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Study on the Influence of Cultural Factors on China-Latin American Trade^I

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Abstract: Summary analysis discovers that there are only a few literatures on the trade between the Latin America and Caribbean and China from the culture perspective, which is mainly caused by the lack of data. Based on the revised trade gravity model, the study used the multiple imputation methods to process the six cultural dimension data of 18 countries in Latin America and Caribbean, and select the sample trade data of the 18 countries from 2005 to 2014, to explore the impact cultural factors on the trade between China and Latin America and Caribbean trade. The results show that cultural differences have a negative impact on Latin America trade, and the influence of different cultural dimensions on the total import and export volume are different. China's import and export volume and the total amount of exports to Latin America and Caribbean are relatively consistent. This paper suggests that we should strengthen cultural exchanges and promote cultural integration in the process of China Latin America trade, and According to the impact of trade in the different cultural dimensions to take measures to promote long-term trade.

Key words: cultural dimension; China and Latin America and Caribbean; multiple imputation; trade gravity model.

Estudo Sobre a Influência de Fatores Culturais no Comércio China-América Latina

Resumo: Uma análise bibliográfica evidencia que existem poucas produções sobre o comércio entre a América Latina e o Caribe a China do ponto de vista cultural, algo causado principalmente pela ausência de dados sobre isso. Com base no modelo revisado de gravidade do comércio, o estudo usou os métodos de imputação múltiplos para processar os seis dados de dimensão cultural de 18 países da América Latina e do Caribe, selecionando a amostra de dados comerciais dos 18 países de 2005 a 2014 para explorar o impacto de fatores culturais no comércio entre a China e a América Latina e o Caribe. Os resultados demonstram que as diferenças culturais têm um impacto negativo no comércio com a América Latina, e que a influência das diferentes dimensões culturais no volume total de importação e exportação é diferente. O volume de importação e exportação da China e o valor total das exportações para a América Latina e o Caribe são relativamente consistentes. Este trabalho sugere que devemos fortalecer e promover o intercâmbio cultural no processo de comércio China América Latina, e de acordo com o impacto do comércio nas diferentes dimensões culturais para tomar

medidas para promover o comércio de longo prazo.

Palavras-chave: China e América Latina e Caribe. Contribuição Múltipla. Dimensão Cultural. Modelo de Gravidade do Comércio.

I. Introduction

Since China's accession to the WTO, China's foreign trade has shown an amazing growth rate, with the total trade volume increasing from US \$509.7 billion in 2001 to US \$4,303 billion in 2014. Foreign trade has increasingly become an important factor to promote China's economic development. Meanwhile, by 2014, the total import and export trade between Latin American countries and the Caribbean and China has reached US \$263.2 billion, accounting for more than 6% of China's total import and export, and showing a steady growth rate every year.^VBased on this analysis, Liu Weiguang (2008) pointed out that China-Latin America relations showed a trend of development in all aspects, and the development speed and level were at the best period in history.^{VI}China has signed free trade agreements with Chile, Costa Rica and Peru. Latin America and the Caribbean are becoming a significant part of China's foreign trade. Several positive factors, such as the "One Belt And One Road" strategy and high-level interaction between China and Latin America and the Caribbean in recent years, will be conducive to upgrading China-Latin America trade cooperation.

As for the research on the trade issues between China and Latin America and the Caribbean, the domestic research results are mainly carried out from the perspective of trade structure or trade system. Dong Guohui (2009) studied the trade structure between China and Latin America and the Caribbean, and pointed out that the competition of industrial structure was the main cause of trade friction while the trade and investment between China and Latin America and the Caribbean were growing rapidly.^{VII} Wu Guoping (2009) took the industrial and trade structure of China and Mexico as a starting point, and explored the development path of trade between China and Mexico in the process of upgrading the global industrial structure.^{VIII} Zhang Yong (2014) explored the economic and trade structure between China and Latin America and the Caribbean from the perspective of agricultural economic and trade cooperation, and pointed out that China should accelerate the process of agricultural trade between China and Latin America and the Caribbean by stages, focusing on key points and step by step.^{IX} Li Renfang (2014) made a targeted study on the bilateral trade asymmetry between China and Brazil, and pointed out that China and Brazil should make efforts to eliminate the trade asymmetry in order to facilitate the healthy development of bilateral trade.^X Li Ziying (2015) explored the path for the long-term development of China-Latin America economic and trade relations from the perspective of investment, trade and other fields. In terms of China-Latin America trade, she proposed to promote the complementarity of trade structure between China and Latin America, reduce trade frictions, promote the development of free trade and achieve all-round and rapid development.^{XI} Kong Qingfeng and Dong Hongwei (2015) calculated the trade system of major Latin American countries by using principal component analysis and trade gravity model, and proposed that trade

facilitation can greatly promote China's export.^{XII}

To sum up, the existing studies mainly study the China-Latin American trade issues from the perspective of trade and investment and its structure, but are lack of studies on the Sino-Latin American trade issues from the perspective of culture. The main reason may be that cultural differences are difficult to measure from the data. Through the literature search on the influence of cultural differences on trade, Beckerman (1956) proposed that not only geographical distance but also cultural distance would have an impact on bilateral trade.^{XIII} Tinbergen (1962) first proposed the trade gravity model to analyze bilateral trade.^{XIV} Hofstede divided cultural characteristics into six dimensions, which were power distance index (PDI), individualism index (IDV), masculinity index (MAS), uncertainty avoidance index (UAI), long-term orientation index (LTO), indulgence index (IND).^{XV} The intangible culture is presented in the form of data, and the multi-cultural development is based on six cultural dimensions by vector. Therefore, the scores of different countries in different cultural dimensions will correspond to different cultural characteristics. Hofstede established the connection between culture and mathematics in sociology, which greatly facilitated the empirical study of the influence of trade flows from the perspective of cultural distance in this paper.

