INTERNATIONAL TRADE

China-EU trade relations: The impact of European anti-dumping investigations on Chinese Enterprises

By

Dr Yuan Zhai
Lecturer, International Business School, Teesside University, UK

Dr Derek Watson
Associate Professor, Faculty of Business Law and Tourism, University of Sunderland, UK

Dr Xiaoxian Zhu
Acting Head of Department (Leadership, Management and HR), Teesside University, UK

Author 1:
Family name: Zhai
Given name(s): Yuan
Affiliations: Lecturer in Business at Teesside University, International Business School, Southfield Rd, Middlesbrough TS1 3BX
E-mail: y.zhai@tees.ac.uk

Author 2:
Family name: Watson
Given name(s): Derek
Affiliations: Associate Professor at University of Sunderland, Faculty of Business, Law & Tourism, Reg Vardy Building, St Peters Campus, Sunderland, Tyne & Wear, UK, SR6 0DD
E-mail: derek.watson@sunderland.ac.uk

Author 3:
Family name: Zhu
Given name(s): Xiaoxian
Affiliations: Acting Head of Department (Leadership, Management and HR) at Teesside University, International Business School, Southfield Rd, Middlesbrough TS1 3BX
E-mail: x.zhu@tees.ac.uk

Abstract

The Covid-19 epidemic and the war in Ukraine have brought into sharp focus the fragility of the international economy. Local companies have been protected by the EU through antidumping investigations and increased antidumping duties on imported goods. Can China-EU trade be affected by the EU's anti-dumping investigations?

In this study, the impact of EU anti-dumping investigations against China on trade between the EU and China will be evaluated. This study quotes and analyses data from the Ministry of Commerce, People's Republic of China on the import and export of Chinese goods to the EU as well as data from the European Parliament on anti-dumping investigation quantities. It was found that although the EU regularly launches anti-dumping investigations on products produced in China, these investigations do not have a macroeconomic effect on trade between the EU and China. It is therefore reasonable to doubt the motive and purpose of the EU's anti-dumping investigations against Chinese products.

Keywords: anti-dumping; international trade; internationalisation.

1. Introduction

The Covid-19 epidemic and the war in Ukraine have highlighted the fragility of international supply chains. Improving the integrity of domestic industrial chains to ensure the supply of consumer products and reducing domestic unemployment rates has become an urgent problem for governments worldwide (Al-Mansour & Al-Ajmi, 2020; Walsworth, 2022). The EU has protected local companies from the devastating impact of cheap goods from China by implementing anti-dumping investigations and increasing anti-dumping duties on imported products (Sandkamp, 2020). Furthermore, the EU not only hopes to protect local employment by increasing the prices of Chinese products through anti-dumping duties, but also hopes to suppress excessively high consumer price index (CPI) growth due to low-cost Chinese products. This is clearly contradictory. As a result, the EU only conducts anti-dumping investigations on Chinese products in specific industries, such as photovoltaic products, to avoid a full-scale trade war with China. However, such trade protection measures undeniably raise the local price level and affect diplomatic and trade relations between the EU and China (Choi, 2017).

In view of the potential for serious distortions in the Chinese market, the EU Commission investigated the appropriateness of using local prices and costs in China. The investigation involved repeated major government intervention in China's economy and market conditions in specific industries, such as solar panels and steel (Herrero et al., 2020). The committee found that all available evidence relevant to the Chinese economy points to the fact that prices and costs are not affected by free market forces. Instead, they were affected by significant government intervention under the basic Anti-dumping Regulations (European Commission, 2018). In 2013, China launched the 'Belt and Road' strategic plan, aiming to enhance the international competitiveness of domestic enterprises and increase trade volumes to promote economic growth (Liu & Xin, 2019). In November 2019, China issued guiding principles on promoting high-quality trade development, stressing the importance of optimising trade structures, achieving high-quality trade development, improving the market competitiveness of export enterprises and enhancing their ability to respond to foreign anti-dumping investigations. Based on these guiding principles, this paper attempts to answer the question: Do the EU's anti-dumping investigations against China affect China-EU trade?

2. Literature review

Since the announcement of China's economic 'reform and opening up' in 1978, its foreign trade has experienced unprecedented rapid development. In terms of scale and volume of foreign trade, China has ranked first in the world for many consecutive years since 2013 (Jian & Yu, 2019). In contrast, against the background of a new wave of trade protectionism to help local manufacturing in developed countries, China's anti-dumping trade barriers in overseas markets are becoming more and more serious (Wang & Wu, 2021). According to the World Trade Organization (WTO) statistics, from 1995 to June 2020, 6139 anti-dumping investigation cases were launched globally, and there were 1440 anti-dumping investigation cases which involved China, accounting for 23% of the total number of cases. More than 55 anti-dumping investigations were encountered every year, and the product industries involved were widely distributed and involved enterprises of various ownership（Hebei, 2022). As an important trading partner of China, the EU plays a significant role in the implementation of anti-dumping investigations against Chinese products, and multiple anti-dumping investigations against China

are added every year. The European Commission (2020) confirmed that it had launched 16 new anti-dumping investigations in 2019, with the largest number of cases against China.

According to the European Commission's 2018 report 'Anti-Dumping', whenever a company exports a product at a price lower than the normal local price, it is called 'dumping'. The 'dumping' actions can be seen in cases where exporters choose to lose money in order to gain market share in the importing country. Compared with western developed countries, China's products are often exported to developed countries at a price which is far lower than local producers can match, because China has a large worker base and cheaper wages (European Commission, 2018). Kang et al. (2012) concluded that such a trade mode hurts the manufacturing industry of developed countries and threatens the employment rate in these countries as well. Therefore, for the sake of protecting local enterprises, Chinese export enterprises are often the targets of anti-dumping investigations. In this case, the anti-dumping system allows the affected industries in the import economy to lodge complaints. As soon as the Commission is satisfied with the evidence contained in these complaints, it commences its investigations to determine whether antidumping duties should be added or price commitments made (European Parliament, 2016). Gurubaxani (2019) defines price commitment as *"an agreement whereby exporters voluntarily undertake to modify their prices or stop exporting to the relevant regions at dumping prices"*. The purpose of this action is to assure the authorities that the harmful effects of dumping are eliminated. Investigation bodies such as the European Union can agree to this commitment after a feasibility analysis, leading to the termination or suspension of the investigation (European Parliament, 2017).

