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MATERIALISM, INDIVIDUALISM AND RISK-TAKING DECISIONS ACROSS REGIONS IN CHINA

Ph.D. dissertation

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Executive Summary

This dissertation explores how cultural values in materialism and individualism affect risk-taking decisions across regions in China. Materialism and individualism are becoming increasingly important in China since the rapid economic growth and wealth accumulation of Chinese society have generated dramatic impact on Chinese culture. This dissertation pays a particular attention to the cultural dimensions of materialism/post-materialism at the societal-level purported by Inglehart (1971, 1977) and individualism/collectivism at the individual-level proposed by Schwartz (1992). Three studies are conducted accordingly.

The first study explores how materialism affect corporate borrowing and saving decisions across Chinese regions. Based on an index of materialism/post-materialism calculated from the World Value Survey, I find that listed firms located within more materialistic regions tend to borrow more and save less, driving firms riskier. Furthermore, the positive effects of materialism are generally stronger for state-controlled firms and larger firms. I also show that the positive effects of materialism on borrowing hold in both short-term and long-term categories.

The second study investigates how culture values in materialism matter for corporate supply of trade credit across regions in China. I document that listed firms within more materialistic regions are inclined to extend less trade credit to their customers, in particular in long-term categories of trade credit. The results indicate that higher materialism drives firms less risky in terms of trade credit supply. Moreover, I present evidence suggesting that firms within more materialistic regions collect accounts receivable faster from their customers. Such negative effects of materialism on trade credit supply tend to become weaker in state-controlled firms, but turn more pronounced in non-state-controlled firms.

The third study analyzes the relationship between Schwartz's individualism/collectivism values and risk preferences among respondents in three Chinese regions, i.e., Shanghai, Jiangsu and Yunnan. My survey

results indicate that respondents from Shanghai tend to have lower value in financial risk preference, higher value in individualism, and lower value in collectivism compared with those from Yunnan. Nevertheless, after controlling for respondents' characteristics and regional variables, I show that respondents' values of individualism are positively associated with their financial risk preference. Such findings are inconsistent with the Cushion hypothesis (Hsee and Weber, 1999) and shed lights on the debate in the existing literature about the relationship between individualism and risk-taking.

Overall, this dissertation reveals that cultural dimensions in materialism/post-materialism and individualism/collectivism play complex and important roles in shaping business and individual risk profiles of China. My studies contribute to the literature both in the dimension of cultural influence on risk-related decisions, and in the dimension of corporate financing mechanisms in China. Such findings help researchers and practitioners understand regional differences in China, and have important policy and economic implications.

Dansk Resume

I denne afhandling udforskes, hvilke forskelle der er på kulturelle værdier og risikovillighed på tværs af de forskellige regioner i Kina. Det undersøges endvidere, hvordan de regionale kulturværdier påvirker risikable beslutninger. Afhandlingen har en særlig interesse i værdien (post-)materialisme, da de hurtige ændringer i Kinas økonomiske velstand har haft en dramatisk indvirkning på kulturen, netop hvad angår materialisme. Der er udført tre forskellige studier, dvs. analyser set ud fra henholdsvis et virksomhedsperspektiv og et individperspektiv.

I det første studie udforskes, hvordan regionale kulturelle værdier, angående materialisme, påvirker en virksomheds beslutninger vedrørende låntagning og opsparing. På baggrund af data fra World Value Survey vises det, at de anførte virksomheder synes at have en større låntagning end opsparing, når virksomheden er beliggende i mere materialistiske regioner. Det betyder, at virksomhederne løber en større risiko. Yderligere øges den positive effekt af materialistiske værdier, når der er tale om statskontrollerede virksomheder og større virksomheder. Det påvises også, at materialismens positive effekt på låntagning gælder både kortsigtede og langsigtede låntyper.

I det andet studie undersøges det, hvilken betydning regionale kulturelle værdier inden for materialisme har for virksomhedernes adgang til kredit. Det dokumenteres, at de anførte virksomheder i mere materialistiske regioner har en tilbøjelighed til at give mindre kreditter til deres kunder, specielt når der er tale om langsigtede typer af kreditter. Resultaterne indikerer, at den højere regionale materialisme gør, at virksomhederne tager færre risici i forhold til at give kredit. Desuden tyder det på, at virksomheder i de mere materialistiske regioner hurtigere inddriver gæld fra deres kunder. Disse negative effekter, som materialismen har på udbuddet af kreditter, synes at være mindre i statskontrollerede virksomheder, hvorimod de er mere udtalte i ikke-statskontrollerede virksomheder.

I det tredje studie analyseres forholdet mellem Schwartz' individualisme/kollektivisme og risikopræferencen hos respondenterne i disse tre kinesiske regioner – Shanghai, Jiangsu og Yunnan. Min spørgeskemaundersøgelse indikerer, at respondenter fra Shanghai synes at have en lavere tærskel sammenlignet med respondenter fra Yunnan, når de skal angive, hvor stor en økonomisk risiko de er villige til at tage. Respondenterne fra Shanghai vægter også værdien af individualisme højere, og kollektivisme lavere sammenligner med respondenterne fra Yunnan. Efter at have taget højde for respondenternes karakteristika og regionale forskelle påvises det, at respondenternes opfattelse af hvor vigtig individualisme er, er knyttet positivt sammen med deres økonomiske risikovillighed. Disse resultater afviger fra 'pude'-hypotesen (the cushion hypothesis).

Overordnet set, afdækker denne afhandling, at den regionale kultur på forskellige måder spiller en vigtig og kompleks rolle for risikoprofilerne for både virksomheder og individer i Kina. Undersøgelserne, der redegøres for i afhandlingen, bidrager til litteraturen inden for området, både hvad angår forståelsen af de regionale kulturer i Kina, og hvad angår kulturens indflydelse på ledelsesbeslutninger.

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Chapter I: Introduction

1.1 Overview

"Max Weber was right. If I learn anything from the history of economic development, it is that culture makes almost all of the difference."

Landes (2000)

As the third largest country by area and the largest country by population in the world, China has become the industrial growth center of the world and one of the most important global economic powers. The rapid growth of Chinese economy in the past 40 years has been attributed to the reform of its socialist system into a more competitive market economy. Despite the general success of Chinese economy since the reform began, China's economic development remains quite unbalanced since there still exist huge differences between urban and rural areas, and among different regions in China. For example, China's major cities along it's east coast have already reached the level of developed economies in terms of GDP per capita and infrastructure, whereas many rural areas in the western regions still are caught in poverty.

The rapid economic development of China in the past decades inevitably is accompanied by evolvement in Chinese culture. There are two increasingly important cultural dimensions in China. First, materialism is regarded as a central and typical of Chinese culture given Chinese astuteness in handling money and priority on monetary rewards (Freedman, 1979; Bond, 2008). As Chinese people become richer, materialism is getting stronger as evidenced by fast-growing luxury goods consumption in China. Meanwhile, Chinese culture has been more collectivistic and less individualistic since ancient times than Western culture has been (Nisbett et al., 2001). However, Chinese are also becoming more individualistic over time since the need for interdependence is lessened (Triandis, 1995).

One explanation for the success of Chinese economy is that Chinese are observed to be generally willing to take risk and react at entrepreneurial opportunities (Hofstede, 1980). How do risk-taking preferences of Chinese people relate to the above-mentioned important culture features? Answering the question helps to understand the underlying mechanisms of Chinese society and Chinese economy.

Within past decades, researchers have been increasingly studying the impact of cultural

values on business affairs. The roles of culture in affecting managerial behaviors are substantial. From the perspective of historical evolution, Marx (1859) argues that the underlying technology determines the prevailing social structure and dominant culture. Nevertheless, Weber (1905) emphasizes the importance of culture in changing the resistance to new economic order. The debate over the functioning of culture was ignited again in the late 1990s and early 2000s. Abundant evidence has been provided to support that culture can have an impact on economic outcomes (Guiso et al., 2006). It is argued that cultural norms and beliefs are important forces shaping people's perception, disposition and behaviors (Markus and Kitayama, 1991). Nevertheless, limited studies have explored the effects of within-country cultural differences, especially in China (Froese et al., 2019), whereas Chinese people from different regions live in diverse geographies, climates and cultural environments. Such significant heterogeneity among the regions in China helps to shape distinct local cultural values. For example, North China and South China are regarded to be culturally different in terms of language, foods, and individual's characteristics, etc. According to an analysis of the World Values Survey (WVS) by Ang et al. (2015), the differences among provinces in China are often greater than the differences across European countries. However, subnational cultural dissimilarities within countries, and China specifically, are generally given lesser attention (Tung et al., 2008). Therefore, it helps to understand the cultural influence on risk-taking decisions in China from the perspective of intra-country data where Chinese people in a region (province) are treated as sharing one culture.

First of all, this dissertation has a particular interest in the role of societal-level materialism in affecting corporate risk-taking decisions across regions in China. According to Inglehart (1971, 1977), individual values in western developed countries are shifting from materialism emphasizing order and stability to post-materialism prioritizing autonomy and self-expression. The transformation of a society in the extent of materialism/post-materialism tends to be associated with value changes towards physical security, economic security, education and information. Such values changes imply a certain attitudes switch towards risks. How materialism/post-materialism as at societal-level affects risk decisions at corporate level is yet to be explored. Such definition of materialism from a societal perspective is along a different dimension from the common concepts of materialism from an individual perspective, which refers to the excessive desire to acquire and consume material goods (Richins, 1994) or a "set of centrally held beliefs about the importance of possessions in one's life" (Richins and Dawson, 1992, p. 308).

The other research interest of this dissertation is the influence of individualism and collectivism on risk-taking decisions of Chinese people. As Chinese society becomes increasingly wealthy, Chinese should become more individualistic over time due to less need for interdependence (Triandis,1995). The extent of individualism has a significantly positive effect on financial risk taking (Breuer et al., 2014) in that decisions are more likely to be driven by overconfidence in more individualistic societies (Chui et al., 2010). Meanwhile, it is argued that people in a collectivistic society are more likely to take financial risks since they could be "cushioned" by easier access to financial help (Hsee and Weber, 1999). In terms of China, how individualism and collectivism are related to risk-taking decisions are still controversial.

This dissertation pays particular attention to the effects of the broader definition of societal-level materialism by Inglehart (1971, 1977) on corporate-level risk-taking decisions including borrowing and saving, and trade credit provision. Borrowing more cash increases corporate leverage and accrues liability to be paid in the future; holding more cash is a decision to hedge against undesired states in the future; granting customers more credit incurs risks of not being paid in the future. Thus, these decisions are important issues affecting corporate risk profile. Also, these corporate decisions are related to monetary possession, and thus are likely to be affected by societal materialism.

The radical changes of China in social structure and economic development for the past forty-years, and the great diversity in Chinese regional development create a natural experiment allowing the existence of enough variation in materialism and individualism values across Chinese regions. Taking such measures enable this dissertation to have a sufficient test about the cultural influence on risk-taking preferences.

China is an ideal country for such cultural studies. First, China has weak legal and institutional environment, in terms of investor protection and enforcement of contracts etc. (Allen et al., 2005). In such circumstance, the role of culture can be particularly important. Second, Chinese firms face severe financial constraints of external financing for both issuing equity and borrowing (Chang et al., 2014). Chinese government has been imposing various controls over the process of equity issuance and corporate bond issuance. Consequently, the use of long-term debt by Chinese listed firms is the lowest among the countries studied to date (Bhabra et al., 2008) and the majority of debt is in the form of bank loans. There also exists discrimination in access to bank loans for private firms so that they often have to resort to trade credits (Cull et al., 2009). Lastly, China provides within the country the same set of political system, judiciary system, codes of taxes and accounting rules, etc. By taking the intra-country

approach, this dissertation avoids distractions from cross-country differences and delivers relatively clean results of cultural influence.

1.2 Research questions

Previous research has extensively examined the role of culture in corporate and individual decisions in cross-country studies. However, China is usually treated as a single culture, whereas the huge cultural differences within China are generally ignored. Moreover, materialism at the societal-level is rarely studied for its role in the firm-level business decisions, even though materialism at the individual-level is a popular topic in the literature of consumer behavior and marketing. Individualism/collectivism continuum has been one of the most popular research top in cultural studies. This dissertation attempts to extend the prior works in the literature of cultural studies, by proposing the following three research questions:

1. How does cultural value in materialism/post-materialism of Inglehart affect corporate borrowing and saving decisions across Chinese regions?

2. How does cultural value in materialism/post-materialism of Inglehart affect corporate provision of trade credit across Chinese regions?

3. How are Schwartz's values in individualism/collectivism associated with financial risk preferences at the individual-level?

In China, SOEs tend to receive favorable access to bank credit. Informal financing such as trade credit to customers become very important financing channels for private firms. Understanding these questions are important policy implications, allowing Chinese government to understand mechanisms underlying credit allocation in regions with different materialistic values.

Moreover, answering the above research questions have important practical implications for foreign firms seeking entry into China. Foreign firms need to choose the location for establishing new business and business partners for trade transactions. The analysis in this dissertation helps them to make better entry decisions.

1.3 Research design

To answer these research questions, three studies are conducted and reported in the dissertation.

The first study explores how cultural value of materialism affects corporate borrowing and saving decisions of listed firms across regions in China. Based on a measure of materialism/post-materialism from the World Value Survey, the study estimates the materialism values for 30 regions in China at the province-level. The measures of corporate borrowing and savings are then regressed on regional value of materialism, controlled for firm characteristics and regional development. It is proposed that firms located within more materialistic regions tend to borrow more and save less, and that such effects are more prominent for state-controlled firms and large firms.

The second study assesses the influence of regional materialism on the provision of trade credit. Accounts receivable represents the granting of trade credit and accounts payable measures the receiving of trade credit. Regression models are constructed to capture the determinants of the corporate provision of trade credit. It is proposed that firms located within more materialistic regions tend to provide less trade credit to customers, and that such effects are less prominent for state-controlled firms.

The third study analyzes the relationship between risk preference and Schwartz's individualism/collectivism among respondents in three Chinese regions-- Shanghai, Jiangsu and Yunnan. A survey was conducted for data collection. The study further regresses financial risk preferences on the individual-level culture values as a test for the Cushion hypothesis, controlling for respondents' characteristics and regional variables.

1.4 Contributions to the literature

The main contribution of this dissertation is to examine the influence of societal-level materialism on corporate-level risk-taking decisions, along the dimensions of borrowing, saving and trade credit provision. Richins (1994) sees materialism as a cultural value rather than a personality trait. Nevertheless, extant studies on materialism usually take the perspective of consumer behavior and marketing. This dissertation expands the existing materialism literature from consumer behavior and marketing at individual-level to business decisions at firm-level. This dissertation involves the employment of a cross-region approach within China, providing a cleaner picture of how materialism at societal-level affects risk-taking decisions in China.

Secondly, this dissertation contributes to the literature by providing new insight into the study on cultural influence on managerial decisions. It is shown that regional value of materialism is an important determinant of corporate risk-taking decisions in various dimensions. Researchers have studied the influence of cultural values on these corporate

decisions in numerous dimensions, for example, in Schwartz's (1994) value dimensions of Conservatism and Mastery (Chui et al., 2002), and in Hofstede's (1980, 2001) cultural dimensions of Uncertainty Avoidance, Collectivism, Power distance, and Masculinity (Zheng et al., 2012; Ramírez and Tadesse, 2009; Ghoul and Zheng, 2016). As to the role of materialism, some studies are exploring the effects of corporate culture in materialism on bank risk management (Bushman et al., 2018) and corporate social responsibility (Davidson et al., 2019), using CEO's personal ownership of luxury goods as a proxy. Research on materialism at societal-level tends to focus on macro-level effects, such as financial market development (Jordaan, 2016) and financial market mechanisms (Bilti, 2020), since the attitude of societies towards risk is affected by their degree of materialism. But few examined the role of materialism in the determination of risk-taking decisions at the corporate-level. This dissertation finds that regional materialism has incremental influence on corporate borrowing and saving, and trade credit provision in addition to determinants found in existing studies.

The third contribution of this dissertation is to confirm that materialistic values across China's regions do not generally shift towards post-materialistic values over time as the economy develops, nor do more developed regions exhibit lower values of materialism than less developed regions. Brym (2016) finds that China has not moved to the territory of higher post-materialism despite two generations of the fastest economic growth in the period from 1989 to 2014. Moreover, Zhang et al. (2017) show that provincial-level affluence is not positively associated with post-materialism in China using a data from 2006 Chinese General Social Survey. This dissertation sheds new light on the long-standing controversy about the theory of materialism/post-materialism of Inglehart (1971) and calls for a more deliberate consideration of the relationship between cultural values concerning materialism and economic development.

The last contribution to the literature is a test of the Cushion hypothesis using survey data from three regions of China, i.e. Shanghai, Jiangsu and Yunnan. Hsee and Weber (1999) propose the Cushion hypothesis that people in a collectivist society (Such as China) tend to be more risk seeking for monetary matters than those in an individualistic society (such as the United States). However, research on corporate finance generally shows that individualism is positively associated with risk-taking, contradicting to the Cushion hypothesis. By showing individualism is positively related to respondents' risk preferences, this dissertation provides new evidence towards resolving the controversy at the individual-level.

1.5 Structure of the dissertation

The remaining parts of this dissertation are organized into six chapters. Chapter 2 extensively discusses the applicable literature regarding defining culture and dimensions of culture values, economic and managerial consequences of culture, materialism and its cultural influence, individualism and collectivism, and determinants of risk-taking decisions, et al. Chapter 3 introduces the first study, which investigates how materialism affects corporate borrowing and saving decisions across Chinese regions. The second study, examining how materialism affects corporate provision of trade credit across regions in China, is presented in Chapter 4. To further study the influence cultural values of individualism and collectivism on risk-taking decisions, the third study is conducted in Chapter 5 at the individual-level. Lastly, Chapter 6 concludes the dissertation with potential limitations and future research directions.

Chapter II: Literature Review

2.1 Culture and cultural values

What is culture? In Guiso et al. (2006), culture is defined as "those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation." Overtime, an entire cultural system collectively encourages and rewards a set of core cultural values. Thus, cultural values are the key to understand cultural differences.

There are many ways to define dimensions of cultural values.

For example, materialism can be defined either at the cultural-level and or at the individual-level. From a cultural perspective, materialism refers to cultures in which the majority of people in a society value material objects highly (Larsen et al., 1999). Inglehart (1971, 1977) hypothesizes that individual values in advanced industrial societies are shifting from materialist values emphasizing order and stability to post-materialist values prioritizing autonomy and self-expression. From an individual perspective, materialism refers to the excessive desire to acquire and consume material goods (Richins, 1994) and has become an increasingly important topic in consumer behavior and marketing (Ahuvia and Wong, 1995) in the wake of rising income of the 20th century.

Many researchers seek to systematically define dimensions of culture values.

One of the most popular set of culture values was proposed by Schwartz (1994, 1999, 2004) which derived three dimensions of culture from a survey of teachers and students. The survey contains in total of 57 value questions and these questions are later aggregated into six measures. The six cultural measures include three bipolar cultural value dimensions: Embeddedness versus Autonomy, Harmony versus Mastery, and Egalitarianism versus Hierarchy.

Alternatively, Hofstede (1980, 2001) developed four value cultural dimensions of workplace values from a sample of IBM employees in the 1970s, including: Power Distance, Individualism, Masculinity, and Uncertainty Avoidance. Long-Term Orientation and Indulgence were added later in Hofstede et al. (2010). Beugelsdijk et al. (2015) updated Hofstede's scores with data from the World Values Survey, and show that the relative rankings of countries on Hofstede's cultural dimensions are quite stable over time.

Trompenaars and Hampden-Turner (1997) also posited a cultural model with seven dimensions, including Universalism versus Particularism, Individualism versus

Communitarianism, Affective versus Neutral cultures, Specific versus Diffuse, Achievement versus Ascription, Time perception and Relation to nature.

The above three systematic ways of developing dimensions of cultural values conceptually overlap with each other. For instance, with little variation, hierarchy and individualism are the two dimensions common to all types of cultural measures. There is also some conceptual overlap between harmony and uncertainty avoidance. Both stress a harmonious order, but differ in that Harmony implies harmonious coexistence without asserting control, while uncertainty avoidance emphasizes controlling unpredictability. Schwartz (2004) shows that the correlation between these two dimensions is 0.24 in a sample of 57 countries. In Li et al. (2013)'s sample of 35 countries, the same correlation is 0.52. Overall, Hofstede's (1980, 2001) and Schwartz's (1994, 1999, 2004) cultural dimensions are more popular in the research of economics and management. Kirkman et al. (2006) even provide a survey of empirical research incorporating Hofstede's cultural values.

2.2 Early debate around the role of culture

From the early nineteenth century, researchers began to study the relationship between culture and economic development. According to the theory of historical evolution, the underlying technology determines the prevailing social structure and dominant culture, so that the hand-mill produces feudal society and the steam-mill capitalism (Marx, 1859). That is to say culture is the consequence rather than the cause. However, once culture is formed, it changes slowly (Roland, 2004), and therefore can exert social and economic influence. This view emphasizes the role of culture as the cause. For example, early study of Weber (1905) argues that any new economic order faces initial resistance and that cultural change, in terms of religious reform, played a crucial role in the development of capitalism. Weber argued that the Protestant Reformation changed the moral judgment of the pursuit of wealth from the previous order, and encouraged people to pursue economic profit.

In the late 1990s and early 2000s, economists went beyond formal institutions into informal institution and extensively examined the functions of culture. A large amount of evidence shows that culture does affect economic outcomes (Guiso et al., 2006). Many studies take an epidemiological approach to study the variation of outcomes across different immigrant groups residing in the same country. For example, Almond et al. (2009) investigate the role of culture in gender preference to Children under such approach. As a review of the literature, Fern´andez (2011) summarizes studies of culture and economics primarily based on the epidemiological approach.

Landes (2000) even claims that ‘‘Max Weber was right. If we learn anything from the history of economic development, it is that culture makes almost all of the difference.’’ In their excellent survey paper, Guiso et al. (2006) discuss the cultural influence to economic outcomes through channels of beliefs (priors) and values (preferences).

2.3 Macro-level cultural influence

Religious and ethnic backgrounds affect people’s economic attitudes. For instance, religious beliefs are associated with “good” economic attitudes conducive to higher per capita income and growth (Guiso et al., 2003). In a subsequent study, Guiso et al. (2009) report that bilateral trust increases when two countries share the same religion and decreases with the genetic distance and war history between two populations. Using a U.S. data of ethnic origin, Guiso et al. (2006) show that ancestors’ country-of-origin strongly affects Americans’ trust. When ancestors come from countries that today have a higher average level trust, the respondent’s trust level is higher.

Further, culture generates a significant influence on basic social norms of governance, including the rule of law, corruption, and democratic accountability. (Licht et al., 2007). One of the channels through which culture affects institutional quality is the use of languages (Davis and Abdurazokzoda, 2016). Cultural dimensions such as uncertainty avoidance can be linked to the choice between a bank-based financial system and a stock market-based system (Kwok and Tadesse, 2006). Extant literature also tests how “social capital”, such as trust and civic norms, matters for measurable economic performance (Knak and Keefer, 1997). Social capital is shown to be important to the provision of public services and welfare concern (Putnam, 1993) and financial development (Guiso et al., 2004).

Many studies measure culture by religion. For example, Stulza and Williamson (2003) show that a country’s principal religion predicts the cross-sectional variation in creditor rights better than other economic and institutional variables. They find that Catholic countries have greater protection for investors than Protestant countries. Using an international survey data on religiosity for a broad panel of countries, Barro and McCleary (2003) report significant effects of church attendance and religious beliefs on economic growth.

The extent of cultural difference can also be used to predict economic exchange between countries. For example, Guiso et al. (2009) show that cultural proximity such as commonalities in religion and in ethnic origin, are positively related to trade, portfolio investment and direct investment between two countries. Such cultural effects can be used to explain foreign bias in international asset allocation (Beugelsdijk and Frijns, 2010). Similarly, Felbermayr and Toubal

(2010) find that cultural proximity from the Eurovision Song Contest positively affects bilateral trade volumes. Using country-specific sentiment as the proxy for culture, Hwang (2011) finds that a country's popularity among Americans affects U.S. investors' demand for securities from that country and causes security prices to deviate from their fundamental values. Along a different culture dimension, Siegel et al. (2013) find a robust negative influence of egalitarianism distance between origin and destination countries on cross-national investment flows of bond and equity issuances, syndicated loans, and mergers and acquisitions.

Apart from the above measures of culture, some studies developed innovative measures of culture. Spolaore and Wacziarg (2009) even use genetic distance to measure the time elapsed since two populations' last common ancestors. They find genetic distance has a statistically and economically significant effect on income differences across countries.

2.4 Inglehart's materialism/post-materialism

The seminar works by Inglehart (1971, 1977) initiated a strand of research in the fields of sociology and political science which examines the growing adoption of new values and priorities in the process of structural socio-economic change (Jordan and Dima, 2020). Inglehart (1971, 1977) argues that the subjective experience of affluence or deprivation before adulthood determines the balance of materialist or post-materialist values across cultures and times.

His argument is based on two underlying mechanisms. The first is the scarcity hypothesis assuming that people value and prioritize their most primary needs. When economic conditions allow people not to worry about survival and physical security, they start to care more about non-materialistic needs such as quality of life, personal freedom and social equality. The second mechanism is the socialization hypothesis arguing that individuals' values retained throughout their adult life reflect the economic conditions during the period of pre-adulthood (Inglehart, 1997). An ongoing process of economic development can cause younger cohorts to place more importance on post-materialistic values than elder cohorts, suggesting a process of intergenerational change in materialistic values (Inglehart and Welzel, 2005).

Inglehart (1971) proposes a four-item measure of materialism/post-materialism index, depending on answers to the four survey questions about: maintaining order in the nation, giving the people more participation in political decisions, fighting rising prices, and protecting freedom of speech. The four-item index has been subject to numerous criticisms for its sensitivity to short-term forces (Inglehart, 1977). Nevertheless, the four-item index remains to

be the most popular one in the majority of existing empirical analysis, even if Abramson & Inglehart (1995) propose a more comprehensive 12-item measure.

Despite the success of the materialism/post-materialism concept in terms of wide citation and application, questions remain about how to interpret its fundamental meaning. For example, Inglehart and Flanagan (1987) suggest that the materialism/post-materialism index includes two separate dimensions of political conflicts in Western countries. One is the about the importance of economic versus non-economic issues and the other is about the preference for authoritarian versus libertarian policies. With a similar view, Hellevik (1993) argue that materialism represents the desire for stability and being outer-oriented and post-materialism represents the desire for change and being inner-oriented. Hellevik (1993) even includes the wording of "lack some material possessions" in the questions defining the dimension of "outer v.s. inner-oriented".

Moreover, the systematical value dimensions do not necessarily prevail over Inglehart's materialism/post-materialism. Their relationship can be complementary, in that a synthesis rectifies their mutual weaknesses. For example, Inglehart's dynamic concept is dimensionally reductionist while Hofstede's dimensional concept neglects cultural dynamics (Beugelsdijk & Welzel, 2018).

Braithwaite et al. (1996) consider the materialism/post-materialism as social values rather than attitudes, since they show the index is associated with two orthogonal value orientations: national strength and order, international harmony and equality. Further analysis of Wilson (2005) shows that the materialism/post-materialism relates to the broader structure of cultural values proposed by Schwartz (1992). In particular, materialism is in line with the domain of Security-based values, while post-materialism is in the same value domain of Self-Direction and Universalism (Wilson, 2005).

The relationship between Hofstede's values and materialism/post-materialism can be rather complex. Individuals in high power distance cultures are very aware of wealth and its relation to freedom, power, and respect (Hofstede, 2001), thus tend to show higher levels of materialism than those in a low power distance culture.

