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The Determinants and Potential Estimation of China's Cultural Product Trade with RCEP Member Countries

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Abstract: This study utilizes panel data from 2006 to 2020 on cultural product trade between China and RCEP member countries, applying pooled least squares regression. Through an analysis that includes both aggregate and categorized levels, and employs static and dynamic panel gravity models, the paper empirically investigates the factors influencing China's cultural trade flows with RCEP countries and estimates the trade potential of cultural products between China and each member country. The findings indicate that China's GDP, the population size of RCEP countries, advancements in technology, Confucian cultural ties, and territorial adjacency are significant drivers of cultural product trade. Moreover, China's cultural product exports demonstrate consumption network externalities, which enhance cultural trade by shaping foreign consumer preferences. At present, there exists substantial untapped potential for cultural product trade between China and RCEP member countries. These conclusions offer both a theoretical framework and empirical validation for the high-quality development of China's cultural trade. The paper concludes with policy recommendations, including the continued development of the real economy, expanded cooperation in technology sectors within RCEP, reduction of bilateral cultural distances, promotion of Confucian culture, and the formulation of strategies for export market diversification and differentiation of cultural products.

Keywords: RCEP; Trade Gravity Model; Cultural Product Trade; Consumption Network Externalities

1. Introduction

As the global economy continues to develop, the demand for cultural products and services has been steadily increasing, positioning cultural product trade as one of the fastest-growing sectors within international trade. The official signing of the Regional Comprehensive Economic Partnership (RCEP) represents the establishment of the world's largest free trade agreement, which also promises to enhance trade liberalization among RCEP member countries, particularly in the area of cultural trade. From 2006 to 2020, China's exports of cultural products to RCEP countries have shown a consistent upward trend, growing from USD 1.43 billion in 2006 to USD 5.05 billion in 2020. This growth has been primarily

driven by increased exports of visual arts and crafts, with the total export value of these products rising from USD 800 million in 2006 to nearly USD 4 billion in 2020. Consequently, China should capitalize on the opportunities for cultural exchange and cooperation with RCEP member countries, actively seeking to expand the export volume of various cultural products, thereby promoting the global dissemination of Chinese culture and enhancing its cultural "soft power."

Cultural products are characterized by both their economic and cultural dimensions, and their export serves as a conduit for conveying a nation's cultural values. Key theoretical frameworks for understanding the trade of cultural goods include the studies by Janeba (2007), Rauch (2009) and Maystre (2014), which emphasize the significance of network externalities in cultural products. Cultural products, being socially consumed, result in cultural identity through the interaction of individual consumption choices, a process that shares network externalities similar to those observed in language. These network externalities are evident in the fact that consumers purchase products not only for their practical utility but also for their symbolic significance (Levy, 1959; individuals tend to prefer products that resonate with their personal identity and values (Sirgy, 1982). Therefore, in examining the trade of cultural products, it is essential to consider not only the factors affecting general goods trade but also the influence of consumption network externalities, cultural proximity, and cultural discount.

In this context, this paper investigates the trade of cultural products between China and RCEP member countries, aiming to estimate the factors influencing China's cultural product exports and the potential for trade with RCEP countries. This study provides empirical evidence to support the high-quality development of cultural trade between China and RCEP countries. The remainder of this paper is structured as follows: Section 2 reviews the relevant literature; Section 3 outlines the econometric model based on the gravity equation and details the data sources; Section 4 presents the empirical results from the static and dynamic panel models and studies the determinants of cultural trade, then estimates the cultural trade potential of each country; and Section 5 summarizes the main conclusions and offers corresponding policy recommendations.

2. Literature Review

The integration of cultural products and services into the analytical framework of international trade theory began in the 1980s, with scholars during this period examining the relevance of comparative advantage theory, the theory of similar demand, and economies of scale theory to cultural trade. Since the turn of the 21st century, there has been a rapid increase in empirical research on cultural product trade, with both domestic and international scholars frequently utilizing methods such as the gravity model, diamond model, grey relational analysis, and multiple regression analysis. Schulze (1999) was one of the first to propose the application of economic theories underpinning the gravity model to the empirical analysis of cultural product trade, which led to its widespread adoption by international scholars in exploring the determinants of cultural trade. For example, Marvasti and Canterbury (2005) employed the gravity model to explain the dominance of the United States in film trade, while Chan-Olmsted et al. (2008) used it to investigate the effects of economic environment, geographical proximity,

technological infrastructure, and market size on the demand for movies and video programs imported from the United States. Liu et al. (2020) also used the gravity model to argue that cultural and institutional distances have constrained bilateral trade between China and countries along the "Belt and Road" Initiative. Theoretical alternatives to the gravity equation encompass several assumptions: Eaton and Kortum (2002) put forth a model of perfect competition accounting for technological differences; Melitz and Ottaviano (2008) introduced a model of monopolistic competition with variable demand elasticity; Chaney (2008) incorporated firm heterogeneity; and Disdier et al. (2010) utilized a standard monopolistic competition model—incorporating CES demand functions and iceberg trade costs—to demonstrate that shared language facilitates bilateral trade in cultural products such as books and newspapers, colonial history fosters cultural heritage trade, and cultural product consumption exhibits addictive characteristics.