Sandkamp (2020) pointed out that the impact of the EU anti-dumping duty on countries with a complete market economy and those with a non-market economy is different, when interpreting the latest Commission Implementing Regulation (EU) 2017/2093. Sandkamp (2020) further showed that the imposition of anti-dumping duties does increase producer prices and reduce the volume of imports. The average export volume of non-market economies decreases by 85%, compared with that of full market economies, which is 68% on average. China is counted as a non-market economy which should be hurt the deepest. According to the European Parliament (2016), when dumping is found, EU regulations allow importing countries to set anti-dumping duties that are no higher than the difference between normal prices and dumping prices. The EU uses these obligations to protect European companies from possible damage from

anticompetitive behaviour by non-EU exporters (European Parliament, 2016). Anon (2019) pointed out that the anti-dumping measures must not harm the wider interests of the EU, which means that the possible negative effects of these tariffs on European consumers and industrial users should be considered.

Theoretically, the impact of anti-dumping on export enterprises is multifaceted. On the one hand, encountering anti-dumping increases the production cost of export enterprises, weakens the price advantage and reduces profits, thus adversely affecting exports (Chandra and Long, 2013). On the other hand, anti-dumping threatens the survival of export enterprises, intensifies the competitive pressure they face, and forces enterprises to change strategies to achieve transformation and upgrading, so as to improve their own efficiency and product quality, and fundamentally enhance their product competitiveness (Huang et al., 2016). Therefore, the impact of anti-dumping on China's export enterprises is an empirical problem. The answer to this research question will not only help to evaluate the operating conditions of Chinese export enterprises and deepen the understanding of the mechanisms through which anti-dumping affects them, but also have strong practical significance for how China can achieve high-quality trade development, an innovation-driven manufacturing industry and improved international competitiveness in the context of the global value chain (Tsinghua university, 2021).

Tabakis et al.'s (2019) research found that although long-term trade barriers have decreased e.g. China joined the WTO in 2001, and is now more fully involved in the world's trading mechanism, other types of short-term trade barriers, including countervailing duties, anti-dumping duties and protectionism against China's exports, have increased significantly. In recent years, China has faced the severe challenge of seeking to maintain export growth, considered to be an important engine of China's economic development (Liu & Xin, 2019). In particular, the effects of the Covid-19 epidemic and the ongoing war in Ukraine continue to seriously affect the production and transportation of goods in the world. It is interesting to note that China's exports in 2021 exceeded $3.36 trillion. Prior to the Covid-19 epidemic and the conflict in Ukraine, in 2019, the total value of exports was $2.49 trillion. China's economic stability has been ensured by strong export growth, because exports make up 12% of China's GDP (China Customs, 2020, 2022). However, Liu et al. (2019) pointed out that the anti-dumping cases against China not only cause worries and difficulties to Chinese export enterprises and the Chinese government because of the uncertainty an anti-dumping investigation may cause, but

also affect the confidence of shareholders and the public. Tabakis et al. (2019) further pointed out that China has become the second largest trade partner and main import source country of the EU. However, recent studies have shown that China is the main target of a large number of the anti-dumping cases reported by the EU. In the period 2011-2020, China accounted for 14 (44%) of the 32 anti-dumping cases initiated by the EU (European Commission, 2021).

Ning et al. (2020) states that the anti-dumping duty increases trade costs, then has a selective effect on export enterprises. As a result, only enterprises exporting high-quality products, which are products with lower price sensitivity, can survive as trade costs increase, resulting in the withdrawal of enterprises exporting low-quality products, thus improving the average export quality. Tang et al. (2018) argued that due to the extremely low prices of Chinese products, the manufacturing industries of other countries have been impacted. Kang et al. (2012) argued that the EU conducted anti-dumping investigations on products originating in China in order to weaken the threat of Chinese products and protect local industries. Xu and Tang (2009) argued that the most representative anti-dumping case is the EU's anti-dumping investigation into Chinese made solar panels. Major trade participants, such as the EU and China, once regarded green energy manufacturing as a strategic emerging industry, in which trade disputes are inevitable. Goron (2018) pointed out that since 2000, the manufacturing cost of solar panels in China has dropped sharply and the rapid growth of photovoltaic products is also related to public policy. In comparison, Liu and Shi (2019) stated that even though the dominant position of the photovoltaic industry is the result of green industry policies, these strategies are not coordinated. In general, China has decided to subsidise PV equipment manufacturers rather than consumers, while the EU has decided to support consumers rather than manufacturers. Therefore, 90% of China's solar cells and solar panels were manufactured and exported, and domestic consumption was extremely low (Liu & Shi, 2019). Goron (2018) argued that the EU had the largest installed capacity of solar power in the world, accounting for 80% of Chinese products. Chinese solar panel manufacturers heavily rely on the EU as their primary export market. In response to grievances from European photovoltaic manufacturers regarding perceived bias and unfair competitive practices, the European Commission has undertaken anti-dumping and countervailing investigations. As a result of anti-dumping investigations, the market share of European PV producers is gradually decreasing (Liu and Shi, 2019). Goron (2018) believes that the anti-dumping case of solar panels has evolved into a huge trade conflict.

