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An Analysis on Anti-dumping Trade Diversion Effect from China

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Abstract: After accessing to WTO, China has had a sharp increase in foreign anti-dumping. Following the United States, European Union, Turkey and India, China has become one of the countries which use most anti-dumping measures. With the characteristic of country-specific, anti-dumping has "trade diversion effect" on the non-alleged country while it has "trade inhibiting effect" on the alleged country. Based on the analysis of China's anti-dumping characteristics, this paper has an empirical study on trade diversion effect of 23 anti-dumping cases reached decisions and finds that trade diversion effect exists indeed. Trade diversion effect is most obvious after the second year of file. The higher the tax rates of anti-dumping, the more obvious the trade diversion effect. This leads China's anti-dumping protection may not be able to reach its target. Therefore, China can control the volume of trade diversion without violating the WTO rules.

Key words: China anti-dumping trade diversion effect

I. Introduction

Anti-dumping has become one of the most widely and frequently used trade relief measures. As the most experienced anti-dumping allegations, China has achieved much more attention since the 1990s. According to WTO statistics, from 1995 when WTO is established to June 2007, there are 3105 anti-dumping allegations in the world, 554 cases

with China as the alleged recipient, accounting for 17.8%. Only the first half of 2007, 13 WTO members initiated 61 anti-dumping investigations among which there are 18 cases against China, accounting for 29.5%. China has become the world's largest recipient of anti-dumping allegations for 12 years[1]. With China's first anti-dumping regulations promulgated and implemented in 1997, China joined the rank of countries using anti-dumping measure. Up to June 2007, China has launched 48 anti-dumping charges, including 12 before China's accession to the WTO[2]. According to statistical standard of one country or region involved in counting a case, China has initiated 149 anti-dumping charges, including 33 before China's accession to WTO. The number of China's anti-dumping cases has entered the stage of steady growth, especially after China's accession to the WTO anti-dumping allegations increase rapidly.

With the characteristic of country-specific, anti-dumping has "trade inhibiting effect" on the alleged country. The third country's similar products may replace the products of country levied anti-dumping duties. So the import of the product involved in the case shifts to the accused for the alleged countries, which have taken place in "trade diversion effect". Trade diversion weakens the effect of anti-dumpling's protection to domestic industries. The analysis of trade diversion firstly appeared in the Customs Union Theory. With the anti-dumping measures frequently used, people started to study trade diversion phenomenon of anti-dumping. Using different sample data, the theoretical circle abroad made a lot of empirical research on trade diversion, but the conclusions are not consistent. Using the data of U.S. anti-dumping, Staiger and Wolak (1994), Krupp and Pollard (1996),

1 It is worth noting that WTO counts up every country's anti-dumping data using each commodity / each country as the standard. It means that if State issues a file of anti-dumping investigation on same commodity to five countries, the WTO will be count it as five anti-dumping cases.Data sources: http://www.antidumpingpublishing.com/"2007 Global Trade Protection Report"

2 Data is from China's Trade Relief Information Network. It counts up anti-dumping data using each commodity as the statistics standard. It means that if State issues a file of anti-dumping investigation on same commodity to five countries, the WTO will be count it as one anti-dumping case.

Prusa (1996, 1999) and other found trade diversion effect exist. However, using the EU's data, such as Konings (1999) found that compared to the United States EU has no significant trade diversion effect. On the anti-dumping trade diversion effect difference between Europe and the United States, the author thinks it may related with different anti-dumping systems. Using the case of European Union 1982-1992, Lasagni (2000) got similar conclusions with Konings. Using EU's 98 anti-dumping cases in 1989—1994, Brenton (2001)found significant trade diversion effect. Niels (2003) made an Empirical Study on Mexico's (new user of anti-dumping tool) anti-dumping effect and did not find significant trade diversion.

