

Anti-dumping measures and trade diversion

A case study of the 2006 – 2011 tariffs on footwear from PRC and Vietnam

ABSTRACT

This thesis investigates trade-restricting effects from the anti-dumping measures imposed 2006 by EU, on footwear with uppers of leather originating in PRC and Vietnam. Moreover, the possibilities of trade diversion are explored by looking at imports of the same products from India and Indonesia, during the same time period. A difference-in-difference test has been run on each country respectively to estimate the effects of the tariffs. The results are in line with earlier studies and find that the anti-dumping measures have indeed decreased imports from PRC and Vietnam. In addition, we find that there has been an increase of imports into the EU of the same products originating in India and Indonesia. Although earlier literature is still at odds on this matter, our finding follow recent studies suggesting that an anti-dumping measure on one country might lead to trade diversion to a third country, however this direct link remain untested.

KEYWORDS

Anti-dumping; trade diversion; difference-in-differences; footwear; European Union

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ABBREVIATIONS AND DEFINITIONS

AD	Anti-dumping
CEC	European Confederation of the Footwear Industry
CEDDEC	European Confederation of the Shoe Retailers Associations
DID	Difference – in – Differences
CIF	Cost, insurance and freight price, i.e. the price of a good delivered at the frontier of the importing country.
EU	European Union
EU25	Austria, Belgium, Cyprus, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, UK, Greece, Hungary, Ireland, Italy, Lithuania, Luxemburg, Latvia, Malta, Netherlands, Poland, Portugal, Sweden, Slovenia, Slovakia
GATT	The General Agreement on Tariffs and Trade
MET	Market Economic Treatment
MFN	Most Favoured Nation
PRC	People's Republic of China
WTO	World Trade Organisation

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INTRODUCTION

That free trade is the most efficient way of using resources in the world is a widespread paradigm within economics; also in world politics there have been a recent drift towards this common view. International trade agreements, the World Trade Organization (WTO) and the European Union (EU), all rest upon the view that free trade is preferential to trade barriers. However, there are counter-moving forces and opinions present too, which becomes evident when taking a closer look at these organizations by-laws and regulations. Many trade barriers have indeed survived the liberalization of trade and there are even legal paragraphs disclaiming the trade agreements in the case of unfair trade.

Enforcing anti-dumping (AD) measures is one, widely debated, way of handling unfair trade. The debate is often split between two camps with producers and industry lobbyists in one and retailers, importers and consumers in the other. The conflict emanates from different opinions regarding the interpretation of the situation, where one side usually claim that the imports from another country hurt the domestic industry while the other argue that tariffs are only a way of interfering market economy, are ineffective and in the end only costly for consumers.

One controversial case is the European Unions (EU) imposition of tariffs on footwear with uppers of leather in 2006, originating in The People's Republic of China (PRC) and Vietnam. This case received much media attention at the time of the imposition as country representatives where not at terms with the Commission's decision (Gow, 2006), but also later on when newspapers and industry experts claimed that the tariffs on PRC and Vietnam might have caused a diversion of the imports to third countries. A look at descriptive data from the time period does indeed suggest that the there have been a shift in imports of these specific products, from PRC and Vietnam to the third and fourth largest exporters to EU, India and Indonesia. This relationship correspond both in regard to quantity of shoes and value.

Figure 1. EU's four largest import sources, of the footwear levied with the tariff, 2005 – 2010, value (Eurostat)