Compared with collectivists, individualists tend to have loose ties between each other (Hofstede, 2001). Such societal tendency is consistent with the post-materialist values caring more about non-materialistic needs such as personal freedom. Thus, individualism is positively associated with the extent of post-materialism. High uncertainty avoidance indicates a concern for living independently and for finances, health, and money (Hofstede, 1980). Therefore, individuals with high uncertainty avoidance tend to have high levels of materialism overall

since they could attach high value to the possessions so as to reduce exposure to such risks. Status purchases such as jewelry, cars, and travel are made more frequently in masculine cultures (Hofstede, 2001). By this logic, masculinity is associated with higher levels in materialism. In a Confucius country such as China, long-term orientation is linked with perseverance and thrift (Hofstede, 2001). Therefore, higher values in long-term orientation often suggest lower levels of materialism. Moreover, Indulgence versus Restraint are related to the gratification versus control of basic human desires related to enjoying life (Minkov, 2013; Hofstede, 2015). It is implying that in a society of indulgence, people tend to have higher degree of materialism. Ogden & Cheng (2011) shows that in China materialism has a positive association with power distance and masculinity, providing supports for the above arguments.

2.5 Materialism and its economic consequence

Materialism is a common notion of culture well studied in the literature of consumer behavior and marketing (Srikant, 2013). Materialism can influence attitude towards advertising (Yoon, 1995), compulsive buying (Roberts et al., 2003), brand perception (Kamineni, 2005), social consumption motivation (Fitzmaurice and Comegys, 2006), and conspicuous consumption (Podoshen et al., 2011) etc.

In addition to its direct impacts on consumption, materialism affects individual's resource allocation including time (Richins and Dawson, 1992), and thus alters one's attitude about money. Materialism is shown to be positively associated with attitudes toward borrowing (Watson 1998), so materialistic individuals are willing to consume by drawing more in credit (Watson, 2003; Ponchio and Aranha, 2008). Materialism also has significant effects on individuals' money management behaviors. Donnelly et al. (2012) show that more material individuals tend to manage their money less, and therefore materialism can moderate the independent effects of money management on wealth, debt, and compulsive buying. They suggest that materialists may experience a 'pain of knowing' about their finances because money management may highlight the discouraging implications of their purchasing behavior. Apart from the above effects, materialism is shown to be negatively related to the tendency of donating money (Ku and Zaroff, 2014).

Nevertheless, extant literature associates materialism with insensitivity to behaviors that negatively affect others (Belk, 1988). For instance, materialism can produce negative effects on peoples' ecological attitudes and behaviors. Hurst et al. (2013) report in a meta-analysis that materialism generates a medium and stable negative effect on pro-environmental behaviors across 15 studies. Materialism is also associated with reduced concerns about the

environmental issues such as water shortages, ozone depletion and global warming (Kilbourne and Pickett, 2008). Using individual- and regional-level data from the World Value Survey, Gu et al. (2019) indicate that materialism is correlated with decreases in pro-environmental attitudes and behaviors in China. Along another dimension, Deckop et al. (2015) document that materialism is associated with negative organizational citizenship behaviors inducing impaired firm performance. Furthermore, materialism can predict more competitive behavior, in that more materialistic participants make more defection choices in a prisoner's dilemma game (Sheldon et al., 2000).

There is also evidence that materialistic individuals are more likely to bend ethical rules to gain possessions (Muncy and Eastman, 1998). Sidoti and Devasagayam (2010) show that materialism is positively associated with credit card misuse. Cohn et al. (2014) reveal that the prevailing business culture in the banking industry weakens and undermines the honesty norm, and bank employees with more materialistic values have a greater tendency to act dishonestly.

Such roles of materialism in affecting individuals' behaviors can be detrimental on one's self-esteem (Nagpaul and Pang, 2017) and well-being (Kasser, 2016). For example, the level of materialism tends to be positively associated with psychological disorders such as anxiety and depression (Kasser, 2002) and risky health behaviors such as smoking cigarettes, drinking alcohol, and using drugs (Dittmar et al., 2014). In addition, materialism not only positively predicts smartphone addiction (Lee et al., 2018), but also is a strong predictor of Internet addiction than loneliness (Manchiraju, 2018).

As the literature on materialism grows, researchers seek to examine the impact of materialism within the boundary of corporations. Shaub (2005), for instance, argues the potential link between materialism and materiality that constrains the application of accounting principles and drives the audit process. Some studies proxy CEO materialism using a CEO's relative ownership of luxury goods, including expensive cars, boats, and real estate (Davidson et al., 2015). Materialistic CEOs may affect corporate organizational values and norms of behavior so that employees may exhibit heightened propensity for opportunistic behaviors such as erroneous financial reporting (Davidson et al., 2015). Davidson et al. (2019) report that firms led by materialistic CEOs tend to have lower corporate social responsibility scores that capture a firm's investments in community, diversity, employee relations, environment, and product safety. Such results are consistent with materialistic CEOs' pursuing profits at the expense of the environment and other social values.

With respect to financial firms like banks, Bushman et al. (2018) reveal that risk-taking behaviors and ethical lapses are common among materialistic bank CEOs. They document that

the strength of risk management functions is significantly lower for banks with materialistic CEOs, and banks with materialistic CEOs have significantly more downside tail risk relative to banks with non-materialistic CEOs.

Despite the dominant negative view of materialism, there exist researchers arguing another side of materialism to construct desirable social attributes that is concerned with collective-oriented interests due to the symbolic and signaling capacities of possessions (Awanis et al., 2017). Existing studies show that materialistic individuals are more likely to manage their public images. For example, Dermody et al. (2015) argue that Chinese materialists would want to participate in green consumption because of impression management motivation. When the public (versus private) nature of a decision context dominates materialists' behaviors, they could act in eco-friendly ways. As Wang et al. (2019) show, higher materialistic individuals were less eco-friendly in private than those less materialistic, but the negative effect disappeared in public.

2.6 Individualism v.s. Collectivism

The construct of individualism and collectivism was debated by various researchers since 1980s. For example, Hofstede (1980, 1991) proposes individualism as a culture in which the ties between individuals are loose and everyone is expected to look only after himself or herself and his or her immediate family. This narrow definition is to describe possible forms of relationships between individuals and the groups to which they belong in work places.

According to Hui and Triandis (1986), individualism has broader meanings. They argued that individualism can be defined along three dimensions: the subordination of the goals of the collectivities to individual goals, a sense of independence, and lack of concern for others. However, Schwartz (1990) argues that in the values of self-direction, stimulation, and universalism are better characteristics of individualist societies. At the individual-level, Schwartz (1992) further notes that the value types of power, achievement, hedonism, stimulation, and self-direction reflect individual interests. Singelis et al. (1995) also propose to make theoretical and measurement distinctions between vertical and horizontal level. For example, vertical individualism includes the conception of an autonomous individual and acceptance of inequality, while horizontal individualism includes the conception of an autonomous individual and emphasis on equality.

Although individualism and collectivism have several components, existing studies show that different orientations can arise from a common root. For example, the individualistic tendencies of the respondents did not differ much, even though individualism can be measured

by three distinguished components—autonomy, mature self-responsibility, and uniqueness (Realo et al., 2002). Similarly, collectivism can exist in three clearly distinguishable subtypes on relations with family (Familism), peers (Companionship), and society (Patriotism). Nevertheless, about one-third of the total variance of the measures of collectivism can be predicted from the measures of personality, suggesting that the different collectivistic orientations come from relatively stable personality traits (Realo et al., 1997).

2.7 Cultural influence on corporate risk-taking

There exists persistent commonality in risk attitudes inside firms, which arises through the selection of leaders with similar preferences and is rooted in the founders' risk attitudes (Pan et al., 2017). Culture influences corporate risk taking through its impact on management decisions and on the formal institutions of a country (Li et al., 2013). An insider focuses more on knowledge about specific cases and is more likely to fall prey to "representativeness heuristic" (Kahneman and Lovallo,1993).

There exists abundant empirical evidence along various dimensions on the cultural influence of corporate-level risk-taking.

In terms of bankruptcy risk, Chui et al. (2016) reveal that embeddedness is negatively related to bankruptcy risk, while mastery is positively related to bankruptcy risk across countries. By testing with survey data on the customer relations of ten suppliers of electrical/electronic components, Nooteboom et al. (1997) show that trust-related variables have significant effects on relational risks assessed by two measures: the probability that something will go wrong and the size of the loss incurred when it does.

The extent of corporate risk-taking can also be expressed in terms of volatility in equity return or return on assets. In such dimensions, Hilary and Hui (2009) find firms located in counties with higher levels of religiosity display lower degrees of risk exposure. Measuring risk-taking by volatility of earnings, volatility of stock return, R&D expenditure and long-term debt, Li et al. (2013) find that harmony and uncertainty avoidance are negatively associated with firm riskiness, and individualism is positively associated with firm riskiness.

Apart from non-financial firms, the risk-taking decisions of banks are also extensively studied in the literature. Cultural proximity can serve to mitigate information frictions in lending. There is evidence showing culture difference enters into the process of risk evaluation of banks. Giannetti and Yafeh (2012) find in a large dataset of international syndicated bank loans that as cultural distance with the borrower increases, lead banks tend to offer smaller loans at a higher interest rate and are more likely to require third-party guarantees. The cultural

proximity, in the dimension of shared codes, beliefs or ethnicity, between lenders and borrowers improves the quantity of credit and reduces default of Indian banks (Fisman et al., 2017).

Accounting-based risk measures are shown to be linked with bank distress during the 2008–2009 financial crisis, and informal institutions, such as societal trust, religiosity and the media, enhancing the predictive ability of accounting-based risk measures (Kanagaretnam et al. 2017). In addition, Kanagaretnam et al. (2014) report that individualism is positively correlated with risk-taking in banking, and uncertainty avoidance is negatively correlated with risk-taking in banking. Similarly, Ashraf et al. (2016) show that bank risk-taking is significantly higher in countries that have high individualism, low uncertainty avoidance, and low power distance cultural values. Moreover, Ashraf and Arshad (2017) suggest that the national culture of parent banks' home country has higher impact on the risk-taking behavior of foreign affiliates of multinational banks than the national culture of their host country.

In addition to national culture, Adhikari and Agrawal (2016) show that banks in more religious areas show lower risk outcomes and valuation in normal times, suggesting that cultural measure of local religiosity matter for bank risk-taking. Investment in innovation increases corporate risk with more lottery-like payoff. Adhikari and Agrawal (2016) document that firms headquartered in areas with a taste for gambling tend to be more innovative, in a way of spending more on R&D and obtaining more and better quality patents.

2.8 Cultural influence on corporate governance and misconducts

When addressing agency problems associated with the separation of ownership and control, investors are expected to choose solutions compatible with their cultural values (Licht et al., 2005). Culture affects corporate governance by shaping the contractual environment that influences the incentives and informal constraints of choice. A large number of studies have shown that cultural differences have important impacts on corporate governance (Daniel et al., 2012).

It is documented that two dimensions of national culture – individualism and uncertainty avoidance – capture about 90% of the country fixed effects in corporate governance and outperform the country-level explanatory variables used in prior literature, such as legal and financial institutions (Griffin et al., 2017). They argue that culture works through a channel of tradeoff between managerial expertise and certainty of control that captures a country's preference for the Anglo-Saxon approach versus the direct control approach for governance. Duong et al. (2016) develop a Rule Preference Index as a proxy of national culture, and find

robust evidence that firms in a country with a higher Rule Preference Index tend to have better corporate governance. The relationship between culture and corporate governance can also be extended into sovereign wealth funds (Aggarwal and Goodell, 2018).

Furthermore, many studies reveal that culture dimensions are directly related to internal control, disclosure, corporate social responsibility, earnings management or misconducts. Caban-Garcia et al. (2017) report that firms from countries with a high power distance and long-term orientation are more likely to report material weaknesses in internal control over financial reporting. Bik and Hooghiemstra (2018) further show that culture dimensions of collectivism and societal trust are negatively associated, while religiosity is positively associated with compliance with global firm policy on Fraud Risk Assessment Procedures of Big 4 auditors. Hope (2003) investigates the relative roles of national culture in explaining firm-level disclosure. It is shown that individualism is positively associated and masculinity is negatively with disclosure. In addition, national culture directly affects disclosure about internal controls (Hooghiematra et al., 2015). Brochet et al. (2019) even reveal that managers' ethnic background has a significant effect on how they communicate with the capital market and how the market responds to the disclosure.

Abundant studies also demonstrate that culture affects corporate social responsibility. Mcguire et al. (2012) document that the prevalence of religious beliefs inhibits corporate social responsibility. Corporate social responsibility reporting is more prevalent in individualistic societies and societies with low power distance (Adnan et al., 2018). Luo and Tang (2016) also find that cultural dimensions of masculinity, power distance, and uncertainty avoidance are strongly and consistently related to carbon disclosure propensity.

In terms of earnings management, uncertainty avoidance and individualism dimensions of national culture are also reported to explain managers' earnings discretion across countries (Han et al., 2010). Additionally, Guan et al. (2005) show that cultural variables including power distance and long-term social values can explain the cross-country choices of accounting accruals. Similarly, Desender et al. (2011) show that countries scoring high on individualism tend to have lower levels of earnings management.

Recent studies try to measure corporate culture using life experience of executives. For instance, Biggerstaff et al. (2015) proxy immoral corporate culture from the perspective of CEO's speculative behavior, and they find that CEOs who profit from corporate option backtracking are more likely to engage in other illegal operations. Griffin et al. (2019) show that moral behaviors of executives in their daily life affect corporate culture and the possibility of financial restatement and litigation. Military experience may introduce CEOs with

conservative culture reducing investment and illegal activities (Benmelech and Frydman, 2015). Liu (2016) constructs corporate a measure of corruption culture from the cultural background information of key company insiders, and reports that corporate corruption culture predicts corporate behaviors to participate in earnings management, accounting fraud, option backtracking and opportunistic insider trading.

2.9 Cultural influence on corporate capital structure

Corporate risk-taking is very often reflected on the capital structure of firms. Numerous studies show that corporate capital structure is deeply influenced by national culture. Chui et al. (2002) is one of the earliest works along the line. They show that firms in countries with high scores of "conservatism" and "mastery" from Schwartz (1994)'s cultural values tend to have lower debt ratios. Along different dimensions of culture, Wang and Esqueda (2014) report that firms from countries with high Individualism and Indulgence employ more debt, while firms located in countries with high power distance, masculinity, uncertainty avoidance, and long-term orientation are less leveraged. Similarly, Antonczyk and Salzmann (2014) document that firms in countries with higher scores in individualism tend to have higher debt ratios. As to small and medium sized enterprises, Fairbairn et al. (2015) show that Hierarchy and Embeddedness are negatively related to corporate debt levels. Using market leverage ratios as the measure of capital structure, Arosa et al. (2015) find that firms in countries with high uncertainty avoidance and high power distance tend to exhibit lower leverage.

In terms of the choice between long-term and short-term debt, Zheng et al. (2012) find robust evidence that firms located in countries with high uncertainty avoidance, high collectivism, high power distance, and high masculinity tend to use more short-term debt. Specifically examining capital structure decisions of foreign joint ventures in China, Li et al. (2011) find that mastery has negative and significant direct effect on the likelihood of foreign joint ventures' having long-term debt.

Culture not only affects the use and the composition of corporate debt, but also influences the cost of debts. For example, it is shown that higher levels of individualism are associated with increased firm use of debt and lower cost of capital (Fauver and McDonald, 2015). Moreover, embeddedness and mastery also have significant influence on the cost of debt (Chui et al. 2016).

2.10 Cultural influence on corporate cash management

Firms maintain cash as savings to hedge against risks of undesired states in the future. For example, the average cash-to-assets ratio for U.S. industrial firms more than doubles from 1980 to 2006, because U.S. firms tend to hold more cash as their cash flows become riskier (Bates et al., 2009). Therefore, cash management is a crucial risk-taking decision of firms and it can be related to culture in many dimensions.

Using a large panel data of firms from 50 countries, Ramírez and Tadesse (2009) find firms in countries with high levels of uncertainty avoidance tend to hold more cash. In a study of the same period, Chang and Noorbakhsh (2009) show that other national culture dimensions, including masculinity and long-term orientation, matter for corporate decisions of holding cash and liquid assets. Similarly, Chen et al. (2015) reveal that corporate cash holdings are negatively associated with individualism and positively associated with uncertainty-avoidance. In favor of the agency-based explanation, Dudleya and Zhang (2016) find evidence that societal trust has a positive effect on corporate cash holdings.

Distributing cash to investors as dividend inevitably affects corporate risk profile, given it reduces cash saving within a firm. Using Schwartz (1994) 's national culture dimensions, Shao et al. (2010) find that Conservatism is positively related and Mastery negatively related to dividend payouts, suggesting that national culture affects perceptions of and responses to agency and information asymmetry. Adopting alternative measures of culture by Hofstede (1980), Fidrmuca and Jacob (2010) show that high individualism, low power distance, and low uncertainty avoidance are significantly associated with higher dividend payouts. After controlling for corporate governance, Bae et al. (2012) show that strong investor protection induces higher dividend payouts in high uncertainty avoiding or highly masculine cultures.

Moreover, the cash holdings of corporations change as a consequence of the offering and receipt of trade credit. Thus trade credit decisions are also closely related to corporate risk profile. Since privately controlled firms in China rely heavily on trade credit as a channel of informal financing, Wu et al. (2014) specifically examine the role of trust in affecting the use of trade credit by privately controlled listed firms in China. They find that private firms located in higher social trust regions use more trade credit from suppliers, extend more trade credit to customers, and collect receivables and pay payables more quickly. In a cross-country setting, Ghoul and Zheng (2016) show that trade credit provision is higher in countries with higher collectivism, power distance, uncertainty avoidance, and masculinity scores. Apart from the above dimensions of culture, Mätö and Niskanen (2019) reveal that religion is associated with trade credit using the firm-level SME data from 35 European countries. Specifically, the levels

of trade credit are higher in Catholic countries than in Protestant ones, and that peoples' religiousness has an impact on trade credit only in Catholic countries.

2.11 Cultural influence on various other corporate decisions

In addition, existing literature reveals that culture generates various effects on other corporate decisions.

Culture plays important roles in corporate decisions on international business (Leung et al., 2005), for example, international marketing decisions (Tse et al., 1988), human resources management by multinational firms (Schuler and Rogovsky,1998), and strategic decisions in internationalization (Dimitratos et al., 2011). The existing literature also suggests that cultural differences in trust influence perceptions of transaction costs and the preference for cross-country direct foreign investment of manufacturing corporations (Shane, 1994). Studies on venture capital investment provide similar evidence. Bottazzi and Hellmann (2016) document that the trust among nations significantly affects venture capital investment decisions and the national identity of venture capital firms' individual partners further contributes to the effect of trust.

National culture not only drives the decision of cross-country investment, but also affects the choice of entry mode (Kogut and Singh, 1988) and the ownership of subsidiaries as multinational enterprises enter (Hennart and Larimo, 1998). Culture can also affect corporate cooperative strategies. For example, Steensma et al. (2000a) find that entrepreneurs from collective, uncertainty-avoiding or feminine societies have a greater appreciation for the strategic importance of cooperative strategies than their counterparts. For small and independent manufacturing enterprises, national culture traits directly influence technology alliance formation and moderate the relationship between perceived technological uncertainty and alliance formation (Steensma et al., 2000b).

Leadership practices of executives can also be significantly affected by work-related cultural values such as power distance and uncertainty avoidance (Offerman and Hellmann, 1997) and values of individualism and long-term orientation (Geletkanycz, 1997).

In addition, Schuler and Rogovsky (1998) show that firms in high uncertainty avoidance countries tend to use more certainty in their compensation schemes through seniority- or skill-based compensation, while firms in individualist countries offer performance-based compensation practices more often. It is also shown that differences in the extent of auditor-in-charge involvement, an indicator of audit quality, are negatively associated with power

distance and (in-group) collectivism, and positively with uncertainty avoidance (Bik and Hooghiemstra, 2017)

2.12 Cultural influence on individual behaviors

The effect of culture on individual preferences is widely studied. The cultural heritages are found to affect living arrangements of U.S. families (Giuliano, 2007), work and fertility choices of American women (Fernández and Fogli, 2009) and Italy preferences for shirking on the job (Ichino and Maggi, 2000). Existing studies also document the links between religion and preference for thriftiness (Guiso et al., 2003) and social trust with households' use of financial products such as stocks and checks (Guiso et al., 2004).

In addition, culture dimensions such as uncertainty avoidance, power distance, and collectivism tend to have strong relationship with people's preferences to innovation championing strategies (Shane et al., 1995; Shane, 1995).

One strand of research takes the perspective of individual investors, since culture affects investors' perception and utilization of information. Investors prefer to lend money to culturally similar and geographically proximate borrowers in crowd-funding platform (Burtch et al., 2014), and are more likely to hold, buy, and sell the stocks of firms which are close, communicate in the investor's native tongue, and have chief executives with the same cultural background (Grinblatt and Keloharju, 2001). Investors also react to earnings announcements more significantly in more trusting countries (Pevzner et al., 2015). It is argued that individualism is related to overconfidence and self-attribution bias of investors in the country, and thus can cause excess trading volume, volatility and momentum profits (Chui et al., 2010). Moreover, Dou et al. (2016) show that the level of uncertainty avoidance is negatively associated with earnings momentum profits. Consumption of life insurance products reflects consumer's perception of the uncertainty and ambiguity. Chui and Kwok (2008) find that individualism has a significantly positive effect on life insurance consumption, and power distance and masculinity have significant, negative effects.

Another line of research focuses on the cultural influence on professionals in the financial market, such as financial analysts. Existing evidence suggests that cultural can generate influence beyond language commonality and analysts' pre-existing channels for information.

By extracting firms traded in the United States but headquartered in regions sharing Chinese culture (Chinese firms), Du et al.（2017）find that analysts of Chinese ethnic origin issue more accurate forecasts on Chinese firms than non-Chinese analysts. Market reaction is

also stronger when Chinese analysts issue favorable forecast revisions or upgrades about Chinese firms. In the cultural dimension of trust, Bhagwat and Liu (2019) show that more trusting analysts not only react faster to management guidance and earnings announcement, but also weight information from management and other analysts more heavily than less trusting analysts. Additionally, Pacelli (2019) demonstrates an association between weak corporate culture and analysts' providing research products catered to institutional clients at the expense of individual investors.

2.13 Determinants of corporate risk-taking decisions

This dissertation is related to the risk-taking literature in general. Corporate risk-taking is affected by CEO compensation (Coles et al., 2006), the nature of ownership (Boubakri et al., 2013) and the quality of investor protection (John et al. 2008). In addition, risk-taking of firms can be affected by creditor rights (Acharya et al., 2011) and laws such as Sarbanes-Oxley Act (Bargeron et al., 2010).

Borrowing is an important corporate risk-taking decision. Therefore, this dissertation is closely related to the literature on capital structure, in particular to studies about capital structure of Chinese firms. Main theories of capital structure include trade-off theory (Myers, 1984; Jensen and Meckling, 1976), pecking-order (Myers and Majluf, 1984) and signaling theory (Ross, 1977). Market timing theory is also becoming more popular in recent years. Baker and Wurgler (2002) argue that capital structure can be understood as the cumulative effect of firms' past attempts to time the market.

Frank and Goyal (2009) examine the relative importance of many factors in the capital structure of U.S. firms from 1950 to 2003. They find the most reliable factors for explaining market leverage are: median industry leverage, market-to-book assets ratio, tangibility, profits, assets, and expected inflation. While most empirical works are based on data of U.S. firms, recent cross-country studies of capital structure decisions generally find that previously identified factors in the U.S. studies are also important in determining capital structure decisions both in developed countries (Rajan and Zingales, 1995; Bancel and Mittoo, 2004) and in developing countries (Booth et al., 2001; Harvey et al., 2004). Moreover, cross-country studies find institutional variables such as creditor rights and enforcement are also important in explaining capital structure decisions (Giannetti, 2003).

To shed light on the determinants of capital structure for Chinese firms, Chang et al. (2014) employ the method of Bayesian information criterion and identify profitability, industry leverage, asset growth, tangibility, firm size, state control and the largest shareholding as

reliable core factors explaining book leverage. Compared with evidence from the United States and other countries, they identify three new core factors-asset growth, state control and the largest shareholding. They also show that profitability becomes the most crucial core factor for Chinese firms with far more important influence than that reported for U.S. firms or other international firms.

The weak institutional environment leads Chinese firms use much more short-term debt than long-term debt and results in an under-developed corporate bond market. According to Kim et al. (2003), banks held 86% of all debt in China and the public corporate debt amounted to only 2.8% of all outstanding debt at the end of 2002.

Firms maintain cash as savings to hedge against risks of undesired states in the future, so corporate cash holdings are negatively related to risk-taking. Opler et al. (1999) show that strong grow opportunity and riskier cash flows are associated with higher ratio of cash holdings, and large firms and firms with high credit ratings tend to hold lower ratio of cash. Moreover, cash holdings of firms can be affected by the extent of diversification (Subramaniam et al., 2011), geographical dispersion (Fernandes et al., 2016), tax uncertainty (Hanlon et al., 2017) and financial development (Lei et al., 2018).

Prior literature regards trade credit as an important type of informal financing (Fisman and Love, 2003). The supplier of trade credit faces risk of not receiving cash payment later, since there exists neither collateral from the customer nor guarantee from third parties behind the transaction. Therefore, trade credit decisions have important influence on corporate risk profile. Corporate decisions on trade credit can be affected by firm characteristics indicating financial constraints and customer relationship (Petersen and Rajan, 1997), the rule of law and the effectiveness of the courts (Johnson et al. 2002), fixed asset ratio (Giannetti et al., 2011), liquid assets and firm performance (Cunat, 2007), firm size and age (Ge and Qiu, 2007), sales growth and historical equity financing (Wu et al., 2014).

2.14 Cultural values in China

China is a great country with diversified culture originated from ancient times. Chinese culture is often regarded as the representative of East Asian culture, characterized by high collectivism and power distance. Such culture leads to some Chinese indigenous concepts, such as face, harmony, guanxi (interpersonal connections), renqin (compassion), and paternalistic leadership (Leung, 2008).

According to the argument of Triandis (1995), however, Chinese should become more individualistic over time as Chinese society becomes increasingly wealthy, since the need for interdependence is lessened.

Affected by Confucian philosophy for centuries, Chinese place more value to their work than most western societies and demonstrate their emphasis on hard work and thrift, which is expressed as long-term orientation by Hofstede (2001). Materialism is regarded as an important element of Chinese culture due to the Chinese astuteness in handling money and the general success of the Chinese immigrants in business across Southeast Asian countries (Freedman, 1979). Such view is supported by attitudinal surveys showing that monetary rewards are high on the list of priorities for Chinese (Bond, 2008). The level of materialism in China can be significantly different from those in other countries such as Mexican and American (Eastman et al., 1997).

During the past four decades, China has been characterized by rapid economic growth and drastic institutional reforms. The culture of placing more value to work helps material wealth to gain importance in Chinese society. The pursuit for wealth in a highly competitive business environment drives the phenomenon commonly known as guanxi or connections as a social status determiner and a source of power (Chen and Starosta, 1997). Meanwhile, the preferences to material wealth and social status may affect the risk-taking behaviors of Chinese people. It is consistent with the findings of Hsee and Weber (1999) that Chinese university students are significantly more risk seeking for monetary matters than the Americans students.

Inglehart (1981) hypothesizes that historical experience in the lack of material goods can cause a society to become materialistic, and that affluent societies gradually shift towards less materialistic side as they satisfy basic needs. In the wake of the rising incomes in the 20th century, low-income consumers showed increased materialistic tendencies in comparison to high-income consumers. China underwent repression, violence and abuse in the history of the past one hundred years and Chinese people generally had experience in food shortage and inadequacy of other material goods during the period before 1980s. According to Inglehart (1981), such experience can cause Chinese society highly materialistic.

Moreover, Schaefer et al. (2004) argue that materialism is higher in socially and economically dynamic countries. China has undergone modernization, industrialization and globalization since 1980s, these fast changes might also contribute to an increase in materialistic desires of Chinese people. Hung et al. (2007) find that China's new generational cohorts are going through important cultural changes towards more materialistic values. Compared with Korean, Chinese consumers were even more materialistic, with Chinese in

urban areas expressing the highest levels of materialism (Choi and An, 2013). One sign of the cultural changes for China is the fast-growing conspicuous consumption. According to a report by McKinsey and Company (2012), China has become one of the largest luxury markets in the world.

Moreover, the development of China is unbalance across provinces and regions. The reasoning of Triandis (1995) suggests that Chinese in wealthier regions are likely to be more individualistic and more materialistic.

