

**The Relationship between National Culture and
Financialization: A Cross-National Study**

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Master Dissertation in Finance

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Biographic Note

Kenique Iande Ivery was born on May 20, 1989 in St. Elizabeth, Jamaica. In 2012 he earned a BSc in Economics, with *Upper Second Class Honours*, from The University of the West Indies, St. Augustine Campus, in Trinidad and Tobago. Following his undergraduate studies, Ivery worked for one year as an associate in the tax practice of PwC Trinidad and Tobago. Thereafter, he was a tutor of Caribbean Economics, Development Economics, and Microeconomics in The University of the West Indies, St. Augustine Campus. In 2014 Ivery was awarded an Erasmus Mundus ACP Scholarship by the European Commission to complete a master's degree in finance in the Faculty of Economics, University of Porto.

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Abstract

We propose that culture matters in finance. In this dissertation we study the relationship between national culture and financialization. To date the concept and definition of financialization has largely been theoretical, with little empirical research. Grappling with this reality, we draw from a combination of orthodox and heterodox literature to bring the concept into the realms of rigorous empirical analysis.

Using the findings of Cecchetti and Kharroubi (2012) and Arcand *et al.* (2015) we assume and argue that financialization commences when domestic credit to private sector (% of GDP) exceeds 80%. Considering the aforementioned findings, we assume that financialization is the advanced state of financial development. We divide our data into two main cross-sections based on this criterion. The first being a general group of 55 countries, and the second a sample of 30 considered to be experiencing financialization.

We employ four of Hofstede (1980) cultural dimensions to examine if national culture has a role in financial development and financialization. For robustness we consider primary religion as an alternative proxy for national culture, (Stulz and Williamson, 2003).

Our results show that there is a statistically significant negative relationship between financial development and power distance. Overall, there is no evidence to suggest that Hofstede's cultural dimensions explain the relationship between national culture and financialization. Nevertheless, using primary religion to test robustness, we see that national culture has some explanatory power in both financialization and financial development. We find that in countries with predominant Muslim populations there is strong evidence of less financial development and financialization. In the vein of Stulz and Williamson (2003), we conclude that primary religion has a profound role in informing the financial development trajectory of a nation.

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1. Introduction

In this dissertation we investigate the relationship between national culture and financialization. One of the pioneering studies of cultural finance, Stulz and Williamson (2003), claims that there are three channels in which culture impacts financial outcomes. First, the values which are predominant in a country are informed by its culture. This affects things such as the charging of interest, which varies based on religion. Second, culture directly affects institutions. The legal system of a country is developed by its cultural values. Third, culture helps to determine how resources are allocated within an economy.

Our research is focused on how culture informs financialization. To summarize, Krippner (2005) and Epstein (2005), recognizes financialization as a state in which financial depth, motives, and activities become too excessive for the economy and society. One of the most significant consequences of this is income inequality.

Recent studies by Kus (2012) and Lin and Tomaskovic-Devey (2013) show that financialization is a strong and significant determinant of income inequality in advanced economies. Furthermore, Sawyer (2013) outlines that income inequality is a prevalent feature of the financialized society. These findings and conceptualization gives financialization a negative connotation.

The United Nations Development Programme launched the Human Development Index in 1990, developed by prominent development economists Mahbub ul Haq and Amartya Sen. Considering that improved income equality is a hallmark of human development, we were compelled to investigate the determinants of financialization. It is our hope that this research may provide some insights that may be useful in policy to help alleviate the negative impacts of financialization.

The literature on financialization has largely been focused on how it impacts socio-economic events. However, there is a dearth of literature on how social events or elements determine financialization. This further motivates our interest in looking at how national culture impacts financialization. We contend that this dearth comes from the difficulty of delineating the difference between financial development and financialization. Especially since international organizations such as the IMF and World Bank have been committed to global financial development since McKinnon (1973) and Shaw (1973) established the relationship between financial development and economic development. Evidenced by these organizations' commitment to financial development, the general perception has been that

financial deepening is good for any economy. However, we will discuss authors who find that financial deepening eventually reduces economic output.

Considering our aim to illustrate how society influences financialization we propose the following research question: Is national culture a determinant of financialization? If so, what are the elements of national culture which are determinants?

To accomplish this aim we clearly define what is meant by financial development and financialization. In our study we assume that the finding that domestic credit to private sector (% of GDP) has a detrimental impact on economic output by Cecchetti and Kharroubi (2012) and Arcand *et al.* (2015) is the differentiating factor. This is supported by the fact that excessive extension of credit is a prominent feature of financialization, (Sawyer, 2013).

To measure national culture, we used four of Hofstede's (1980) cultural dimensions within our models. Furthermore, to ensure robustness we utilized primary religion as an alternative proxy of national culture as prescribed by Stulz and Williamson (2003).

We developed a cross - section of data that was estimated using ordinary least squares (OLS) with heteroskedastic robust standard errors. The sample was divided into two. In order to get as many cultural dimensions as possible we limited our sample to 55 countries. One sample included all countries, while the other only countries with a domestic credit to private sector (% of GDP) above 80%. Within the 55 countries we find that 30 countries reached or exceeded the threshold of 80%.

Our results indicated that none of Hofstede's cultural dimensions are significant determinants of financialization. However, power distance has a significant negative relationship with financial development. In addition, we found that there is a strong negative relationship between Islam and both financial development and financialization.

This dissertation contributes to the literature in multiple ways. Firstly, it is one of the first study to use so many of Hofstede's cultural dimensions to examine financial development. Secondly, it is the first known study to link national culture to financialization. Thirdly, it is the first known study to develop a proxy that illustrates the continuum between financial development and financialization. Fourthly, it is one of the first studies to empirically establish determinants of financialization. Finally, it is the first known study to highlight a possible relationship between Islam and financialization.

The paper begins with a literature review that thoroughly introduces the concept of financial development with its determinants, definitions and features of financialization, a review of Hofstede's cultural dimensions, and a presentation of similar empirical studies with their respective methodologies. In the chapter, *Data and Methodology*, we outline the

dependent and independent variables, descriptive statistics, model specification, and the empirical strategy. Thereafter, we present the results of the study. Finally, we conclude the dissertation with a discussion of our findings, research challenges, and the opportunities this paper gives for future research.

2. Literature Review

In this chapter we aim to establish the theoretical foundations governing this dissertation. Considering the title of this dissertation, this review explores the concepts of financialization and culture. We commence this section by exploring a concept that is not expressed in the title, financial development. For reasons which we will explain later in this chapter, we conclude that financial development depth is the theoretical genesis of financialization. This shall be explained by the burgeoning literature which finds that excessive credit to the private sector (80-120% of GDP) reduces output growth (Arcand *et al.*, 2015). This lends from the previous findings of Rousseau and Wachtel (2011). The theoretical discussion concludes with a thorough examination of the theory of culture and Hofstede's cultural dimensions. This section is also supported by a review of similar studies which investigates the relationship between financial development and culture, and their methodological considerations.

2.1 Financial Development

Financial development has been a dominant concern of the IMF, World Bank, and World Economic Forum. The IMF (International Monetary Fund) and World Bank are the world's leading international organisations with the aim of global economic development. In their IMF working paper, Khan and Senhadji (2000) define financial development as the measure of financial depth of a country's financial markets. Beck *et al.* (2000) introduces a new database hosted by the World Bank. In the database are indicators of financial structure and financial development across countries and time. These indicators measure the size, activity, and efficiency of financial intermediaries and markets. Beck *et al.* (2010) in response to the financial crisis introduces financial system stability as a critical indicator. The World Economic Forum's Financial Development Report (2012) defines financial development as the policies, factors, and the institutions that lead to the efficient intermediation and effective financial markets. The perceived importance of financial development has not been underscored by these organisations which bear the duty of bringing development to many vulnerable nations. We argue that a series of monumental papers in the 20th century helped to provide confidence in the notion that financial development results in economic growth and development.

The earliest known research which promotes the notion of developed financial systems can be traced back to Bagehot (1873). In this work Bagehot argues that large and well organized

capital markets in England enhanced resource allocation to the aid of productive investment. However, we may propose that Schumpeter (1911), which provides more elaborate insights in financial development, helped to instigate the financial development debate of the 20th century. Joseph Schumpeter (1911) argues that the services provided by financial intermediaries are essential for the technological innovation and economic development. These services include: the mobilizing savings, evaluating projects, managing risk, monitoring managers, and facilitating transactions. In this same vein, Hicks (1969) finds that financial markets are important in the process of industrial revolution given that the development of financial systems contribute to the applications of new technologies and innovations.

With reference to the role of financial development and economic growth, Goldsmith (1969) argues that there is evidence to suggest a positive link between financial development and economic growth. Goldsmith (1969); McKinnon (1973) and Shaw (1973) hypothesize that financial liberalization and stock market development promotes economic growth through its impact on the growth rate of savings, investment, and thus economic growth. This is also called McKinnon-Shaw model. In more recent research, Levine (1997, 2005) suggests that the transaction cost of accessing external funds has shrunk considerably since the 1970s. A reduction which the author suggests assist in the facilitation of investment and market entry, provocation of competitive pressures to innovate, and mobilisation of savings to accumulate capital, all of which furthers economic growth.

King and Levine (1993) were the first researchers to establish that financial depth is a predictor of economic growth. Levine and Zervos (1998) illustrated that stock market liquidity, not the size of the stock market, is a predictor of economic growth.

The emphasis on the relevance and economic development capacity of financial developed has been explored to a broad extent in the literature. However, what have been attracting the attention of many researches in recent years are the determinants of financial development.

2.1.1. Legal Origins

La Porta *et al.* (1998) argues that the origin of a particular nation's legal code influences the treatment of creditors and shareholders, and the efficiency of contract enforcement. La Porta *et al.* (1998) establishes the law and finance theory. In this work it is found that legal systems differ systematically in proliferating property rights. La Porta *et al.* (1998) suggest the most modern legal systems are derived from British common law, French civil law, German civil law, or Scandinavian civil law. These legal systems were spread principally by colonial

conquest, and post French revolution Napoleonic conquests. According to La Porta *et al.* (1998) and Beck *et al.* (2003) the relatively limited capital markets in French civil law countries leads to poor investor protection. In contrast, British common law tends to protect the rights of private property owners. Relative to other legal systems it was found by La Porta *et al.* (1998) that British common law is most conducive to financial development whereas French civil law the least.

Djankov *et al.* (2002, 2003), builds on the work of La Porta *et al.* (1998) and by legal scholars such as Dawson (1960) and Merryman (1985). Djankov *et al.* (2002, 2003) show that the “legal origin” of a country has a significant and important effect on the degree of legal formalism. Acemoglu and Johnson (2005) find that increased legal formalism reduces financial development. The authors also find that legal formalism is much stronger in countries with a French civil law origin, and the least in countries with a British common law legal origin.

2.1.2. Institutions

The legacy of colonialism on financial markets is investigated in Beck *et al.* (2003). The researchers found that both the origin of legal institutions and institutions which protects from predatory governance continue to determine the size of capital markets. Acemoglu and Johnson (2005) further these findings by establishing that constraining government power seems to matter more when explaining financial development. Acemoglu and Johnson (2005) propose that the difference in financial development is due to the colonial strategies of European empires. The paper argues that this is dictated by the disease environment encountered by European settlers. In places which had relatively minimal health hazards for settlement colonial powers devised institutions similar to their home countries. A major example of this is creating a political system which prevents the government from having excessive levels of power. Conversely, countries which were too inhospitable for settlement served for the extraction of resources. As such institutions served to maximize state income rather than to promote good governance.

With relevance to financial transactions, North (1981) address the reliance of contracting institutions relying on the state to protect financial transactions, and the risk that the political elite will extract financial resources instead of protecting them. The authors classify this as contracting and predatory dimensions of institutional quality.

2.1.3. Policy

De La Torre *et al.* (2007) examine the requirement of policy thinking for financial development. According to the authors, in order to achieve strong and deep financial systems

the following are necessary: strong stock markets, financing of small and medium enterprises, and defined contribution of pension system. In addition, governments bear the responsibility of providing the best mechanisms for the provision of efficient mobilization of resources, and risk allocation. This responsibility calls for the implementation of sound prudential regulation including appropriate accounting without increasing moral hazard. Government is also required to aid the provision of a sound institutional and informational environment. De La Torre *et al.* (2007) recommends that in order to attain high levels of financial development governments must facilitate flexible and shock proof exchange rates, a strong local currency, and a strong regulatory environment which encourages the enforcement of contracts.

The roles of macroeconomic policies such as maintaining lower inflation and attracting higher invest are well documented promoters of financial development. Huybens and Smith (1999) theoretically investigate the effects of inflation on financial development. It was found that economies with higher inflation rates are likely to have smaller, less active and less efficient banks and equity markets.

2.1.4. Trade Openness

Rajan and Zingales (2003) as well as Haung and Temple (2005) concludes that there is a positive relationship between trade openness and financial development. Do and Levchenko (2004) also finds that openness to external trade tend to boost financial development. The aforementioned paper argues that in countries endowed with physical capital, specialisation in capital-intensive industries increases the demand for functional financial intermediation.

2.1.5. Geography

There is a significant body of research highlights the importance of geography on general economic development. While our concern is on financial development, we are of the view that this review would be more thorough by exploring this research.

Kamarck (1976), Diamond (1997), Gallup *et al.* (1999) and Sachs (2003) all suggest that tropical location negatively impacts economic development. Fragile tropical soils, unstable water supply, and prevalence of crop pests lead to poor crop yields and production, hence a more grim economic development reality. Acemoglu *et al.* (2001) also supports this with the claim that tropical location promotes an inhospitable disease-prone environment. Essentially it is believed that this is a primary cause of extractive intuitions.

There is also some research which highlights the negative impact of being landlocked, distant from large markets or having only limited access to coasts and rivers navigable to the ocean. Sachs and Warner (1995, 1997); Malik and Temple (2009) claim that distance from large

markets or having only limited access to coasts navigable to the ocean antagonize economic development.

2.1.6. Other Variables

There are a number of other variables which have been explored at varying degrees to explain financial development. These factors include economic and cultural influences.

Greenwood and Jovanovic (1990) and Saint – Paul (1992) present that as an economy grows, the cost of financial intermediation decrease as a result of intensive competition including a larger amount of funds available for productive investment. Levine (1997, 2003, 2005) also document the importance of income levels for financial development.

