

The Impact of Changes in Non-tariff Measures on China's Export After the Financial Crisis

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Abstract

Using the data from Global Trade Alert (GTA) and UN Comtrade Database, this paper analyzes the impact of foreign non-tariff measures on China's HS6 digit level product exports from 2008 to 2018. It is found that non-tariff measures had a significant negative impact on China's export. In general, each new non-tariff measure would reduce China's related product exports by 17.2%. For different non-tariff measures, their impacts on China's export are ranked in order as: other non-tariff barriers, trade remedy measures, import control measures, state subsidies and aid, public procurement and localization policies. From the perspective of industries, the industries of food and beverage, industrial supplies not elsewhere specified, capital goods (except transportation equipment) and their parts, transport equipment and parts and accessories thereof, and consumer goods have been significantly negatively affected by non-tariff measures. Among this five industries, the food and beverage industry suffered the largest export shocks; the industries of transport equipment and parts and accessories thereof suffered relatively minimal negative impacts.

Keywords

Non-tariff measures; China's export; Financial crisis.

1. INTRODUCTION

With the trend of tariff reduction worldwide, non-tariff barriers have become an indispensable trade policy tool that is being used frequently by countries. And the impact of non-tariff barriers on trade has become increasingly prominent. In particular, since the financial crisis in 2008, the global economy has generally declined, and almost all economies have been spared. In order to recover their economies as soon as possible, countries have generally strengthened their trade protectionist policies and implemented a large number of non-tariff measures. According to the Global Trade Alert (GTA) database, 753 new discriminatory non-tariff measures were imposed by countries worldwide in the year after the financial crisis alone, and the number has been on the rise since then. As the world's largest exporter of goods, China is more vulnerable to discriminatory NTMs by other countries, and GTA data shows that China suffered the largest number of NTMs and the number of products subject to NTMs during 2008-2018, making it the country most affected by trade protectionism.

Figure 1 shows China's foreign trade in goods exports experienced a significant reduction in 2009, while the growth rate of China's goods exports declined from an average of 29% in 2002-2007 to an average of 6.8% per year in the post-financial crisis period (2008-2019). The negative impact of non-tariff measures on China's export trade needs to be explored in depth. In addition, although it has been more than a decade since the financial crisis, trade protectionism is still on the rise worldwide. Identifying the types of NTMs China suffers from and the extent of the impact of different types of measures is beneficial for China to formulate

targeted coping strategies to promote foreign trade and the stable development of China's economy.