In a study of comparing regional differences between Shenzhen and Taiyuan, Kwon (2012) empirically show that Hofstede's cultural dimensions in terms of individualism, uncertainty avoidance and long-term orientation, are statistically different between the two cities. Shenzhen scored higher on individualism and uncertainty avoidance, while Taiyuan scored higher than Shenzhen on long-term orientation.

2.15 Discussion of the existing literature

First of all, it is quite clear that existing literature includes enormous knowledge of cultural influence on corporate and managerial decisions. Yet, the majority of current studies take the cross-country approach, neglecting the potential diversity in culture across regions within one country. Such approach is confronted with the needs to control for institutional differences such as political system, judiciary system, capital market and accounting rules etc., making a causality conclusion difficult about cultural effects.

Furthermore, how culture values affect corporate decisions related to risk-taking, has also been extensively explored. Nevertheless, most of them are along the dimensions of either Schwartz's (1994) or Hofstede (1980). Materialism as an individual-level value has been extensively explored in the literature of consumer behavior and marketing. As a societal value, materialism can also exert influence on corporate or managerial decisions. Such effects are receiving increasing attention. Nevertheless, the influence of materialism on risk-taking is yet to be explored.

As to China, existing studies recognize the undergoing transformation to stronger values in materialism and individualism. Materialism has become an important culture affecting peoples' consumption rising from rapid economic growth and drastic institutional reforms in the past decades. Yet, the role of materialism in risk-taking decisions of Chinese firms is underexplored.

As to the role of individualist/collectivism continuum in risk taking decisions, there still exist controversy in the extant studies. Hsee and Weber (1999) propose the Cushion hypothesis

that people in a collectivistic society tend to be more risk seeking for monetary matters since they have easier access to financial help as a "cushion". Nevertheless, the corporate finance literature generally finds inconsistent evidence showing that individualism is positively associated with risk-taking. Thus, the debate in the literature about the relationship between individualism and risk taking calls for additional tests, in particular in the set of Chinese regions.

To summarize, there exist research gaps in the existing literature about cultural influence of materialism and individualism in China on risk-taking decisions.

Chapter III: Corporate Borrowing and Saving across Regions in China: the Role of Materialism

Abstract

This chapter explores how background cultural values regarding materialism affect corporate borrowing and saving decisions. Based on an index of materialism/post-materialism calculated from the World Value Survey, I estimate the materialistic values for 30 regions in China at the province-level and show that Chinese regions do not generally move to the territory of higher post-materialism as China become richer over time.

I find that listed firms located within regions of higher materialistic values tend to borrow more and save less between 1998 and 2012. The positive effects of materialism hold in both short-term and long-term categories of debt. For state-controlled firms, the positive effects of materialism on overall borrowing, in particular on short-term borrowing, appear to be stronger, whereas the role of materialism in long-term debt determination is weaker. Moreover, the results indicate that the negative effect of materialism on savings becomes more prominent for state-controlled firms and larger firms, implying that the cultural influence depends on the unique institutional characteristics of China. These findings provide new insight into the role of materialism at the societal-level in shaping business decisions.

3.1 Introduction

Materialism, the excessive desire to acquire and consume material goods is regarded as one example of such cultural values (Richins, 1994). Extant literature often associates materialism with negative effects on peoples' ecological attitudes and behaviors (Hurst et al., 2013), unethical behaviors (Cohn et al. 2014), even behaviors detrimental on one's self-esteem (Nagpaul and Pang, 2017) and well-being (Kasser, 2016).

Within the last decades, management scholars and economists have increasingly come to study the impact of cultural values on business affairs. As the literature on culture grows, researchers seek to examine the impact of materialism within the boundary of corporations. One way of measuring materialism is to use CEO's relative ownership of luxury goods (Davidson et al., 2015). It is shown that materialistic CEOs may affect corporate culture inducing opportunistic behaviors such as erroneous financial reporting (Davidson et al., 2015) and lower corporate social responsibility scores (Davidson et al., 2019). Using similar measure of materialism, Bushman et al. (2018) reveal that risk-taking behaviors and ethical lapses are common among materialistic bank CEOs. Such results suggest CEO materialism at individual-level are associated with corporate risk-taking.

In the sociological literature, Inglehart (1971, 1977) hypothesizes that individual values in advanced industrial societies are shifting from materialism emphasizing order and stability to post-materialism prioritizing autonomy and self-expression. Inglehart argues that the subjective experience of affluence or deprivation determines the balance of materialistic or post-materialistic values across cultures, or within a culture at different times.

Nevertheless, materialism also refers to cultures in which the majority of people in a society value material objects highly (Larsen et al., 1999). How materialism from a cultural perspective affects corporate decisions is yet to be explored.

In this chapter, I investigate the influence of materialistic value on corporate borrowing and saving decisions across regions in China. More borrowing increases corporate leverage and accrues liability to be paid in the future, thus makes firms riskier. Holding more cash provides better hedging against undesired states in the future, so makes firms less risky. Therefore, both of them are important decisions shaping corporate risk profile.

Instead of using the popular cross-country approach, I employ a cross-region research design by focusing on a single country, namely China. China has the second largest stock markets worldwide ranked only after the United States by the end of 2019. In spite of fast-growing number of listed firms and market capitalization, Chinese stock markets have been associated with problems such as opaque accounting, expropriation of minority shareholders and political intervention by the government. Compared to the U.S. firms, a typical Chinese listed firm is controlled by a large shareholder such as the state, family or an entrepreneur. If the listed firm belongs to a business group, a stock pyramid is often used to exercise control by the ultimate controller (Wong, 2016). The high concentration of ownership can arise from lack of investor protection, since investors in economies with weak investor protection tend to fear expropriation by corporate insiders (La Porta et al., 1999). Another unique feature of Chinese stock markets is the dominance of the SOEs. Although the growth in the newly listed firms primarily comes from the non-state sector, SOEs still made up of 64.36% of the total market capitalization by the end of 2014 (Wong, 2016).

China is an ideal country for the analysis of the influence of regional materialism on corporate borrowing and savings. First, China is a large country with heterogeneous local cultures. People from different provinces live in diverse geographies and climates, and in heterogeneous cultural environs. Such significant heterogeneity among the provinces in China helps to shape distinct local cultural values. Based on seven major social and cultural

characteristics from the World Values Survey[1] (WVS) Wave 4, Ang et al. (2015) show that the differences among provinces in China are often greater than the differences across European countries.

Second, even if China overall has recorded remarkable growth over the past three decades, the economic development between urban and rural areas, and among different regions remains quite unbalanced. For example, China's major cities along it's east coast have already reached the level of developed economies in terms of GDP per capita and infrastructure, whereas many rural areas in the western regions still are caught in poverty. If materialism is associated with economic development as hypothesized by Inglehart (1971,1977), I expect to observe great regional diversity in materialistic values. This makes a study using Inglehart's (1971,1977) index particularly pertinent as it, more than other indices such as Hofstede's (1980, 2001) or Schwartz's (1994) value surveys, assumes cultural differences due to economic and social development.

Last, the cross-country approach is often confronted with the problem of omitted variables induced by the inability to control for adequate country-level characteristics. My cross-regional investigation of listed firms in China, in contrast, concerns a more uniform political, regulatory and judiciary system, capital market, etc. Therefore, my research design allows us to generate relatively clean estimates of the effects of materialism on corporate borrowing and saving.

Based on a four-item index of materialism/post-materialism (Inglehart, 1971; 1977) from the database of the WVS, I estimate regional values of materialism for three different waves of surveys (2001, 2007 and 2012) respectively, covering 30 different Chinese province-level regions in total. Consistent with previous literature (Ioane, 2016), I show that Chinese people overall become more materialistic in recent years despite China's fast-growing economy. Moreover, I show that the regional values of materialism in China are positively correlated with regional economic or institutional development. For instance, the materialistic values of Beijing and Shanghai, the most developed regions in China, are higher than the national average in 2012.

Using a sample of 17,239 firm-year observations from 1998 to 2012, I find that listed firms located within more materialistic regions tend to borrow more and save less, controlled for firm characteristics and GDP per capita. I further decompose corporate borrowing into

[1] The World Value Survey is by far the largest study conducted on cultural values. It covers 97 societies on six continents and samples from populations that represent more than 88 percent of the total world population. The survey is carried out in six waves of surveys in 1981–1984, 1989–1993, 1994–1998, 1999–2004, 2005–2008 and 2010-2014. Sample respondents are randomly chosen to be representative across age, sex, occupation, and geographic region. The set of questions in each wave of the WVS is not stable over time. The World Value Survey Database is available for downloading from the following website: http://www.worldvaluessurvey.org/wvs.jsp

short-term borrowing and long-term borrowing. The positive effect of materialism still remains in both categories of debt. Moreover, my results indicate that the positive effects of materialism on overall borrowing, in particular on short-term borrowing, appear to be stronger for state-controlled firms. Nevertheless, the role of materialism in long-term debt determination is weaker for state-controlled firms, which I argue is due to relative less managerial discretion when state-controlled firms raise long-term debt. I also show that the negative effect of materialism on corporate savings becomes more prominent for state-controlled firms and larger firms.

This chapter contributes to the literature in the following dimensions.

I contribute first of all to the understanding of how cultural value in materialism affects corporate risk-taking decisions. Existing studies have two different views on materialism. Belk (1985) argues that materialism constitutes a collection of personality traits, whereas Richins (1994) sees materialism as a cultural value rather than a personality trait. My study provides new evidence along the line of the cultural view on the effects of materialism/post-materialism (Inglehart, 1971; 1977) on managerial decisions. This chapter enriches studies about cultural effects on business decisions specifically, and on behavior and decision making more generally.

In addition, this chapter shows that materialistic values across China's regions do not generally shift towards post-materialistic values over time as the economy develops, nor do more developed regions exhibit lower values of materialism than less developed regions. Such findings shed new light on the long-standing controversy about Inglehart's theory of materialism/post-materialism (1971,1977) and call for a more deliberate consideration of the relationship between materialism and economic development. These findings provide new insight into the study of materialism.

As to research on borrowing and saving of Chinese listed firms, Chang et al. (2014) report that region-level variables in China, such as the marketization index, do not appear to be significant determinants of capital structure. I, however, show that region-level variables including materialism/post-materialism can exert independent influence when controlling for core factors of capital structure. Also, I show that the unique institutional characteristics of China shape the role of materialism so that its effects generally become stronger for state-controlled and larger firms. My contribution in this regard consists in introducing informal institutions as new determinants of corporate borrowing and saving generally and those in China specifically.

The rest of this chapter is organized as follows. Section 3.2 develops hypotheses. I describe the sample and research design in Section 3.3. Section 3.4 reports empirical results,

followed by discussions in Section 3.5. Lastly, Section 3.6 concludes.

3.2 Hypothesis development

As a value, materialism refers to a set of centrally held beliefs about the importance of possessions in one's life and materialism affects individual's resource allocation including time (Richins and Dawson, 1992), and thus is shown to be positively associated with attitudes toward borrowing (Watson 1998). Rassuli and Hollander (1986) defined materialism as a mind-set, or a self-centered interest in obtaining and spending money. Materialism affects individuals' money management behaviors (Donnelly et al., 2012) and the tendency of donating money (Ku and Zaroff, 2014).

At the individual-level, the literature of psychology shows that highly materialistic people tend to have more favorable attitudes toward spending and borrowing, whereas low values of materialism are associated with saving (e.g. Watson, 2003; Garðarsdóttir, and Dittmar, 2012). It is also shown materialistic individuals are willing to consume by drawing more in credit (Ponchio and Aranha, 2008). According to Richins & Dawson (1992), the level of materialism can also affect the allocation of money over time. Given a certain level of debt ratio, firms affected by materialistic culture tend to maintain in the status of debt for longer term.

From a cultural perspective, materialism refers to cultures in which the majority of people in a society value material objects highly (Larsen et al., 1999). Inglehart (1971, 1977) also stresses that materialism reflects common and shared social values in society. Post-materialistic society pay more attention to goals beyond basic material needs, such as quality of life, personal freedom and social equality. On this basis, I theorize two ways in which regional materialism can affect managers' decisions to use debt.

The first channel is the direct connection between personal values and decisions on debt. Managers incorporating materialistic values will, following the general findings regarding attitudes to spending and borrowing described above, be relatively more willing to enter into high amounts of debt and save less. The second mechanism through which materialism may affect debt and savings is indirect and takes social context into account. If materialistic values are more predominant in the business (and wider) community of the given firms, then managers of those firms may likely feel less constrained in their decision to take loans as high level of debt will be viewed relatively favorably by various stakeholders. This latter argument reflects an institutional approach (Yamagishi et al., 2008), which underlines that agents seek conformance with established norms in their community. There exists evidence that the

prevailing cultural values in societies influence managers' personal values in a manner similar to their influence on other population groups (Ralston et al.,1997).

Previous studies have shown that this also applies for management and strategy (Li and Ding, 2013). Of course, these two different kinds of cultural effects on managerial decision-making will often converge, meaning that managers both incorporate specific values and operate in a cultural context where the same values are predominant.

This leads us to the following hypotheses:

H1: Listed firms located within more materialistic regions tend to have higher leverage.

H2: Listed firms located within more materialistic regions tend to hold less ratio of cash.

H3: Listed firms located within more materialistic regions tend to have higher long-term debt ratio.

The widespread availability of consumer credit in western countries is an important reason for the strong relationship between materialism and debt (Watson, 1998). Without the abundance of consumer credit, this relationship would be much weaker. By the same logic, even if corporate managers affected by high cultural values of materialism may be willing to borrow more, the association between regional values of materialism and corporate borrowing can be weak without an adequate provision of debt from banks and the capital market.

In China, access to debt is severely constrained for private firms and small firms. The state-controlled banking system allocates bank loans favorably to large-scale SOEs, whereas non-state firms often face restricted access to bank loans (Allen et al., 2005). Consequently, confronted with financial constraints, private firms and smaller firms may not be able to raise adequate debt as they wish. Therefore, I assume that larger or state-controlled firms tend to have higher flexibility in borrowing and saving, so the role of materialism should be stronger for these firms.

H4: The effect of materialism on corporate borrowing or saving is more prominent for state-controlled firms.

H5: The effect of materialism on corporate borrowing or saving is more prominent for large firms.

3.3 Sample and research design

3.3.1 Sample

My sample consists of financial data on all Chinese A-share listed firms between 1998

and 2012. I obtained data on location, ownership and industrial sector from the CCER database developed by China Center for Economic Research and Sinofin Corporation. I also collect additional financial data items from the China Stock Market and Accounting Research (CSMAR) database. Then firms in the finance industry were not included since financial firms tend to have systematically different behaviors in borrowing and saving. I also dropped firms listed in the Growth Enterprise Board from the sample in that their listing standards and debt to equity ratios are quite different from those in the main board. Lastly, the sample was consolidated with the WVS database, yielding a final sample comprising 17,239 firm-year observations.

3.3.2 Measure of dependent variables

I use ***Leverage*** to measure corporate borrowing, defined as total debt divided by total assets. ***Cash*** is a proxy for corporate saving, calculated as cash and cash equivalents divided by total assets. I further decompose ***Leverage*** into ***Short_Debt*** and ***Long_Debt***, where ***Short_Debt*** is defined as short-term debt scaled by total assets and ***Long_Debt*** is calculated as long-term debt scaled by total assets.

3.3.3 Measure of materialism

Drawing from psychological needs and socialization theories, Inglehart (1971, 1977) purported that materialistic values are predominant among those who have experienced economic hardship or physical insecurity, and persons inhabiting these values tend to give priority to order and stability, and subsequently to economic and military strength. Post-materialistic values are predominant among cohorts that have been exposed to greater economic and physical security and tend to take these for granted. As a result, they prioritize self-expression and tolerance towards diversity. According to Inglehart, the change in cultural values of affluent western societies from materialism to post-materialism was thus a result of economic growth and increased disposable income after the Second World War. Among post-war generations that experienced only such living conditions, post-materialistic values came to dominate, while materialistic values were dominant among older generations that had experienced hardship. If I transfer this basic theoretical premise to Chinese society, I would generally expect the overall moving higher over time and the extent of materialism to be lowest in the most developed regions.

The World Value Survey (WVS) is by far the largest study conducted on cultural values. It covers 97 societies on six continents and samples from populations that represent more than

88 percent of the total world population. The survey is carried out in six waves of surveys in 1981–1984, 1989–1993, 1994–1998, 1999–2004, 2005–2008, and 2010-2014. Sample respondents are randomly chosen to be representative across age, sex, occupation, and geographic region. The set of questions in each wave of the WVS is not stable over time. The WVS survey question for Inglehart's materialism/post-materialism index includes the following choices: a) Maintaining order in the nation; b) Giving the people more say in important government decisions c) Fighting rising prices; or d) Protecting freedom of speech." Respondents need to select the top two priority indicators from the four choices.

I use the materialism/post-materialism index from the database of WVS Wave 4, Wave 5 and Wave 6, which was conducted in China in 2001, 2007 and 2012 respectively. I define ***Materialism*** to be 3 if the respondent selected both "maintaining order in the nation" and "fighting rising prices" (classified as materialist). Materialism is set to be 1 if the respondent selected both "giving the people more say in important government decisions" and "protecting freedom of speech" (classified as post-materialist). Materialism is equal to 2 if the respondent chose one materialist item and one post-materialist item (classified as mixed). In this way, greater value of Materialism indicates stronger materialism. The Materialism index used in this dissertation is essentially equal to four minus the four-item post-materialism index proposed by Inglehart (1971). Then I identified the regions where the interviews were conducted and estimated the regional values of ***Materialism*** by taking averages of ***Materialism*** for all valid interviews within each region and each wave of the survey.

3.3.4 Measure of control variables

Chang et al. (2014) identify profitability, industry leverage, asset growth, tangibility, firm size, state control, and the largest shareholding as reliably important factors explaining book leverage in China. The seven core variables explain 36% of the variation in book leverage of Chinese listed firms, whereas the remaining 17 variables only add an additional 1.4%. Therefore, I control for all the seven core factors in the following regressions of corporate borrowing. I use similar models for the determination of corporate saving, with industry leverage in the core factors replaced by industry cash-holdings.

ROA is the measure of profitability defined as net income divided by total assets. ***Median_Lev*** is the industry median of Leverage and ***Median_Cash*** is the industry median of Cash. ***Assets*** is firm size defined as the natural log of book value of total assets. ***Tangibility*** is the tangibility of assets measured as fixed assets divided by total assets. ***Asst_Growth*** is asset growth calculated as the percentage of increase in total assets of the current year to that in the

previous year. ***Control_Share*** is the percentage of shares held by the largest shareholder. ***State_Control*** is a dummy variable equal to one if a firm is ultimately controlled by the state, and zero otherwise.

I also control in the models for regional development. To capture the influence of the economic development of the regions in which listed firms are headquartered, I control for GDP per capita (***GDP_Capita***) of the region in the main analysis. Moreover, I try an alternative measure, ***Market_Index***, in the robustness tests, which is the National Economic Research Institute's (NERI) provincial marketization index. Lastly, I winsorize ***Leverage, Cash, Short_Debt, Long_Debt, ROA, Asst_Growth, Tangibility, Assets*** and ***Control_Share*** at 1% and 99% of distribution to avoid bias due to the existence of outliers.

The detailed definitions of variables are summarized on Appendix 1.

3.3.5 Model design

In the studies on the role of culture in business decisions, multivariate OLS models are commonly used in baseline regressions. For example, Bushman et al. (2018) utilize OLS models to test the impact of materialism of bank CEOs on risk management policies of banks. Chen at al. (2015) also apply multivariate OLS models when estimating the influence of national culture dimensions on corporate cash holdings around the world.

Following the above literature, I use the multivariate OLS model to regress materialism on corporate borrowing and saving, controlling for firm characteristics and regional economic development. To avoid biases induced by heteroskedasticity, I estimate all models with Huber-White robust standard errors.

3.4 Empirical results

3.4.1 Materialism across regions in China

The WVS conducted China's interviews in 24 out of the 31 regions with provincial level status in each of the waves of 2001, 2007 and 2012. Since some regions are not identically defined in the three waves, the WVS covers 30 different Chinese regions in total. I excluded the regional values of Chongqing from observations of Wave 5 in 2007 since there is only one valid survey reported in the region. Table 1 shows that the total number of surveys contributing to the calculation of regional materialistic values is 861 for Wave 4, 1,499 for Wave 5, and 2,071 for Wave 6. The materialistic value for China is relatively stable at the beginning of the decade of 2000-2010, with a value of 2.46 in 2001 and a value of 2.44 in 2007. However, the materialistic value increase to 2.55 in 2012, suggesting Chinese people overall become more

materialistic in recent years.

Moreover, values of materialism tend to increase dramatically after 2007 in more developed regions, for instance, Beijing and Shanghai, whereas the values decline in many under-developed regions like Hubei and Shaanxi. In 2012, the values of materialism for Beijing and Shanghai are 2.65 and 2.88 respectively, higher than the national average value of 2.55.

INSERT TABLE 1 ABOUT HERE

Similar to Bilti (2020), this chapter also uses World Value Survey data grouped on three waves. Since the China survey of the WVS Wave 3 in year 1995 does not provide the data of province-level region, I assume the values of materialism in Wave 4 are valid from the middle year (1998) of the interval between the Wave 3 and the Wave 4 to the middle year of the interval (2003) between the Wave 4 and the Wave 5. Similarly, I assume the values of materialism in the Wave 5 are valid from year 2004 to the middle year of the interval (2009) between the Wave 5 and the Wave 6, and the values in the Wave 6 are valid from year 2010 to 2012.

3.4.2 Descriptive statistics

Table 2 reports that the listed firms in this sample on average have a debt-to-assets ratio of 0.235, a cash-to-assets ratio of 0.172, a short-term debt-to-assets ratio of 0.175, a long-term debt-to-assets ratio of 0.06, a ROA of 0.028, an industry median debt-to-assets ratio of 0.21, an industry median cash-to-assets ratio of 0.153, an Assets of 21.42, a tangible assets ratio of 0.276, an assets growth rate of 16.3% and a controlling shareholding of 38.9%. In addition, 62.5% of the observations in this sample are ultimately controlled by Chinese governments. Table 2 also shows that the means of ***Leverage, Short_Debt, ROA, Median_Lev, Median_Cash, Assets, Tangibility, Asst_Growth*** and C***ontrol_Share*** are generally quite close to their medians. The comparison of mean values with median values of firm characteristics shows that most variables do not have high skewness. Lastly, I do not observe unreasonable outliers from the minimum and maximum values of firm characteristics, suggesting that prior winsorizing has dealt with extreme observations well.

INSERT TABLE 2 ABOUT HERE

Table 3 reports Pearson's pairwise correlations of main variables in the sample. At the first glance, ***Materialism*** is negatively correlated (-0.023) to ***Leverage*** and positively correlated

(0.048) to ***Cash***. However, such results are inconclusive without controlling for firm-level determinants of corporate borrowing and saving. Moreover, ***Materialism*** has positive correlations with ***GDP_Capita*** (0.237) and ***Market_Index*** (-0.138), implying that economic growth and regional institutional development may not shift materialistic values towards post-materialistic values in China.

In addition, ***Leverage*** has a significantly negative correlation (-0.446) with Cash, suggesting corporate borrowing decisions have generally opposite directions to saving decisions. Also, ***Leverage*** is significantly correlated with the seven core factors of capital structure decisions in China, with negative association with ***ROA, Asst_Growth***, ***Control_Share*** and positive association with ***Median_Lev, Assets, Tangibility and State_Control***.

It is worthy of noting that the correlation between ***GDP_Capita*** and ***Market_Index*** is 0.783. To avoid collinearity, I insert ***GDP_Capita*** into main regression models as a control variable and replace it with ***Market_Index*** in robustness tests. Otherwise, the correlations between control variables within the models are generally not large, so the problem of collinearity should not be a major concern in this study.

INSERT TABLE 3 ABOUT HERE

3.4.3 Estimating the effects of materialism on corporate borrowing

I estimate the effects of materialism on corporate borrowing and show the results on Table 4. Column (1) to (3) present the results of regressions on ***Leverage***, with the full sample results presented in Column (1), the sub-sample results of state-controlled firms reported in Column (2) and the sub-sample results of non-state-controlled firms reported in Column (3). Column (4) to (6) shares the same structure as Column (1) to (3), but with ***Cash*** as dependent variables.

As shown in Column (1), in the full sample ***Materialism*** is significantly associated with ***Leverage*** with a coefficient of 0.028 and a P-value smaller than 0.001. The results provide strong support for H1. Within the sub-sample of state-controlled firms, the coefficient of ***Materialism*** becomes even greater (0.032) with a significance level of 1%, whereas the effect of ***Materialism*** turns attenuated (0.022) within the sub-sample of non-state-controlled firms. Such findings reveal the effect of materialism on corporate borrowing is more prominent for state-controlled firms, thus consistent with H3.

As to the regressions of ***Cash, Materialism*** generally displays negative effects. Column (4) shows that in the full sample regression ***Materialism*** significantly affects ***Cash*** with a

coefficient of -0.024 significant at the 1% level. Within the sub-sample of state-controlled firms, the coefficient of ***Materialism*** becomes greater in magnitude (-0.027) with a P-value smaller than 0.001, whereas within the sub-sample of non-state-controlled firms, the coefficient of ***Materialism*** decreases in magnitude (-0.019) and turns insignificant. Hence I find strong support for H2 and H4.

INSERT TABLE 4 ABOUT HERE

The economic magnitude of the effects of materialism is large. My results indicate that controlled for other factors, one-unit increase in regional value of materialism on average leads to 2.8% more borrowing and 2.4% less savings. The effects are about 12% percentage increase from the average debt-to-assets ratio (23.5%) and about 14% percentage decrease from the average cash-to-assets ratio (17.2%) in the full sample. Considering the average total assets of 6.6 billion Yuan in this sample, the effect of one-unit value increase in ***Materialism*** can be translated into a 184.8 million Yuan increase in the amount of corporate borrowing and a 158.4 million Yuan decrease in the amount of corporate savings.

Although the estimates of control variables are not the main focus of this chapter, the effects of the control variables are discussed briefly. All control variables show strongly significant effects on corporate borrowing and their performance in Table 4 is quite stable across columns. At the 1% significance level, ***GDP_Capita*** is negatively associated with Leverage and positively associated with ***Cash*** in all models. That means listed firms located at economically more developed regions tend to borrow less and save more. ***ROA*** and ***Control_Share*** are both negatively associated with ***Leverage*** and positively associated with ***Cash*** in all models, indicating that higher profitability and greater stake from controlling shareholders reduce the needs of borrowing and enhance the tendency of saving. ***Assets and Tangibility*** appear positive and highly significant across all models of ***Leverage*** but become significantly negative across all models of ***Cash***. The results suggest that larger and more tangible firms tend to borrow more and save less. The coefficients of ***Median_Lev*** and ***Median_Cash*** are all positive and highly significant, revealing that firms tend to follow their industry peers in decisions of borrowing and saving. ***Asst_Growth*** has positive effects on both ***Leverage*** and ***Cash*** in all models, whereas ***State_Control*** has negative effects on both ***Leverage*** and ***Cash***. Such findings indicate that firms in high-asset-growth stage tend to borrow more and save more, while state-controlled firms tend to borrow less and save less.

The above findings of control variables are in general consistent with the previous

literature. In the regressions of ***Leverage***, all the seven core factors show coefficients of similar size and significance to those reported by Chang et al. (2014). The models are able to explain 30.4% of the variation in debt-to-assets ratio and 28.5% of the variation in cash-to-assets ratio in the full-sample regressions.

3.4.4 The effects of materialism on short-term and long-term borrowing

I decompose ***Leverage*** into short-term borrowing (***Short_Debt***) and long-term borrowing (***Long_Debt***), and then re-estimate the models in Column (1) to (3) of Table 4 using ***Short_Debt*** and ***Long_Debt*** as dependent variables respectively. The results are presented on Table 5.

