**Master's Thesis of International Studies**

# Trade Remedies and Foreign Direct Investment

## An Empirical Study on Chinese Outward FDI

무역 구제와 외국인 직접 투자
- 중국의 해외 직접 투자에 대한 실증 연구

**August 2019**

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## ABSTRACT

This paper reviews and investigates how trade remedy works as an impetus for Chinese outward foreign direct investment (OFDI). Although protection-induced FDI, or tariff-jumping FDI is one of the most common explanations of FDI, existing works on the determinants of Chinese OFDI have mainly focused on the market, resource and strategic asset seeking characteristics. Using country-level panel dataset, this paper runs OLS regression with lagged variables as well as fixed effects and confirms the existence of tariff-jumping FDI in the case of China, which is shown to be particularly prevalent in developed economies.



**Keyword:** Trade Remedy, Foreign Direct Investment, Chinese Outward FDI, Tariff-jumping FDI



**Student Number:** 2017-21580

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**List of Abbreviations**

AD: Anti-dumping Duty

ASEAN: Association of Southeast Asian Nations

CVD: Countervailing Duty

CNY: Chinese Yuan

EU: European Union

FDI: Foreign Direct Investment

FE: Fixed Effect

GATT: General Agreement on Tariffs and Trade

LDC: Less Developed Countries

NME: Non-market Economy

M&A: Mergers and Acquisition

MNE: Multi-national Enterprise

MNF: Most Favored Nation

MOC: Ministry of Commerce

OECD: The Organization for Economic Co-operation and Development

OFDI: Outward Foreign Direct Investment

OLI: Ownership, Location and Internalization

OLS: Ordinary Least Square

PRC: People's Republic of China

SFG: Safeguard Measures

UN: United Nations

VER: Voluntary Export Restrain

WTO: World Trade Organization

## I. Introduction

Establishing production facilities in a country that imposes the protectionist measure, thereby bypassing trade protectionist measure is one of the most common explanations for foreign direct investment (FDI). This is known as the "tariff-jumping" FDI. Grossman and Helpman (1994) point out that enterprises will open markets in foreign target markets through direct investment, even though they may face losses temporarily so as to reduce the impact of trade protection. The initial research focused on the impact of tariff, quota and VER on FDI. More recently, the use of trade remedies such as anti-dumping (AD), countervailing duty (CVD) and safeguard measures have received more attention from scholars as tariff has been greatly reduced with global trade liberalization. A typical example of tariff-jumping FDI[1] was the huge influx of Japanese firms in auto and electronics industry in the U.S. and Europe during the 1970s and the 1980s. Substantial empirical works have confirmed the existence of tariff-jumping FDI in the case of Japan. Azrak and Wynne (1995) use a sample of 58 Japanese manufacturing companies in the U.S. for over 14 years and find the Japanese FDI influenced by the

[1] In this case, "remedy-jumping" FDI would be a more precise description for FDI induced by trade remedies. But rather than referring the phenomenon as "remedy-jumping" FDI, this paper stick to the wording of "tariff-jumping" FDI by convention.

state of the economy in the U.S. and the likelihood of protectionist action. Blonigen and Feenstra (1997) confirm a substantial effect of the threat of protection on non-acquisition Japanese FDI in the U.S. using an industry-level dataset from 1981 to 1988. Belderbos and Sleuwaegen (1997) find firm-level evidence of tariff-jumping FDI as a substitute for export from Japan using a dataset on plant establishments in Europe and the U.S. for 120 Japanese firms and 36 electronics products. Using a cross-section time-series dataset, Barrell and Pain (1999) find the scale and location of Japanese investment significantly influenced by protectionist measures controlling for market size and relative labor costs over the 1980s.

Along with studies on tariff-jumping FDI, a majority of papers have tried to explain the emergence of such protection-induced FDI as a quid pro quo that defuses future threat of protection. The concept of quid pro quo FDI introduced by Bhagwati et al. (1987) suggests that protection-induced FDI occurs to defuse protectionist threats in the future period rather than to bypass the actual protectionist measures. One of the most typical examples is the concession made between Japanese carmakers and the U.S. in the 1990s. Threatened with a 100% prohibitive tariff on luxury cars under Section

301 investigation, Japanese automakers compromised and responded by substantially expanding their plants in the U.S. However, some scholars have pointed out that such quid pro quo FDI might not be general. For example, Dinopoulos (1989) show that quid pro quo FDI may not occur because of a free-rider problem. That is to say, if future protectionist threats can be defused by such FDI, all firms in the industry that export to the host country will benefit even if they don't establish foreign plants by themselves. In turn, this will result in no firms taking the initiative to establish plants. For this reason, the existence of quid pro quo FDI still remains a question.

In the case of China, there has been an increasing number of protectionist measures including AD, CVD investigations and safeguard measures initiated against China in recent years. Meanwhile China has seen a surge in its outward FDI in the past decade. The growing protectionism against China and increasing outward FDI resemble the 1980s Japanese case to a great extent. However, most existing papers on the determinants of Chinese outward FDI have built their theories based on Dunning's OLI framework which mainly focused on the market, resource and strategic asset seeking purposes. In particular, Buckley et al. (2007) find Chinese businesses tend to invest in

countries with high levels of political risk, large market size, high geographic proximity and rich natural resource endowment. Zhang and Daly (2011) find China's overseas investment attracted to countries with high export volumes from China, large GDP per capita, rapid GDP growth, open economic regimes and abundant resources. Nonetheless, little attention has been paid to trade barrier as a potential incentive for FDI. This paper intends to fill the blanks in the relevant literatures through an empirical study on the relationship between trade remedies and FDI in the case of China.

The remainder of this paper is organized as follows. The next section provides an overview on the use of trade remedies against China in recent years and the characteristics of Chinese outward FDI. Section III specifies the econometric model based on tariff-jumping FDI hypothesis, elaborates the empirical strategy used in this paper and describes the data. Section IV presents and analyses the empirical results. Section V concludes with some implications and limitations of the findings.

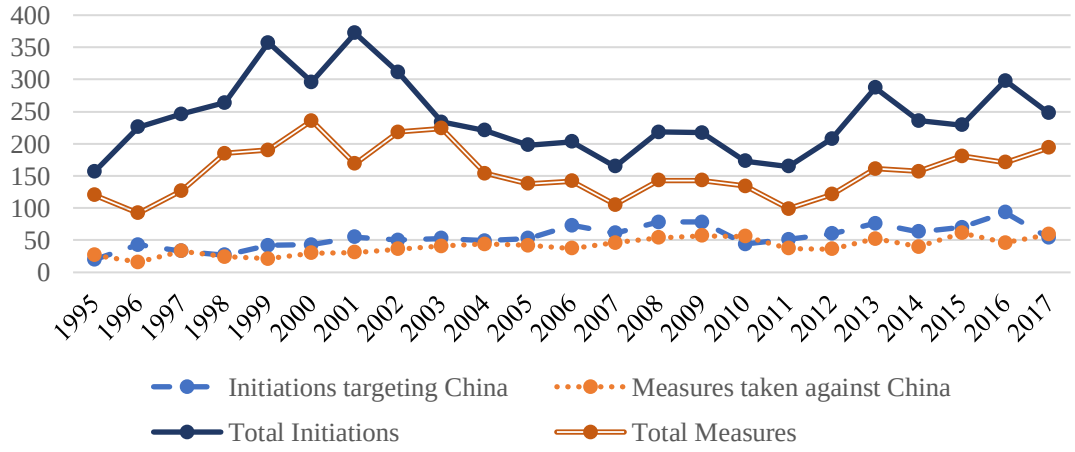
## II. Background Overview

### 1. Trade Remedies against China

Since the first anti-dumping investigation launched against China by European Community in 1979, the filing of protection measures targeting China has increased at a rapid pace. Among all measures, anti-dumping duties far outpace other remedies such as countervailing duties and safeguard measures. According to the WTO anti-dumping database, the average number of anti-dumping investigations targeting China has soared more than 10 times from 6.3 per year in the 1980s to 63.9 per year in the 2010s. China has been the top one subject of new anti-dumping investigations for the past 23 years with an affirmative rate of over 73%, which is also the highest in the world. Especially, from 2005 to 2017, China has received 30% of total anti-dumping initiations around the world, of which most investigations come from the U.S. and EU. China also topped the total number of subsidy and countervailing duty investigations from 1995 to 2017. It is worth noting that considering the status of the U.S. and EU in the WTO, trade remedy measures taken by the U.S. and EU have strong demonstration effects to other WTO members, meaning a successful affirmative case by the U.S. or EU tends