Domestic research on anti-dumping trade diversion is less. Tang Yu (2004) studied the impact of trade diversion on the importing country, including trade diversion effect, the effect of investment by leaps and bounds, secondary protective effect on upstream and downstream industries, and revenge effect among countries. Shen Yao, Wang Jike (2004) inspected trade diversion effect caused by anti-dumping investigation on acrylic ester in China. His research shows that anti-dumping measures against Japan, the United States and Germany had a significant trade diversion effect. Such trade diversion effect seriously undermined the expected effect of the anti-dumping measures. In response to this situation, the Chinese Government launched the anti-dumping investigations on the following countries in October 2001 and imposed anti-dumping duties in April 2003. Zhu Qinghua, Tang Yu (2004) selected there products with single Customs tax number from 5 products collected anti-dumping duties before 2002: newsprint, polyester film and acrylic ester. Through the analysis of changes in anti-dumping import products source, they found trade diversion effect in China. Using the data of products (1997-2004) with 8 Customs tax numbers involved in anti-dumping, Bao Xiaohua (2007) inspected changes in trade patterns arising from the anti-dumping measures in the related countries. The results show that China's anti-dumping measures have obvious "effect of trade restrictions" and "survey effect" on imports of the alleged recipient. However, “trade diversion effect" partly undermines the protective effect of the anti-dumping measures.

As a short history of China's anti-dumping and the availability of data problems, China’s research about anti-dumping trade diversion effect are most analysis of individual cases and few empirical studies. This paper attempts to make contributions on the basis of domestic and international research. First, we found that China's foreign anti-dumping has such characteristics: faster growth, low relative rate, concentration of the involved products and region, large amounts of money involved, the high rate of successful anti-dumping cases, long time involved in a case. Secondly, we have made empirical study on the 23 anti-dumping cases which have reached decisions and found trade diversion effect in China's anti-dumping cases. Trade diversion effect is most obvious after the second year of file. When the alleged country is majority, trade diversion effect is weak. The higher the tax rates of anti-dumping, the more obvious the trade diversion effect.

II. The empirical analysis of Trade diversion effect of China's foreign anti-dumping

1. The descriptive analysis of trade diversion effect of anti-dumping

1.1 Data description.

Because of the anti-dumping trade diversion effect concerns of years trade data after the anti-dumping,this article uses 23 cases as the analysis objects from 1997 to 2003 of China which have been filed and ruled.In these 23 anti-dumping cases,20 cases were ended by charging the anti-dumping tax,which took 87% of all the cases.3 cases were ended because they were not harmful to the related domestic industries,which took 13%.All the data are 8-digit tariff number subdivided product data of the HS. The tariff number of related products,target countries of allegations and their ruling results, including the levels of the anti-dumping tariff rates are from China's trade relief Information Network,where the Business Department announces the anti-dumping notices.The yearly data of import quantity and import amount of related products which come from different countries are taken directly from the 《China Customs Statistics Yearbook》. For involved products of every case,it takes 6 consecutive years' import data according to the alleged import countries: two years' data before the year of anti-dumping filed, the data of the year of anti-dumping filed, three years' data after the year of anti-dumping filed. So, the cases filed in 1997 need to get the 8-digit tariff number import data of involved products from 1995 to 2002.The cases filed in 2003 need to obtain the data from 2001 to 2006.We take the filing year as $t_{0,the}$ previous two years as t_{-2} and t_{-1} the 3 years after filing as t_1 , t_2 and t_3. In these anti-dumping cases,the trade quantity of involved products in different cases vary greatly,some small cases involve only a few thousand dollars,the big cases concern thousand millions dollars. In order to eliminate the inconvenience of the analysis taken by the great numerical differences,the charts depict changes in percentage of the annual amount (the amount of import and import) compared to the filing year's amount(t_0).

1.2 The changes of import amount of target countries of allegations

From the chart 1,the import amount's changes of target countries of allegations can be seen.In the chart 1,there is a simple classification of the 23 products.In the chart 1-1,the import quantity of six products which are Newsprint, polyester staple fiber, non-dispersion shifted single-mode optical fiber, hydrazine hydrate, acrylic 1999 and the PVC decreased in three consecutive years(t_1、t_2、t_3) after theyear of anti-dumping filed(t_0).But the reduction

