “At this time, does this establishment have a line of credit or loan from a financial institution” and “Referring only to the most recent credit or loan, did the financing require collateral?” The funding source was measured with the question item: “Referring to the line of credit or loan, what type of financial institution granted this loan?” SME size was measured based by the firm size reported by the firms in the survey (small = 5-19 employees; medium = 20-99 employees; large = more than 100 employees). Measures for the moderating variables (individualism

(IND), uncertainty avoidance index (UAI), and power distance index (PDI)) were the scores reported on the Hofstede country dimensions website (www.Hofstede-Insights.com) for the countries represented in our sample.

Results

Test of Hypotheses

We tested five hypotheses in this study. In Hypothesis 1, we tested the relationship between SME size and access to financing (ACS). In Hypothesis 2, we tested the relationship between SME funding source (private banks versus state banks) and access to financing (ACS). In Hypothesis 3, 4, and 5, we examined the moderating effects of individualism, uncertainty avoidance, and power distance, respectively, on the relationships between SME size and access to financing and SME funding source and access to financing.

To test Hypothesis 1, we used the SPSS statistical software to perform regression analysis with SME size as the independent variable and access to financing (ACS) as the dependent variable. As reported in Table 2, the overall regression model was significant ($F = 71.724$; $p = 0.000$). Also, as shown in Table 2, SME size was significant in predicting ACS ($\beta = 0.178$, $p < 0.1$). Thus, we find support for Hypothesis 1.

TABLE 2
SME SIZE PREDICTING ACCESS TO CREDIT

| (a) Model Summary ^b | | | | |
|--------------------------------|----------|-------------------|----------------------------|--|
| R | R Square | Adjusted R Square | Std. Error of the Estimate | |
| .178 | 0.032 | 0.031 | 0.719 | |

a. Dependent Variable: ACS

b. Predictors: (Constant): SIZE

| (b) ANOVA ^a | | | | | | |
|------------------------|----------------|-------|-------------|--------|-------|--|
| | Sum of Squares | df | Mean Square | F | Sig | |
| Regression | 37 | 1 | 37.117 | 71.724 | .000b | |
| Residual | 1,129 | 2,182 | 0.517 | | | |
| Total | 1,166 | 2,183 | | | | |

a. Dependent Variable: ACS

b. Predictors: (Constant): SIZE

| (c) Model Summary ^a | | | | | |
|--------------------------------|-----------------------------|------------|---------------------------|--------|-------|
| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig |
| | B | Std. Error | Beta | | |
| (Constant) | 1.442 | 0.054 | | 26.643 | 0.000 |
| SIZE | 0.184 | 0.022 | 0.178 | 8.469 | 0.000 |

a. Dependent Variable: ACS

To test Hypothesis 2, we repeated the procedure for testing Hypothesis 1, running a regression analysis with SME funding source as the independent variable and access to financing (ACS) as the dependent variable. As reported in Table 3, the overall regression model was significant ($F = 134.557$; $p = 0.000$). Also, as shown in Table 3, SME funding source was significant in predicting ACS ($\beta = -0.241$, $p < 0.1$). The negative coefficient is due to the reverse coding effect of the question item that we used to measure SME funding source. Thus, we find support for Hypothesis 2.

TABLE 3
SME FUNDING SOURCE PREDICTING ACCESS TO CREDIT

(a) Model Summary^b

| | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|--|-------|----------|-------------------|----------------------------|
| | .241a | 0.058 | 0.058 | 0.710 |

a. Dependent Variable: ACS

b. Predictors: (Constant): SOURCE

(b) ANOVA^a

| | Sum of Squares | df | Mean Square | F | Sig |
|------------|----------------|-------|-------------|---------|-------|
| Regression | 68 | 1 | 67.744 | 134.557 | .000b |
| Residual | 1,099 | 2,182 | 0.503 | | |
| Total | 1,166 | 2,183 | | | |

a. Dependent Variable: ACS

b. Predictors: (Constant): SOURCE

(c) Model Summary^a

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig |
|------------|-----------------------------|------------|---------------------------|---------|-------|
| | B | Std. Error | Beta | | |
| (Constant) | 2.343 | 0.043 | | 54.980 | 0.000 |
| SIZE | -0.371 | 0.032 | -0.241 | -11.600 | 0.000 |