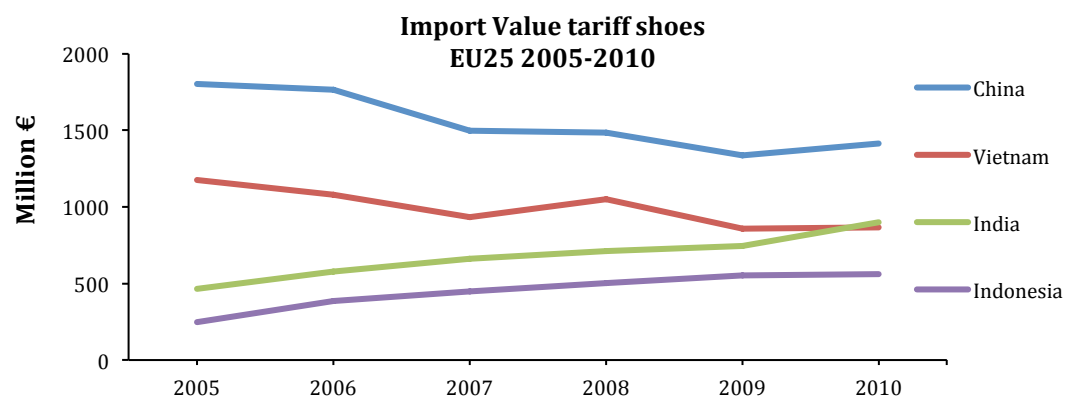
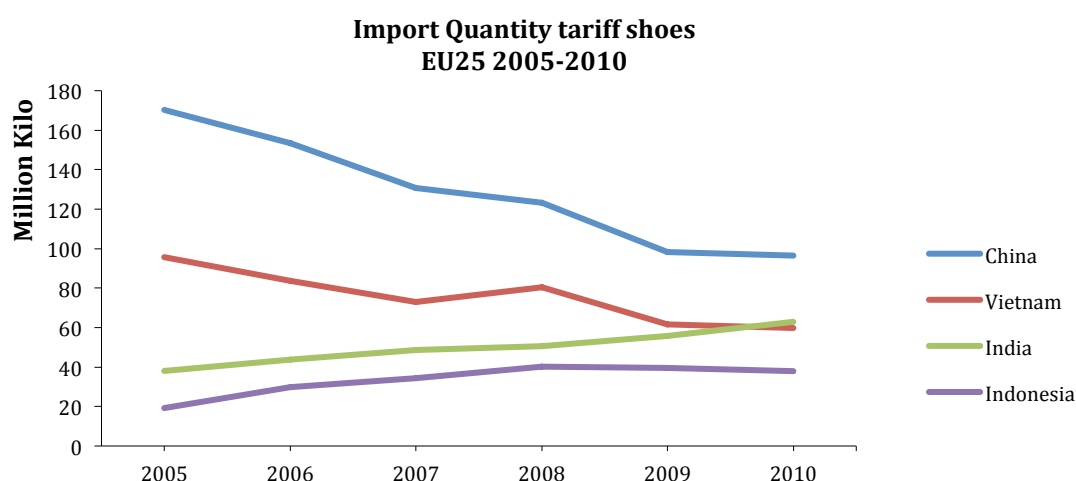
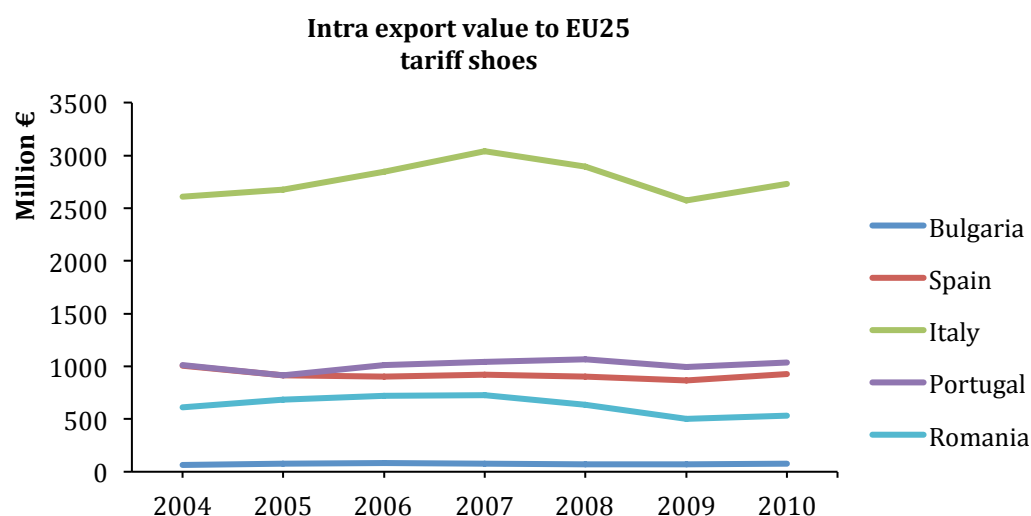


