

Research on the Influence Factors of China's New Energy Vehicle Exports to the US under the Background of China-US Trade Friction

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Keywords: Sino-US Trade Friction, New Energy Vehicles, Export Trade

Abstract: In recent years, the trade friction between China and the United States continues to rise, which has had a significant impact on the economic and trade relations between China and the United States. In the face of the increasing trend of trade friction between China and the United States, China's new energy vehicle exports to the United States showed obvious fluctuations and decline in 2019. In order to promote the healthy development of China's new energy vehicle export trade to the United States, it is of practical significance to study the influencing factors of China's new energy vehicle export to the United States under the background of Sino-US trade friction. By collecting the latest export trade data for empirical analysis, this paper finds that U.S. GDP, RMB exchange rate median price and export tax rebate policy have a significant positive impact on China's new energy vehicle exports to the U.S., among which U.S. GDP has the greatest impact, RMB exchange rate median price is second and export tax rebate policy has the least impact; Technical barriers will force China's new energy vehicle enterprises to strengthen technological innovation, which has a certain promotion effect on exports, but this effect is not significant.

1. Introduction

With the rise of China's economy, China-US economic and trade relations have changed from cooperation to competition. The United States believes that the rise of China's economy has challenged the US's economic dominance. In order to maintain the voice of the US in the global economy and contain the development of China and other emerging countries, trade conflicts between China and the United States occur from time to time. China's automobile industry is at a key node of upgrading and transformation, and new energy vehicles are the development direction of traditional vehicles[1]. The China-US trade relationship is the focus of the whole world. With the intensification of trade friction between China and the United States has taken a series of measures such as technical trade barriers and additional tariffs on China's new energy vehicles, which has had a certain adverse impact on the export of China's export of new energy vehicles to the United States. In this context, if China's new energy vehicles are exported to the United States wants to develop rapidly, it must combine the actual situation of China's new energy vehicles exported to the United

States, carry forward the favorable factors of its export, overcome the adverse conditions in the development process, and strive to build China into an automobile export country as soon as possible[1].

1.1 Relevant Literature and Contributions

First of all, in terms of the current situation of foreign research, most foreign research scholars analyze the action mechanism of electric vehicles from the fiscal policy, and the results show that the incentive measures promote the increase of electric vehicle sales. YU Z (2021) used the Export Complexity Index (TC) and the explicit Competitive Advantage Index (RCA) to mainly compare the global development of new energy vehicles in the United States, Europe, Japan, South Korea and other countries, and found that the government's subsidy policies are conducive to the development of new energy vehicles.[2]. Cristina Bastin (2010) adopted a comparative analysis of the development status of new energy vehicles in China and Japan, and pointed out that the policy support, technical level and demand market should be further strengthened[3]. Petra & Yannis . The et al has found that monetary incentives are the most effective way to measure electric vehicle sales[4,5]. Secondly, in the study of China-US trade friction, domestic research scholars mainly analyze the impact of China-US trade friction on the export of the whole country or focus on the impact of a certain industry. Xiao Long and Zhu Linglin et al. (2019) analyzed the impact of RMB exchange rate changes on China's export to the US under the trade friction through the construction of VAR model. The research results showed that RMB exchange rate changes have a positive effect on China's export to the US in the short term, but in the long run, the impact on it has gradually weakened[6]. Dong Guangyuan (2017) mainly analyzed the impact of technical barriers on China's automobile exports through the trade gravity model. His research shows that as time goes by, technical barriers can promote exports through the trade effect of technical barriers[7]. Finally, most of the research on the export trade of new energy vehicles has done a lot of research on the export scale, export market distribution, export structure and other aspects of the export trade, etc. These research results well explain the development status and bottleneck of China's new energy vehicles. Song Deyong and Liu Han (2018) and others analyzed China's new energy vehicle export scale, export types, export market distribution of the country and other aspects. China's new energy vehicles are mainly exported to Southeast Asia, East Asia, European and American countries, favored in the international market[8]. Bai Yuqing et al (2021) from China's new energy automobile export trade status and the existing problems, the results show that although China's new energy vehicles occupies an important position in the international market, but the low public environmental awareness, imperfect service measures and export friction upgrade, and put forward the corresponding countermeasures for these problems[9].