a. Dependent Variable: ACS

We tested Hypothesis 3(a) by performing a forced-entry moderating regression analysis of SME size, access to financing (ACS), and individualism (IND), using the ‘PROCESS’ add-in of SPSS. To control for high and low individualism, we used the median split method to categorize individualism into high and low categories (Knüppel and Hermsen 2010, Sedney 1981). Next, we regressed the combined high and low individualism (IND) scores against SME size and ACS. We repeated the process for the low and high individualism scores in separate regression analyses. Table 4 displays the results of Hypotheses 3(a). As reported in Table 4, the β and t-statistics of the interaction term for the combined, low, and high IND scores are 0.002 ($p > 0.10$), 0.017 ($p > 0.10$), and 0.000 ($p > 0.10$), respectively. Thus, we find no support for Hypothesis 3(a).

TABLE 4
IMPACTS OF INDIVIDUALISM ON SME SIZE AND ACCESS TO FINANCING

| Antecedent | Consequent | | |
|--|------------------|-------|----------------|
| | Access to Credit | | |
| Interaction of Predictor and Moderator | Coefficient | p | R ² |
| SIZE X IND (High and Low) | 0.002 | 0.354 | 0.086 |
| SIZE X IND (Low) | 0.017 | 0.207 | 0.038 |
| SIZE X IND (High) | -0.000 | 0.311 | 0.214 |

We tested Hypothesis 3(b) by repeating the procedures to test Hypothesis 3(a) with SME funding source, access to credit (ACS), and individualism (IND). Table 5 displays the results of Hypothesis 3(b).

As reported in Table 5, the β and t-statistics of the interaction terms for the combined, low, and high IND scores are 0.007 ($p < 0.10$), 0.002 ($p > 0.10$), and 0.000 ($p > 0.10$), respectively. Thus, we find partial support for H3(b).

TABLE 5
IMPACTS OF INDIVIDUALISM ON SME FUNDING SOURCE AND ACCESS TO FINANCING

| Antecedent | Consequent | | |
|--|-------------------|-------|----------------|
| | Access to Credit | | |
| Interaction of Predictor and Moderator | Coefficient | p | R ² |
| SOURCE X IND (High and Low) | 0.007 | 0.015 | 0.117 |
| SOURCE X IND (Low) | 0.002 | 0.925 | 0.043 |
| SOURCE X IND (High) | 0.000 | 0.893 | 0.225 |

We tested Hypothesis 4(a) by repeating the procedures in Hypothesis 3(a) with SME size, ACS, and uncertainty avoidance index (UAI). Table 6 displays the results of Hypotheses 4(a). As reported in Table 6, the β and t-statistics of the interaction terms for the combined, low, and high UAI scores are 0.027 ($p > 0.10$), 0.000 ($p > 0.10$), and 0.000 ($p > 0.10$) respectively. Thus, we find no support for H4(a).

TABLE 6
IMPACTS OF UNCERTAINTY AVOIDANCE ON SME SIZE AND ACCESS TO FINANCING

| Antecedent | Consequent | | |
|--|-------------------|-------|----------------|
| | Access to Credit | | |
| Interaction of Predictor and Moderator | Coefficient | p | R ² |
| SIZE X IND (High and Low) | 0.002 | 0.855 | 0.288 |
| SIZE X IND (Low) | 0.000 | 0.910 | 0.181 |
| SIZE X IND (High) | -0.000 | 0.311 | 0.214 |

We tested for Hypothesis 4(b) by repeating the procedures in Hypothesis 3(b) with SME funding source, ACS, and UAI. Table 7 displays the results of Hypotheses 4(b). As reported in Table 7, the β and t-statistics of the interaction terms for the combined, low, and high UAI scores are 0.337 ($p > 0.10$), 0.000 ($p > 0.10$), and -0.014 ($p < 0.10$) respectively. Thus, we find partial support for H4(b).