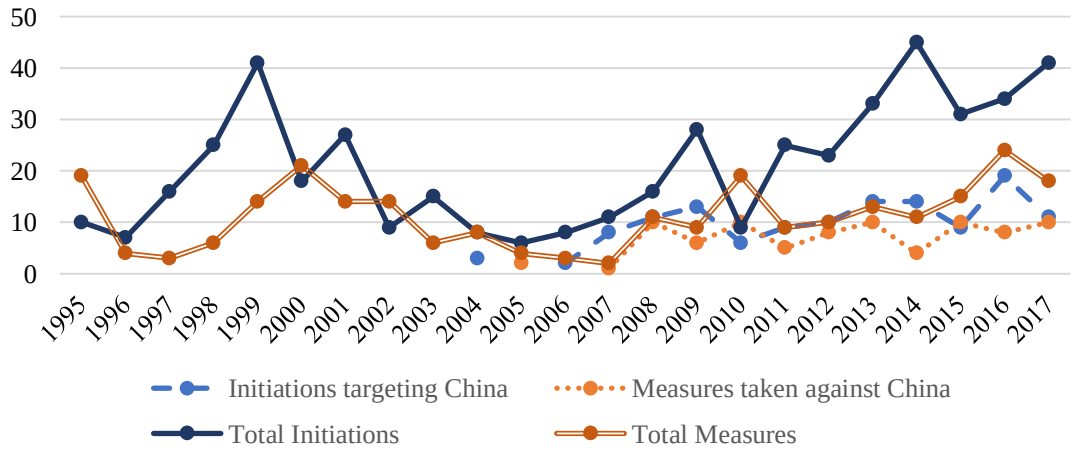
to encourage other countries to invoke same investigations against China as well. For example, after the U.S. imposed a 35% punitive tariff on Chinese tires in 2009, Brazil, Argentina and India also initiated anti-dumping investigations on Chinese tire products.

**Figure 1.** Number of AD Initiations and Measures against China, 1995-2017




*Source*: WTO anti-dumping database

**Figure 2.** Number of CVD Initiations and Measures against China, 1995-2017




*Source*: WTO subsidies and countervailing measures database

In terms of sectoral distribution, China received most anti-dumping and countervailing investigations in base metals and articles, followed by chemical and allied industries, machinery and electrical equipment, resins, plastics and articles, rubber and articles and textiles. Anti-dumping cases in these industries accounted for more than 75% of total investigations, all of which are labor intensive and low value-added industries. For safeguard measures, steel products, ceramic titles, textile products, tires and solar panels are the major sectors that have been targeted in trade disputes.

**Table 1.** Sectoral Distribution of AD and CVD Initiations against China, 1995-2017

| Sector | AD Initiation | CVD Initiation |
|---|---|---|
| I. Live animals and products | 2 | 0 |
| II. Vegetable products | 9 | 0 |
| III. Animal and vegetable fats, oils and waxes | 0 | 0 |
| IV. Prepared foodstuff; beverages, spirits, vinegar; tobacco | 6 | 1 |
| V. Mineral products | 16 | 0 |
| VI. Products of the chemical and allied industries | 235 | 14 |
| VII. Resins, plastics and articles; rubber and articles | 101 | 9 |
| VIII. Hides, skins and articles; saddlery and travel goods | 5 | 0 |
| IX. Wood, cork and articles; basket ware | 23 | 4 |
| X. Paper, paperboard and articles | 32 | 7 |
| XI. Textiles and articles | 100 | 4 |
| XII. Footwear, headgear; feathers, artificial flowers, fans | 22 | 0 |
| XIII. Articles of stone, plaster; ceramic prod.; glass | 89 | 3 |
| XV. Base metals and articles | 374 | 68 |
| XVI. Machinery and electrical equipment | 146 | 12 |

| | | |
|---|---|---|
| XVII. Vehicles, aircraft and vessels | 30 | 5 |
| XVIII. Instruments, clocks, recorders and reproducers | 19 | 0 |
| XX. Miscellaneous manufactured articles | 60 | 2 |

*Source*: WTO anti-dumping database; WTO subsidies and countervailing measures database

There are many reasons why China became the top one target for protectionist measures. For one thing, China's tremendous trade volume and rapid export growth rate put pressure on many firms in importing countries. However, another important reason may be attributed to the surrogate country approach in determining the normal value of Chinese exports.

Under the WTO, the "normal value" of a good is determined under the assumption that the exporting country is a market economy. In the situation where a product is imported from a non-market economy (NME, economy where the government has a complete or substantially complete monopoly of its trade and where all domestic prices are fixed by the State), Article VI of the GATT 1994 ("Anti-Dumping Agreement") do not recognize a strict comparison with home market prices as appropriate. In such cases, WTO members can use a surrogate country approach which uses the costs of production in a third country to calculate the value of products from an NME.

When China was accepted as a WTO member in 2001, Section 15(a) of China's WTO accession protocol allows WTO members to treat China as an NME in anti-dumping investigations, which is specified as follows:

*"(a) In determining price comparability under Article VI of the GATT 1994 and the Anti-Dumping Agreement, the importing WTO Member shall use either Chinese prices or costs for the industry under investigation or a methodology that is not based on a strict comparison with domestic prices or costs in China based on the following rules:*

*(i) If the producers under investigation can clearly show that market economy conditions prevail in the industry producing the like product with regard to the manufacture, production and sale of that product, the importing WTO Member shall use Chinese prices or costs for the industry under investigation in determining price comparability;*

*(ii) The importing WTO Member may use a methodology that is not based on a strict comparison with domestic prices or costs in China if the producers under investigation cannot clearly show that market economy conditions*

*prevail in the industry producing the like product with regard to manufacture, production and sale of that product."*

The protocol also specifies in Section 15(d) that the non-market economy treatment should expire 15 years after the date of accession in any event, which shall guarantee the market economy treatment to China in any case after December 11, 2016.

*"(d) Once China has established, under the national law of the importing WTO Member, that it is a market economy, the provisions of subparagraph (a) shall be terminated provided that the importing Member's national law contains market economy criteria as of the date of accession. In any event, the provisions of subparagraph (a)(ii) shall expire 15 years after the date of accession. In addition, should China establish, pursuant to the national law of the importing WTO Member, that market economy conditions prevail in a particular industry or sector, the non-market economy provisions of subparagraph (a) shall no longer apply to that industry or sector."*

However, 15 years have passed. As government and state-owned enterprises still play a decisive role in the Chinese market, China is still far away from a full market

economy. The contradiction in the current NME status and the specification in Section 15(d) that grants market economy status to China in any event makes it an unsolved controversial dispute regarding China's NME treatment. As of December 2017, a total of 81 countries [2] around the world recognize China's market economy status. Nonetheless, the country's major trade partners including the U.S., the EU and Japan have not yet done so although China has been continuously making effort to strive for its market economy status.

The NME status put China in disadvantage in anti-dumping investigations as the surrogate country approach allows importing countries to disregard the domestic prices or costs in China and use a third-country's price in determining the normal value of Chinese exports, which inevitably leads to distortion and inflation in anti-dumping duty rates.

Also, the country faces a frequent problem of double remedies. Double remedy refers to the potential double remedy actions when an exporting country receives anti-dumping and countervailing duty investigations simultaneously for the same product.