Figure 2. EU's four largest import sources, of the footwear levied with the tariff, 2005 – 2010, quantity (Eurostat)



The tariffs were imposed after the European Commission concluded (based on a recognized but much-disputed type of investigation process) that the Chinese and Vietnamese manufacturers dumped prices and that the dumping was considered harmful to the domestic industry of EU. The purpose of the reform was to restrict imports from PRC and Vietnam to stimulate the domestic production and intra-trade, something EU Trade Commissioner Peter Mandelson confirms when saying that “This strategy is about jobs and growth at home (...)” referring to the EU as home (cited in Gow, 2006). However, looking at the intra trade for the largest footwear producing countries in EU described in Figure 3, it is not indicative that the European production has experienced any significant growth after the imposition of the duty.

Figure 3. Intra-EU trade, measured in value of the biggest producers of footwear (Eurostat)



The descriptive data gives an impression of a decrease in imports from PRC and Vietnam but in contrast to EU's desires, no indication of additional growth in European footwear production but instead a hint of growth in imports from India and Indonesia.

PURPOSE AND CONTRIBUTION

The purpose of this thesis is to investigate whether or not there has been a restriction in imports of shoes with uppers of leather from PRC and Vietnam. In addition, the possibility of trade diversion to India and Indonesia will be explored. The study will be conducted, using an econometric method and the analysis will take off from earlier theory, previous literature and other relevant sources¹. This thesis will contribute to previous research by applying theories, about the effects of tariffs and trade diversion, on a case that has not previously been investigated. The Swedish Board of Trade (2011) has given clear indications that material for use in international discussions about AD is highly coveted. Thus we hope to make a valuable contribution in the on-going debate on whether the true effects of AD measures in the footwear sector comport with the articulated purpose.

DELIMITATION

The scope of the essay delimits the study in a number of ways. First and foremost we have chosen to look into the effects on imports from PRC, Vietnam, India and Indonesia, and not

¹ Industry experts, footwear importers and EU trade specialists.

the effects on European production. Thus, the thesis is not an evaluation of the AD measure, but rather a case study of the effects of tariffs and the existence of trade diversion.

Another restriction is the number of investigated countries. In the study of PRC and Vietnam, Macau has been left out of the data. This is due to the scope of the essay, Macau's modest footwear export and the fact that duties on footwear from Macau were not imposed until 2008. Moreover, in order to improve our analysis we have focused on two countries when investigating the possibility of trade diversion, namely India and Indonesia. These two countries are, after PRC and Vietnam, the largest footwear exporters to the EU.

A further restriction has been made in regard to the composition of EU and the time span of the data. Romania and Bulgaria have been excluded, as they were not members of the EU at the time of the imposition. Romania, being a considerable shoe producer and exporter to the EU, could have been a valuable country to include in the data and analysis. However, looking at the descriptive diagrams, no substantial changes can be distinguished. The data span from 2005 to 2010 for EU25. A history of earlier quotas and tariffs from the EU restrict the use of years before 2005. Although it is the only available data, it does put a limitation to our econometrical method since a normal trend is defined out of only one year of data.

OUTLINE

The thesis will be structured in the following way, starting with the Background. In this section, the reader is given a review of the international framework of dumping and AD measures. In addition, the background of this particular case is described along with the main characteristic of the footwear industry. The next section describes previous literature on AD and trade diversion. Also it lays a firm ground for the economic theory that is used later on to analyse the results. This is followed by a short summary and a specification of the research question. The method and data part gives a deeper understanding of our DID models and data used in our analysis. The results are presented in the succeeding chapter together with our analysis. The thesis ends with a discussion about further research and criticism of the study.