INSERT TABLE 5 ABOUT HERE

The coefficient of ***Materialism*** is 0.014 with a P-value of 0.04 in the full-sample regression on ***Short_Debt***, about the same size as the coefficient in the full-sample regression on ***Long_Debt***. So the evidence does not support H3 at the first glance. Nevertheless, the influence of ***Materialism*** in the sub-sample of state-controlled firms is quite different for the model of ***Short_Debt*** from that for the model of ***Long_Debt***. ***Materialism*** significantly affects ***Short_Debt*** only in the sub-sample of state-controlled firms (with a coefficient of 0.021 and a P-value of 0.008), whereas it has a more prominent effect on ***Long_Debt*** in the sub-sample of non-state-controlled firms (with a coefficient of 0.019 and a P-value of 0.003). Such findings suggest that the role of materialism in affecting short-term debt ratio and long-term debt ratio depends on the nature of firms' ultimate controller. The findings here are only partially consistent with Hypothesis 3.

3.4.5 Interaction analysis

By adding interaction terms into the previous regression models, I aim to test the moderating effects of ***State_Control*** and ***Assets*** on the role of ***Materialism***. Table 6 shows that both interaction terms, i.e. ***Materialism*State*** and ***Materialism*Assets*** appear insignificant in the regressions on ***Leverage***, whereas both interaction terms turn negative and significant in the regressions on ***Cash***, with coefficients of -0.037 and -0.011. Such findings indicate that the influence of materialism on corporate saving is stronger for state-controlled firms and larger firms. Therefore, I only find partial support to H4 and H5.

INSERT TABLE 6 ABOUT HERE

In Table 7, I examine how the effects of materialism on short-term and long-term borrowing vary with state-control and firm size. In column (1), ***Materialism*State***, the interaction between ***Materialism*** and ***State_Control,*** has a negative coefficient of 0.04, significant at the 1% level, suggesting that the influence of materialism on short-term borrowing is more prominent in state-controlled firms. Thus, the results are again partially consistent with H3. However, ***Materialism*State*** appears significantly negative in Column (3) with a coefficient of -0.018, showing the state-control mitigates the influence of materialism on long-term borrowing. Such findings are inconsistent with H4. The moderating effects of ***Assets***, nevertheless, are insignificant in regressions on either ***Short_Debt*** or ***Long_Debt*** as reported in Table 7 Column (2) and (4). Thus the findings here do not support H5.

INSERT TABLE 7 ABOUT HERE

3.4.6 Robustness tests

To test whether the previous results are sensitive to definitions of the main variables, I change the measurement of firm size to the natural log of sales and the measurement of ***ROA*** to operating income divided by total assets. Instead of ***GDP_Capita***, I also measure regional development using ***Market_Index***. I find results with very similar patterns to the previous findings. To avoid bias introduced by outliers, I also modify the winsorizing of ***Leverage, Cash, Short_Debt, Long_Debt, ROA, Asst_Growth, Tangibility, Assets and Control_Share*** from 1% and 99% to 2% and 98%, these robustness checks do not alter the main findings.

Following Minkov (2007), I also control for long-term orientation (***LTO***) available from the WVS as a robustness test for the alternative hypothesis that time preference rather than materialism across different regions in China cause my results. The inclusion of ***LTO*** in regression models does not qualitatively change the main results of this chapter.

3.5 Discussions

Based on the theoretical framework of materialism and unique institutional features of China, I developed hypotheses of how regional values of materialism affect corporate borrowing and saving. I found quite strong support for H1 and H2, lending credence to the argument that Chinese listed firms located within more materialistic regions tend to borrow

more and save less. The results are generally consistent with existing evidence in the psychology literature that highly materialistic people tend to consume more and have more debt since they are willing to take on more debt to satisfy their strong acquisitive desires (Richins and Rudmin, 1994).

I also attempt to test whether the choice between short-term debt versus long-term debt is affected by materialism. I do not find apparent difference between the coefficients of materialism of ***Short_Debt*** and ***Long_Debt*** in the full sample regressions.

At the corporate-level, desires to raise more debt may not be fulfilled if firms face restricted access to debt. If it is the case, the effects of materialism on debt can become weaker. In China, state-controlled firms and large firms receive favorable treatment in debt-raising, so I hypothesize the influence of materialism to be stronger for these types of firms. Within the sub-sample of state-controlled firms, I show that regional materialism has a more prominent influence on ***Leverage, Cash and Short_Debt*** than within the full sample. However, in the regressions on ***Long_Debt***, the effect of materialism is weaker within the sub-sample of state-controlled firms. I further show that the coefficient of ***Materialism*State*** is positively significant only in the regression on ***Short_Debt***. But it becomes insignificant in the regression on Leverage and even turns negatively significant in the regression on ***Long_Debt***. Hence my results only lend partial support to H3. Considering the use of long-term debt by Chinese listed firms is the lowest among the countries studied to date (Bhabra et al., 2008), the effects on short-term debt still dominate.

Nevertheless, in the regression results of ***Long_Debt***, the negative coefficient of ***Materialism*State*** and is intriguing. It means that the influence of materialism on long-term debt is weaker for state-controlled firms than for non-state-controlled firms. In China long-term debt such as bank loans and bonds tend to be attached to long-term investment projects. I argue that many long-term projects of state-controlled firms are politically motivated, so managers in state-controlled firms could have less discretion over the borrowing decisions of long-term debt compared with those in non-state-controlled firms. Hence the role of background culture in affecting managers' long-term borrowing decisions is likely to be less important in such circumstances. My findings suggest that materialism can alter the choice between short-term debt versus long-term debt, but the role of materialism depends on the controlling ownership of listed firms.

As to the moderating effects of firm size, I show that ***Materialism*Assets*** appears significantly negative in the regression on Cash, but insignificant in the regressions on ***Leverage, Short_Debt and Long_Debt***. Thus, the findings provide partial support for H5.

This chapter helps to shed lights on the controversies about the validity of the Inglehart's materialism/post-materialism index. For instance, Klein (1995) concludes that there is only a relative change in value-orientation, but that no general linear trend in absolute value changes towards post-materialism exists. Davis and Davenport (1999) also argue that the Inglehart index cannot be used to predict attitudes toward social or political issues. Inglehart (1997) acknowledges that his post-materialism index is sensitive to short-term influences, such as temporarily high inflation or unemployment, but he still argues that high rates of economic growth may enhance the trend towards post-materialism.

Previous studies (e.g. Kasser, 2002; Garðarsdóttir and Dittmar, 2012) report that high materialism could drive people to live beyond their means by unsecured lending, and to the extreme, the heavy debt arising from materialism can even ultimately cause economic crisis. This chapter addresses similar issues, but along the dimension of corporate borrowing and saving.

I use region-level aggregate values of the Inglehart index rather than individual values, so that the index is interpreted as a measure of shared cultural values, which forms part of the cultural value backdrop for corporate managers. Such an approach may alleviate some criticism of the Inglehart index as an indicator of personal attitudes. The more controversial aspect of this chapter is no doubt the very linkage between any kind of cultural value index and corporate, as opposed to private, debt and savings. Individual and private decisions concerning debt and savings may be made more unreflectively and after less deliberation compared to decisions involving firms. It may therefore be easier to accept that such private decisions are culturally biased.

However, while it undoubtedly is true that managerial decisions making is more deliberate and often involves more than one person, it would be naïve to think that there is no cultural value bias to managerial decision-making. Recent studies use CEOs' life experience as measures of corporate culture in materialism (Davidson et al., 2019; Bushman et al., 2018). This line of evidence suggests that managerial culture values generate important influence on corporate decisions. I am not observing the effects of an individual or subjective bias but a shared cultural bias, thus may argue that the indirect and social aspects of cultural bias actually is stronger for firms and their managers as they are subject to more public scrutiny than private individuals.

3.6 Conclusion

Most studies of the cultural influence on corporate behaviors adopt a cross-country

analytical approach. In contrast, I here have taken a cross-regional approach within a single large country with heterogeneous culture. Such a research design allows us to generate relatively clean estimates given the same set of formal institutions in China.

In line with Brym (2016), this chapter shows that the materialistic values of Chinese regions do not show the general trends of moving to the territory of higher post-materialism as China become richer over time. Moreover, some of the most developed regions, such as Beijing and Shanghai, experienced an increase in materialistic values between recent two WVS waves while their economies remain on a fast-growing track. My results support the findings of Zhang et al. (2017) in raising the question as to whether a uniform trend exists according to which a society's values move from materialistic to post-materialistic values as it develops its economy. The underlying factors driving the variation of materialism/post-materialism in Chinese regions deserves further examination.

I have found clear effects of materialism values on borrowing and savings of listed firms across regions in China. Indeed, listed firms located within more materialistic regions tend to borrow more and save less, when controlling for firm characteristics and GDP per capita. I have also found that the influence of regional materialism is generally stronger for state-controlled and larger firms. I also examined the effect of materialism on corporate choice of short-term debt versus long-term debt. I conclude that background cultural values of materialism affect corporate decisions of borrowing and savings. My results also suggest the unique characteristics of Chinese institutions moderate the impact of materialism.

Such attempts shed lights on the increasing literature about the influence of cultural values on corporate decision-making, particularly about the impact of materialism/post-materialism on corporate risk-taking decisions.

Firstly, this chapter contributes to the understanding of how materialism affects corporate risk-taking decisions from a cultural value rather than a personality trait. My study provides new evidence on the effects of Inglehart's materialism/post-materialism on managerial decisions. This chapter enriches studies about cultural effects on business decisions specifically, and on behavior and decision making more generally.

Secondly, this chapter shows that materialistic values in China do not generally shift towards post-materialistic values over time as the economy develops, nor do developed regions exhibit lower values of materialism than underdeveloped regions. Such findings provide new insight into the study of materialism/post-materialism.

Thirdly, this chapter show that societal-level variables can exert independent influence on corporate capital structure even after controlling for existing core factors in the literature. This

results of this chapter show that the role of materialism depends on the unique institutional characteristics of China, for example, state-control ownership. My study introduces informal institutions as new determinants of corporate borrowing and saving generally and those in China specifically.

Chapter IV: Materialism and Corporate Supply of Trade Credit across Regions in China

Abstract

The purpose of this chapter is to investigate how cultural value in materialism affects corporate supply of trade credits across regions in China. Using a sample of 14,710 firm-year observations of Chinese listed firms from 1998 to 2012, I examine the influence of regional materialism on accounts receivable, a common measure of trade credit.

I find that listed firms within more materialistic tend to extend less trade credit to their customers, in particular in long-term categories of trade credit. Such negative effects can be significantly mitigated by state control, suggesting the effects are more pronounced in privately controlled listed firms for which obtaining formal financing is more difficult. The negative effects of materialism still hold after controlling for other regional factors, such as trust, GDP per capita or institutional development.

By showing that materialism values at the regional-level have profound negative influence on the supply of trade credit, I introduce a new cultural determinant of informal financing and corporate risk-taking decisions in China.

4.1 Introduction

From a cultural perspective, materialism refers to a complex, multi-faceted phenomenon in which the majority of people in a society value material objects highly (Larsen et al., 1999). Materialism can also be interpreted as a value (Richins, 1994), defined as a "set of centrally held beliefs about the importance of possessions in one's life" (Richins and Dawson, 1992, p. 308).

Materialism has become an increasingly important topic in consumer behavior and marketing (Ahuvia and Wong, 1995). Materialism can influence attitude towards advertising (Yoon, 1995), compulsive buying (Roberts et al., 2003), brand perception (Kamineni, 2005), social consumption motivation (Fitzmaurice and Comegys, 2006), and conspicuous consumption (Podoshen et al., 2011) etc. Very often, extant literature associates materialism with individual behaviors with bad consequences, for example, reduced concerns about the environmental issues (Kilbourne and Pickett, 2008), unethical behaviors like credit card misuse (Sidoti and Devasagayam, 2010), risky health behaviors (Dittmar et al., 2014) and Internet addiction (Manchiraju, 2018).

The role of culture in corporate decisions has been extensively examined by researchers. It is shown that culture values affect capital structure decisions (Chui et al. 2002; Li et al., 2011;

Zheng et al., 2012), cash holding decisions (Ramŕeza and Tadesse, 2009), risk-taking decisions (Li et al., 2013), payout decisions (Shao et al., 2010; Fidrmuca and Jacob, 2010), trade credit provision (Ghoul and Zheng, 2016), disclosure decisions (Hope, 2003), earnings discretion (Han et al., 2010) and mergers and acquisitions decisions (Ahern et al., 2012; Siegel et al., 2013) etc. However, the majority of evidence is based on the cultural values defined by Hofstede (1980) or Schwartz (1994).

Compared with these popular dimensions of culture, materialism receives much less attention in the literature of how culture affects corporate decisions. Recent studies proxy CEO materialism using data about CEO's personal ownership of luxury goods (Davidson et al., 2015). It is shown that materialistic CEOs may affect corporate organizational values and norms of behavior inducing erroneous financial reporting (Davidson et al., 2015), lower corporate social responsibility scores (Davidson et al., 2019), and risk-taking behaviors and ethical lapses of banks (Bushman et al., 2018).

In this chapter, I study the role of materialism in the supply of trade credit at firm-level across regions in China. Trade credit occurs when a supplier delivers products or provides services to a customer, but the customer does not make the payment right away. The both parties agree that the payment is to be made sometime later. Nevertheless, by doing so the supplier faces risk of not receiving payment, since there exists neither collateral from the customer nor guarantee from third parties behind the transaction. In other words, the supplier does not possess the monetary payment from the customer if the transaction is arranged through trade credit, and the possession of money needs to be delayed with certain risk. Therefore, the extent the supplier is willing to wait for the possession of money can depend on the beliefs of the supplier about the importance of possessions, i.e. value in materialism (Richins and Dawson,1992).

I argue that society value in materialism affects the general preference of firms within the society to deferring possession of money, consequently the trade credit of firm-level within the society. Hence, firms within more materialistic regions are inclined to show a stronger preference to possessing money from customers right away, and thus tend to extend less trade credit to their customers.

China seems to be a natural candidate to study the relationship between materialism and trade credit. First, China has weak legal and institutional environment, in terms of investor protection and enforcement of contracts etc. (Allen et al., 2005). In such circumstance, the role of informal institutions, including culture, becomes more important. Second, there exists discrimination in access to bank loans. Private firms in China have difficulty in getting bank

loans and that they often have to resort to trade credits (Cull et al., 2009). Therefore, trade credit is a particular important channel of informal financing for Chinese firms (Fisman and Love, 2003), especially private firms. Third, existing studies suggest that materialism is central and typical of Chinese culture given Chinese astuteness in handling money and priority on monetary rewards (Freedman, 1979; Bond, 2008). Finally, China has been undergoing an unprecedented transformation, causing an imbalance in economic development and uneven distribution of materialism values across different regions. By focusing on the intra-country study, this paper can avoid distractions from cross-country differences in political system, judiciary system, codes of taxes and accounting rules, etc. Such research approach enables the paper to deliver relatively clean results about how cultural value of materialism affects the granting of trade credit at firm-level.

Using a sample of 14,710 firm-year observations of Chinese listed firms from 1998 to 2012, I examine the influence of regional materialism on corporate supply of accounts receivable. Accounts receivable represents the granting of trade credit. I also use the index of materialism/post-materialism (Inglehart, 1997) from the World Value Survey to calculate the proxy for regional values of materialism in 30 Chinese regions.

I find that listed firms within more materialistic regions tend to extend less trade credit to their customers. I further classify accounts receivable by their aging into short-term and long-term categories. My analysis shows that listed firms within more materialistic regions tend to have less long-term accounts receivable, whereas the effects of materialism on short-term trade credits are much weaker. That is to say the negative effects of materialism mainly exist in long-term categories of accounts receivable. I also calculate turnover day in accounts receivable as a measure of collection efficiency for trade credit. My results show that firms within regions of higher materialistic values collect accounts receivable faster from their customers.

Moreover, my results indicate that the negative effects of materialism on accounts receivable are more pronounced for privately controlled firms, since state-control significantly mitigates the negative effects of materialism. To address the concerns of my results being driven by other regional factors, I also control for regional GDP per capita, NERI index of Marketization and trust. The negative effects of materialism still hold after controlling for these regional factors.

This chapter contributes to the literature in the following dimensions. Firstly, extant studies on materialism often take the perspective of consumer behavior and marketing or personal preferences of executives, but this study expands the existing literature by examining the influence of societal-level materialism on corporate decisions. I find regional value of

materialism is an important determinant of corporate provision of trade credit.

Secondly, this study complements the literature on trade credit. Existing studies find various determinants of trade credit, including firm characteristics, the type of goods and trust (Cunat, 2007; Giannetti et al., 2011; Wu et al., 2014), but none has examined the role of materialism in the determination of trade credit. I find regional materialism has incremental influence on trade credit in addition to determinants found in existing studies.

Lastly, the results of this paper help to understand the mechanism of Chinese firms' informal financing. State-control has been an important feature of Chinese economy and the implicit guarantee provided by the state-control generates profound impacts on the financing of firms. I find state-control significantly mitigates the negative effects of materialism, suggesting privately controlled firms, for which obtaining formal financing is more difficult, are confronted by more critical influence of materialism in terms of trade credit extending decisions.

The remaining parts of this chapter are organized as follows. Section 4.2 discusses the literature of materialism and trade credit to derive theoretical predictions. I describe the sample and research design in Section 4.3. Section 4.4 reports empirical results, followed by discussions of findings in Section 4.5. Finally, Section 4.6 concludes.

4.2 Hypothesis development

Traditional studies (Belk, 1984) hypothesize that materialistic individuals emphasize acquisition and possessions. Nevertheless, Richins and Dawson (1992) argue that materialism may affect individual's resource allocation including time, in addition to its direct impacts on consumption. Watson (1998) shows that materialism is positively associated with attitudes toward borrowing. Studies along the line (Watson, 2003; Ponchio and Aranha, 2008) show that materialism affects individuals' willingness to use credit, suggesting that materialism can impact individuals' time preference of money possession. In addition, there is evidence that materialism affects individuals' money management behaviors (Donnelly et al., 2012) and the tendency of donating money (Ku and Zaroff, 2014).

According to Larsen et al. (1999), materialism from a cultural perspective refers to cultures in which the majority of the people in the society value material objects highly. Inglehart (1971, 1977) argue that as a society moves to post-materialism, it tends to pay more attention to goals beyond basic material needs, such as quality of life, personal freedom and social equality.

Granting trade credit means that suppliers need to delay the possession of money until

sometime later. By the same logic above, regional value in materialism can influence corporate time preference in money possession, thus the supply of trade credit.

Regional value in materialism can affect corporate provision of trade credit by two ways. First, managers' personal values can alter corporate decisions related to trade credit. The extent the supplier is willing to defer the payment in the form of accounts receivables depends on the beliefs of the supplier about the importance of possessions, i.e. value in materialism. Second, materialism may take institutional approach to indirectly affect the provision of trade credit. In a materialism-dominated community, corporate managers may feel less comfortable if their decisions about extending trade credit are not consistent with the views of various stakeholders.

Therefore, firms within more materialistic regions tend to prefer collecting cash to granting trade credit. I propose:

H6: Listed firms located within more materialistic regions tend to provide less trade credit to customers.

In China, SOEs are regarded to have implicit guarantee from government, reducing the uncertainty of suppliers about future collection of accounts receivable. State-controlled firms also tend to get easier access to formal financing channels such as bank loans, whereas private firms often face difficulty in getting access to bank loans (Allen et al., 2005). Consequently, private firms may not be able to raise debt needed, so they rely more on trade credit for financing. Moreover, compared with mangers of state-controlled firms, managers of private firms tend to have higher degree of flexibility in terms of the operating decisions.

Therefore, the effect of materialism on trade credit should be stronger for private firms and weaker for state-controlled firms. The negative influence of materialism on trade credit can be mitigated by state-control.

H7: The negative effect of materialism on provision of trade credit is less prominent for state-controlled firms.

4.3 Sample and research design

4.3.1 Sample

My sample consists of Chinese A-share listed firms between 1998 and 2012. Data on location, ownership and industrial sector is from the CCER database developed by China Center for Economic Research and Sinofin Corporation. Financial data items are from the

China Stock Market and Accounting Research (CSMAR) database. Moreover, data on regional materialism is from the World Value Survey (WVS) database. Following the sample selection process in Chapter 3, I exclude firms in the finance industry and firms listed in the Growth Enterprise Board, and observations with missing key variables. The final sample include 14,710 firm-year observations.

4.3.2 Measure of materialism

Materialism is calculated based on the four-item materialism/post-materialism index from the database of WVS. WVS conducted three waves of survey in China respectively in 2001, 2007 and 2012. In each wave, 24 out of the 31 regions were selected. I exclude data of Wave 5 on Chongqing from the sample since it only contains one valid interview.

Following the measure of materialism index in Chapter 3, I define ***Materialism*** to be 3 if the WVS survey classifies the respondent to be materialist, i.e., those selecting both "maintaining order in the nation" and "fighting rising prices". ***Materialism*** is defined to be 1 if WVS survey classifies the respondent to be post-materialist, i.e., those selecting both "giving the people more say in important government decisions" and "protecting freedom of speech". If the respondents choose one materialist item and one post-materialist item, then Materialism is equal to 2. Such measure of the materialism index is equal to four minus the four-item post-materialism index (Inglehart,1971), so that greater value of ***Materialism*** indicates stronger materialism. I subsequently take average of ***Materialism*** for all valid interviews within each region and each wave of the survey to estimate the regional values of Materialism.

As shown on Table 1, there are a total of 861 valid interviews for Wave 4, 1,499 for Wave 5, and 2,071 for Wave 6. The average value of ***Materialism*** in China overall is 2.46 in 2001 and 2.44 in 2007, suggesting a stable trend in early 2000s. But afterwards, Chinese people overall become more materialistic with the value of materialism increasing to 2.55 in 2012.

Since this research design requires annual number for regional materialism, I assume that the values of ***Materialism*** from WVS Wave 4 are valid from 1998 to 2003, the values from the Wave 5 are valid from 2004 to 2009, and the values from the Wave 6 are valid from 2010 to 2012. Such practice is similar with the method used in Li et al. (2020).

4.3.3 Measures of trade credit supply

Existing studies (e.g. Petersen and Rajan, 1997; Wu et al., 2014) use accounts receivable and accounts payable to capture the offering and receipt of trade credit respectively. Following Wu et al. (2014), I use total accounts receivable divided by total assets (***AReceivable***) to

measure the provision of trade credit. I further decompose total accounts receivable into accounts receivable due within one year and accounts receivable having been outstanding for more than one year. Scaling these receivables by total assets yields measures of provision of short-term trade credit (***AR_1Yless***) and provision of long-term trade credit (***AR_1Ymore***). I also calculate ***AR_Turnover*** as turnover day in accounts receivable to capture the collecting speed of accounts receivable.

These various proxies for trade credits are used as dependent variables in regression models.

4.3.4 Measure of control variables

Consistent with the basic model of Wu et al. (2014), I control in regression for profitability, debt ratio, tangibility, the history of seasoned equity financing, growth opportunities, firm size and firm age. In addition, I control for the ownership nature of ultimate controller and the shareholding of the largest shareholder.

Profitability is measured by return on assets (***ROA***) defined as net income divided by total assets. Chang et al. (2014) find that profitability becomes the most crucial core factor in capital structure determination and they argue that Chinese firms have to rely heavily on internal cash flow generation due to severe financial constraints in equity and debt issuance. Higher profitability reduces the need for trade credit financing, but also facilitates provision of trade credit.

Leverage is a measure of corporate borrowing, defined as total debt divided by total assets. Higher amount of borrowing, as a channel of formal financing, reduces the demand for trade credit and provides funds for supplying trade credit to customers. ***Tangibility*** is measured by the ratio of fixed assets to total assets. Firms with more fixed assets in China have easier access to bank loans and other forms of debt, which may substitute the use of trade credit in financing. A dummy variable (***SEO***) is used to capture the history of seasoned equity financing, which equals 1 if the firm had a seasoned equity financing within the prior two years. Recent success in equity offering suggests that the firm is not financially constrained and is likely to have less need for trade credit.

I use ***Sales_Growth***, the natural logarithm of growth rate in sales to the prior year, to proxy growth opportunities. Firms with more growth opportunities tend to have higher demand for financing, thus rely on trade credit more than firms with less growth opportunities. Rapidly growing firms is also inclined to supply more trade credit since they have yet to develop reputation of high quality products to their new customers.

Firm size is defined as the natural logarithm of total assets (***Assets***) and firm age is measured as the natural logarithm of the number of years since listing (***Firm_Age***). From the perspective of demand side of trade credit, larger and older firms tend to have more established banking relationship, so have less demand for financing through trade credit. Nevertheless, larger and older firms have had built better records with their suppliers, thus may be able to use trade credit financing easier. The tradeoff between these two effects determines the influence of firm size and firm age on the receipt of trade credit (Ge and Qiu, 2007). From the perspective of supply side of trade credit, the effects of firm size and firm age are also ambiguous. Larger and older firms have built higher reputation and have stronger bargaining power, so they may extend less trade credit to their customers. In the meantime, larger and older firms may be able to extend more credit to customers owing to their easier access to formal financing (Wu et al., 2014).

State-controlled listed firms in China receive preferential treatment in allocation of bank loans (Firth et al., 2009) and get easier access to equity financing (Chang et al., 2014). With more funds available from formal channel of financing, state-controlled firms tend to have less demand for trade credit financing and be able to supply more credit to customers. I therefore control for a dummy variable for the ownership nature of ultimate controller (***State_Control***), which is equal to one if a firm is ultimately controlled by the state, and zero otherwise. Moreover, controlling shareholders in China may use various methods to occupy funds of listed firms, including trade credit and intercorporate loans (Jiang et al., 2010). Therefore, I control for the percentage of shares held by the largest shareholder (***Control_Share***) in regressions to capture potential agency effects.

The detailed definitions of variables are summarized on Appendix 1.

4.3.5 Model design

The existing studies of cultural effects on managerial decisions (e.g. Chen at al., 2015; Bushman et al., 2018) often apply multivariate OLS models in baseline regressions. Following the literature, I use the multivariate OLS model to regress materialism on variables of trade credit supply, controlling for firm characteristics, regional characteristics, year dummies and industry dummies. All models are estimated with Huber-White robust standard errors, to avoid biases induced by heteroskedasticity.

4.4 Empirical results

4.4.1 Descriptive statistics

As shown on Table 8, there are in total of 14,710 firm-year observations in this sample. A typical listed firm in this sample has a balance of accounts receivables about 8.7% of its total assets, a balance of accounts payables about 6.8% of its total assets, a ROA of 3.1%, a debt-to-assets ratio of 0.232, a tangible assets ratio of 0.251, a Sales_Growth of 0.125, an Assets of 21.363, a Firm_Age of 2.125 and a controlling shareholdings of 36.2%. In addition, 8.2% firm-year observations in my sample have had seasoned equity offerings in the prior two years and 62.5% have Chinese governments as the ultimately controller. To avoid bias introduced by extreme observations, the reported statistics of ***AReceivable***, ***AR_1Yless***, ***AR_1Ymore, ROA, Leverage, Tangibility***, ***Sales_Growth, Assets and Control_Share*** are after winsorization at 1% and 99% of distribution. ***AR_Turnover*** is winsorized at 5% and 95% of distribution.

INSERT TABLE 8 ABOUT HERE

4.4.2 Estimating the effects of materialism on trade credit supply

Table 9 shows the results of multivariate OLS regressions of materialism on provision of trade credit, with ***AReceivable, AR1Yless, AR1Ymore, AR_Turnover*** as four different dependent variables. The structure of OLS model is similar to those used in Jordaan et al. (2016). In each model, I control for ***ROA, Leverage, Tangibility, SEO, Sales_Growth, Assets, Firm_Age, State, Control_Share***, year dummies and industry dummies. The p-values are based on Huber-White robust standard errors to adjust for heteroskedasticity.

4.4.2.1 The effects of materialism on trade credit supply

Table 9 shows that ***Materialism*** is significantly associated with ***AReceivable*** with a coefficient of -0.024 at the 1% significance level. The results indicate that firms located in more materialistic regions tend to provide less trade credit to customers. The influence of materialism on the provision of trade credit is economically meaningful. A one standard deviation increase in ***Materialism*** leads to a 0.36% decrease in ***AReceivable***, about 3.12% of its sample mean.

The coefficient of ***Materialism*** is negative but insignificant in the model where ***AR_1Yless*** is the dependent variable; whereas the coefficient of ***Materialism*** is negative (-0.007) and significant at the 5% level in the model where ***AR_1Ymore*** is the dependent variable. Moreover, ***Materialism*** is negatively associated with ***AR_Turnover*** at the 1% significance level with a coefficient of -13.900, implying that firms located in regions with higher materialism tend to collect payment from customers faster.