It is also clear that the EU cannot afford such a trade war. According to the plan of the European Commission, the EU should achieve carbon neutrality by 2050 (European Commission, 2021). After the outbreak of the war in Ukraine, the European Union chose to use part of the energy embargo against Russia as one of the sanctions, which further increased the urgency of energy transformation (Deutsche Welle, 2022). At a time when countries are accelerating the search for alternative energy solutions, experts have made it clear that due to China's partial monopoly in renewable energy technologies and supply chains, other countries may increase their dependence on China when they strive for new energy forms (Chauhan, 2022). A report jointly released by the European Council on Foreign Relations (ECFR) and the Rhodium Group (2022) believes that in the field of green energy, Europe may face a risk of forming a new dependence on China's supply chain and Beijing's policy decisions. The report of the Rhodium Group points out that although China does not monopolise the raw material market in the field of solar energy, due to a large amount of government investment and low capital costs, most of the global manufacturing chains are now concentrated in China. Among the ten largest polysilicon producers in the world, seven are from China. China's output of silicon ingots and wafers accounts for 97% of the world total (European Council on Foreign Relations and Rhodium Group, 2022). In Germany, once the world’s leading solar energy industry, photovoltaic enterprises went bankrupt one after another and lost market share due to ineffective industrial policies and low-cost competition from China. German solar equipment companies now only assemble templates imported from China, and rely around 95% on Chinese products. China is the main origin of many key raw materials, components and early-stage products. Disruptions to the operation of manufacturers or geopolitical tensions may yet cause supply disruptions (Deutsche Welle, 2022).

Herrero et al. (2020) supported the view of the European Commission’s (2020) 38th Annual Report from the Commission to the Council and the European Parliament on the EU's Anti-Dumping, Anti-Subsidy and Safeguard activities, and the use of trade defence instruments by Third Countries targeting the EU in 2019, that since China joined the WTO in 2001, European exports to China have increased by about 10% annually. This also shows that the total trade volume of China and Europe is not affected by the number of anti-dumping cases (Herrero et al., 2020).

Additionally, Goron (2018) was not the only voice worrying about possible trade wars

between countries and regions, Plasschaert (2016) also pointed out the inherent conflict between export producers and import companies in terms of anti-dumping investigations and taxation imposed by the EU. Both sides expressed opposite interests, with European exporters attributing the loss of domestic and EU sales to the lower prices of goods imported from China. The response of importers is that they want to buy products from the most advantageous manufacturing locations in order to best serve customers and increase sales and profits. According to an article published by the Ministry of International Development (2016), trade definition measures (TDMS) mainly lead to the suppression of trade flows due to extra anti-dumping duties applied. In addition to their direct impact, they have a crucial 'cooling' effect on trade. The initiation of an anti-dumping investigation may bring extra costs to enterprises, thus hindering trade. However, studies have shown that Chinese companies will not wait to die. Peppermans (2017) believes that some Chinese enterprises have previously withdrawn from price commitments in order to maintain their competitiveness in the EU. Ning et al. (2020) found that anti-dumping leads to resource redistribution within and between enterprises. Their analysis shows that because anti-dumping investigations often focus on a single product, the surviving multi product companies with higher competitiveness have certain flexibility, and they can avoid the competition brought by trade policy shocks by adjusting product mix, so as to improve product quality.

According to Dadush et al. (2020), the EU has taken various measures to combat unfair trade practices against China. These measures have affected the competitiveness of the Chinese companies investigated by the EU in the European market. It is believed by the European Parliament (2017) that China's excess capacity has affected some sectors of the EU e.g., solar panels and steel. Therefore, it is necessary to carry out anti-dumping investigations on specific industries. In addition to achieving existing dumping, the Commission also examined the possibility of continuing dumping if all anti-dumping measures were abolished. Research had demonstrated the precise channels through which trade duties and investigations of antidumping impacted trade volume. Based on Chinese customs statistics, more than 90 percent of products have been exported by means of multi-product enterprises, and in China, nearly 80 percent of exporters are multi-product businesses (Gong & Hanley, 2021).

Multi-product businesses face more difficult quality and pricing choices than single-product businesses, because they have to select not only their entire quality and price level in the target

market, but also the quality and price structure across products within the enterprise (Meng et al., 2020). As antidumping practices against China are firm or product-specific, research articles have defined a treatment group as well as a control group where different strategies have been applied to classify trade redirecting behaviours. According to a product-country-month-level analysis, actions of antidumping result in a strong positive correlation between different imports to the EU from third countries (Lu et al., 2018). Li and Whalley (2015) argued that Chinese exports to such regions for the products are confronted by the EU antidumping trade barriers that are consistent with the rerouting hypothesis. Also, there is a significant association between trade deflection (China has exported a large volume to third party states) and trade diversion (the EU has imported a large volume from third party nations after its antidumping investigations against China).

Even without rerouting, the antidumping duties of the EU against China helped to raise the prices of targeted home products in the EU and might attract a large volume of imports from peripheral countries. This process also resulted in an intensification of Chinese exports to many peripheral countries, reflecting an effect of trade deflection (Hua et al., 2019). In contrast, Sandkamp (2020) pointed out that it is essential to consider that the third countries engaged in trade deflection and diversion were unlikely to be a similar group of nations. For one particular peripheral Republic, it may anticipate viewing as negative, instead of positive, the relation among them after an antidumping action by the EU. Research has indicated that Chinese exporters want the EU to maintain the production capacity of Chinese firms through trade diversion (Hua et al., 2019). However, the EU expects to have low import volumes of certain products from identical peripheral countries to China, although China might export large quantities to other third countries. In contrast, trade deflection might make the market of the third country more competitive, as well as dampening domestic sectors in the third country, which results in lower exports from the peripheral country to the EU (Sandkamp, 2020).

It is therefore critical to analyse a strong positive correlation between the imports of the third nation from China and the same third nation's exports to the EU, solely based on the trade deflection and diversion. The research has indicated that China is willing to accept anti-dumping practices. Normally, investigations into antidumping are meant to increase tariffs for a restricted set of products. The research evidence has revealed that since 2000, the EU has experienced a massive trade deficit with China (Hua et al., 2019). Officials and citizens of the EU have

gradually recognised the increasing unemployment in their production sectors because of the influx of products manufactured in China. This issue has highlighted the core reason for increasingly initiating a large number of antidumping cases by the EU, currently particularly against China (Bougette & Charlier, 2018).