[2] Ni Hongfu, *Commentary: China's development deserves market economy status*, People's Daily, 12. 20. 2017

When a subsidy affects both the normal value and export price of a good, the use of surrogate normal value fails to capture the impact of the subsidy on the normal value of the exporting country. Theoretically, anti-dumping duty is increased by the amount of subsidy that has artificially lowered the export price and countervailing duty should equal to the amount of the subsidy. The anti-dumping duty using such surrogate methodology double-counts the subsidy by the amount of the countervailing duty (Lee, 2017). However, surrogates for normal value are not only restricted to NME but also widely used in market economies. Thus, even if China gets fully recognized as a market economy, the current double-count issue can still prevail (Kelly, 2014).

Facing skyrocket in anti-dumping and countervailing tariffs as well as continuous uncertainty in NME treatment, many Chinese manufacturing firms have responded by shutting production at home and shifting plants overseas. For example, in response to the recent steep levies on steel from the U.S. and EU, Chinese steelmakers have signed agreements to build plants in Malaysia, Pakistan and India where anti-dumping tariffs are few. This suggests the potential existence of tariff-jumping FDI in the case of China, which will be discussed in the later sections.

## 2. Chinese Outward FDI

China has been one of the largest FDI recipient countries for decades. But it has not been a long history since China started actively engaging in foreign direct investment. It was not until 1979 when outward FDI was initially permitted under the "Open Door" policies that China started to see a gradual increase in its investment overseas. Especially after the government-led "going global" initiation in 1992 and the country's accession to the WTO in 2001, China's OFDI has been surging rapidly and reached its peak in 2016 with an annual investment value of 196.15 billion USD. In 2017, the country ranked second place in total OFDI stock and third place in OFDI flow. China has successfully become one of the largest FDI home countries in the world.

**Table 2.** China's Annual Outward FDI Flows and Stock, 2002-2017

(unit: Billion USD)

| Year | Flow | | | Stock | |
|---|---|---|---|---|---|
| | Amount | Global Ranking | Y-o-Y Growth Rate (%) | Amount | Global Ranking |
| 2002 | 2.70 | 26 | | 29.90 | 25 |
| 2003 | 2.85 | 21 | 5.6 | 33.20 | 25 |
| 2004 | 5.50 | 20 | 93.0 | 44.80 | 27 |
| 2005 | 12.26 | 17 | 122.9 | 57.20 | 24 |
| 2006 | 21.16 | 13 | 43.8 | 90.63 | 23 |

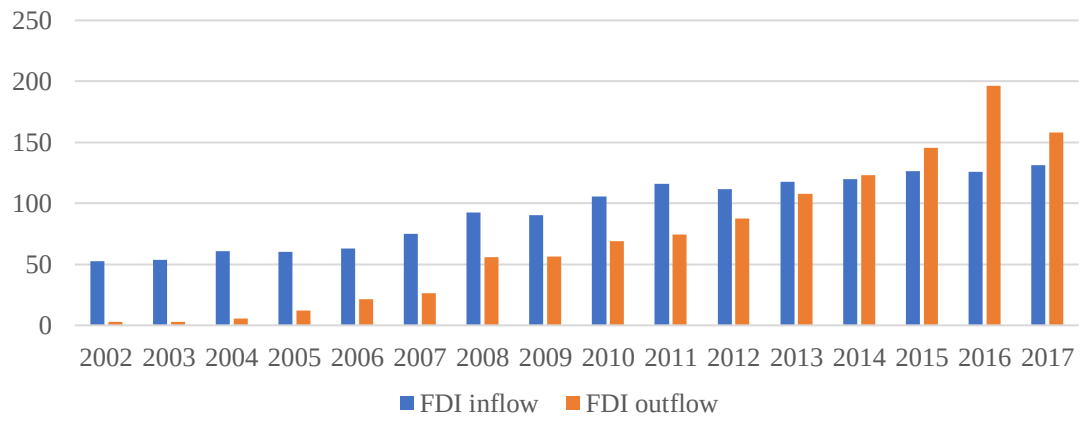
| | | | | | |
|---|---|---|---|---|---|
| 2007 | 26.51 | 17 | 25.3 | 117.91 | 22 |
| 2008 | 55.91 | 12 | 110.9 | 183.97 | 18 |
| 2009 | 56.53 | 5 | 1.1 | 245.75 | 16 |
| 2010 | 68.81 | 5 | 21.7 | 317.21 | 17 |
| 2011 | 74.65 | 6 | 8.5 | 424.78 | 13 |
| 2012 | 87.80 | 3 | 17.6 | 531.94 | 13 |
| 2013 | 107.84 | 3 | 22.8 | 660.48 | 11 |
| 2014 | 123.12 | 3 | 14.2 | 882.64 | 8 |
| 2015 | 145.67 | 2 | 18.3 | 1097.86 | 8 |
| 2016 | 196.15 | 2 | 34.7 | 1357.39 | 6 |
| 2017 | 158.29 | 3 | -19.3 | 1809.04 | 2 |

*Source*: Statistical Bulletin of China's Outward Foreign Direct Investment (2017)

*Notes*: Data for 2002-2005 includes only non-financial outward FDI, and data for 2006-2017 includes outward FDI in all industries. Annual growth rate for the year 2006 refers to that of the non-financial outward FDI. Second to fourth columns from the left show statistics for flow value which occurs in the current period, and the last two columns show statistics for stock value which is the accumulative value of the current period and the past.

**Figure 3.** China's FDI Inflow and Outflow Comparison, 2002-2017

(unit: Billion USD)




*Source*: National Bureau of Statistics of China

Geographically, a majority of Chinese OFDI goes to Asian countries and regions with geographical and cultural proximity, such as Hong Kong China, Singapore, Indonesia, Macau China, Kazakhstan, Laos, South Korea, etc. According to the 2017 Statistical Bulletin of China's Outward Foreign Direct Investment published by Ministry of Commerce, PRC, by the end of 2017, China's OFDI stock in Asia reached 1139.32 billion USD, accounting for 63% of total OFDI stock value. Latin America ranked second with a total amount of 386.89 billion USD, accounting for 21.4%. This is mainly due to vast scale of investment in Cayman Islands, a popular tax haven for large MNEs. Europe, North America, Africa and Oceania rank third to sixth in order. By the end of 2017, over 85% of China's OFDI stock has gone to developing countries with a total amount of 1552.42 billion USD, of which Hong Kong China accounts for 63.2% followed by ASEAN countries with 5.7%. OFDI stock in developed countries reached 229.13 billion USD, accounting for 12.7% of the total. In particular, the European Union and the U.S. account for 37.5% and 29.4% respectively.

**Table 3.** Top 20 Destinations of China's OFDI Stock, by the End of 2017

| No. | Country (Region) | Amount (billion USD) | Share (%) |
|---|---|---|---|
| 1 | Hong Kong China | 981.27 | 54.2 |

| | | | |
|---|---|---|---|
| 2 | Cayman Islands | 249.68 | 13.8 |
| 3 | British Virgin Islands | 122.06 | 6.7 |
| 4 | United States | 67.38 | 3.7 |
| 5 | Singapore | 44.57 | 2.5 |
| 6 | Australia | 36.18 | 2.0 |
| 7 | United Kingdom | 20.32 | 1.1 |
| 8 | Netherlands | 18.53 | 1.0 |
| 9 | Luxembourg | 13.94 | 0.8 |
| 10 | Russia | 13.87 | 0.8 |
| 11 | Germany | 12.16 | 0.7 |
| 12 | Canada | 10.94 | 0.6 |
| 13 | Indonesia | 10.54 | 0.6 |
| 14 | Macao China | 9.68 | 0.5 |
| 15 | Bermuda | 8.59 | 0.5 |
| 16 | Switzerland | 8.11 | 0.5 |
| 17 | Kazakhstan | 7.56 | 0.4 |
| 18 | South Africa | 7.47 | 0.4 |
| 19 | Sweden | 7.31 | 0.4 |
| 20 | Laos | 6.65 | 0.4 |
| | **Total** | **1656.80** | **91.6** |

*Source*: Statistical Bulletin of China's Outward Foreign Direct Investment (2017)

*Notes*: Stock value means the accumulative value of the current period and the past.