TABLE 7
IMPACTS OF UNCERTAINTY AVOIDANCE ON SME FUNDING SOURCE AND ACCESS TO FINANCING

| Antecedent | Consequent | | |
|--|-------------------|-------|----------------|
| | Access to Credit | | |
| Interaction of Predictor and Moderator | Coefficient | p | R ² |
| SOURCE X IND (High and Low) | 0.001 | 0.337 | 0.287 |
| SOURCE X IND (Low) | -0.000 | 0.925 | 0.043 |
| SOURCE X IND (High) | -0.014 | 0.046 | 0.011 |

We tested for Hypothesis 5(a) by repeating the procedures in Hypothesis 4(a) with SME size, ACS, and PDI. Table 8 displays the results of Hypothesis 5(a). As reported in Table 8, the β and t-statistics of the

interaction terms for the combined, low, and high PDI scores are -0.006 ($p < 0.10$), 0.002 ($p > 0.10$), and 0.003 ($p > 0.10$) respectively. Thus, we find partial support for H5(a).

TABLE 8
IMPACTS OF POWER DISTANCE ON SME SIZE AND ACCESS TO FINANCING

| Antecedent | Consequent | | |
|--|-------------------------|-------|----------------|
| | Access to Credit | | |
| Interaction of Predictor and Moderator | Coefficient | p | R ² |
| SIZE X IND (High and Low) | -0.006 | 0.003 | 0.075 |
| SIZE X IND (Low) | 0.002 | 0.643 | 0.112 |
| SIZE X IND (High) | 0.003 | 0.355 | 0.012 |

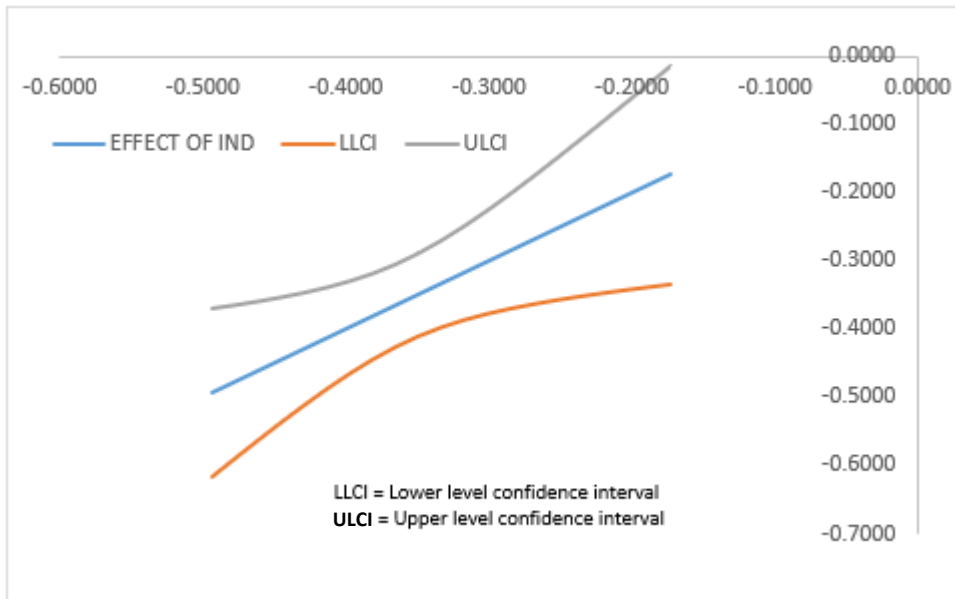
We tested for Hypothesis 5(b) by performing repeating the procedures in Hypothesis 4(a) with funding source, ACS, and PDI. Table 9 displays the results of Hypotheses 5(b). As reported in Table 9, the β and t-statistics of the interaction terms for the combined, low, and high PDI scores are 0.011 ($p < 0.10$), 0.012 ($p < 0.10$), and 0.006 ($p = 0.10$) respectively. Thus, we find support for H5(b).