Stulz and Williamson (2003) suggest that culture has some impact in the process of financial development. They find that Catholic countries have significantly weaker creditor rights than other countries. In a study of 49 countries, the authors show that a country's principal religion better predicts the cross-sectional variation in creditor's rights than a country's natural openness to international trade, its language, its income per capita, or origin of its legal system.

2. 1.7. Criticisms of Financial Development

There are many influential economists believe that financial development it is relatively unimportant. Robinson (1952) defends that financial development simply follows economic growth. Lucas (1988) asserts that the relationship between financial and economic development "over-stressed. Burkett (1987) contends that stock market development may not lead to increased output growth rates. Espinosa and Hunter (1994) insist that an entirely liberalized financial sector may be undesirable in a developing economy because stock market fluctuations would incite greater increases in financial suppression rather than economic growth.

Development economists frequently express their scepticism of the role of the financial system. According to Anand Chandavarkar (1992) this is usually done by ignoring it. In a collection of essays by the "pioneers of development economics," there is no mention of finance, (Morawetz, 1985).

2.2 Financialization

Stockhammer (2004), Dumenil and Levy (2004a, 2004b), Crotty (2005), and Epstein and Jayadev (2005) refer to financialization as the rise of financial investment and incomes from the globalisation of financial markets. Earlier literature considers the growing importance of ‘shareholder value’ in economic decisions (Froud *et al.*, 2000).

While the aforementioned conceptualisations are relatively systematic the following aims to link financialization to the level to individual economic agents. Epstein (2005: 3) explains, “Here we will cast the net widely and define financialization quite broadly: for us, financialization means the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies”. Kripper (2005: 48) defines financialization from the perspective of the firm, “financialization as a pattern of accumulation in which profits accrue primarily through financial channels rather than through trade and commodity production.”

Sawyer (2013) highlights the work of FESSUD (2011). The Financialisation, Economy, Society and Sustainable Development (FESSUD) project is a multidisciplinary project which aims to forge alliances across the social sciences in order to understand how finance can better serve economic, social, and environmental needs. The project runs from 01/12/2011 to 30/11/2015 and has institutional partners from 14 leading universities in Europe and South Africa as well as one European non-government organisation. Sawyer (2014), following Fine (2011), and the FESSUD description of work identifies eight features of financialization in the present period (since circa 1980).

The first feature refers to the relationship between financialization and the depth or size of financial markets. “First, it refers to the large – scale expansion and proliferation of financial markets over the past thirty years,” (Sawyer, 2013:7). Palma and Blankenburg (2009) explains that the ratio of financial assets to global GDP has risen threefold from 1.5 to 4.5 in the last thirty years.

Deregulation also seems to have a profound contribution to the expansion of the financial system. “Second, the process of financialization is closely interwoven with the deregulation of the financial system itself and the economy generally,” (Sawyer, 2013:8). Davidson (2008) finds that investment in future commodities more generally had increased by twenty times since 2003.

Within this sectorial growth we can also consider the activity of financial market players. “Third, financialization has is understood as the expansion and the proliferation of financial instruments and services. This is associated with the birth of a range of financial

institutions and markets, corresponding acronyms that are bewilderingly complex, quite apart from futures markets for trading in commodities yet to be produced (for which futures carbon trading is the most striking and, infamously, subprime mortgages;” (Sawyer, 2013:8).

The literature also shows that financialization penetrates the private sector. “Fourth, financialization at a systemic level has been located in terms of the dominance of finance over industry” (Sawyer, 2013:8).

Furthermore, financialization has clear socio-economic implications. “Fifth, financialization is strongly associated with market mechanisms, complemented or reinforced by policies that have underpinned rising inequality of income and of inequality more generally,” (Sawyer, 2013:8).

One may argue that the extension of credit helps to sustain financialization. “Sixth, consumption has often been sustained by the extension of credit, not least through the use of capital gains as collateral,” (Sawyer, 2013:8).

Based on the literature, one cannot isolate or limit the impact of financialization in socio-economic life. It is pervasive. “Seventh, it is not merely the expansion and proliferation of financial instruments and markets that are striking but also the penetration of such financing into a widening range of both economic and social reproduction – housing, pensions, health, and so on...”(Sawyer, 2013:8).

2.2.1. The Relationship between Financial Development and Financialization

In our study we assume with some comfort that financialization is essentially an advanced state of financial development. We propose that financialization is the state in which both the social and economic growth benefits of financial development erode and vanish. Given the negative connotation of the term financialization, we consider that an examination of this relationship is a criticism of financial development. In this part of the literature review we bear the burden of establishing the theoretical connection between financial development and financialization. We pursue this linkage by examining the literature which explicitly claims and proves that financial development depth is detrimental to economic output. In this discussion we consider one aspect of financialization, financial market and institutional depth. We shall conclude this section by claiming, based on existing literature, that *domestic credit to private sector (% GDP)* is a proxy of a defining aspect of financialization.

The works of the following researchers help to establish that excessive financial depth increases economic volatility and decreases output. Minsky (1974) and Kindleberger (1978) argue that there is a distinct relationship between finance and macroeconomic volatility. Rajan

(2005) discusses the relationship the eminent dangers of financial development suggesting that a large and complicated financial system increases the probability of a “catastrophic meltdown”. This paper seems rather prophetic as it predates the 2007-2008 financial crisis. More recently, Cecchetti and Kharroubi (2012), show that the level of financial development is good only to a point, after which it become a drag on growth. Using the same measure as Arcand *et al.* (2015), they find the level to be above 90 percent of GDP. This finding is from a sample of developed and advanced economies. The sample focusing on advanced economics illustrates that a fast-growing financial sector is detrimental to aggregate productivity growth. Furthermore, the period of study is quite expansive, 1960-2010. This period transcends pre-1980s liberalization and deregulation as well as the 2007- 8 financial crisis.

There are similar studies which uphold the claim that domestic credit to private sector has a strong causal role in reducing economic output. Using a panel of 87 countries, Law and Singh (2014) estimate that this measure is detrimental to economic output above 94%. However, Beck *et al.* (2014) using a sample of 100 economies found that the threshold is much higher, 109%. Nevertheless, it is clear that there is some responsibility of domestic credit extension and economic misfortune.

The previous authors give us the intuition that excessive financial depth leads has negative economic consequences, but we must now explore the proxy which promotes this. Considering the aforementioned arguments, we recall the elements of financialization outlined by FESSUD (2011). Notably, that financialization is both the expansion of financial instruments and services. With respect to the use of complicated financial products and instruments as an element of financialization we review the following findings. Coval *et al.* (2009) outlines the role of complex structured products in the US financial crisis. Gennaioli *et al.* (2010) develop a theory in which the presence of some neglected tail risk when coupled with financial innovation can augment financial fragility, even in the absence of leverage.

Although the previous possible linkage between excessive financial development and financialization is profound, we find the following most poignant and relevant, “consumption has often been sustained by the extension of credit.” If we are to conclude that financialization is a phenomenon that has a negative impact on socio-economic conditions, we must consider its modus operandi. We propose that the proliferation and dependence of credit may be what is responsible for the transition from financial development to financialization. Easterly *et al.* (2000) empirically explain that there is a convex and monotonic relationship between financial depth and volatility of output growth. According to the authors the point in which output volatility starts increasing is when credit to private sector reaches 100% of GDP. This is

congruent to the recent and widely publicized work of Arcand *et al.* (2015) which find that the threshold above which finance starts having a negative impact on output growth is when credit to private sector is between 80-120% of GDP.

From a social perspective, much of the popularity of the concept of financialization is grounded in the hypothesis that it proliferates income inequality. The literature which links financialization and income inequality is excessive. Authors include: Epstein (2005), Palley (2007), Tomaskovic-Devey and Lin (2011), Kus (2012). The dominance of income inequality in a financialized economy is also an element of FESSUD (2011), “financialization is a strongly associated with the market mechanisms, complemented or even reinforced by policies that have underpinned rising inequality of incomes and of inequality more generally.” This discussion on inequality further compounds our questioning of the role of credit market in financial development and financialization. Galor and Zeira (1993) and Galor and Moav (2004) explains that in the presence of high levels of inequality, credit market imperfections can have a negative effect on growth. This perpetuates inequality because it prevents the poor from accumulating human capital, which unlike physical capital, must spread throughout the population. There is a contradiction because the deepening and widening of credit markets should allow all income groups to access credit. But the growth in income inequality suggests otherwise. The literature on the relationship between credit markets and inequality is rather limited and require future research. In accordance to our questioning of the credit market in this section, it may be useful to investigate the role of the credit market in the financialization-income inequality nexus. Nevertheless, it furthers our curiosity with respect to how the extension of credit promotes financialization.

2.3 Culture and Hofstede’s Cultural Dimensions

Alder (1997) argues that culture influences our values, which then influences our attitudes and then behaviour. This is why culture is so important in the examination of the decisions of individuals and groups. This pattern of influence has been empirically demonstrated by Homer and Kahle (1998).

Culture is described by Hall (1959:2) “as a mould in which we are cast, and it controls our life in many unsuspected ways...the part of man’s behaviour which he takes for granted – the part he doesn’t think about, since he assumes it is universal or regards it as idiosyncratic. This definition holds that culture is an invisible factor for which one has no control.

However, Schein (1998) asserts that culture is the way in which a group of people solves problems and reconciles dilemmas.

Morgan (1997:141) also speaks to the dynamic nature of culture, “an active, living phenomenon through which people create and recreate worlds.” The author continues to explain this rather active definition of culture with, “culture is the outcome of the shared experiences arising from an organization’s attempts to resolve fundamental problems of adapting to the external world.”

Geert Hofstede (1997) defines culture as “the collective programming of the mind which distinguishes the members of one group or category of people from another.”

Hofstede (2001) presents five dimensions which are used to explain cross-cultural differences which exist throughout the world. They are as follows:

- a. Individualism vs. Collectivism – This refers to the relationship between the individual and others. In an individualistic society beliefs and behaviour are determined by the individual. However, in a collective society, loyalty toward one’s country, family, and job dictates one’s actions and decision making. Essentially, the term “we” as opposed to “I” is a source of identity and the individual is dependent upon the group.
- b. Power Distance – Denotes the inequality that exists between people within a given society. This governs how power is distributed and the effect of wealth on the social distance between individuals. Essentially it speaks to how much unequal distribution of power is accepted, (Shaiq *et al.*, 2011).
- c. Uncertainty Avoidance – Highlights the extent to which individuals within a particular culture feel threatened by uncertain events or the unknown. This speaks to the degree in which a society creates rules and values absolute truth. Furthermore, in the presence of high uncertainty avoidance there is an aversion towards going against nature in order to avoid risks, sudden changes, and unclear possibilities.
- d. Masculinity vs. Femininity – In a more masculine culture there is a higher emphasis on the opportunity for high income, recognition for a job well done, challenges at work, and promotion. Whereas in feminine culture good relationships, job security, and a desirable living environment is important.
- e. Long Term vs. Short Term Orientation – A long-term oriented culture strives towards think and perseverance. On the contrary short-term oriented cultures involves respecting traditions and social obligations.

2.3.1 Other Cultural Models

In the following tables we outline other important cultural models. Like Hofstede (1980) these authors present cultural models that are based on dimensions. Hall's model (1990) frames culture into three dimensions: communication context, timing of tasks, and interpersonal space. This is presented below as Table 1. Trompenaar (1998) provides seven cultural dimensions which can be used to assess national culture. These dimensions are presented below as Table 2.

Table 1: Hall's Model

Dimension	Concept
Context	High-Context: primary meaning conveyed nonverbally, contextually, and situationally Low-Context: primary meaning conveyed verbally or through writing
Time	Monochronic: promptness, preciseness, and sequential Polychronic: multi-tasks, unpreciseness, and synchronous
Space	Proxemics: the appropriate interpersonal length of distance or space

Table 2: Trompenaar's Seven Dimensions of Culture

Dimension	Concept
Universalism vs. Particularism	whether a culture is based on rules and standards or relationship and trust.
Individualism vs. Collectivism	whether a culture focuses more on the group or Individual.
Neutral vs. Affective	whether the person within a culture expresses one's emotion openly or not.
Specific vs. Diffuse	whether the public and private life are closely linked or not
Achievement vs. Ascription	whether a culture rewards according to one's performance or to one's age, status, or gender
Time (Sequential vs. Synchronous)	whether people tend to do one thing at a time or several things at once
Environment (Internal vs. External Control)	whether people can control or should harmonize with nature

2.3.2 Criticism of Hofstede's Cultural Dimensions

Researchers criticise Hofstede's survey because they find that a survey is not a valid instrument to determine cultural differences. Schwartz (1999) argues that in some cases the variables are more sensitive for one culture more than another.

Dorfmaan and Howell (1988) suggest that Hofstede assess the individual and apply those findings to the overall community. These individual assessments promote the idea of a cultural homogeneity.

Sondergaard (1994) and Newman (1996) speak of the fact that at the time of the survey Europe was recently disturbed by World War II. As such, Masculinity and Uncertainty Avoidance may have been sensitive during the time of the survey.

One may argue that culture is fragmented across groups and nation boundaries. According to McSweeney (2000), nations are not a valid unit of analysis. This is because culture is not necessarily bounded by borders.

Graves (1986), Olie (1995) both question the one company approach. Note that Hofstede's research is based on data from one company. The authors criticize that the findings do not provide valid information on the culture of the entire country.

McSweeney (2002) mentioned that Hofstede's dimensions continue to be widely used because of its clarity, simplicity and applicability. Lynn and Gelb (1996), promotes the ability of Hofstede to capture cross-country differences, as a major benefit of the model.

The following support for Hofstede comes from authors who conducted a similar study to this dissertation. We find their opinion relatively valuable given the nature of our work. Kwok and Tadesse (2006) defended Hofstede in their study on the relationship between national culture and financial structure. They noted that Hofstede's dimensions provide a commonly acceptable, well-defined, and empirically based terminology to characterize cultures. Secondly, the dimensions because they are systematically collected data from a wide number of culture and countries.

