Can Democratization Improve International Trade?

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Abstract

In order to solve the endogeneity between democracy and trade, this paper included the relationship between democracy and factor endowment into the regression equation, and carried out simple least squares regression respectively on the two models with democracy as an important variable and control variable. The regression results show that democracy promotes trade, but the interpretation degree of democracy to trade is relatively low. Only when the control variables are included, the variables have a more obvious interpretation effect on trade. The relationship between democracy and factor endowment will affect the promotion effect of democracy on trade. In order to avoid the inaccuracy of regression results caused by the mutual influence of democracy on import and export trade, this paper discusses the influence of democracy on import and export separately.

Keywords

Democracy; Trade; OLS model.

1. INTRODUCTION

The relationship between democracy and economic growth has always been one of the focuses of political economy research. In the past, academic circles have always believed that democratization is not conducive to economic growth, because democratization in some low-income countries has exacerbated local economic turmoil and is not conducive to their economic growth. The regression analysis results of Rodrick and Wacziarg (2004) show that democracy does not slow down the economic growth rate of low-income countries, ethnically divided countries, etc., on the contrary, democratization is beneficial to short-term economic growth and reduces economic volatility. Acemoglu (2014) still believes that democratization is beneficial to economic growth after correcting the errors of the empirical models used to study democracy and economic growth in previous years. Heshmati and Kim (2017) selected 144 more developed countries as empirical samples, and combined static and dynamic models to estimate their production functions. The empirical results show that democracy will have a greater positive impact on a country's economy, but However, trade has a negative transmission effect between democracy and economic growth, indicating that for the economic growth of democratic and non-democratic countries, the increase in trade volume has a lower effect on the former than the latter. A country's trade volume is related to its level of economic development. Since democratization is beneficial to economic growth, can democratization effectively increase its trade volume?

When Milner and Kubota (2005) conducted an empirical study on panel data of developing countries from 1970 to 1999, they found that in labor-rich importing countries, the higher the degree of democratization, the higher the protection of laborers. This reduces import trade. However, Decker and Lim (2007) conducted an empirical analysis of the relationship between democracy and trade through the gravity model, and the results showed that democratization can effectively improve trade after effectively controlling the heterogeneity of trade. Why are

there two contradictory conclusions? Fritsch (2006) used relevant data from 1870 to 2000 to empirically analyze the relationship between trade and democratic globalization. The results show that there is a two-way positive relationship between democracy and trade, but this conclusion is not in all regions in all periods. established (conclusion invalidated in Bretton Woods era and labor-scarce regions). However, when many literatures study the relationship between trade and democracy, it is easy to ignore the endogenous nature of the model itself, which makes the empirical results biased.

Democracy affects trade There are two channels of export and import. The democratization of exporting countries can improve product quality and reduce transaction costs, thereby promoting trade; while the democratization of importing countries increases trade barriers in order to implement local protectionism, thereby reducing trade. . Yu (2010) used panel data to study the relationship between democracy and imports and exports by controlling for the endogeneity of democracy, and found that democracy can effectively promote trade. When Abeliansky and Krenz (2015) used a panel quantile estimation framework, they found that at lower quantiles, there was a stronger correlation between democracy and trade (especially import trade), and democratization had a greater impact on trade. The impact of trade is in an inverted "U" shape, and when the trade volume is relatively high, the trade volume is marginally diminishing. In order to solve the endogenous problem of democracy, this paper incorporates the relationship between democracy and factor endowment into the regression equation, making it the control variable of the model, and discusses the impact of democracy on import trade and export trade separately when setting the model. The empirical part of this paper.