TABLE 9
IMPACTS OF POWER DISTANCE ON SME FUNDING SOURCE AND ACCESS TO FINANCING

| Antecedent | Consequent | | |
|--|-------------------------|-------|----------------|
| | Access to Credit | | |
| Interaction of Predictor and Moderator | Coefficient | p | R ² |
| SOURCE X IND (High and Low) | 0.011 | 0.000 | 0.106 |
| SOURCE X IND (Low) | 0.012 | 0.040 | 0.058 |
| SOURCE X IND (High) | 0.006 | 0.100 | 0.011 |

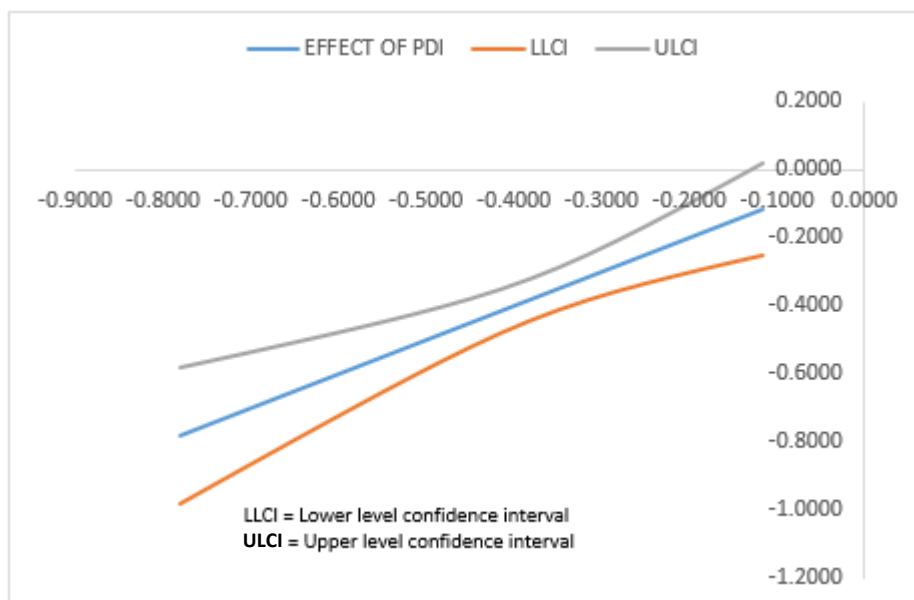
To confirm the results in Hypothesis 3(b), 4(b), and 5(b), we created moderating slopes to further analyze the impacts of IND, UAI, and PDI on the relationship between SME funding source and access to financing. The moderation slopes in Figure 2 illustrate the conditional effects of individualism on access to credit at various levels of collectivism at the 95% confidence interval level. As shown in Figure 2, at the highest point of individualism (26.9075), the effect of individualism on access to financing is at the highest point (-0.1734). Conversely, at the lowest point of individualism (-19.0925), the effect of individualism on access to financing is at the lowest point (-0.4931). Thus, as individualism increases, its effect on access to financing increases, supporting our conclusion for Hypothesis 3(b).

