Is Home-Host Cultural Distance a Risk? Evidence from Outward Foreign Direct Investment by Chinese Enterprises

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ABSTRACT

Cultural distance is always regarded as a “risk” in the decision making of enterprises involved in the outward foreign direct investment (OFDI), however, investment is a powerful driver of productivity growth and increased innovation capacity of enterprises in both countries. Is cultural distance a “risk”? Using Hofstede’s indicators and the Kogut and Singh index (1988), this paper calculates the cultural distance based on six cultural dimensions and further examines the effect of cultural distance on the outward foreign direct investment by Chinese enterprises and its mediating effects on the role of other factors influencing the decisions of multinationals. The results indicate that there is a nonlinear effect of cultural distance and the mediating effect of cultural distance is negative.

Keywords: Cultural Distance, Multinationals, Outward Foreign Direct Investment, Nonlinear Effect, Belt and Road Initiative

JEL Classifications: C33, F21, F23

1. INTRODUCTION

Cultural distance between countries has a role to play in the outward foreign direct investment as it can reflect the difference in the behavior, values, and mindsets of society members, which is significant in the enterprises because it means different operation modes and working habits of employees. This helps to avoid the homogenization of corporate cultures in home and host countries and thus can contribute to innovation, for differences in beliefs and values promote learning and innovation (Barney, 1991; Vermeulen and Barkema, 2001). For this reason, diversification brings a competitive edge to the enterprises conducting outward foreign direct investment (Ghoshal, 1987), and this further promotes a new round of OFDI.

However, the research results on the role of cultural distance are a mixed one, as cultural distance can also play a negative role when it is regarded as a risk of the host country. And it is more complicated when other factors influencing the decisions of multinationals are taken into account.

This paper examines the effect of cultural distance on the outward foreign direct investment and its mediating effects on the role of other factors influencing the decisions of multinationals. It is of both theoretical and practical significance to examine this effect, as it contributes to the enterprises in both the home and the host countries and constantly brings welfare to the people of both countries when the outward foreign direct investment progresses.

The remaining part of the study is structured as follows: Section 2 presents a review of the literature. The analytical framework and data sources are discussed in Section 3. Section 4 presents results and discussion, and the final Section 5 concludes.

2. LITERATURE REVIEW

Multinational giants in developed economies tend to be collected as the research samples in classic international investment theory, as such enterprises generally own a monopoly advantage, such as ownership, internalization, and location advantage (Hymer,
The literature on the factors influencing the investment of multinationals in developing countries tend to focus on the institutional advantages of their home countries, differences between the home and the host countries, and the motivation of the multinationals (Wu and Huang, 1997; Mathews, 2006; Buckley et al., 2007; Gammeltoft et al., 2010; Moghaddam et al., 2014; Qian and Wang, 2019). From the perspective of these multinationals, there’s an adjusting or learning process of experience accumulation rather than profits accumulation in the initial phase of the investment, which enhances their comprehensive ability, and no matter it’s an enterprise with an advantage or not.

Great attention has been given to the cultural distance since the cultural dimensions were proposed by Hofstede (1980). Compared to the factors mentioned above, cultural distance is regarded as an informal institutional factor (Yang et al., 2018). There is considerable literature on the impact of cultural distance on the outward foreign direct investment, however, the results on the effects of cultural distance are a mixed one. Some argue that the effect is negative and linear (He and Lyles, 2008; Wang, 2018; Ji et al., 2018), indicating that the cultural distance is regarded as a “risk,” while others consider that it is positive and linear (Bhaumik et al., 2018), showing that the cultural distance is regarded as a “risk.”

Based on the literature above, the role of cultural distance in the outward foreign direct investment is a mixed one, and the evidence is not adequate on the mediating effects of cultural distance on the role of other factors influencing the decisions of multinationals. This paper examines the effect of cultural distance on the outward foreign direct investment and its mediating effects based on the evidence of China. In addition, this paper examines the role of cultural distance in the framework of the outward foreign direct investment by Chinese enterprises in countries along the Belt and Road.

