A Study of the Impact of Chinese Aid to Cambodia on Bilateral Trade

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Abstract. Since the "Belt and Road" initiative was put forward, the scale of China's foreign aid has grown rapidly and the scope of radiation has been expanding. Foreign aid has become one of the tools of China's foreign relations that cannot be ignored, and it is especially important to study the bilateral trade effects brought by foreign aid. This paper mainly selects the impact of China's aid to Cambodia on bilateral trade for research. This study adopts the trade gravity model, introduces GDP and population size as control variables, and conducts regression analysis on the amount of China's aid to Cambodia and bilateral trade over the years, and concludes that China's aid to Cambodia helps to promote bilateral trade.

Keywords: Aid, bilateral trade, trade gravity model.

1. Introduction

In China's foreign aid, the three main categories are interest-free loans, preferential loans and non-reimbursable aid, which help the recipient countries to improve the degree of industrialization and economic development capacity, and continuously strengthen and deepen bilateral trade cooperation. As the first aid donor of Cambodia, China has deep economic intertwining with Cambodia, and in the context of fierce international competition, if China's foreign aid can promote the common development of both aid donors and recipients and expand the scale of bilateral trade, then China's implementation of foreign aid can not only help other countries to develop, but also be used as a means to promote its own trade development, and at the same time can use the conclusions of the study to guide the At the same time, the conclusions of the study can be used to guide the reform of China's trade policy, which is of great significance to the development of China's economy.

2. Review of Literature Research

2.1. Research on the relationship between the role of international aid on international trade

First, some scholars believe that foreign aid can effectively promote bilateral trade to a large extent. Pettersson and Johansson based on the gravity model using the panel data of 184 countries from 1990-2005, introduced control variables such as total population of the two countries, political stability, infrastructure construction, etc., and carried out a bilateral aid and the export volume of the assisting country in a regression and finds that the size of aid is positively related to the recipient's exports to the aid country [1]. Second, some scholars believe that only aid under specific conditions has a positive impact on bilateral trade Munemo finds that when the total amount of aid accounts for a larger portion of local GDP, aid plays a positive role in diversifying the recipient country's exports; conversely, it plays a hindering role. Thirdly, some scholars suggest that aid has a dampening effect on trade due to the phenomena of "aid dependence" and "Dutch disease" [2]. Svensson argues that organized social groups may manipulate aid resources through bribery, leading to distorted resource allocation and increased transaction costs [3].

2.2. Research on the impact of international aid on international trade

Numerous studies have found that aid promotes bilateral import and export trade through conditions such as reducing trade costs and promoting economic development in recipient countries.

In the cost perspective, international aid promotes trade by reducing the original trade postbuses et al. show that aid for trade promotes facilitation and effectively reduces trade costs, thus bringing about trade. In the perspective of economic growth, international aid promotes the economic development of the recipient country and enhances bilateral trade [4]. White shows that aid increases the capital of the recipient country and causes changes in the production and consumption structure of the recipient country, which then transmits to have an impact on the foreign trade of the recipient country [5].

3. Empirical Research

Based on the large number of data samples in this study, this study mainly uses the Stata tool to analyze the expanded trade gravity model, in which GDP and population size are introduced as control variables:

$$lntrade = \alpha_0 + \alpha_1 lnaid + \alpha_2 lnGDPCHN + \alpha_2 lnGDPKH + \alpha_3 lnpopuCHN + \alpha_4 lnpopuCHN$$

3.1. Data description

Table 1. Descriptive statistics of variables

Variable	Obs	Mean	Std.Dev.	Min	Max
lnTrade	15	15.25	0.836	13.76	16.53
lnAid	15	12.61	0.517	11.47	13.13
lnGDPCHN	15	23.04	0.423	22.25	23.63
lnGDPKH	15	16.70	0.364	16.15	17.16
lnpopuCHN	15	21.04	0.0229	21.00	21.07
lnpopuKH	15	16.55	0.0590	16.45	16.63

In this study, the data for the 15 years from 2008 to 2022 are mainly selected. Among them, the amount of China's aid to Cambodia comes from the official aid database of the Council for the Development of Cambodia (CDC), and the amount of bilateral trade comes from the merchandise trade database of the United Nations Statistical Office (UNSO); China's GDP and population data come from the National Bureau of Statistics (NBS) in thousands of US dollars, and the population data in units, and the population data of Cambodia in previous years are obtained through the statistics of the website of FastEasyData, and in order to reduce data fluctuation brought by large values, this paper will use the logarithmic value of the corresponding data when conducting empirical evidence, as shown in Table 1. fluctuation, this paper will use the logarithmic value of the corresponding data when conducting empirical evidence, as shown in Table 1, CHN stands for China and KH stands for Cambodia.