Such findings provide strong support for H6.

INSERT TABLE 9 ABOUT HERE

4.4.2.2 The effects of control variables on trade credit supply

Since the effects of control variables are not the main focus of this chapter, they are discussed briefly here.

ROA has significantly negative association with ***AReceivable***, ***AR_1Ymore and AR_Turnover,*** but has significantly positive association with both ***AR_1Yless***. It suggests that more profitable firms tend to extend less credit to customers and collect payment more timely. Firms with higher ***Leverage*** tend to provide more trade credit to customers and switch the structure of accounts receivables to the long-term end. Both Tangibility of firms (***Tangibility***) and the history of seasonal equity financing (***SEO***) are associated with significantly lower provision of trade credit. Similarly, larger (***Assets***) and older firms (***Firm_Age***) tend to provide less credit to customers and receive payment in more timely manners. Firms with higher sales growth rate (***Sales_Growth***) tend to extend more short-term credit to clients but provide less short-term credit. Not surprisingly, state-control (***State_Control***) appears to be positively associated with the supply of trade credit, while firms with greater shareholdings for the largest shareholder (***Control_Share***) tend to provide less trade credit and collect money faster.

The above findings of control variables are largely consistent with those in the previous literature (e.g. Wu et al., 2014).

4.4.3 State-control and the effects of materialism on trade credit supply

The results of Table 9 show that state-controlled listed firms are able to extend more credit to customers. Since trade credit is a particular important channel of financing for private firms in China, it is necessary to examine how the influence of ***Materialism*** varies with the ownership nature of the largest shareholder. Furthermore, I test in this section the moderating effects of state-control on the relationship between materialism and the supply of trade credit. Since SOEs in China receive favorable treatment through channels of formal financing, non-state firms rely more on informal mechanisms of financing, such as trade credit (Allen et al., 2005). Therefore, I expect the negative effects of materialism on the provision of trade credit to be weaker in state-controlled firms and be more pronounced in non-state-controlled firms.

Table 10 shows that the coefficient of the interaction term, i.e. ***Materialism*State***, appears positive and significant in the regressions on ***AReceivable*** and ***AR_1Yless***. The findings suggest that the influence of materialism on the supply of trade credit is less prominent for

state-controlled firms, providing support for H7.

INSERT TABLE 10 ABOUT HERE

4.4.4 Firm characteristics and effects of materialism on trade credit supply

I explore how sensitive the influence of materialism on trade credits is to other firm characteristics beyond state-control. Following Wu et al. (2014), I test the moderating effects of debt ratio, tangibility and growth opportunities. Specifically, I generate three dummy variables, ***High_Lev, High_Tang and High_Growth***. ***High_Lev*** is defined as one if the firm's Leverage is above the median value for all firms in the same year, otherwise it is equal to zero; ***High_Tang*** is coded one if the firm's ***Tangibility*** is above the median value for all firms in the same year, otherwise it is equal to zero; and ***High_Growth*** is equal to one if the firm's ***Sales_Growth*** is above the median value for all firms in the same year, otherwise it is coded zero. The interaction terms between the three dummy variables and ***Materialism*** are included in the regression models and the results are presented on Table 11.

INSERT TABLE 11 ABOUT HERE

The coefficients of ***Materialism* High_Lev*** and ***Materialism* High_Growth*** are not statistically significant, whereas the coefficient of ***Materialism* High_Tang*** is -0.007 with the significance level of 1%. In other words, the effect of materialism on the provision of trade credit is not sensitive to debt ratio and growth opportunities, but it is more prominent for firms with high tangibility.

As a summary, the negative effect of materialism on accounts receivables is stronger for firms with high tangibility. It is consistent with the view that tangibility is associated with availability of formal financing, thus more tangible firms could have more discretion in providing trade credit to customers.

4.4.5 Regressions controlling for regional environment

Since regional environment, such as institutions and trust, may also affect the supply and demand of trade credit, I include four regional variables, ***GDP_Capita, Market_Index, Trust and Law_Inst***, into the regression models in Table 12 to test whether the impact of Materialism remains. ***GDP_Capita*** is GDP per capita from National Bureau of Statistics of China; ***Market_Index*** is the National Economic Research Institute (NERI) Index of Marketization of

China's provinces; ***Trust*** is the general trust variable from WVS (V24.- Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?); ***Law_Inst*** is defined as the Intermediary Organization Development and Law subindex of NERI index of Marketization. The negative effects of ***Materialism*** remain robust with the inclusion of these variables in all regressions on the supply of trade credit.

Therefore, my findings about the influence of materialism remain stable and significant with the inclusion of these institutional variables in models.

INSERT TABLE 12 ABOUT HERE

4.4.6 Robustness tests

To check the robustness of the main findings of this chapter, I conduct a series of additional tests.

4.4.6.1 Using measure of net accounts receivable

First, I calculate net accounts receivable (***Net_AReceivable***) defined as accounts receivable net of accounts payable, scaled by total assets. ***Net_ AReceivable*** is then decomposed into the net provision of short-term trade credit (***Net_AR_1Yless***) and the net provision of long-term trade credit (***Net_AR_1Ymore***). ***Net_AR_Turnover,*** the net turnover day in accounts receivable, is defined as turnover day in accounts receivable minus turnover day in accounts payable. I use these measures of net accounts receivable to replace the dependent variables of accounts receivable in Table 9. I find that ***Materialism*** is significantly associated with ***Net_AReceivable*** with a coefficient of -0.014 at the 1% significance level and is significantly associated with ***Net_AR_1Yless*** with a coefficient of -0.013 at the 10% significance level.

Many firms do not decompose their accounts receivables or accounts payables by time in their annual reports' footnotes. Therefore, the number of observations for ***Net_AR1Yless*** and ***Net_AR1Ymore*** is much smaller than that of other variables.

The results in Table 13 again support Hypothesis 6.

INSERT TABLE 13 ABOUT HERE

4.4.6.2 Using the measure of 12-item materialism

Inglehart later argued that the 4-item indicator of materialism/post-materialism is

"excessively sensitive to short-term forces", so he proposed a more comprehensive 12-item measure (Inglehart, 1990).

The 12-item measure of materialism/post-materialism is available in the WVS China dataset only in the Wave 4 and Wave 5. Thus, I am unable to use the full sample to conduct the robustness tests, and my sample size drops to 9844 firm-year observations. I show that ***Materialism12*** is negatively associated with ***AReceivable*** with a coefficient of -0.010 at the 1% significance level and is negatively associated with ***AR_Turnover*** with a coefficient of -14.937 at the 1% significance level. Replacing ***AReceivable*** and ***AR_Turnover*** with ***Net_AReceivable*** and ***Net_AR_Turnover***, I find similar results. The results suggest that my findings are robust to alternative measures of materialism.

4.6.3 Controlling for long-term orientation

An alternative hypothesis is that time preference across different regions in China gives arise to my findings, since firms in the regions with stronger preference of delaying may use more trade credit. To prevent the omitted variable problem from biasing my results, I further control for long-term orientation (***LTO***) in the WVS as a conventional proxy for time preference.

I follow Minkov (2007) to construct a measure of long-term orientation (***LTO***) based on three items in the WVS database: (1) Thrift as a desirable trait for children

(2) National pride (3) Importance of service to others. Since "Importance of service to others" is not available in the China dataset of Wave 6, I again can only use the data of Wave 4 and Wave 5. The inclusion of ***LTO*** in regression models does not change the previous findings of ***Materialism12***'s negative effects on trade credit supply.

Moreover, I change the measurement of firm size to the natural log of sales and the measurement of ROA to operating income divided by total assets. I also drop ***Control_Share*** from the regression models. Instead of using the Intellectual Property Protection subindex of NERI Index of Marketization, I measure regional legal development by regional brand enrollment divided by total number of firms. In addition, I modify the winsorizing standard from 1% and 99% to 2% and 98%. These robustness tests generate qualitatively similar results to the previous findings.

4.5 Discussions

In China, firms tend to face severe financial constraints, and therefore firms providing credit can stand in a stronger position in the supply chain. Regional materialism can influence

corporate decisions of credit supply directly for firms located within the region. I therefore develop hypotheses about the influence of materialism on corporate supply of trade credit.

The results show that firms located in more materialistic regions tend to provide less accounts receivable to customers. Such findings provide strong support for H6. Further analysis shows that the negative effects of materialism on trade credit mainly exist for the long-term categories. The finding may reflect that the short-term trade credits are provided for the purpose of regular business needs, whereas long-term trade credits are more likely to be unusual needs. Moreover, I find that ***Materialism*** has a negative impact on ***AR_Turnover***, the number of turnover days in accounts receivable, showing that firms within more materialistic regions collect accounts receivable faster from their customers.

The coefficient of the interaction term of state-control, i.e. ***Materialism*State***, are positive and significant in the regression on ***AReceivable***. The finding suggests that the negative influence of materialism on trade credit supply is less pronounced for state-controlled firms. State-controlled firms in China receive favorable treatment in formal financing channels, so SOEs are less affected by their managerial preferences in the decisions of providing trade credit to customers in the form of accounts receivable.

I also find that the negative effect of materialism on accounts receivable is stronger for firms with high tangibility. It is consistent with the view that tangibility is associated with availability of formal financing, thus more tangible firms could have more discretion in providing trade credit to customers.

The regional institutional environment other than materialism may also affect the supply of trade credit. It is important to consider the influence of other institutional variables, such as GDP per capita, NERI Index of Marketization, and trust etc. My results show that the influence of materialism remains stable and significant with the inclusion of these institutional variables in models.

In addition, time preference across different regions in China can be an alternative story to my hypothesis, since firms in the regions with stronger preference of delaying may use more trade credit. To deal with the potential problem of omitted variable, I controlled for long-term orientation from WVS. The inclusion of ***LTO*** in regression models does not change my previous findings.

The four-item materialism/post-materialism index used in this analysis is based on the theory of materialistic socialization developed by Inglehart (1971). The index is widely used in materialism research. According to Ahuvia and Wong (2002), Inglehart's definition of materialism is related to materialism conceptualized by Belk (1985) and Richins and Dawson

(1992), but is broader than usual definitions of materialism in the literature of consumer behavior. I take average of individual's materialism values within a region, so that my measure of materialism is at societal-level rather than individual-level. Moreover, adopting a more comprehensive 12-item measure of materialism/post-materialism (Inglehart, 1990) does not qualitatively change my main findings.

This chapter complements the literature on trade credit. Existing studies find various determinants of trade credit, including firm characteristics, the type of goods, and trust (Cunat, 2007; Giannetti et al., 2011; Wu et al., 2014), but none has examined the role of materialism in the determination of trade credit. I find materialism has incremental influence on trade credit in addition to determinants found in existing studies.

The results of this chapter also help to understand the mechanism of Chinese firms' informal financing. State-control has been an important feature of Chinese economy and the implicit guarantee provided by the state-control generates profound impacts on the financing of firms. I find state-control significantly mitigates the negative effects of materialism, suggesting privately controlled firms, for which obtaining formal financing is more difficult, are confronted by more critical influence of materialism in terms of trade credit decisions.

On the one hand, the findings in Chapter 4 imply SOEs in China have better access to formal financial channels such as banks, so that in general SOEs can provide more trade credit to their clients. Such phenomenon indicates unfair credit allocation that hinders fair market competition. On the other hand, the results also suggest that there exists a way to get around the inefficient credit allocation mechanism by formal financial institutions. The trade credit provided by SOEs can be treated as a channel to divert bank funds to private firms facing severe financial constraints. Although such phenomenon increases transaction costs in the trades between SOEs and private firms, it can be a sub-optimal solution of credit allocation in a country dominated by state ownership, such as China.

Nevertheless, the trade credit provision by SOEs may not be optimal given their relative inefficiency in operations. Our results show that firms in more materialistic regions tend to provide less trade credit to customers. Therefore, the findings in this chapter suggest that Chinese government should mitigate unfair credit allocation by formal financial institutions, in particular in regions with strong post-materialistic values.

Moreover, the findings in this chapter have important implications for foreign firms seeking entry into China. Given foreign firms also do not receive favorable credit allocation by domestic banks in China, foreign firms may choose to establish business in regions of high post-materialistic values and to do business with SOEs if they wish to receive more trade credit

as informal financing.

4.6 Conclusion

In this chapter, I investigate how cultural value in materialism/post-materialism affects corporate supply of trade credit in China. I develop hypotheses about the influence of materialism on the provision of trade credit. It is shown that regional materialism has profound negative influence on the supply of trade credit, thus reduces risk-taking by firms.

Specifically, I find that firms located in more materialistic regions tend to have less accounts receivable extended to customers. Further analysis shows that the negative effects of materialism on trade credit supply mainly exist for the long-term categories. The finding may reflect that the short-term trade credit is provided for the purpose of regular business needs, whereas long-term trade credit is more likely to be unusual needs. Moreover, I find that materialism has a negative effect on the turnover day in accounts receivable, showing that firms within more materialistic regions collect accounts receivable faster from their customers. I also show that the negative effects of materialism on trade credit supply become weaker in state-controlled firms and become more pronounced in non-state-controlled firms.

This chapter contributes to the literature in the following dimensions. Firstly, extant studies on materialism often take the perspective of consumer behavior and marketing or personal preferences of executives, but this study expands the existing literature by examining the influence of societal-level materialism on corporate decisions. I find regional value of materialism is an important determinant of corporate provision of trade credit.

Secondly, this study complements the literature on trade credit. Existing studies find various corporate-level and culture-level determinants of trade credit, but none has examined the role of materialism in the determination of trade credit. I introduce a new cultural determinant of trade credit, by showing materialism has incremental influence on trade credit in addition to determinants found in existing studies.

Lastly, the results of this chapter help to understand the mechanism of Chinese firms' informal financing. The mitigating effect of state-control on the negative effects of materialism, suggest privately controlled firms, for which obtaining formal financing is more difficult, face stronger influence of materialism on trade credit extending decisions.

The findings in this Chapter have deep policy implications and significant economic meanings for foreign firms trying to enter China. The influence of materialism/post-materialism on business behaviors deserves further extensive research.

Chapter V: Individualism, Collectivism and Financial Risk Preferences across Regions in China

Abstract:

Using a survey data from Shanghai, Jiangsu and Yunnan, this chapter tests how individualism/collectivism values affect financial risk preferences of Chinese at the individual-level. There exist regional differences in the values of individualism/collectivism in that respondents from Shanghai tend to have lower value in financial risk preference, higher value in individualism, and lower value in collectivism compared with those from Yunnan. Such comparison parallels the comparison between the United States and China.

Nevertheless, after controlling for respondents' characteristics and regional variables, individual-level regression results show that financial risk preferences of Chinese are negatively associated with their values of collectivism, and are positively associated with their values of individualism.

The results in this chapter are not consistent with the Cushion hypothesis (Hsee and Weber, 1999) that people in a collectivist society (such as China) tend to be more risk seeking for monetary matters than those in an individualistic society (such as the United States).

5.1 Introduction

As one of the pilot works, Hsee and Weber (1999) find that Chinese university students are significantly more risk seeking than the American students only in the investment domain, but not in the personal or medical domain. They proposed the Cushion hypothesis that people in a collectivist society (such as China) tend to be more risk seeking for monetary matters than those in an individualistic society (such as the United States).

Nevertheless, studies in corporate finance suggest that corporate managers in highly individualistic countries tend to be more overconfident which in turn leads firms to take higher risks (e.g., Li et al., 2013; Ashraf et al., 2016). Such contradiction in the findings of two different research areas is intriguing. In addition, whether such pattern exists within regions of one country is rarely explored.

This chapter explores how values in individualism and collectivism are related with financial risk preferences in China. Further, it examines how sub-dimensional values in individualism and collectivism affect individual preferences to financial risks. Answers to these questions theoretically help to solve the debate in the existing literature about the mechanisms of how individualism affects risk taking decisions.

Using a set of survey data from Shanghai, Jiangsu and Yunnan, this chapter finds that respondents of Shanghai on average have lowest values in risk preference, highest values in Schwartz's individualism, and lowest values in Schwartz's collectivism among respondents of the three regions. Yunnan (like China) has a more collectivist culture compared with Shanghai (like the United States) and respondents from Yunnan tend to be more risk seeking than those from Shanghai. At the first look, the results are consistent with the Cushion hypothesis proposed by Hsee and Weber (1999).

I further regress individual preference to financial risks on individual culture values, controlling for respondents' characteristics and regional variables. I find that individual value of collectivism is negatively associated with, and individual value of individualism is positively associated with financial risk preference. More specifically, respondents with higher values in Achievement, Self-direction and Simulation, and lower values in Universalism and Tradition tend to have significantly stronger preference to financial risk. Such results do not support the Cushion hypothesis in that people from more collectivist society tend to be more risk seeking. Rather, my results are consistent with the findings in corporate finance literature that individualism is positively associated with the degree of risk taking.

This chapter contributes to the literature about the relationship between culture and risk preference in several dimensions. First, this chapter employs cross-regional survey data from three Chinese regions. Such research design differs from commonly used cross-country approach by providing new evidence within a single country. Second, this chapter tests the Cushion hypothesis by regression methods controlling for respondent-level characteristics. Such research design obviously alleviates omitted variable problems generating potential biases in previous studies. It helps to resolve the current controversy about the effects of individualism on risk-taking. Lastly, this chapter deepens the understanding about Chinese cultural diversity. Those involved in foreign affairs or international business with China can based on this study get better understanding of risk preferences for Chinese people from different regions.

The rest of this chapter is organized as follows. Section 5.2 reviews related literature. Section 5.3 describes the survey and data. Empirical tests are presented in Section 5.4. Section 5.5 discusses my findings, followed by conclusions in Section 5.

5.2 Existing debate

The Cushion hypothesis argues that people in a collectivist society are more likely to receive financial help, i.e., they could be "cushioned", if they are in need. Indeed, Hsee and

Weber (1999) find that the density of the social net from which the Chinese participants could get financial support is higher than the U.S. participants.

One implication of the Cushion hypothesis is that once the size of the social network available for financial support is controlled, the cross-country differences in financial risk preference shall disappear. If it is the case, then the cross-country differences in financial risk preference may not be caused by cultural values directly, but by the physical environment (social network for financial support) induced by culture.

In a separate study, Weber and Hsee (1998) test the Cushion hypothesis by examining the buying prices for risky financial options for respondents from China, the United States, Germany and Poland. Again, they find that Chinese participants are more risk seeking than American participants. However, they provide evidence that the differences in risk preference were associated primarily with cultural differences in the perception of the risk of the financial options rather than with cultural differences in attitude towards perceived risk. Weber and Hsee (1998) argue that the differences in the individualism/collectivism continuum can explain the observed cross-country differences in risk perception. Moreover, Weber et al. (1998) report that Chinese proverbs were judged to advocate more risk taking than American proverbs, suggesting a new channel of cultural effect on risk-taking activities.

However, these studies take the approach of cross-country comparison, confronted with the problem of omitted variables induced by the inability to control for adequate individual-level and country-level characteristics. Thus, it is difficult to make the judgment about the cause of observed association between culture and risk preference.

Shao et al. (2013) show that firms in individualistic countries invest more in long-term (risky) than in short-term (safe) assets and tend to employ excess cash to increase R&D rather than increase dividends. The results imply that the risk taking is the channel through which individualism works. Along different dimensions of firm riskiness, Li et al. (2013) find that individualism is positively associated with volatility of earnings, volatility of stock return, R&D expenditure and long-term debt. Similarly, Kanagaretnam et al. (2014) and Ashraf et al. (2016) support that banks tend to take significantly higher risks in countries with higher individualism. In general, the evidence provided by corporate finance literature is not in line with the Cushion hypothesis.

More recently studies at individual level try to control for more characteristics, yet still find contradicting results. For example, using a data set from surveys conducted in Germany and Singapore, Breuer et al. (2014) report that individualism has a significantly positive effect on financial risk taking from the perspective of household finance. On the other side, the

evidence of Illiashenko (2019) indicates that the link between individualism and risk-taking is negative using a measure of investors' actual risk-taking.

Hofstede (1980, 1991) defines individualism as a culture in which the ties between individuals are loose and everyone is expected to look only after self and immediate family. This is a rather narrow definition compared with the individualism defined by Hui and Triandis (1986) and Realo et al. (2002). At the culture-level, Schwartz (2009) alternatively specifies three bipolar dimensions of culture: embeddedness versus autonomy, hierarchy versus egalitarianism, mastery versus harmony. Such measures are often applied in cross-country studies. For example, Chui et al. (2002) investigate the impact of the Schwartz values at the culture level on corporate capital structures.

At the individual-level, the values theory of Schwartz (1992) defines ten broad values according to the motivation that underlies each of them. Schwartz derived a circular structure of values reflecting the pattern of conflict and compatibility among the ten values. The value types of power, achievement, hedonism, stimulation, and self-direction reflect individualistic interests, while universalism, benevolence, tradition, conformity and security indicate collectivistic features. Moreover, Schwartz & Bardi (2001) report evidence of considerable agreement across more than 50 countries regarding the relative importance of the ten values, among which Benevolence, self-direction, and universalism values are consistently most important; power, tradition, and stimulation values are least important; and security, conformity, achievement, and hedonism are in between.

5.3 Survey and data

5.3.1 Survey design

To obtain measures of cultural values and risk preferences, I choose Shanghai, Jiangsu Province and Yunnan Province to conduct survey. Shanghai is the top economic municipality in China and is argued to have a unique culture of openness, creativeness and diversity. Jiangsu Province is adjacent to Shanghai, and is also one of the most developed regions in China. Although Shanghai and Jiangsu share many features of east costal culture, Jiangsu has its own distinct characteristics of culture in many dimensions. Yunnan is an underdeveloped in-land province located in the far southwest of the country with about 34 percent population being ethnic minorities. Yunnan is situated in a mountainous area and had very inconvenient transportation in the history. Therefore, the local culture of Yunnan shows strong regional characteristics and elements that are distinguished from the central plains Han-Chinese culture. I choose the three regions representing typical cultures of China for my analysis between

culture values and risk preference.

Since I intend to test the influence of individualism/collectivism on risk preferences at the individual-level, I choose to adopt the individual-level culture values proposed in Schwartz (1992). Thus, I need to use survey to collect both for respondents' cultural values and for their risk preferences. The survey includes relevant questions in the following five types: 1) background information, such as age, gender, marriage status, and location, etc; 2) Schwartz value survey questions; 3) Trust; 4) eight choice questions of individual preference to financial risks. I follow the existing studies to measure the risk preferences of respondents through survey data involving hypothetical payoffs (Wärneryd, 1996; Dimmock and Kouwenberg, 2010). Complete questions of the survey are presented on Appendix.

I distributed the survey in April 2012 to undergraduate and master students enrolled in Shanghai Jiao Tong University, Nanjing University and Yunnan University of Finance and Economics. Most students have majors in economics and management. The surveys were distributed to students in class or online, and students voluntarily chose to fill and return the surveys to me. In total, I collected in total of 600 responses. To get rid of the noise caused by students admitted from other regions, I only chose those students born and having spent the majority of their lives in local regions. After deleting invalid responses and the responses with missing variables, I have 248 valid responses left. There is no systematic difference between responses filled on site and responses filled online, since the classes of online response were randomly chosen.

5.3.2 Measure of main variables

I define ***Riskpref*** as an overall index of eight choice questions of individual preference to financial risk obtained from the above survey. The eight questions are set up such that higher number of choices indicates stronger preference to financial risk. Since the number of choices for each question varies from four to ten. I rescale answers to all eight questions so that the maximum value of answers is 10. The final index of risk preference is calculated as the sum of rescaled answer to eight questions with a full score of 80, thus each question has the same weight in the composition of ***Riskpref***.

I also collect data of culture values at individual-level which reflect the psychological dynamics of conflict and compatibility that individuals experience in the course of pursuing their different values in everyday life (Schwartz, 1992). There are ten variables corresponding to ten individual-level value types in total. I calculate these individual-level value types based on my survey data. ***Power, Achievement, Self-direction, Stimulation and Hedonism*** are within

the broad definition of individualism of Schwartz (1992), and ***Universalism, Benevolence, Tradition, Conformity and Security*** within the broad definition of collectivism of Schwartz (1992). Then I construct ***Individualism*** as the average of ***Power, Achievement, Self-direction, Stimulation*** and ***Hedonism***, and define ***Collectivism*** as the average of ***Universalism, Benevolence, Tradition, Conformity*** and ***Security***.

Since individuals and cultural groups differ in their use of the response scale, it is necessary to correct for scale use when treating value priorities either as independent or as dependent variables. Otherwise, scale use differences can often distort findings and lead to incorrect conclusions. Therefore, instead of using raw values from the provincial-level culture survey, I compute MRAT (Mean RATing for particular individual) by taking each individual's total score on all value items and dividing it by the total number of item. Then I center scores of value items for an individual around that individual's MRAT. The centered scores of all value items are further used to compute Schwartz's culture values for further analysis.

5.3.3 Measure of control variables

I also define control variables in this chapter as follows.

Age is the age of respondents. ***Male*** is a dummy variable that is equal to one if a respondent is male, and zero otherwise. ***Married*** is a dummy variable that is equal to one if a respondent is married, and zero otherwise. ***Rankcity*** is a measure for the rank of city size, with 1 indicating the largest city size with a population of more than one million. ***Trust*** is a dummy variable that is equal to one if a respondent answers trusting others in the survey, and zero otherwise. ***Taste*** is a dummy variable that is equal to one if a respondent shares similar taste with his or her parents, and zero otherwise. ***Yunnan*** is a dummy variable that is equal to one if a respondent is from Yunnan province, and zero otherwise. ***Shanghai*** is a dummy variable that is equal to one if a respondent is from Shanghai, and zero otherwise. ***GDP_Capita*** is the GDP per Capita in $1000s for the respondent's region. ***Market_Index*** is the NERI index for institutional development for the respondent's region.

5.3.4 Descriptive statistics

Table 14 reports the mean of main variables except for Schwartz culture values by region and gender. In year 2011, Shanghai has the highest GDP per capita (***GDP_Capita***) of $12,784 among the three regions, while Yunnan has the lowest GDP per capita of $2,952, leaving Jiangsu in between ($9,448). The National Economic Research Institute (NERI) published a marketization index to measure the institutional development of the Chinese province-level

regions. The marketization index is most updated for year 2009. Jiangsu province has a marketization index of 11.54, which is the highest among three regions and about twice of the value for Yunnan. Meanwhile, Shanghai also maintains a relative high value of marketization index at 10.96. Among the total number of 248 observations, 53 are from Shanghai, 130 are from Jiangsu, and 65 are from Yunnan. In terms of gender distribution, Jiangsu is very close to an even sample, with 66 males and 64 females, while Shanghai and Yunnan have relatively higher proportion of males in the samples.

Table 14 shows the mean of ***Riskpref*** is 46.14 in Yunnan, 44.31 in Jiangsu and 42.61 in Shanghai, suggesting that respondents from Yunnan has the highest individual preference of financial risk. Interestingly, the difference of ***Riskpref*** across regions seems to exist largely in male. The average ***Riskpref*** of female is quite stably within the range of 42 to 43, while the average ***Riskpref*** of male fluctuates from the 49.27 of Yunnan to 42.59 of Shanghai. Overall, Table 14 shows that there exists divergence among the three regions and gender groups in risk preference.

Moreover, the marriage status data of this sample indicates that Chinese people are getting married late. Only 8% of respondents from Jiangsu are married even if their average age is already 25.8. As the age of respondent approaches 30, the percentage of married respondents increases dramatically. 53% respondents from Shanghai are married with an average age of 28.7 and 58% respondents from Yunnan are married with an average age of 29.3. As expected, the mean rank of city size of respondents in Shanghai is 1.21, indicating the majority of local born respondents grew up in cities with a population of more than 1 million. The mean rank of city size (***Rankcity***) is 2.19 for Jiangsu and 2.45 for Yunnan, suggesting a fair proportion of respondents from these regions grew up in small city, towns or rural areas. ***Trust*** is a dummy variable for trusting other people. Respondents from Yunnan have the highest percentage of trust, while those from Shanghai have the lowest trust. I also asked in the survey about the favorite taste for food and whether the respondents have similar taste with their parents. As reported on Table 14, 77% respondents in Shanghai have similar taste with their parents (***Taste***), which is lower than the percentage in Jiangsu (85%) and in Yunnan (91%). The dummy for similar taste can be a proxy for the closeness of family tie for the respondent. When a respondent share similar taste with her parents, it is more likely that she is more closely connected to the family and can get support from the family.