FIGURE 2
THE MODERATING EFFECTS OF INDIVIDUALISM ON THE RELATIONSHIP BETWEEN
SME FUNDING SOURCE AND ACCESS TO FINANCING



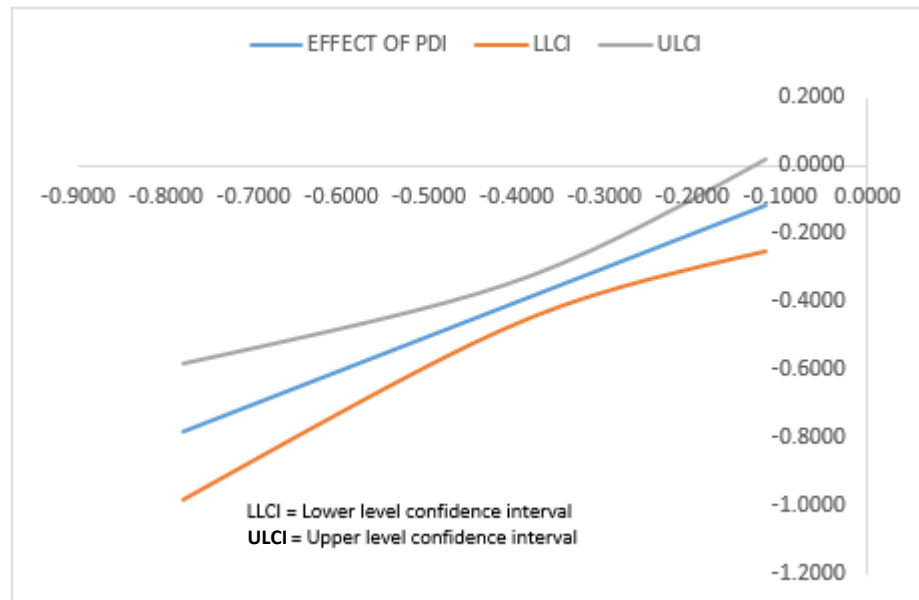
As shown in Figure 3, at the highest point of uncertainty avoidance (15.3026), the effect of uncertainty avoidance on access to financing is at the lowest point (-0.6669). Conversely, at the lowest point of uncertainty avoidance (-23.6974), the effect of uncertainty avoidance on access to financing is at the highest point (-0.1609). Thus, as uncertainty avoidance increases, its effect on access to financing decreases, supporting our conclusion for Hypothesis 4(b).

FIGURE 3
THE MODERATING EFFECTS OF UNCERTAINTY AVOIDANCE ON THE RELATIONSHIP
BETWEEN SME FUNDING SOURCE AND ACCESS TO FINANCING



As shown in Figure 4, at the highest point of power distance (24.2386), the effect of power distance on access to financing is at the highest point (-0.2506). Conversely, at the lowest point of power distance (-35.7614), the effect of power distance on access to financing is at the lowest point (-0.9809). Thus, as power distance increases, its effect on access to financing increases, supporting our conclusion for Hypothesis 5(b).

FIGURE 4
THE MODERATING EFFECTS OF POWER DISTANCE ON THE RELATIONSHIP
BETWEEN SME FUNDING SOURCE AND ACCESS TO FINANCING



Robustness Tests

In this study, we controlled for the high and low dimensions of culture using the median split method. However, we acknowledge the possibility of rival hypotheses that could explain SME access to financing. To address this concern, we controlled for SME information disclosure (SID) as an alternative predictive variable of SME access to financing. We settled on SME information disclosure for two reasons. First, due to missing data issues in the sample, we could not identify alternate predicting variables besides SME size, funding source, and information disclosure. Second, information disclosure is an established predictor of access to financing (Asare *et al.* 2020).

To control for SME information disclosure, we performed four regression analyses. First, we regressed SME size against access to financing. As reported in Table 2, the overall regression model was significant ($F = 71.724$; $p = 0.000$). Also, as shown in Table 2, SME size was significant in predicting ACS ($\beta = 0.178$, $p < 0.10$).

Second, we regressed information disclosure against SME size. As reported in Table 10, the overall regression model was significant ($F = 262.331$; $p = 0.000$). Also, as shown in Table 10, SME information disclosure is significant in predicting SME size ($\beta = 0.328$, $p < 0.10$).

TABLE 10
SME INFORMATION DISCLOSURE PREDICTING SME SIZE

(a) Model Summary^b

| | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|--|-------|----------|-------------------|----------------------------|
| | .328a | 0.107 | 0.107 | 0.670 |

a. Dependent Variable: SIZE
b. Predictors: (Constant): SID

(b) ANOVA^a

| | Sum of Squares | df | Mean Square | F | Sig |
|------------|----------------|-------|-------------|---------|-------|
| Regression | 112 | 1 | 117.752 | 262.331 | .000b |
| Residual | 979 | 2,182 | 0.449 | | |
| Total | 1,097 | 2,183 | | | |

a. Dependent Variable: SIZE
b. Predictors: (Constant): SID

(c) Model Summary^a

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig |
|------------|-----------------------------|------------|---------------------------|--------|-------|
| | B | Std. Error | Beta | | |
| (Constant) | 1.066 | 0.083 | | 12.856 | 0.000 |
| SIZE | 0.495 | 0.031 | 0.328 | 16.197 | 0.000 |

a. Dependent Variable: SIZE

Third, we regressed SME information disclosure against SME access to financing. As reported in Table 11, the overall regression model was significant ($F = 103.513$; $p = 0.000$). Also, as shown in Table 11, SME information disclosure was significant in predicting ACS ($\beta = 0.213$, $p < 0.10$).