Chinese scholars initiated research on cultural trade somewhat later, with initial studies focusing on analyzing the factors influencing cultural trade. Wang and Qin (2015) employed an extended gravity model to perform both static and dynamic analyses of the determinants of China's cultural product exports. Wei and Zhong (2016) applied an extended gravity model to empirically examine the impact of consumption addiction and cultural discount on China's core cultural product exports. Jia and Lü (2017) found, through an empirical analysis using the gravity model, that trade scale, industrial structure, and economic scale are the key determinants of China's cultural trade exports. Similarly, Lan and Lü (2018) empirically established that the economic scale of importing countries and the productivity levels within the cultural industry significantly contribute to the growth in both the quantity and diversity of cultural product exports. In the realm of trade potential estimation, Zhao and Shen (2020) utilized the gravity model to estimate the trade potential between China and various countries, identifying disparities in trade potential. Tu (2014) applied the gravity model to reveal that 19 out of 26 sampled countries (regions) exhibit "under-trade" with China in cultural products, suggesting that China has considerable untapped export potential in cultural goods.

A review of existing literature indicates that much of the research has concentrated on cultural trade with countries along the "Belt and Road" Initiative (Feng, Q., 2020; Fang, Y. & Ma, R., 2018; Li S. et al., 2017), as well as on bilateral cultural trade (Cui C. & Lü W., 2019; Wang L. & Huang F., 2021). However, since the Regional Comprehensive Economic Partnership (RCEP) was only formally signed in 2020, academic research on cultural product trade between China and RCEP member countries remains limited. Chen and Lü (2022) analyzed China's cultural product exports to other RCEP member countries from four perspectives: overall scale, market structure, product composition, and primary distribution. They emphasized that understanding the determinants of cultural product exports is crucial for advancing China's cultural exports to other RCEP member countries through both government and corporate initiatives. Cai and Wei (2023) found, through an empirical study using the gravity model, that factors such as trade liberalization, population size, cultural distance, RCEP partner status, and China's per capita GDP significantly influence China's cultural product exports to RCEP partner

countries. Currently, these countries are seen as potential growth markets with substantial trade opportunities.

These studies provide a comprehensive theoretical foundation for this paper. The potential unique contributions of this paper are as follows: First, in terms of research focus, while many existing studies have concentrated on comprehensive evaluations of geographic trade regions like the "Belt and Road," the Regional Comprehensive Economic Partnership (RCEP), being a multilateral agreement signed as recently as 2020, has not been extensively studied. Second, at the empirical level, this paper selects variables closely associated with cultural product trade, such as cultural distance and Confucian cultural ties, and employs a combination of static and dynamic panel gravity models to conduct an in-depth theoretical and empirical analysis of the determinants of cultural product trade between China and RCEP countries at both aggregate and categorized levels. Third, in terms of practical implications, this paper delves deeply into the factors influencing China's cultural product exports to RCEP member countries and estimates every partner country's trade potential, providing insights that could enhance the competitiveness of China's cultural industries and promote the high-quality development of bilateral cultural trade.

3. Econometric Model and Data Construction

The research basis of this paper is the trade gravity model, the theoretical framework, construction process and data acquisition of the gravity model are introduced below.

3.1 Theoretical Framework

The gravity model of trade is rooted in the law of universal gravitation from physics. In 1687, the renowned British physicist Isaac Newton formulated the law of universal gravitation:

$$F = \frac{GM_1M_2}{R^2} \quad (1)$$

where F represents the gravitational force, G is the gravitational constant, M_1 and M_2 are the masses of the two objects, and R is the distance between them. According to this formula, the gravitational force decreases as the distance (R) increases.