rate in PVC was relatively small, the reduction rates of the other five products were relatively large (basically decreased 50% or even more).In the chart 1-2, the import quantity of seven products which are Lysine hydrochloride, phthalic anhydride, caprolactam, styrene butadiene rubber, phenol, triethanolamine and dichloromethane decreased in two consecutive years(t_1、t_2) after the year of anti-dumping filed（t_0）,in the third year(t_3),the imports began to increase,but compared with the base year（t_0）the imports were still declining. In the chart 1-3, the import quantity of four products which are Cold-rolled stainless steel sheet, catechol, TDI and polyester film decreased in the first year(t_1) after the year of anti-dumping filed（t_0）, but in the second year（t_2）the imports began to rise.The imports of cold-rolled stainless steel sheet and catechol rebounded in the second year（t_2）after the year of anti-dumping filed,but it was also below the base year(t_0).In the third year(t_3),the import of the catechol was less than the base year,the import of the cold-rolled stainless steel sheet returned to the level of the base year.The import of the TDI and polyester film began to rise above the level of the base year in the second year (t_2) after the year of anti-dumping filed.In the third year(t_3),the import of the TDI dropped to the level of the base year,and the import of the polyester film continued to rise above the level of the base year.The import of the polyester chip rose instead of reducing in the first year(t_1) after the year of anti-dumping filed.but in the second year(t_2),it began to decrease greatly(decreased about 50%).in the third year(t_3),the import declined slowly,but it declined in all. In the chart 1-4, the import quantity of five products which are Polystyrene, Chloroform, Chloroprene rubber, Acrylic 2001 and MDI increased in the first year(t_1) after the year of anti-dumping filed（t_0）,in the second year(t_2) it declined a little.In the third year(t_3),the imports of the Polystyrene, Chloroform and Chloroprene rubber continued to decline,but the imports of MDI and acrylic 2001 continued to rise.In the third year(t_3) after the anti-dumping filed.the import of Chloroform decreased below the level of base year(declined about 20% compared with the base year),and the imports of the other four products were more than the imports of the base year.

From all these four charts,we can see that the imports of newsprint, polyester staple fiber, non-dispersion shifted single-mode optical fiber, hydrazine hydrate, acrylic 1999, lysine hydrochloride, phthalic anhydride, caprolactam, styrene butadiene rubber, phenol, triethanolamine, dichloro Methane, catechol, polyester chip, chloroform from the target countries of allegations decreased greatly,which procuced large impact and made the imports of the Cold-rolled stainless steel sheet, TDI, polyester film

Decreased.However the effect time was short.The impact to the imports of PVC, polystyrene, chloroprene rubber, acrylic 2001, MDI and other products was small,the import of the PVC reduced and the import of the other products increased instead of

decreasing.

1.3 Accused non-target countries import volume changes.

From the Figure 2 and Table 4-1 we can see the changes in import quantity of anti-dumping charges on non-target countries .In the figure 1-1, Six products of Newsprint, polyester staple fiber, non-dispersion shifted single-mode optical fiber, hydrazine hydrate, acrylic and PVC 1999

in the anti-dumping cases(t_0) after three consecutive years(t_1 t_2 t_3) imports are on the decline, However, the overall decrease in PVC relatively small, **the reduction's rate of five other products is relatively large** (basically a decrease of 50% or even more) .Figure 1-2 , Lysine hydrochloride, phthalic anhydride, caprolactam, styrene butadiene rubber, phenol, triethanolamine and dichloromethane seven products in the anti-dumping cases(t_0) after two consecutive years (t_1 , t_2) imports are on the decline , but from the third year (t3) imports began to rise, compared with the base year (t0) import quantity is still declining ,However, the second year (t2) began to rebound. Figure 1-3, Cold-rolled stainless steel sheet and catechol, TDI and polyester film four products in anti-dumping cases (t0) after the first year (t1) decline in imports, but the second year (t2) began to rise. Cold-rolled stainless steel sheet and catechol file (t0) after the second year (t2), rebound but below the base year (t0), the third year (t3) catechol imports still below the base year, cold-rolled stainless steel sheet imports almost **return to the level of the base year;** TDI and polyester film on file (t0) after the second

year (t2), the quantity of imports rose to the level above the base year, the third year (t3) again dropped to a level of the base year, while imports of polyester film continues to rise to a level far greater than the base year