In general, foreign research mainly from the financial support for the impact of new energy vehicle sales analysis, domestic China-US trade friction research mainly from the whole national exports or an industry research, new energy vehicle export research is mostly from the perspective of the international market, and the combination of trade friction and new energy vehicles exports to a country is rare, so this paper from this perspective, is of great significance.

2. Current Situation of China's new Energy Vehicles Exported to the US under the China-US Trade Friction

2.1 Definition of Relevant Concepts

Trade friction refers to that in international trade, the trade policy of a country (region) reflects a strong tendency to protect a certain industry in the country in a certain period of time, thus

causing trade disputes between the country (region) and its trading partners[10]. The trade friction between China and the United States studied in this paper refers to the process in which the United States has imposed a series of sanctions such as additional tariffs and technical barriers on Chinese new energy vehicles since 2018, and China has subsequently taken countermeasures.

New energy vehicles refer to the use of unconventional vehicle fuel as the power source (or the use of conventional vehicle fuel, using a new vehicle power device), comprehensive vehicle power control and drive of advanced technology, the formation of advanced technology principles, with new technology and new structure of vehicles[9]. According to the report of the Qianzhan Industry Research Institute, new energy vehicles can be divided into non-plug-in hybrid electric vehicles, pure electric vehicles, plug-in hybrid electric vehicles, extended-range hybrid electric vehicles and fuel cell vehicles. This paper mainly analyzes the perspective of plug-in hybrid electric vehicles, pure electric vehicles and non-plug-in hybrid electric vehicles.

2.2 China's Exports of China's new Energy Vehicles to the United States

2.2.1 Export Scale is Showing a Fluctuating and Increasing Trend

According to customs statistics, the scale of China's new energy vehicle exports to the United States showed a fluctuating growth trend. In 2017, China's new energy vehicles exported to the United States totaled 1,321 units, and the export trend is positive. Since 2018, due to the impact of trade friction between China and the United States, 1,134 vehicles were exported in the second quarter and 1,219 units in the third quarter, and the export volume began to decline, totaling 554 units, especially in 2019, the export volume to the United States reached 941 units, and the export amount was only 20,867,042 US dollars. In 2020, with the easing of China-US trade relations, China exported 3,012 new energy vehicles to the United States, and its exports have rebounded. With Biden announcing the use of electric vehicles, China's export of new energy vehicles to the United States has changed. Exports reached 1,174 vehicles in the first quarter of 2021, which is a good trend for its exports.

2.2.2 The Export Type is Mainly Passenger Vehicles

According to customs statistics, passenger cars accounted for the largest proportion of the new energy vehicles exported by China to the United States in the first quarter of 2017 to 2021. In terms of passenger vehicles, there are 8,947 passenger vehicles exported to the United States, exporting us \$26, 8701, 784, of which pure electric passenger vehicles accounted for 51% of total new energy vehicles, 4680, dominating the overall export layout; plug-in hybrid passenger vehicles accounted for 46%, exporting second; non-plug-in hybrid passenger vehicles accounted for the smallest, exporting 66, with export amount of US \$30,40,875. From the perspective of pure electric buses, as of the first quarter of 2021, a total of 240 pure electric buses were exported to the United States, of which 10 seats <20 accounted for 77%, the export volume was 12,554,688; 30 seats, followed by 27%, 23,246,432; 10 seats <20 only 3%, indicating that the United States imported new energy vehicles the least.