2.4 Similar Empirical Studies and their Methodological Aspects

In this section we review some other studies which have attempted to link culture to financial development. This is among the first empirical studies linking national culture to financialization. As such, we do not have any similar studies directed to financialization. Nevertheless, if we are to assume that financialization is an advanced state of financial development, we review studies in the latter. Recall Arcand *et al.* (2015) and Rousseau and Wachtel (2011), who showed that financial deepening reduces output growth. In previous

sections, we reviewed a number of the determinants of financial development proposed by researchers. They include policy, institutional, trade, and geographic determinants. However, in this section we place specific emphasis on that which is more salient to our research, culture as a determinant of financial development.

First we consider the oft-cited work of Stulz and Williamson (2003). The authors show that a country's primary or predominant religion predicts the cross-sectional variation in creditor's rights better than the country's natural openness to international trade, its language, its income per capita, and origin of its legal system. The authors use shareholder rights, creditor rights, and rule of law as proxies of financial development. They find that Catholic countries protect the rights of creditors less so than Protestant countries. This result remains even when they controlled for legal system and GNP per capita. Recall La Porta *et al.* (1998) which establishes that French civil law based countries tend to have weaker levels of financial development.

Herger *et al.* (2008) citing this work, notes that catholic believers seem to induce weaker protection of creditor's rights and increase the legal formalities to enforce contracts. According to the authors, this may be the result of the close association between the church and the state in some Catholic countries, where bureaucracies find their origin in religious ranks adopting the church's hierarchical studies. Within this same thought, Beck *et al.* (2003) suggests that Catholicism may have impacted the legal systems in French civil law societies, given that this faith is predominant in these countries.

In his investigation into the determinants of financial development Huang (2005). The paper studies the determinants of cross-country differences in financial development. Their analysis suggests that the level of financial development in a country is determined by its institutional quality, income, macroeconomic policies, and geographic characteristics. And more relevant to our studies, also, cultural characteristics. Like Stulz and Williams (2003), religion is used the indicator for national culture.

Herger *et al.* (2008) investigates the difference in the size of capital markets across countries. They consider stock market capitalisation and credit to private sector as proxies for financial development, albeit with an emphasis on size. They use a number of variables to capture institutional quality, trade, culture, geography, and colonial history. All possible determinants of financial developments. They find that trade openness and institutions constraining the political elite from expropriating financiers show a strong effect on the size of a country's capital markets. However, cultural beliefs were found not to pose significant

obstacles for financial development. Like Stulz and Williamson (2003) they use religion as a proxy for national culture.

Dutta and Mukherjee (2012) in their investigation of whether culture is a determinant of financial development veers from the usage of religion as a proxy of national culture. Instead they develop a culture index as proposed by Tabellini (2008). According to Tabellini (2008) this measure incorporates four societal components: trust, self-determination, respect and obedience. It is worthwhile to note that a number of earlier authors emphasise the role of trust in economic outcome. La Porta *et al.* (1997) and Knack (2001), all identify that greater levels of trust are associated with higher levels of growth and development. Dutta and Mukherjee (2012) provided five proxies of financial development: liquid liabilities, private credit by deposit money banks, private credit by deposit money banks and other financial institutions, stock market capitalization, and stock market total value trades. These variables correspond to the size of financial markets and institutions instead of activity and efficiency (Beck *et al.*, 2000). Using the quantile estimation technique in a cross section of 90 countries, they find that culture significantly influences the level of financial development. To ensure robustness, the authors use Hofstede's cultural dimension, uncertainty avoidance, as an alternative proxy of culture. They find that uncertainty avoidance has a negative relationship with financial development. This is as expected because according to the authors an uncertainty avoidant society is less apt to change and risk.

So far we have outlined the results and contributions of papers examining culture as a determinant of financial development. However, the following paper investigated how culture informs the structure of the financial system of a country. Essentially, Kwok and Tadesse (2006) sought to reveal how culture impacts the architecture of the financial system, not just the level of its development. This speaks to how culture impacts the space in which financial activities are organized. The basis of this research comes from the fact that the US and UK financial systems are dominated by stock markets, whereas in continental Europe and Japan banks play a significant role in orchestrating financial activities. They presented architecture with respect to size, activity, and efficiency. Within each of the three groups presented a number of financial development variables are used as provided by Beck *et al.* (2000). Using Hofstede's cultural dimensions (2001), they found that there is a preference for banking-based systems in countries with higher uncertainty avoidance.

Like Kwok and Tadesse (2006), Mukherjee and Dutta (2013) contributes to the literature by presenting the impact of culture on the development of national financial infrastructure. However, what makes this paper particularly novel is that it found that culture

and institutions jointly promote financial development. They used the ratio of private credit by deposit money bank to GDP as the proxy for financial development. This is a widely used measure as presented by Beck *et al.* (2000), Beck *et al.* (1999) and Levine and Zervos (1998). This measure captures the channelling of savings to investors through financial intermediaries. Following Tabellini (2008), they used an aggregate of trust, respect, control, and obedience. The authors also used a number of proxies for political institution, including a measure of the quality of democracy, polity II. Polity II is an index of the quality of democratic institutions. Mukherjee and Dutta (2012) found that political institutions and culture jointly promotes financial development. Having efficient political institutions supports the effectiveness of the measure of culture and thus financial development is enhanced.

Table four below outlines the methodological aspects of the major similar empirical studies presented above. As our own, all of the similar studies can be classified as cross-national research studies.

Table 3: Methodological Considerations of Similar Studies

This table serves as a summary of the methodological considerations of the studies most similar to this dissertation. We include the sample size, proxies used to measure the financial development of each country, the indicator (s) of national culture considered, the empirical method, and a justification for why the respective method was selected. The table concludes by presenting whether or not the papers find evidence of culture having a significant impact on the chosen financial development proxies.

Authors	Countries	Proxies for Financial Development (FD)	Measure of Culture	Empirical Method	Justification for Chosen Method	Evidence of the Significance of Culture
Stulz and Williamson (2003)	49	Shareholder's Rights; Creditor's Rights; Rule of Law	Primary religion	Multiple regressions estimation	Permits the usage of many cultural variables	Yes
Huang (2005)	64	Liquid liabilities; Bank overhead costs; Net interest margins; Stock market capitalization; Total values traded; Turnover ratio	Primary religion, Stulz and Williamson (2003); European Language, Hall and Jones (1999)	Bayesian model averaging; General-to-specific approaches	To address model uncertainty and to include a vast amount of variables	Yes
Kwok and Tadesse (2006)	41	Multiple variables related to the size, efficiency, and activity of financial markets and institutions	Uncertainty avoidance, Hofstede (1983, 2001)	Logit regression estimation	To measure the increase in the log of the odds ratio	Yes
Herger <i>et al.</i> (2008)	128	Credit to private sector as % of GDP; Stock Market Capitalization	Primary religion, Stulz and Williamson (2003)	Ordinary Least Squares; Two-stage ordinary least squares using instrumental variables	To account for endogeneity among variables	Yes
Dutta and Mukherjee (2012)	90	Liquid liabilities; Private credit by deposit money banks; Private credit by deposit money banks and other financial institutions; stock market capitalization; stock market total value traded	Aggregate index of culture comprised of trust, respect, control, and obedience, Tabellini (2008); Uncertainty Avoidance, Hofstede (2001)	Quantile regression estimation	To minimize the impact of outliers	Yes
Dutta and Mukherjee (2013)	69	Ratio of private credit by deposit money bank to GDP	Aggregate index of culture comprised of trust, respect, control, and obedience, Tabellini (2009)	Fixed effects specification ; GMM estimators	To account for endogeneity in panel data	Yes, jointly with institutional quality

3. Data and Methodology

By the end of this section, one will understand the reasoning and information used to develop our empirical models. We open this section by outlining our data considerations. This is inclusive of the variables chosen and their respective sources. From there we explain our methodology and the empirical model specification. After this chapter, we present the results of the dissertation, which are based on the empirical strategy outlined in this chapter.

3.1 Data

Within this section we present the possible determinants of financial development and financialization. Thereafter we introduce the cultural variables we intend to use. As well as the alternative measures of national culture that we use to test robustness. Finally, we discuss how the sample size was chosen. We acknowledge that the aim was to have the widest amount of countries as possible based on the decision to use Hofstede's cultural dimensions as our indicators of national culture.

3.1.1. Determinants of Financial Development and Financialization Data

In continuation of our governing assumption that financialization is a developed stage of financial development; we are apt to propose that the determinants of the latter inform the development of the former. After a review of the literature, we found the following variables to be important determinants of the extension and proliferation of credit in the private sector. We have chosen variables that accounts for legislative environment, political conditions, macroeconomic environment, and openness to trade. Table 4 presents all of the variables included in our final models with their expected impacts on financial development and financialization. The results of these are found in table 16 of the appendix. Methodological considerations of these results are the same as those presented in Chapter 3.2.

a) Legislative Environment - Legal Formalism Index

Djankov *et al.* (2003) developed this index as a measure of the formality in legal procedures for collecting a bounced cheque. The index is from 1 (least cumbersome procedures) to 7 (most cumbersome procedures). This index can be used to measure the quality of contracting institutions, according to Herger *et al.* (2008), which finds that there is a significant relationship between legal formalism and domestic credit to private sector (as % of GDP).

Djankov *et al.* (2002, 2003), builds on the work of La Porta *et al.* (1997, 1998) and by legal scholars such as Dawson (1960) and Merryman (1985). Djankov *et al.* (2002, 2003) show that the “legal origin” of a country has a significant and important effect on the degree of legal formalism. Acemoglu and Johnson (2005) find that increased legal formalism reduces financial development.

As per the aforementioned literature, we expect that negative relationship between legal formalism and domestic credit to private sector (% of the GDP). The source of this index in this dissertation is Acemoglu and Johnson (2005). In this particular data set it measures the legal procedures in the year 2004. This is the most recent data available.

With reference to financialization, we expect a negative relationship. Legal formalism is associated with increased regulatory procedures, which work against the financial depth and development that is necessary to usher in the state of financialization. FESSUD (2011) and Sawyer (2013) presents that deregulation is a defining aspect of this occurrence.

b) Quality of Democracy – Polity II

The importance of institutional quality dominates the literature review, and is repeatedly expressed in the literature on financial development. This has been defended by North (1981), Easterly and Levine (1997), Hall and Jones (1999), La Porta *et al.* (1999), Djankov *et al.* (2002), Acemoglu and Johnson (2005), Mukherjee and Dutta (2013), and many others. North (1981) addresses the reliance of contracting institutions relying on the state to protect financial transactions, and the risk that the political elite will extract financial resources instead of protecting them. The authors classify this as contracting and predatory dimensions of institutional quality.

Polity II, from the Polity IV database, is an indicator of the quality of political institutions within a country. The value is derived by subtracting a score of autocracy from a democracy score. The democracy score ranges from -10 to +10. The value incorporates factors such as the extent to which citizens can express preferences about political systems, and the extent of constraints on the powers of the national leader, also the extent to which the population enjoys civil liberties.

This popular indicator has a strong presence in financial development literature, Honohan (2004) as a determinant of financial development. This measure is also employed in the related literature, Dutta and Mukherjee (2012, 2013). We shall use the denotation, *POLITY*, in our models to indicate this variable.

Following the literature, there is an expected positive relationship between *POLITY* and the dependent variable. North (1981) emphasizes that governing institutions that are predatory in nature discourages financial transactions. Considering that financialization is an advanced state of financial development, we expect that this relationship remains the same.

c) Macroeconomic Stability - Standard Deviation of GDP per capita Growth Rate (annual percent)

To account for the economic development differences in our sample we consider the standard deviation of GDP per capita growth rate (annual percent). Hereon, shall be presented as *SDGDPPC*. This indicator is used in Huang (2005), Kwok and Tadesse (2006), and Mukherjee and Dutta (2013). These authors found that there is a positive relationship between GDP per capita growth and financial development. This is an important variable as it has motivated decades of financial development policy. Especially after the work of McKinnon (1973) and after King and Levine (1993), which argues this causal relationship. The source of this variable is the World Bank Global Financial Development Database (2016). We use the standard deviation, as a means to measure the volatility of the macroeconomic environment, as opposed to just the growth so as to better understand the economic stability of a country. This variable treatment is suggested by Huang (2010). We understand that growth, does not always imply economic stability. Based on the literature, we expect that there is negative relationship between this variable and the dependent variable. The standard deviation was calculated using Microsoft Office Excel 2010.

d) Trade Openness - Trade (as % of GDP)

Herger *et al.* (2008) finds that trade openness determines financial development. Before this, Rajan and Zingales (2003) establishes that there is positive relationship between trade openness and financial development. As an indicator of trade openness, we use *trade as percent of GDP*. This is sum of exports and imports of goods and services measures as share of gross domestic product. Hereafter denoted as, *TRADE*.

Under the assumption that financialization is a heightened level of financial development, we anticipate that the same relationship should exist in our financialization sample.

e) Other Possible Variables

In deciding on a final model we considered many other variables that are related to the literature on financial development. Table 3 below, highlights alternative determinants, their

denotation, their significance in financial development, sources, studies, and reason for eliminating. The results of these variables are found in table 16 of the appendix.

Table 4: Alternative Determinants of Financial Development and Financialization

Variable	Denotation	Expected Impact	Reason for Impact	Studies	Sources	Reasons for Eliminating
Common Law	BRLAW	Positive	Creditors' and shareholders' rights	La Porta <i>et al.</i> (1998)	La Porta <i>et al.</i> (1998)	Legal Formalism more appropriate and succinct
French Civil Law	FRLAW	Negative	Creditors' and shareholders' rights	La Porta <i>et al.</i> (1998)	La Porta <i>et al.</i> (1998)	Legal Formalism more appropriate and succinct
Ethnic Fractionalization, Avg. 1965-1995	ETHNIC	Negative	Institutional quality worse with fractionalization	Alesina <i>et al.</i> (2003)	Alesina <i>et al.</i> (2003)	Indirect determinant, related to institutional quality
Landlocked	LAND	Negative	International Trade	Sachs and Warner (1995, 1999), Malik and Temple (2009)	Encyclopaedia Britannica, 2005	Indirect determinant, Related to trade openness
Average GDP per Capita Growth Rate, Avg. 1980 - 2007	AVGGDPPG	Positive	Economic Development	Dutta and Mukherjee (2012)	World Bank Global Financial Development Database	Does not fully capture macro-economic volatility

Table 5: Expected Impact of the Determinants of Financial Development and Financialization

Considering the reasoning presented in this section's literature we constructed the following table. The table includes each respective determinant with possible impact, and the reasoning behind the assumption. For a thorough reference we include the studies which substantiate the expected impact. If we are to assume that financialization is an advanced state of financial development, we expect the relationships to be consistent.