3. Methodology

Secondary data is used as the main source of data for this study. This study quotes and analyses the import and export data of China to the EU in 2002-2019 from the Ministry of Commerce of China, the anti-dumping investigation quantity data from the European Parliament in 2002-2019, and the data on the value of import and export commodities by international trade classification from the China Statistical Yearbook (2002-2019).

The data is presented and managed through Excel and SPSS software. In this way, the influence of EU anti-dumping investigations, especially the anti-dumping investigations against China, in terms of China's export volume to the EU can be analysed. This data analysis method is of great significance in investigating and exploring the impact of anti-dumping investigations on trade relations between China and the EU.

4. Data Analysis

With regard to the selected data sources, this paper divides the impact of the EU anti-dumping investigation on the internationalisation of Chinese enterprises into the following aspects for analysis:

- the correlation between the number of new anti-dumping investigations and China’s exports volume
- the relationship between antidumping investigations and affected industries

Table 4.1 shows the data on trade and new anti-dumping investigations (original data) extracted by researchers from the Ministry of Commerce reports of China and EU reports over the past years 2002-2019:

Year	New Investigations into China’s Products	Trade Amount of China's exports to Europe ($US Billion)

2002	4	59.22583
2003	3	90.33044
2004	9	107.16251
2005	8	143.71158
2006	12	181.98335
2007	6	245.19173
2008	6	292.8782
2009	7	236.28419
2010	10	311.23542
2011	8	356.01983
2012	7	333.98845
2013	6	338.98502
2014	6	370.88434
2015	6	355.8759
2016	6	339.04794
2017	5	372.04153
2018	1	408.63164
2019	7	428.51427

Table 4.1 New Investigations into China’s Products and Trade Amount of China's exports to Europe

Through the Excel software, the researchers categorised and analysed the original data, as shown in table 4.2:

Year	Percentage change of trade amount	Percentage change of new investigations	New investigations initiated in total	China's share of the total number of investigations
2002			23	17%
2003	53%	-25%	8	38%
2004	19%	200%	29	31%
2005	34%	-11%	26	31%
2006	27%	50%	36	33%
2007	35%	-50%	9	67%
2008	19%	0%	20	30%

2009	-19%	17%	21	33%
2010	32%	43%	18	56%
2011	14%	-20%	21	38%
2012	-6%	-13%	19	37%
2013	1%	-14%	9	67%
2014	9%	0%	16	38%
2015	-4%	0%	14	43%
2016	-5%	0%	15	40%
2017	10%	-17%	11	45%
2018	10%	-80%	10	10%
2019	5%	600%	16	44%

Table 4.2

After categorising the basic data, the researchers made comparative drawings and correlation analyses of the data.

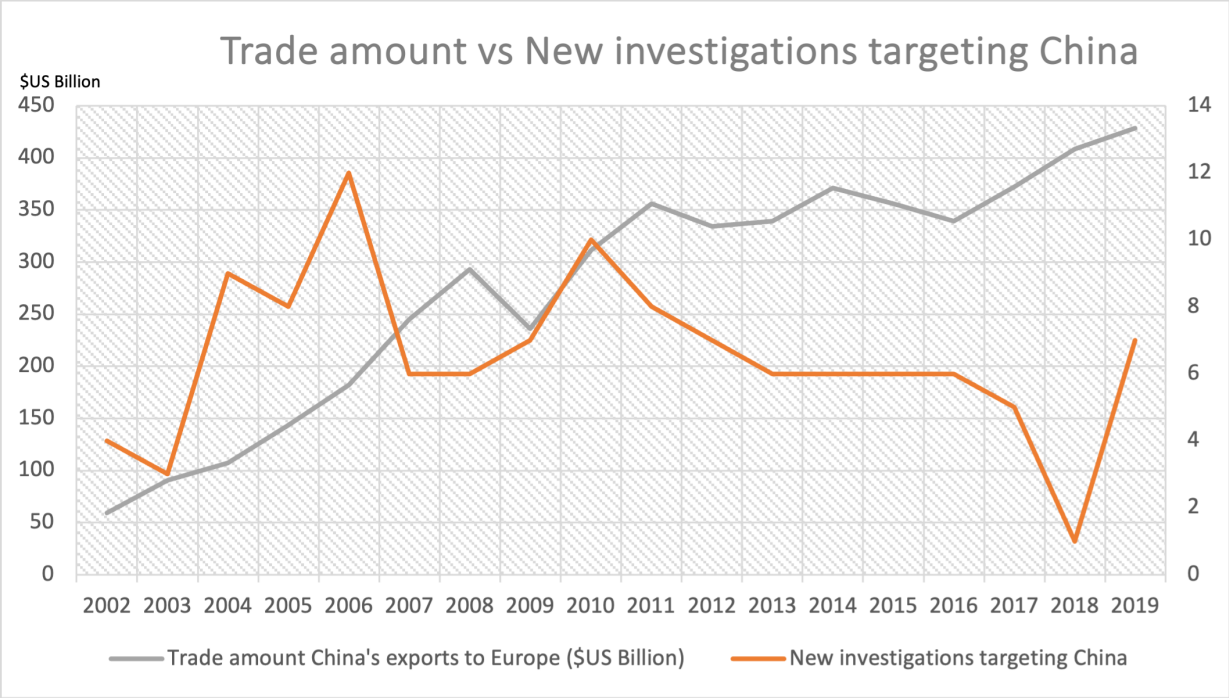

Figure 4.1: Comparison between China's export to the EU and the number of new anti-dumping investigations of the EU against China.

Correlation analysis results:

The correlation between China's exports to the EU and the number of new anti-dumping investigations on Chinese products by the EU is -0.129953751, because the value does not reach ± 0.3, it can be judged that the two groups of data are not correlated.