Because of the conceptual similarity between international trade and the law of universal gravitation, economists have extensively applied the gravity model in empirical trade analyses. Initially proposed by Hasson (1964) and Poyhonen (1963), the gravity model explains how the trade flow between two economies is proportional to their economic sizes and inversely proportional to their geographical distance. Leamer and Levinsohn (1994), Anderson (1979), and others further extended the model by incorporating variables such as shared borders, common languages, trade barriers, and regional economic organizations. In this paper, the gravity model is applied to cultural product trade, which can be expressed as:

$$T_{ij} = A \frac{Y_i Y_j}{D_{ij}} \quad (2)$$

Take the logarithm of both sides of the equation and construct a linear equation as follows:

$$\ln T_{ij} = \beta_0 + \beta_1 \ln Y_i + \beta_2 \ln Y_j + \beta_3 \ln D_{ij} \quad (3)$$

where T_{ij} represents the trade flow from country i to country j , Y_i and Y_j denote the economic sizes of countries i and j (typically measured by GDP), and D_{ij} represents the geographical distance between the two countries.

3.2 Econometric Model Construction

Given the characteristics of cultural product trade and the need to study the determinants and potential, this paper adopts the trade gravity model as its econometric framework. The specific econometric equation is as follows:

$$\ln T_{ijt} = \alpha_0 + \alpha_1 \ln GDP_{it} + \alpha_2 \ln GDP_{jt} + \alpha_3 \ln CDIS_{ij} + \alpha_4 \ln POP_{jt} + \alpha_5 \ln Internet_{jt} + \alpha_6 Confucian_{ij} + \alpha_7 FTA_{ij} + \alpha_8 ADJ_{ij} + h \quad (4)$$

Where represents the random error term. In this regression equation, the subscript i denotes China, j refers to the other RCEP member countries, and t stands for time.

The dependent variable in this study is the bilateral trade volume of cultural products between China and RCEP countries. As for the explanatory variables, as discussed in the theoretical framework earlier, the primary factors influencing the gravity model are the economic scales of China and the RCEP countries and their geographic distances. To account for the unique aspects of cultural trade, this study includes China's GDP (GDP_{it}), RCEP countries' GDP (GDP_{jt}), and the bilateral cultural distance ($CDIS_{ij}$). Furthermore, several control variables that are closely tied to cultural product trade are introduced. The population size of RCEP countries (POP_{jt}) is used to estimate the scale of cultural product consumption, while the internet user percentages ($Internet_{jt}$) in each country serves as a proxy for technological advancement. Additional dummy variables include whether a country belongs to the Confucian cultural sphere ($Confucian_{ij}$), whether a free trade agreement has been signed (FTA_{ij}), and whether the countries have territorial adjacency (ADJ_{ij}). To facilitate further analysis and partially address heteroscedasticity, the first five explanatory variables are log-transformed during estimation.

The main variables, their expected signs, and theoretical justifications are presented in **Table 1**.

Table 1: Main Variables and Their Explanations

Variable Name	Expected Sign	Theoretical Explanation
T_{ijt}	Dependent Variable	Cultural product export value from country i to country j in period t
GDP_{it}	+	GDP of country i in period t
GDP_{jt}	+	GDP of country j in period t

<i>CDIS_{ij}</i>	-	Cultural distance between country <i>i</i> and country <i>j</i>
<i>POP_{jt}</i>	+	Population size of country <i>j</i> in period <i>t</i>
<i>Internet_{jt}</i>	+	Internet user percentages in country <i>j</i> in period <i>t</i>
<i>Confucian_{ij}</i>	+	Dummy variable, indicating whether country <i>j</i> is part of the Confucian cultural sphere (1 = yes, 0 = no)
<i>FTA_{ij}</i>	+	Dummy variable, indicating whether country <i>i</i> and country <i>j</i> have entered into a Free Trade Agreement (1 = yes, 0 = no)
<i>ADJ_{ij}</i>	+	Dummy variable, indicating whether country <i>i</i> and country <i>j</i> have territorial adjacency (1 = yes, 0 = no)

3.3 Sample, Data Sources and Description

The sample in this study includes the RCEP member countries, consisting of the ten ASEAN nations and those that have signed free trade agreements with ASEAN. The analysis focuses on the cultural product trade volumes between China and RCEP countries from 2006 to 2020, exploring the influence of various factors across different cultural industries. Cultural product trade data is derived from China's total export values to RCEP countries, as documented in the United Nations Comtrade database. These exports are categorized into six major types according to the HS 2007 codes under the 2009 UNESCO Framework for Cultural Statistics (FCS).