2.2.3 The Proportion of Exports to the United States is Declining

China's new energy vehicle export data was only set up in 2017, and the queried data classification is not complete, which brings some difficulty to calculate the proportion of China's new energy vehicle exports to the United States[2]. From the section, it can be seen from the last section that passenger vehicles account for the largest proportion. This section uses the export of new energy passenger vehicles to calculate the proportion of the entire new energy vehicles

exported to the United States. The analysis of the proportion of exports to the United States refers to the proportion of China's total exports to the United States and China's total exports to the world, which can be used to reflect the change in the competitive status of China's new energy vehicles exported to the United States. The higher the index, the stronger the industrial competitiveness of the product, and the weaker the contrary. According to UN trade data, China's export of new energy passenger vehicles to the United States accounted for 27.17% of China's total exports in 2017, and reached the highest value of 39.46% in 2018. China's new energy passenger vehicles have a strong competitiveness in the US market. Due to the United States's technical barriers to China's new energy vehicles, the proportion of its exports showed a sharp decline in 2019, falling to the lowest end, only 0.92%. With the phased progress of China-US economic and trade negotiations, the export proportion of new energy passenger vehicles began to pick up in 2020, but the growth rate is not obvious.

3. The Main Factors Affecting the Export of new Energy Vehicles to the United States under the Trade Friction between China and the United States

Under the background of China-US trade friction, the factors affecting the export of China's new energy vehicles to the United States are complex, among which GDP, exchange rate changes, export tax rebate policy, technical barriers to trade are all other key factors that cannot be ignored.

3.1 The Impact of Changes in GDP

The situation of import and export trade depends heavily on the level of economic development, and GDP is usually used to measure a country's economic development level. Generally speaking, the higher the GDP, the per capita income level of residents will also increase accordingly. People with different income levels will present different market demand, and the demand of people with higher income will become diversified, which will stimulate the development of export products[11]. According to Kuai Yi data, the total GDP of the United States from 2010 to 2019 showed a growing trend, indicating that the high level of economic development of the United States is very high. According to Keynes's consumption theory, the amount of income affects their purchasing power, and the higher the GDP, the stronger their spending power is. First of all, the growth of the US GDP reflects the growing development level of the US economy, which partly reflects the increase of the per capita income level of the American consumers, and also reflects the enhancement of their consumption power. The improvement of the US consumption level is conducive to the export of Chinese new energy vehicles to the United States. Consumer demand is generally divided into material demand and spiritual demand, when the consumer income level is limited, people demand for the basic daily necessities is very strong, and the demand for high-grade consumables is very low, but when people's basic life is guaranteed, people began to pursue a higher level of enjoyment, when people's demand for consumables such as high-grade new energy vehicles will be greatly increased. The rise of GDP in the United States will stimulate the demand of American consumers, while the rising American consumer demand will promote the export of China's new energy vehicles to the United States.

3.2 The Impact of Exchange Rate Changes

As an important economic lever, the exchange rate affects a country's foreign trade environment. The change of the exchange rate of a country's currency will make the price of import and export commodities rise and fall accordingly, inhibiting or stimulate the demand of domestic and foreign residents for import and export commodities, thus affecting the scale of import and export[12]. The

impact of exchange rate changes on the export of new energy vehicles to the United States can be roughly divided into two processes: First, exchange rate changes will change the price of China's new energy vehicle products expressed in US dollars. Second, in the US market, after the price of new energy vehicle export products expressed in US dollars changes, the international competitiveness of China's export products will change accordingly, thus affecting the demand of American consumers, and the export volume of China's new energy vehicles will also change accordingly. Generally speaking, when the RMB exchange rate drops, the price of new energy vehicle export products will also fall, and the export volume will increase, which is conducive to the export, while the RMB exchange rate rises, and vice versa. Xiao Long, Zhu Linglin (2019) and other VAR model studies showed that RMB exchange rate changes will have a positive effect on China's exports in the short term, and in the long term, the export promotion effect is not significant[6]. The effect of exchange rate change on import and export is restricted by the demand elasticity of import and export commodities, the complete degree of the transmission of exchange rate to price, and the time delay of exchange rate on trade adjustment[13]. If the product price of new energy vehicle export products is fully transmitted and the demand elasticity is large, the effect of the exchange rate on the export of new energy vehicles will be obvious, otherwise the effect will not be significant. According to the data of the State Administration of Foreign Exchange, the quarterly change trend of the central parity rate from 2017 to 2020 fluctuated greatly. In the background of trade friction between China and the United States, the degree of the impact of RMB exchange rate changes on the export of new energy vehicles to the United States is uncertain, and further empirical test is needed.