BACKGROUND

This section starts off by giving an introduction to the terms, politics and international framework of trade with special focus on dumping and AD. It continues with a presentation of the legislative background of the current case. Finally, the main features and actors of the footwear industry will be defined.

INTERNATIONAL FRAMEWORK

The WTO is the international body that regulates trade between nations. The organisation aims towards free, smooth and predictable trade, and aspires to lower barriers between nations and peoples. Major decisions are based on consensus among the member countries or their representatives. For trade disputes there is an internal agency called the *Dispute Settlement Body*, which has the responsibility to settle disputes, either by themselves or, preferably, through consultation from experts. A majority of the world's trading nations have signed the multilateral trading agreements constituting the WTO; agreements that lay the foundation for international commerce and with the purpose of improving the conditions for importers, exporters and consumers (WTO, 2010b).

The General Agreement on Tariffs and Trade (GATT) of 1947 defined and declared the principle of import liberalisation. Later, the WTO agreement evolved throughout the 1986-94 Uruguay Round and a revised version of the GATT agreement was included. If a country signs the agreement it pledges to keep a non-discriminatory trade policy, known as the most-favoured nation (MFN)² policy. This policy clearly states and assures fair trade with other member countries. However, the agreement gives way to special treatment to developing countries (WTO, 2010b). The WTO also regulates exceptions to the MFN rule. For example they take actions against dumping and subsidies and allow special temporary duties that “safeguard” the local industry. A member country can accuse another country of subsidizing a good and if it is found to hurt the complaining country's domestic industry, countervailing methods are allowed. A safeguard, on the other hand, is a temporary action taken when the injury on the domestic industry is severe. The safeguard measure can be expressed as tariffs

² In international economic relations a country granting MFN treatment must not treat one country less advantageous than another.

or quotas and must by principle be generally applied to all countries in the WTO (WTO, 2010a).

Dumping and anti-dumping

According to the WTO (2010a) dumping occurs when "...a company exports a product at a price lower than the price it normally charges on its own home market..." In other words, dumping is price discrimination between different markets, since the product is sold below its "normal price".

However, the WTO does not take a stand whether or not a company exercises dumping but focuses on and disciplines AD actions, i.e. trade interventions that restrict imports of certain goods from certain countries accused of dumping. This is regulated in the *Agreement on the implementation of Article VI [i.e 6] of the General Agreement on Tariffs and Trade 1994*, which also gives way for countries to react against dumping. The agreement allows for AD measures when the dumping of prices materially damages the domestic competing industry. Although, the government must be able to prove the dumping, calculate the impact of the dumping and estimate the effects and extent of the injury on the domestic market (WTO, 2010a). In extension this means that the agreement allows for certain actions, which are not normally approved by the WTO – as they are in conflict with the principle against discrimination between trading partners.

When an investigation process concerning dumping has begun, an agreement upon a raise in export price might be made between the importing country and the exporter. This is called *price undertaking* and is a way of avoiding an AD duty. However, the typical AD action is the imposition of a tariff, on a particular product, towards the country that is accused of dumping. The duty can be expressed as an *ad valorem duty* - which is a percentage of the c.i.f.³ price or a *specific duty* (fixed payment) or as a *variable duty* where a minimum price is set and imports above this price are excluded from any AD duty (European Commission, 2010b). The idea is that the extra duty will lead to a price closer to the "normal value" and in extension hopefully reduce the injury to the domestic producers (WTO, 2010a). An AD measure does normally have a maximum lifespan of 5 years.

³ Cost, insurance and freight price. I.e. the price of a good delivered at the frontier of the importing country including any insurance or freight charges incurred to that point.