Determinant	Expected Impact	Reason	Studies
Legal Formalism Index	Negative	Legal difficulty of doing transactions/Quality of contracting institutions	Acemoglu and Johnson (2005); Herger <i>et al.</i> (2008)
Polity II	Positive	Quality of political institutions	Dutta and Mukherjee (2012)
Trade (as % of GDP)	Positive	Openness to trade	Dutta and Mukherjee (2012)
Standard Deviation of GDP per capita growth rate	Negative	Stability macroeconomic environment/output	Huang (2005)

3.1.2. Cultural Data and Hypotheses

We have chosen to employ Hofstede (1983, 2001) cultural dimensions as our measure for national culture. These dimensions offer a certain simplicity and comprehensibility that is valued in research, (McSweeney, 2002) and (Tadesse and Kwok, 2006). As mentioned above, we instead of the six dimensions available, we use only the four original dimensions, Hofstede (1980). The reasoning behind this is because we wanted to have our sample as broad as possible, and this decision permitted this.

Hereafter, the four dimensions shall be labelled as follows: individualism (*IDV*), masculinity (*MAS*), power distance index (*PDI*), and uncertainty avoidance index (*UAI*). Each dimension is measured on a scale between 0 (lowest) to 100 (highest). This scale was constructed through a factorial analysis based on responders' answers to survey. Note that what is important is not the value alone but the value relative to other countries.

Hypothesis 1: Individualism is positively related to financial development and financialization because of overconfidence we expect individuals in an individualist society to be more willing to take financial risks.

Individualism is linked with overconfidence which has a positive effect on financial risk taking according to Breuer *et al.* (2014). Gollier (2002) notes that individualism promotes a demand for risky assets. Risk taking positively impacts financial development. However, given that financialization is characterized by the increase of risky and complex financial investments we hypothesize that there is a positive relationship between individualism and financialization.

Hypothesis 2: Masculinity is positively related to financial development and financialization because of overconfidence we expect individuals in a masculine society to be more willing to take financial risks.

High Masculinity is associated with assertiveness, competitiveness, and valuing wealth according to Hofstede (2001). It is reasonable to assume that this leads to a certain level of confidence and willingness to take risk in order to attain wealth and to succeed in competition. Barber and Odean (2001) also proposes that masculinity is associated with high levels of overconfidence. As with individualism this increases willingness to engage in risky financial instruments and investments.

Hypothesis 3: Uncertainty Avoidance is negatively related to financial development and financialization because of a preference for regulation and heightened financial risk aversion among individuals in an uncertainty avoidant society.

To date, uncertainty avoidance is the only one of Hofstede's Cultural Dimensions which have been examined in the context of financial development. Kwok and Tadesse (2006) and Dutta and Mukherjee (2012) find that there is a significant negative relationship between financial development and uncertainty avoidance. The questionnaire used to develop this index, Hofstede (2001), the following questions:

- (1) Stress: How often does one feel nervous or tense at work;
- (2) Employment stability: employees' statement that they intend to continue with the company for more than five years; and
- (3) Rule orientation: agreement with the statement 'Company rules should not be broken: even when the employee thinks it is in the company's best interest.'

As discussed in the literature review, a high uncertainty avoidance ranking indicates that the country has a low tolerance for uncertainty and ambiguity. This enforces a rule oriented society that institutes rules, laws, and regulations to manage the amount of uncertainty. With this in mind, we expect that there is negative relationship between uncertainty avoidance and financial development. Furthermore, we expect that an emphasis on regulation and cultural fear of risk, reduces the advancement of financial development into financialization. We can also consider that this reduces participation of financial sector in the complex instruments associated with financialization.

Hypothesis 4: The relationship between power distance and financial development is unknown. However, given that both power distance and financialization are positively related to income inequality we expect that they themselves are positively related.

To date there is not enough literature to suggest a relationship between power distance and financialization. The results of this dissertation should indicate the nature of this relationship. However, we expect that there is a relationship between power distance and financialization. By definition power distance is the individual's expectation and acceptance of inequality in power or wealth within a society. The aforementioned statement is provided by Hofstede (2001) and Oysterman (2006). The findings of Kus (2012) and Lin and Tomaskovic-Devey (2013) strongly suggest that financialization is a determinant of inequality in advanced economies. In addition, Sawyer (2013) explain that income inequality is a defining characteristic of financialization.

3.1.3. Alternative Cultural Variables

The primary religion of a country is often used in the literature as proxy of national culture, (Stulz and Williamson, 2003), (Huang, 2005), (Herger *et al.*, 2008), and (Mukherjee and Dutta, 2012). Stulz and Williams (2003) suggest that monotheistic religions such as Catholic (*CATH*), Protestant (*PROT*), and Muslim (*MUSL*), each impact the establishment and enforcement of creditors' rights at various degrees, which affects the efficiency of capital markets. This follows La Porta *et al.* (1998) which establishes the role that religion has on the protection of creditors' rights. Within our empirical strategy, which shall be discussed in the coming section, we use these variables to test the robustness of our study. We consider religion important because it informs both the institutions of country, and the values of individuals. Consider the demand for credit, there are varying attitudes towards the payment of interest based on religions, (Stulz and Williamson, 2003). For example, Jews and Muslims have specific religious rules with respect to lending. We have decided not to use dummy variables but rather the proportion of members of these religions in each country. This is because we also want to capture the attitudes that dictate the demand for credit, not only the institutional impact. Although a country may have a strong population of one faith which governs its institutions, the demand for financial resources is influenced by all members of the society, regardless of faith. Herger *et al.* (2008) also considers the proportion of each of these religions in their study. In congruence with Stulz and Williamson (2003) and Herger *et al.* (2008), the data is the share of the population affiliated with each faith group in 2001, and the source is Encyclopaedia Britannica (2001). The measure is a proportion between 0 to 100 percent.

Hypothesis 5: Catholicism is negatively related to financial development and financialization because of a relatively weaker protection of creditors' rights in populations with a high Catholic population which is detrimental to credit market development.

Following Stulz and Williamson (2003) we consider the role that a catholic population has on financial development. There is evidence to suggest that having Catholic believers in a population reduces protection of creditor's rights of enforcing contracts. Naturally, this is detrimental to the development of large credit markets.

Hypothesis 6: Protestantism is positively related to financial development and financialization because of strong protection of creditors' rights in populations with a high Protestant Population which is helpful for the development of credit markets.

Stulz and Williamson (2003) suggests that creditors' rights are better protected in protestant dominated countries. Contrary to Catholic populations, the evidence suggests that capital markets tend to be more developed in dominant protestant economies.

Hypothesis 7: Islam is negatively related to financial development and financialization because states with high Muslim populations tend to have poor quality government which reduces investor confidence.

La Porta *et al.* (1999) finds that countries with large proportions of Muslims tend to suffer from low quality of government. We assume that investors may veer away from investing in a country where the quality of government is weak, and where financial transactions are insecure. One may recall that North (1981) which emphasizes the role of the state in inspiring confidence in investors.

3.1.4. Sample Size and Descriptive Statistics

Culture is an indisputably as sticky variable. Given its time invariant nature we chose to use cross-section data as opposed to time-series. This decision follows Herger *et al.* (2008) and Dutta and Mukherjee (2011). Like Dutta and Mukherjee (2011) we choose the benchmark year, 2008. This coincides with the global financial crisis of 2007-2008. Given that we have the aim of looking into financialization, this year is relevant. We recall that the global financial crisis instigated the debate and conceptualization of financialization, Sawyer (2013).

The onset of financialization according to the theory is the deregulation and liberalization that commenced circa 1980, Sawyer (2013). As such our data is primarily concerned with variables, either sticky or time-variant, from the time period 1980-2008. The dependent variable is from the benchmark year. This is also done in Dutta and Mukherjee (2011). The time variant data such as TRADE and SDGDPPC is averaged done in accordance to Dutta and Mukherjee (2011). Like Herger *et al.* (2008) we consider legal formalism to be relatively sticky. This conclusion relates to the legal origins theory of La Porta *et al.* (2000).

In our research we use the annual data for 58 countries spanning every continent besides Africa. As with similar studies, we focused on capturing as many countries as possible. We start with the Hofstede (2001) sample. The cultural variables data used is found on Hofstede's website. We eliminated a number of countries which do not have all the cultural variables that we intend to use. We have chosen to use the first four cultural dimensions: Masculinity, Uncertainty Avoidance, Power Distance, and Individualism. These were the first dimensions developed, Hofstede (2000), and are the most widely used in literature. Furthermore, if we were

to use five or six dimensions our sample would be much smaller. We then eliminated a number of countries because of a lack of capital market data, or for the absence of capital markets.

The sample shall be divided into two parts: Financial Development and Financialization. This follows our assumption that financialization is the advanced state of financial development. Going forward we label the first sample *Financial Development* sample and the second as the *Financialization* sample, with corresponding models of the same name.

Our general sample includes the following countries: Argentina, Australia, Austria, Bangladesh, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Croatia, Czech Republic, Denmark, Ecuador, El Salvador, Finland, France, Greece, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Jamaica, Japan, Luxembourg, Malaysia, Malta, Mexico, Netherlands, New Zealand, Norway, Pakistan, Panama, Peru, Philippines, Poland, Portugal, Romania, Singapore, Slovenia, South Korea, Spain, Sweden, Switzerland, Thailand, Turkey, United Kingdom, United States, Venezuela and, Vietnam. This is a broad cross-section of countries of varied levels of economic development, financial development. It is also noteworthy that the sample is covers countries on every habitable continent except Africa, due to a lack of data.

We use the findings of Arcand *et al.* (2015) as the criteria for deciding which countries are to be in the financialization sample. Recall, that between 80-120 % of GDP *domestic credit to the private sector* has a detrimental impact on output growth in terms of real GDP per capita. Our second sample therefore includes countries with a percentage above 80 %. This reduces our sample to 30 countries. Our second sample constitutes the following countries: Australia, Austria, Canada, Chile, China, Denmark, Finland, France, Greece, Hong Kong, Ireland, Italy, Japan, Luxembourg, Malaysia, Malta, Netherlands, New Zealand, Norway, Panama, Portugal, Singapore, South Korea, Spain, Sweden, Switzerland, Thailand, United Kingdom, United States, and Vietnam.

In Table 6, which is below, we present the descriptive statistics related to the chosen determinants of financialization. The first table explains the Financial Development sample of 55 countries and the second is the reduced Financialization sample of 30 countries.

Table 6: Descriptive Statistics of the Determinants of Financial Development

This table presents the descriptive statistics of all the independent and dependent variables to be used in our models. Using a benchmark year of 2008, we define CREDIT as the the dependent variable. TRADE and SDGDPPC are averaged between 1980 and 2007. LEGALFOR corresponds to the year 2004, and POLITY for the year 2007. The statistics comes from 55 observations which is the sample of countries used. CREDIT is the annual percentage of domestic credit to the private sector (% of GDP). LEGALFOR is an index measuring the cumbersomeness of legal procedures required to do financial transactions from 1 to 7. POLITY comes from polity II which is a measure of the quality of democracy from -10 to 10. TRADE is the percentage of GDP which comes from trade. SDGDPPC is the standard deviation of GDP per capita annual growth rate.

	CREDIT	LEGALFOR	POLITY	TRADE	SDGDPPC
Mean	86.64264	3.555969	7.781818	79.48961	2.980686
Median	83.30000	3.368421	9.000000	62.08101	2.740937
Maximum	200.4849	6.008772	10.00000	351.5663	6.514884
Minimum	11.02626	0.730263	-7.000000	20.29075	1.101795
Std. Dev.	50.92736	1.117549	4.017051	61.10042	1.394762
Skewness	0.496996	0.180942	-2.707018	2.365642	0.853011
Kurtosis	2.288943	2.843650	9.870140	9.809407	3.090157
Jarque-Bera	3.422883	0.356137	175.3368	157.5591	6.688547
Probability	0.180605	0.836885	0.000000	0.000000	0.035286
Sum	4765.345	195.5783	428.0000	4371.928	163.9378
Sum Sq. Dev.	140054.2	67.44147	871.3818	201596.1	105.0495
Observations	55	55	55	55	55

Above we present a table of the descriptive statistics of each determinant of financial development. Our dependent variable, CREDIT, has a mean value of 86.64 % of GDP. This mean is above the threshold where financial deepening is beneficial for economic output as found by Arcand *et al.* (2015). The country with the maximum credit is the United Kingdom, and the minimum Argentina. Based on the standard deviation there is wide variation among the countries with respect to CREDIT.

In our sample, the country with the minimum amount of legal formalism (LEGALFOR) is Hong Kong and the most being Venezuela. Also, we note that there is sufficient variation of this variable within the sample.

There are many countries within our sample with a high quality of democracy (POLITY). These countries are: Australia, Austria, Canada, Chile, Costa Rica, Denmark, Finland, Greece, Hungary, Ireland, Italy, Japan, Malaysia, Netherlands, New Zealand, Norway, Portugal, Romania, Slovenia, South Korea, Spain, Sweden, Switzerland, United Kingdom, and United States. Vietnam has the lowest quality democracy. With a mean of 7.78, we can say that the majority of countries in the sample have a relatively high level of democracy.

With a mean Trade (% of GDP) of 79% our sample consists of countries who are relatively open to trade. Singapore being the most open to trade, and Brazil the least. However, the standard deviation shows that there is wide variation in this sample.

Our data shows that Argentina has the greatest amount of macroeconomic volatility (SDGDPPC), with Slovenia having the least. The measure of standard deviation shows that there is not a large amount of variation of this variable in this sample.

Table 7: Descriptive Statistics of the Determinants of Financialization

This table presents the descriptive statistics of all the independent and dependent variables to be used in our models. Using a benchmark year of 2008, we define CREDIT as the the dependent variable. TRADE is averaged between 1980 and 2007. LEGALFOR corresponds to the year 2004, and POLITY for the year 2007. The statistics

comes from 30 observations which is the sample of countries used. CREDIT is the annual percentage of domestic credit to the private sector (% of GDP). LEGALFOR is an index measuring the cumbersomeness of legal procedures required to do financial transactions from 1 to 7. POLITY comes from polity II which is a measure of the quality of democracy from -10 to 10. TRADE is the percentage of GDP which comes from trade.