3.3 Influence of Export Tax Rebate Policy

Export tax rebate refers to a policy for the state to use tax leverage to encourage export. The purpose of export tax rebate is to effectively avoid the international double tax burden and enhance the competitiveness of domestic commodities in the international market[14]. Generally speaking, the greater the export tax rebate rate increase range, the higher the export tax rebate rate, the more favorable to the export enterprises, the more competitive the export product price, the larger the scale of the export, the export tax rebate rate will be reduced, the reverse situation[15].

According to statistics from the State Administration of Taxation of China, the export tax rebate rate of China's new energy vehicles dropped from 17% to 13% from 2017 to 2020, and the export tax rebate of China's new energy vehicles decreased significantly in 2019. In the short term, in terms of the production effect of export tax rebate, the state lowered the export tax rebate rate of new energy vehicles, and the export tax rebate decreased, which increases the export cost of enterprises and suppresses the export of enterprises. From the perspective of the price effect of export tax rebate, China's new energy vehicles are currently a "small trade country", can only passively accept the price of the US market, export tax rebate decreased, which means that the price of new energy vehicles exported to the United States rises, weakening the price competitive advantage of China's new energy vehicles exported to the US market¹[15]; In terms of the consumption effect of the export tax rebate, the export tax rebate decreases, the price advantage of the new energy vehicle products declines, the American consumer demand for the new energy vehicle products declines, and the new energy vehicle enterprises will reduce their exports. In the long term, Export tax rebate rate reduction, Make China's new energy vehicle products in the price advantage of the international market, Companies that use export tax rebates as their main source of profit have to transfer their new energy vehicles for export to China, Increase the supply in the

¹ The difference between a small trading country and a big trading country is whether the import and export scale will affect the changes in international market prices.

domestic market, The ex-factory prices of the production enterprises are controlled to a certain extent, Thus reducing the cost of domestic enterprises, Ultimately lowering the price of end goods, Increase the export scale; Compared with the developed countries, China's new energy vehicle enterprises are relatively short in the development process, Core technology remains in the hands of developed countries, The state reduction of the export tax rebate rate will eliminate or transfer the backward production capacity, Accelerate the resource integration of enterprises, Make the new energy vehicle enterprises to accelerate the technological innovation, Optimize the industrial structure of Chinese new energy vehicle enterprises, Enhance the product competitiveness of China's new energy vehicles in the US market, We will expand the export scale of new energy vehicles in China. Thus, the export tax rebate policy, as a trade adjustment measure, has played an important role in the export of new energy vehicle enterprises to the United States.

3.4 Impact of Technical Barriers to Trade

In fact², technical barriers are non-tariff barrier measures, aiming to protect the legitimate rights and interests of consumers and promote the healthy development of international trade. It has now become a means of trade protection. As one of the earliest countries in the development of new energy vehicles, the United States has formulated federal motor vehicle safety standards and motor vehicle environmental protection regulations for new energy vehicles[16]. Data from the China WTO / TBT Notification and Consulting Center show that the technical barriers exposed to China's new energy vehicles mainly involve power battery safety and the minimum sound requirements for new energy vehicles. The United States raises the technical standards of new energy vehicles, sets the import threshold, meets the standards can be freely imported, does not meet the standards to restrict the import, so as to protect the interests of domestic new energy vehicle enterprises, to limit the development of China's new energy vehicles in the US market. Dong Guangyuan (2019) uses the study of trade gravity model to show that technical barriers will hinder exports in the short term. In the long term, enterprises will accelerate technological innovation and increase the volume of trade[7]. In the short term, the United States has raised the relevant technical standards, which will lead to Chinese new energy vehicle enterprises to improve the technology, can not meet the technical standards, so China's exports are reduced or some enterprises are not willing to export to the US market. In the long run, technical barriers will force Chinese new energy vehicle enterprises to improve their technical level, accelerate the pace of technological innovation, improve the quality of export products, and establish a good brand image, so as to break through the technical barriers and increase the scale of new energy vehicles exports to the United States.