2. METHODOLOGY

The main purpose of this paper is to study whether the degree of democratization of a country has a promoting effect on its trade volume (export value and import value). are imports and exports, and the important variable is the country's democracy index. When Abeliansky and Krenz (2015) conducted research on trade and democracy, they analyzed the related discourses of Acemoglu et al. on democracy and trade, and found that the following factors will affect the trade activities of countries: GDP, total population, The interaction between the ratio of capital and labor and democracy, the ratio between land and labor and democracy, so this paper will set these variables as the control variables of the regression equation. The regression equation is set as follows:

$$\ln T_{\text{im},it} = \beta_0 + \beta_1 Demo_{it} + \beta_2 \frac{K_{it}}{L_{it}} + \beta_3 \ln Pop_{it} + \beta_4 \frac{A_{it}}{L_{it}} + \beta_5 \ln GDP_{it} + \beta_6 Demo_{it} \times \frac{K_{it}}{L_{it}} + \beta_7 Demo_{it} \times \frac{A_{it}}{L_{it}} + \varepsilon_{it} \tag{1}$$

$$\ln T_{\text{ex},it} = \beta_0 + \beta_1 Demo_{it} + \beta_2 \frac{K_{it}}{L_{it}} + \beta_3 \ln Pop_{it} + \beta_4 \frac{A_{it}}{L_{it}} + \beta_5 \ln GDP_{it} + \beta_6 Demo_{it} \times \frac{K_{it}}{L_{it}} + \beta_7 Demo_{it} \times \frac{A_{it}}{L_{it}} + \varepsilon_{it} \tag{2}$$

Among them, the subscript i represents different countries, t represents different time periods, represents the regression intercept, represents the regression coefficient of each group of variables, represents the natural logarithm of the import value of a certain country in a certain year, and represents the export of a certain country in a certain year. is the natural logarithm of the amount, Demo is the country's democracy index, lnPop is the natural logarithm of the country's population, is the capital-labor ratio, is the land-labor ratio, lnGDP is the natural logarithm of national income, and the interaction term is the democracy and capital-labor ratio The interaction term represents the interaction of land and capital labor ratios, and represents the error disturbance term.

Yu (2010) studied the effect of democratization on trade by adding democracy to the gravity model, and found that democratization is beneficial to both the country's exports and the

country's imports, that is, should be greater than zero. GDP represents the economic scale of the country. Countries with larger economic scales will conduct more import and export trade, that is, there is a positive correlation between GDP and trade volume, and the estimated parameter should be greater than zero. Population can be used as an important indicator to measure the market size of a country. In general, there is a positive correlation between population and trade volume, but there is also the possibility of a negative correlation, so the value should be positive, but the possibility of being negative is not excluded. Neither the capital-labor ratio nor the land-labor ratio is an important variable affecting trade, and the estimated values of their parameters will not have a great impact on the empirical results, so this paper does not analyze the estimated values of the parameters of He; In countries, capitalists will be more enthusiastic about foreign trade, that is, the interaction between democracy and the ratio of capital to labor promotes trade, so it should be a positive number; but for countries with comparative advantages in agriculture, the higher the degree of democratization It means that the import and export trade needs to pay higher tariffs, which is not conducive to the country's trade, so it should be a negative number.

3. RESULTS AND DISCUSSION

3.1. Descriptive Statistics of the Main Variables

This paper will select the democracy score of Polity IV as the democracy index (excluding data with special values such as -66, -77, -88), the score of the democracy index is in the interval of -10 and 10, and the higher the score, the better the country's The higher the degree of democratization. Other data can be obtained directly from WDI. Imports, exports and GDP are all values in 2010 US dollars, in billions of dollars. Both K/L and A/L represent the percentage of the ratio, while the population The unit is 10,000 people. The relevant data of the sample began to be counted in 1960, so this paper selects the dynamic unbalanced panel data of more than 200 countries in the world from 1960 to 2017 for analysis, but some data about the variables are missing, after a series of elimination operations , the data volume before 1990 was completely eliminated, leaving only some data from 1990 to 2017 for 65 countries. Descriptive statistics about the variables are as follows:

Table 1. Basic statistical information table of each variable

	MEAN	SD	MIN	MAX	N
ln(GDP)	6.662801	2.191898	1.542481	12.03885	1089
Polity IV	6.067952	5.033068	-10	10	1089
ln(population)	7.143961	1.58934	3.798126	11.80498	1089
K/L	6530.542	40660.8	-332830.7	616332.3	1089
A/L	13.15477	25.16802	0.01	182.54	1089
demo×(K/L)	57287.16	383419.5	-3328307	6163323	1089
demo×(A/L)	81.93393	190.5122	-374.0821	1095.22	1089