3. DATA AND METHODOLOGY

3.1. The Kogut and Singh Index (KSI)

Using Hofstede’s indicators, the index is constructed based on the deviation of the six cultural dimensions (i.e., individualism, power distance, masculinity/femininity, uncertainty avoidance, long-term orientation, and indulgence) of one country from those of another country. The deviations are corrected for differences in the variances of each dimension and then arithmetically averaged (Kogut and Singh, 1988). Based on the dimensions mentioned above, the indicator is set as follows:

$$CD_j = \frac{1}{6} \sum_{i=1}^{6} \frac{(L_{ij} - L_{jk})^2}{V_i} / 6$$

where $L_{ij}$ stands for the indicator for the $i$ th cultural dimension of the $j$ th country. $V_i$ is the variance of the index of the $i$ th dimension. $c$ indicates the $c$ th dimension. $CD_j$ is cultural difference between the $j$ th country and the $c$ th country.

3.2. Research Model

$$\ln OFDI_{it} = \beta_0 + \beta_1 \ln CD_{it} + \beta_2 \ln CD_{it}^2 + \beta_3 \ln X_{it} + \alpha_i + \lambda_j + \epsilon_{it}$$

(2)

where the subscript $i$ denotes country and $t$ denotes year. Dependent variable $OFDI_{it}$ represents outward foreign direct investment by Chinese enterprises, and $CD_{it}$ is employed as independent variable. To examine the nonlinear effect of cultural distance on the outward foreign direct investment, the square term of cultural distance ($CD_{it}^2$) is introduced with reference to the method of Yang (2018). $X_{it}$ represents control variables, including market size (GDP$_i$), market potentiality (GDPRO$_i$), geographic distance (GEODIS$_i$), natural resource (RES$_i$), institutional quality (INS$_i$), technology and innovation capacity (TEC$_i$), and human resource endowment (HR$_i$). $\epsilon_{it}$ is the fixed effect of the country, $\lambda_j$ controls the time trend, and $\epsilon_{it}$ is the random error term.

To examine the mediating effects of cultural distance on the role of other factors influencing the decisions of multinationals, this paper introduces interaction (RES*CD) between OFDI and natural resource (RES$_i$) on the basis of formula (2), and interaction (TEC*CD) between OFDI and technology and innovation capacity (TEC$_i$) on the basis of formula (2):

$$\ln OFDI_{it} = \beta_0 + \beta_1 \ln CD_{it} + \beta_2 \ln CD_{it}^2 + \beta_3 \ln RES*CD_{it} + \gamma X_{it} + \alpha_i + \lambda_j + \epsilon_{it}$$

(3)

$$\ln OFDI_{it} = \beta_0 + \beta_1 \ln CD_{it} + \beta_2 \ln CD_{it}^2 + \beta_3 \ln TEC*CD_{it} + \gamma X_{it} + \alpha_i + \lambda_j + \epsilon_{it}$$

(4)

3.3. Variables

1. Outward foreign direct investment (OFDI): This paper selects the flow of outward foreign direct investment by Chinese enterprises to measure the investment, according to Ji et al. (2018).

2. Cultural distance (CD): Using Hofstede’s indicators and the Kogut and Singh index (1988), this paper calculates the cultural distance based on six cultural dimensions (i.e., individualism, power distance, masculinity/femininity, uncertainty avoidance, long-term orientation, and indulgence).

3. Natural resource endowment (RES): This paper measures a country’s natural resource endowment using the share of ore, fossil fuel, and metal exports in total exports according to Buckley et al. (2007).

4. Technology and innovation capacity (TEC): This paper uses the share of R & D costs in GDP of home country as a measure of a country’s technology and innovation capacity according to Chen et al. (2014).

5. Market size (GDP): This paper collects a country’s gross domestic product (GDP) level as an indicator to measure the...
country’s market size, according to Wheeler et al. (1992). The GDP growth (GDPGRO) is used to measure the potential market with reference to Jiang (2017). This paper uses the GDP based on the constant dollar price in 2015.