	CREDIT	LEGALFOR	POLITY	TRADE
Mean	124.4066	3.106558	8.033333	93.53107
Median	115.4390	3.098684	10.00000	65.35702
Maximum	200.4849	5.837719	10.00000	351.5663
Minimum	80.32946	0.730263	-7.000000	21.16280
Std. Dev.	36.41833	1.022346	4.627380	74.86413
Skewness	0.606683	0.452489	-2.557419	1.922799
Kurtosis	2.150606	4.093984	8.318178	6.457366
Jarque-Bera	2.742160	2.519733	68.05574	33.42750
Probability	0.253833	0.283692	0.000000	0.000000
Sum	3732.199	93.19674	241.0000	2805.932
Sum Sq. Dev.	38462.55	30.31055	620.9667	162534.5
Observations	30	30	30	30

For the dependent variable CREDIT we have high mean, which is well above the threshold of 80% discussed by Arcand *et al.* (2015). The country with the minimum is Finland, and the United Kingdom the maximum.

In the sample we note that the mean amount of LEGALFOR is less than the financial development sample. This shows that there may be a tendency for highly financialized countries to have low legal formalism.

Furthermore, the mean shows that countries in this sample have a higher quality of democracy, POLITY. 21 out of 30 of the countries in this sample have the maximum score of democratic quality. With this in mind, the sample mainly consists of advanced high quality democracies.

In this sample we see that the mean trade openness, TRADE, is much higher than that of the general sample. Because trade openness is high in this sample, our upcoming results may indicate that trade has a significant positive relationship with financialization. However, there is more variation in trade in this sample than the previous larger sample.

Financial development tends to occur in countries with significant macroeconomic stability according to King and Levine (1993). With this reasoning, we expect that countries undergoing financialization are likely to be advanced and stable economies. This is substantiated by the fact that most studies on financialization to date has exclusively been focused on advanced and stable economies, such as Kripper (2005), Kus (2012), Lin and Tomaskovic-Devey (2013) and many others. Based on the literature, we expect little variation in macroeconomic stability among states in financialization. In this vein, we have chosen to omit the SDGDPPC from the financialization analysis. As you will see in table 25 In the appendix chapter our suspicions are correct. For financialization, this variable is very

insignificant based on our specification. In one of our similar studies, Herger *et al.* (2008), the authors also do not account for macroeconomic variables.

3.1.5. Correlation Coefficients

In tables 34 – 37 in the appendix presents the correlations among our explanatory variables. These tables present the correlation coefficients among these variables.

It is noteworthy that in Table... which cover the relationship between financial development and cultural dimensions we see a strong positive correlation, 0.54, between legal formalism (LEGALFOR) and uncertainty avoidance (UAI). We also see a strong negative correlation, -0.532769, between individualism (IDV) and macroeconomic volatility (SDGDPPC). Among the cultural variables there seems to be a very strong negative correlation between power distance (PDI) and individualism (IDV).

Considering financial development and primary religion, there appears to be a strong positive correlation, 0.502752, between legal formalism and Catholicism (DCATH). Based on the correlation matrix it appears that there are few strong correlations when we do a correlation matrix with religion as a proxy of culture as opposed to Hofstede's cultural dimensions.

In the matrix of financialization and cultural dimensions, we once again see a strong negative correlation, 0.576223, between legal formalism and uncertainty avoidance.

3.2 Methodology

The purpose of this section is to give the reader a thorough understanding of the considerations and methods used to obtain our results. Thereafter, we discuss our choice of dependent variable. In accordance to the literature, presented below, we chose to employ domestic credit to private sector (% of GDP). Thereafter we discuss our empirical strategy. Given the constraints of sample size, and considering similar studies we elected to use Ordinary Least Squares (OLS) estimation. After this section, we provide the reader the results of our study.

3.2.1. Indicator of Financial Development and Financialization

We assume based on Arcand *et al.* (2015) that financialization may be conceptualized as an advanced state of financial development. Recall that the authors definitively found that when domestic credit to private sector reaches between 80 - 120% of GDP, a country begin to experience reduce output growth. The detrimental role of this proxy is also supported by some recent studies by Cecchetti and Kharoubi (2012), Beck *et al.* (2014) and Law and Singh (2014). They use domestic credit to private sector (% of GDP), denoted as CREDIT in our model, as

the proxy for financial depth. We shall use this as a proxy for financial development and financialization.

This variable was used as proxy of financial development by Herger *et al.* (2008). Domestic credit to private sector refers to the financial resources provided by the private sector by financial corporations. The source of this data is the World Bank Global Financial Development Database, (2016). This database was developed through the work of Beck *et al.* (2000).

3.2.2. Model Specification

Below we present the two models used to test our data. The first model is the *Financial Development* model and the second the *Financialization* model. For reasons explained in Chapter 3.1.4 we do not consider SDGDPPC, in the latter model. This is because there is not enough variation of this variable in the smaller data set to substantiate using it in this model. Furthermore, as discussed the bulk of literature on financialization focuses on advanced economies coming from studies such as Kripper (2005) and Kus (2012), among others. In addition, our preliminary empirical results showed that this variable is overwhelmingly insignificant in the financialization model. Herger *et al.* (2008) do not account for macroeconomic variables when considering determinants of financial development.

The four equations, which correspond to the following four objectives in the order presented:

- a) To ascertain the relationship and explanatory power of each of the determinants of financial development;

Equation 1: Financial Development Model (Without Culture)

$$CREDIT_i = \beta_1 + \beta_2 LEGALFOR_i + \beta_3 POLITY_i + \beta_4 TRADE_i + \beta_5 SDGDPPC_i + \varepsilon_i$$

- b) To discover the relationship and explanatory power of each of the four cultural dimensions and the difference in explanatory power with the presence of some measure of culture;

Equation 2: Financial Development Model (With Culture)

$$CREDIT_i = \beta_1 + \beta_2 LEGALFOR_i + \beta_3 POLITY_i + \beta_4 TRADE_i + \beta_5 SDGDPPC_i + \beta_6 CULTURE_i + \varepsilon_i$$

- c) To reveal the relationship and explanatory power of each of the possible determinants of financialization; and

Equation 3: Financialization Model (Without Culture)

$$CREDIT_i = \beta_1 + \beta_2 LEGALFOR_i + \beta_3 POLITY_i + \beta_4 TRADE_i + \varepsilon_i$$

- d) To become aware of the relationship and explanatory power of each of the four cultural dimensions and the difference in explanatory power with the presence of some measure of culture.

Equation 4: Financialization Model (With Culture)

$$CREDIT_i = \beta_1 + \beta_2 LEGALFOR_i + \beta_3 POLITY_i + \beta_4 TRADE_i + \beta_5 CULTURE_i + \varepsilon_i$$

Where, CREDIT is the domestic credit to private sector (% GDP) in a country *i* in the year 2008;

LEGALFOR is the index of legal formalism in a country *i* in the year 2004;

POLITY is the measurement for Polity II in a country *i* in the year 2007;

TRADE is *trade as percent of GDP* in a country *i* averaged for 1980-2007;

SDGDPPC is the standard deviation of *GDP per capita annual growth rate* in a country *i* averaged for 1980-2007; and

CULTURE represents each of the time invariant cultural variables, Individualism (IDV), Masculinity (MAS), Uncertainty Avoidance Index (UAI), and Power Distance (PDI); and for checking robustness, Catholic (CATH), Protestant (PROT), and Muslim (MUSL), which are dummy variables.

3.2.3. Empirical Strategy

When we evaluated our empirical choices we reviewed the strategies used by the related studies. However, the defining factor in our decision making is that our sample is smaller than most of these studies. In cross-country data outliers may be detrimental to the quality of the results, Koenker and Bassett (1978) suggest the usage of quantile regression estimation technique to do empirical testing on samples with possible outliers. This methodology is used by Dutta and Mukherjee (2012). However, their sample included 90 countries, which is much more than our sample size. Furthermore, the effectiveness of this estimation technique is limited when the sample size is not large enough.

Following Herger *et al.* (2008) we decided to use Ordinary Least Squares (OLS) estimation to estimate our equations. Using E-Views 9 we estimate our equations using OLS with heteroskedasticity-consistent standard errors. The next chapter presents the results of our study.

4. Results

In this chapter we present the results of our study. As discussed in the previous chapter we have divided our sample into two. The first sample includes all countries. The second includes only countries with domestic credit to private sector (% of GDP) which has a percentage above 80%. In accordance to the findings of Arcand *et al.* (2015). We consider the previous as the *Financial Development* sample and the latter as the *Financialization* sample.

We introduce this chapter with a presentation of the results. Thereafter we analyse the results for each of the significant determinants. Special attention is paid to the significance and explanatory power of each cultural dimensions. Consistent with our examination of whether culture is a determinant of financial development and financialization. Like Dutta and Mukherjee (2012) we used primary religion to test robustness.

The tables below present the findings of our investigation. Above each table are the background information which relates to the model such as information about the variables, methodological considerations, and a guide to reading the results.

Table 8: Results of the Determinants of Financial Development

All regressions are cross-sectional. The dependent variable is domestic credit to private sector (% of GDP). In column one the explanatory variables are listed: Legal Formalism Index (LEGALFOR), Polity II (POLITY), trade (% of GDP) (TRADE), and standard deviation of GDP per capita annual growth rate (SDGDPPC). The cultural dimensions used are listed below these determinants and they are: individualism (IDV), masculinity (MAS), power distance index (PDI), and uncertainty avoidance index (UAI).

The table presents the results of five estimated equations. Equation (1) consists of only non-cultural variables. Equation (2) includes all non-cultural variables and the cultural variable individualism (IDV). Equation (3) consists of all non-cultural variables and the cultural variable, masculinity (MAS). Equation (4) includes all non-cultural variables and the cultural variable, power distance index (PDI). Equation (5) consist of all non-cultural variables and the cultural variable, uncertainty avoidance index (UAI).

All equations have been tested using ordinary least squares estimation. They are heteroskedasticity robust applying HAC standard errors and covariance with the Barlett – Kernel and Newey West methods

Coefficients pertain to standardised variables, beta coefficients, and are significant at a level of 10% level when labelled with *, at a level of 5% when labelled with **, and at a level of 1% when labelled with ***. The standard errors are in parentheses. The E-Views outputs corresponding to this table are found in the appendices.

Determinants of Financial Development

Dependent Variable: Domestic Credit to Private Sector (% of GDP)

Method: Least Squares - HAC standard errors & covariance (Barlett-Kernel, Newey West fixed bandwidth = 4.000)

Observations: 55

Variable	(1)	(2)	(3)	(4)	(5)
C	149.5607 (23.02753)	114.2756 (29.80180)	156.8089 (28.28013)	168.2414 (27.53311)	152.5594 (26.35187)
LEGALFOR	-16.49996*** (4.843952)	-12.21943** (5.126332)	-16.70977** (4.926589)	-13.7140*** (4.791921)	-15.26427*** (5.438828)
POLITY	2.713311** (1.185972)	1.537062 (1.471798)	2.660247** (1.214682)	1.809172 (1.224511)	2.838446** (1.247633)
TRADE	0.064991 (0.073744)	0.094117 (0.068721)	0.060192 (0.074597)	0.082517 (0.072295)	0.057471 (0.081869)
SDGDPPC	-10.24102*** (3.763163)	-7.787893* (3.896158)	-10.15636** (3.812327)	-7.845981** (3.785188)	-10.26677*** (3.675286)
IDV		0.442481 (0.328142)			
MAS			-0.119724 (0.269891)		
PDI				-0.523939** (0.244220)	
UAI					-0.116676 (0.389978)
R ² Adjusted	0.312396	0.321440	0.300459	0.333028	0.300609
Prob (Wald F-statistic)	0.0000	0.0000	0.0000	0.0000	0.0000
Wald F-stat.	13.87450	11.87468	11.37916	12.16696	11.54549

Table 9: Results of the Determinants of Financialization

All regressions are cross-sectional. The dependent variable is domestic credit to private sector (% of GDP). In column one the explanatory variables are listed: Legal Formalism Index (LEGALFOR), Polity II (POLITY), and trade (% of GDP) (TRADE). The cultural dimensions used are listed below these determinants and they are: individualism (IDV), masculinity (MAS), power distance index (PDI), and uncertainty avoidance index (UAI).

The table presents the results of five estimated equations. Equation (1) consists of only non-cultural variables. Equation (2) includes all non-cultural variables and the cultural variable individualism (IDV). Equation (3) consists of all non-cultural variables and the cultural variable, masculinity (MAS). Equation (4) includes all non-cultural variables and the cultural variable, power distance index (PDI). Equation (5) consist of all non-cultural variables and the cultural variable, uncertainty avoidance index (UAI).

All equations have been tested using ordinary least squares estimation. They are heteroskedasticity robust applying HAC standard errors and covariance with the Barlett – Kernel and Newey West methods

Coefficients pertain to standardised variables, beta coefficients, and are significant at a level of 10% level when labelled with *, at a level of 5% when labelled with **, and at a level of 1% when labelled with ***. The standard errors are in parentheses. The E-Views outputs corresponding to this table are found in the appendices.

Determinants of Financialization

Dependent Variable: Domestic Credit to Private Sector (% of GDP)

Method: Least Squares - HAC standard errors & covariance (Barlett-Kernel, Newey West fixed bandwidth = 4.000)

Observations: 30

Variables	(1)	(2)	(3)	(4)	(5)
C	159.3434 (20.30840)	151.1781 (28.25658)	137.7510 (20.38199)	165.5751 (24.60020)	162.1320 (21.69628)
LEGALFOR	-12.49837* (6.672483)	-11.27487 (6.915584)	-11.42491* (6.501887)	-10.52715 (6.181632)	-9.943423 (5.930576)
POLITY	1.924161** (0.762722)	1.675005** (0.797352)	2.027262*** (0.689725)	1.513069 (0.937453)	2.173173** (0.993061)
TRADE	-0.123673* (0.061264)	-0.109777* (0.060099)	-0.114028* (0.058119)	-0.100202 (0.068036)	-0.137549** (0.062663)
IDV		0.095772 (0.302690)			
MAS			0.347698 (0.239578)		
PDI				-0.221420 (0.262356)	
UAI					-0.192504 (0.315172)
R^2 Adjusted	0.110590	0.077509	0.121197	0.088024	0.088455
Prob(Wald F-statistic)	0.045668	0.045765	0.041409	0.102846	0.069186
Wald F-stat.	3.064318	2.833370	2.918133	2.161305	2.487456

4.1 Determinants of Financial Development and Financialization

Below we discuss our findings as presented by the equations that are exclusive of culture. For reference, labelled as equation (1) in tables 9 and 10.