4. Empirical analysis of the Factors Affecting China's Export of new Energy Vehicles to the US under Sino-US Trade Friction

Based on the above theoretical analysis, this chapter will use a multiple linear regression model to verify the impact of the above factors on China's export to the United States, and further determine the main influencing factors of China's new energy vehicles export to the United States.

² Technical barriers to trade refer to some compulsory or voluntary technical measures taken by a country (region) or regional organization to safeguard national or regional security, protect human health and safety, protect animals and plants, protect the environment, prevent fraud, protect product quality, etc.

4.1 Selection of Variables

4.1.1 Gross Domestic Product

The US GDP represents the level of economic development of the United States to reflect the US import demand for new energy vehicles. The stronger the import demand for new energy vehicles, the larger the import scale.

4.1.2 Quarterly Average Exchange Rate

The RMB exchange rate is often used to measure the trend and amplitude of currency exchange rate changes. The middle exchange rate of the yuan rose, meaning the dollar appreciated and the yuan depreciated. The depreciation of the RMB, China's export of new energy vehicles to the United States more advantageous, promote China's exports, and otherwise restrain the export scale.

4.1.3 Export Tax Refund

When export tax rebate rate drops, export tax rebate will decrease accordingly, which means that the export cost of enterprises increases, the loss of price advantage and the export decline; and may also force enterprises to accelerate the integration of resources, accelerate the pace of technological innovation, enhance the competitiveness of export products, and expand exports.

4.1.4 Notification Quantity of Technical Barriers

This paper measures the degree of trade friction by the notification amount of technical trade barriers. The higher the notification volume of technical barriers, the more stringent the technology, the exporters cannot meet the technical standards of the United States, and the exports will decline; the exporters may also strengthen the technology research and development, improve the product quality, and expand the export scale, as shown in Table 1.

Table 1: Meaning and influencing the expected direction of the variables in the model

meaning	Variables indicate	Expected direction
China's new energy vehicle exports to the United States	Export _t	
America GDP	GDP _t	+
Export tax refund	Rebate _t	+/-
Average RMB exchange rate	Rate _t	+/-
Notification volume of technical barriers	TBT _t	+/-

4.2 Sources and Description of the Data

The quarterly data of China's new energy vehicle exports to the United States from 2017 to 2020 comes from the online data query of the General Administration of Customs of China, which is mainly available through its customs code query. The US GDP data were obtained from the wind database. The quarterly average exchange rate is from the daily central parity rate published by the State Administration of Foreign Exchange, which comes through the arithmetic average. Export tax refund comes from the State Administration of Taxation. The notification amount of technical barriers is obtained from China WTO / TBT-SPS Notification Consulting Center.

4.3 Model Building

In general, to prevent the phenomenon of heteroscedasticity, the data is preprocessed in the form

of taking the logarithm. Secondly, in order to avoid the multicollinearity of the high correlation between the variables and cause the phenomenon of "pseudo-regression", the correlation analysis of each variable is done before modeling. Generally speaking, the Pearson's correlation coefficient below 0.3 is very weak, and at 0.3-0.5. The absolute value of the correlation coefficient does not exceed 0.5, which can be specially treated with the data. Establish the final regression model as follows:

$$\begin{aligned} \ln Export_t = & \beta_0 + \beta_1 \ln(GDP_t) + \beta_2 \ln(Rebate_t) \\ & + \beta_3 \ln(Rate_t) + \beta_4 \ln(TBT_t) + \mu_t \end{aligned} \quad (1)$$

In the formula, $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$ Is the coefficients of the model, μ_t Is the error term, $Export_t$ said China's new energy vehicle exports to the United States, GDP_t represents the US GDP, $Rebate_t$ indicates that the export tax rebate, $Rate_t$ represents the quarterly average exchange rate, the TBT_t represents the notification amount of technical barriers.

4.4 Empirical Analysis

Modeling analysis was performed using the SPSS software, and the results are shown in Table 4.2 goodness-of-fit of the model R^2 For 0.998, the adjusted goodness-of-fit, R^2 The value was 0.994, indicating that the 99.4% change in China's neV exports to the US can be explained by the sample regression line, and the model has a good goodness of fit.