To ensure data availability, the GDP of China and RCEP countries (in constant 2010 USD), population sizes, and internet user percentages are sourced from the World Bank's World Development Indicators (WDI) database. The cultural distance between China and other member countries is measured using Hofstede's national cultural dimensions theory, with data retrieved from Hofstede's official website. Missing data for Laos, Myanmar, Cambodia, and Brunei were interpolated. Cultural proximity is assessed by identifying whether the country belong to the Confucian cultural sphere: Japan, South Korea, Singapore, and Vietnam are assigned a value of 1, while others are assigned a value of 0. Information on free trade agreements is sourced from the China Free Trade Area Service Network, and

data on territorial adjacency is obtained from the CEPII website. Descriptive statistics for the variables are presented in **Table 2**.

Table 2: Descriptive Statistics of Data

Variable Name	Observed Value	Average Value	Standard Deviation	Minimum Value	Maximum Value
$\ln T_{ijt}$	210	11.620	2.047	5.359	14.620
$\ln T_{ijt(t-1)}$	196	11.594	2.056	5.359	14.620
$\ln GDP_{it}$	210	29.719	0.512	28.643	30.318
$\ln GDP_{jt}$	210	26.173	1.914	21.963	29.467
$CDIS_{ij}$	210	0.488	0.591	-0.484	1.501
POP_{jt}	210	17.218	1.920	12.829	21.057
$Internet_{jt}$	210	3.472	1.393	-1.703	4.570
$Confucian_{ij}$	210	0.286	0.453	0	1
FTA_{ij}	210	0.600	0.491	0	1
ADJ_{ij}	210	0.214	0.411	0	1

4. Empirical Results Analysis

According to the model (4), this paper conducts a regression analysis of panel data based on China's exports of cultural products to other 15 RCEP member countries from 2006 to 2020. Static panel regression analysis and dynamic panel regression analysis were performed to capture the influence of consumer network externalities. Finally, the cultural trade potential of RCEP countries is calculated to provide a basis for realistic policy formulation.

4.1 Static Panel Gravity Model Analysis

Following data analysis and testing, it has been determined that there is no linear correlation among the explanatory variables. The overall variance inflation factor (VIF) for the static panel data is 2.91, which is below the threshold of 10, indicating the absence of multicollinearity. **Table 3** presents the baseline regression results of the static panel gravity model for the determinants of overall cultural product export trade, using the stepwise regression method.

Table 3: Regression Results of the Static Panel Gravity Model for Overall Cultural Product Exports

	(1) $\ln T_{ijt}$	(2) $\ln T_{ijt}$	(3) $\ln T_{ijt}$	(4) $\ln T_{ijt}$	(5) $\ln T_{ijt}$	(6) $\ln T_{ijt}$
$\ln GDP_{it}$	0.955*** (0.273)	1.114*** (0.248)	0.526** (0.225)	0.600*** (0.220)	0.322 (0.295)	0.360 (0.300)

<i>lnGDP_{jt}</i>	0.165** (0.079)	-0.252** (0.098)	-0.202** (0.082)	-0.097 (0.083)	-0.081 (0.085)	0.042 (0.099)
<i>lnCDIS_{ij}</i>	-0.336** (0.133)	0.406 (0.248)	0.421* (0.238)	0.395* (0.238)	0.410* (0.230)	0.393* (0.231)
<i>lnPOP_{jt}</i>		0.661*** (0.108)	0.619*** (0.108)	0.460*** (0.114)	0.492*** (0.110)	0.339** (0.152)
<i>lnInternet_{jt}</i>			0.506*** (0.074)	0.404*** (0.076)	0.399*** (0.076)	0.415*** (0.076)
<i>Confucian_{ij}</i>				0.895*** (0.158)	0.762*** (0.193)	1.021*** (0.280)
<i>FTA_{ij}</i>					0.454 (0.342)	0.277 (0.381)
<i>ADJ_{ij}</i>						0.604** (0.290)
Constant	-20.937*** (7.916)	-26.468*** (7.282)	-11.334* (6.753)	-13.429** (6.544)	-6.372 (8.117)	-8.223 (8.281)
Observatio ns	210	210	210	210	210	210
R-squared	0.105	0.271	0.369	0.391	0.396	0.403

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Robust standard errors are reported in parentheses. The same below.

Based on the results from the static panel gravity model regression, China's GDP, the population size of RCEP member countries, the internet user percentages, Confucian cultural ties, and territorial adjacency are positively correlated with China's cultural product exports, which is consistent with general expectations. However, RCEP member countries' GDP, bilateral cultural distance, and the existence of regional trade agreements do not have statistically significant effects on China's cultural product exports. GDP is a crucial indicator of a country's economic scale, a higher GDP in China suggests a larger supply of cultural products, leading to increased trade volumes in these products. In comparison, the influence of China's GDP on cultural product trade is more significant than that of RCEP member countries, highlighting the importance of China's economic development in fostering bilateral cultural product trade. The lack of a significant impact from cultural distance on China's cultural product exports may be attributed to the unique cultural advantages of Chinese products, which

enhance foreign consumers' interest and mitigate the negative effects of cultural differences on exports. Next, we do the panel regression on categorized cultural products.