A polyester chip products in the anti-dumping cases after the first year (t1) imports have not reduced but increased, but the second year (t2) start to reduce (a decrease of about 50 per cent), the third year (t3) decline slowed down, But generally speaking they are still a lot drop. In the figure 1-4 ,PS, chloroform, chloroprene rubber, acrylic 2001 and MDI five products in the file (t0) after the first year (t1) imports increased , the second year (t2) have a bit drop ,the third year (t3) chloroprene rubber chloroform polystyrene continued to decline, while MDI and acrylic 2001 continues to rise in the file after the third year (t3), except foe the import of trichloromethane fell to a level below the base year (compared to the base year decline in more than 20 per cent), the import quantity of the other four products are more than base year of file

From the four graphics, we can see that anti-dumping makes the import of newsprint, polyester staple fiber, non-dispersion shifted single-mode optical fiber, hydrazine hydrate, acrylic 1999, lysine hydrochloride, phthalic anhydride, caprolactam, styrene butadiene rubber , Phenol, triethanolamine, dichloromethane, catechol, polyester chip, chloroform and

other products from the alleged recipient of a significant reduce, and the impact is larger ,makes the import quantity of the

cold-rolled stainless steel sheet, TDI, polyester film and other products decreased, but the impact on duration is shorter, For PVC, polystyrene, chloroprene rubber, acrylic 2001, MDI and other products, the import less affected, except the import of PVC has a small amount of reduction, the other products did not make the import of The alleged target country reduce, but an increase of import.

Table1：the changes of the imports of the non-target countries of allegations

	t_{-2}	t_{-1}	t_0	t_1	t_2	t_3
phenol	**-0.57**	**-0.46**	**0**	**11.12**	**12.41**	**5.88**
hydronium	**27.14**	**4.66**	**0**	**-0.10**	**14.93**	**402.54**

1.4 The changes Of import quantity in .Allegations of target countries's market.

From the figure 3 we can see the Anti-dumping charges on the import quantity of target countries market share .In the figure 3-1, seven products of newsprint, polyester staple fiber, lysine hydrochloride, caprolactam, hydrazine hydrate, cold-rolled stainless steel sheet and non-dispersion shifted single-mode optical fiber from the file (t0) after three consecutive Annual (t1, t2, t3), from allegations of target countries, the ratio of the import volume consist China's total imports that year decreased year by year. In the Figure 3-2, six products of methylene chloride, polyester chip, phenol, styrene butadiene rubber, acrylic 1999 Triethanolamine on file (t0) after two consecutive years (t1, t2) accused the recipient The market share gradually decreased, the third year (t3) decline started slowing down, but compare to the base period (t0) market share is still declining. In the figure **3-3**, polyester film, catechol, phthalic anhydride and TDI on file (t0) after the first year (t1) accused the recipient of the market share decline, the second year (t2) decline to slow down and began to rebound , The third year (t3), the alleged object of the TDI market share also dropped, but polyester film, catechol and phthalic anhydride market share is still in recovery, but compared to file (t0) year, the recipient of the allegations Market share still declined.

In the figure 3-4, PVC and MDI in the file after the first year (t1) the market share of Allegations of target countries has declined slightly, but the second and third year(t1, t2) began to rebound over the base period, The level of acrylic2001 on file after the first year (t1) the import market share of Allegations of target countries increased, the second year (t2) started to decline, while the third year (t3) have rebounded a lillte, by the end compare to the base period, there is an increase in market share; market share of polystyrene, styrene butadiene rubber and trichloromethane in the file after three years (t1, t2, t3) has declined,

but a very small drop by. Overall, the changes in the market share of the six products targeted countries is very small

From the four graphics, we can see that the anti-dumping have an effect on the changes of the allegations of target countries' import market share, such as newsprint, polyester staple fiber, lysine hydrochloride, caprolactam, hydrazine hydrate, cold-rolled stainless steel sheet, non-dispersion shifted single-mode optical fiber, methylene chloride, polyethylene Ester slices, phenol, styrene butadiene rubber, acrylic 1999, diethanolamine, polyester film, catechol, phthalic anhydride and TDI ,lead to a large drop ,but has less effect on the products such as Polystyrene, chloroform, acrylic 2001, MDI, PVC and chloroprene rubber