Table 10: Expected vs. Obtained Results for Non-Cultural Determinants of Financial Development and Financialization

The table below presents the expected results and obtained results for the determinants. The results correspond to the equation 1 in tables 9 and 10. If the sign is (+) the determinant has a positive impact, if the sign is (-) the determinant has a negative impact. If the sign is (NS), it means that the variable is not statistically significant at a level of 10%. Where (NA) is present, the variable does not apply to the model.

Variable	Expected Result	Obtained Result – Financial Development	Obtained Result – Financialization
LEGALFOR	-	-	-
POLITY	+	+	+
TRADE	+	NS	-
SDGDPPC	-	-	NA

a) Legal Formalism Index

As expected the legal formalism index has a negative relationship with both financial development and financialization. This is congruent with the findings of Acemoglu and Johnson (2005) and Herger *et al.* (2008). It is worthwhile to note that the variable is significant at a level of 1% in the financial development model. But less so in financialization model, only at a level 10%. Essentially what this means is that legal formalism a stronger determinant of financial development than financialization.

b) Polity II

Polity II is significant in both models at a level of 5% with a positive relationship. Dutta and Mukherjee (2012) also found this variable to be a significant determinant of financial development. We can conclude that the quality of a nation's democracy is a determinant for financial development and financialization. Based on our results, we are also able to postulate that there is a greater likelihood of economies experiencing financialization to be highly democratic states.

Considering the findings of North (1981) and Acemoglu and Johnson (2005), our results support the conclusion that the quality of political institutions matters in a nation's quest for financial development. However, what is paradoxical is that there is a significant positive relationship between financialization and democracy, given that financialization is associated with income inequality. According to Fine (2011) and Kus (2012) income inequality is a prominent hallmark of societies in financialization. This paradox by definition is contradictory to the nature of democracy. Maybe it is the vexing nature of this contradiction that has instigated and intensified recent research on financialization.

c) Trade Openness

We found that based on the specification of our model trade openness does not have any significance of financial development. Specifically, the extension of domestic credit to the private sector. In Dutta and Mukherjee (2012) trade is significant with the presence of a cultural measure developed by Tabellini (2008), but not significant with the presence of the uncertainty avoidance index. In our investigation, trade openness is not significant in financial development but is a significant determinant of financialization. However, at a level of 10% significance we conclude that trade openness has a negative relationship with financialization. At the moment, there is not enough literature to discuss the role of trade openness in financialization.

d) Standard Deviation of GDP per capita Annual Growth Rate

We expected that macroeconomic volatility leads to an economic environment that is not conducive to financial development. This held true in our estimation. Like in Huang (2005), our research shows that this indicator is significant to financial development.

4.2 Cultural Dimensions

Based on the existing literature, in the previous chapter we developed a series of hypotheses to explain our anticipated results. In this section, we examine each of our hypothesis and whether or not they proved correct.

Table 11: Expected vs. Obtained Results for Cultural Dimensions as Determinants of Financial Development and Financialization

The table below presents the expected results and obtained results of culture being a determinant of both financial development and financialization. Note, that the table outlines the results with the presence of each of the four cultural dimension. If the sign is (+) the determinant has a positive impact, if the sign is (-) the determinant has a negative impact, and if the sign is (?) the impact is unknown. If the sign is (NS), it means that the variable is not statistically significant at a level of 10%.

Cultural Dimension	Expected Result – Financial Development	Expected Result – Financialization	Obtained Result – Financial Development	Obtained Result – Financialization
Individualism	+	+	NS	NS
Masculinity	+	+	NS	NS
Power Distance	?	+	-	NS
Uncertainty Avoidance	-	-	NS	NS

Hypothesis 1: Individualism is positively related to financial development and financialization because of overconfidence we expect individuals in an individualist society to be more willing to take financial risks.

Our findings illustrate that individualism does not have a significant relationship with neither the financial development nor financialization sample. As such, we reject our hypothesis. We conclude that individualism may not be a direct determinant in either event.

Hypothesis 2: Masculinity is positively related to financial development and financialization because of overconfidence we expect individuals in a masculine society to be more willing to take financial risks.

Our findings suggest that masculinity does not have a significant relationship with neither financial development nor financialization. In this vein, we reject our hypothesis. We conclude that masculinity may not be a direct determinant in either event.

Hypothesis 3: Uncertainty Avoidance is negatively related to financial development and financialization because of a preference for regulation and heightened financial risk aversion among individuals in an uncertainty avoidant society.

Our findings show that uncertainty avoidance does not have a significant relationship with neither financial development nor financialization. Our results go against that of Kwok and Tadesse (2006) and Dutta and Mukherjee (2012) which find that there is a significant negative relationship between this variable and financial development. We conclude that uncertainty avoidance may not be a direct determinant in either event.

Hypothesis 4: The relationship between power distance and financial development is unknown. However, given that both power distance and financialization are positively related to income inequality we expect that they themselves are positively related.

At a level of significance of 5% we conclude that power distance has a negative relationship with financial development. This result is surprising; given that we did not have any expectation of this relationship. Rinne *et al.* (2012) finds that there is a strong negative correlation between the Global Innovation Index and power distance. Assuming that innovation promotes the demand for credit in the private sector we may argue that this could be the source of this relationship. This unexplored and unexpected relationship provides an opportunity for future research. Future research may consider the relationship between innovation, power distance, and the credit market.

Nevertheless, our findings suggest that power distance does not have a significant relationship with financialization. As such, we reject our hypothesis.

4.3 Robustness of Culture

To check the robustness of culture being a determinant of financial development and financialization, we employed the usage of other cultural variables. Following Stulz and Williamson (2003) and Dutta and Mukherjee (2012) we evaluated primary religion as a proxy of national culture. In the table below we present our findings.

Table 12: Results of the Determinants of Financial Development (Robustness)

All regressions are cross-sectional. The dependent variable is domestic credit to private sector (% of GDP). In column one the explanatory variables are listed: Legal Formalism Index (LEGALFOR), Polity II (POLITY), trade (% of GDP) (TRADE), and standard deviation of GDP per capita annual growth rate (SDGDPPC). Dummy variables are used to indicate primary religion within a given country: Catholic (DCATH), Protestant (DPROT), and Muslim (DMUSL).

The table presents the results of four estimated equations. Equation (1) consists of only non-cultural variables. Equation (2) includes all non-cultural variables and the cultural variable DCATH. Equation (3) consists of all non-cultural variables and the cultural variable, DPROT. Equation (4) includes all non-cultural variables and the cultural variable, DMUSL.

All equations have been tested using ordinary least squares estimation. They are heteroskedasticity robust applying HAC standard errors and covariance with the Barlett – Kernel and Newey West methods.

Coefficients pertain to standardised variables, beta coefficients, and are significant at a level of 10% level when labelled with *, at a level of 5% when labelled with **, and at a level of 1% when labelled with ***. The standard errors are in parentheses. The E-Views outputs corresponding to this table are found in the appendices.

Variable	1	2	3	4
C	149.5607 (23.02753)	144.1270 (22.44657)	135.0662 (24.49540)	168.3050 (22.34850)
LEGALFOR	-16.49996*** (4.843952)	-13.68419** (6.691183)	-13.08441*** (4.800991)	-19.38765*** (5.474834)
POLITY	2.713311** (1.185972)	2.932753** (1.280258)	2.229355* (1.271601)	1.968041* (0.855248)
TRADE	0.064991 (0.073744)	0.080236 (0.073271)	0.100267 (0.087403)	0.026532 (0.072060)
SDGDPPC	-10.24102*** (3.763163)	-11.11666** (4.360406)	-10.19862*** (3.618241)	-8.674281** (3.274770)
DCATH		-9.271405 (15.03591)		
DPROT			19.46092 (26.07163)	
DMUSL				-47.18037*** (11.71189)
R ² Adjusted	0.312396	0.304281	0.313452	0.369817
Prob (Wald F-statistic)	0.00000	0.00000	0.00000	0.00000
Wald F-stat.	13.87450	11.54224	13.43451	18.31137

Table 13: Results of the Determinants of Financialization (Robustness)

All regressions are cross-sectional. The dependent variable is domestic credit to private sector (% of GDP). In column one the explanatory variables are listed: Legal Formalism Index (LEGALFOR), Polity II (POLITY), and trade (% of GDP) (TRADE). Dummy variables are used to indicate primary religion within a given country: Catholic (DCATH), Protestant (DPROT), and Muslim (DMUSL).

The table presents the results of four estimated equations. Equation (1) consists of only non-cultural variables. Equation (2) includes all non-cultural variables and the cultural variable DCATH. Equation (3) consists of all non-cultural variables and the cultural variable, DPROT. Equation (4) includes all non-cultural variables and the cultural variable, DMUSL.

All equations have been tested using ordinary least squares estimation. They are heteroskedasticity robust applying HAC standard errors and covariance with the Barlett – Kernel and Newey West methods.

Coefficients pertain to standardised variables, beta coefficients, and are significant at a level of 10% level when labelled with *, at a level of 5% when labelled with **, and at a level of 1% when labelled with ***. The standard errors are in parentheses. The E-Views outputs corresponding to this table are found in the appendices.

Variable	1	2	3	4
C	159.3434 (20.30840)	159.3831 (19.72662)	157.0416 (19.11594)	160.2163 (20.30831)
LEGALFOR	-12.49837* (6.672483)	-12.51376* (6.651410)	-11.98341* (6.057836)	-13.23448* (6.717445)
POLITY	1.924161** (0.762722)	1.922526** (0.880149)	1.860874** (0.703214)	2.085113*** (0.746949)
TRADE	-0.123673* (0.061264)	-0.123750* (0.057725)	-0.117833* (0.060711)	-0.109719* (0.059173)
DCATH		0.065450 (10.52187)		
DPROT			2.491011 (17.20670)	
DMUSL				-35.52911*** (7.561154)
R^2 Adjusted	0.110590	0.075014	0.075723	0.109847
Prob (Wald F-statistic)	0.045668	0.051575	0.026494	0.000061
Wald F-stat.	3.064318	2.732632	3.302339	9.901335

Based on the literature, we developed three hypotheses to explain our expectations of our robustness checks. The table and text below examines our findings.

Table 14: Expected vs. Obtained Results for Cultural Dimensions as Determinants of Financial Development and Financialization

The table below presents the expected results and obtained results of culture being a determinant of both financial development and financialization. Note, that the table outlines the results with the presence of each of the three primary religions listed. If the sign is (+) the determinant has a positive impact, if the sign is (-) the determinant has a negative impact, and if the sign is (?) the impact is unknown. If the sign is (NS), it means that the variable is not statistically significant at a level of 10%. The correlation matrices corresponding to these findings are found in the appendices section of this document.

Primary Religion	Expected Result – Financial Development	Expected Result – Financialization	Obtained Result – Financial Development	Obtained Result – Financialization
Catholic	-	-	NS	NS
Protestant	+	+	NS	NS
Muslim	-	-	-	-

Hypothesis 5: Catholicism is negatively related to financial development and financialization because of weaker protection of creditors' rights in populations with a high Catholic population which is detrimental to credit market development.

We find that Catholicism does not have a significant relationship with financial development or financialization. This goes against Stulz and Williamson (2003) which found it to be significant. Given our findings, we reject this hypothesis.

Hypothesis 6: Protestantism is positively related to financial development and financialization because of strong protection of creditors' rights in populations with a high Protestant population which is helpful for the development of credit markets.

We conclude based on our results that Protestantism does not have a significant relationship with financial development or financialization. This goes against Stulz and Williamson (2003) which found it to be significant. Given our findings, we reject this hypothesis.

Hypothesis 7: Islam is negatively related to financial development and financialization because states with high Islamic populations tend to have poor quality government which reduces investor confidence.

Our findings suggest that Islam has a strong negative relationship with both financial development and financialization. This may be due to the findings of La Porta *et al.* (1999) which concludes that countries with large proportions of Muslims tend to suffer from low quality of government. Considering that the quality of institutions is fundamental for financial development as explained by Acemoglu and Johnson (2005), we are comfortable accepting this hypothesis.

4.4 Summary of Results

In the sections above in this chapter we present all of our findings. The aim of this research was to find if there is a relationship between financialization and national culture. The following is a brief summary of our results:

- a) There is no significant relationship between any of Hofstede's cultural dimensions and financialization.
- b) There is a significant negative relationship between power distance and financial development.
- c) There is a strong and significant negative relationship between Islam and financial development.
- d) There is a strong and significant negative relationship between Islam and financialization.

5. Conclusion

Recalling our research question we conclude that national culture is a determinant of financialization. However, the path to this conclusion was challenging and the element of national culture was only revealed in our checks for robustness.

Our pioneering research into culture and financialization met many challenges. But it is within these immense difficulties that we found opportunities to contribute to the extant literature. Among the conventional challenges, we conducted our research with a relatively small sample size. This is because of the decision to use Hofstede (1980) cultural dimensions. We had to make the trade - off between getting as many dimensions as possible with as many countries as possible. The reason why we would have preferred a larger sample size is because it would have allowed us to use the quantile regression estimation method as proposed by Koenker and Bassett (1978) to manage the impact of outliers in our analysis.

A critical challenge that we met is the absolute dearth of empirical studies looking into the determinants of financialization. There was also a lack of reliable empirically proven proxies of financialization. In the future more empirical work not just theoretical work needs to be done to measure financialization and to evaluate its possible determinants. Our contribution to the burgeoning literature is that this work is one of the first which proposes a proxy for financialization as well as possible determinants. Our results indicate that legal formalism, the quality of political institutions, and macroeconomic stability are all significant determinants of financialization and financial development. The pioneering nature of our findings provides multiple possibilities for future investigation.