Table 4: Regression Results of the Static Panel Gravity Model for Categorized Cultural Product

	Exports				
	Visual Arts & Crafts	Performance & Celebration	Books & Press	Audio-visual & Interactive Media	Design & Creative Services
<i>lnGDP_{it}</i>	0.809*** (0.270)	-0.834** (0.396)	-0.261 (0.325)	-4.918*** (0.687)	-0.034 (0.294)
<i>lnGDP_{jt}</i>	-0.066 (0.089)	-0.241* (0.144)	-0.212** (0.106)	-0.219 (0.325)	0.662*** (0.115)
<i>lnCDIS_{ij}</i>	0.641*** (0.194)	-0.276 (0.349)	0.902*** (0.241)	0.316 (0.549)	-0.987*** (0.179)
<i>lnPOP_{jt}</i>	0.459*** (0.137)	0.516** (0.229)	0.618*** (0.159)	0.735** (0.356)	-0.429*** (0.118)
<i>lnInternet_{jt}</i>	0.320*** (0.071)	0.797*** (0.124)	0.998*** (0.106)	1.105*** (0.216)	0.018 (0.106)
<i>Confucian_{ij}</i>	0.810*** (0.278)	0.566 (0.348)	0.110 (0.300)	0.230 (0.926)	2.788*** (0.363)
<i>FTAI_{ij}</i>	0.093 (0.344)	1.470*** (0.522)	1.004** (0.406)	1.821** (0.801)	-0.496 (0.323)
<i>ADJ_{ij}</i>	0.257 (0.285)	0.545 (0.379)	0.664** (0.319)	0.111 (1.057)	4.050*** (0.389)
Constant	-20.796*** (7.388)	27.749** (11.236)	5.891 (8.957)	139.244*** (19.252)	-8.389 (7.832)
Observations	210	208	209	210	210
R-squared	0.418	0.409	0.563	0.292	0.609

As shown in **Table 4**, when examining the trade determinants of categorized cultural products, cultural distance primarily influences design and creative services, whereas it positively impacts visual arts and crafts as well as books and press. This effect may be due to the inherent rarity and uniqueness of these cultural products; a greater cultural distance tends to increase consumer interest and demand.

China's GDP primarily affects the export of visual arts and crafts, whereas the GDP of partner countries mainly influences design and creative services. This can be explained by the fact that visual arts and crafts—including paintings, jewelry and others—experience higher production and export levels as China's economy grows and foreign demand for their unique cultural attributes rises. In contrast, design and creative services, which are centered around architecture and design, are more affected by the economic development of partner countries.

4.2 Dynamic Panel Gravity Model Analysis

To examine the impact of cultural product exports from the previous period on those in the subsequent period, we integrated the lagged value of China's cultural product exports ($\ln T_{ij}(t-1)$) into the model, building on the static analysis performed earlier. This integration was designed to capture the externalities associated with the cultural product consumption network and to derive the regression results from the dynamic panel gravity model regarding the determinants of China's cultural product export trade. As illustrated in **Table 5**, whether at the aggregate level or within specific categories (excluding design and creative services), the previous period's exports of China's cultural products positively influence exports in the subsequent period by affecting the consumption preferences of foreign consumers, with a significance level of 1%. This effect is particularly pronounced for performing and celebratory arts cultural products, where the export elasticity due to consumption network externalities exceeds 100%. This indicates that these products exhibit a strong consumption network externality and significantly boost China's cultural product export trade. Compared to the static panel gravity model results, the dynamic model results reveal differences primarily in the effects of Confucian cultural ties and territorial adjacency, that's probably because the trade-enhancing effects of consumption network externalities partially counterbalance the positive impacts associated with being within the Confucian cultural sphere or having territorial adjacency.