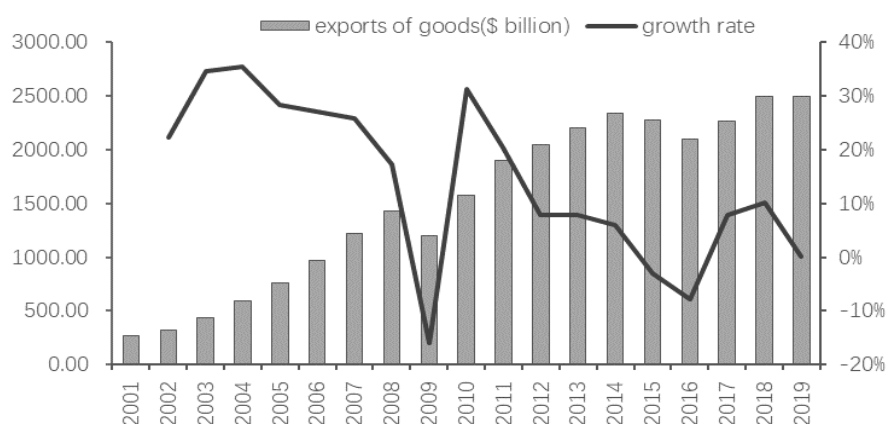


Figure 1. Changes in China's foreign exports of trade in goods, 2001-2019

Data source: UN COMTRADE database, General Administration of Customs of China

Using the GTA database from 2008 to 2018, this paper select 23 countries (specifically: the United States, Germany, Italy, the United Kingdom, France, Spain, the Netherlands, Belgium, Canada, the Czech Republic, Denmark, Austria, Sweden, Greece, Finland, Ireland, India, Indonesia, Brazil, Argentina, Poland, Russia, and Turkey, due to the very single non-tariff measures implemented in Vietnam, the data sample of Vietnam is excluded to ensure the accuracy of the study) with the number of products affected by NTMs implemented on China exceeding 100 of non-tariff measures, and on the basis of descriptive analysis of foreign non-tariff measures implemented on China, the impact of non-tariff measures on the exports of HS6 products and industries affected by China is empirically analyzed, with a view to answering the following questions: First, how large is the impact of foreign non-tariff measures on China's exports? whether there are differences in the size of the impact of different types of non-tariff measures on China's exports? Third, is there any difference in the impact of NTMs on different industries?

2. LITERATURE REVIEW

Non-tariff measures (NTMs) are defined by UNCTAD as policy measures, other than ordinary tariffs, that may have a potential economic impact on international trade in goods, which may be in the form of changes in quantity, price or both. NTMs are characterized by greater concealment and diversity of forms, and common types include anti-dumping, countervailing, technical barriers to trade and special safeguard measures.

2.1. Studies on Individual Non-tariff Measures

The current academic research on the trade effects of non-tariff measures is rich, but most of them focus on a particular non-tariff measure, such as anti-dumping, TBT, SPS measures, which are easier to quantify. Bown and Crowley (2007) summarize the trade effects of anti-dumping into trade destruction, trade diversion, trade deflection and trade suppression, trade destruction is directly reflected in the country where anti-dumping is implemented will reduce the export of specific products to the implementing country, which is also reflected in the direct reduction of the trade volume of the anti-dumped products Some scholars have made use of foreign anti-dumping against China. Some scholars have found and confirmed one or more trade effects of anti-dumping by using foreign anti-dumping data against China. For example, Feng and Xiang (2010) take the 2002-2007 European and American textile anti-dumping cases

against China as the research object, and the results of the empirical analysis show that the European and American anti-dumping against China brings significant trade damaging effect, and also leads to positive trade diversion effect and deflection effect. Yang et al. (2012) focused on the trade effect of anti-dumping in India and found that the implementation of anti-dumping in India against China focused on products with fast growth of Chinese exports, which caused trade damaging effect and trade diversion effect, and also found that the trade effect would gradually diminish over time. Using industry export data from China to 24 countries from 1992-2010, Wang et al. (2015) found that the implementation of anti-dumping measures by foreign countries against China significantly inhibits China's exports, and the counterfactual simulation of anti-dumping caused an average reduction of 2%-3.2% in China's exports. For the study of TBT measures, Bao and Zhu (2014) used industry-level trade data from 105 countries around the world from 1995-2008, and used import coverage as a quantitative indicator of TBT measures, and found that TBT makes export costs increase and causes a decrease in export probability; for the impact on trade volume, TBT measures cut agricultural trade volume, but promote For the impact on trade volume, TBT measures reduce the trade volume of agricultural products, but promote the increase of trade volume of industrial manufactured products. For SPS measures, a large number of studies focus on empirically analyzing the impact of implementing SPS measures on agricultural exports and find that they have a significant suppressive effect on total agricultural exports (e.g., Qin and Ni, 2013; Bao and Yan, 2014; Crivelli and Gröschl, 2016). The existing literature studying individual NTMs focuses on the negative impacts of anti-dumping, TBT, and SPS measures on trade, and there is a relative lack of research on the trade effects of, for example, localization policies, government subsidies, and other intra-border NTMs due to the lack of relevant data.