In terms of industry distribution, China's OFDI has covered all sectors of the national economy as of the end of 2017. Almost 80% of the total the investment goes to the service industry. In particular, leasing and business services sector tops the rank with an accumulated amount of 615.77 billion USD, accounting for 34.1% of the total stock. Wholesale and retail trade, information transmission, software and IT services come

second and third, with an amount of 226.43 and 218.90 billion USD each. Manufacturing sector amount 140.06 billion USD, accounting for 7.8% of the total stock.

**Table 4.** Industrial Distribution of China's OFDI Stock, by the End of 2017

| **Industry** | **Amount (billion USD)** | **Share (%)** |
|---|---|---|
| Leasing and business services | 615.77 | 34.1 |
| Wholesale and retail trade | 226.43 | 12.5 |
| Information transmission, software and IT services | 218.90 | 12.1 |
| Financial services | 202.79 | 11.2 |
| Mining | 157.67 | 8.7 |
| Manufacturing | 140.30 | 7.8 |
| Transportation, storage and postal services | 54.77 | 3 |
| Real estate | 53.76 | 3 |
| Construction | 33.70 | 1.9 |
| Production and supply of electricity, heat, gas and water | 24.99 | 1.4 |
| Scientific research and technical services | 21.68 | 1.2 |
| Resident services, repairs and other services | 19.02 | 1.1 |
| Agriculture, forestry, animal husbandry and fishery | 16.56 | 0.9 |
| Culture, sports and entertainment | 8.12 | 0.5 |
| Hotels and catering | 3.51 | 0.2 |
| Education | 3.29 | 0.2 |
| Water conservancy, environment and public facility management | 2.39 | 0.1 |
| Health and social work | 1.39 | 0.1 |
| **Total** | **1805.04** | **100** |

*Source*: Statistical Bulletin of China's Outward Foreign Direct Investment (2017)

*Notes*: Stock value means the accumulative value of the current period and the past.

It is worth noting that mergers and acquisitions (M&A) account for a large proportion in China's OFDI in contrast to greenfield investment. In 2017, Chinese enterprises conducted 431 M&As in 56 countries, recorded a total amount of 119.62 billion USD and 75.6% of the total FDI outflow. Therefore, it would be inappropriate to exclude M&A transactions in analyzing Chinese outward FDI. This paper takes a broad sense of FDI definition given by OECD, that is the direct or indirect ownership of 10% or more of the voting power of an enterprise resident in one economy by an investor resident in another economy, regardless of the form of investment (M&A or greenfield).

There have been many existing studies on the determinants for FDI. Nonetheless, scholars have not yet reached an agreement on the general equation for FDI determinants in empirical studies. The mainstream location determinants of FDI is encapsulated in Dunning's OLI[3] framework that firms pursue FDI in seek of market, efficiency, natural resources and strategic asset (Dunning, 1977a, 1993b). Market seeking FDI is usually undertaken by firms to facilitate exports to larger and more rapidly growing overseas market. Efficiency seeking FDI occurs when MNEs seek

[3] OLI stands for Ownership, Location and Internalization.

cheap labor in the host countries to lower production cost. Natural resources seeking FDI, as it explained in its name, occurs to acquire the supply of energy resources or raw materials in the host countries. Strategic asset seeking FDI usually happens in FDI from developing economies to developed ones, where MNEs seek specific asset of strategic importance such as certain technology, R&D capacity, industrial knowledge, brand names, etc. Besides, other studies have also identified the economic and business environment of the (potential) host countries as well as FDI-related policies pursued by their governments as variables that affect FDI decision. These variables include policy liberalization, political risk, exchange rate, host country inflation rate, exports, imports, openness to FDI, etc. (Buckley et al., 2007) Geographic and psychic distance are also regarded as important determinants in FDI decision (e.g. Johanson and Vahlne, 1977).

Regarding the specific explanations of Chinese OFDI, scholars have found evidences of consistency as well as idiosyncrasies to the traditional FDI theory mentioned above. Buckley et al. (2007) find Chinese OFDI associated with high levels of political risk, cultural proximity, host market size and geographic proximity during the period of 1984-1991 and a high level of natural resource endowments in the host countries during

1992-2001. Kolstad and Wigg (2010) use a dataset in a period of 2003-2006 and find Chinese OFDI attracted to countries with large markets, abundant natural resources and poor institutions. Zhang and Daly (2011) find China's overseas investments positively correlated to international trade, market size, economic growth, degree of openness and natural resource endowment. Some scholars have also pointed out the crucial role government played in shaping the structure of China's OFDI because any Chinese investment overseas has to go through a long and complex procedure of approval (Deng, 2004; Buckley et al., 2007).

Nevertheless, there has not yet been a conclusion regarding the role of trade barrier as an incentive for Chinese outward FDI. Using bilateral investment data on a country level from 1995 to 2006, Du and Zhou (2010) find empirical evidence that trade barrier represented by anti-dumping and tariff is one of the inducing factors of Chinese OFDI. Shi and Li (2017) also confirm the tariff-jumping purpose of Chinese OFDI in the U.S. based on the industrial distribution. Meanwhile GDP is also found to be an important variable on FDI decision. However, Xu (2011) suggests that China's overseas direct investments do not have the function of avoiding trade remedy measures as many of

them go to countries with few previous trade remedy measures. This paper aims to add to the existing literatures and uncover the relationship between trade remedy measures and Chinese OFDI with most recent empirical evidence.

## IV. Model and Empirical Strategy

This section presents the empirical strategy used to test whether tariff-jumping FDI exists in the case of Chinese OFDI. In other words, this study aims to answer the question of whether Chinese OFDI is induced by the use of trade remedy investigations. Hypothetically, trade remedy investigations in the past period is supposed to lead to more tariff-jumping FDI in the future period according to the tariff-jumping FDI theory. The causal relationship can be simply presented as *more remedies*$_{t-n}$ → *more FDI*$_t$. In this study, a panel dataset of Chinese OFDI in 28 partner countries and regions from 2005 to 2015 is used. Table 5 presents the codes and OECD membership of the 28 sample countries (regions).

**Table 5.** Sample Countries (Regions) and OECD Membership

| Country (region) | Code | OECD membership | Country (region) | Code | OECD membership |
|---|---|---|---|---|---|
| Argentina | ARG | N | Malaysia | MYS | N |
| Australia | AUS | Y | New Zealand | NZL | Y |
| Brazil | BRA | N | Pakistan | PAK | N |
| Canada | CAN | Y | Peru | PER | N |
| Chile | CHI | Y | Philippines | PHL | N |
| Colombia | COL | N | Russia | RUS | N |
| European Union | EUN | Y | Thailand | THA | N |
| Indonesia | IDN | N | Trinidad and Tobago | TTO | N |

| | | | | | |
|---|---|---|---|---|---|
| India | IND | N | Turkey | TUR | Y |
| Israel | ISR | Y | Ukraine | UKR | N |
| Jamaica | JAM | N | Uruguay | URY | N |
| Japan | JAP | Y | USA | USA | Y |
| South Korea | KOR | Y | Venezuela | VEN | N |
| Mexico | MEX | Y | South Africa | ZAF | N |

*Notes*: N for non-OECD countries and Y for OECD countries.