Table 5: Dynamic Panel Gravity Model Regression Results

	Cultural product (General)	Visual Arts & Crafts	Performanc & Celebration	Books & Press	Audio- visual & Interactive Media	Design & Creative Services
$\ln T_{ij}(t-1)$	0.952*** (0.034)	0.878*** (0.034)	1.130*** (0.093)	0.754*** (0.062)	0.954*** (0.129)	-0.002 (0.071)
$\ln GDP_{it}$	-0.213** (0.086)	0.373*** (0.112)	-1.377*** (0.247)	-0.763*** (0.272)	-7.076*** (0.710)	0.005 (0.345)
$\ln GDP_{jt}$	0.003 (0.032)	-0.104*** (0.039)	-0.314*** (0.080)	-0.259*** (0.080)	-0.297 (0.302)	0.662*** (0.122)

<i>lnCDIS_{ij}</i>	0.084*	0.351***	-0.679***	0.655***	-0.008	-1.060***
	(0.046)	(0.065)	(0.135)	(0.135)	(0.505)	(0.190)
<i>lnPOP_{jt}</i>	0.051	0.186***	0.160	0.402***	0.488	-0.403***
	(0.045)	(0.055)	(0.108)	(0.099)	(0.329)	(0.131)
<i>lnInternet_{jt}</i>	-0.007	-0.095**	0.429***	0.664***	0.699***	0.074
	(0.037)	(0.037)	(0.107)	(0.108)	(0.223)	(0.109)
<i>Confucian_{ij}</i>	-0.008	-0.117	-0.690***	-0.713***	-0.964	2.623***
	(0.086)	(0.117)	(0.209)	(0.258)	(0.884)	(0.388)
<i>FTAI_{ij}</i>	0.157	-0.033	1.206***	0.929***	1.837**	-0.419
	(0.097)	(0.117)	(0.284)	(0.290)	(0.728)	(0.335)
<i>ADJ_{ij}</i>	-0.011	-0.294**	-0.107	0.149	-0.558	3.906***
	(0.116)	(0.133)	(0.246)	(0.275)	(1.001)	(0.414)
Constant	5.917***	-10.204***	40.996***	18.784**	201.096**	-10.125
Term					*	
	(2.273)	(3.084)	(7.014)	(7.557)	(19.931)	(9.378)
Observatio	196	196	195	195	196	196
ns						
R-squared	0.947	0.923	0.826	0.785	0.454	0.613

4.3 Trade Potential Estimation

Based on the regression results, the trade gravity model is established as follows:

$$\ln T_{ijt} = -8.223 + 0.360 \ln GDP_{it} + 0.042 \ln GDP_{jt} + 0.393 \ln CDIS_{ij} + 0.339 \ln POP_{jt} + 0.415 \ln Internet_{jt} + 1.021 \ln Confucian_{ij} + 0.277 \ln FTA_{ij} + 0.604 \ln ADJ_{ij} + h \quad (5)$$

Using model (5) to estimate the theoretical trade volumes of China's cultural product trade with RCEP member countries for 2020, these estimates are compared with the actual trade volumes reported for each country in the same year. The trade efficiency for each country is calculated by dividing the actual trade volume by the theoretical trade volume. Based on the trade efficiency ratios, countries are classified as follows: If the ratio of actual trade volume to theoretical trade volume is less than 0.8, the country is categorized as having "significant potential." If the ratio falls between 0.8 and 1.2, the country is classified as having "exploitable potential." If the ratio exceeds 1.2, the country is categorized as having "reconstructive potential." The classifications are detailed in **Table 6** below:

Table 6: Trade Potential Rankings

Rank	Country	Actual Value (Million USD)	Fitted Value (Million USD)	Trade Efficiency (Actual/Fitted)	Trade Type
1	Laos	4.74	160.99	0.03	Significant Potential
2	Brunei	1.35	35.36	0.04	Significant Potential
3	New Zealand	34.47	161.96	0.21	Significant Potential
4	Japan	768.20	2187.33	0.35	Significant Potential
5	Singapore	359.35	618.75	0.58	Significant Potential
6	South Korea	340.65	345.72	0.99	Exploitable Potential
7	Malaysia	353.63	345.50	1.02	Exploitable Potential
8	Myanmar	142.03	121.15	1.17	Exploitable Potential
9	Australia	444.62	240.92	1.85	Reconstructiv e Potential
10	Cambodia	406.97	200.63	2.03	Reconstructiv e Potential
11	Vietnam	1258.38	591.44	2.13	Reconstructiv e Potential
12	Indonesia	329.09	147.02	2.24	Reconstructiv e Potential
13	Indonesia	371.82	96.21	3.86	Reconstructiv e Potential
14	Thailand	238.41	61.13	3.90	Reconstructiv e Potential