2.2. Studies on Multiple NTMs

Using the WIST database, Liang and Wei (2016) empirically examined the effects of several non-tariff measures implemented by 14 countries, including SPS, TBT, and anti-dumping, on the binary margin of China's exports, and concluded that non-tariff measures increase the intensive margin of China's exports, but cause the extended margin of China's exports to decrease. Chandra (2016) studied the impact of the US temporary trade barriers (TBT) on China's exports from 2002 to 2008 the impact of U.S. temporary trade barriers (containing anti-dumping, countervailing and global safeguard measures) on China's exports and found a significant trade deflection effect, i.e., U.S. temporary trade barriers to China make China increase its exports to other countries, but did not find a trade disincentive effect. Henn and McDonald (2014) use monthly bilateral export data from the EU and G20 countries from 2008-2010 and find that the new border control measures caused a 5%-8% decline in bilateral trade. 8%. Using monthly industrial export data at the HS4 level for China, Wang (2014) found that trade protectionist measures had a significant negative impact on industrial exports to China and that measures implemented by developed countries had a greater negative impact on Chinese exports. The results of the empirical study at the HS4 level may be biased due to the fact that NTMs are usually imposed on specific HS6-digit products, as pointed out by Wang et al. (2016). Kinzius et al. (2019), on the other hand, study the impact of NTMs on bilateral trade volume (CPC3-digit level) of 152 countries for a total of six years from 2010-2015, and similarly find that significant negative effects of NTMs on trade volume.

These research results provide a reference for this paper. However, the main shortcomings of the existing literature are: (1) most of the literature mainly considers the impact of one type (or several types) of NTM stock on total product import control (or restriction of total exports); the data sources of NTMs used vary, making it difficult to compare the impacts of different types of NTMs in a comprehensive manner, and even if NTM data from different sources are analyzed together, they Lack of convincing power; (2) individual studies using GTA data use monthly

export data at the HS4 level, which greatly loses the sample due to the existence of a large number of zero trade volumes, leading to biased research results; and there is usually a lag effect (e.g., importers generally need to place orders in advance for production), which is difficult to take effect in the month of policy implementation (the next month), and using annual data may be more accurate than monthly data. The use of annual data may be more accurate than monthly data to reflect the trade effects of the policy.

The main differences between this paper and existing studies are that (1) with the help of the latest 2008-2018 GTA classification of the main countries imposing NTMs on China matched with the annual data of China's HS6-digit product exports, the impact of changes in NTMs on China's exports of products subject to NTMs is assessed more precisely through empirical analysis; (2) the NTMs in the GTA are measures in the GTA into five categories, including import control, public procurement and localization measures, trade remedy measures, state subsidies and assistance, and other non-tariff measures, to systematically evaluate and compare different categories of non-tariff policies and comprehensively consider the trade effects of non-tariff measures on China's exports of affected products; at the same time, based on the UN BEC 4.0 classification method, we analyze the export of different non-tariff measures changes from the industry level. The margins of intensification.

3. EMPIRICAL MODEL

3.1. Variable Definition

Table 1. Specific Classification of Non-Tariff Measures (NTMs)

Types of non-tariff barriers	
(1) Import controls (IC)	(4) State aid and subsidies (SAS)
Import ban	Bailout
Import incentive	Financial assistance in foreign market
Import licensing requirement	Financial grant
Import monitoring	In-kind grant
Import quota	Interest payment subsidy
Import tariff quota	Loan guarantee
Import-related non-tariff measure, nes	Production subsidy
Internal taxation of imports	State aid, nes
Trade balancing measure	State loan
Trade payment measure	Tax or social insurance relief
(2) Public procurement and localisation policy (PPLP)	(5) Other non-tariff barriers (ONTB)
Public procurement access	Competitive depreciation
Public procurement localisation	Price stabilisation
Public procurement preference margin	Instrument unclear
Local operations	SPS
Local sourcing	TBT
Localisation incentive	
(3) Trade defence instruments (TDI)	
Anti-circumvention	
Anti-dumping	
Anti-subsidy	
Safeguard	