Judging from the test F, the significance level of the test F test is below 0.01, indicating a significant linear relationship between the various explanatory variables and the explained variables in the model. According to the T test, except for the amount of technical barriers notification, all the other variables had passed the significance test, and the significance level was relatively high. Among them, the export tax rebate passed the significance test at 1%, the GDP passed the significance test at 5%, and the RMB exchange rate passed the significance test at 10%. The variance expansion factor (VIF) is all less than 10, which indicates that the collinearity of this model is not serious and is within the acceptable range. Based on the regression results, we can establish the following linear regression equation:

$$\begin{aligned} \ln Export_t = & -19.676 + 1.534 \ln(GDP_t) + 1.001 \ln(Rebate_t) \\ & + 1.521 \ln(Rate_t) + 0.017 \ln(TBT_t) + \mu_t \end{aligned} \quad (2)$$

As can be seen from the above model:

First, the regression coefficient of GDP is 1.534, the coefficient said the higher the us GDP, China's new energy vehicle exports to the United States, the higher other conditions unchanged, the American GDP, China's exports will rise 1.534%, which shows that the us GDP of China's new energy vehicle exports have significant effect, consistent with estimates.

Second, the return of export tax refund coefficient is 1.001, the coefficient shows that China's export tax rebate policy for new energy automobile enterprises export a positive influence in the United States, China's new energy automobile enterprises although face the pressure of export tax rebate, but will also accelerate the enterprise resource integration, accelerate the pace of technological innovation, promote the optimization and upgrading of products, enhance the competitiveness of China's new energy vehicles in the American market.

Third, the regression coefficient of the exchange rate is 1.521, which means that the quarterly average exchange rate of RMB plays a positive role in guiding the export of new energy vehicles. Under other conditions unchanged, if the increase of the RMB exchange rate is 1% and the depreciation of 1%, the export of new energy vehicles will increase by 1.521%, which is consistent with the expected symbol above.

Fourth, the regression coefficient of technical barriers is 0.017, the coefficient shows that technical barriers every 1%, China's new energy automobile exports will increase by 0.017%, shows that China's new energy automobile enterprises face the threat of technical barriers, but as long as China related enterprises to speed up technology research and development, technological innovation, take reasonable and effective measures, to some extent, can promote exports, but the promotion is not significant. The impact of technical barriers notification on China's new energy vehicles exported to the United States is not significant, which has a certain relationship with the research object and time limitations of this paper. First, the main exporter of Chinese new energy vehicles is not the United States, and the number exported to the United States is generally small; second, since the customs code for new energy vehicles was only established in 2017, there are few measurable data, which may cause some deviation in the empirical results.

Fifth, according to the absolute value of the regression coefficient, among the four influencing factors, the GDP of the United States has the biggest impact on China's new energy vehicles export to the United States, the RMB exchange rate is the second, the export tax rebate policy ranked third, and the impact of technical barriers on China's new energy vehicles export to the United States is not significant, as shown in Table 2.

Table 2: Estimation and testing of the model parameters

factor	B	T	conspicuousness	VIF
β_0	-19.676**		0.019	
InGDP _t	1.534**	2.525	0.025	1.340
InRebate _t	1.001***	35.174	0.000	2.231
InRate _t	1.521*	1.904	0.083	1.409
InTBT _t	0.017	0.862	0.407	2.180
F	634.131***	N	16	
R ²	0.996	adj.R ²	0.994	

Note: The dependent variable is the export amount, where *, ** and *** are significant at the levels of 10%, 5% and 1%, respectively

4.5 Model Test

From the residual analysis, the regression model has 0.000, standard deviation of 0.856, close to 1, and the standard deviation approximately follows the standard normal distribution, which indicates that the unbiased estimation of the predicted values is reasonable, as shown in Table 3.