Results of linear regression analysis (n=18)

	Unstandardised Coefficients		Standardised Coefficients						
	B	Std. Error	*Beta*	*t*	*p*	VIF	R^2	Adj R^2	*F*
Constant	314.920	78.815	-	3.996	0.001**	-			
							0.017	-0.045	$F(1,16)=0.275, p=0.607$
New investigations targeting China	-5.954	11.356	-0.130	-0.524	0.607	1.000			

Dependent Variable: Trade amount of China’s exports to Europe ($US Billion)

D-W value: 0.135

* $p<0.05$ ** $p<0.01$

Table 4.3 The new investigations targeting China vs The trade amount of China's exports to the EU ($US Billion)

It can be seen from Table 4.3 that new investigations targeting China are taken as the independent variable and the trade amount of China's exports to the EU ($US Billion) is used as the dependent variable for linear regression analysis. It can be seen from the above table that the R value of the model is 0.017, which means that new investigations targeting China can explain the trade amount of China's exports to the EU ($US Billion) 1.7% of the total. It is found that the model does not pass the F-test (F = 0.275, P = 0.607 > 0.05), which means that new investigations targeting China do not have an impact on the trade amount of China's exports to Europe ($US Billion), so it is not possible to analyse the influence of independent variables on dependent variables.

Figure 4.2: Comparison of China's exports to the EU and the percentage of Chinese products in the new anti-dumping investigations.

Correlation analysis results:

The correlation between China's exports to the EU and the percentage of Chinese products in new anti-dumping investigations is 0.251287139. Because the value does not reach ± 0.3, it can be judged that the two groups of data are not correlated.

Results of linear regression analysis (n=18)

	Unstandardised Coefficients		Standardised Coefficients	t	p	VIF	R^2	Adj R^2	F
	B	Std. Error	$Beta$						
Constant	198.612	79.201	-	2.508	0.023*	-			
China’s share of the total number of investigations	200.141	192.047	0.252	1.042	0.313	1.000	0.064	0.005	F (1,16)=1.086,p=0.313

Dependent Variable: Trade amount of China’s exports to Europe ($US Billion)

D-W value：0.268

* p<0.05 ** p<0.01

Table 4.4 China's share of the total number of investigations vs The trade amounts of China's exports to the EU ($US Billion)

It can be seen from the table 4.4 that China's share of the total number of investigations is taken as the independent variable, and the trade amounts of China's exports to the EU ($US Billion) are used as the dependent variable for linear regression analysis. It is found that the model does not pass the F-test (F = 1.086, P = 0.313 > 0.05), which means that China's share of the total number of investigations does not have an impact on the trade amounts of China's exports to the EU ($US Billion), so we cannot specifically analyse the influence of independent variables on dependent variables.

Figure 4.3: Comparison of the percentage change of China's exports to the EU and the percentage of Chinese products in new anti-dumping investigations.

Correlation analysis results:

The correlation between the percentage change of China's exports to the EU and the percentage of Chinese products in new anti-dumping investigations is 0.086376504. Because the value does not reach ± 0.3, it can be judged that there is no correlation between the two groups of data.

Results of linear regression analysis (n=17)

	Unstandardised Coefficients		Standardised Coefficients	t	p	VIF	R^2	Adj R^2	F
	B	Std. Error	$Beta$						
Constant	0.089	0.144	-	0.615	0.548	-	0.008	-0.058	F (1,15)=0.127,p=0.726
China’s share of the total number of investigations	0.122	0.342	0.092	0.357	0.726	1.000			

Dependent Variable: Percentage change of trade amounts

D-W value: 1.236

* p<0.05 ** p<0.01

Table 4.5 China's share of the total number of investigations vs The percentage change of trade amounts

It can be seen from the above table that China's share of the total number of investigations is used as the independent variable and the percentage change of trade amounts as the dependent variable for linear regression analysis. From the table above, it can be seen that the R value of the model is 0.008, which means that China's share of the total number of investigations can explain percentage change of trade 8% of the amount. The model did not pass the F-test (F = 0.127, P = 0.726 > 0.05), which means that China's share of the total number of investigations did not have an impact on the percentage change of trade amounts, so we cannot specifically analyse the influence of independent variables on dependent variables.

Table 4.6 shows the data for trade and new anti-dumping investigations (original data) extracted by researchers through the Ministry of Commerce reports of China and reports from the EU over the years 2002-2019:

Year	Exports of manufactured goods ($US Billion)	Number of investigations on manufactured goods
2002	297.056	4
2003	403.416	3
2004	552.777	9
2005	712.916	7
2006	916.017	10
2007	1156.267	5
2008	1352.736	6
2009	1138.483	7
2010	1496.069	10
2011	1797.836	7
2012	1948.156	7
2013	2101.736	6
2014	2229.601	6
2015	2169.541	6
2016	1992.444	7
2017	2145.638	5
2018	2351.689	1

Table 4.6 Exports of manufactured goods and number of investigations on manufactured goods