3.2. Result

The dependent variables in this paper are the import value and the export value, the core explanatory variable is the democracy index, and other variables are control variables, so the first model only uses the democracy index as an explanatory variable, and the second model adds other control variables. The Hausman test was performed on the panel data, and the regression results obviously rejected the null hypothesis, so the fixed-effects model should be used instead of the random model when analyzing the data in this paper. The individual fixed effect and time fixed effect are regressed on the panel data, and the results show that the results obtained by using the individual fixed model are more significant. Therefore, this paper uses the individual fixed model to regress the panel data. The regression results are as follows:

Table 2. Estimation results

	Ln (import)		ln(export)	
	Model (1)	Model (2)	Model (1)	Model (2)
Constant, β_0	5.177826 (0.000)	-1.633425 (0.000)	5.091946 (0.000)	-1.856716 (0.000)
Democracy, β_1	0.0572597 (0.000)	0.0167799 (0.000)	0.0534144 (0.000)	0.0129366 (0.000)
ln(GDP), β_5		1.345376 (0.000)		1.46095 (0.000)
ln(population), β_3		-0.2507733 (0.001)		-0.3630786 (0.000)
K/L, β_2		-4.93e-07 (0.323)		-2.91e-07 (0.583)
A/L, β_4		-0.0063854 (0.000)		0.0054588 (0.000)
demo×(K/L), β_6		7.26e-08 (0.169)		6.00e-08 (0.285)
demo×(A/L), β_7		-0.0003703 (0.018)		-0.0002096 (0.209)
Individual fixed effects	yes	yes	yes	yes
R^2	0.0688	0.8304	0.0601	0.8078
Observation	1089	1088	1089	1088

The important variable in this paper is the democracy index, which is significant in the regression equations of the above models, and other fitting parameters basically conform to the economic theory criteria. The equation is basically correct. The regression results show that democracy has a significant promoting effect on both export trade and import trade, but the degree of democracy's explanation for trade is relatively low, that is, although democracy can affect trade, it is not an important explanatory factor affecting trade. When other control variables are added to the original equation, the explanatory variables explain more than 80% of trade, and democracy still shows a positive effect on import and export trade. For each unit of democracy index, the import trade volume will increase by 1.678 %, and the export trade increased by 1.2937%. The interaction term of democracy and capital labor ratio and the interaction term of democracy and land labor ratio are added to the control variables. The estimated parameters match the results of the above economic theory, indicating that in the import and export trade, the increase of the land labor ratio will lead to Suppressing the positive effect of democracy on trade, an increase in the ratio of capital to labor will enhance the promoting effect of democracy on trade.

4. CONCLUSION

A country's system will have an important impact on its degree of democracy and the type of government system, and the degree of democratization and government system will have an impact on a country's economy and trade, and the degree of economic and trade development will in turn affect the establishment of a country's system , these are mutually reinforcing relationships. As mentioned above, there is an endogenous relationship between democracy and trade, which is a two-way relationship, which reflects that the relationship between democracy and trade is not stable and absolute. If you want to study the relationship between democracy and trade well, you should first solve the endogeneity problem between democracy and trade. This paper refers to the empirical model of Abeliansky and Krenz (2015), adding elements to the regression equation of trade and democracy The relationship between endowment and democracy, etc., are used as control variables.

The regression results show that democracy promotes both import and export of trade, but the comparative advantage of national factor endowments will affect the promotion effect of democracy on trade. When a country's land is relatively abundant, the increase in the degree of democratization means that the import and export of agricultural products needs to pay higher tariffs, which is not conducive to the import and export of agriculture, so the promotion of democracy to import and export trade is reduced; In capital-abundant countries, a higher degree of democratization will promote cross-border trade, that is, increase the promotion of democracy to import and export trade. After adding control variables such as factor endowments, democracy can still improve trade, which proves that democracy has a promoting effect on trade. However, this paper also has shortcomings and does not test the regression results. When Abeliansky and Krenz (2015) conducted an empirical study on the relationship between democracy and trade in a country, they found that the impact of democracy on trade was underestimated, and the impact of democracy on trade was underestimated. Facilitating trade does not necessarily apply to all countries.

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