Many scholars mainly used these two achievements for reference to explore and analyze the cultural distance to bilateral trade. Larimo (1998), starting from the trigger point of cultural distance's influence on trade, found that different cultural characteristics lead to great differences in organizational management behavior and decision-making within enterprises. Generally, enterprises will not copy the operation of the parent company in countries with large cultural gap.^{XVII} Lee (2009) drew the conclusion that cultural distance was negatively correlated with the export of cultural products through the research focusing on American film cultural products.^{XVIII} Arjen H. L. Slangen (2011), from the perspective of international companies, conducts an analysis at the micro level and finds that cultural distance has a great relationship with the import and export of their transnational companies.^{XIX} Tadesse and White (2008) studied the influence of the cultural distance of immigrants on the export of the United States, and found that a large cultural distance between the United States and the source of immigrants would reduce the possibility of trade export.^{XX} Linders (2005) found that the larger the cultural distance, the stronger the complementarity, the larger the trade volume, while the greater the institutional distance, the opposite impact on the trade volume.^{XXI}

In the domestic study, Qu Ruxiao (2011) used Pythagoras theory and extended gravity model to test the influence of cultural distance on Chinese cultural products, and concluded that too much cultural distance between the trade target country and China would affect China's export volume.^{XXII} Based on the revised trade gravity model, Chen Hao and Chen Xiaoming (2011) conducted an empirical study on the panel data of 19 countries in China covering a span of 7 years, and found that every 1% increase in cultural distance would reduce the export trade volume by about 0.815%.^{XXIII} Song Yimiao (2015) pointed out that the cultural characteristics of the two countries are different, and the scores of each cultural

dimension have different influences on the trade flows, rather than the simple negative correlation of each cultural dimension.^{xxiv} Tian Hui (2015) used the cultural cluster theory to divide the 31 countries with frequent trade in China into 6 cultural clusters, and made an empirical analysis of the cultural distance and trade between different cultural clusters, concluding that the cultural distance of different clusters has different influences on the import and export, and the influence of export is relatively higher.^{xxv} Xu Helian and Zheng Chuan (2014) made an empirical analysis on the data of 54 major trading countries of China and found that differences in humanistic values have a positive impact on trade exports, while cultural distance has a negative impact. In specific cultural dimensions, only power distance has a promoting effect, while other cultural dimensions have no significant effect.^{xxvi} Qu Ruxiao and Liu Yang (2015) pointed out that cultural distance has a negative effect on the export trade of China's cultural products, but has no significant impact on the intensive margin.^{xxvii} The results held true across all cultural dimensions. Kan Daxue and Luo Liangwen (2011) made a regression of the trade data of 28 countries and found that the overall cultural differences and all dimensions had an inverted U-shaped relationship with China's trade.^{xxviii}

From the literature mentioned above, it can be found that we can use Hofstede's cultural data to study the bilateral trade between China and Latin America.^{xxix} However, few studies have used this method to study trade between China and Latin America. Comparison of literature results shows that this method is mainly caused by the lack of data. The cultural dimension previously given by Hofstede is only 4 dimensions, but it has been gradually improved and extended to 6 dimensions in recent years. Moreover, the number of countries in the database is small, and there are often missing values in the data of the last two dimensions. Therefore, in the case of a small number of complete samples, it is difficult for scholars to conduct empirical analysis on local trade. Therefore, based on the cultural data of 102 countries, this paper uses multiple interpolation method to recover some missing values of 18 Latin American countries, and uses the revised trade gravity model to study the influence of cultural distance on Sino-Latin American trade, and puts forward corresponding suggestions.

II. Model design and variable interpretation

For the analysis of trade volume and cultural distance between the two countries, we draw on the trade gravity model constructed by Tinbergen (1962). The model of trade gravity points out that the amount of trade between two countries is inversely proportional to the geographical distance between two countries and directly proportional to the GDP between two countries. The original model is as follows:

$$T_{ij} = \frac{f(Y_i Y_j)}{D_{ij}}$$

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T_{ij} is the volume of import and export trade between the two countries, and Y_{ij} is the GDP of the two countries respectively, and D_{ij} is the geographical distance between the two countries.