TABLE 11
SME INFORMATION DISCLOSURE PREDICTING SME ACCESS TO FINANCING

(a) Model Summary^b

| | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|--|-------|----------|-------------------|----------------------------|
| | .213a | 0.045 | 0.045 | 0.714 |

a. Dependent Variable: ACS
b. Predictors: (Constant): SID

(b) ANOVA^a

| | Sum of Squares | df | Mean Square | F | Sig |
|------------|----------------|-------|-------------|---------|-------|
| Regression | 53 | 1 | 52,822 | 103,513 | .000b |
| Residual | 1,113 | 2,182 | 0.510 | | |
| Total | 1,166 | 2,183 | | | |

a. Dependent Variable: SIZE
b. Predictors: (Constant): SID

(c) Model Summary^a

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig |
|------------|-----------------------------|------------|---------------------------|--------|-------|
| | B | Std. Error | Beta | | |
| (Constant) | 1.995 | 0.088 | | 11.253 | 0.000 |
| SIZE | 0.335 | 3,033.000 | 0.213 | 10.174 | 0.000 |

a. Dependent Variable: ACS

Finally, we regressed firm size and financial information disclosure against access to financing. As reported in Table 12, the overall regression model was significant ($F = 68.794$; $p = 0.000$). Also, as shown in Table 12, both SME firm size and information disclosure were significant in predicting access to financing ($\beta = 0.120$, $p < 0.10$ and $\beta = 0.175$, $p < 0.10$, respectively).

TABLE 12
SME INFORMATION DISCLOSURE AND SIZE PREDICTING ACCESS TO FINANCING

(a) Model Summary^b

| | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|--|-------|----------|-------------------|----------------------------|
| | .243a | 0.059 | 0.058 | 0.709 |

a. Dependent Variable: ACS

b. Predictors: (Constant): SIZE, SID

(b) ANOVA^a

| | Sum of Squares | df | Mean Square | F | Sig |
|------------|----------------|-------|-------------|--------|-------|
| Regression | 69 | 2 | 34.598 | 68.794 | .000b |
| Residual | 1,101 | 2,182 | 0.503 | | |
| Total | 1,170 | 2,183 | | | |

a. Dependent Variable: ACS

b. Predictors: (Constant): SIZE, SID

(c) Model Summary^a

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig |
|------------|-----------------------------|------------|---------------------------|-------|-------|
| | B | Std. Error | Beta | | |
| (Constant) | 0.858 | 0.091 | | 9.453 | 0.000 |
| SIZE | 0.124 | 0.023 | 0.120 | 5.457 | 0.000 |
| SID | 0.273 | 0.034 | 0.175 | 7.983 | 0.000 |

a. Dependent Variable: ACS

We also performed the robustness test for the relationship between SME funding source and access to financing. First, we regressed SME funding source against access to financing. As reported in Table 3, the overall regression model is significant with an R^2 of 0.032. Also, as shown in Table 3, SME funding source is significant in predicting ACS ($\beta = 0.178$, $p < 0.1$).

Second, we regressed information disclosure against SME funding source. As reported in Table 13, the overall regression model was significant ($F = 64.030$; $p = 0.000$). Also, as shown in Table 13, SME information disclosure is significant in predicting SME funding source ($\beta = -0.169$, $p < 0.10$).