INSERT TABLE 14 ABOUT HERE

The means of individual-level Schwartz's culture values are reported in Appendix 3 by region and gender.

Panel A of Appendix 3 shows that Shanghai on average has the lowest raw values in both individualism and collectivism, while Yunnan has the highest raw values in both dimensions. Such patterns suggest uneven use of the response scale among the three regions. As shown on Panel B of Appendix 3, Shanghai has the highest average individualism and the lowest average collectivism among the three regions after the adjustment for MRAT, while Yunnan has the lowest centered individualism and Jiangsu has the highest centered collectivism.

INSERT TABLE 15 ABOUT HERE

5.4 Empirical tests

5.4.1 T-tests of cross-region difference

I use T-test to compare whether the means of key variables in Yunnan are statistically different from those from Shanghai or non-Yunnan regions together. As reported in Table 15, T-test results show that respondents from Yunnan exhibit significantly stronger preference to financial risk (***Riskpref***) than respondents from Shanghai with a difference of 3.53 and a p-value of 1%. The difference remains to be large (2.33) and significant (p-value 0.02) even if I compare Yunnan to non-Yunnan regions together. Moreover, Yunnan also has lower ***Individualism*** and higher ***Collectivism***, compared with Shanghai and Jiangsu. However, such differences are statistically insignificant. Table 15 shows that Yunnan has statistically higher values than Shanghai in ***Achievement*** and ***Security***, but significantly lower values than Shanghai in ***Hedonism*** and ***Tradition***. Meanwhile, when compared with non-Yunnan regions together, Yunnan has statistically higher value in ***Security*** and lower value in ***Tradition***.

5.4.2 Correlations

Appendix 4 Panel A reports the pair-wise correlation coefficients between the main variables in this Chapter. ***Riskpref*** is positively and significantly correlated with ***Individualism***, and ***Male***, but is negatively and significantly correlated with ***Collectivism*** and ***Taste***. Moreover, Appendix 4 Panel B presents the correlations between ***Riskpref*** and Schwartz's individual-level value types. ***Riskpref*** is positively and significantly correlated with achievement, self-direction and stimulation, but is negatively and significantly correlated with tradition. All of p-values of these significant correlations are less or equal to 1%. In addition, the correlations among the five value types of Schwartz's collectivism and among the five value types of

Schwartz's individualism are mostly positive. The correlations between five value types of individual and five value types of collectivism are mostly negative and significant. Some correlations are as large as -0.53 (between ***Power*** and ***Universalism***), suggesting the cautiousness of collinearity if value types of individualism and collectivism are put in to the same regression model.

INSERT TABLE 16 ABOUT HERE

5.4.3 Regressions of Riskpref on Individualism and Collectivism

Table 16 shows regression results of ***Riskpref*** on Schwartz's culture values of individualism or collectivism. In each regression, I control for ***Age, Male, Married, Rankcity, Trust*** and ***Taste***. Model 1 is the regression of ***Riskpref*** on ***Individualism***. The coefficient of ***Individualism*** is 2.45, significant at 1% level and the model has an adjusted R-square of 0.11. Model 2 shows the regression of ***Riskpref*** on ***Collectivism***. The coefficient of ***Collectivism*** is -4.88 with a P-value of 0.00 and the model's adjusted R-square increases to 0.13. Such results suggest that respondents with higher individualism value or lower collectivism value tend to have stronger preference to financial risk.

Moreover, Table 16 shows that ***Age*** positively and significantly affect their risk preference in both models. ***Male*** is also positively associated with risk preference in both models with P-values less than 1%. Meanwhile, ***Married*** is negatively associated with risk preference in both regressions with a significance level of 1%. ***Taste*** has a negative and significant effect on ***Riskpref*** in Model 1 with a coefficient of -3.38 and P-value of 0.01. It means that a respondent with similar taste with her parents tend to have risk preference of 3.38 points lower than someone without. The effect of Taste on ***Riskpref*** remains stable in Model 2 Table 16. Finally, the ***Rankcity*** and ***Trust*** do not appear to be significant in the regressions.

INSERT TABLE 17 ABOUT HERE

5.4.4 Regressions of Riskpref on individual-level value types

To explore how Schwartz's ten individual-level value types affect financial risk preference, I firstly regress five individualism value types on ***Riskpref***, then regress five collectivism value types on ***Riskpref***. The results are reported on Table 17. As shown on Model 1 of Panel A, among five value types of individualism, ***Achievement, Self-direction*** and ***Simulation*** have significantly positive effects on ***Riskpref***, with coefficients of 2.12, 1.60 and 1.27 respectively.

In general, these findings are consistent with the results in Table 17. Model 2 to Model 5 of Panel A report results of regression when each value type of Schwartz's individualism alone is included in the models with control variables. ***Achievement, Self-direction*** and ***Simulation*** still positively affect risk preference with a significance level of 1%, whereas ***Power*** and ***Hedonism*** are not statistically significant.

The regression results of ***Riskpref*** on five value types of collectivism are presented on Panel B of Table 17. Among the five value types, only ***Universalism*** and ***Tradition*** have negative and significant influence on ***Riskpref***. The patterns keep unchanged both in the regression with all five value types (Model 1) and in regressions with only one value type included (Model 2-5). The significance level of ***Universalism*** in regressions is only 10%, indicating its weak influence, while the statistical significance of Tradition is quite strong, with p-values less than 0.01 in all regressions. Meanwhile, the control variables remain their patterns in all regressions as in Table 17.

To summarize, Table 17 provides consistent results supporting that higher individualism is associated with stronger preference to financial risk, whereas higher collectivism is associated with weaker preference to financial risk. More specifically, a respondent with higher values in ***Achievement, Self-direction and Simulation***, and lower values in ***Universalism and Tradition*** tends to have significantly stronger preference to financial risk.

INSERT TABLE 18 ABOUT HERE

5.4.5 Regressions of Riskpref on regional factors

In Table 18, I also include regional variables into the regressions. Results of Model 1 Panel A show that ***Yunnan*** is positively significant in the regression with a coefficient of 3.06 and a P-value of 0.02. The findings indicate that respondents from Yunnan on average tend to have risk preference of 3.06 points higher than respondents from other regions, and such pattern does not exist due to the lower level of individualism in Yunnan. As the dummy for Shanghai is included in Model 2, the positive effect of individualism variables virtually does not change. The coefficient for ***Shanghai*** is negative and significant in Model 2 with a coefficient of -2.64 and a P-value of 0.04. The results indicate the risk preference of respondents from Shanghai is likely to be 2.64 points lower than that from other regions, when other factors are controlled. In Model 3, ***GDP_Capita*** is included into the regression and it has negative and significant effect on risk preference with a p-value of 0.01. The results indicate that richer regions tend to have lower preference to financial risk. Instead of using ***GDP_Capita***, I include ***Market_Index***

in Model 4. The results show that the higher a region's marketization index is, the lower is the risk preference of respondents in the region. The coefficient of ***Market_Index*** in Model 4 is -0.55 and has a P-value of 0.02.

In all models of Panel B Table 18, I simply replace Schwartz's value types of individualism with the value types of collectivism. The coefficients of ***Tradition*** appear to be negative and significant in all models with P-values smaller than 0.01. Such findings are consistent with previous findings in Table 18. In the meantime, the patterns of regional variables remain very similar as in Panel A.

As a summary, Table 18 further strengthens previous findings that that higher individualism and lower collectivism is associated with stronger preference to financial risk.

5.5 Discussions

This chapter aims to test the Cushion hypothesis that people in a collectivist society tend to be more risk seeking for monetary matters than those in an individualistic society in a cross-region setting of China. Among the three regions, i.e. Shanghai, Jiangsu and Yunnan, surveyed in this study, the comparison between Yunnan and Shanghai parallels the comparison between China and the United States in the previous cross-country studies.

I show that respondents from Shanghai tend to have lower value in financial risk preference, higher value in individualism, and lower value in collectivism compared with those from Yunnan. At the first glance, these results are quite consistent with findings in Weber and Hsee (1998) and Hsee and Weber (1999). Without deeper analysis, such association may lead to the argument that people living in Chinese regions with higher collectivism are more likely to pursue risker financial decisions. Interestingly, I find that the above regional variation in financial risk preference and cultural values mainly exist for male respondents. For example, average Riskpref is 42.59 for males from Shanghai versus 49.27 for males from Yunnan, while average Riskpref is 42.63 for females from Shanghai versus 42.01 for females from Yunnan. Average Collectivism is 0.08 for males from Shanghai versus 0.13 for males from Yunnan, while average Collectivism is 0.2 for females from Shanghai versus 0.13 for females from Yunnan. Such findings suggest that the role of gender is important in the determination of both cultural values and financial risk preference. Thus, a simple comparison of regional individualism/collectivism and financial risk preference can potentially generate biased conclusions.

Controlled for respondents' age, gender, marriage status, and taste sharing with parents, etc., my regression results show that individual value of collectivism (individualism) is

negatively (positively) associated with financial risk preference. More specifically, a respondent with higher values in ***Achievement, Self-direction and Simulation*** (individualism value types), and lower values in ***Universalism and Tradition*** (collectivism value types) tend to have significantly stronger preference to financial risk. If people from collectivistic regions tend to have lower values in individualism, then they shall prefer lower financial risk according to the findings in this chapter. Therefore, my findings do not provide support the Cushion hypothesis.

One additional test for the Cushion hypothesis is the effect of ***Taste***. Sharing similar taste with parents can be argued to be a sign of close family tie. If a close family tie indicates higher likelihood of receiving financial support from the family when there is need, then the cushion hypothesis predicts that Taste is positively associated with financial risk preference. Nevertheless, the coefficients of Taste in all models are negative and significant, suggesting that respondents with close family tie tend to have lower financial risk preference. Such evidence is also inconsistent with the Cushion hypothesis.

Moreover, I include variables of region-level into regression models. The results show that regional factors remain to be important in the determination of individual preference to financial risks, even after considering respondents' characteristics. The dummy of Yunnan appears positively significant in regression all models, whereas the dummy of Shanghai keeps negative effects. The effects of the two regional dummy variables can be caused by regional economic or institutional development, so I replace the regional dummy with GDP per capita or marketization index. Both regional GDP per capita and regional marketization index have significantly negative effects on individual preference to financial risks, suggesting people from more developed regions tend to be more risk averse. Nevertheless, the effects of regional dummy variables can only be partially explained by economic or institutional development, given that the constant estimates increase after the replacement.

Even after considering respondents' characteristics, regional factors remain to be important in the determination of individual preference to financial risks. The dummy of Yunnan appears positively significant in regression all models, whereas the dummy of Shanghai keeps negative effects. Such regional effects can be partially explained by economic or institutional development of the regions, in that both regional GDP per capita and regional marketization index have significantly negative effects on individual preference to financial risks. Overall, it appears that the higher risk preference in Yunnan (lower risk preference in Shanghai) is not driven by higher collectivist value in Yunnan (lower collectivist value in Shanghai), but rather by other hidden factors specific to the region.

The results of Chapter 5 are based on surveys of university students. Although I am following the approach of Hsee and Weber (1999), it is subject to the limitation that university students may not be typical representatives in the three regions. To deal with the concern, I first of all eliminate observations for students who was born in other regions or spent most of lives in other regions. Secondly, I controlled for the regional dummies in regressions so that the university effect does not affect the concerned relationship. Moreover, the existence of regional differences in individualism or collectivism is not the main concern of this chapter. The reason that I compare the values among three regions is to only mimic the practice in Hsee and Weber (1999).

Another limitation of this chapter is that I draw all variables from the same survey. This is due to my research design that the tests of relationship between individualism/collectivism values and respondents' risk preferences are at the individual-level. Such concerns can be addressed by using other survey data source measuring regional individualism/collectivism values. Nevertheless, the potential analysis using the new data would be along different dimensions examining the effect of regional culture on individual risk preferences.

To summarize, the results of this chapter suggest individualism is positively associated with risk preference at the individual-level. Such findings are in general consistent with the evidence provided in the corporate finance literature. The results have profound implications for international business and foreign affairs. Traditionally, foreigners observe that Chinese tend to show strong collectivistic values and high financial risk-taking at the same time. Nevertheless, the findings of this chapter indicate that more individualistic Chinese take more financial risks. It suggests the patterns of Chinese people in terms of risk-taking related to monetary issues can be totally opposite to what many foreigners propose. Understanding the underlying mechanisms between individualism and risk-taking, helps international business in forecasting the decisions of Chinese business partners based on their managerial values and may even assist foreign governments in predicting the behaviors of Chinese senior officials.

5.6 Conclusion

Hsee and Weber (1999) proposed the Cushion hypothesis that people in a collectivist society (such as China) tend to be more risk seeking for monetary matters than those in an individualistic society (such as the United States). Nevertheless, corporate finance literature generally show that individualism is positively associated with risk-taking, contradicting to the Cushion hypothesis. As an effort to resolve the debate, this chapter explores how cultural values in individualism/collectivism continuum affect financial risk preferences at the individual-level.

I find respondents from Shanghai tend to have lower value in financial risk preference, higher value in individualism, and lower value in collectivism compared with those from Yunnan. Although at the first look the results are consistent with Hsee and Weber (1999), the regression analysis at respondent-level suggests inconsistent conclusion with the Cushion hypothesis. After controlling for respondents' characteristics and regional variables, I find that individualistic (collectivistic) values are positively (negatively) associated with financial risk preference. Moreover, sharing similar taste with parents, a sign of close family tie, is negatively associated with financial risk preference.

My results imply that previous cross-country studies linking collectivism and financial risk preferences could be subject to omitted variables problems. This chapters calls for further validation of the Cushion hypothesis.

Due to the limited access of survey candidate and high cost of conducting survey, I was only able to conduct surveys to students among three universities at Shanghai, Jiangsu and Yunnan. Such approach may generate noises in measuring cultural values in regional individualism and collectivism. I however try to minimize the noise by choosing only students having spent most of their lives in their regions.

This study contributes to the literature in several dimensions. First, this chapter employs cross-regional survey data from three Chinese regions. Such research design differs from commonly used cross-country approach by providing new evidence within a single country. Second, I examine the cross-regional differences in financial risk preferences of China, serving as an extending test of the Cushion hypothesis using a sample in a single country. The cross-regional approach concerns a more uniform political, regulatory and judiciary system within one single country, thus allows this chapter to generate relatively clean results. Such research design obviously alleviates omitted variable problems generating potential biases in previous studies. It helps to resolve the current controversy about the effects of individualism on risk-taking.

Lastly, this chapter deepens the understanding about Chinese cultural diversity. Those involved in foreign affairs or international business with China can based on this study get better understanding of risk preferences for Chinese people from different regions. My study suggests that Chinese business decision makers with higher individualism are willing to take more risks. The practical implication of this study is that international companies are more likely to find appropriate local partners in Chinese regions of higher individualism, such as Shanghai and Guangdong, if they wish to initiate investment projects with higher risks.

Chapter VI: Conclusions of the Dissertation

As China experience rapid economic development in the past decades, there are signs that Chinese people are emphasizing more on materialism and individualism. This dissertation attempts to explore the influence of the two increasingly important cultural dimensions on risk-taking decisions of Chinese. Two streams of studies are conducted correspondingly.

The first strand of studies is to explore how materialism/post-materialism at the regional-level affects corporate risk-taking decisions. I specifically focus on three types of corporate decisions related to risk-taking, i.e. borrowing, saving and the provision of trade credit.

As to corporate borrowing decisions, I find that listed firms within more materialistic regions tend to borrow more, increasing firm riskiness. The effects of regional materialism are generally stronger for state-controlled firms and larger firms. Moreover, the positive effects of materialism on borrowing hold in both short-term and long-term categories. These results suggest that higher regional materialism is likely to lead firms riskier in terms of borrowing decisions.

As to corporate decisions on cash holdings, I reveal that listed firms within more materialistic regions tend to save less cash, leaving firms more vulnerable to future business risks. I also show that the negative effect of materialism on corporate savings becomes more prominent for state-controlled firms and larger firms.

As to corporate provision of trade credit in China, it is shown that firms within more materialistic regions tend to extend significantly less trade credit to their clients, in terms of accounts receivable. Such patterns mainly appear in long-term categories. Further regressions indicate that the negative effects of materialism on trade credit can be significantly mitigated by state-control. In other words, the effects are more pronounced in privately controlled listed firms. These findings indicate that higher regional materialism tends to drive firms less risky in terms of providing trade credit.

Overall, the strand of studies suggests that materialism/post-materialism as a cultural value exerts important influence on corporate risk-taking. Meanwhile, the thesis reports that materialistic values across China's regions do not exhibit a uniform trend towards post-materialistic values over time as the economy develops. Nor do developed regions show lower values of materialism than underdeveloped regions. Such findings suggest that the traditional hypothesis of Inglehart's theory of materialism/post-materialism (1971,1977) needs to be reconsidered. The determination of transformation from materialism to post-materialism may depend on significant factors other than economic development. These findings provide new

insight into the study of materialism. The role of materialism as a cultural construct deserves to be examined in more dimensions of business decisions.

The second line of study in this dissertation is an investigation of the relationship between Schwartz's individualism/collectivism values and risk preferences at the individual-level. Although the Cushion hypothesis (Hsee and Weber,1999) states that people emphasizing collectivistic values tend to be more risk seeking for monetary matters, studies in corporate finance literature generally find that national value in individualism is positively associated with risk-taking. This dissertation provides efforts to resolve the debate by conducting new tests at the individual-level about how cultural values in individualism/collectivism affect financial risk preferences in China.

I conducted surveys in in three distinct regions of China, i.e. Shanghai, Jiangsu Province and Yunnan Province, to collect data of cultural values and risk preferences. Controlling for respondents' characteristics and regional features, I show that values of individualism (collectivism) are positively (negatively) associated with financial risk preference of Chinese at the individual-level. Such findings are inconsistent with the Cushion hypothesis, implying that previous cross-country studies linking collectivism and financial risk preferences could be subject to omitted variables problems. Thus the Cushion hypothesis (Hsee and Weber, 1999) should be further tested in future research.

To conclude, this dissertation reveals that two increasingly important cultural dimensions, i.e., materialism/post-materialism and individualism/collectivism, play important and complex roles in shaping business and individual risk profiles of China. Such findings help researchers and practitioners understand regional differences in China, and have important policy and economic implications.

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Appendix 1: Definition of variables for Chapter III and Chapter IV

Variable	Definition
Materialism	Regional average value of materialism calculated based on the four-item post-materialism index from the database of WVS. Materialism is defined to be 3 if the WVS survey classifies the respondent to be post-materialist, to be 1 if WVS survey classifies the respondent to be materialist, and to be 2 if WVS survey classifies the respondent to be mixed.
AReceivable	Total accounts receivables divided by total assets.
AR_1Yless	Accounts receivables due within one year divided by total assets.
AR_1Ymore	Accounts receivables having been outstanding for more than one year divided by total assets.
AR_Turnover	Turnover day in account receivables, defined as 360*Average account receivables/ Sales.
Net_AReceivable	(Total accounts receivables-Total accounts payables)/ total assets.
Net_AR1Yless	(Accounts receivables due within one year - accounts payables due within one year)/ total assets.
Net_AR1Ymore	(Accounts receivables outstanding for more than one year - accounts payables outstanding for more than one year)/ total assets.
Net_AR_Turnover	Net turnover day in account receivables, defined as 360*Average account receivables/ Sales-360*Average account payables/ Cost of goods sold.
ROA	Net income divided by total assets.
Leverage	Total debt divided by total assets.
Short_Debt	Short-term debt divided by total assets.
Long_Debt	Long-term debt divided by total assets.
Cash	Cash holdings divided by total assets.
Tangibility	The ratio of fixed assets to total assets.
SEO	A dummy variable equals to 1 if the firm had a seasoned equity financing within the prior two years and 0 otherwise.
Sales_Growth	The natural logarithm of growth rate in sales to the prior year.
Assets	The natural logarithm of total assets.
Asst_Growth	Asset growth calculated as the percentage of increase in total assets in the year.
Firm_Age	The natural logarithm of the number of years since the firm listed.
State_Control	A dummy variable for the ownership nature of ultimate controller, which is equal to one if a firm is ultimately controlled by the state, and zero otherwise.
Control_Share	The percentage of shares held by the largest shareholder.
GDP_Capita	GDP per capita from National Bureau of Statistics of China.
Market_Index	The National Economic Research Institute (NERI) Index of Marketization of China's provinces.
Trust	The general trust variable from WVS (V24.- Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?).
Law_Inst	The Intermediary Organization Development and Law subindex of NERI index of Marketization.
Year Dummies	Year effects of 1999-2012.
Industry Dummies	Industry effects based on the industry classifications issued by China Securities Regulatory Commission.

Appendix 2: Survey of Culture values and Risk Preference in China

Section 1: Personal Information

1.1 Please state your: Age _____ **1.2** Gender: Male Female

1.3 Region and city of birth _____/_____

1.4 Please state other regions and cities in which you have lived with your parents (including foreign cities): _____ / _____

1.5 Please state other regions and cities in which you have lived without your parents (including foreign cities):_____/ _____

1.6 Please state the university from where you received your last degree (including foreign university):_____

1.7 What is your preference to food taste?

1.Very spicy. 2. Slightly spicy. 3. Sweet. 4. Salty 5. Slight

1.8 Is your preference to food taste similar to your parents? If not, when and where did you develop your current food taste preference?

1.9 How many years of education has each person completed (since 1st grade)? (estimate if not certain)

Yourself ____ Your Father ____ Your Mother ____

1.10 Your marriage status (circle):

1. Single 2. Married or cohabiting 3. Widowed 4. Divorced

1.11 What is your current occupation or your occupation when last employed?

1. University student: social sciences
2. University student: humanities, arts, & law
3. University student: natural sciences & medicine
4. Manager or business owner
5. Clerical or sales worker
6. Homemaker
7. Skilled worker
8. Other professional

1.12 In what kind of a place did you grow up? (circle):

1. large city (1,000,000+) 2. small city 3. Town 4. rural area

1.13 Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?

1. Most people can be trusted. 2. Need to be very careful in dealing with people.

Section 2: Financial Risk Preference

2.1 Assume you are an executive. Your company offers you two ways of collecting your bonus either the cash equivalent of 6 months' salary or a stock option of an equal value but with a 50-50 chance of either doubling in value or becoming worthless in the next year. Which would you take?

1. Definitely the cash
2. Probably the cash
3. Not sure
4. probably the stock option
5. Definitively the stock option

2.2 When you think of the word risk in an investment context, which of the following words comes to mind first?

1. Danger
2. Uncertainty
3. Opportunity
4. Excitement

2.3 How do you rate your willingness to take investment risks in comparison with the general population?

1. Extremely low risk taker
2. Low risk takers
3. Average risk taker
4. High risk taker
5. Extremely high risk taker

2.4 Diversification is typically the soundest investment strategy. However, suppose an eccentric family member left you RMB 750000 with orders to invest ALL the money in only one of the following?

1. Savings account
2. Bonds (moderate growth)
3. Blue-chip common stock
4. Naked option/commodities futures contract

2.5 Assume you are a contestant on a TV game show. After winning a prize that's equivalent to one year's salary, you are offered the option of walking away with this prize money or taking a chance on either doubling it or losing it all. What are the odds of success that you would require before agreeing to accept this gamble?

1. Would not take the bet no matter what the odds.

2. 90% 3. 80% 4. 70% 5. 60% 6. 50% 7. 40% 8. 30% 9. 20% 10. 10%

2.6 You are applying for a mortgage. The interest rates have been coming down over the last several months, and there's a possibility that they may drop another percentage point in the next month. However, the possibility also exists that the rates will start climbing again. It's unclear which of the two possibilities is more likely since economists disagree in their forecasts. You have the option of locking in on the current interest rate or letting it float. If you lock in, you will get the current rate, even if interest rates go up. If the rates go down, though, you'll have to settle at the higher rate. What would you do?

1. Lock up the current interest rate for all of your mortgage loan, so as to avoid all future interest rate risk.

2. Lock up the current interest rate for 2/3 of your mortgage loan, so as to avoid the majority of future interest rate risk.

3. Lock up the current interest rate for 1/3 of your mortgage loan, so as to avoid a small part of future interest rate risk.

4. Use floating interest rate for all of your mortgage loan and bear future interest rate risk.

2.7 You are faced with a choice between (a) greater job security with a small pay rise and (b) a high pay raise but less job security. Which would you select?

1 Definitely greater job security

2 Probably greater job security

3 Not sure

4 Probably higher pay rise.

5 Definitely higher pay rise.

2.8 An investment decision involves the possibility of making an amount of money as well as the possibility of losing all or some portion of the funds invested. Some people focus more on the possibility of making money, whereas others focus more on the possibility of

losing money as a result of the decision. When making an important investment decision, what dominates your thinking?

1. The potential loss, by far
2. The potential loss, somewhat more
3. The potential gain, somewhat more
4. The potential gain, by far

Section 3: Value Survey

In this questionnaire you are to ask yourself: "What values are important to ME as guiding principles in MY life, and what values are less important to me?" There are two lists of values on the following pages. These values come from different cultures. In the parentheses following each value is an explanation that may help you to understand its meaning.

Your task is to rate how important each value is for you as a guiding principle in your life. Use the rating scale below:

0--means the value is not at all important, it is not relevant as a guiding principle for you.

3--means the value is important.

6--means the value is very important.

The higher the number (0, 1, 2, 3, 4, 5, 6), the more important the value is as a guiding principle in YOUR life.

-1 is for rating any values opposed to the principles that guide you.

7 is for rating a value of supreme importance as a guiding principle in your life; ordinarily there are no more than two such values.

In the space before each value, write the number (-1,0,1,2,3,4,5,6,7) that indicates the importance of that value for you, personally. Try to distinguish as much as possible between the values by using all the numbers. You will, of course, need to use numbers more than once.

AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

Opposed To my values	Not important		Important	Very important			Of supreme importance to my values
-1	0	1	2	3	4	5	6	7

Before you begin, read the values in List I, choose the one that is most important to you and rate its importance. Next, choose the value that is most opposed to your values and rate it -1. If there is no such value, choose the value least important to you and rate it 0 or 1, according to its importance. Then rate the rest of the values in List I.

VALUES LIST I

1 ___ EQUALITY (equal opportunity for all)

2 ___ INNER HARMONY (at peace with myself)

3 ___ SOCIAL POWER (control over others, dominance)

4 ___ PLEASURE (gratification of desires)

5 ___ FREEDOM (freedom of action and thought)

6 ___ A SPIRITUAL LIFE (emphasis on spiritual not material matters)

7 ___ SENSE OF BELONGING (feeling that others care about me)

8 ___ SOCIAL ORDER (stability of society)

9 ___ AN EXCITING LIFE (stimulating experiences)

10 ___ MEANING IN LIFE (a purpose in life)

11 ___ POLITENESS (courtesy, good manners)

12 ___ WEALTH (material possessions, money)

13 ___ NATIONAL SECURITY (protection of my nation from enemies)

14 ___ SELF RESPECT (belief in one's own worth)

15 ___ RECIPROCATION OF FAVORS (avoidance of indebtedness)

16 ___ CREATIVITY (uniqueness, imagination)

17 ___ A WORLD AT PEACE (free of war and conflict)

18 ___ RESPECT FOR TRADITION (preservation of time-honored customs)

19 ___ MATURE LOVE (deep emotional & spiritual intimacy)

20 ___ SELF-DISCIPLINE (self-restraint, resistance to temptation)

21 ___ PRIVACY (the right to have a private sphere)

22 ___ FAMILY SECURITY (safety for loved ones)

23 ___ SOCIAL RECOGNITION (respect, approval by others)

24 ___ UNITY WITH NATURE (fitting into nature)

25 ___ A VARIED LIFE (filled with challenge, novelty and change)

26 ___ WISDOM (a mature understanding of life)

27 ___ AUTHORITY (the right to lead or command)

28 ___ TRUE FRIENDSHIP (close, supportive friends)

29 ___ A WORLD OF BEAUTY (beauty of nature and the arts)

30 ___ SOCIAL JUSTICE (correcting injustice, care for the weak)

* * * * *

VALUES LIST II

Now rate how important each of the following values is for you as a guiding principle in YOUR life. These values are phrased as ways of acting that may be more or less important for you. Once again, try to distinguish as much as possible between the values by using all the numbers.