When calculating whether or not a product is subject to dumping, there are many ways of defining the products “normal value”. The easiest way is to use the exporter’s domestic price; another way is to use the export price from a third country. In some cases a fictive price can be created built on the exporter’s production costs, other expenses and a normal profit margin in order to conclude on a “normal value” (WTO, 2010a). However, finding evidence of dumping alone are not sufficient to impose AD actions; those can be imposed only if the dumping severely and obviously hurt the industry in the importing country, meaning that additional investigation must be done to determine the extent of the injury. How this process should be conducted and reported is circumstantially described by the WTO agreement (WTO, 2010a).

Lately, there has been a drop in the initiation of new investigations of dumping. During the first six months of 2010, the number of new investigations dropped 29 %; India was the country that filed most complaints (19) followed by the EU (8). During the same period, the country mostly accused for dumping was PRC (23) - a decrease by 33 % from the same period the year before. The products most subject to accusations were those in the base metal sector, the chemicals sector and the plastic and rubber sector (WTO, 2006).

EU: LEGISLATIVE BACKGROUND

Dumping and anti-dumping issues and the EU

The EU does impose AD tariffs and have so historically, however, the commission states that: *“Both anti-dumping and anti-subsidy measures are thus only second-best solutions in the absence of internationally agreed and enforced competition rules.”* (The Commission of the European Communities, 2009, p.10) The current EU legislation in this matter was passed in 1996 and is in accordance with the WTO agreement, but with the *Community Interest*⁴ as an additional criterion (The Commission of the European Communities, 2009, pp.7-8).

Accordingly, the EU states four criteria that must be fulfilled for AD measures to be imposed: (1) Dumping must be detected; (2) the domestic industry must suffer injury; (3) there should be a causal relationship between these two criteria; (4) the duties must not be in conflict with the Community Interest (The Commission of the European Communities, 2009, p.11).

⁴ The Community Interest refers to the interest of all parties concerned within the EU, e.g. producers and consumers. For an AD duty to be imposed it must be assessed to serve in the communities interest.

The EU performs the process of investigation, whether there is dumping of particular products, on the behalf of producers after receiving a complaint or on its own initiative (Appendix 1). The maximum time for a procedure is 15 months. The process should guarantee a “...transparent, fair and objective proceeding by granting significant procedural rights to interested parties” (The Commission of the European Communities, 2009, p.11). After the investigation, if tariffs are imposed, the duty will be collected by the national customs and paid by the importer of the tax levied good.

The EU had, in the end of 2009, 135 on-going AD measures and 8 countervailing measures; the most affected countries were PRC (54) and India, Russia and Thailand (8 respectively). The larger majority of the AD measures were in the form of duties and affects only 0,6 % of the imports to the EU. In 2009 the number of investigations increased marginally from 20 to 21 (The Commission of the European Communities, 2009, pp.21-22).

EU anti- dumping measures on footwear originating in PRC and Vietnam

PRC became a member of the WTO in December 2001 (WTO, 2010c). Subsequently, the trade policies between PRC and EU had to be revised. One of the revised cases where a quota and tariff on footwear with uppers of leather or plastics originating in PRC that had been in place since 1995. This restriction was terminated the 1st of January 2005 and one year of free trade followed. In May 2005, the European Confederation of the Footwear industry (CEC) initiated an AD investigation on footwear with uppers of leather originating in PRC and Vietnam. Shortly thereafter, in July 2005, the Commission announced that the procedure had commenced when the notice of initiation was published in the Official Journal of the European Union. The procedure was carried out in accordance with the general procedure (Appendix 1) (Commission Regulation, 2006).