Based on Du and Zhou's (2010) and Blonigen and Feenstra's (1997) model, the baseline model is specified as follows:

$$OFDI_{it} = \alpha + \beta_1 CUM\_REM_{it-n} + \beta_2 \ln EXP_{it-1} + \beta_3 \ln GDP_{it-1} +$$

$$\beta_4 ENE_{it-1} + \beta_5 EXR_{it-1} + \beta_6 PAT_{it-1} + \beta_7 TAR_{t-1} + \beta_8 TRE_{it-1} + \beta_9 RIS_{it-1} + \varepsilon$$

where *t* denotes year, *i* denotes partner country, *n* denotes lagged period of time and $\varepsilon$ stands for the error term.

The dependent variable, *OFDI* uses the real annual outward FDI flow value from China to partner country in million USD.

*CUM_REM* and *REM* represent the number of trade remedy investigations targeting China. Previous studies have applied standard probit models to estimate the "threat" of protectionism using the probability of affirmative AD or CVD decisions. Unlike past studies, a simpler count of investigations regardless of result (affirmative or withdraw) is used in this study. This is because considering a past overall affirmative rate of over

73% in the case of Chinese exports, there is a large chance that most investigations will turn out to be affirmative. Thus, this paper assumes MNEs' decision making is affected by all investigations no matter actual final measures put into action or not. Two different measures are used in this study: accumulative number and current number. For accumulative number, sum of all past AD, CVD investigations and safeguard measures since 1980 is used, which is calculated based on the equation: $CUM\_REM_{it-n} = \sum_{1980}^{t-n} (AD_{it} + CVD_{it} + SFG_{it})$, $t=2005, 2006, \ldots, 2015, n=0, 1, 3, 5$. Alternatively, *Remedies*, a simple count of remedy investigation in one year is also used. Lagged periods of *n* (0, 1, 3 and 5) years are considered as well since the actual implementation of FDI may take years to complete upon one trade remedy investigation. For all other independent variables, current variables are used when *n*=0, and lag of only one period is used because the impact of these variables is regarded as more instant.

*LnEXP* is the logarithm of annual export value from China to the host country. As FDI can be established to support or substitute export, a positive sign would suggest a supplementary role of FDI to trade whereas a negative sign would in reverse indicate a substitution effect.

*LnGDP* is used as a proxy for host country market size. As Dunning's OLI theory indicates, a larger foreign market attracts more investment. Logarithm is taken for GDP variable.

*ENE* represents energy resources. Primary energy production, namely oil, gas and coal production are used as a proxy for resource abundance to test the resources seeking motivation.

*EXR* stands for the annual average exchange rate of Chinese yuan, which is used as a proxy for the economic conditions in the home country. Appreciation in the buyer's currency would increase its purchasing power, thus stimulating more investment overseas.

*PAT* represents the number of patents filed in the partner country, which is used as a proxy for the technology level in the host country. A significant positive coefficient would indicate a tendency of strategic asset seeking FDI.

*TAR* refers to the tariff level of the host country. Simple means of MFN tariffs are used in order to test to what extent tariff as a trade barrier can restrain trade and stimulate FDI.

*TRE* is a dummy variable that shows the effect of bilateral investment treaty. 1 is assigned to countries with bilateral investment treaties with China while 0 is assigned to the those without. Investment treaty indicates better institutional framework that protects investors' interest. Therefore, a positive sign is expected.

Finally, *RIS* refers to the political risk in the host country. High political risk is generally associated with low investment as it discourages firms from high level of resource commitment. However, higher risk may also indicate higher returns. Thus, the relationship between risk and FDI still remains a question. In this study, a political risk index ranged from 0 to 1 is used as a proxy for the risk factor. A higher figure indicates lower risk in this dataset.

The following table summarizes the variables, expected sign, theoretical justification and data source.

**Table 6.** Variable Explanation

| **Variable name** | **Variable explanation** | **Expected sign** | **Theoretical justification** | **Data source** |
|---|---|---|---|---|
| OFDI | Annual outflow value of Chinese FDI | | | Statistical Bulletin of China's Outward Foreign |

| | | | | |
|---|---|---|---|---|
| | | | | Direct Investment, MOC, PRC |
| CUM_REM | Accumulated number of past protectionist measures (AD, CVD and safeguard) | + | Tariff-jumping FDI | Global Anti-dumping Database, Global Countervailing Database, China-specific Safeguards Database, World Bank |
| REM | Number of protectionist measures (AD, CVD and safeguard) in the current year | + | Tariff-jumping FDI | Global Anti-dumping Database, Global Countervailing Database, China-specific Safeguards Database, World Bank |
| lnEXP | Logarithm of annual export value from China to host country | +/- | Marketing seeking | UN Comtrade |
| lnGDP | Logarithm of host country GDP | + | Market seeking | World Bank Development Indicator |
| ENE | Annual primary energy production (oil, gas and coal) | + | Natural resource seeking | BP Statistical Review of World Energy |
| EXR | Annual average exchange rate of CNY (CNY/USD) | - | Home country economic condition | IMF Exchange Rate Database |

| | | | | |
|---|---|---|---|---|
| PAT | Total (resident and non-resident) annual number of patents filed in host country | + | Strategic asset seeking | World Intellectual Property Organization |
| TAR | Tariff: MFN, simple mean | + | Tariff-jumping FDI | World Bank Development Indicator |
| TRE | Dummy variable: 0 for countries without bilateral investment treaty; 1 for countries with bilateral investment treaty | + | Institution related to investment | MOC, PRC |
| RIS | Political risk index of host country (range from 0 to 1, higher level indicates high stability) | +/- | Host country business environment | World Bank International Country Risk Guide |

*Notes*: Expected signs and theoretical justification are based on Blonigen and Feenstra (1997), Dunning (1977, 1993, 2004), Buckley et al. (2007) and Du and Zhou (2010).

Despite of the simplicity of the OLS model, a couple of adjustments have to be made to address some potential simultaneity problems suggested by the quid pro quo FDI theory. As discussed above, quid pro quo FDI theory suggests that tariff-jumping FDI may occur to defuse the use of remedies in the future. It is possible that reverse causality between FDI and remedy exists. In this case, coefficients from OLS models may suffer from an upward bias. To address such endogenous problem, lagged remedies are used in this study under the assumption that today's FDI should not affect lagged remedies. Because FDI does not usually response immediately upon a remedy investigation,

current period variables as well as lagged remedies of 1, 3 and 5 time periods are used in each case to test the robustness of the result. However, one should note that lagged variables are not perfect solution to such endogenous bias but only reduce the problem to an extent. Ideally, 2SLS regression with an instrumental variable is a more preferable choice. Also, country fixed effect (FE) and time fixed effect are used to eliminate the effect of some unobserved country and time specific characteristics. In order to further analyze the distinction between investment in developed and developing countries, the data is then divided into two subgroups by OECD membership and tested separately. Table 7 below presents the variance inflation factor (VIF) test result based on one-period lagged baseline model. None of the VIF exceeds 10, which indicates no multicollinearity problem in the model.

**Table 7.** Variance Inflation Factor Test

| Variable | Explanation | VIF | 1/VIF |
|---|---|---|---|
| **lnGDP** | Logarithm of GDP | 6.33 | 0.157978 |
| **lnEXP** | Logarithm of export | 4.32 | 0.231341 |
| **ENE** | Energy | 2.60 | 0.384937 |
| **RIS** | Political risk | 2.49 | 0.402362 |
| **CUM_REM** | Accumulative remedies | 2.45 | 0.407543 |
| **PAT** | Patent | 2.23 | 0.448145 |
| **TAR** | Tariff | 2.06 | 0.484696 |

| | | | |
|---|---|---|---|
| **TRE** | Investment treaty | 1.52 | 0.658205 |
| **EXR** | Exchange rate | 1.10 | 0.906868s |
| **Mean VIF** | | 2.79 | |

*Notes*: Variables with one-period lagged are used for the VIF test.