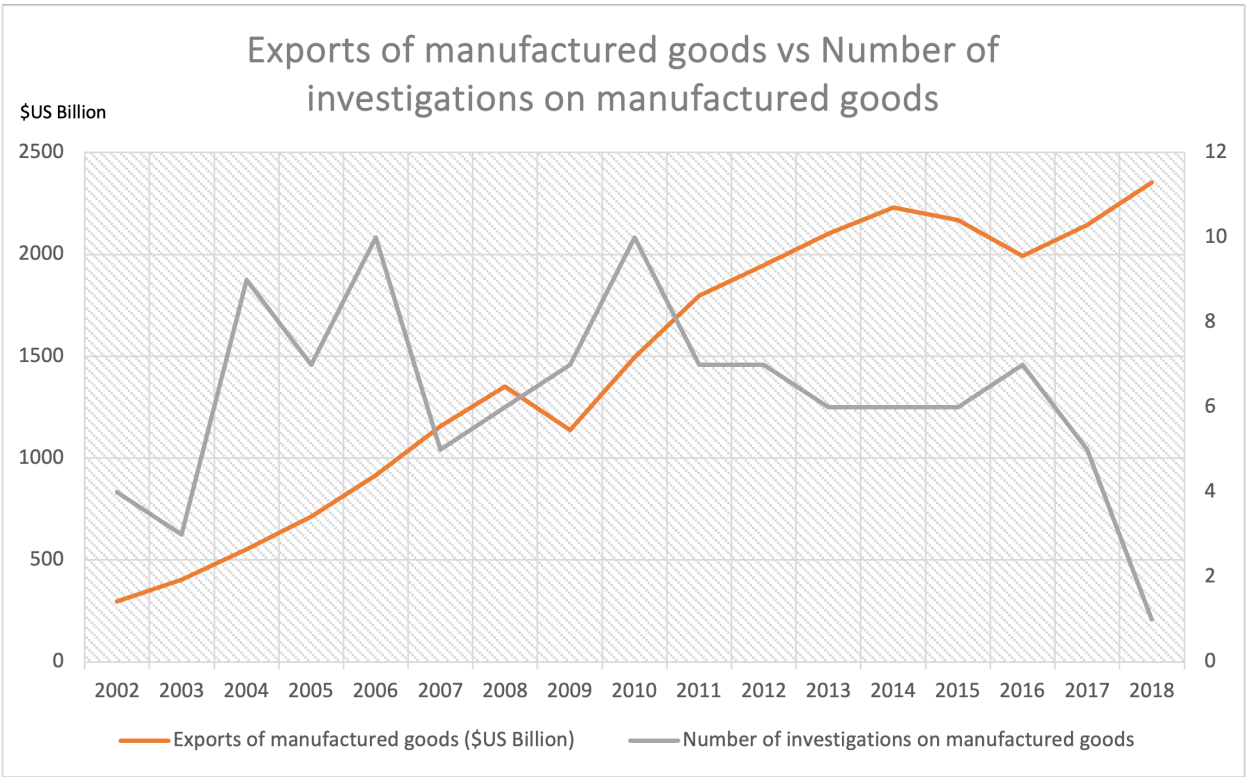

Figure 4.4: Comparison of exports of manufactured goods ($US Billion) and Number of investigations on manufactured goods.

Correlation analysis results:

The correlation between exports of manufactured goods ($US Billion) and Number of investigations on manufactured goods is -0.147672837. Because the value does not reach ± 0.3, it can be judged that there is no correlation between the two groups of data.

Results of linear regression analysis (*n*=17)

	Unstandardised Coefficients		Standardised Coefficients						
	B	Std. Error	*Beta*	*t*	*p*	VIF	R^2	Adj R^2	*F*
Constant	17347.792	5110.488	-	3.395	0.004**	-			
Number of antidumping investigations	-446.120	771.467	-0.148	-0.578	0.572	1.000	0.022	-0.043	$F_{(1,15)}=0.334, p=0.572$

Results of linear regression analysis (n=17)

Unstandardised Coefficients		Standardised Coefficients	t	p	VIF	R^2	Adj R^2	F
B	Std. Error	$Beta$						

Dependent Variable: Exports of manufactured goods

D-W value: 0.096

* p<0.05 ** p<0.01

Table 4.7 The number of antidumping investigations vs The exports of manufactured goods

It can be seen from the above table that the number of antidumping investigations is taken as the independent variable and exports of manufactured goods as the dependent variable for linear regression analysis. It can be seen from the above table that the R square value of the model is 0.022, which means that the number of antidumping investigations can explain the 2.2% change in the value of exports of manufactured goods. The model did not pass the F-test (F = 0.334, P = 0.572 > 0.05), which means that the number of antidumping investigations does not affect the exports of manufactured goods, so the influence of independent variables on the dependent variables cannot be analysed.

5. Discussion

The researchers analysed the data obtained from the Chinese government departments (Ministry of Commerce, Statistics Bureau) and the European Commission's anti-dumping investigation reports. The findings indicate that the quantity of EU anti-dumping investigations targeted at China does not exert any influence on the trade volume between China and Europe. This lack of impact is observed not only in the overall trade volume but also in the trade volume of manufactured goods, even in sectors where anti-dumping investigations are particularly concentrated. These results reinforce the theoretical standpoint put forth by the European Parliament (2020) and Herrero et al. (2020), which emphasises that the EU's anti-dumping investigations concerning China do not wield any discernible effect on the trade volume between the two entities.

However, Goron's (2018) conclusion mentioned that these actions could cause a trade war between China and the EU, due to the continuous anti-dumping investigations launched by Europe against China, but there is no data or other theoretical support in this study for that. The outcomes of this study align with the conclusions drawn by Li and Whalley (2015). Their findings suggest that the reason behind this alignment lies in the fact that around 80% of China's enterprises engaged in import and export operations are involved in multifaceted product production rather than concentrating solely on a single product. Given that EU anti-dumping investigations frequently focus on specific products or are finely targeted at particular products of individual companies, their impact does not directly extend to the broader trade dynamics between China and Europe, nor does it substantially influence the trade volume of specific industries. This phenomenon is attributed to the diverse range of products manufactured by these enterprises. The data analysis results are reflected in the correlation tests and linear regression tests of the collected data. The number of EU anti-dumping investigations against China is not one of the factors affecting trade between China and the EU.

Overall, although the EU conducts more antidumping investigations on Chinese products every year, there is no impact on the trade between China and the EU because trade between the two is growing. Therefore, it is reasonable to doubt the motivation and purpose of the EU's anti-dumping investigation against Chinese products. On the one hand, the media in European countries publicises the idea that China's cheap goods damage the interests of local enterprises and increase the unemployment rate, and the European Union imposes high tariffs on specific products produced in China to respond to public concerns. On the other hand, the European Union's own business report also points out that, taking the photovoltaic industry as an example, European factories are highly dependent on raw materials and parts produced in China. Further, imposing punitive tariffs on Chinese products will also push up the production costs of European products, resulting in a decline in purchasing power and thus increasing the unemployment rate in specific industries.