(6) Human resource endowment (HR): This paper uses the secondary school enrollment rate as a measure of human resource endowment with reference to Liu et al. (2017).

(7) Institution quality (INS): This paper uses global governance indicators including Voice and accountability (VA), Political stability and absence of violence (PV), Government effectiveness (GE), Regulatory quality (RQ), Rule of law (RL), and Control of corruption (CC) to measure institution quality on a weighted average basis (Kaufmann, 2012).

(8) Geographic distance (GEODIS): This paper uses the distance between capitals of countries as the geographic distance according to Liu and Yang (2016).

3.4. Data
The data of OFDI by Chinese enterprises in 79 countries from 2005 to 2018 is collected from the United Nations Conference on Trade and Development Stat (UNCTAD) and the 2019 Statistical Bulletin of China’s Outward Foreign Direct Investment1. Cultural distance (CD) is calculated based on Hofstede’s indicators and the Kagot and Singh index (1988). Natural resource endowment (RES) is from the World Bank Databank (WB). Market size (GDP) is from the United Nations Stats (UN). Geographic distance is from CEPII 2 database. Institution quality (INS) is calculated based on the Worldwide Governance Indicators (WGI). Technology and innovation capacity (TEC) and human resource endowment (HR) are from the UNESCO Institute for Statistics (UIS).

1 Ministry of Commerce of People's Republic of China, National Bureau of Statistics of People’s Republic of China, State Administration of Foreign Exchange. 2019 Statistical Bulletin of China’s Outward Foreign Direct Investment. http://hzs.mofcom.gov.cn/article/date/202009/20200903001523.shtml (accessed 6 September 2020).
2 The CEPII is the leading French center for research and expertise on the world economy, which produces databases and provides a platform for debate among academics, experts, practitioners, decision makers, and other private and public stakeholders.

4. RESULTS AND DISCUSSION
4.1. Empirical Results
This section discusses the empirical results. After computing cultural distance indicators, this paper proceeds to examine the impact of cultural distance on outward foreign direct investment by Chinese enterprises. Table 1 presents the description, sources of data, and descriptive statistics of the key variables employed.

Table 2 reports results for model (1), (2), and (3). In model (1), (2), and (3), the effects of cultural distance on outward foreign direct investment are investigated. The results presented in columns (1), (2), and (3) show that the coefficients of CD are negative and statistically significant, indicating that the impact of CD is negative. This is partly in line with the expectations in theories. Based on the organization learning theory and the institution theory, cultural distance is a macro-external factor, which has a negative effect on mergers and acquisitions. The larger the cultural difference, the more difficult it is to integrate the human resources. Thus, it’s hard for the multinationals to benefit from management synergy. The coefficients of the square term of cultural distance (CD2) are positive and statistically significant, indicating that cultural distance also has a positive effect on the outward foreign direct investment, indicating that cultural distance can also have a role to play in promoting outward foreign direct investment.

The results presented in Table 2 also show that the coefficient of the interaction (RESCD) between natural resource endowment (RES) and cultural distance (CD) is negative, which implies that there is a negative mediating effect of cultural distance on the role of natural resource endowment, indicating that being a major factor influencing the decisions of multinationals though, the effect