Table 3: Residual statistics

	least value	crest value (X)	average value	standard deviations
predicted value	14.56166267395	18.01924324	16.4142039925	1.090170404951
residual	-0.123130261898	0.155544192	0.00000000000	0.071791184745
normal expected value	-1.699	1.472	0.000	1.000
Standard residuals	-1.469	1.855	0.000	0.856

Note: The dependent variable is the export volume

From the P-P map, it is assumed that the population corresponding to each treatment should follow a normal distribution, that is, each export amount in the sample should obey a normal distribution. One of the methods to test the normality is to draw the normal probability map of the dependent variable. As shown in Figure 1, the straight lines in Fig represent the theoretical normal

distribution line, and the closer each observation value is to the straight line, the closer the data is to the normal distribution. As can be seen from the figure, the observed values are generally distributed around the straight line, so it can be judged that the model approximately follows a normal distribution.

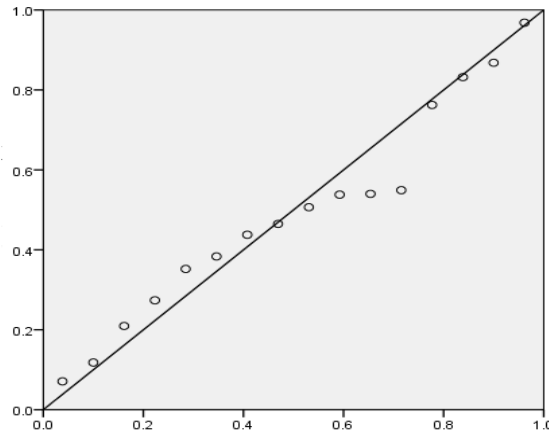


Figure 1: Positive P-P plot of regression normalized residuals

As shown in Figure 2, According to the scatter plot of the predicted values and the standardized residues, most of the data are randomly distributed within the level band of (-2,2), and they are irregular, indicating that the linear regression equation meets the assumption of homogeneity of variance.

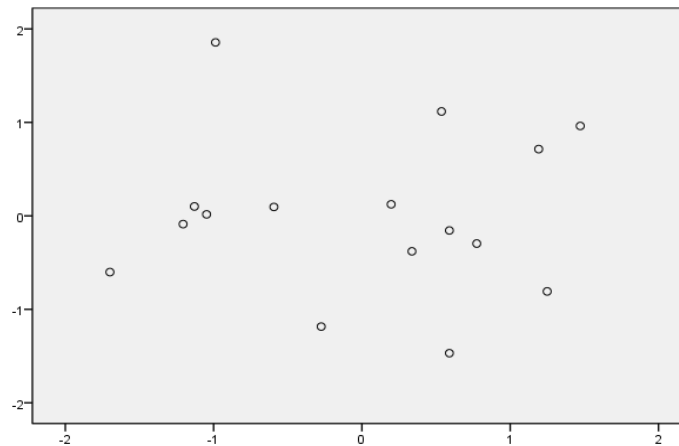


Figure 2: the scatter plot

5. Conclusions

This paper mainly analyzes the quarterly data of China's new energy vehicle exports to the United States in 2017-2020, analyzes the current situation of China's new energy vehicle exports to the United States and the main factors affecting China's new energy vehicle exports to the United States, and mainly draws the following conclusions:

(1) Under the background of China-US trade friction, China's export of new energy vehicles to the United States is affected by the Sino-US trade friction. The scale of China's new energy vehicle exports to the United States has fluctuated since 2017, but in 2019, Chinese new energy vehicle exports to the United States declined significantly in 2019; the passenger vehicles of the US exports reached 98% and are the main force of China's exports to the United States fell off a cliff since 2019, in 2020, but slightly in 2020.

(2) From the empirical results, under the background of China-US trade friction, the main factors affecting China's export of new energy vehicles to the United States are: US GDP, RMB exchange rate and export tax rebate policy. Among them, the US GDP, RMB exchange rate, export tax rebate policy has a significant positive impact on China's new energy vehicle exports to the United States, the American GDP has the biggest impact, the export tax rebate policy has the least impact; technical barriers notification on China's new energy vehicles exports, will force Chinese new energy vehicles to accelerate technological innovation, improve the quality of products, but this promotion effect is not significant at present, need further inspection in the future.

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