The GTA database contains 44 measures that may affect trade, including both tariff and non-tariff measures, and since the focus of this paper is on foreign non-tariff measures, only data on non-tariff measures in the GTA are selected. At the same time, the GTA database sets color codes for each measure, including "green", "amber" and "red" in order to measure the impact of the recorded trade measures on foreign business interests. "Red" indicates that "the measure has been implemented and almost certainly involves discrimination against foreign business interests". Only the non-tariff measures marked in red in the GTA database are used in this study. Referring to Kinzius et al. (2019), based on the characteristics of the relevant measures, this paper classifies the non-tariff measures implemented outside China in the GTA database into five categories - import control (IC), public procurement and localization policy (PPLP), trade remedy measures (TDI), state aid and assistance (SAS), and other non-tariff measures. SAS), and other non-tariff barriers (ONTB), as shown in Table 1.

3.2. Regression Equation

Referring to the study by Henn and McDonald (2014), the following model was constructed:

$$\Delta \ln(EXP_{ijt}) = \beta_0 + \beta_1 \Delta NTM_{ijt} + \lambda_j + \lambda_t + \varepsilon_{ijt} \quad (1)$$

Where EXP_{ijt} is the trade value of China's exports of product i to country j in year t , and NTM_{ijt} is the frequency of cumulative NTMs imposed by country j on Chinese product i in year t (Since this study involves a large number of NTMs, it is difficult to quantify them in a uniform manner, so they are expressed in terms of quantity.), i, j, t index 6-digit HS product categories, countries, years, respectively. λ_j, λ_t indicates country fixed effects and year fixed effects, ε_{ijt} is the stochastic error term.

4. 4. EMPIRICAL ANALYSIS

4.1. Data

Table 2. Number of Products Affected by Foreign Non-Tariff Measures in China, 2008-2018

Implemented countries	Number of products affected	Implemented countries	Number of products affected
India	1971	Poland	529
USA	1231	Russia	517
Indonesia	1108	Canada	404
Germany	980	Czech Republic	313
Italy	827	Turkey	308
UK	759	Denmark	259
France	741	Austria	255
Brazil	658	Sweden	254
Spain	650	Greece	157
Argentina	613	Finland	152
Netherlands	580	Ireland	134
Belgium	547	total	13947

This study uses trade data from the UN COMTRADE database and NTM data from the GTA database (www.globaltradealert.org). The HS6 products affected by each measure are listed in

the GTA database, and the products affected by these 23 countries' NTMs are used as the subject of this study in the UN COMTRADE to find annual export data for that HS6-digit product from 2007-2018. However, in some years, China may not export specific HS6-digit products to specific countries, so the phenomenon of zero trade value may occur. Since the explanatory variable is the logarithm of the trade value and the difference is made, the zero value is replaced by one. In addition, considering that both the explanatory variables and the explanatory variables in this paper are first-order differenced, the data of non-zero trade values appearing for only one year are deleted, and a total of 11 HS6-digit products are deleted, which results in a final sample size of 13947 HS6-digit products participating in the regression. The details are shown in Table 2.

4.2. Descriptive Statistics

Based on the data from the GTA website and sorted by classification, the number of Chinese products (HS6 digit) subjected to global non-tariff measures between 2008 and 2018 was obtained statistically; then the export trade value of Chinese products involved in the case was found in the UN COMTRADE database according to the HS6 digit products and the countries imposing non-tariff measures on China, and the Table 3 gives the statistical characteristics of the number of various non-tariff measures and the export trade value of Chinese products.

Table 3. Summary statistics

Variable Name	Sample Size	Mean	Minimum	Maximum	Standard Deviation
$\Delta \ln \text{EXP}$	153417	0.26	-21.37	21.62	2.616
ΔNTM	153417	0.17	0.00	24.00	0.599
ΔIC	153417	0.04	0.00	3.00	0.205
ΔPPLP	153417	0.04	0.00	7.00	0.322
ΔTDI	153417	0.02	0.00	6.00	0.152
ΔSAS	153417	0.08	0.00	24.00	0.410
ΔONTB	153417	0.00	0.00	1.00	0.032

4.3. Analysis of Estimation Results

The overall effect is estimated as shown in column (1) of Table 4, where the sign of the regression coefficient is negative and highly significant at the and at the 1% level, as expected, indicating that foreign-imposed NTMs do have a significant negative impact on China's exports (i.e., foreign NTMs have a negative margin of aggregation on China's exports). The coefficient -0.189 indicates that, all else equal, an additional foreign NTM reduces China's exports of the product in question by 17.2% (is calculated by $(1 - e^\beta) * 100\%$. β is the coefficient of the explanatory variable.).