TABLE 13
SME INFORMATION DISCLOSURE PREDICTING SME FUNDING SOURCE

| (a) Model Summary ^b | | | | |
|--------------------------------|----------|-------------------|----------------------------|--|
| R | R Square | Adjusted R Square | Std. Error of the Estimate | |
| .169 | 0.029 | 0.028 | 0.468 | |

a. Dependent Variable: SOURCE

b. Predictors: (Constant): SID

| (b) ANOVA ^a | | | | | |
|------------------------|----------------|-------|-------------|--------|-------|
| | Sum of Squares | df | Mean Square | F | Sig |
| Regression | 14 | 1 | 14.024 | 64.030 | .000b |
| Residual | 478 | 2,182 | 0.219 | | |
| Total | 492 | 2,183 | | | |

a. Dependent Variable: SOURCE

b. Predictors: (Constant): SID

| (c) Model Summary ^a | | | | | |
|--------------------------------|-----------------------------|------------|---------------------------|--------|-------|
| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig |
| | B | Std. Error | Beta | | |
| (Constant) | 1.702 | 0.058 | | 23.369 | 0.000 |
| SIZE | -0.171 | 0.021 | -0.169 | -8.002 | 0.000 |

a. Dependent Variable: SOURCE

Third, we regressed SME information disclosure against SME access to financing. As reported in Table 11, the overall regression model was significant ($F = 52.822$; $p = 0.000$). Also, as shown in Table 11, SME funding source is significant in predicting ACS ($\beta = 0.215$, $p < 0.10$).

Finally, we regressed SME funding source and financial information disclosure against access to financing. As reported in Table 14, the overall regression model was significant ($F = 105.986$; $p = 0.000$). Also, as shown in Table 14, both SME funding source and information disclosure were significant in predicting access to financing ($\beta = 0.177$, $p < 0.10$ and $\beta = -0.211$, $p < 0.10$, respectively).

TABLE 14
SME INFORMATION DISCLOSURE AND FUNDING SOURCE PREDICTING ACCESS TO FINANCING

| (a) Model Summary ^b | | | | |
|--------------------------------|----------|-------------------|----------------------------|--|
| R | R Square | Adjusted R Square | Std. Error of the Estimate | |
| .298a | 0.089 | 0.088 | 0.698 | |

a. Dependent Variable: ACS

b. Predictors: (Constant): SOURCE, SID

| (b) ANOVA ^a | | | | | |
|------------------------|----------------|-------|-------------|---------|-------|
| | Sum of Squares | df | Mean Square | F | Sig |
| Regression | 103 | 2 | 51.655 | 105.986 | .000b |
| Residual | 1,063 | 2,181 | 0.478 | | |
| Total | 1,166 | 2,183 | | | |

a. Dependent Variable: ACS

b. Predictors: (Constant): SOURCE, SID

| (c) Model Summary ^a | | | | | |
|--------------------------------|-----------------------------|------------|---------------------------|---------|-------|
| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig |
| | B | Std. Error | Beta | | |
| (Constant) | 1.548 | 0.102 | | 15.166 | 0.000 |
| SIZE | 0.276 | 0.032 | 0.177 | 8.543 | 0.000 |
| SID | -0.325 | 0.032 | -0.211 | -10.178 | 0.000 |

a. Dependent Variable: ACS

The results of the robustness tests confirm the findings from extant literature; SME information disclosure promotes SME access to credit. However, both SME size and funding sources are still effective in predicting access to financing in the multiple regression models. Thus, we found that SME size and funding sources are predictors of access to financing after controlling for information disclosure.

DISCUSSION

This study adds to the accounting and finance literature by examining SMEs in developing economies in four areas. These areas are the moderating influence of culture, alternative SME financing sources, determinants of SME access to financing, and the internationalization of SMEs. These four perspectives have implications for both theory and practice.

Implications for Theory

The primary objective of this paper was to examine the moderating effects of culture on two determinants of SME financing in developing economies: SME size and funding source. We hypothesized and found that SME size and funding sources do determine accessibility to financing in developing economies. According to our results, larger SMEs have more access to financing than smaller SMEs. These results are consistent with prior research (Asare *et al.* 2020). We also found that private banks are more likely to provide financing to SMEs than state-owned banks. These results are also consistent with prior research (Sapienza 2004).