3.2. Correlation analysis

Table 2. Correlation analysis

	lnTrade	lnAid	lnGDPCHN	lnGDPKH	lnpopuCHN	lnpopuKH
lnTrade	1					
lnAid	0.718***	1				
lnGDPCHN	0.989***	0.736***	1			
lnGDPKH	0.979***	0.669***	0.973***	1		
lnpopuCHN	0.973***	0.685***	0.975***	0.996***	1	
lnpopuKH	0.984***	0.652***	0.984***	0.993***	0.993***	1

Table 2 shows that there are significant correlations between all the explanatory variables and the explanatory variables with positive coefficients, which are initially in line with the expected results.

3.3. Data tests

Table 3. White's test for variance

Cameron	&	Trivedi's	decomposition	of	IM-test
Source	chi2	df	p		
Heteroskedasticity	15	14	0.378		
Skewness	1.400	5	0.925		
Kurtosis	0.880	1	0.348		
Total	17.28	20	0.635		

From Table 3, the p-value for heteroskedasticity is 0.378, which fails to reject the original hypothesis of homoskedasticity. The data model has homoskedasticity, which is in line with the classical hypothesis of homoskedasticity.

3.4. Model Analysis and future improvements

Table 4. Regression analysis of the gravity model

	(1)	(2)	(3)	(4)	(5)
	lnTrade	lnTrade	lnTrade	lnTrade	lnTrade
lnAid	1.162***	0.035***	0.019***	0.051***	0.170***
	(0.390)	(0.499)	(0.313)	(0.480)	(0.330)
lnGDPCHN		1.984***	1.318***	1.478***	0.843
		(0.107)	(0.393)	(0.366)	(0.701)
lnGDPKH			0.739*	2.694**	2.333*
			(0.358)	(1.033)	(1.227)
lnpopuCHN				-34.547*	-44.695***
				(16.556)	(11.608)
lnpopuKH					9.962
					(8.628)
_cons	0.602	-30.028***	-27.685***	662.528*	730.356**
	(2.382)	(2.314)	(3.076)	(330.933)	(266.977)
N	15	15	15	15	15
F	37.335	197.026	186.300	251.071	.
r2	0.965	0.979	0.984	0.990	0.991
r2_a	0.955	0.975	0.979	0.986	0.987
aic	29.273	-15.514	-17.576	-22.491	-23.095
bic	30.689	-13.390	-14.744	-18.950	-18.847

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

From Table 4, China's aid to Cambodia is significantly positively correlated with total bilateral trade, which passes the test at the 1% significant level, confirming that China's aid to Cambodia has a facilitating effect on bilateral trade. Meanwhile, the estimated coefficient of GDP is significantly positive, which is consistent with economic theory.

4. Conclusion

China's aid to Cambodia can promote bilateral trade. In the future research, more control variables can be added, such as political stability, investment scale, factor endowment gap, etc. to make the data more comprehensive; meanwhile, on the explanatory variables, imports and exports can be analyzed separately to get a more valuable analysis.

Acknowledgement

After this period of continuous study and writing of my dissertation, I have learned a lot, even many gains that I did not expect, and I am grateful for my perseverance and continuous pursuit of knowledge. At the same time, I would like to thank my friends who accompanied me on this path together, and we discussed the problems of our respective essays with each other. In the future, I will practically do my work and work hard to make my family all the happier!

References

[1] Pettersson, Jan, and Lars Johansson. 2013. 'Aid, Aid for Trade, and Bilateral Trade: An Empirical Study'. The Journal of International Trade & Economic Development 22 (6): 866 – 94. https://doi.org/10.1080/09638199.2011.613998.

[2] Munemo, Jonathan. 2006. 'Foreign Aid and Export Performance: A Panel Data Analysis of Developing Countries'.

[3] Svensson, Jakob. 2000. 'Foreign Aid and Rent-Seeking'. Journal of International Economics.

[4] Busse, Matthias, Ruth Hoekstra, and Jens Königer. 2012. 'The Impact of Aid for Trade Facilitation on the Costs of Trading: The Impact of Aid for Trade Facilitation on the Costs of Trading'. Kyklos 65 (2): 143 – 63. https://doi.org/10.1111/j.1467-6435.2012.00531.x.

[5] White, Howard. 1992. 'The Macroeconomic Impact of Development Aid: A Critical Survey'. Journal of Development Studies 28 (2): 163 – 240. https://doi.org/10.1080/0022038 9208422230.