In the analysis of the relationship between the trade flows between China and Latin America, because the geographical distance between Latin American countries and China is very large, the impact of geographical distance on the trade flows is very small, so the geographical distance is ignored in the model construction, and the cultural distance is replaced, and other influential variables are added. The explanatory variables included FTA, cultural distance D, power distance index PDI, individualism index IDV, masculinity index MAS, uncertainty avoidance index UAI, long-term orientation index LTO, and indulgence freedom index IND. The main body improvement model is shown as follows:

$$\begin{aligned} \ln T_j = & \alpha_0 + \alpha_1 \ln Y_c + \alpha_2 \ln Y_j + \alpha_3 D_j + \alpha_4 FTA_{cj} + \alpha_5 PDI_j + \alpha_6 IDV_j \\ & + \alpha_7 MAS_j + \alpha_8 UAI_j + \alpha_9 LTO_j + \varepsilon_j \end{aligned}$$

In this model, the GDP and trade flows between the two countries are logarithmically represented as linear regression. Because the calculation method of cultural distance is relatively special, the small value of logarithmic processing will cause a great error in the empirical aspect of the model, so the logarithmic processing is not allowed. Join a free trade agreement to explore its impact on trade flows between the two countries. Then six variables of cultural dimension are added to explore the relationship between the two countries' trade flows and their specific cultural differences.

III. Data source description

This paper studies the influence of trade flows and cultural distance between Latin America and the Caribbean and China. Therefore, the sample countries in Latin America and the Caribbean should be those countries with large trade volume and whose cultural dimension has been measured. Brazil, Argentina, Mexico, Venezuela, Costa Rica, Honduras, Jamaica, Suriname, El Salvador, Chile, Colombia, Panama, Uruguay, Peru, Ecuador, Guatemala, Trinidad and Tobago, and the Dominican Republic were selected in this paper. From Table 1, we can see that the trade flow between these 18 countries and China accounted for about 95% of Latin America from 2005 to 2014, and this proportion showed a trend of steady increase. Both imports and exports from China to Latin America and the Caribbean reached more than 91%. Therefore, the selection of these 18 countries has a strong representation in a statistical sense.

Table 1 China's import and export trade with 18 countries^{xxx}

	Total Imports and Exports	Proportion	Total Imports (USD 10,000)	Proportion	Total export value (ten thousand)	Proportion

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	(USD 10,000)				US dollars)	
2005	4800578	95.13%	2628160	98.12%	2172418	91.74%
2006	6634241	94.50%	3341479	97.77%	3292768	91.39%
2007	9775255	95.23%	4970425	97.25%	4804829	93.23%
2008	13744189	95.84%	7027891	98.09%	6716297	93.59%
2009	11698023	95.99%	6370589	98.36%	5327434	93.31%
2010	17651748	96.12%	9015547	98.16%	8636201	94.08%
2011	23297972	96.52%	11728162	98.01%	11569808	95.05%
2012	25259953	96.67%	12394663	98.31%	12865293	95.15%
2013	25335387	96.93%	12538237	98.39%	12797150	95.53%
2014	25413714	96.53%	12481488	98.24%	12932224	94.93%

The selection time of this paper is from 2005 to 2014, and the time span of the sample is 10 years, with strong representativeness. Since China's entry into WTO in 2001, China's trade volume has shown a steady growth trend. Therefore, the selection of this period of time also has a strong practical significance.¹⁸ countries GDP and trade flow data from the national statistical yearbook and <http://www.tradingeconomics.com>. As mentioned in Tinbergen (1962), trade flows between China and Latin America and the Caribbean are positively correlated with GDP of the two countries. Therefore, this paper predicts that trade flows between China and Latin America and the Caribbean are positively correlated with GDP of the two countries.

The variable whether there is a free trade agreement is also included in this paper. If there is a free trade agreement, the value is 1; otherwise, it is 0. The data comes from <http://fta.mofcom.gov.cn>, where only Peru, Costa Rica, Chile and China have free trade agreements, so the value of these three countries in this variable is 1, and the value of other countries is 0.^{XXXI}

The data of cultural differences in this paper are mainly divided into power distance index (PDI), individualism index (IDV), masculinity index (MAS), uncertainty avoidance index (UAI), long-term orientation index (LTO), indulgence index (IND). The data are mainly from <http://gerrit-hofstede.com>. The scores for each cultural dimension ranged from 0 to 100. The different scores in six cultural dimensions measure the cultural characteristics of a country.

^{XXXII} The Power Distance Index (PDI) measures the acceptance of the distribution of power within a society by groups with lower power. In societies with low PDI, people try to balance the distribution of power. The higher the index, the higher the rating acceptance. Countries with higher indices tend to have tighter hierarchies in their trade dealings and to have a greater preference for clear and strict trade procedures. Individualism Index (IDV) Individualism corresponds to collectivism. Individualism simply refers to a more relaxed social structure in which people are more concerned with themselves and their immediate families. The opposite is collectivism. The higher the index, the higher the degree of individualism. Countries with higher indexes work in a contractual relationship between