1.5 Descriptions of the statistical analysis of the results.

After the analysis of the changes of the imports in target countries which are alleged, the changes of the imports in target countries which are not alleged and the changes in market share of the imports in target countries which are alleged ,some conclusions can be drawn: First, after the anti-dumping of the 14 kinds of products such as the polyester staple fiber, the imports decreased in target countries which are alleged, while the imports increase in target countries which are not alleged and the decline is much obvious in market share of the imports in target countries which are alleged, So the trade diversion effects a lot on these 14 kinds of products; after the anti-dumping for Trichloromethane, there is a significant reduction in imports of the target countries which are alleged, while the imports increase a lot in target countries which are not alleged and the extent of decline is much small in market share of the imports in alleged target countries, which may be caused by the reason that the proportion of alleged target countries is too Large in market share ,so there is also obvious trade diversion effect on trichloromethane.

Second, the imports from the alleged target countries of newsprint and other two kinds of products after anti-dumping reduced a lot,while the imports from the target countries which are not alleged increased a little and the market share of the imports in target countries which are alleged changed much, So there are some trade diversion effect on these three kinds of products.

Third, the reduction of the imports from the alleged target countries of PVC and other four kinds of products after anti-dumping was much small,even the imports of some products increased.The imports increased very little and the duration was very short from the target countries which are not alleged, while the market share of the imports in target countries which are alleged changed a little, so there is almost non-existent trade diversion effect on the five kinds of products.

Fourth, there are three cases-polystyrene, MDI and lysine hydrochloride without prejudice to terminate the investigation in these 23 cases of anti-dumping. There is almost

non-existent trade diversion effect on the two cases(

Polystyrene and MDI) in these three cases,so we can see that the possibility of trade diversion is much small because of without prejudice to terminate the investigation. In other words, it is more easy to exist trade diversion that anti-dumping duties or price agreement reached compared to the situation without prejudice to terminate the investigation.From the above description we can see that, in our country, the 18 cases existed the trade diversion effect and only five cases did not exist trade diversion effect in these 23 anti-dumping cases, Therefore, about 78 percent of cases of anti-dumping existed trade diversion effect.

2. The regression Analysis of trade diversion effect on anti-dumping

2.1 Set up the model.

In this paper, the regression model is set up on the basis of research and design by Prusa (1996). The model takes the following linear forms:

$$Y_{i,t}=a_0+a_1X_{1i,-1}+a_2X_{2i}+a_3D_i+a_4N_i+a_5T_1+a_6T_2+a_7T_3+\mu_{i,t}$$

$i=1,2,\ldots\ldots,23 \qquad t=0,1,2,3$

$Y_{i,t}$ stands for the proportion of imports account for the total imports in target countries which are or not alleged when case i is in time t; ; $X_{1i,-1}$ stands for the proportion of imports account for the total imports in target countries which are or not alleged when case i is in the previous year after file,which stands for the initial scale that were not affected by anti-dumping; $X_{2i}=X_{i,-1}/X_{i,-2}$ stands for the growth of imports of an annual lag than two lag after file,which indicates the rate of change of annual import under normal circumstances when it has not been affected by anti-dumping; D_i stands for the tax rate levyed due to anti-dumping in case i,which takes the maximum of the tax rate levyed due to anti-dumping while it means 0 without prejudice to terminate the investigation; N_i is virtual variables and means 1 when the number of the target countries which are alleged is three or above three, Otherwise means 0,which can see the relations between the number of the target countries which are alleged and the size of trade diversion; T_1 , T_2 and T_3 are virtual variables of time and they mean 1 when they take the same time Otherwise means 0,which can see the trend of imports of three consecutive years after file.

$Y_{i,t}$,the level of trade after Anti-dumping cases, not only depends on the normal trade size that has not been affected by the policy, including the size of the initial trade $X_{1i,-1}$ and normal trade growth X_{2i},but also is affected by the impact of exogenous variables of Policy - anti-dumping tax rate (D_i) which is sometimes high and sometimes low. This paper attempts to study the level of trade changes during three years of follow-up, compared to level of that year of anti-dumping cases. Therefore, that year for file $t_0$is as the base period

while T_1 , T_2 and T_3 are three additional time virtual variables. In this way, the change of three consecutive annual imports after file can be expressed in the economic sense. At the same time, the introduction of virtual variable of time, allows the intercept of the regression equation at different times to change,which reflects the the facts that overall may have different distribution at different times. The amount of the target countries which are alleged to dump by China may also affect the level of import trade, therefore the virtual variables N_i is introduced.