From the data analysis of this study, it can be concluded that although the EU initiates anti-dumping investigations on Chinese products every year, it does not fully carry out trade sanctions against China. Since China joined the World Trade Organization in 2001, China's cheap goods have rapidly filled the world market, making China the world’s factory. In addition, China's national export strategy has been increasingly optimised since the ‘Belt and Road

Initiative' was launched in recent years. The Chinese government hopes that China's export products will change from low added value to high added value, and from low-end raw material processing exports to high-tech and high-end manufacturing parts and complete machine exports, so as to increase the market competitiveness for Chinese products. Therefore, in order to protect its high-end manufacturing market from being squeezed by Chinese products, the EU will certainly take more trade protective measures to restrict the market for Chinese products. On the one hand, the EU wants to protect its manufacturing industry, but on the other hand, it has to import raw materials and parts from China to control costs. The EU's mentality will always have an impact on overall EU - China trade, just as when the United States launched a comprehensive trade war against China, inevitably pushing up domestic prices and causing economic difficulties. At present, the EU has just kept a restraint on Chinese products, and there is no sign of launching a comprehensive trade war. However, in recent years, China and the EU have deepened their political and institutional antagonism. Influenced by the war in Ukraine and a potential economic crisis, the nationalist sentiments of EU countries are rising. These factors are like a time bomb, which will always test China – EU relations both economically and politically.

6. Conclusion

A review of the literature is used in this paper to explain the findings of scholars on international trade anti-dumping investigations, as well as gather and compare secondary data from government reports. A comparison was also conducted between the results of the data analysis and those of scholars, and a conclusion was reached. In light of the fact that the number of anti-dumping investigations is not directly related to the volume of trade, subsequent studies can explore the political, social and cultural factors that influence international trade.

References

AL-MANSOUR, & AL-AJMI, S. A. (2020). Coronavirus "COVID-19" – Supply Chain Disruption and Implications for Strategy, Economy, and Management. The Journal of Asian Finance, Economics, and Business, 7(9), 659–672. https://doi.org/10.13106/jafeb.2020.vol7.no9.659.

Anon., 2019. Decisions. Official Journal of the European Union, pp. 71-77.

Chandra, & Long, C. (2013). Anti-dumping Duties and their Impact on Exporters: Firm Level Evidence from China. World Development, 51, 169–186. https://doi.org/10.1016/j.worlddev.2013.05.018

Chauhan, P. (2022). China's Monopoly Over Solar Manufacturing Industry is a Global Threat, IEA Report States. Available at https://www.planetcustodian.com/china-monopoly-over-solar-manufacturing-industry/26902/.

China Customs. (2020). 2019 China Import and Export Report. Available at: http://commerce.sz.gov.cn/attachment/0/513/513179/7268869.pdf.

China Customs. (2022). Import and Export in 2021. Available at: http://www.gov.cn/xinwen/2022-01/15/content_5668472.htm.

Choi. (2017). Did Anti-dumping Duties Really Restrict Import?: Empirical Evidence from the US, the EU, China, and India. East Asian Economic Review, 21(1), 3–27. https://doi.org/10.11644/KIEP.EAER.2017.21.1.321.

Clover, I. (2016). JA Solar latest Chinese firm to withdraw from EU price undertaking. Retrieved from PV Magazine: https://www.pv-magazine.com/2016/09/28/ja-solar-latest-chinese-firm-to-withdraw-from-eu-price-undertaking_100026287/.

Dadush, U., Domínguez, P., & Gao, T. (2019). The State of China-European Union Economic Relations. Working Paper, 9, pp. 1-27.

Department of International Development. (2016). Anti-dumping: Selected Economic Issues. Retrieved from gov.uk: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/32460/12-754-anti-dumping.pdf.

Deutsche Welle. (2022). How much does Europe depend on China for green energy? Available at: https://www.dw.com/zh/%E6%AC%A7%E6%B4%B2%E7%BB%BF%E8%89%B2%E8%83%BD%E6%BA%90%E5%AF%B9%E4%B8%AD%E5%9B%BD%E6%9C%89%E5%A4%9A%E4%BE%9D%E8%B5%96/a-61826925.

European Commission, 2018. *Anti-Dumping.* Available at: https://ec.europa.eu/trade/policy/accessing-markets/trade-defence/actions-against-imports-into-the-eu/anti-dumping/.

European Commission, 2020. 38th Annual Report from the Commission to the Council and the European Parliament on the EU's Anti-Dumping, Anti-Subsidy and Safeguard activities and the use of trade defence instruments by Third Countries targeting the EU in 2019, Brussels: European Commission.

European Commission. (2021). 39th Annual Report from the Commission to the European Parliament and the Council on the EU's Anti-Dumping, Anti-Subsidy and Safeguard activities and the Use of Trade Defence Instruments by Third Countries targeting the EU in 2020. Brussels. Available at: https://trade.ec.europa.eu/doclib/docs/2021/august/tradoc_159782.PDF.

European Commission. (2021). Delivering the European Green Deal. Available at: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/delivering-european-green-deal_en.

European Council on Foreign Relations and Rhodium Group. (2022). Green energy and China: How to avoid new dependencies? Available at: https://ecfr.eu/event/green-energy-and-china-how-to-avoid-new-dependencies/.

European Parliament, 2016. New Trade Rules for China? Opportunities and Threats for the EU. Directorate General for External Policies.

European Parliament, 2017. Regulation (EU) 2017/2321 of the European Parliament and the Council of 12 December 2017. Official Journal of the European Union.

Gong, Y. & Hanley, A. (2021). Exports and New Products in China - A Generalised Propensity Score Approach with Firm-to-Firm Spillovers. The Journal of

Development Studies, 57(12), 2136–2155. https://doi.org/10.1080/00220388.2021.1956470.

Goron, A., 2018. Fighting against climate change and for fair trade: finding the EU's Interest in the Solar Panels. China-EU Law Journal, Volume 6, pp. 103-125.

Gurubaxani, R, 2019. *Price Undertaking.* Available at: https://traderemedies.in/price-undertaking/#:~:text=Price%20undertaking%20is%20an%20agreement,of%20the%20dumping%20is%20eliminated.