employees and the organization, where work tasks outweigh personal relationships and all customers are treated equally. Masculism Index (MAS) masculism refers to achievement, self-confidence, material rewards, heroism, while high masculism indicates that a society is highly competitive. Its counterpart is feminism, which refers more to cooperation, humility and concern for the weak. The higher the index, the higher the degree of competition and the focus on job performance. Therefore, in terms of trade transactions, countries with a higher index pay more attention to work efficiency and have more optimized work procedures. Uncertainty avoidance (UAI) measures the degree to which a social group feels that uncertainty has occurred. The stronger the uncertainty avoidance, the stronger the principle of things, the lower the degree of tolerance to uncertainty. The higher the index, the greater the degree of uncertainty avoidance. In trade, countries with higher indices tend to be more sensitive to the terms of the contract, more clear about the responsibilities of both parties, and more risk averse. The Long Term Orientation Index (LTO) measures how much a country or nation perceiving things to have changed. Countries with low scores tend to be more skeptical of things changing, whereas those with low scores tend to be more pragmatic and change faster. In trade transactions, countries with a higher index pay more attention to long-term interests and are willing to sacrifice current interests for greater benefits in the future. The Indulgent Freedom Index (IND) measures how much a social group indulged in the free enjoyment of human nature. The higher the score, the higher the indulgence. Countries with a higher index value the degree of free enjoyment, and spiritual satisfaction is often more important, while the degree of cooperation pleasure is the aspect that needs to be valued.

The mathematical expression of cultural distance:

$$D_j = \frac{1}{6} \sum_{i=1}^6 \frac{(S_{ij} - S_{ic})^2}{Var_i}$$

D_j represents the cultural distance between the j country and China, S_{ij} represents the score of the j country in the i cultural dimension, S_{ic} represents the score of China in the i cultural dimension, and Var_i represents the sample variance of the scores of the 18th country in the cultural dimension.

IV. Multiple interpolation of data

In the studies on the influence of cultural factors on trade, many of them adopt samples with complete data for processing and analysis, resulting in the regression under small samples will cause the error of the results to increase. Therefore, in order to better study the impact of cultural factors on China-Latin America trade, this paper adopts the multiple interpolation model under the multivariate normal model to recover and correct the missing data, so as to conduct a more reliable analysis on this basis.

Model Assumptions:

1. All variables are normally distributed;

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2. Each variable can be represented linearly by other variables and the error term of the normal homoscedasticity.
3. Assume that missing data is randomly missing (MAR).

The normality of the variable will determine the efficiency of interpolation data. The estimator of missing data is obtained by regression of other data, and the parameters of regression are randomly extracted from the Bayesian posterior distribution. Finally, the predicted value of missing data should be added to the random value of the normal residual distribution to obtain robust standard error.^{xxxiii}

For multiple interpolation, SAS software is used in this study.^{xxxiv} In this paper, the values of the six cultural dimensions of 18 countries have some missing values in LTO and IND. Complete data due to 18 countries a total of only 11 to complete data, 7 for missing data, and missing data in LTO, IND, so in order to assure the data value after interpolation has great trust, we climb from www.gerrit-hofstede.com using Python software took a total of 102 countries all of the data, a total of 78 to complete data, 24 for missing data, and missing data in the UAI, LTO, IND.

After multiple interpolation with SAS software, five groups of simulated data were obtained, and the first group was selected as the analysis data set.^{xxxv}

Table 2 18 Cultural dimension data of countries^{xxxvi}

Countries	PDI	IDV	MAS	UAI	LTO	IND
Brazil	69	38	49	76	44	59
Argentina	49	46	56	86	20	62
Mexico	81	30	69	82	24	97
venezuela	81	12	73	76	16	100
Costa rica	35	15	21	86	15	58
Honduras	80	20	40	50	27	86
Jamaica	45	39	68	13	79	14
suriname	85	47	37	92	78	31
El Salvador	66	19	40	94	20	89
Chile	63	23	28	86	31	68
Colombia	67	13	64	80	13	83
panama	95	11	44	86	30	14
Peru	64	16	41	7	25	46
Ecuador	78	8	63	67	66	41
Uruguay	61	36	38	99	26	53
Guatemala	95	6	37	99	63	62
Trinidad and Tobago	47	16	58	53	13	80
Dominican Republic	65	30	65	45	13	54

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Table 3 Analysis of multiple interpolation results

Parameter estimation									
vari able	The averag e	Standa rd error	95% confidence interval		Degree s of freedo m	The minimu m value	The maximu m	P values	Relative efficien cy
UAI	61.56	2.29	57.00	66.11	88.03	61.02	62.25	The <.0001	98.99%
LTO	43.79	2.40	38.97	48.60	56.49	43.27	45.30	The <.0001	96.89%
IND	51.16	2.95	44.92	57.41	16.29	48.80	53.00	The <.0001	91.51%

T test was performed on the six variables and the following results were obtained:

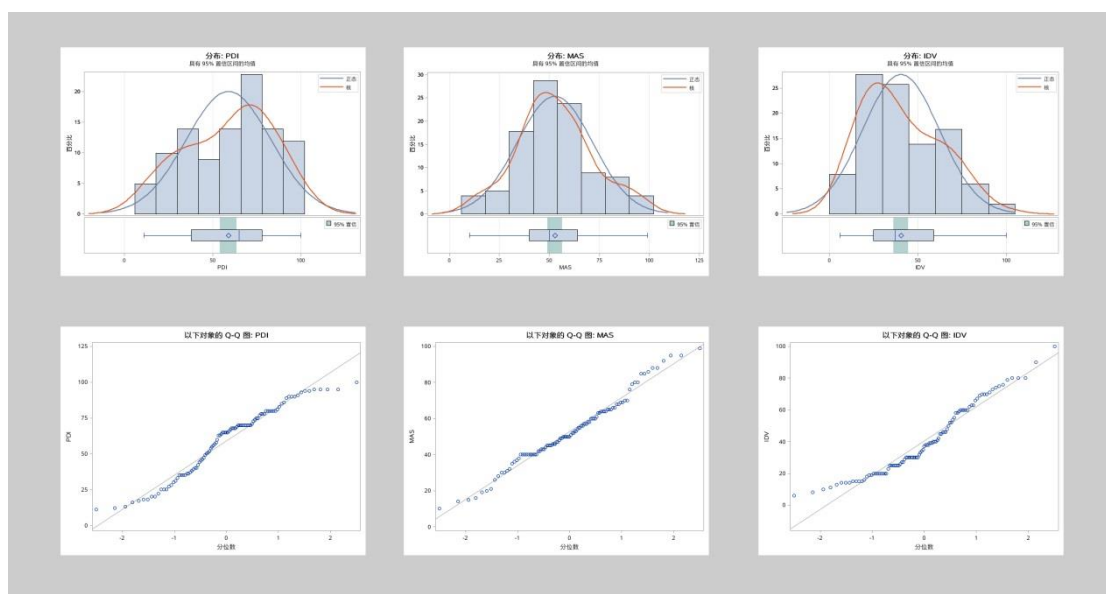


Figure 1 Normal test 1

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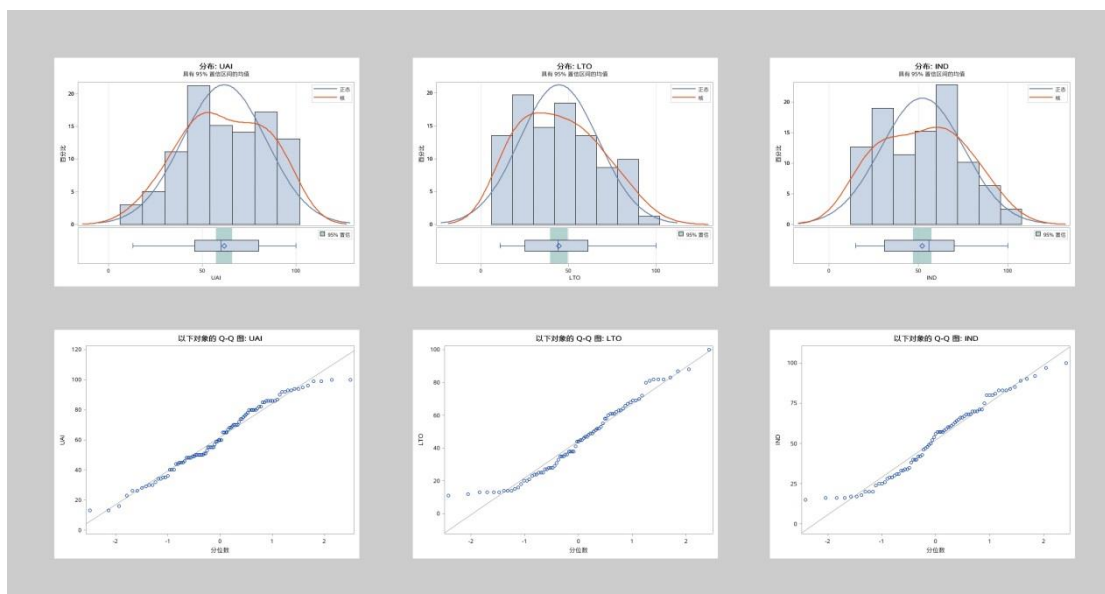


Figure 2 Normal test 2

As can be seen from Figure 1 and Figure 2, the data distribution of the first three variables PDI, MAS and IDV tends to be more normal than that of the last three variables with missing values. Therefore, the accuracy of missing values obtained through the regression of the first three explanatory variables will greatly increase. In the three variables of UAI, LTO and IND, the absence of right tail, left tail and left tail appeared respectively. On the whole, the normal distribution of the six variables is relatively obvious.

However, the interpolation efficiency of missing data in UAI, LTO and IND reaches 98.99%, 96.89% and 91.51%, respectively. Therefore, multiple interpolation has good credibility for data interpolation of cultural dimensions in 18 countries.

V. Empirical results and analysis

(1) Empirical results

The experimental data in this paper are mainly 180 groups of observed values from 2005 to 2014 in 18 countries. In order to better analyze the impact of cultural distance on Sino-Latin America trade, we adopted panel regression analysis.

1. Panel model selection:

(1) In order to determine the individual effect model or the mixed model, we used the F test.