2.2 The results of regression.

The impact on China coming from the target country and non-target countries accused of anti-dumping charges of the import trade is in table 7.After three consecutive years of the implementation of anti-dumping, the import volume of imports and the amount of market share significantly reduced from the alleged target country as a whole. In the results of regression to the imports and import of the target countries accused, the coefficient of the partial regression to the time variable of three years is negative. Apart from T_1 in the equation 2 which is significant in the 5 percent level, Several other one are all significant in the 1 percent level.The proportion of imports accounting for total imports reduced 14.9,21.5,20.8 percentage points from the target countries accused within three years,while the proportion of the amount of imports accounting for the amount of total imports reduced 12.6,18.9,18.2 percentage points from the target countries accused.

During the three consecutive years after implementation of anti-dumping, the import volume and market share of the amount of imports increased significantly from target countries which are not alleged as a whole.The coefficient of partial regression to time variables for the is Positive and significant in 1 percent level During the three consecutive years. The proportion of imports accounting for total imports increased 21.3,27.9,27.2 percentage points from target countries which are not alleged During the three consecutive year, while the proportion of the amount of imports accounting for the amount of total imports increased 18.7,25.0,24.3 percentage points. This shows that the loss of market share of target countries which are alleged because of anti-dumping may be filled by the target countries which are not alleged and the effect of trade diversion of the the second year after file-(t_2) is the most obvious. This is because that there is a year of the survey period after file-(t_0) under China's anti-dumping practice,

announcing the preliminary ruling anti-dumping duties in the following year-(t_1) after file usually. The effect of restrictions because of anti-dumping on imports and the amount of import from the target countries which are alleged is the most effective and obvious in the following year of Preliminary ruling taxation-(t_2),then the effect of trade diversion is the most obvious.

Among the regression results of1,2 equation partial regression coefficient of explanatory variable N_i is obviously plus. The market share of import amount of countries

which are charged is 18.9 percent higher and the amount of money is 15.4 percent higher when China holds anti-dumping charge with three or more countries, comparing to less than three. Among the regression results of Equation 3 and Equation 4, partial regression coefficient of explanatory variable N_i is obviously minus. The market share of import amount of countries which are not charged is 11.2 percent lower and the amount of money is 11.2 percent lower when China holds anti-dumping charge with three or more countries, comparing to less than three. The conclusion mutual authentication of 3,4 and 1,2 equation when allegations of anti-dumping target countries take up most of all, the trade diversion effect is weaker. Among the results of four equations, Partial regression coefficient symbols of Anti-dumping duties(D_i)are all consistent with theoretical expectations. The minus symbol of anti-dumping duties of 1,2 equation illustrates that the higher Anti-dumping duty, the smaller market share of import amount of the anti-dumping target counties; the plus symbol of Anti-dumping duties of 3,4 equation illustrates that the higher Anti-dumping duty, the bigger proportion of imports . so the higher Anti-dumping duty, the more obvious Trade diversion effect .

So we can get conclusions as follows according to the results of regression; firstly, the market shares of total import quantity and money of anti-dumping target countries decrease notably during the continuous three years while that of non-target countries increase notably. It shows that the lost market share of anti-dumping target countries resulting from anti-dumping is filled by non-target countries and the trade diversion effect is the most obvious in the second year after placing a case. Secondly, the market shares of import quantity and money of anti-dumping target countries are higher while the non-target lower. It shows that the market shares of import amount and money of anti-dumping target countries are a little higher while that of non-target countries a little lower when China holds anti-dumping charge with three or more countries, comparing to less than three. It shows that when anti-dumping target countries are in the majority, trade diversion effect is fairly weaker. Thirdly, the higher anti-dumping duty, the smaller proportion of imports of anti-dumping target countries and the bigger proportion of non-target countries. So the higher anti-dumping duty is, the more obvious the trade diversion effect is.