Secondly, the effects of different types of impacts are examined. Column (2) of Table 4 shows the estimated results of the margins of intensification of China's exports by different types of NTMs. In terms of the sign of the estimated parameters, the coefficients of the five types of NTMs, namely import controls, public procurement and localization policies, trade remedies, state subsidies and assistance, and other non-tariff barriers, are all significantly negative, which indicates that all five types of NTMs implemented abroad have a dampening effect on China's exports. In terms of the magnitude of the estimated parameters, there are large differences in the degree of impact caused by these five types of measures, among which import control, trade remedy measures and other NTBs bring about larger trade shocks, while public procurement and localization policies and state aid bring about relatively smaller shocks. Specifically, the

estimated coefficient of other non-tariff barriers (ONTB) is -0.706, with the largest absolute value of the coefficient, implying that each additional ONTB measure imposed by foreign countries on China will reduce China's exports of affected products by 50.6%. Trade remedy measures, import control measures, and state subsidies and aid, cause a reduction in trade volume of 40.8%, 36%, and 13.4%, in that order. Public procurement and localization policies have the smallest coefficients in absolute value, indicating that their impact on trade volume is also the smallest, indicating that each additional state aid measure brings about a 7.1% reduction in the export value of the product concerned. Column (3) presents the estimation results when the non-tariff measures are expressed as dummy variables, and the coefficients of the explanatory variables are significantly negative in sign in line with the results of (2), but the absolute values of the coefficients increase in different degrees compared to the baseline regression.

Table 4. Baseline regression results

Explained variables	(1)	(2)	(3)
	$\Delta \ln \text{EXP}$ Frequency Count	$\Delta \ln \text{EXP}$ Frequency Count	$\Delta \ln \text{EXP}$ Dummy Variables
ΔNTM	-0.189*** (0.017)		
ΔIC		-0.446*** (0.024)	-0.540*** (0.031)
ΔPPLP		-0.074*** (0.013)	-0.564*** (0.049)
ΔTDI		-0.525*** (0.052)	-0.531*** (0.068)
ΔSAS		-0.144*** (0.026)	-0.440*** (0.033)
ΔONTB		-0.706*** (0.206)	-0.749*** (0.207)
_cons	0.291*** (0.005)	0.300*** (0.005)	0.313*** (0.005)
R2	0.044	0.045	0.045
Year fixed effects	YES	YES	YES
Country fixed effects	YES	YES	YES
Number of samples	153417	153417	153417

Notes: ***, **, and * denotes underlying coefficient estimate was statistically significant at the 1%, 5%, and 10% levels, respectively.

4.4. Estimation Results by Industry Grouping

In order to analyze how different industries' exports are affected by non-tariff measures, this study classifies HS6-digit products according to the UN BEC 4.0 classification method for industry classification (Data source: https://unstats.un.org/unsd/trade/classifications/tables/CompleteCorrelationsOfHS-SITC-BEC_20170606.xlsx) into seven major categories, namely: (1) food and beverages; (2) industrial supplies; (3) fuels and lubricants; (4) capital

goods (except transportation equipment) and parts thereof; (5) transportation equipment and parts and accessories; (6) consumer goods; and (7) other goods not specified. The descriptive statistics for the sample sub-industry variables used in this paper are shown in Table 5.