We found that the F statistic $F(17,159) = 101.98$, $P = 0.000$, so the null hypothesis that all individual effects are 0 was rejected, so the individual effects model should be adopted.

(2) On the basis of significant individual effects, we further selected fixed effect model and random influence model, and we adopted Hausman test. In the test results, $\chi^2(2) = 1.33$, $P = 0.5139$, so the null hypothesis cannot be rejected, so the random effects model is

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chosen.

2. Using the random effects model to conduct panel regression on the data, the following results are obtained:

Table 4 is a simple statistical description of the sample

variable	Number of observations	The average	The median	The maximum	The minimum value	The standard deviation
Logarithm of China's GDP	180	10.86	10.82	11.55	10.02	0.49
Logarithm of GDP of other countries	180	6.58	6.21	10.12	2.89	1.60
Logarithm of total import and export trade	180	12.45	12.57	16.01	8.43	1.77
Logarithm of total import trade	180	10.73	11.04	15.51	5.72	2.74
Logarithm of total export trade	180	11.94	11.76	15.09	8.26	1.57
Power distance index	180	68.02	66.00	95.00	35.00	16.46
Individualism index	180	23.48	19.00	47.00	6.00	12.67
Masculinity index	180	49.57	49.00	73.00	21.00	15.01
Uncertainty avoidance	180	70.83	80.00	99.00	7.00	26.57
Long term guidance index	180	33.22	25.00	78.89	13.00	21.77
Indulgence index	180	61.14	62.00	100.00	13.75	24.93
Free trade agreement	180	0.17	0.00	1.00	0.00	0.37
Cultural distance	180	2.35	2.11	4.20	1.22	0.77

Table 5 Influence of cultural distance on total import and export trade

Variable	The coefficient	Standard error	T value
Constant term	0.462341	1.165513	0.396684
The logarithm of the GDP of other countries	0.880069***	0.101431	8.676567
Logarithm of China's GDP	0.584676***	0.078417	7.455980
Cultural distance	0.263040**	0.115533	2.276757
Free trade agreement	1.215183***	0.360482	3.370995
Power distance index	0.015063***	0.006786	2.219765
Individualism index	0.003591	0.008590	0.418100
Masculinity index	0.003415	0.011582	0.294859
Uncertainty avoidance index	0.011607**	0.004870	2.383171
Long term guidance index	0.015503*	0.008220	1.885863
Indulgence index	0.021655***	0.006435	3.365374

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The adjusted R squared	0.85628
Section number	18
observations	180

Table 6 Influence of cultural distance on total import trade

Variable	The coefficient	Standard error	T value
Constant term	2.402926	3.574533	0.672235
The logarithm of the GDP of other countries	1.123007***	0.245734	4.570006
Logarithm of China's GDP	0.467595	0.332574	1.405986
Cultural distance	0.764130***	0.281191	2.717477
Free trade agreement	2.857971***	0.848821	3.366990
Power distance index	0.010262	0.010991	0.933642
Individualism index	0.040385**	0.017881	2.258592
Masculinity index	0.009161	0.027067	0.338446
Uncertainty avoidance index	0.012611*	0.007446	1.693565
Long term guidance index	0.000344	0.008669	0.039626
Indulgence index	0.006070	0.009738	0.623364
The adjusted R squared	0.57		
Section number	18		
observations	180		

Table 7 Influence of cultural distance on total export trade

variable	The coefficient	Standard error	T value
Constant term	0.797147	1.382053	0.576785
The logarithm of the GDP of other countries	0.812400***	0.094732	8.575761
Logarithm of China's GDP	0.661777***	0.080365	8.234611
Cultural distance	0.123767	0.114469	1.081228
Free trade agreement	0.421939	0.441717	0.955225
Power distance index	0.024643***	0.007616	3.235827
Individualism index	0.001218	0.009034	0.134863
Masculinity index	0.003167	0.011233	0.281968
Uncertainty avoidance index	0.008123**	0.004049	2.006447
Long term guidance index	0.016487**	0.007541	2.186284
Indulgence index	0.023163***	0.006208	3.730878
The adjusted R squared	0.93		
Section number	18		
observations	180		

3. Endogeneity test: After determining the random effect model, we further tested the endogeneity of explanatory variables. Hausman test was adopted, and the test results showed that $\chi^2(1) = 1.08$ and $P = 0.2989$. Therefore, the null hypothesis could not be rejected, so we could conclude that D in the explanatory variable was not an endogenous variable.

(2) Empirical analysis

Table 5, Table 6 and Table 7 respectively show the regression analysis results of the import and export trade volume, import trade volume and export trade volume between China and 18 Latin American and Caribbean countries. Through the observation of the results of the three tables, we can see that the coefficients of the cultural distance variable are all negative. It can be seen that the greater the cultural difference is, the greater the impact on the trade between the two countries will be. From the comparison of the three tables, it can be seen that cultural distance has a great influence on China's import and export to Latin America and the Caribbean, and the coefficient value reaches -0.26, that is, if the cultural distance increases by 1 unit, China's import and export trade to Latin America and the Caribbean will decrease by 0.26%. Cultural distance has the greatest influence on the total import trade, which reaches -0.76.