In order to establish a normal value for the exporters from PRC and Vietnam, Brazil was used as an analogue country; this because neither PRC nor Vietnam was granted Market Economic Treatment (MET). The product of concern was footwear with uppers of leather, imported from the PRC and Vietnam. Sports footwear, slipper, indoor footwear and special technology footwear was however excluded from the investigation (Appendix 2). The provisional duties came into force on the 7th of April 2006 and were gradually increased during a six-month period, for both PRC and Vietnam (Commission Regulation, 2006). Thereafter the tariffs were somewhat lowered to a permanent level that came in to effect on the 6th of October

2006. The tariffs would still concern the same products, and consequently the same product codes - the duties were intended to last for a 2-year period. The Commission argued that there was evidence of dumping since there had been a steady increase in imports of the concerned products as well as a decrease in their price. Also, calculations showed and proved that the dumping caused substantial harm to the domestic industry and therefore violated the Community Interest (Council Regulation, 2006).

In September 2007 a new investigation was launched regarding possible circumvention of the AD measures. The Commission initiated the investigation since they suspected that footwear imported from Macau, in fact originated from PRC (Commission Regulation, 2007). The investigation showed evidence of circumvention and duties on Macau were therefore imposed the 30th of April 2008 (Council Regulation, 2008). In addition to this extension of the tariff a request for a review was made by CEC on the 30 June 2008. The reason being that when the AD measures expired it would be likely that the dumping would resume; a review was therefore initiated on the 3rd of October 2008 (Official Journal of the European Union, 2008). Later on this review led to the extension of the tariffs for PRC, Vietnam and Macau. The new time-line was set to 15 month and expired altogether 31st of March 2011 (Council Implementing Regulation, 2009).

THE FOOTWEAR INDUSTRY

This part of the thesis will provide a brief insight to the European Footwear industry and its features. The main stakeholders are acknowledged, along with their future challenges and attitudes towards AD measures.

European footwear industry

The European footwear industry mainly consists of two actors, the producers and the importers of footwear, thus the actors have different interests and hence opinions regarding trade policies.

In Italy, Portugal, Slovakia and Spain the footwear industry is an industry of great importance, 67 % of the EU production of footwear is situated in those four countries, and Italy alone stands for 50 % of the production. The industry is made up by small and medium sized enterprises (SME). In Italy there are no manufacturers with more than 100 employees and in the EU, companies with less than 50 employees creates 45 % of the value added. That

the industry consist of SME:s is advantageous since the companies become more flexible and adaptable. The disadvantages being increased vulnerability, no economies of scale and difficulties in times of recession (Commission Sector Report, 2006). The European footwear industry exports in 2009 was €4.7 billion, which measures up to 0.5 % of the global export in the world. The biggest exporting markets are USA, Russia, Switzerland and Japan. EU is especially prominent and a major producer of high quality shoes in the more expensive and fashionable segment (European Commission, 2010c).

During 2009 the EU imported shoes at a value of €12.4 billion. Currently, there is an increasing trade deficit in the sector that has, over the past five years, doubled to €7.0 billion. PRC and Vietnam are the biggest exporters of footwear into the EU, those two countries account for 60 %, of the value of the imported footwear. Next in line come India, Indonesia, Tunisia and Brazil, those four accounts for about 20 % of the imports into the EU. Notably, there has been a 16 % increase in imports from PRC between 2005 and 2009, whilst the Vietnamese imports have dropped by 11 %. Indonesia stands for the biggest growth with a 48 % increase in exports to the EU, during that same period; India's import to the EU has risen by 35 %. (Appendix 3) (European Commission, 2010a)

There is a negative trend for the EU producers, where increased demand has been covered by an increase in imports; consequently the workforces employed in the footwear industry have decreased. The European Commission states that there are future problems facing the footwear industry in the EU. The exporters are facing an increasing number of high tariffs and non-tariff barriers; in addition the industry is exposed to piracy and copying of products. Tariffs on the raw materials are another issue that EU is facing, since leather is often levied with high export taxes and raw material often account for 30 to 50 % of the production cost.