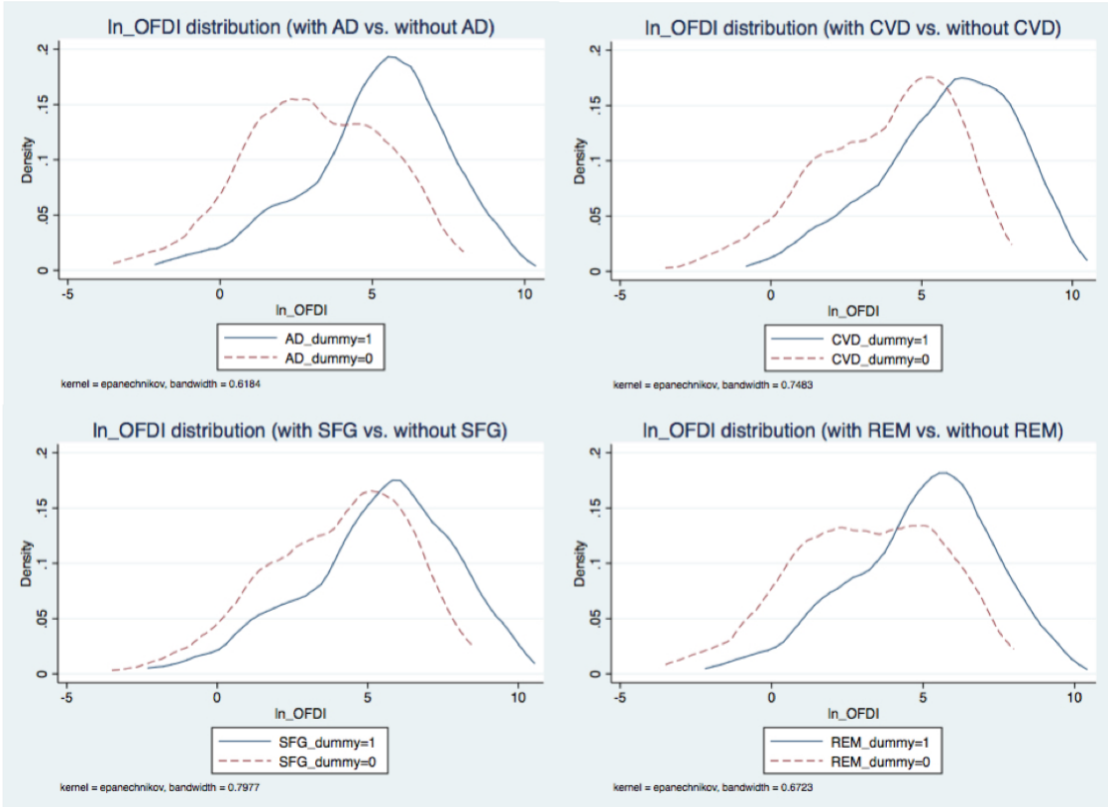
Preliminary results based on summaries of data statistics and kernel density distribution of OFDI (logarithm) confirm the tariff-jumping FDI hypothesis to some extent. Table 9 and Figure 4 suggest that countries with remedy (AD, CVD and SFG) investigations in the past tend to attract more FDI from China compared to those without. The scatterplot in Figure 5 shows a positive correlation between accumulative remedy investigations and OFDI (logarithm), which also confirms the hypothesis. The author will proceed on more solid regression results in the next section.

**Table 8.** Summary Statistics for OFDI by Remedy Measures

| | **AD** | | **CVD** | | **SFG** | | **Remedies** | | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| | **N** | **Y** | **N** | **Y** | **N** | **Y** | **N** | **Y** | |
| **Mean** | 116.4 | 888.9 | 196.5 | 1519.7 | 293.4 | 1253.7 | 130.1 | 828.1 | 636.4 |
| **Median** | 9.5 | 193.1 | 40.7 | 344.0 | 46.5 | 213.1 | 9.2 | 176.3 | 94.2 |
| **S.D.** | 342.8 | 2004.1 | 394.6 | 2681.1 | 679.4 | 2577.6 | 369.3 | 1943.0 | 1694.0 |
| **Count** | 119 | 245 | 243 | 121 | 234 | 130 | 100 | 264 | 364 |

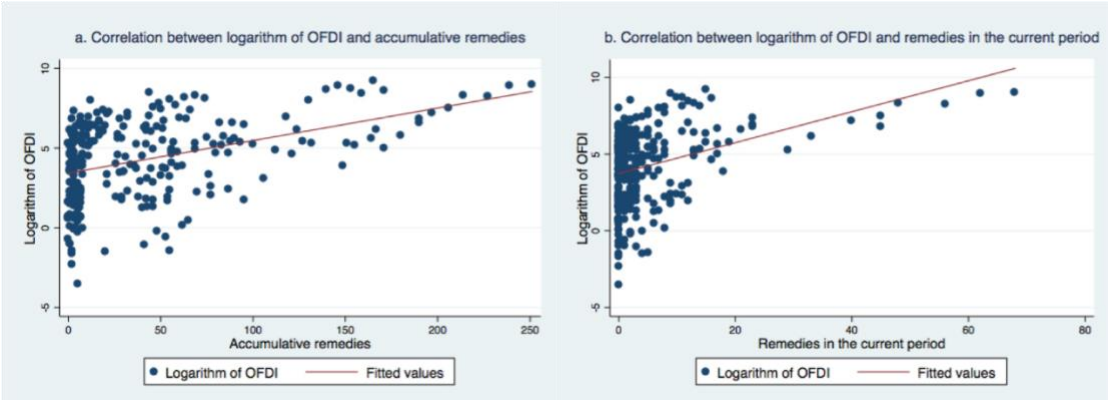
*Notes*: For each measure, N stands for statistics for countries without such remedy investigations against China and Y stands for statistics for countries with such remedy investigations against China.

**Figure 4.** OFDI (Logarithm) Distribution by Remedy Measures




*Notes:* Each of the graphs shows distributions of logarithm of Chinese OFDI value in countries with and without corresponding remedy investigations, where blue lines suggest overall higher values for countries that have remedy investigations against China while red dot lines suggest overall lower values for countries without. Remedies is calculated as the sum of AD, CVD and SFG.

**Figure 5.** Scatterplot of OFDI (Logarithm) and Remedies




*Notes*: The scatterplots suggest there is positive correlation between OFDI and Accumulative remedies as well as remedies in the current period.

## IV. Results

Table 9 shows the estimation results for OFDI with Accumulative remedies. Column (1) through (4) report results with 0, 1, 3 and 5-period lagged Accumulative remedies respectively. Accumulated past remedy investigations have found to be statistically significant and positive for all four cases, which confirms the hypothesis that trade remedies lead to more FDI in the case of China. Among (1) to (4), 1-period lagged remedy shows the highest statistical significance, and the coefficients increase substantially in column (2) to (4) compared to the contemporary value in column (1). This confirms the expectation that it takes time for FDI to respond to remedy measures. Also, larger coefficients in (2) to (4) show consistency to the quid pro quo FDI theory and suggest a potential downward bias in the contemporary model shown in column (1).

For other variables, *Export* suggests a negative correlation with FDI, which indicates a substitution effect of FDI to export. *GDP* shows positive and significant results in all cases, suggesting market-seeking FDI is one of the most important motivations for Chines OFDI. *Energy* also exhibits a positive and significant effect in all cases, which

suggests that Chinese OFDI is attracted to countries with rich natural resources. *Exchange rate* shows a negative significant correlation, which confirms the hypothesis that appreciation in Chinese yuan increases Chinese investors' purchasing power and thus stimulating Chinese OFDI. Also, *Investment treaty* shows positive and significant correlation with FDI from (1) to (3), which is consistent to the expectation as well. However, contrary to previous expectation, *Tariff* suggests a negative coefficient. This may be explained by the global trade liberalization move in recent decades. Up to today, most developed economies have already lowered tariffs to a great extent in general and tariff is no longer a commonly used trade barrier as it used to be. In fact, the so-called "tariff-jumping" FDI should be more properly rephrased as "remedy-jumping" FDI given the above results in this study. *Patent* and *Political risk* are not found to have significant influence on OFDI.