Table 1: Description, sources of data, and descriptive statistics

| Variable | Description | Source | Mean | S.D. | Min | Max |
|----------|-------------|--------|------|------|-----|-----|
| OFDI     | Outward foreign direct investment | UNCTAD 2019 Statistical Bulletin of China’s Outward Foreign Direct Investment | 5.483 | 1.989 | 4.605 | 9.176 |
| CD       | Cultural distance | Calculated based on Hofstede Indicators and the Kagot and Singh index (1988) | 2.353 | 1.013 | 1.039 | 3.756 |
| RES      | Natural resource endowment | WB | 6.904 | 1.789 | 1.323 | 7.778 |
| GDP      | Market size | UN | 8.766 | 1.492 | 4.675 | 12.102 |
| GDPGRO   | Potential market | UN | 1.524 | 0.939 | 1.022 | 2.782 |
| TEC      | Technology and innovation capacity | UIS | 1.239 | 1.764 | 1.081 | 4.913 |
| HR       | Human resource endowment | UIS | 2.694 | 0.687 | 1.217 | 4.542 |
| INS      | Institution quality | WGI | 0.531 | 0.164 | 0.211 | 0.965 |
| GEODIS   | Geographic distance | CEPII | 0.719 | 0.623 | 0.312 | 2.549 |

The data are collected from the United Nations Conference on Trade and Development Stat (UNCTAD), the United Nations Stats (UN), the World Bank Databank (WB), the UNESCO Institute for Statistics (UIS), the Worldwide Governance Indicators (WGI), and CEPII.
of natural resource endowment can be negatively impacted by cultural distance. Column (2) demonstrates that the coefficient of the interaction (TECCD) between TEC and CD is negative and statistically significant, indicating that the negative effect of cultural distance on the outward foreign direct investment can not be set off, though the effect of technology and innovation is a positive one. Technology and innovation can play a positive role in the outward foreign direct investment, but it is another story in this case where cultural distance is taken into consideration.

The coefficients of the control variables in Table 2 indicate that a country’s institution quality (INS) has a positive impact, which is in line with the results of Jiang (2017). The effect of institution quality is positive, as a stable political environment can provide a quality investment environment for the foreign direct investment. In addition, countries with quality regulations and institutions can better help enterprises coordinate with the ones in countries with advanced strategic resources when receiving the outward foreign direct investment. A country’s market size (GDP) has a positive effect. With the expansion of a country’s economic scale, its markets offer more opportunities to investors. Natural resource endowment (RES) and technology and innovation capacity (TEC) have positive effects, which is in line with the expectations in theories, as both the natural resource endowment and the technology and innovation capacity can be the comparative advantages in the investment. Compared to the variables above, geographic distance (GEODIS), considered as a cost of investment, has a negative effect on the outward foreign direct investment.

### 4.2. Robustness Test

System generalized method of moments (SYS-GMM) is applied to test the robustness which can be used to solve endogeneity.

### Table 2: Basic regression results

| Variables | (1) | (2) | (3) |
|-----------|-----|-----|-----|
| CD        | −0.147*** | −0.145*** | −0.148*** |
| CD²       | (−2.63) | (−2.56) | (−2.89) |
| INS       | 0.118*** | 0.117*** | 0.119*** |
| GDP       | (2.03) | (1.97) | (2.12) |
| GDPGRO    | 0.134*** | 0.129*** | 0.125*** |
| HR        | (2.26) | (2.20) | (2.17) |
| GEODIS    | 0.023*** | 0.025*** | 0.021*** |
| TEC       | (1.30) | (1.73) | (1.26) |
| RES       | 0.023*** | 0.020*** | 0.015*** |
| GDPGRO    | (1.28) | (1.21) | (1.13) |
| RESCD     | −0.066 | −0.079 | −0.085*** |
| RECD      | (−1.72) | (−1.48) | (−1.91) |
| _cons     | 6.358*** | 6.327*** | 6.406*** |
| N         | 1160 | 1160 | 1160 |

### Table 3: Robustness test results

| Variables | (1) | (2) | (3) |
|-----------|-----|-----|-----|
| L. OFDI   | 0.789*** | 0.787*** | 0.793*** |
| CD        | (5.33) | (5.24) | (5.54) |
| CD²       | (−1.43) | (−1.72) | (−2.47) |
| INS       | 0.118*** | 0.119*** | 0.125*** |
| GDP       | (2.03) | (1.97) | (2.12) |
| GDPGRO    | 0.134*** | 0.129*** | 0.125*** |
| HR        | (2.26) | (2.20) | (2.17) |
| GEODIS    | 0.023*** | 0.025*** | 0.021*** |
| TEC       | (1.30) | (1.73) | (1.26) |
| RES       | 0.023*** | 0.020*** | 0.015*** |
| GDPGRO    | (1.28) | (1.21) | (1.13) |
| RESCD     | −0.066 | −0.079 | −0.085*** |
| RECD      | (−1.72) | (−1.48) | (−1.91) |
| _cons     | 6.358*** | 6.327*** | 6.406*** |
| N         | 1160 | 1160 | 1160 |