According to the classification in the table, five countries are categorized as having "significant potential," three countries are categorized as having "exploitable potential," and six countries are categorized as having "reconstructive potential." This indicates that China, along with other RCEP member countries, holds considerable potential for cultural product trade. Specifically, China has the lowest cultural product trade efficiency with Laos (0.03), suggesting the highest trade potential, followed by Brunei (0.04), New Zealand (0.21), Japan (0.35), and Singapore (0.58). For countries in the "significant potential" category, it is advisable for the government to investigate and stimulate demand for cultural products and further develop their trade potential. On the other hand, Thailand (3.90) and the Philippines (3.86) exhibit the highest trade efficiencies, significantly surpassing other countries, this high efficiency suggests that their cultural product trade potential is already well-developed. For countries in the "reconstructive potential" category, there may be a risk of excessive cultural product trade, consequently, it is important to reassess and refine cultural product trade strategies to prevent resource wastage.

5. Conclusions and Recommendations

Within the framework of RCEP regional cooperation, this study employs the gravity model to estimate the trade volume and potential of China's cultural product exports to RCEP member countries over the period from 2006 to 2020. The analysis is conducted at both aggregate and categorized levels, and incorporates static and dynamic perspectives. Key explanatory variables include consumption network externalities, economic scale, cultural distance, population size, technological advancement, and Confucian cultural ties, all of which are used to investigate the determinants of China's cultural product exports to RCEP countries. Using the finalized model, the theoretical trade volumes of cultural products between China and RCEP countries for the year 2020 are calculated. By comparing actual trade volumes with theoretical predictions, the trade types for each country are identified. The main innovative findings of this study, compared with existing research, are as follows: (1) The regression results from the static panel gravity model indicate that China's GDP, the population size of RCEP countries, the internet user percentages, Confucian culture ties and territorial adjacency can significantly contribute to the development of cultural product trade. The determinants for categorized cultural product exports show some variation from those at the aggregate level. (2) The dynamic panel gravity model results reveal that China's cultural product exports exhibit consumption-based network externalities, which positively affect subsequent exports by shaping foreign consumer preferences. This finding differs from the static panel model, particularly regarding Confucian cultural ties and territorial adjacency. (3) The overall trade of cultural products between China and other RCEP member countries shows substantial potential. Among the 14 sample countries, 5 countries are classified as having significant potential, while 3 countries are identified as having exploitable potential, highlighting the need for a more rational allocation of cultural product trade resources.

These research findings carry significant policy implications for the advancement of China's cultural product trade. Based on the key findings, this paper offers the following policy

recommendations: First, China should continue to develop its real economy, maintain stable and rapid GDP growth, and expand its economic scale, as these are fundamental drivers for restructuring and upgrading China's cultural industries and enhancing the production and supply capacity of cultural products. Second, China should broaden RCEP cooperation in technological sectors, assisting RCEP countries in developing internet technologies and e-commerce. The widespread adoption of communication and network technologies will facilitate the exchange and dissemination of Chinese cultural products. Third, both government and enterprises should leverage various channels to reduce cultural distance in bilateral trade and promote Confucian culture. This includes government efforts to improve infrastructure to lower transportation costs and simplify customs procedures for cultural products. Additionally, global promotion of Chinese language education through Confucius Institutes and the internet should be accelerated. Cultural exchange activities in RCEP countries can uncover shared cultural and historical elements, which can be integrated into creative cultural products, thereby enhancing the attractiveness of China's cultural exports.

Finally, given that the trade potential of many countries has yet to be fully realized, export market diversification and cultural product differentiation strategies should be formulated according to the specific market characteristics of each country. Traditional export markets for Chinese cultural products, such as Japan, Australia, and South Korea, characterized by high per capita income, large populations, mature market structures, and well-developed infrastructure, can leverage their strengths in labor-intensive cultural product exports. While maintaining traditional trade relationships, these markets should also focus on innovation and upgrading of cultural products. On the other hand, countries like Laos and Brunei, with lower per capita incomes and smaller populations, represent smaller export markets with untapped potential. For these markets, export strategies should be tailored to the consumption habits of local target groups, focusing on high-value-added cultural products to tap into potential export markets.

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Author Contributions

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

Availability of Data and Materials

The data for this study are derived from publicly available literature and news reports, which have been listed in the references.

Conflicts of Interest

The author declares no conflicts of interest to report regarding the present study.