In the three regression results, the coefficients of GDP variables in other countries are all positive and significant at the level of 1%, with the coefficients reaching 0.88, 1.12 and 0.81 respectively. It can be seen that the GDP of other countries has a greater impact on China's import volume. This may be because China's trade with Latin America and the Caribbean is mainly focused on iron ore, meat and other basic resources. For China's GDP in table 5 and table 7 are significant under 1% level, but not significant in the table 6, the GDP of the country joined the other may be due to the variable, China's import trade structure for Latin America and the Caribbean was evidently affected by other countries, and sustained growth in China's GDP at the same time, Latin America and the Caribbean in the economic environment is not as China's continued growth.

Among the variables of free trade agreements, the coefficients in Table 5 and Table 6 are both positive and significant at the level of 1%, indicating that the free trade agreements signed by China and some countries in Latin America and the Caribbean have a significant positive promoting effect on the trade between China and those countries. But in table 7, the variable is not significant, it can be seen that this may be due to China is not yet signed a free trade agreement of other countries such as Brazil, Argentina and so on also has a larger volume, and countries such as Peru, Chile, Costa Rica's exports are similar, therefore the variable in China on exports to Latin America and the Caribbean countries are not significant.

In the variable of power distance index, the coefficient value in Table 5 is -0.26, which is significant at the level of 1%, indicating that if the power distance index is too high, the trade flow between China and Latin America will be reduced. China's power distance index is as high as 80. Therefore, if the power distance index of both trading parties is too high, the

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bilateral trade will inevitably be affected. In Tables 6 and 7, the influence value of power distance index on import is negative but not significant, while the influence value on export is positive and significant at the level of 1%. Higher power distance index can promote the export.

Among the individualism index variables, the coefficient values in Table 5 are positive, but not significant. In Tables 6 and 7, the individualism index has a positive impact on the import trade volume with a coefficient value of 0.04, which is significant at the level of 5%. This indicates that a higher index of individualism is beneficial to China's imports from Latin America and the Caribbean. On the other hand, the value of export is negative, with small absolute value and not significant.

In the index variable of masculinity, the results in Tables 5, 6 and 7 are not significant. Therefore, the index of masculinity has no obvious influence on the trade between China and Latin America.

In the case of uncertainty avoidance, in Table 5, the coefficient value is positive, up to 0.012, and significant at the level of 5%. The index of China is only 30, indicating that the high UAI has a positive effect on the trade between China and Latin America. The coefficients in Table 6 and Table 7 are also positive and significant at the level of 10% and 5% respectively, indicating that the high and low complementarity of UAI index of both sides in bilateral trade has a great promoting effect on it.

Among the long-term guiding variables, the coefficient value in Table 5 is -0.02 and significant at the level of 10%. China has a score of 87 in the index, so Latin America and the Caribbean have a weakening effect on their trade with China among countries with higher scores. In Tables 6 and 7, the impact on the import trade volume is positive, but the absolute value is small and not significant, while the impact on the export trade volume is negative and significant at the level of 5%.

In the indulgent index variable, the coefficient value in Table 5 is -0.02, and it is significant at the level of 1%. In this index, China scores 24, China's indulgence index is low, so it has a strong ability to restrain. So the stronger the constraint, the less the bilateral trade will be used. However, in Tables 6 and 7, the influence on import is not significant, while the negative influence on export is -0.02 at the 1% level.

VI. Conclusion

Through the analysis of the trade data of 18 representative countries in Latin America over 10 years using the random impact model regression, the following conclusions are drawn:

1. Promote communication and integration between the two sides. The results show that cultural distance has a negative and significant impact on Sino-Latin American trade. The big cultural difference will restrict the rapid development of Sino-Latin America trade. In the process of friendly cooperation between China and Latin America, the promotion of cultural

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exchanges and integration between the two sides and the reduction of cultural differences will promote the import and export of trade to a certain extent.

2. The FTA between China and Latin America should be expedited. The signing of free trade agreement has a significant positive impact on Sino-Latin American trade. The signing of the FTA will help alleviate the prejudice against Chinese products in Latin America and the Caribbean, effectively overcome some risky problems and obstacles, and further reduce the trade barriers between China and Latin America and the Caribbean, and reduce bilateral trade frictions.

3. Pay attention to the influence of various cultural dimensions on Sino-Latin American trade in the process of cultural blending. It is suggested that the economic cooperation rules of the two countries should be strictly formulated and a strict mechanism should be formed in the process of trade. Strict legal system should be used to avoid the occurrence of uncertainty. In terms of trade contracts, it is necessary to strictly formulate the trade responsibilities of both sides and reduce trade disputes. The degree of preference can be increased in bilateral trade. In the import between China and Latin American and Caribbean countries and regions, on this basis, we should treat our partners more equally, respect each other's cultural customs and working habits, and attach greater importance to contractual relations. In terms of export, the countries and regions in Latin America and the Caribbean should also increase preferential policies in cooperative trade. The preferential policies can be related to the promotion of cultural and entertainment incentives of the partners on the basis of cooperation, so as to promote long-term trade cooperation.