**Table 9.** Estimation Results for Accumulative Remedy Effect on OFDI

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| *Accumulative remedies_lag0* | 8.216*** | | | |
| | [4.412] | | | |
| *Accumulative remedies_lag1* | | 10.40*** | | |

| | | | | |
|---|---|---|---|---|
| | | [4.458] | | |
| *Accumulative remedies_lag3* | | | 11.80*** | |
| | | | [4.169] | |
| *Accumulative remedies_lag5* | | | | 12.96*** |
| | | | | [3.685] |
| *Logarithm of export* | -45.63 | -235.3** | -282.3** | -283.2* |
| | [-0.577] | [-2.374] | [-2.260] | [-1.962] |
| *Logarithm of GDP* | 136.6 | 227.9* | 289.4** | 299.1* |
| | [1.449] | [1.930] | [2.094] | [1.945] |
| *Energy* | 0.682*** | 1.007*** | 1.200*** | 1.548*** |
| | [3.373] | [3.972] | [4.191] | [4.657] |
| *Export* | -72.60** | -140.7*** | -106.9** | -84.97* |
| | [-2.352] | [-3.638] | [-2.360] | [-1.658] |
| *Patent* | 8.46e-05 | 0.00167* | 0.00164 | 0.00201 |
| | [0.111] | [1.750] | [1.471] | [1.540] |
| *Tariff* | -54.55** | -71.14** | -75.99** | -70.72* |
| | [-2.334] | [-2.428] | [-2.267] | [-1.866] |
| *Investment treaty* | 422.6** | 493.0** | 462.2* | 408.3 |
| | [2.249] | [2.094] | [1.683] | [1.288] |
| *Political risk* | -307.4 | -273.8 | 148.4 | 625.6 |
| | [-0.491] | [-0.349] | [0.162] | [0.591] |
| *Constant* | 15.83 | 275.6 | -408.4 | -940.2 |
| | [0.0248] | [0.344] | [-0.435] | [-0.883] |
| Period lagged | 0 | 1 | 3 | 5 |
| Observations | 290 | 290 | 237 | 182 |
| R-squared | 0.415 | 0.474 | 0.522 | 0.598 |

*Notes*: ***, ** and * indicate significance at 1%, 5% and 10% respectively. T-statistics are included in the brackets. Column (1) to (4) exhibits regression results with 0-, 1-, 3- and 5-period-lagged variables. For column (1), contemporary values are used for all variables. For column (2) to (4), except for Accumulative remedies, 1-period-lagged values are used for all other variables.

Table 10 shows the results after replacing accumulative remedy with current remedy counts in corresponding periods. In general, similar results of all key variables are observed in the two tables, which confirms the robustness of this study. Compared to coefficients of *Accumulative remedies* in table 10, larger coefficients for *Remedies* in (5) to (8) may suggest a stronger effect of more recent remedies than past ones in economic sense.

**Table 10.** Estimation Results for Current Period Remedy Effect on OFDI

| | (5) | (6) | (7) | (8) |
|---|---|---|---|---|
| *Remedies_lag0* | 46.60*** | | | |
| | [4.475] | | | |
| *Remedies_lag1* | | 77.22*** | | |
| | | [6.078] | | |
| *Remedies_lag3* | | | 78.19*** | |
| | | | [4.621] | |
| *Remedies_lag5* | | | | 90.42*** |
| | | | | [4.202] |
| *Logarithm of export* | -52.27 | -235.1** | -286.4** | -289.7** |
| | [-0.662] | [-2.442] | [-2.315] | [-2.033] |
| *Logarithm of GDP* | 236.5** | 357.5*** | 413.9*** | 425.3*** |
| | [2.576] | [3.191] | [3.097] | [2.876] |
| *Energy* | 0.637*** | 0.770*** | 1.076*** | 1.419*** |
| | [3.086] | [3.057] | [3.698] | [4.232] |
| *Exchange rate* | -72.28** | -129.0*** | -98.42** | -90.27* |
| | [-2.344] | [-3.429] | [-2.181] | [-1.786] |
| *Patent* | -0.000838 | 0.000118 | 0.000538 | 0.000915 |

| | | | | |
|---|---|---|---|---|
| | [-1.056] | [0.121] | [0.472] | [0.690] |
| *Tariff* | -40.78* | -59.05** | -69.96** | -71.80* |
| | [-1.795] | [-2.130] | [-2.132] | [-1.923] |
| *Investment treaty* | 614.2*** | 832.7*** | 767.6*** | 662.9** |
| | [3.144] | [3.494] | [2.688] | [2.046] |
| *Political risk* | -340.4 | -563.6 | -115.7 | 384.7 |
| | [-0.544] | [-0.738] | [-0.126] | [0.365] |
| *Constant* | -693.0 | -622.7 | -1,187 | -1,565 |
| | [-1.122] | [-0.826] | [-1.317] | [-1.531] |
| Period lagged | 0 | 1 | 3 | 5 |
| Observations | 290 | 290 | 237 | 182 |
| R-squared | 0.416 | 0.502 | 0.530 | 0.607 |

*Notes*: ***, ** and * indicate significance at 1%, 5% and 10% respectively. T-statistics are included in the brackets. Column (5) to (8) exhibits regression results with 0-, 1-, 3- and 5-period-lagged variables. For column (5), contemporary values are used for all variables. For column (6) to (8), except for Accumulative remedies, 1-period-lagged values are used for all other variables.

Based on the one-period lagged model (column (2)), country and time fixed effects are then added to the model. Column (9) and (10) presents the result respectively. Accumulated past remedies still exhibit positive results in both cases. *Export* also shows consistent results as previous models. However, *GDP*, *Energy*, *Tariff* and *Investment treaty* lose significance in country fixed effect model. This suggests that controlling country specific factors, *GDP*, *Energy*, *Tariff* and *Investment treaty* do not play significant roles in determining FDI. It is easy to understand as these variables tend to be country specific and do not change much across time. It is also worth noting

that *Patent* shows positive significant coefficients in both models, which means Chinese businesses tend to invest in countries with higher technology level.

**Table 11.** Estimation Results for OFDI with Country and Time Fixed Effect

| | (9) | (10) |
|---|---|---|
| *Accumulative remedies* | 35.01*** | 8.503*** |
| | [5.680] | [3.536] |
| *Logarithm of export* | -309.0*** | -434.2*** |
| | [-2.808] | [-3.633] |
| *Logarithm of GDP* | -524.3 | 397.9*** |
| | [-0.583] | [3.038] |
| *Energy* | -1.671 | 1.097*** |
| | [-0.968] | [4.311] |
| *Exchange rate* | -90.17** | (omitted) |
| | [-2.208] | - |
| *Patent* | 0.0325*** | 0.00193** |
| | [6.766] | [2.009] |
| *Tariff* | -28.80 | -54.72* |
| | [-0.547] | [-1.842] |
| *Investment treaty* | -690.1 | 589.5** |
| | [-0.931] | [2.482] |
| *Political risk* | 3,548 | 73.47 |
| | [1.391] | [0.0930] |
| *Constant* | 1,104 | -1,617* |
| | [0.188] | [-1.910] |
| Country FE | Y | N |
| Time FE | N | Y |
| Observations | 290 | 290 |
| R-squared | 0.505 | 0.453 |

| | | |
|---|---|---|
| Number of COUNTRY | 28 | |
| Number of YEAR | | 11 |

*Notes*: ***, ** and * indicate significance at 1%, 5% and 10% respectively. T-statistics are included in the brackets. Column (9) shows regression result with country fixed effect and column (10) shows result with time fixed effect. One-period lagged values are used for all independent variables.