Table2：Statistical regression results

variable	The proportion of import amount of target countries （equation 1）	The proportion of import money of target countries （equation 2）	The proportion of import amount of non-target countries （equation 3）	The proportion of import money of non-target countries （equation 4）

$X_{1i,-1}$	0.7085*** (0.0881)	0.7181*** (0.0942)	0.7645*** (0.0778)	0.7487*** (0.0922)
X_{2i}	0.1031*** (0.0371)	0.1001* (0.0579)	0.0004*** (0.0001)	0.0393 (0.0444)
D_i	-0.0440 (0.0489)	-0.0366 (0.0497)	0.0934** (0.0411)	0.0949** (0.0426)
N_i	0.1892*** (0.0502)	0.1540*** (0.0516)	-0.1116*** (0.0400)	-0.1115** (0.0489)
T_1	-0.1494*** (0.0535)	-0.1258** (0.0554)	0.2133*** (0.5154)	0.1866*** (0.0540)
T_2	-0.2150*** (0.0535)	-0.1891*** (0.0554)	0.2789*** (0.5154)	0.2499*** (0.0540)
T_3	-0.2076*** (0.0535)	-0.1816*** (0.0554)	0.2715*** (0.5154)	0.2425*** (0.0540)
Sample number	92	92	92	92
Adjusted R^2	0.5111	0.4739	0.5128	0.4678

Note：what in the brackets is standard error；***、**、* mean apart **significant** level according to 1%,5%and 10%.

III. Conclusions and policy advices

The amount of china’s anti-dumping increase fairly fast but when comparing to china’s anti-dumping complaints, the number is not big; the characteristics of China's anti-dumping include the high concentration of the anti-dumping target countries and areas, large amount of money involved, the high concentration of industries and areas, the high rate of winning a lawsuit and the long time from placing a case to arbitration and so on. This passage makes an empirical analysis on the trade diversity effect of China's anti-dumping measures based

on analyzing the total situation of China's anti-dumping, according to the data of China's anti-dumping cases. This passage found that there are 18 out of 23 anti-dumping cases in China involving anti-dumping trade diversity effect while 5 excluding. So about 78% cases involve anti-dumping trade diversity effect. And comparing to the products closing the case without punishment, levying anti-dumping duty or reaching agreement on price is apt to cause trade diversity effect; the lost market share of anti- dumping target countries caused by anti-dumping is filled by non-target countries and this effect is most obvious in the second year after placing; the effect is fairly weaker when anti-dumping target countries is in the majority; the higher anti-dumping duty is, the more obvious trade diversity effect is. The effect caused by anti-dumping protection makes the import source transfer from enterprises which are charged for anti-dumping to ones which are not; or from enterprises which are judged as high scope of anti-dumping to ones which are judged as lower scope. It means that anti-dumping policies don't attain the aim to protect national enterprises suffering loss but benefit the ones which are not charged. Carrying the anti-dumping protection out doesn't achieve the expected targets and it is not the import-competing industries which benefit but ones not investigated for anti-dumping. As a beginner to maintain equal trade with the WTO anti-dumping rules, China should not only bring the trade policies into full play, but also understand clearly the cost of carrying out the policies. We should pay more attention to the trade diversity effect of the anti-dumping while making use of anti-dumping to protect national industries. Our aim is not only to decrease the market share of the import of the anti-dumping target countries but also to reduce the total proportion of dumping products in China. Or trade diversity effect will weaken the protection effect for the import-competing industries. But there is a premise requirement before trade diversity producing, that is, the products from non-target countries are good substitute for anti-dumping products. If the anti-dumping target countries are the main supporters in China, it is not easy to produce trade diversity effect. So we should evaluate and appraise whether products from non-target countries are good substitute for anti-dumping products or not and whether non-target countries have strong export power when adopting anti-dumping policies against individual country. In addition, when carrying anti-dumping out, China can try to control the amount of trade diversity, for example, enlarging the scale of anti-dumping target countries without violating WTO rules, attaining the aim of controlling total amount of import with credible anti-dumping threat and so on.

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