Table 5. Summary statistics by industry grouping

BEC4.0 Industry Classification	Variable Name	Sample Size	Mean	Minimum	Maximum	Standard Deviation
Industry(1)	$\Delta \ln \text{EXP}$	6072	0.47	-18.62	18.37	2.979
	ΔNTM	6072	0.16	0.00	3.00	0.433
Industry(2)	$\Delta \ln \text{EXP}$	83534	0.24	-19.87	19.87	2.814
	ΔNTM	83534	0.17	0.00	9.00	0.543
Industry(3)	$\Delta \ln \text{EXP}$	275	0.49	-18.29	19.69	4.540
	ΔNTM	275	0.13	0.00	3.00	0.401
Industry(4)	$\Delta \ln \text{EXP}$	35706	0.32	-21.37	21.62	2.294
	ΔNTM	35706	0.15	0.00	23.00	0.547
Industry(5)	$\Delta \ln \text{EXP}$	6622	0.22	-18.75	18.85	2.881
	ΔNTM	6622	0.33	0.00	24.00	1.522
Industry(6)	$\Delta \ln \text{EXP}$	21131	0.16	-19.81	19.56	1.984
	ΔNTM	21131	0.13	0.00	4.00	0.376
Industry(7)	$\Delta \ln \text{EXP}$	77	0.32	-18.05	17.09	5.869
	ΔNTM	77	0.16	0.00	2.00	0.400

The regression results by industry grouping are shown in Table 6:

Table 6. Regression results by industry grouping

	Industry(1)	Industry (2)	Industry (3)	Industry (4)	Industry (5)	Industry (6)	Industry (7)
	$\Delta \ln \text{EXP}$	$\Delta \ln \text{EXP}$	$\Delta \ln \text{EXP}$	$\Delta \ln \text{EXP}$	$\Delta \ln \text{EXP}$	$\Delta \ln \text{EXP}$	$\Delta \ln \text{EXP}$
ΔNTM	-0.318*** (0.076)	-0.283*** (0.018)	-0.753 (0.635)	-0.142*** (0.028)	-0.068*** (0.020)	-0.230*** (0.040)	-1.431 (1.856)
_cons	0.521*** (0.026)	0.293*** (0.006)	0.595*** (0.181)	0.341*** (0.008)	0.245*** (0.019)	0.192*** (0.011)	0.541 (0.396)
R2	0.159	0.046	0.069	0.102	0.020	0.025	0.148
Year fixed effects	YES	YES	YES	YES	YES	YES	YES
Country fixed effects	YES	YES	YES	YES	YES	YES	YES
Number of samples	6072	83534	275	35706	6622	21131	77

Notes: ***, **, and * denotes underlying coefficient estimate was statistically significant at the 1%, 5% and 10% levels, respectively.

Columns (1)-(7) of Table 6 show the estimation results for the subsample of seven categories of industries, respectively. It can be found that five industries, namely, food and beverages, industrial supplies, capital goods (except transportation equipment) and parts thereof, transportation equipment and parts and accessories thereof, and consumer goods, are

significantly and negatively affected by NTMs, among which the food and beverages industry suffers the largest export impact, with an additional NTM leading to a 27.2% reduction in exports of related products in this industry; the transportation equipment and parts and accessories industry The transport equipment and parts and accessories industry is relatively least negatively affected, with the addition of one non-tariff measure reducing exports by 6.6%. In addition, the sample size reflects that the three industries of industrial supplies, capital goods (except transportation equipment) and parts and components thereof, and consumer goods suffer the most from non-tariff measures, with the industrial goods industry being affected by as many as 7,594 HS6 products, with a negative impact of 24.6%, which is also not negligible. It is worth noting that the two industries of fuel and lubricants, and other unspecified goods are affected by non-tariff measures for a smaller number of products, and the negative impact is not significant.

4.5. Robustness Tests

In order to analyze in depth the negative impact of exports caused by non-tariff measures and also to test the robustness of the benchmark regression results, this study refer the study of Gu and Liang (2016) to construct a relative export share (Rate) indicator and take the first-order difference as the explanatory variable. The relative export share is calculated as follows: $Rate_{ijt} = EXP_{ijt} / EXP_{i0t}$, where EXP_{i0t} is the annual global trade value of China's exports of the product category.