The lack of previous empirical studies on the determinants of financialization was a challenge that we surmounted with keen analysis of the literature and scholarly reasoning. Using Arcand *et al.* (2015) ground-breaking research which found that between levels of 80% - 120% of GDP, domestic credit to private sector becomes detrimental to economic output we were able to construct the dichotomy between financial development and financialization. This coincides with one of the most glaring and defining feature of financialization which is the proliferation and extension of credit in all aspects of society. This is outlined in a clear manner by Sawyer (2013). Knowing this feature of financialization we were comfortable enough to employ credit to private sector (% of GDP) as a proxy of financialization. In addition, the extant literature on financial development use this variable as an indicator for financial development. Considering the findings of Arcand *et al.* (2015), we were also able to get a possible point in which financial development becomes detrimental. We assumed this detrimental phase to be

financialization. Using this point, we divided our sample into two for the purpose of empirical analysis. One being a general financial development group inclusive of all countries in our sample, and one with countries whose domestic credit to private sector (% of GDP) exceeds 80%. By proposing that this macroeconomic indicator is a proxy of financialization, we assist future researchers who assume the duty of bringing the concept of financialization more deeply into the realms of empirical research.

Credit to private sector, (% GDP) is a proxy of the financial development depth. Within this classification this study does not include other possible indicators which may be proxies of financial development and financialization. Further studies could investigate this same topic by using not only indicators of depth, but indicators of activity. An example of such activity is the turnover ratio, which alludes to the speculation element of financial hyperactivity.

Furthermore, with respect to the aforementioned proxy, the study does not make a clear delineation between market-based and bank-based systems. The nature of the proxy employed means that both systems are captured to some degree. However, future research may consider using proxies specific to banking and specific to markets.

The study used the widely accepted and employed Hofstede's cultural dimensions for testing the impact of culture on financial development and financialization. However, our empirical analysis showed that none of these dimensions have a significant relationship with financialization. However, we did discover that power distance has a significant negative relationship with financial development. This relationship was not expected, because to date the literature has not delved into the role of power distance in financial development.

We did consider that using Hofstede (1980) cultural dimensions may have not been the best variables to express the role of culture in financial development and financialization. Nevertheless, given that this is the first known study of its kind to use all of these variables we consider this a significant contribution to the extant literature. However, we found it prudent to check the robustness of culture being a determinant. This involved finding alternative cultural variables. Following Stulz and Williamson (2003), we evaluated the role of primary religion in financial development and financialization. In the related literature, we found that primary religion is often used. Our results clearly illustrate that Islam has a strong and significant negative relationship with both events.

Courtesy of our findings on the role of a Muslim population, we were able to conclude that culture has some influence on financialization. In our research it is clear that having Islam as a primary religion mitigates the degree of financialization within a state. We propose that future research should investigate the nature of the relationship between Islam and

Financialization. This would involve researching the aspects of Islamic theology that influences attitudes towards the extension of credit and the structuring of credit - based transactions. In this vein, our work and possible follow-up work may be a contribution to the literature of not only cultural finance but also Islamic finance.

We do admit that this study ignores the possible cross-causality of national culture and financial development and financialization. Using the theoretical framework that we have established in this document, future research could build upon this work with more advanced econometric techniques to account for this possibility.

To conclude, culture matters. Given that finance is a member of the social sciences, we cannot ignore the role of culture in financial decision making and financial events. Though the literature focused on theme of this dissertation is in its infancy, we hope that our analysis has provided enough impetus and information to stimulate future investigations.

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Appendix:

Table 15: Cultural Dimensions Values of Each Country

This table captures the four cultural dimension values for each country within our sample. Considerations with respect to the scoring and period of this is found in the text above.

COUNTRY	IDV	MAS	PDI	UAI
Argentina	46	56	49	86
Australia	90	61	38	51
Austria	55	79	11	70
Bangladesh	20	55	80	60
Belgium	75	54	65	94
Brazil	38	49	69	76
Bulgaria	30	40	70	85
Canada	80	52	39	48
Chile	23	28	63	86
China	20	66	80	30
Colombia	13	64	67	80
Costa Rica	15	21	35	86
Croatia	33	40	73	80
Czech Republic	58	57	57	74
Denmark	74	16	18	23
Ecuador	8	63	78	67
El Salvador	19	40	66	94
Finland	63	26	33	59
France	71	43	68	86
Greece	35	57	60	100
Hong Kong	25	57	68	29
Hungary	80	88	46	82
India	48	56	77	40
Indonesia	14	46	78	48
Ireland	70	68	28	35
Israel	54	47	13	81
Italy	76	70	50	75
Jamaica	39	68	45	13
Japan	46	95	54	92
Luxembourg	60	50	40	70
Malaysia	26	50	100	36
Malta	59	47	56	96
Mexico	30	69	81	82
Netherlands	80	14	38	53
New Zealand	79	58	22	49
Norway	69	8	31	50
Pakistan	14	50	55	70
Panama	11	44	95	86

Peru	16	42	64	87
Philippines	32	64	94	44
Poland	60	64	68	93
Portugal	27	31	63	100
Romania	30	42	90	90
Singapore	20	48	74	8
Slovenia	27	19	71	88
South Korea	18	39	60	85
Spain	51	42	57	86
Sweden	71	5	31	29
Switzerland	68	70	34	58
Thailand	20	34	64	64
Turkey	37	45	66	85
United Kingdom	89	66	35	35
United States	91	62	40	46
Venezuela	12	73	81	76
Vietnam	20	40	70	30

Table 16: Determinants of Financial Development Results (Preliminary Variables)

Dependent Variable: CREDIT

Method: Least Squares

Sample: 1 55

Included observations: 55

HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	125.2651	29.04098	4.313390	0.0001
BRLAW	-2.976540	13.15711	-0.226231	0.8220
FRLAW	4.048094	11.31661	0.357713	0.7222
POLITY	4.080828	0.944609	4.320123	0.0001
LEGALFOR	-13.96132	5.765543	-2.421511	0.0195
ETHNIC	-45.94317	21.61406	-2.125615	0.0391
LAND	-14.09785	15.17630	-0.928939	0.3579
SDGDPPC	-9.826887	4.119282	-2.385582	0.0213
AVGGDPG	7.569239	3.654746	2.071071	0.0441
TRADE	0.048902	0.096407	0.507242	0.6145
R-squared	0.456476	Mean dependent var		86.64264
Adjusted R-squared	0.347771	S.D. dependent var		50.92736
S.E. of regression	41.12928	Akaike info criterion		10.43428
Sum squared resid	76122.79	Schwarz criterion		10.79925
Log likelihood	-276.9428	Hannan-Quinn criter.		10.57542
F-statistic	4.199228	Durbin-Watson stat		1.696040
Prob(F-statistic)	0.000550	Wald F-statistic		15.44812
Prob(Wald F-statistic)	0.000000			

Table 17: Determinants of Financial Development Results

Dependent Variable: CREDIT

Method: Least Squares

Sample: 1 55

Included observations: 55

HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	149.5607	23.02753	6.494863	0.0000
LEGALFOR	-16.49996	4.843952	-3.406301	0.0013
POLITY	2.713311	1.185972	2.287837	0.0264
TRADE	0.064991	0.073744	0.881300	0.3824
SDGDPPC	-10.24102	3.763163	-2.721387	0.0089
R-squared	0.363329	Mean dependent var		86.64264
Adjusted R-squared	0.312396	S.D. dependent var		50.92736
S.E. of regression	42.22994	Akaike info criterion		10.41064
Sum squared resid	89168.38	Schwarz criterion		10.59313
Log likelihood	-281.2927	Hannan-Quinn criter.		10.48121
F-statistic	7.133386	Durbin-Watson stat		1.931125
Prob(F-statistic)	0.000126	Wald F-statistic		13.87450
Prob(Wald F-statistic)	0.000000			

Table 18: Financial Development and Individualism Results

Dependent Variable: CREDIT

Method: Least Squares

Sample: 1 55

Included observations: 55

HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	114.2756	29.80180	3.834519	0.0004
LEGALFOR	-12.21943	5.126332	-2.383660	0.0211
POLITY	1.537062	1.471798	1.044343	0.3015
TRADE	0.094117	0.068721	1.369546	0.1771
SDGDPPC	-7.787893	3.896158	-1.998864	0.0512
IDV	0.442481	0.328142	1.348442	0.1837
R-squared	0.384270	Mean dependent var		86.64264
Adjusted R-squared	0.321440	S.D. dependent var		50.92736
S.E. of regression	41.95128	Akaike info criterion		10.41356
Sum squared resid	86235.60	Schwarz criterion		10.63255
Log likelihood	-280.3730	Hannan-Quinn criter.		10.49825
F-statistic	6.116059	Durbin-Watson stat		1.911579
Prob(F-statistic)	0.000178	Wald F-statistic		11.87468
Prob(Wald F-statistic)	0.000000			

Table 19: Financial Development and Masculinity Results

Dependent Variable: CREDIT
Method: Least Squares
Sample: 1 55
Included observations: 55
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)
No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	156.8089	28.28013	5.544843	0.0000
LEGALFOR	-16.70977	4.926589	-3.391753	0.0014
POLITY	2.660247	1.214682	2.190077	0.0333
TRADE	0.060192	0.074597	0.806889	0.4236
SDGDPPC	-10.15636	3.812327	-2.664085	0.0104
MAS	-0.119724	0.269891	-0.443600	0.6593
R-squared	0.365231	Mean dependent var		86.64264
Adjusted R-squared	0.300459	S.D. dependent var		50.92736
S.E. of regression	42.59491	Akaike info criterion		10.44402
Sum squared resid	88902.01	Schwarz criterion		10.66300
Log likelihood	-281.2104	Hannan-Quinn criter.		10.52870
F-statistic	5.638694	Durbin-Watson stat		1.944212
Prob(F-statistic)	0.000350	Wald F-statistic		11.37916
Prob(Wald F-statistic)	0.000000			

Table 20: Financial Development and Power Distance Results

Dependent Variable: CREDIT
Method: Least Squares
Sample: 1 55
Included observations: 55
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)
No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	168.2414	27.53311	6.110510	0.0000
LEGALFOR	-13.71401	4.791921	-2.861902	0.0062
POLITY	1.809172	1.224511	1.477465	0.1460
TRADE	0.082517	0.072295	1.141405	0.2592
SDGDPPC	-7.845981	3.785188	-2.072811	0.0435
PDI	-0.523939	0.244220	-2.145354	0.0369
R-squared	0.394785	Mean dependent var		86.64264
Adjusted R-squared	0.333028	S.D. dependent var		50.92736
S.E. of regression	41.59153	Akaike info criterion		10.39634
Sum squared resid	84762.93	Schwarz criterion		10.61532
Log likelihood	-279.8993	Hannan-Quinn criter.		10.48102
F-statistic	6.392585	Durbin-Watson stat		1.947664
Prob(F-statistic)	0.000121	Wald F-statistic		12.16696
Prob(Wald F-statistic)	0.000000			

Table 21: Financial Development and Uncertainty Avoidance Results

Dependent Variable: CREDIT
Method: Least Squares
Sample: 1 55
Included observations: 55
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)
No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	152.5594	26.35187	5.789318	0.0000
LEGALFOR	-15.26427	5.438828	-2.806536	0.0072
POLITY	2.838446	1.247633	2.275065	0.0273
TRADE	0.057471	0.081869	0.701993	0.4860
SDGDPPC	-10.26677	3.675286	-2.793461	0.0074
UAI	-0.116676	0.389978	-0.299185	0.7661
R-squared	0.365367	Mean dependent var		86.64264
Adjusted R-squared	0.300609	S.D. dependent var		50.92736
S.E. of regression	42.59035	Akaike info criterion		10.44380
Sum squared resid	88882.95	Schwarz criterion		10.66278
Log likelihood	-281.2045	Hannan-Quinn criter.		10.52848
F-statistic	5.642005	Durbin-Watson stat		1.949539
Prob(F-statistic)	0.000348	Wald F-statistic		11.54549
Prob(Wald F-statistic)	0.000000			

Table 22: Financial Development and Catholicism Results

Dependent Variable: CREDIT
Method: Least Squares
Sample: 1 55
Included observations: 55
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)
No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	144.1270	22.44657	6.420890	0.0000
LEGALFOR	-13.68419	6.691183	-2.045107	0.0462
POLITY	2.932753	1.280258	2.290752	0.0263
TRADE	0.080236	0.073271	1.095061	0.2788
SDGDPPC	-11.11666	4.360406	-2.549455	0.0140
DCATH	-9.271405	15.03591	-0.616618	0.5403
R-squared	0.368700	Mean dependent var		86.64264
Adjusted R-squared	0.304281	S.D. dependent var		50.92736
S.E. of regression	42.47839	Akaike info criterion		10.43854
Sum squared resid	88416.26	Schwarz criterion		10.65752
Log likelihood	-281.0598	Hannan-Quinn criter.		10.52322
F-statistic	5.723512	Durbin-Watson stat		1.958427
Prob(F-statistic)	0.000310	Wald F-statistic		11.54224
Prob(Wald F-statistic)	0.000000			

Table 23: Financial Development and Protestantism Results

Dependent Variable: CREDIT
 Method: Least Squares
 Sample: 1 55
 Included observations: 55
 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed
 bandwidth = 4.0000)
 No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	135.0662	24.49540	5.513942	0.0000
LEGALFOR	-13.08441	4.800991	-2.725356	0.0089
POLITY	2.229355	1.271601	1.753187	0.0858
TRADE	0.100267	0.087403	1.147176	0.2569
SDGDPPC	-10.19862	3.618241	-2.818669	0.0069
DPROT	19.46092	26.07163	0.746440	0.4590
R-squared	0.377021	Mean dependent var		86.64264
Adjusted R-squared	0.313452	S.D. dependent var		50.92736
S.E. of regression	42.19749	Akaike info criterion		10.42527
Sum squared resid	87250.76	Schwarz criterion		10.64425
Log likelihood	-280.6948	Hannan-Quinn criter.		10.50995
F-statistic	5.930876	Durbin-Watson stat		1.989329
Prob(F-statistic)	0.000231	Wald F-statistic		13.43451
Prob(Wald F-statistic)	0.000000			