Before you begin, read the values in List II, choose the one that is most important to you and rate its importance. Next, choose the value that is most opposed to your values, or--if there is no such value--choose the value least important to you, and rate it -1, 0, or 1, according to its importance. Then rate the rest of the values

AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

Opposed To my values	Not important		Important	Very important		Of supreme importance to my values	
-1	0	1	2	3	4	5	6	7

31 ___ INDEPENDENT (self-reliant, self-sufficient)
32 ___ MODERATE (avoiding extremes of feeling & action)
33 ___ LOYAL (faithful to my friends, group)
34 ___ AMBITIOUS (hard-working, aspiring)
35 ___ BROADMINDED (tolerant of different ideas and beliefs)
36 ___ HUMBLE (modest, self-effacing)
37 ___ DARING (seeking adventure, risk)
38 ___ PROTECTING THE ENVIRONMENT (preserving nature)
39 ___ INFLUENTIAL (having an impact on people and events)
40 ___ HONORING OF PARENTS AND ELDERS (showing respect)
41____CHOOSING OWN GOALS (selecting own purposes)
42 ___ HEALTHY (not being sick physically or mentally)
43 ___ CAPABLE (competent, effective, efficient)
44 ___ ACCEPTING MY PORTION IN LIFE (submitting to life's circumstances)
45 ___ HONEST (genuine, sincere)

46 ___ PRESERVING MY PUBLIC IMAGE (protecting my "face")

47 ___ OBEDIENT (dutiful, meeting obligations)

48 ___ INTELLIGENT (logical, thinking)

49 ___ HELPFUL (working for the welfare of others)

50 ___ ENJOYING LIFE (enjoying food, sex, leisure, etc.)

51 ___ DEVOUT (holding to religious faith & belief)

52 ___ RESPONSIBLE (dependable, reliable)

53 ___ CURIOUS (interested in everything, exploring)

54 ___ FORGIVING (willing to pardon others)

55 ___ SUCCESSFUL (achieving goals)

56 ___ CLEAN (neat, tidy)

57 ___ SELF-INDULGENT (doing pleasant things)

Appendix 3: Mean of Individual-level Schwartz Values

Panel A: Raw Culture Values

Region	Gender	N	Individualism	Power	Achievement	Self-direction	Stimulation	Hedonism	Collectivism	Universalism	Benevolence	Tradition	Conformity	Security
Shanghai	Male	32	4.03	3.68	4.68	4.76	3.41	3.64	4.45	4.63	4.47	3.57	4.63	4.95
	Female	21	3.90	3.46	4.42	4.70	2.92	4.02	4.52	4.64	4.64	3.89	4.50	4.93
	Total	**53**	**3.98**	**3.59**	**4.58**	**4.73**	**3.21**	**3.79**	**4.48**	**4.63**	**4.54**	**3.70**	**4.58**	**4.94**
Jiangsu	Male	66	4.07	3.58	4.86	5.01	3.69	3.19	4.66	4.75	4.94	3.84	4.80	4.95
	Female	64	3.96	3.37	4.79	4.88	3.30	3.44	4.51	4.66	4.77	3.32	4.73	5.08
	Total	**130**	**4.01**	**3.48**	**4.82**	**4.95**	**3.50**	**3.31**	**4.58**	**4.70**	**4.86**	**3.58**	**4.76**	**5.02**
Yunan	Male	37	4.15	3.82	5.01	5.08	3.61	3.23	4.69	4.68	4.85	3.64	5.01	5.28
	Female	28	4.01	3.56	4.75	4.99	3.32	3.40	4.58	4.87	4.85	3.20	4.63	5.36
	Total	**65**	**4.09**	**3.71**	**4.90**	**5.04**	**3.49**	**3.30**	**4.64**	**4.76**	**4.85**	**3.45**	**4.85**	**5.31**

Panel B: Centered Culture Values

Region	Gender	N	Individualism	Power	Achievement	Self-direction	Stimulation	Hedonism	Collectivism	Universalism	Benevolence	Tradition	Conformity	Security
Shanghai	Male	32	-0.34	-0.69	0.31	0.39	-0.96	-0.74	0.08	0.25	0.10	-0.80	0.25	0.57
	Female	21	-0.42	-0.86	0.09	0.37	-1.40	-0.31	0.20	0.31	0.32	-0.43	0.18	0.60
	Total	**53**	**-0.37**	**-0.76**	**0.22**	**0.38**	**-1.14**	**-0.57**	**0.12**	**0.28**	**0.19**	**-0.65**	**0.22**	**0.59**
Jiangsu	Male	66	-0.43	-0.92	0.36	0.52	-0.81	-1.31	0.16	0.25	0.44	-0.65	0.30	0.45
	Female	64	-0.41	-1.00	0.42	0.52	-1.07	-0.93	0.14	0.29	0.40	-1.05	0.36	0.71
	Total	**130**	**-0.42**	**-0.96**	**0.39**	**0.52**	**-0.94**	**-1.12**	**0.15**	**0.27**	**0.42**	**-0.85**	**0.33**	**0.58**
Yunan	Male	37	-0.41	-0.74	0.46	0.52	-0.94	-1.33	0.13	0.12	0.29	-0.92	0.45	0.72
	Female	28	-0.45	-0.90	0.29	0.54	-1.14	-1.05	0.13	0.41	0.39	-1.25	0.18	0.90
	Total	**65**	**-0.43**	**-0.81**	**0.39**	**0.53**	**-1.03**	**-1.21**	**0.13**	**0.25**	**0.34**	**-1.06**	**0.33**	**0.80**

Note: Individualism is the average of Power, Achievement, Self-direction, Stimulation and Hedonism; Collectivism is the average of Universalism, Benevolence, Tradition, Conformity and Security, respectively.

Appendix 4: Correlations for Variables in Chapter 5

Panel A: Correlations of Main Variables

	Riskpref	Individualism	Collectivism	Age	Male	Married	Rankcity	Trust	Taste
Riskpref	1								
Individualism	0.17*** (0.01)	1							
Collectivism	-0.22*** (0.00)	-0.91*** (0.00)	1						
Age	0.06 (0.33)	0.00 (0.94)	0.00 (0.95)	1					
Male	0.24*** (0.00)	0.02 (0.77)	-0.02 (0.74)	0.18*** (0.01)	1				
Married	-0.06 (0.37)	0.06 (0.37)	-0.07 (0.28)	0.74*** (0.00)	0.12* (0.07)	1			
Rankcity	0.00 (0.99)	-0.04 (0.57)	-0.01 (0.90)	-0.09 (0.15)	-0.04 (0.51)	-0.07 (0.26)	1		
Trust	0.03 (0.63)	-0.14** (0.02)	0.13** (0.04)	0.06 (0.35)	0.05 (0.39)	0.00 (1.00)	0.00 (0.95)	1	
Taste	-0.16*** (0.01)	-0.09 (0.14)	0.13** (0.04)	-0.03 (0.63)	-0.07 (0.31)	-0.07 (0.31)	0.12* (0.07)	0.08 (0.23)	1

Note: Riskpref is an index of preferences to financial risk; Age is the age of respondent; Male is a dummy variable for male; Married is a dummy variable for married status; Rankcity is a measure for the rank of city size, with 1 being the largest size (more than 1 million population); Trust is a dummy for trusting others; Taste is a dummy variable for sharing similar taste with parents; Individualism is the average of Power, Achievement, Self-direction, Stimulation and Hedonism; Collectivism is the average of Universalism, Benevolence, Tradition, Conformity and Security; P-Values are reported in parentheses. *** indicates significance at 1%;** indicates significance at 5%;* indicates significance at 10%. All Schwartz cultural values are individually centered values.

Table 1. Regional Values of Materialism in China

Region	WVS Wave 4 (2001)		WVS Wave 5 (2007)		WVS Wave 6 (2012)	
	Value	N	Value	N	Value	N
CN: Beijing	2.54	24	2.28	65	2.65	57
CN: Hebei Province	2.53	66	2.77	44	2.62	154
CN: Shanxi Province	2.26	23	2.35	79	2.44	98
CN: Liaoning Province	2.17	23	2.45	94	2.86	93
CN: Heilongjiang Province	2.27	22	2.50	117	2.45	51
CN: Shanghai	2.60	25	2.37	57	2.88	26
CN: Jiangsu Province	2.52	66	2.44	16	2.52	132
CN: Zhejiang Province	2.61	23	2.43	30	2.54	71
CN: Anhui Province	2.52	33	2.37	67	2.37	27
CN: Fujian Province	2.33	21	2.38	63	2.51	37
CN: Jiangxi Province	2.48	25	2.51	59	2.63	35
CN: Shandong Province	2.41	76	2.40	204	2.54	188
CN: Henan Province	2.24	54	2.46	65	2.47	102
CN: Hubei Province	2.56	45	2.58	114	2.40	141
CN: Hunan Province	2.32	41	2.46	26	2.59	124
CN: Guangdong Province	2.57	44	2.52	69	2.33	153
CN: Guangxi Province	2.29	24	2.54	82	2.58	143
CN: Guizhou Province	2.59	69	2.44	39	2.48	82
CN: Shanxi Province	2.58	45	2.42	48	2.26	76
CN: Yunnan Province	2.35	23	2.37	54		
CN: Jilin Province	2.26	23			2.69	26
CN: Sichuan Province	2.50	24			2.91	66
CN: Neimenggu	2.58	24				
CN: Xizang	2.44	18				
CN: Hainan Province			2.47	36		
CN: Xinjiang			2.16	51		
CN: Ningxia			2.35	20		
CN: Chongqing					3.00	38
CN: Gansu Province					2.53	106
CN: Qinghai Province					2.69	45
China Total	2.46	861	2.44	1499	2.55	2071

Note: If the four-item post-materialism index from the WVS is equal to 1, the value of Materialism is set to 3; if the post-materialism index from the WVS is equal to 2, Materialism is equal to 2; if the post-materialism index from the WVS is equal to 3, Materialism is equal to 1. The regional value of a province or city is defined as the average of all valid responses from the region. Tianjing is not included in any of the three WVS Waves; value of Chongqing is eliminated from the observations in 2007 since it has only one valid interview in Wave 5.

Table 2. Summary Statistics.

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
Leverage	17239	0.235	0.221	0.180	0.000	0.877
Cash	17239	0.172	0.136	0.136	0.004	0.727
Short_Debt	17239	0.175	0.150	0.154	0.000	0.845
Long_Debt	17239	0.060	0.013	0.091	0.000	0.429
ROA	17239	0.028	0.034	0.078	-0.394	0.208
Median_Lev	17239	0.210	0.226	0.071	0.000	0.457
Median_Cash	17239	0.153	0.134	0.053	0.068	0.417
Assets	17239	21.420	21.273	1.187	18.700	25.596
Tangibility	17239	0.276	0.244	0.182	0.001	0.762
Asst_Growth	17239	0.163	0.094	0.348	-0.475	2.181
Control_Share	17239	0.389	0.368	0.165	0.089	0.770
State_Control	17239	0.625	1.000	0.484	0.000	1.000

Note: This table presents the summary statistics for variables. Leverage is total debt divided by total assets; Cash is cash and cash equivalents divided by total assets; Short_Debt is short-term debt divided by total assets; Long_Debt is long-term debt scaled by total assets; ROA is return on assets; Median_Lev is the industry median of leverage; Median_Cash is the industry median of Cash; Assets is natural log of total assets; Tangibility is the ratio of tangible assets to total assets; Asst_Growth is the percentage of increase in total assets of current year to previous year; Control_Share is the percentage shareholder holdings of the largest ; State_Control is a dummy variable of state ultimate controller; Leverage, Long_debt, Cash, ROA, Assets , Tangibility, Asst_Growth, and State are winsorized at 1% and 99% of distribution;* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 3. Pairwise Correlations of Main Variables

	Leverage	Cash	Short_debt	Long_debt	Materialism	GDP_Capita	Market_Index	ROA	Median_Lev	Median_Cash	Assets	Tangibility	Asst_Growth	Control_Share	State_Control
Leverage	1														
Cash	-0.446***	1													
Short_Debt	0.852***	-0.366***	1												
Long_Debt	0.512***	-0.253***	-0.006	1											
Materialism	-0.023***	0.048***	-0.029***	0.004	1										
GDP_Capita	-0.150***	0.232***	-0.151***	-0.040***	0.237***	1									
Market_Index	-0.106***	0.186***	-0.089***	-0.057***	0.138***	0.783***	1								
ROA	-0.416***	0.272***	-0.461***	-0.036***	0.022***	0.105***	0.091***	1							
Median_Lev	0.290***	-0.320***	0.204***	0.217***	-0.154***	-0.373***	-0.239***	-0.130***	1						
Median_Cash	-0.231***	0.362***	-0.161***	-0.178***	0.162***	0.368***	0.263***	0.078***	-0.816***	1					
Assets	0.123***	-0.074***	-0.097***	0.395***	0.068***	0.245***	0.187***	0.186***	0.008	-0.021***	1				
Tangibility	0.232***	-0.375***	0.114***	0.255***	-0.067***	-0.236***	-0.184***	-0.078***	0.189***	-0.267***	0.085***	1			
Asst_Growth	-0.065***	0.163***	-0.144***	0.112***	0.013*	0.044***	0.033***	0.295***	-0.067***	0.079***	0.205***	-0.135***	1		
Control_Share	-0.063***	-0.022***	-0.107***	0.059***	-0.036***	-0.077***	-0.137***	0.119***	0.082***	-0.118***	0.213***	0.096***	0.075***	1	
State_Control	0.065***	-0.164***	0	0.126***	-0.064***	-0.198***	-0.258***	-0.026***	0.219***	-0.221***	0.214***	0.200***	-0.044***	0.274***	1

Note: This table presents correlation matrix. Leverage is total debt divided by total assets; Cash is cash and cash equivalents divided by total assets; Short_Debt is short-term debt divided by total assets; Long_Debt is long-term debt scaled by total assets; Materialism is calculated based on the four-item index of Post-materialism from the WVS; GDP_Capita is regional GDP per capita; Market_Index is the marketization index of the National Economic Research Institute; ROA is return on assets; Median_Lev is the industry median of leverage; Median_Cash is the industry median of Cash; Assets is natural log of total assets; Tangibility is the ratio of tangible assets to total assets; Asst_Growth is the percentage of increase in total assets of current year to previous year; Control_Share is the percentage shareholder holdings of the largest ; State_Control is a dummy variable of state ultimate controller; Leverage, Long_Debt, Cash, ROA, Assets , Tangibility, Asst_Growth, and State are winsorized at 1% and 99% of distribution;* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4. Regressions of Materialism on Corporate Borrowing and Savings

	(1) Full Sample	(2) Sub-sample (State=1)	(3) Sub-sample (State=0)	(4) Full Sample	(5) Sub-sample (State=1)	(6) Sub-sample (State=0)
Dep. Var.=	**Leverage**	**Leverage**	**Leverage**	**Cash**	**Cash**	**Cash**
Materialism	0.028***	0.032***	0.022*	-0.024***	-0.027***	-0.019
	(0.000)	(0.000)	(0.099)	(0.000)	(0.000)	(0.124)
GDP_Capita	-0.006***	-0.005***	-0.009***	0.006***	0.003***	0.010***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	-0.961***	-1.038***	-0.867***	0.390***	0.371***	0.397***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Median_Lev	0.520***	0.522***	0.498***			
	(0.000)	(0.000)	(0.000)			
Median_Cash				0.614***	0.485***	0.701***
				(0.000)	(0.000)	(0.000)
Assets	0.034***	0.035***	0.030***	-0.015***	-0.010***	-0.020***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tangibility	0.150***	0.145***	0.164***	-0.189***	-0.181***	-0.221***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Asst_Growth	0.028***	0.040***	0.014**	0.024***	0.015***	0.032***
	(0.000)	(0.000)	(0.018)	(0.000)	(0.000)	(0.000)
Control_Share	-0.093***	-0.109***	-0.046***	0.031***	0.013**	0.056***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.033)	(0.000)
State_Control	-0.021***			-0.005**		
	(0.000)			(0.013)		
Constant	-0.610***	-0.665***	-0.521***	0.461***	0.408***	0.534***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
N	17239	10770	6469	17239	10770	6469
R^2	0.304	0.311	0.295	0.285	0.241	0.302
adj. R^2	0.304	0.311	0.294	0.285	0.241	0.301
F	633.980	530.740	246.588	527.472	336.848	266.611

Note: This table presents the results of regression of materialism on corporate borrowing and saving. OLS regressions are estimated with robust standard errors. Leverage is defined as total debt divided by total assets; Cash is cash and cash equivalents divided by total assets; Materialism is calculated based on the four-item Post-materialist index from the WVS; GDP_Capita is regional GDP per capita; ROA is return on assets; Median_Lev is the industry median of Leverage; Median_Cash is the industry median of Cash; Assets is the natural log of total assets; Tangibility is the ratio of tangible assets to total assets; Asst_Growth is the percentage of increase in total assets of current year to previous year; Control_Share is the percentage holdings of the largest shareholder; State_Control is a dummy variable of state ultimate controller; p-values in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 5. Regressions of Materialism on Short-term and Long-term Borrowing

	(1) Full Sample	(2) Sub-sample (State=1)	(3) Sub-sample (State=0)	(4) Full Sample	(5) Sub-sample (State=1)	(6) Sub-sample (State=0)
Dep.Var.=	**Short_Debt**	**Short_Debt**	**Short_Debt**	**Long_Debt**	**Long_Debt**	**Long_Debt**
Materialism	0.014**	0.021***	0.004	0.014***	0.010*	0.019***
	(0.040)	(0.008)	(0.755)	(0.001)	(0.059)	(0.003)
GDP_Capita	-0.005***	-0.003***	-0.008***	-0.002***	-0.003***	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.245)
ROA	-0.848***	-0.887***	-0.791***	-0.108***	-0.147***	-0.070***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Median_Lev	0.288***	0.267***	0.292***	0.222***	0.238***	0.207***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Assets	0.002**	0.000	0.004*	0.031***	0.033***	0.025***
	(0.043)	(0.658)	(0.066)	(0.000)	(0.000)	(0.000)
Tangibility	0.047***	0.018***	0.121***	0.099***	0.122***	0.043***
	(0.000)	(0.010)	(0.000)	(0.000)	(0.000)	(0.000)
Asst_Growth	0.001	0.006	-0.003	0.026***	0.033***	0.017***
	(0.839)	(0.121)	(0.482)	(0.000)	(0.000)	(0.000)
Control_Share	-0.062***	-0.064***	-0.042***	-0.028***	-0.042***	-0.003
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.690)
State_Control	-0.015***			-0.005***		
	(0.000)			(0.000)		
Constant	0.095***	0.104***	0.063	-0.684***	-0.742***	-0.574***
	(0.000)	(0.000)	(0.234)	(0.000)	(0.000)	(0.000)
N	17239	10770	6469	17239	10770	6469
R^2	0.246	0.238	0.268	0.254	0.289	0.164
adj. R^2	0.246	0.238	0.267	0.254	0.288	0.163
F	330.336	213.045	182.507	437.524	388.432	109.922

Note: This table presents the results of regressions of Materialism on short-term and long-term borrowing. OLS regressions are estimated with robust standard errors; Short_Debt is defined as short-term debt divided by total assets; Long_Debt is defined as long-term debt divided by total assets; Materialism is calculated based on the four-item Post-materialism index from the WVS; GDP_Capita is regional GDP per capita; ROA is return on assets; Median_Lev is the industry median of Leverage; Assets is the natural log of total assets; Tangibility is the ratio of tangible assets to total assets; Asst_Growth is the percentage of increase in total assets of current year to previous year; Control_Share is the percentage holdings of the largest shareholder; State_Control is a dummy variable of state ultimate controller; p-values in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6. Interaction Regressions of Materialism on Corporate Borrowing and Savings

	(1)	(2)	(3)	(4)
Dep. Var.=	**Leverage**	**Leverage**	**Cash**	**Cash**
Materialism	0.013	-0.117	-0.001	0.216**
	(0.297)	(0.393)	(0.939)	(0.046)
Materialism	0.023		-0.037***	
*State	(0.138)		(0.007)	
Materialism		0.007		-0.011**
* Assets		(0.286)		(0.024)
GDP_Capita	-0.006***	-0.006***	0.006***	0.006***
	(0.000)	(0.000)	(0.000)	(0.000)
ROA	-0.961***	-0.960***	0.390***	0.389***
	(0.000)	(0.000)	(0.000)	(0.000)
Median_Lev	0.519***	0.520***		
	(0.000)	(0.000)		
Median_Cash			0.613***	0.613***
			(0.000)	(0.000)
Assets	0.033***	0.017	-0.015***	0.013
	(0.000)	(0.292)	(0.000)	(0.283)
Tangibility	0.150***	0.150***	-0.189***	-0.189***
	(0.000)	(0.000)	(0.000)	(0.000)
Asst_Growth	0.028***	0.028***	0.024***	0.024***
	(0.000)	(0.000)	(0.000)	(0.000)
Control_Share	-0.093***	-0.093***	0.031***	0.031***
	(0.000)	(0.000)	(0.000)	(0.000)
State_Control	-0.078**	-0.021***	-0.088***	-0.005**
	(0.044)	(0.000)	(0.011)	(0.013)
Constant	-0.574***	-0.247	0.402***	-0.139
	(0.000)	(0.475)	(0.000)	(0.606)
N	17239	17239	17239	17239
R^2	0.304	0.304	0.286	0.285
adj. R^2	0.304	0.304	0.285	0.285
F	571.136	571.334	476.442	475.466

Note: This table represents the results of interaction regressions of Materialism on corporate borrowing and saving. OLS regressions are estimated with robust standard errors. Leverage is defined as total debt divided by total assets; Cash is cash and cash equivalents divided by total assets; Materialism is calculated based on the four-item Post-materialist index from the WVS; GDP_Capita is regional GDP per capita; ROA is return on assets; Median_Lev is the industry median of Leverage; Median_Cash is the industry median of Cash; Assets is the natural log of total assets; Tangibility is the ratio of tangible assets to total assets; Asst_Growth is the percentage of increase in total assets of current year to previous year; Control_Share is the percentage holdings of the largest shareholder; State_Control is a dummy variable of state ultimate controller; p-values in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 7. Interaction Regressions of Materialism on Short-term and Long-term Borrowing

	(1)	(2)	(3)	(4)
Dep. Var.=	**Short_Debt**	**Short_Debt**	**Long_Debt**	**Long_Debt**
Materialism	-0.011	-0.144	0.025***	0.041
	(0.341)	(0.236)	(0.000)	(0.556)
Materialism	0.040***		-0.018**	
*State	(0.004)		(0.029)	
Materialism		0.007		-0.001
* Assets		(0.185)		(0.697)
GDP_Capita	-0.005***	-0.005***	-0.002***	-0.002***
	(0.000)	(0.000)	(0.000)	(0.000)
ROA	-0.848***	-0.847***	-0.108***	-0.108***
	(0.000)	(0.000)	(0.000)	(0.000)
Median_Lev	0.286***	0.287***	0.223***	0.222***
	(0.000)	(0.000)	(0.000)	(0.000)
Assets	0.002*	-0.016	0.031***	0.034***
	(0.051)	(0.242)	(0.000)	(0.000)
Tangibility	0.047***	0.047***	0.099***	0.099***
	(0.000)	(0.000)	(0.000)	(0.000)
Asst_Growth	0.001	0.001	0.026***	0.026***
	(0.799)	(0.818)	(0.000)	(0.000)
Control_Share	-0.062***	-0.062***	-0.028***	-0.028***
	(0.000)	(0.000)	(0.000)	(0.000)
State_Control	-0.115***	-0.015***	0.039*	-0.005***
	(0.001)	(0.000)	(0.052)	(0.000)
Constant	0.159***	0.490	-0.713***	-0.754***
	(0.000)	(0.107)	(0.000)	(0.000)
N	17239	17239	17239	17239
R^2	0.246	0.246	0.254	0.254
adj. R^2	0.246	0.246	0.254	0.254
F	298.979	298.083	394.290	394.675

Note: This table presents the results of interaction regressions of Materialism on short-term and long-term borrowing. OLS regressions are estimated with robust standard errors. Short_Debt is defined as short-term debt divided by total assets; Long_Debt is defined as long-term debt divided by total assets; Materialism is calculated based on the four-item Post-materialist index from the WVS; GDP_Capita is regional GDP per capita; ROA is return on assets; Median_Lev is the industry median of Leverage; Assets is the natural log of total assets; Tangibility is the ratio of tangible assets to total assets; Asst_Growth is the percentage of increase in total assets of current year to previous year; Control_Share is the percentage holdings of the largest shareholder; State_Control is a dummy variable of state ultimate controller; p-values in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 8. Summary Statistics of Firm Characteristics in Chapter IV

Variable	Obs	Mean	Std. Dev.	Min	Median	Max
AReceivable	14710	0.116	0.106	0.000	0.087	0.504
AR_1Yless	10354	0.073	0.071	0.000	0.052	0.329
AR_1Ymore	10354	0.038	0.064	0.000	0.011	0.354
AR_Turnover	12580	81.824	90.549	2.779	49.593	352.317
Materialism	14710	2.484	0.151	2.157	2.472	3.000
ROA	14710	0.026	0.079	-0.394	0.031	0.208
Leverage	14710	0.245	0.180	0.000	0.232	0.877
Tangibility	14710	0.282	0.184	0.001	0.251	0.762
SEO	14710	0.082	0.274	0.000	0.000	1.000
Sales_Growth	14710	0.125	0.400	-1.386	0.125	1.820
Assets	14710	21.492	1.194	18.700	21.363	25.596
Firm_Age	14710	2.020	0.592	0.535	2.125	3.094
State_Control	14710	0.644	0.479	0.000	1.000	1.000
Control_Share	14710	0.386	0.163	0.089	0.362	0.770

Note: This table presents the summary statistics of firm characteristics. AReceivable is defined as total accounts receivable divided by total assets. AR_1Yless is total accounts receivable due within one year divided by total assets. AR_1Ymore is accounts receivable having been outstanding for more than one year divided by total assets. AR_Turnover is turnover day in accounts receivable. Materialism is a four-item materialism index calculated from the WVS. Leverage is total debt divided by total assets; ROA is return on assets.Assets is natural log of total assets; Tangibility is the ratio of tangible assets to total assets. SEO is a dummy variable to capture the history of seasoned equity financing within the prior two years. Sales_Growth is the natural logarithm of growth rate in sales to the prior year. Firm_Age is measured as the natural logarithm of the number of years since listing. Control_Share is the percentage shareholder holdings of the largest shareholder. State_Control is a dummy variable of state ultimate controller.