Hebei (2022), Investigation report of the Department of Commerce. Available at: http://swt.hebei.gov.cn/nx_html/sub/myjj/ztbd/2021/7/1625705535131.html

Herrero, A., Wolff, G., Xu, J., and Poitiers, N. (2020). EU-China Trade and Investment Relations in Challenging Times. Brussels: European Parliament.

Hua, X., Jiang, Y., Sun, Q., & Xing, X. (2019). Do antidumping measures affect Chinese export-related firms? Review of Quantitative Finance & Accounting, 52(3), 871–900.

Huang, X., An, H., Fang, W., Gao, X., Wang, L., & Sun, X. (2016). Impact assessment of international anti-dumping events on synchronization and comovement of the Chinese photovoltaic stocks. Renewable & Sustainable Energy Reviews, 59, 459–469. https://doi.org/10.1016/j.rser.2015.12.231

Jian, X., & Yu, J. (2019). The fluctuations of China's economic growth since the reform and opening up and the rational countermeasures. China Political Economy, 2(2), 225–237. https://doi.org/10.1108/CPE-10-2019-0017.

Kang, M., Lee H. and Park S., 2012. Industry-specific effects of antidumping activities: evidence from the US, the European Union and China. Applied Economics, Volume 44, pp. 999–1008.

Kao, K., & Hwang, H, 2018. Is Price Undertaking a Friendlier Protection Policy than Anti-Dumping Duty. Available at: http://www.teaweb.org.tw/UpFile/1/Attach/2018-12/10201422767.pdf.

Liu, & Xin, L. (2019). Has China's Belt and Road Initiative promoted its green total

factor productivity? ——Evidence from primary provinces along the route. Energy Policy, 129, 360–369. https://doi.org/10.1016/j.enpol.2019.02.045.

Peppermans, A, 2017. The Sino-European Solar Panel Dispute: China's Successful Carrot and Stick Approach Towards Europe. Journal of Contemporary European Research, 13(4), pp. 1394-1411.

Plasschaert, S. 2016. Assessing the Solar Energy Dispute between the European Union and the People's Republic of China. *ECIPE — no. 01/2016*, pp.1-42.

Sandkamp A., 2020. The trade effects of antidumping duties: Evidence from the 2004 EU enlargement. Journal of International Economics 123 (2020) 103307.

Tang, C., Tang, Y. and Su, S., 2018. R&D internationalisation, product diversification and international performance for emerging market enterprises: An empirical study on Chinese enterprises. European Management Journal.

Tsinghua university. (2021). The influence of Antidumping on Chinese export enterprises. Available at: http://chinawto.mofcom.gov.cn/article/br/bs/202107/20210703172250.shtml.

Walsworth. (2022). Survey: Dealers cautiously optimistic for 2022; War in Ukraine adds to supply chain concerns. Automotive News, 26(2), S001–.

Wang, F. & Wu, M. (2021). The Impacts of COVID-19 on China's Economy and Energy in the Context of Trade Protectionism. International Journal of Environmental Research and Public Health, 18(23), 12768. https://doi.org/10.3390/ijerph182312768.

Xu, Q, 2019. Analysis of Internationalisation Path of Chinese Enterprises based on UPPSALA Theory. Advances in Economics, Business and Management Research, Volume 80, pp. 205-208.

Authors' bios

Yuan Zhai joined the higher education sector in the UK in 2021 as a lecturer in business. Throughout his career, he has been involved in a range of social science research activities across a number of countries, including Singapore, Malaysia, China, France, Brazil, India, and Russia. His research interests include, but are not limited to, enterprise strategy, operation and supply chain management, and enterprise internationalisation. Dr Zhai has considerable experience conducting social science research outside the university setting. In addition to doing social science research, his role as a consultant for enterprises and social organisations has helped him facilitate a number of projects for Chinese enterprises and universities, as well as educational and training projects for UK universities.
Contact info: y.zhai@tees.ac.uk.

Derek Watson is an Associate Professor and Senior Fellow of the Higher Education Academy, founder of the Faculty 'Business Clinic' and the Doctoral lead for the University's 'Research Fridays' programme. Dr Watson has extensive links and networks as a result of sourcing and embedding external engagement opportunities across the curriculum, with an international portfolio of clients and contacts, such as the British Cabinet Office, Indian Government Council of Scientific and Industrial Research, Dubai Police and Canon International. His research focuses on Food Safety Cultural Compliance and Academic-Industry collaboration, investigating the impact of knowledge exchange on practice in both the classroom and the workplace. He actively documents his consultancy experience via international academic journals and has delivered lectures and seminars at universities and symposiums globally. He has been appointed to the editorial board of the 'International Journal of Academic Research in Management'. Dr Watson is also a doctoral external examiner, academic reviewer of several international journals, and currently employed as 'External Examiner' for Staffordshire and Chester University DBA programmes. In addition, his is also a Visiting Professor at the University of Panama in Food Culture and a Senior Research Fellow at the Cyprus Business School while also serving on the editorial board of *The Market: International Journal of Business*.
Contact info: derek.watson@sunderland.ac.uk.

Xiaoxian Zhu specialises in the domains of talent management and international Human Resource Management (HRM) within the high-tech industries. Currently holding the position of Principal Lecturer (Research and Innovation), she assumes leadership over doctoral programs at Teesside University Business School. Dr. Zhu serves as the Chair of CIPD Tees Valley for the year 2023 and contributes her expertise as a subject examiner for esteemed international examining bodies. Her noteworthy academic accomplishments in this realm encompass a robust track record of delivering high-quality public presentations both within the United Kingdom and on the international stage, along with a substantial portfolio of publications and secured research funding. Notably, she holds the esteemed position of Distinguished Professor at Xi'an International University since April 2018, alongside her role as a

Visiting Professor at Zhejiang University of Technology in China. Dr. Zhu's teaching portfolio spans the fields of HRM and Business Management, with her instructional experience spanning across undergraduate, postgraduate, and doctoral levels in various academic institutions in the UK and abroad.
Contact info: x.zhu@tees.ac.uk.