Table 1. Comparison Textile Industry Labour costs. USA index 100. ⁵

	2007	2008
USA	100	100
Italy	119	128
Portugal	42	54
Poland	27	28
China Coastal	5	11
China Inland	3	8
India	4	5
Indonesia	4	5
Vietnam	3	3

Moreover, the competition from low priced footwear has increased in recent years (European Commission, 2010a). Being a labour intensive industry, it is highly affected by the development of labour costs. As seen in Table 1, the costs are significantly higher in the European countries than in countries like Vietnam and India. Also worth noticing is the recent increase of the labour cost in PRC. EU acknowledges this large difference in labour cost, between the EU and its main importers. However, higher productivity is claimed to enable the EU to remain competitive in the sector. Also, the EU holds competitive advantages such as quality, innovation, design and fashion. Moreover, the industries biggest challenge ahead is piracy and fake products. The Commission states that the future main trade priorities for the EU is to "Improve market access for EU products notably by reducing tariff and non - tariff barriers." This is a consequence of low expected growth in the internal market (European Commission, 2010c).

Attitudes towards dumping and tariffs

The two branches in the footwear industry, the importers and the manufacturers, have completely different standing points in the question of AD measures and impositions of tariffs.

The European Confederation of the Footwear Industry (CEC) is the official instance that represents the footwear industry and gathers 13500 manufacturers in the EU. The organization has published multiple press releases regarding the imposition of tariffs on imports from PRC and Vietnam, and has also claimed that the Chinese government is subsidizing the Chinese shoe industry. CEC filed the complaints that lead to the AD

⁵ Werner International, 2008. *Primary textiles: Labour cost comparison 2008*

procedure against PRC and Vietnam, the complaint make notice of the loss of production and employment in the EU footwear sector. According to CEC, this is due to dumping, from PRC and Vietnam, which hurts the domestic industry. Moreover, CEC states that they support an open and fair market as long as the European industry gets a fair chance to compete on the world market (CEC, 2006).

The European Confederation of the Shoe Retailers Associations (CEDDEC) and Footwear Association of Importers and Retail Chains (FAIR), on the other hand, connects the European footwear importers. Their standing point is of the complete opposite, as they strongly oppose AD measures. The reasons being that they harm the free market and lead to an enhanced cost to the consumers. For example, the Swedish organizations, Textilimportörerna, work actively against antidumping measures and have been much involved in this issue. According to Textilimportörerna (2011), the tariffs have not had the desired effects, since the production has moved to Indonesia and Thailand. In addition they claim that there are many other ways of circumventing the tariffs, such as continue producing the uppers of the shoes in PRC and then do the assembling of the shoe in for example Cambodia. Also, since the tariff only affected shoes with uppers that consisted of 50 % leather, shoes where modified to only consist of 49 % leather. The organization also points to the fact that many “Italian” shoes are made up by parts that are manufactured in other non-EU countries (Larsén, 2011).

From a particular retailers point of view, the impact of the tariff does not seem to have had much direct impact. The Swedish retailer Nilsson Group states that they have long-term relationships with their suppliers and that the AD measures have not affected these relationships. Price is only one factor when a supplier is evaluated, it is also important to take lead-time, quality and design into account. Most of their footwear is imported from PRC and Vietnam and is traded in USD. These relationships have remained throughout the AD measures, since the price was still competitive compared to European shoes. In addition, Nilsson Group offset the idea of trying to circumvent the tariffs in various ways (Kemi, 2011).