Table 9. Regressions of Materialism on the Supply of Trade Credit

	(1)	(2)	(3)	(4)
	AReceivable	AR_1Yless	AR_1Ymore	AR_Turnover
Materialism	-0.024***	-0.007	-0.007**	-13.900***
	(0.000)	(0.127)	(0.030)	(0.002)
ROA	-0.183***	0.028***	-0.186***	-240.875***
	(0.000)	(0.003)	(0.000)	(0.000)
Leverage	0.049***	-0.007*	0.040***	53.332***
	(0.000)	(0.062)	(0.000)	(0.000)
Tangibility	-0.187***	-0.097***	-0.085***	-116.264***
	(0.000)	(0.000)	(0.000)	(0.000)
SEO	-0.009***	-0.006**	0.000	5.470***
	(0.001)	(0.023)	(0.941)	(0.008)
Sales_Growth	0.003	0.015***	-0.008***	-42.893***
	(0.114)	(0.000)	(0.000)	(0.000)
Assets	-0.012***	-0.005***	-0.006***	-17.120***
	(0.000)	(0.000)	(0.000)	(0.000)
Firm_Age	-0.020***	-0.016***	0.002*	-20.696***
	(0.000)	(0.000)	(0.073)	(0.000)
State_Control	0.004**	0.002	-0.002*	-3.427**
	(0.024)	(0.133)	(0.083)	(0.026)
Control_Share	-0.009*	-0.013***	-0.008**	-13.478***
	(0.067)	(0.002)	(0.025)	(0.002)
Industry Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Constant	0.497***	0.224***	0.189***	575.348***
	(0.000)	(0.000)	(0.000)	(0.000)
N	14710	10354	10354	12580
R^2	0.300	0.222	0.355	0.383
adj. R^2	0.298	0.220	0.353	0.381
F	196.365	126.696	94.814	196.364

Note: This table presents the regressions of Materialism on supply of trade credit. AReceivable is defined as total accounts receivable divided by total assets. AR_1Yless is total accounts receivable due within one year divided by total assets. AR_1Ymore is accounts receivable having been outstanding for more than one year divided by total assets. AR_Turnover is turnover day in accounts receivable. Materialism is a four-item materialism index calculated from the WVS. Leverage is total debt divided by total assets; ROA is return on assets.Assets is natural log of total assets; Tangibility is the ratio of tangible assets to total assets. SEO is a dummy variable to capture the history of seasoned equity financing within the prior two years. Sales_Growth is the natural logarithm of growth rate in sales to the prior year. Firm_Age is measured as the natural logarithm of the number of years since listing. Control_Share is the percentage shareholder holdings of the largest shareholder. State_Control is a dummy variable of state ultimate controller. * p < 0.1, ** p < 0.05, *** p < 0.01.

Table 10. State Control and Effects of Materialism on Supply of Trade Credit

	(1)	(2)	(3)	(4)
	AReceivable	AR_1Yless	AR_1Ymore	AR_Turnover
Materialism	-0.038***	-0.015**	-0.014***	-21.121***
	(0.000)	(0.047)	(0.005)	(0.007)
State_Control	-0.050*	-0.030	-0.032**	-30.167
	(0.054)	(0.167)	(0.040)	(0.185)
Materialism	0.022**	0.013	0.012*	10.754
*State	(0.036)	(0.136)	(0.051)	(0.236)
ROA	-0.182***	0.029***	-0.185***	-240.781***
	(0.000)	(0.002)	(0.000)	(0.000)
Leverage	0.049***	-0.008*	0.040***	53.293***
	(0.000)	(0.059)	(0.000)	(0.000)
Tangibility	-0.187***	-0.097***	-0.085***	-116.264***
	(0.000)	(0.000)	(0.000)	(0.000)
SEO	-0.009***	-0.006**	0.000	5.462***
	(0.000)	(0.023)	(0.943)	(0.008)
Sales_Growth	0.003	0.015***	-0.008***	-42.888***
	(0.205)	(0.000)	(0.000)	(0.000)
Assets	-0.012***	-0.005***	-0.006***	-17.123***
	(0.000)	(0.000)	(0.000)	(0.000)
Firm_Age	-0.020***	-0.016***	0.001*	-20.729***
	(0.000)	(0.000)	(0.086)	(0.000)
Control_Share	-0.009*	-0.013***	-0.008**	-13.486***
	(0.071)	(0.002)	(0.025)	(0.002)
Industry Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Constant	0.533***	0.245***	0.208***	593.450***
	(0.000)	(0.000)	(0.000)	(0.000)
N	14710	10354	10354	12580
R^2	0.300	0.222	0.355	0.383
adj. R^2	0.298	0.220	0.353	0.381
F	192.044	122.485	91.692	190.338

Note: AReceivable is defined as total accounts receivable divided by total assets. AR_1Yless is total accounts receivable due within one year divided by total assets. AR_1Ymore is accounts receivable having been outstanding for more than one year divided by total assets. AR_Turnover is turnover day in accounts receivable. Materialism is a four-item materialism index calculated from the WVS. Leverage is total debt divided by total assets; ROA is return on assets. Assets is natural log of total assets; Tangibility is the ratio of tangible assets to total assets. SEO is a dummy variable to capture the history of seasoned equity financing within the prior two years. Sales_Growth is the natural logarithm of growth rate in sales to the prior year. Firm_Age is measured as the natural logarithm of the number of years since listing. Control_Share is the percentage shareholder holdings of the largest shareholder. State_Control is a dummy variable of state ultimate controller. Materialism*State is the interaction term between Materialism and State_Control. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 11. Firm Characteristics and Effects of Materialism on Supply of Trade Credit

	(1) AReceivable	(2) AReceivable	(3) AReceivable	(4) AReceivable
Materialism	-0.025***	-0.020***	-0.024***	-0.021***
	(0.000)	(0.000)	(0.000)	(0.000)
Materialism	0.001			0.001
* High_Lev	(0.378)			(0.240)
Materialism		-0.007***		-0.007***
* High_Tang		(0.000)		(0.000)
Materialism			0.000	0.000
* High_Growth			(0.919)	(0.976)
ROA	-0.183***	-0.181***	-0.183***	-0.182***
	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	0.044***	0.049***	0.049***	0.042***
	(0.000)	(0.000)	(0.000)	(0.000)
Tangibility	-0.187***	-0.147***	-0.187***	-0.147***
	(0.000)	(0.000)	(0.000)	(0.000)
SEO	-0.009***	-0.009***	-0.009***	-0.009***
	(0.000)	(0.000)	(0.000)	(0.000)
Sales_Growth	0.003	0.003	0.003	0.003
	(0.208)	(0.222)	(0.331)	(0.337)
Assets	-0.012***	-0.012***	-0.012***	-0.012***
	(0.000)	(0.000)	(0.000)	(0.000)
Firm_Age	-0.020***	-0.020***	-0.020***	-0.020***
	(0.000)	(0.000)	(0.000)	(0.000)
State_Control	0.004**	0.004**	0.004**	0.004**
	(0.026)	(0.037)	(0.029)	(0.032)
Control_Share	-0.009*	-0.009*	-0.009*	-0.009*
	(0.072)	(0.071)	(0.071)	(0.073)
Industry Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Constant	0.500***	0.489***	0.497***	0.492***
	(0.000)	(0.000)	(0.000)	(0.000)
N	14710	14710	14710	14710
R^2	0.300	0.302	0.300	0.302
adj. R^2	0.298	0.301	0.298	0.301
F	191.917	194.525	191.926	183.461

Note: This table presents the firm characteristics and effects of materialism on supply of trade credit. AReceivable is defined as total accounts receivable divided by total assets. Materialism is a four-item materialism index calculated from the WVS. Leverage is total debt divided by total assets; ROA is return on assets. Assets is natural log of total assets; Tangibility is the ratio of tangible assets to total assets. SEO is a dummy variable to capture the history of seasoned equity financing within the prior two years. Sales_Growth is the natural logarithm of growth rate in sales to the prior year. Firm_Age is measured as the natural logarithm of the number of years since listing. Control_Share is the percentage shareholder holdings of the largest shareholder. State_Control is a dummy variable of state ultimate controller. High_Lev is a dummy variable indicating the firm's Leverage is above the median value for all firms in the same year. High_Tang is a dummy variable indicating the firm's Tangibility is above the median value for all firms in the same year. High_Growth is a dummy variable indicating the firm's Sales_Growth is above the median value for all firms in the same year. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 12. Regional Factors and Effects of Materialism on Supply of Trade Credit

	(1) AReceivable	(2) AReceivable	(3) AReceivable	(4) AReceivable
Materialism	-0.024***	-0.023***	-0.020***	-0.025***
	(0.000)	(0.000)	(0.000)	(0.000)
GDP_Capita	-0.000			
	(0.617)			
Market_Index		-0.001**		
		(0.047)		
Trust			-0.017**	
			(0.011)	
Law_Inst				0.000**
				(0.043)
ROA	-0.182***	-0.181***	-0.183***	-0.183***
	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	0.049***	0.049***	0.048***	0.050***
	(0.000)	(0.000)	(0.000)	(0.000)
Tangibility	-0.188***	-0.188***	-0.187***	-0.186***
	(0.000)	(0.000)	(0.000)	(0.000)
SEO	-0.009***	-0.010***	-0.009***	-0.009***
	(0.000)	(0.000)	(0.000)	(0.000)
Sales_Growth	0.003	0.003	0.003	0.003
	(0.210)	(0.222)	(0.221)	(0.187)
Assets	-0.012***	-0.012***	-0.012***	-0.012***
	(0.000)	(0.000)	(0.000)	(0.000)
Firm_Age	-0.020***	-0.019***	-0.020***	-0.020***
	(0.000)	(0.000)	(0.000)	(0.000)
State_Control	0.004**	0.003*	0.004**	0.004**
	(0.033)	(0.070)	(0.028)	(0.015)
Control_Share	-0.009*	-0.009*	-0.009*	-0.009*
	(0.075)	(0.068)	(0.070)	(0.065)
Industry Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Constant	0.495***	0.497***	0.493***	0.500***
	(0.000)	(0.000)	(0.000)	(0.000)
N	14710	14710	14710	14710
R^2	0.300	0.300	0.300	0.300
adj. R^2	0.298	0.298	0.299	0.298
F	191.932	191.987	192.149	192.251

Note: This table presents results on effects of materialism on supply of trade credit controlling for regional factors. AReceivable is defined as total accounts receivable divided by total assets. Materialism is a four-item materialism index calculated from the WVS. Leverage is total debt divided by total assets; ROA is return on assets. Assets is natural log of total assets; Tangibility is the ratio of tangible assets to total assets. SEO is a dummy variable to capture the history of seasoned equity financing within the prior two years. Sales_Growth is the natural logarithm of growth rate in sales to the prior year. Firm_Age is measured as the natural logarithm of the number of years since listing. Control_Share is the percentage shareholder holdings of the largest shareholder. State_Control is a dummy variable of state ultimate controller. GDP_Capita is GDP per capita from National Bureau of Statistics of China. Market_Index is the National Economic Research Institute (NERI) Index of Marketization of China's provinces. Trust is the general trust variable from WVS (V24.- Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?). Law_Inst is defined as the Intermediary Organization Development and Law subindex of NERI index of Marketization. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 13. Regressions of Materialism on Net Supply of Trade Credit

	(1)	(2)	(3)	(4)
	Net_AReceivable	Net_AR_1Yless	Net_AR_1Ymore	Net_AR_Turnover
Materialism	-0.014***	-0.013*	-0.001	-6.153
	(0.005)	(0.085)	(0.877)	(0.154)
ROA	-0.019	0.081***	-0.035	-134.816***
	(0.316)	(0.000)	(0.187)	(0.000)
Leverage	0.097***	0.038***	0.034***	46.494***
	(0.000)	(0.000)	(0.000)	(0.000)
Tangibility	-0.147***	-0.067***	-0.058***	-80.779***
	(0.000)	(0.000)	(0.000)	(0.000)
SEO	-0.000	0.002	0.007**	4.516**
	(0.992)	(0.641)	(0.029)	(0.017)
Sales_Growth	-0.015***	0.001	-0.009**	-16.054***
	(0.000)	(0.641)	(0.014)	(0.000)
Assets	-0.019***	-0.012***	-0.005***	-14.530***
	(0.000)	(0.000)	(0.000)	(0.000)
Firm_Age	-0.027***	-0.019***	-0.002	-22.692***
	(0.000)	(0.000)	(0.185)	(0.000)
State_Control	-0.005***	-0.009***	-0.004	-0.384
	(0.006)	(0.001)	(0.138)	(0.795)
Control_Share	-0.012**	-0.020**	-0.004	-8.035*
	(0.024)	(0.012)	(0.623)	(0.062)
Industry Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Constant	0.554***	0.355***	0.118***	419.038***
	(0.000)	(0.000)	(0.000)	(0.000)
N	14710	4367	4367	12558
R^2	0.277	0.154	0.164	0.306
adj. R^2	0.275	0.149	0.159	0.304
F	159.464	31.329	20.795	147.872

Note: This table presents results about effects of materialism on net supply of trade credit. Net_AReceivable is the net accounts receivable, defined as accounts receivable net of accounts payable, scaled by total assets. Net_AR_1Yless is the net provision of short-term trade credit scaled by total assets. Net_AR_1Ymore is the net provision of long-term trade credit scaled by total assets. Net_AR_Turnover is the net turnover day in accounts receivable, defined as turnover day in accounts receivable minus turnover day in accounts payable. Materialism is a four-item materialism index calculated from the WVS. Leverage is total debt divided by total assets; ROA is return on assets. Assets is natural log of total assets; Tangibility is the ratio of tangible assets to total assets. SEO is a dummy variable to capture the history of seasoned equity financing within the prior two years. Sales_Growth is the natural logarithm of growth rate in sales to the prior year. Firm_Age is measured as the natural logarithm of the number of years since listing. Control_Share is the percentage shareholder holdings of the largest shareholder. State_Control is a dummy variable of state ultimate controller. $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 14. Mean of Main Variables for Chapter 5

Region	Marketindex	GDP_capita	Gender	N	Riskpref	Age	Married	Rankcity	Trust	Taste
Shanghai	10.96	US$12,784	Male	32	42.59	29.6	0.56	1.34	0.78	0.72
			Female	21	42.63	27.3	0.48	1.00	0.76	0.86
			Total	**53**	**42.61**	**28.7**	**0.53**	**1.21**	**0.77**	**0.77**
Jiangsu	11.54	US$9,448	Male	66	46.23	26.5	0.09	2.17	0.83	0.86
			Female	64	42.33	25.0	0.06	2.22	0.78	0.84
			Total	**130**	**44.31**	**25.8**	**0.08**	**2.19**	**0.81**	**0.85**
Yunan	6.06	US$2,952	Male	37	49.27	30.6	0.65	2.30	0.84	0.86
			Female	28	42.01	27.6	0.50	2.64	0.79	0.96
			Total	**65**	**46.14**	**29.3**	**0.58**	**2.45**	**0.82**	**0.91**

Note: Riskpref is an index of preferences to financial risk; Age is the age of respondent; Male is a dummy variable for male; Married is a dummy variable for married status; Rankcity is a measure for the rank of city size, with 1 being the largest size (more than 1 million population); Trust is a dummy for trusting others; Taste is a dummy variable for sharing similar taste with parents; GDP_capita is the GDP per Capita for the region; Marketindex is NERI index for institutional development.

Table 15. T-Test of Cross-Regional Difference in Culture Values and Risk Preference

	Riskpref	Individualism	Power	Achievement	Self-direction	Stimulation	Hedonism	Collectivism	Universalism	Benevolence	Tradition	Conformity	Security
Yunan (N=65)	46.14	-0.43	-0.81	0.39	0.53	-1.03	-1.21	0.13	0.25	0.34	-1.06	**0.33**	**0.80**
Shanghai (N=53)	42.61	-0.37	-0.76	0.22	0.38	-1.14	-0.57	0.12	0.28	0.19	-0.65	0.22	0.59
Yunnan-Shanghai	3.53***	-0.05	-0.04	0.16*	0.15	0.11	-0.65***	0.01	-0.03	0.15	-0.41**	0.11	0.21*
One Side Test	Diff>0	Diff<0	Diff<0	Diff>0	Diff>0	Diff>0	Diff<0	Diff>0	Diff<0	Diff>0	Diff<0	Diff>0	Diff>0
P-Value	(0.01)	(0.31)	(0.42)	(0.10)	(0.12)	(0.30)	(0.01)	(0.46)	(0.41)	(0.12)	(0.02)	(0.20)	(0.07)
Non-Yunan (N=183)	43.81	-0.41	-0.90	0.34	0.48	-1.00	-0.96	0.14	0.27	0.35	-0.79	0.30	0.58
Difference	2.33**	-0.02	0.09	0.05	0.05	-0.03	-0.25	-0.01	-0.02	-0.02	-0.27**	0.03	0.22**
One Side Test	Diff>0	Diff<0	Diff>0	Diff>0	Diff>0	Diff<0	Diff<0	Diff<0	Diff<0	Diff<0	Diff<0	Diff>0	Diff>0
P-Value	(0.02)	(0.41)	(0.29)	(0.34)	(0.30)	(0.42)	(0.11)	(0.41)	(0.40)	(0.43)	(0.04)	(0.36)	(0.02)

Note: Riskpref is an index of preferences to financial risk; Individualism is the average of Power, Achievement, Self-direction, Stimulation and Hedonism; Collectivism is the average of Universalism, Benevolence, Tradition, Conformity and Security; P-Values are reported in parentheses; *** indicates significance at 1%; ** indicates significance at 5%;* indicates significance at 10%. All Schwartz cultural values are individually centered values.

Table 16. Regression of Risk Preference on Individualism and Collectivism

Variable Name	Model 1	Model 2
Age	0.31**	0.33**
	(0.02)	(0.02)
Male	3.55***	3.54***
	(0.00)	(0.00)
Married	-4.45***	-4.62***
	(0.01)	(0.00)
Rankcity	0.25	0.18
	(0.58)	(0.70)
Trust	0.85	0.88
	(0.49)	(0.47)
Taste	-3.38***	-3.09**
	(0.01)	(0.02)
Individualism	2.45***	
	(0.01)	
Collectivism		-4.88***
		(0.00)
Constant	38.36***	37.70***
	(0.00)	(0.00)
Adj R-squared	0.11	0.13
Sample Size	248	248

Note: Dependent variable is Riskpref, an index of preferences to financial risk; Age is the age of respondent; Male is a dummy variable for male; Married is a dummy variable for married status; Rankcity is a measure for the rank of city size, with 1 being the largest size (more than 1 million population); Trust is a dummy for trusting others; Taste is a dummy variable for sharing similar taste with parents; Individualism is the average of Power, Achievement, Self-direction, Stimulation and Hedonism; Collectivism is the average of Universalism, Benevolence, Tradition, Conformity and Security; P-Values are reported in parentheses.*** indicates significance at 1%;** indicates significance at 5%;* indicates significance at 10%. All Schwartz cultural values used in the regressions are individually centered values.

Table 17. Regression of Risk Preference on of Individual-Level Schwartz Value Types

Panel A: Individualism Value Types

Variable Name	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	0.33**	0.29**	0.33**	0.28**	0.27**	0.30**
	(0.02)	(0.04)	(0.02)	(0.04)	(0.05)	(0.03)
Male	3.31***	3.63***	3.50***	3.61***	3.20***	3.69***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Married	-3.97***	-4.06***	-4.58***	-3.89***	-3.57**	-4.22***
	(0.01)	(0.01)	(0.00)	(0.01)	(0.02)	(0.01)
Rankcity	-0.07	0.21	0.13	0.09	0.10	0.26
	(0.88)	(0.65)	(0.78)	(0.84)	(0.83)	(0.58)
Trust	1.04	0.36	0.46	0.82	0.80	0.42
	(0.39)	(0.77)	(0.71)	(0.51)	(0.51)	(0.74)
Taste	-3.07**	-3.67***	-3.42***	-3.56***	-3.48***	-3.62***
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Power	-0.79	-0.10				
	(0.12)	(0.81)				
Achievement	2.12***		1.82***			
	(0.00)		(0.01)			
Self-Direction	1.60**			1.95***		
	(0.04)			(0.01)		
Stimulation	1.27***				1.43***	
	(0.00)				(0.00)	
Hedonism	0.35					0.21
	(0.36)					(0.56)
Constant	36.73***	36.05***	36.90***	37.62***	40.25***	38.36***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Adj R-squared	0.16	0.08	0.11	0.11	0.12	0.08
Sample Size	248	248	248	248	248	248

Note: Dependent variable is Riskpref, an index of preferences to financial risk; Age is the age of respondent; Male is a dummy variable for male; Married is a dummy variable for married status; Rankcity is a measure for the rank of city size, with 1 being the largest size (more than 1 million population); Trust is a dummy for trusting others; Taste is a dummy variable for sharing similar taste with parents; Power, Achievement, Self-direction, Stimulation and Hedonism are Schwartz's individual-level value types in individualism dimension; Universalism, Benevolence, Tradition, Conformity and Security are Schwartz's individual-level value types in collectivism dimension;P-Values are reported in parentheses.*** indicates significance at 1%;** indicates significance at 5%;* indicates significance at 10%. All Schwartz cultural values used in the regressions are individually centered values.

Table 17. Regression of Risk Preference on of Individual-Level Schwartz Value Types

Panel B: Collectivism Value Types

Variable Name	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	0.33***	0.31**	0.29**	0.30**	0.30**	0.29**
	(0.01)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)
Male	3.81***	3.46***	3.60***	4.01***	3.66***	3.52***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Married	-4.75***	-4.40***	-4.13***	-4.33***	-4.20***	-4.08***
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Rankcity	0.09	0.28	0.22	0.04	0.22	0.21
	(0.84)	(0.55)	(0.63)	(0.94)	(0.63)	(0.65)
Trust	0.75	0.65	0.48	0.52	0.28	0.40
	(0.54)	(0.60)	(0.70)	(0.67)	(0.82)	(0.74)
Taste	-2.75**	-3.68***	-3.71***	-3.00**	-3.60***	-3.55***
	(0.05)	(0.01)	(0.01)	(0.03)	(0.01)	(0.01)
Universalism	-1.37*	-1.31*				
	(0.08)	(0.09)				
Benevolence	-0.09		-0.32			
	(0.90)		(0.66)			
Tradition	-1.78***			-1.63***		
	(0.00)			(0.00)		
Conformity	-0.87				-0.82	
	(0.27)				(0.28)	
Security	-0.58					-0.48
	(0.41)					(0.46)
Constant	36.17***	38.19***	38.62***	36.44***	38.58***	38.66***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Adj R-squared	0.13	0.09	0.08	0.13	0.09	0.08
Sample Size	248	248	248	248	248	248

Note: Dependent variable is Riskpref, an index of preferences to financial risk; Age is the age of respondent; Male is a dummy variable for male; Married is a dummy variable for married status; Rankcity is a measure for the rank of city size, with 1 being the largest size (more than 1 million population); Trust is a dummy for trusting others; Taste is a dummy variable for sharing similar taste with parents; Power, Achievement, Self-direction, Stimulation and Hedonism are Schwartz's individual-level value types in individualism dimension; Universalism, Benevolence, Tradition, Conformity and Security are Schwartz's individual-level value types in collectivism dimension; P-Values are reported in parentheses.*** indicates significance at 1%;** indicates significance at 5%;* indicates significance at 10%. All Schwartz cultural values used in the regressions are individually centered values.

Table 18. Regression of Risk Preference on Regional Variables

Panel A: Schwartz's Individualism Value Types

Variable Name	Model 1	Model 2	Model 3	Model 4
Age	0.20	0.34***	0.23*	0.20
	(0.15)	(0.01)	(0.10)	(0.15)
Male	3.43***	3.38***	3.46***	3.42***
	(0.00)	(0.00)	(0.00)	(0.00)
Married	-4.05***	-3.56**	-3.83***	-4.10***
	(0.01)	(0.02)	(0.01)	(0.01)
Rankcity	-0.39	-0.44	-0.53	-0.34
	(0.41)	(0.37)	(0.27)	(0.47)
Trust	1.07	0.92	1.01	10.90
	(0.37)	(0.45)	(0.40)	(0.36)
Taste	-3.38***	-3.23**	-3.41***	-3.36***
	(0.01)	(0.02)	(0.01)	(0.01)
Power	-0.81	-0.82	-0.82*	-0.81
	(0.11)	(0.11)	(0.10)	(0.11)
Achievement	2.07***	2.03***	2.03***	2.08***
	(0.00)	(0.00)	(0.00)	(0.00)
Self-Direction	1.55**	1.53**	1.52**	1.56**
	(0.04)	(0.05)	(0.05)	(0.04)
Stimulation	1.28***	1.24***	1.26***	1.28***
	(0.00)	(0.01)	(0.00)	(0.00)
Hedonism	0.38	0.43	0.42	0.37
	(0.31)	(0.25)	(0.26)	(0.32)
Yunnan	3.06**			
	(0.02)			
Shanghai		-2.64**		
		(0.04)		
GDP_capita			-0.40***	
(in $1000s)			(0.01)	
Marketindex				-0.55**
				(0.02)
Constant	39.97***	37.95***	43.93***	46.14***
	(0.00)	(0.00)	(0.00)	(0.00)
Adj R-squared	0.18	0.17	0.18	0.18
Sample Size	248	248	248	248

Note: Dependent variable is Riskpref, an index of preferences to financial risk; Age is the age of respondent; Male is a dummy variable for male; Married is a dummy variable for married status; Rankcity is a measure for the rank of city size, with 1 being the largest size (more than 1 million population); Trust is a dummy for trusting others; Taste is a dummy variable for sharing similar taste with parents; Power, Achievement, Self-direction, Stimulation and Hedonism are Schwartz's individual-level value types in individualism dimension; Yunnan is a dummy for Yunnan province; Shanghai is a dummy for Shanghai City; GDP_capita is the GDP per Capita for the region; Marketindex is NERI index for institutional development; P-Values are reported in parentheses. *** indicates significance at 1%; ** indicates significance at 5%;* indicates significance at 10%. All Schwartz cultural values are individually centered values.

Panel B: Schwartz's Collectivism Value Types

Variable Name	Model 1	Model 2	Model 3	Model 4
Age	0.22	0.34***	0.254*	0.23
	(0.12)	(0.01)	(0.09)	(0.12)
Male	3.87***	3.83***	3.87***	3.86***
	(0.00)	(0.00)	(0.00)	(0.00)
Married	-4.792***	-4.29***	-4.56***	-4.83***
	(0.00)	(0.01)	(0.00)	(0.00)
Rankcity	-0.20	-0.31	-0.35	-0.15
	(0.68)	(0.54)	(0.47)	(0.75)
Trust	0.79	0.66	0.74	0.80
	(0.52)	(0.59)	(0.54)	(0.52)
Taste	-3.04**	-2.95**	-3.10**	-3.01**
	(0.03)	(0.03)	(0.03)	(0.03)
Universalism	-1.26*	-1.23	-1.21	-1.28*
	(0.10)	(0.11)	(0.12)	(0.10)
Benevolence	-0.13	-0.25	-0.19	-0.11
	(0.86)	(0.73)	(0.78)	(0.88)
Tradition	-1.68***	-1.70***	-1.65***	-1.69***
	(0.00)	(0.00)	(0.00)	(0.00)
Conformity	-0.82	-0.93	-0.85	-0.81
	(0.29)	(0.23)	(0.27)	(0.30)
Security	-0.71	-0.60	-0.71	-0.71
	(0.31)	(0.39)	(0.31)	(0.31)
Yunnan	2.74**			
	(0.04)			
Shanghai		-2.67**		
		(0.05)		
GDP_capita			-0.38**	
(in $1000s)			(0.02)	
Marketindex				-0.49**
				(0.05)
Constant	39.24***	37.60***	43.12***	44.62***
	(0.00)	(0.00)	(0.00)	(0.00)
Adj R-squared	0.15	0.15	0.15	0.15
Sample Size	248	248	248	248

Note: Dependent variable is Riskpref, an index of preferences to financial risk; Age is the age of respondent; Male is a dummy variable for male; Married is a dummy variable for married status; Rankcity is a measure for the rank of city size, with 1 being the largest size (more than 1 million population); Trust is a dummy for trusting others; Taste is a dummy variable for sharing similar taste with parents; Power, Achievement, Self-direction, Stimulation and Hedonism are Schwartz's individual-level value types in individualism dimension; Yunnan is a dummy for Yunnan province; Shanghai is a dummy for Shanghai City; GDP_capita is the GDP per Capita for the region; Marketindex is NERI index for institutional development; P-Values are reported in parentheses. *** indicates significance at 1%; ** indicates significance at 5%; * indicates significance at 10%. All Schwartz cultural values are individually centered values.

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This declaration concerns the following article/manuscript:

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Authors:	Xian Chen, Jakob Arnoldi, Xin Chen

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Has the article/manuscript previously been used in other PhD or doctoral dissertations?

No √☑ Yes ☐ If yes, give details:

The PhD student has contributed to the elements of this article/manuscript as follows:

A. Has essentially done all the work
B. Major contribution
C. Equal contribution
D. Minor contribution
E. Not relevant

Element	Extent (A-E)
1. Formulation/identification of the scientific problem	C
2. Planning of the experiments/methodology design and development	B
3. Involvement in the experimental work/clinical studies/data collection	A
4. Interpretation of the results	B
5. Writing of the first draft of the manuscript	A
6. Finalization of the manuscript and submission	A

Signatures of the co-authors

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*As per policy the co-author statement will be published with the dissertation.