Table 7. Results of robustness test

Explained variables Explanatory variable representation	(1) $\Delta Rate$ Frequency Count	(2) $\Delta Rate$ Frequency Count	(3) $\Delta Rate$ Dummy Variables
ΔNTM	-0.003*** (0.000)		
ΔIC		-0.005*** (0.001)	-0.006*** (0.001)
$\Delta PPLP$		-0.003*** (0.001)	-0.008*** (0.002)
ΔTDI		-0.011*** (0.001)	-0.012*** (0.002)
ΔSAS		-0.002*** (0.000)	-0.004*** (0.001)
$\Delta ONTB$		-0.007 (0.006)	-0.007 (0.006)
_cons	0.001*** (0.000)	0.300*** (0.005)	0.313*** (0.005)
R2	0.004	0.005	0.005
Year fixed effects	YES	YES	YES
Country fixed effects	YES	YES	YES
Number of samples	153417	153417	153417

Notes: ***, **, and * denotes underlying coefficient estimate was statistically significant at the 1%, 5% and 10% levels, respectively.

Column (1) of Table 7 shows that the regression results are still negative and significant when the NTMs are estimated as a whole, indicating that NTMs not only cause a significant reduction in the export value of the product in question to the counterpart country, but also significantly reduce the share of exports to the counterpart country in world exports, indicating the robustness of the study results. Columns (2) and (3) show the regression results with the explanatory variables replaced by the relative export shares as the robustness test, and the NTMs are likewise expressed in both frequency counting and dummy variables, respectively. From the results, the coefficients of the four types of measures remain highly significant negative, except for the coefficients of other NTBs, which are not significant, and the ranking of the magnitude of the impact of these four types of measures also remains the same as in the benchmark regression. The magnitude of the coefficients of trade remedies indicates that each additional measure causes a 0.011 decrease in the relative export share, and the regression coefficients of import controls, public procurement and localization policies, and state subsidies and aid are -0.005, -0.003, and -0.002, respectively, indicating that these three types of measures reduce the relative export share by 0.005, 0.003, and 0.002, respectively.

5. CONCLUSION

In the post-financial crisis era, China's export trade environment is getting tougher. Not only the traditional problems of anti-dumping, countervailing and safeguard measures continue unabated, but also new non-tariff measures such as export control, government procurement and import ban have been added, posing new challenges to China's exports. Almost all industries are affected by global trade non-tariff policies, and 40% of global non-tariff measures affect China's exports. Using GTA non-tariff data and COMTRADE data, this paper examines the marginal effects of foreign-imposed non-tariff measures on China's HS6-digit level product exports in 2008-2018. The results find that there is a significant negative impact of non-tariff measures on China's export products, with each additional non-tariff measure causing a 17.2% reduction in China's relevant product exports. Among them, each additional non-tariff barrier (ONTB), trade remedy (TDI), import control (IC), state aid and assistance (SAS), public procurement, and localization policy (PPLP) imposed by foreign countries on China will reduce China's exports by 50.6%, 40.8%, 36%, 13.4%, and 7.1%, respectively. From the perspective of industries, five industries, namely, food and beverage, industrial supplies, capital goods (except transportation equipment) and parts thereof, transportation equipment and parts and accessories thereof, and consumer goods, were significantly and negatively affected by non-tariff measures, with the food and beverage industry suffering the largest export impact (27.2%); the transportation equipment and parts and accessories industry was relatively least negatively affected (6.6%). In terms of sample size, the three industries - industrial supplies, capital goods (except transportation equipment) and parts and components thereof, and consumer goods - suffered the largest number of products subject to non-tariff measures. Two industries, fuel and lubricants and other unspecified goods, suffer from a smaller number of products affected by non-tariff measures, the negative shocks are not significant, and the empirical results have a strong robustness.

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