The dataset is then divided into two subgroups by OECD membership and regressions are run for each. Table 12 presents the result. It is worth noting that the coefficient for *Accumulative remedies* increases almost 6 times for OECD countries while it changes to negative and loses significance for non-OECD members. More significant results are observed in column (11) than in column (12). Also, R-squared increases from 0.474 in column (2) to 0.691 in column (11) for OECD members while it drops to only 0.249 for non-OECD members in column (12). This means that in fact the protection-induced FDI only exists in developed economies. Variables identified in this paper have stronger explanatory power for Chinese investment in developed countries than in developing countries. In other words, FDI motivation may be different for investment in LDCs. The visualized results in Figure 6 provide a more intuitive contrast. It is not hard to understand because most of the investigations actually come from wealthier countries such as the U.S. and the EU whereas LDCs often suffer from lack of fund and know-how to initiate such investigations. Besides, a sharp contrast in

*Energy* between the two subgroup is also found. A negative coefficient in the OECD subgroup suggests that Chinese companies do not seem to seek natural resources in developed economies. While they do search for resources in less developed economies as the coefficient in the non-OECD subgroup turns positive in column (12). What's more, export plays a different role in OECD and non-OECD countries. Although insignificant, a negative sign in OECD subgroup suggests a substitution effect whereas a positive sign in non-OECD subgroup suggests a supplementary effect. This may reflect that Chinese firms' investment tends to be horizontal FDI in developed economies where they replicate full production process in the host country and aim to service overseas market through local production. However, investment in developing countries tends to be vertical where production process is separated into different stages through offshoring and is aimed to facilitate export.

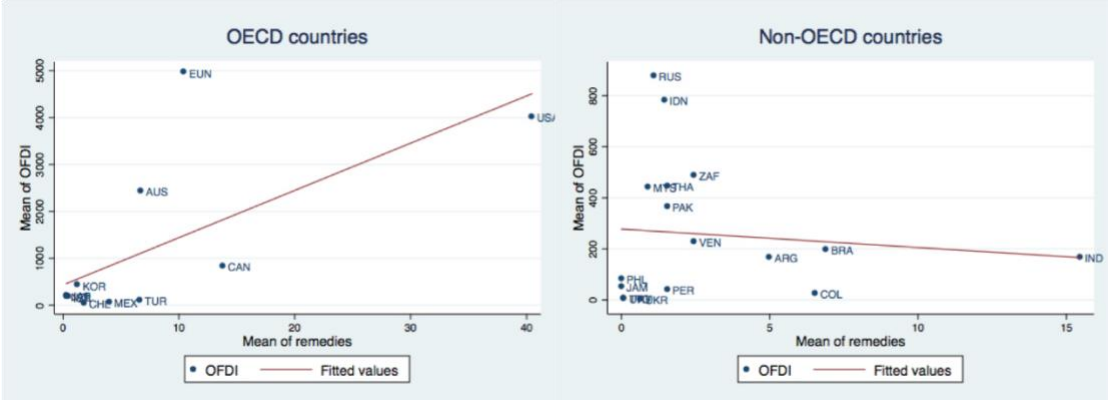
**Table 12.** Estimation Results for Subgroups (OECD and Non-OECD Members)

| | (11) | (12) |
|---|---|---|
| *Accumulative remedies* | 58.02*** | -1.797 |
| | [6.575] | [-1.166] |
| *Logarithm of export* | -260.0 | 39.04 |
| | [-1.338] | [0.700] |
| *Logarithm of GDP* | 250.8 | 88.53 |

| | | |
|---|---|---|
| | [1.071] | [1.082] |
| *Energy* | -2.880*** | 0.602** |
| | [-2.825] | [2.453] |
| *Exchange rate* | -197.7** | -45.60** |
| | [-2.584] | [-2.284] |
| *Patent* | 0.000565 | -0.0103 |
| | [0.399] | [-1.283] |
| *Tariff* | 17.17 | 12.36 |
| | [0.259] | [0.814] |
| *Investment treaty* | 998.2* | 212.5 |
| | [1.918] | [1.558] |
| *Political risk* | 8,198*** | -239.3 |
| | [3.602] | [-0.396] |
| *Constant* | -7,951*** | -160.9 |
| | [-3.287] | [-0.270] |
| OECD Membership | Y | N |
| Observations | 118 | 172 |
| R-squared | 0.691 | 0.212 |

*Notes*: ***, ** and * indicate significance at 1%, 5% and 10% respectively. T-statistics are included in the brackets. Column (11) shows regression result in OECD country subgroup and column (12) shows result in non-OECD country subgroup. One-period lagged values are used for all independent variables.

**Figure 6.** Scatterplot of OFDI and Remedies in OECD and Non-OECD Countries



*Notes:* OFDI and remedies are calculated as the average value between 2005 and 2015. The scatterplots and best fitted lines suggest much more prominent correlation between OFDI and remedies exists in OECD countries than in non-OECD countries.

## V. Conclusion

### 1. Implications

This paper investigates the validity of the tariff-jumping FDI theory for Chinese OFDI. Using a country-level panel dataset, the paper finds strong evidence that tariff jumping is one of the most important inducements of Chinese OFDI. Non-tariff protectionist measure represented by AD, CVD and safeguard can lead to more Chinese overseas investment. This is particularly true for investment in more developed economies when comparing results in OECD and non-OECD country groups. Protection-induced FDI is in fact concentrated only in developed economies where most of the investigations come from. Other controlled variables suggest market size, natural resource and Chinese yuan exchange rate level are also crucial determinants in Chinese OFDI. These findings suggest that Chinese MNEs tend to search for larger markets in developed countries and natural resources in developing countries, which can be explained by the fact that horizontal FDI is more prevalent in developed countries while vertical FDI is more common in developing countries.

## 2. Limitations

The author acknowledges some limitations in this paper.

First, this paper suffers from a problem of data availability. In this paper, an aggregated country level FDI dataset is used. However, it would be preferable to use disaggregated industry or firm level data since trade remedy investigations target at specific products. Further research on disaggregated firm level investment can provide more precise and in-depth analysis on the relationship between trade remedies and FDI.

Second, as mentioned above, because an aggregated country level dataset is used, investment in service industry which does not subject to AD or CVD investigation is also included in this study. This will inevitably affect the reliability of the models as FDI in these sectors is certainly not induced by trade remedies.

Third, there is a chance that some companies may respond to protectionist measures by building plants in and exporting from a third country where they face few investigations. The models specified in this paper cannot capture such cases. More detailed firm-level export data would be needed to identify such investment.

Fourth, this paper falls short in country and time period coverage. As is suggested in the results, tariff-jumping FDI can be much more prominent in host countries with higher economy development level. Also, the pattern of Chinese OFDI may have changed over time. Further research on Chinese OFDI in specific countries or regions (e.g. the U.S. and the EU) over a longer period of time would provide us with more insightful results.

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# 국문 초록

본 논문은 무역구제(trade remedy)가 중국 해외직접투자(OFDI)의 자극제로 작용하는데 대한 메커니즘을 검토하고자 한다. 보호 유도로 인한 외국인직접투자(FDI), 즉 관세회피투자(tariff-jumping FDI)는 FDI 의 가장 일반적인 설명 중 하나임에도 불구하고, 지금까지의 중국 OFDI 결정요인에 대한 기존의 연구는 주로 시장, 자원, 그리고 전략적 자산이 목적인 것에 초점을 맞추고 있다. 이러한 배경에서, 본 논문은 국가 수준의 패널 데이터를 사용하여 시차 변수(lagged variable) 및 고정 효과(fixed effect)로 선형회귀분석(OLS)을 실행함으로써 중국의 관세회피투자의 존재를 확인하였다. 이외에 시장 규모, 에너지, 수출, 환율 수준은 중국 OFDI 에도 큰 영향을 미치는 것으로 나타났다. 이 논문은 또한 OEDC 와 비 OECD 하위 그룹으로부터 선진국과 개발도상국에서 중국 OFDI 의 다른 패턴을 발견하였다.

**주제어:** 무역구제, 외국인직접투자, 중국 해외직접투자, 관세회피투자

**학번:** 2017-21580