The AR(1) and AR(2) test and Sargan test results all imply that the SYS-GMM is effective. Based on the basic regression model, the lagged variables are introduced. Table 3 presents the results which imply that the coefficients of the core variables basically remain the same.

Table 3 reports robustness test results for model (1), (2), and (3), in which the effects of CD on the outward foreign direct investment are investigated. The results presented in Table 3 show that the coefficients of CD are negative and statistically significant, while the coefficients of square term of cultural distance are positive and statistically significant, which implies that the effect of the cultural distance is nonlinear. The results presented in Table 3 also show that the coefficients of TECCD and RESCD are negative and statistically significant, indicating that there is a negative mediating effect of cultural distance on the role of natural resource endowment and innovation.

### 4.3. In the Framework of OFDI by Chinese Enterprises in Countries along the Belt and Road

To further examine the nonlinear effect and the negative mediating effect of cultural distance and the robustness of the above results, the paper collects data based on OFDI by Chinese enterprises in 38 countries along the Belt and Road. This section further analyzes the mediating effects of cultural distance on the role of other factors influencing the decisions of multinationals. In this section, dummy variables are introduced to control individual effects and time effects. Random effect model is employed to
the estimation of the basic regression based on Hausman test and LM (Lagrange multiplier) test. To solve auto-correlation of error terms, heteroskedasticity, and cross-sectional correlation problems, standard errors corrected by panels are used. The results are shown in Table 4.

In Table 4, columns (1), (2), and (3), the coefficients of CD are negative and significant, indicating that the effect of cultural distance negative, which is in line with the results above and the research results of Ji et al. (2018). The coefficients of the square term of cultural distance (CD²) are positive and significant, indicating that cultural distance also has a positive effect on the outward foreign direct investment, which implies that the effect of cultural distance is nonlinear in the framework of OFDI by Chinese enterprises in the countries along the Belt and Road. In addition, the results presented indicate that the negative mediating effect of cultural distance on the role of natural resource endowment and innovation, which influence the investment decisions of multinationals.

The robustness of results is tested by system generalized method of moments (SYS-GMM), which is proved effective by AR(1) and AR(2) test and Sargan test. In Table 5, the regression results indicate that the coefficient signs of the core variables basically remain the same. The results are presented in Table 5.

Table 5 reports robustness test results for model (1), (2), and (3). The results presented in columns (1), (2), and (3) indicate that the cultural distance between the host and the home country also has a positive effect on the outward foreign direct investment, which implies that the effect of cultural distance is also nonlinear in the framework of OFDI by Chinese enterprises in the countries along the Belt and Road, and there is a negative mediating effect of cultural distance on the role of natural resource endowment and innovation, which influence the investment decisions of multinationals.

5. CONCLUSION

Although cultural distance is always regarded as a “risk” in the decision making of multinationals, it can also play a positive role. The results indicate that the effect of cultural distance is a nonlinear one. Based on the facts of OFDI by Chinese enterprises, the effect of cultural distance is nonlinear. It is also true of the case of OFDI by Chinese enterprises in the countries along the Belt and Road. In addition, the results presented indicate that the mediating effect of cultural distance on the role of natural resource endowment and innovation is negative. As the investment is a powerful driver of productivity and it raises living standards for people of both the home and the host countries, and thus it is of great significance to examine this effect, which is also conducive to guiding the multinationals involved in the investment to carry out a new round of investment.

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