References

- [1]. Janeba, E. (2007). International trade and consumption network externalities. *European Economic Review*, 51(4), 781-803.
- [2]. Rauch, J., Trindade, V. (2009). Neckties in the tropics: a model of international trade and cultural diversity. *Canadian Journal of Economics*, 42(3), 809-843.
- [3]. Maystre, N., Olivier, J., Thoenig, M., Verdier, T. (2014). Product-based cultural change: Is the village global? *Journal of International Economics*, 92(2), 212-230.
- [4]. Levy, S. (1959). Symbols for sale. *Harvard business review*.
- [5]. Sirgy, M (1982). Self-concept in consumer behavior: A critical review. *Journal of consumer research*, 9(3): 287-300.
- [6]. Schulze, G. (1999). International trade in art. *Journal of Cultural Economics*, 23, 109–136.
- [7]. Marvasti, A., Canterbury, E., (2005). Cultural and other barriers to motion pictures trade. *Economic Inquiry*, 43, 39–54.
- [8]. Chan-Olmsted, S., Cha, J., Oba, G., (2008). An examination of the host country factors affecting the export of US video media goods. *Journal of Media Economics*, 21, 191–216.
- [9]. Liu, A., Lu C., Wang, Z. (2020). The roles of cultural and institutional distance in international trade: Evidence from China's trade with the Belt and Road countries. *China Economic Review*, 61.
- [10]. Eaton, J., Kortum, S. (2002). Technology, geography, and trade. *Econometrica*, 70(5), 1741–1779.
- [11]. Melitz, M., Ottaviano, G. (2008). Market size, trade, and productivity. *Review of Economic Studies*, 75(1), 295–316.
- [12]. Chaney, T. (2008). Distorted gravity: The intensive and extensive margins of international trade. *American Economic Review*, 98(4), 1707–1721.
- [13]. Disdier, A., Tai, S., Fontagné, L., Mayer, T. (2010). Bilateral trade of cultural goods. *Review of World Economics*, 145(4), 575–595.
- [14]. Wang, Q., Qin, L. Analysis of Factors Influencing China's Cultural Product Exports. *Western Forum*, 2015, 25(5): 99-108.
- [15]. Wei, Y., Zhong, X. Consumption Addiction, Cultural Discount, and China's Core Cultural Product Exports. *Learning and Practice*, 2016(06): 128-134.
- [16]. Jia, X., Lü, L. Analysis of Factors Influencing China's Cultural Trade: A Case Study of Core Cultural Product Exports. *Scientia Geographica Sinica*, 2017, 37(8): 1145-1150.
- [17]. Lan, T., Lü, W. Research on the Dual Margins and Influencing Factors of the Growth in China's Cultural and Creative Product Exports. *International Trade Issues*, 2018.

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- [18]. Zhao, Y., Shen, Y. An Empirical Study on the Factors Influencing China's Cultural Product Trade and Trade Potential: Based on Cross-Country Panel Data. *Industrial Innovation Research*, 2020(04): 5-8.
- [19]. Tu, Y. Estimation of China's Cultural Product Trade Flows and Export Potential: An Empirical Analysis Based on the Gravity Model. *Enterprise Economy*, 2014(03): 106-110.
- [20]. Feng, Q. Growth Drivers and Trade Potential: An Empirical Analysis of Cultural Product Trade between China and Key Countries along the "Belt and Road". *Journal of Shaoxing University (Humanities and Social Sciences)*, 2020, 40(11): 92-100.
- [21]. Fang, Y., Ma, R. The Potential and Influencing Factors of Cultural Trade between China and Countries along the "Belt and Road": An Empirical Study Based on the Stochastic Frontier Gravity Model. *World Economic Research*, 2018(1): 112-121.
- [22]. Li, S., Deng M., Liu D. Trade Gravity, Social Embeddedness, and Cultural Product Exports: An Empirical Analysis Based on China and Countries along the "Belt and Road". *Journal of Guangdong University of Finance & Economics*, 2017(4): 32-44.
- [23]. Cui, C., Lü, W. A Study on the Efficiency and Trade Potential of Cultural Product Trade between China and India: Based on the Stochastic Frontier Gravity Model. *Proceedings of the Emerging Economies Forum*, 2019: 738-750.
- [24]. Wang, L., Huang, F. International Competitiveness and Influencing Factors of Textile Trade between China and the BCIM Countries: Based on the "BCIM" Framework. *Price Monthly*, 2021(12): 44-51.
- [25]. Chen, F., Lü, M. An Investigation into the Current Situation and Promotion Strategies of China's Cultural Product Exports to Other RCEP Member Countries. *Economic Research Reference*, 2022(08): 134-144.
- [26]. Cai, Y., Wei, X. An Analysis of Factors Influencing China's Cultural Product Exports to RCEP Partner Countries and Trade Potential: An Empirical Study Based on the Gravity Model. *Foreign Trade*, 2023(10): 10-14.
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