From the social view, our results show that state-owned banks in developing economies have not lived up to expectations in terms of SME financing. Future research should investigate whether the cost of state-owned banks outweighs the benefits in these economies (e.g. providing accessible financing to SMEs). In particular, what is the economic cost to establish and maintain state-owned banks? Is it worth keeping these banks, if they are not lending to SMEs? Future research should also look into governance mechanisms that assist SMEs in accessing financing from state-owned banks, especially in developing and emerging economies. For example, what lessons could be learned from advanced economies such as the United States that have strong government-backed financing schemes executed through partnerships with the private sector?

Our results also reveal that some cultural dimensions (individualism, uncertainty avoidance, and power distance) influence the relationship between SME funding source and access to financing. In other words, culture is critical to SME's access to financing from private banks in developing economies as our results

indicated. Future research should investigate the role of culture in SME's access to financing from state-owned banks.

Due to data availability issues, this paper focused only on the individualism, uncertainty avoidance, and power distance cultural dimensions. Future research should examine the impact of other Hofstede country dimensions (i.e., masculinity, long term orientation, and indulgence) on SME financing in developing economies, which have received little attention in the literature.

Culture has been represented exclusively in this paper with Hofstede's country dimensions as proxies. However, there are other cultural factors such as language, tribe, ethnicity, customs, and traditions that are not captured in Hofstede's country dimensions. Studies show those cultural factors influence societal values such as social networks, which in turn influence access to jobs, political affiliations, and some social amenities. With this background, future research could investigate how those cultural factors influence SME access to credit and financing in developing economies.

We did not find support for the moderating influence of individualism and uncertainty avoidance on the relationship between SME size and access to financing. However, prior accounting researchers (Asare *et al.* 2010, Kanagaretnam *et al.* 2014) found these cultural values to influence both bank lending behavior and borrower information disclosure practices, which was influenced by firm size. Future research should examine why this is the case. For instance, do SMEs grow out of cultural biases and influences as they expand or become part of large international organizations? Is SME financing source, public or private, immune to cultural biases? If so, what lessons could be applied to other dependents of SME access to credit and financing?

Consistent with the prior literature, the results of this study show that culture plays a significant role in SME financing in developing economies. We acknowledge that our sample was limited to only 27 developing economies. Future studies should look at expanding the number of economies and to test the role of culture on SME financing. Also, given culture's impact, SMEs are likely to face challenges as they seek international financing when expanding beyond their home country. Thus, future research should look at potential financing obstacles that SMEs are likely to face in their internationalization efforts.

Implications for Practice

Our findings seem to suggest that state-owned or public banks in developing nations provide more access to capital to large firms, leaving SMEs with little to no choice but to source from the private sector banks, often at higher rates. Since SMEs form the backbone of most developing economies, it is imperative that governments ensure greater transparency when it comes to lending through public banks as transparency is still a problem in developing economies (Belal *et al.* 2013). While the International Financial Reporting Standard (IFRS) has improved transparency to some extent (Gassen 2017) more work is needed. Moreover, we recommend that public banks make concerted efforts to encourage the growth of SMEs by having targeted lending programs.

In addition, SMEs face significant hurdles when borrowing internationally due to culture. To help level the playing field and overcome cultural barriers, home countries should create agencies to not only help in information flow, but also to help in enabling SMEs in their journey to secure audited financial statements. Local government agencies could also facilitate in the process of securing international loans by authenticating and validating the SMEs – almost akin to securing a letter of credit in international trade.

CONCLUSION

Small and medium-sized enterprises (SMEs) are critical for the growth of developing economies. Extant literature has shown that access to financing is very important for SMEs in developing economies for sustained growth and development. Yet, as our research shows, several factors affect SMEs ability to secure financing, which is further amplified by cultural factors. As outlined in our discussion, academics need to renew their focus on SME financing. Public and private financial sectors in developing economies need to renew and improve their efforts to enable better access to financing for SMEs, and work to eradicate discriminatory lending in these countries (Saliya and Jayasinghe 2016). Last year, the announcement of the

European Investment Bank (EIB) and Spanish bank Banco Bilbao Vizcaya Argentaria (BBVA) to make 600 million euros available for SMEs in Spain is a step in the right direction. Perhaps, this type of public-private partnership will pave the way for other partnerships in the future that will benefit SMEs in developing economies.

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