4. Enhance cultural exchange projects and trade culture training in China-Latin America trade. In the era of increasingly frequent trade exchanges, it is necessary to pay attention to the impact of cultural differences on economic trade. Cultural differences lead to differences in the cultural value and commercial judgment of bilateral trade. In economic and trade exchanges, promoting cultural integration, respecting the cultural concepts of both sides, gradually making the cultures compatible, reducing cultural trade barriers and enhancing mutual understanding and trust are conducive to the steady and healthy development of bilateral economic and trade.

Endnotes

^I China-Latin America refers to China and Latin America and the Caribbean, the same goes for the latter.

^{II} Song Yimiao, Central University of Finance and Economics, Regional Economics.

^{III} Female, Central University of Finance and Economics, Regional Economics

^{IV} Central University of Finance and Economics.

^V Data came from China Statistical Yearbook.

^{VI} Liu Weiguang, "Latin America and the Caribbean: A Review of Diversity and Challenges," International Academic Forum of the Chinese Academy of Social Sciences, Latin American Studies, No. 2, 2008, pp. 73-74.

^{VII} Dong Guohui, Cooperation and Conflicts in the Economic and Trade Relations between China and Latin America, Latin American Studies, No.3, 2013, pp. 42-48.

^{VIII} Wu Guoping, A Comparative Study of the Industrial and Trade Structure between China and Mexico, Latin

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^{IX} Zhang Yong, The Development Trend of Agricultural Trade and Investment between China and Latin America and the Caribbean, *Latin American Studies*, No.4, 2014: pp. 73-78.

^X Li Renfang, A New Interpretation of the Trade Structure between China and Brazil: A Chinese Perspective, *Latin American Studies*, No.3, 2014, pp. 40-48.

^{XI} Li Ziying, The Path Choice for the Long-term Development of China-Latin America Economic and Trade Relations, *Latin American Studies*, No.2, 2015, pp. 67-72.

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^{XIII} Beckerman, W., Distance and the Pattern of Intra-European Trade, *The Review of Economics and Statistics*, Vol.38, No.1, 1956, pp.31-40.

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^{XV} Hofstede, G, National Cultures in Four Dimensions: A Research-Based Theory of Cultural Differences among Nations, *International Studies of Management & Organization*, Vol.13, No.1/2, 1983, pp. 46-74.

^{XVI} At first, cultural features were divided into four dimensions, and then LTO and IND were gradually added to form a system of cultural features with six cultural dimensions.

^{XVII} Hennart, Jean-François, and LarimoJorma, The Impact of Culture on the Strategy of Multinational Enterprises: Does National Origin Affect Ownership Decisions?, *Journal of International Business Studies*, Vol.29, No.3, 1998, pp.515-538.

^{XVIII} Yuri Lee, Soyoung Kim, Yoo-KyoungSeock, Yunjin Cho, Tourists' attitudes towards textiles and apparel-related cultural products: A cross-cultural marketing study, *Tourism Management*, Vol.30, No.5, 2009, pp.724-732.

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^{XX} Roger White and Bedassa Tadesse, Cultural Distance and the US Immigrant-trade link, *The World Economy*, Vol.31, No.8, 2008, pp.1078-1096.

^{XXI} Linders, G.M., Slangen, A., De Groot, H.L.F. and Beugelsdijk, S., Cultural and institutional determinants of bilateral trade flows, *Tinbergen Institute Discussion Paper*, No.7, 2005, pp. 1-28.

^{XXII} Qu Ruxiao, Yang Xiu, Liu Yang. Cultural Differences, Trade Cost and China's Export of Cultural Products. *Journal of World Economy*, No. 9, 2015, pp. 130-143.

^{XXIII} Chen Hao and Chen Xiaoming, The Influence of Cultural Distance on Export Trade: An Empirical Test Based on the Modified Gravity Model, *Journal of Economic Problems in China*, No.6, 2011, pp. 76-82.

^{XXIV} Song Yimiao, Li Zhuo, Yang Haolong. Cultural Distance and Spatial Distance: The Impact of Cultural Differences on China's Foreign Trade, *Journal of Macroeconomic Research*, No. 9, 2015, pp. 88-97.

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^{xxix} Hofstede, Geert et al., Measuring Organizational Cultures: A Qualitative and Quantitative Study Across Twenty Cases, in *Administrative Science Quarterly*, Vol.35, No.2, 1990, pp.286–316.

^{xxx} Data came from China Statistical Yearbook.

^{xxxi} Colombia is in the process of signing a free trade agreement with China, so the value is still 0, which is hereby explained.

^{xxxii} Feng Naixiang, A Brief Introduction to Hofstede and Its Cultural Dimension, *Journal of International Business and Economics*, No.1, 2008, pp.37-41.

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^{xxxiv} Allison, Paul D., *Missing Data*, Shanghai: Gezhi Publishing House, 2012.

^{xxxv} The first group was selected because after t test, the normal distribution in the data was the best, and outliers greater than 100 and close to 0 appeared in the other groups.

^{xxxvi} The data metrics and data properties are available at <https://www.geert-hofstede.com/>.

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