Table 24: Financial Development and Islam Results

Dependent Variable: CREDIT
 Method: Least Squares
 Sample: 1 55
 Included observations: 55
 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed
 bandwidth = 4.0000)
 No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	168.3050	22.34850	7.530930	0.0000
LEGALFOR	-19.38765	5.474834	-3.541231	0.0009
POLITY	1.968041	0.855248	2.301136	0.0257
TRADE	0.026532	0.072060	0.368201	0.7143
SDGDPPC	-8.674281	3.274770	-2.648821	0.0108
DMUSL	-47.18037	11.71189	-4.028418	0.0002
R-squared	0.428167	Mean dependent var		86.64264
Adjusted R-squared	0.369817	S.D. dependent var		50.92736
S.E. of regression	40.42822	Akaike info criterion		10.33960
Sum squared resid	80087.62	Schwarz criterion		10.55858
Log likelihood	-278.3391	Hannan-Quinn criter.		10.42428
F-statistic	7.337867	Durbin-Watson stat		1.846604
Prob(F-statistic)	0.000034	Wald F-statistic		18.31137
Prob(Wald F-statistic)	0.000000			

Table 25: Determinants of Financialization Results (Preliminary)

Dependent Variable: CREDIT
 Method: Least Squares
 Sample (adjusted): 1 30
 Included observations: 30 after adjustments
 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed
 bandwidth = 4.0000)
 No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	158.2294	19.67922	8.040429	0.0000
LEGALFOR	-12.75994	7.496007	-1.702232	0.1011
POLITY	1.955750	0.715698	2.732649	0.0114
TRADE	-0.130501	0.054787	-2.381979	0.0251
SDGDPPC	0.922867	5.748489	0.160541	0.8737
R-squared	0.203042	Mean dependent var		124.4066
Adjusted R-squared	0.075529	S.D. dependent var		36.41833
S.E. of regression	35.01602	Akaike info criterion		10.10050
Sum squared resid	30653.04	Schwarz criterion		10.33403
Log likelihood	-146.5075	Hannan-Quinn criter.		10.17521
F-statistic	1.592319	Durbin-Watson stat		1.910625
Prob(F-statistic)	0.207350	Wald F-statistic		2.395246
Prob(Wald F-statistic)	0.077345			

Table 26: Determinants of Financialization Results

Dependent Variable: CREDIT
 Method: Least Squares
 Sample (adjusted): 1 30
 Included observations: 30 after adjustments
 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed
 bandwidth = 4.0000)
 No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	159.3434	20.30840	7.846181	0.0000
LEGALFOR	-12.49837	6.672483	-1.873122	0.0723
POLITY	1.924161	0.762722	2.522757	0.0181
TRADE	-0.123673	0.061264	-2.018694	0.0539
R-squared	0.202598	Mean dependent var		124.4066
Adjusted R-squared	0.110590	S.D. dependent var		36.41833
S.E. of regression	34.34559	Akaike info criterion		10.03439
Sum squared resid	30670.12	Schwarz criterion		10.22122
Log likelihood	-146.5159	Hannan-Quinn criter.		10.09416
F-statistic	2.201960	Durbin-Watson stat		1.901476
Prob(F-statistic)	0.111825	Wald F-statistic		3.064318
Prob(Wald F-statistic)	0.045668			

Table 27: Financialization and Individualism Results

Dependent Variable: CREDIT
 Method: Least Squares
 Sample (adjusted): 1 30
 Included observations: 30 after adjustments
 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed
 bandwidth = 4.0000)
 No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	151.1781	28.25658	5.350190	0.0000
LEGALFOR	-11.27487	6.915584	-1.630357	0.1156
POLITY	1.675005	0.797352	2.100711	0.0459
TRADE	-0.109777	0.060099	-1.826623	0.0797
IDV	0.095772	0.302690	0.316402	0.7543
R-squared	0.204749	Mean dependent var		124.4066
Adjusted R-squared	0.077509	S.D. dependent var		36.41833
S.E. of regression	34.97850	Akaike info criterion		10.09836
Sum squared resid	30587.39	Schwarz criterion		10.33189
Log likelihood	-146.4753	Hannan-Quinn criter.		10.17307
F-statistic	1.609152	Durbin-Watson stat		1.892298
Prob(F-statistic)	0.203084	Wald F-statistic		2.833370
Prob(Wald F-statistic)	0.045765			

Table 28: Financialization and Masculinity Results

Dependent Variable: CREDIT
 Method: Least Squares
 Sample (adjusted): 1 30
 Included observations: 30 after adjustments
 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed
 bandwidth = 4.0000)
 No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	137.7510	20.38199	6.758468	0.0000
LEGALFOR	-11.42491	6.501887	-1.757168	0.0911
POLITY	2.027262	0.689725	2.939230	0.0070
TRADE	-0.114028	0.058119	-1.961997	0.0610
MAS	0.347698	0.239578	1.451297	0.1591
R-squared	0.242411	Mean dependent var		124.4066
Adjusted R-squared	0.121197	S.D. dependent var		36.41833
S.E. of regression	34.14017	Akaike info criterion		10.04984
Sum squared resid	29138.78	Schwarz criterion		10.28337
Log likelihood	-145.7476	Hannan-Quinn criter.		10.12455
F-statistic	1.999861	Durbin-Watson stat		1.780558
Prob(F-statistic)	0.125383	Wald F-statistic		2.918133
Prob(Wald F-statistic)	0.041409			

Table 29: Financialization and Power Distance Results

Dependent Variable: CREDIT
 Method: Least Squares
 Sample (adjusted): 1 30
 Included observations: 30 after adjustments
 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed
 bandwidth = 4.0000)
 No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	165.5751	24.60020	6.730639	0.0000
LEGALFOR	-10.52715	6.181632	-1.702972	0.1010
POLITY	1.513069	0.937453	1.614021	0.1191
TRADE	-0.100202	0.068036	-1.472789	0.1533
PDI	-0.221420	0.262356	-0.843969	0.4067
R-squared	0.213814	Mean dependent var		124.4066
Adjusted R-squared	0.088024	S.D. dependent var		36.41833
S.E. of regression	34.77857	Akaike info criterion		10.08689
Sum squared resid	30238.72	Schwarz criterion		10.32042
Log likelihood	-146.3034	Hannan-Quinn criter.		10.16160
F-statistic	1.699771	Durbin-Watson stat		1.894199
Prob(F-statistic)	0.181572	Wald F-statistic		2.161305
Prob(Wald F-statistic)	0.102846			

Table 30: Financialization and Uncertainty Avoidance Results

Dependent Variable: CREDIT
 Method: Least Squares
 Sample (adjusted): 1 30
 Included observations: 30 after adjustments
 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed
 bandwidth = 4.0000)
 No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	162.1320	21.69628	7.472803	0.0000
LEGALFOR	-9.943423	5.930576	-1.676637	0.1061
POLITY	2.173173	0.993061	2.188359	0.0382
TRADE	-0.137549	0.062663	-2.195064	0.0377
UAI	-0.192504	0.315172	-0.610789	0.5469
R-squared	0.214186	Mean dependent var		124.4066
Adjusted R-squared	0.088455	S.D. dependent var		36.41833
S.E. of regression	34.77034	Akaike info criterion		10.08642
Sum squared resid	30224.42	Schwarz criterion		10.31995
Log likelihood	-146.2963	Hannan-Quinn criter.		10.16113
F-statistic	1.703533	Durbin-Watson stat		2.017203
Prob(F-statistic)	0.180730	Wald F-statistic		2.487456
Prob(Wald F-statistic)	0.069186			

Table 31: Financialization and Protestantism Results

Dependent Variable: CREDIT
 Method: Least Squares
 Sample (adjusted): 1 30
 Included observations: 30 after adjustments
 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed
 bandwidth = 4.0000)
 No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	157.0416	19.11594	8.215215	0.0000
LEGALFOR	-11.98341	6.057836	-1.978168	0.0590
POLITY	1.860874	0.703214	2.646241	0.0139
TRADE	-0.117833	0.060711	-1.940876	0.0636
DPROT	2.491011	17.20670	0.144770	0.8861
R-squared	0.203209	Mean dependent var		124.4066
Adjusted R-squared	0.075723	S.D. dependent var		36.41833
S.E. of regression	35.01235	Akaike info criterion		10.10029
Sum squared resid	30646.61	Schwarz criterion		10.33382
Log likelihood	-146.5044	Hannan-Quinn criter.		10.17500
F-statistic	1.593965	Durbin-Watson stat		1.918345
Prob(F-statistic)	0.206929	Wald F-statistic		3.302339
Prob(Wald F-statistic)	0.026494			

Table 32: Financialization and Catholicism Results

Dependent Variable: CREDIT
 Method: Least Squares
 Sample (adjusted): 1 30
 Included observations: 30 after adjustments
 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed
 bandwidth = 4.0000)
 No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	159.3831	19.72662	8.079599	0.0000
LEGALFOR	-12.51376	6.651410	-1.881369	0.0716
POLITY	1.922526	0.880149	2.184319	0.0385
TRADE	-0.123750	0.057725	-2.143786	0.0420
DCATH	0.065450	10.52187	0.006220	0.9951
R-squared	0.202598	Mean dependent var		124.4066
Adjusted R-squared	0.075014	S.D. dependent var		36.41833
S.E. of regression	35.02576	Akaike info criterion		10.10106
Sum squared resid	30670.09	Schwarz criterion		10.33459
Log likelihood	-146.5158	Hannan-Quinn criter.		10.17577
F-statistic	1.587958	Durbin-Watson stat		1.900429
Prob(F-statistic)	0.208470	Wald F-statistic		2.732632
Prob(Wald F-statistic)	0.051575			

Table 33: Financialization and Islam Results

Dependent Variable: CREDIT

Method: Least Squares

Sample (adjusted): 1 30

Included observations: 30 after adjustments

HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

No d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	160.2163	20.30831	7.889201	0.0000
LEGALFOR	-13.23448	6.717445	-1.970165	0.0600
POLITY	2.085113	0.746949	2.791506	0.0099
TRADE	-0.109719	0.059173	-1.854199	0.0755
DMUSL	-35.52911	7.561154	-4.698901	0.0001
R-squared	0.232626	Mean dependent var		124.4066
Adjusted R-squared	0.109847	S.D. dependent var		36.41833
S.E. of regression	34.35995	Akaike info criterion		10.06267
Sum squared resid	29515.15	Schwarz criterion		10.29620
Log likelihood	-145.9401	Hannan-Quinn criter.		10.13738
F-statistic	1.894663	Durbin-Watson stat		1.875139
Prob(F-statistic)	0.142732	Wald F-statistic		9.901335
Prob(Wald F-statistic)	0.000061			

Table 34: Correlation Matrix - Financial Development and Cultural Dimensions

	LEGALFOR	POLITY	TRADE	SDGDPPC	IDV	MAS	PDI	UAI
LEGALFOR	1.000000	0.073223	-0.304111	0.474449	-0.497221	-0.046595	0.368636	0.540959
POLITY	0.073223	1.000000	-0.016398	-0.023421	0.403921	-0.101414	-0.314156	0.214976
TRADE	-0.304111	-0.016398	1.000000	0.063320	-0.055754	-0.093717	0.035468	-0.312516
SDGDPPC	0.474449	-0.023421	0.063320	1.000000	-0.532769	-0.002995	0.446176	0.203124
IDV	-0.497221	0.403921	-0.055754	-0.532769	1.000000	0.081627	-0.668115	-0.183329
MAS	-0.046595	-0.101414	-0.093717	-0.002995	0.081627	1.000000	0.090932	0.019134
PDI	0.368636	-0.314156	0.035468	0.446176	-0.668115	0.090932	1.000000	0.169030
UAI	0.540959	0.214976	-0.312516	0.203124	-0.183329	0.019134	0.169030	1.000000

Table 35: Correlation Matrix - Financial Development and Primary Religion

	LEGALFOR	POLITY	TRADE	SDGDPPC	DCATH	DPROT	DMUSL
LEGALFOR	1.000000	0.073223	-0.304111	0.474449	0.502752	-0.419399	-0.123825
POLITY	0.073223	1.000000	-0.016398	-0.023421	0.240878	0.234152	-0.236896
TRADE	-0.304111	-0.016398	1.000000	0.063320	-0.025103	-0.141784	-0.086274
SDGDPPC	0.474449	-0.023421	0.063320	1.000000	0.066362	-0.282437	0.042039
DCATH	0.502752	0.240878	-0.025103	0.066362	1.000000	-0.467148	-0.333974
DPROT	-0.419399	0.234152	-0.141784	-0.282437	-0.467148	1.000000	-0.139876
DMUSL	-0.123825	-0.236896	-0.086274	0.042039	-0.333974	-0.139876	1.000000

Table 36: Correlation Matrix - Financialization and Cultural Dimensions

	LEGALFOR	POLITY	TRADE	IDV	MAS	PDI	UAI
LEGALFOR	1.000000	0.112411	-0.236692	-0.351166	-0.132885	0.282839	0.576223
POLITY	0.112411	1.000000	-0.133534	0.462018	-0.068333	-0.389973	0.305642
TRADE	-0.236692	-0.133534	1.000000	-0.360444	-0.054030	0.313162	-0.349300
IDV	-0.351166	0.462018	-0.360444	1.000000	0.051954	-0.758201	-0.168788
MAS	-0.132885	-0.068333	-0.054030	0.051954	1.000000	0.023966	0.104600
PDI	0.282839	-0.389973	0.313162	-0.758201	0.023966	1.000000	0.146542
UAI	0.576223	0.305642	-0.349300	-0.168788	0.104600	0.146542	1.000000

Table 37: Correlation Matrix - Financialization and Primary Religion

	LEGALFOR	POLITY	TRADE	DCATH	DPROT	DMUSL
LEGALFOR	1.000000	0.112411	-0.236692	0.461309	-0.348149	-0.141226
POLITY	0.112411	1.000000	-0.133534	0.259729	0.260670	0.080271
TRADE	-0.236692	-0.133534	1.000000	0.031171	-0.313890	0.173173
DCATH	0.461309	0.259729	0.031171	1.000000	-0.527328	-0.162386
DPROT	-0.348149	0.260670	-0.313890	-0.527328	1.000000	-0.111979
DMUSL	-0.141226	0.080271	0.173173	-0.162386	-0.111979	1.000000