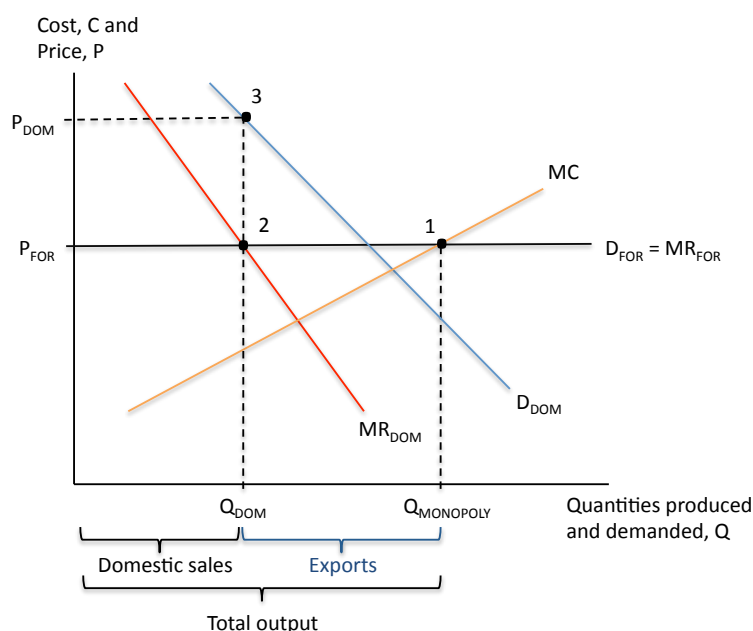
PREVIOUS LITERATURE

ECONOMIC FRAMEWORK

The economics of dumping

The economic implications for a firm to dump prices are the possibility to charge one price for a good when it is exported and another price for the same good when it is sold domestically. For this to be possible two conditions must be met. First, the market must be imperfectly competitive, i.e. the firm must be a price setter rather than a price taker. Second, the different markets must be distinct from each other so that domestic buyers cannot purchase goods on the exporting firm's home market (Krugman and Obstfeld 2009, p.135). Figure 4 illustrates a monopolist that faces a domestic demand curve D_{DOM} but has an option to sell as much as it likes at the world market to the export price P_{FOR} . Given the world market the monopolist can always sell one additional product at P_{FOR} and so they will produce until P_{FOR} equals the marginal cost. At this output, $Q_{MONOPOLY}$, to maximize profit the monopolist will sell at the domestic market until the marginal revenue equals the P_{FOR} , depicted as 2 in the graph. This domestic profit maximizing output is named Q_{DOM} and the price at which domestic consumers demand Q_{DOM} is P_{DOM} . What is not sold at home is exported at the price P_{FOR} . Since $P_{DOM} > P_{FOR}$ the monopolist exports goods to a lower price than is charged at the home market and can be said to be dumping (Krugman and Obstfeld 2009, p.137).

Figure 4. Price discrimination and dumping

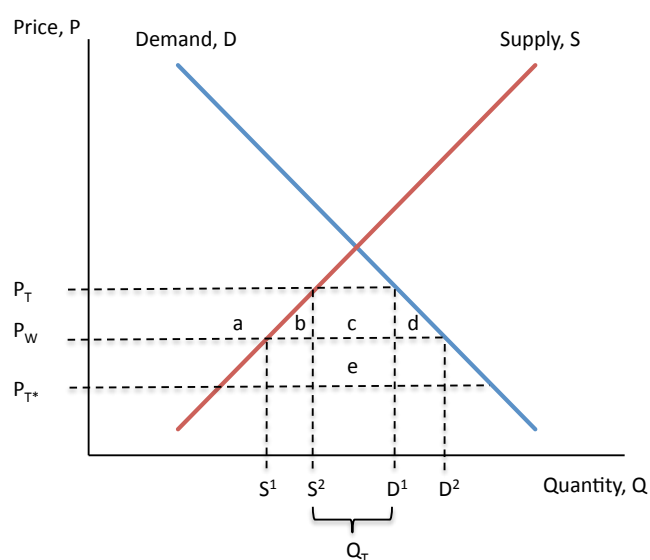


Antidumping theory: Import tariffs

Import tariffs are a tax levied on goods imported from a foreign country. A tariff raises the price of a good in the importing country whilst lowering it in the exporting country. Without a tariff, the price of footwear will be world market price P_w in both EU and the world market (Figure 5). The introduction of a tariff drives a wedge between the prices in the two trading parties markets. In EU, the tariff raises the price to P_T resulting in producers wanting to produce more while consumers demand less. Consequently fewer imports are demanded lowering the world market price to P_{T^*} . With a lower world market price, the foreign country's exporting supply will decrease due to producers producing less and consumers demanding more.

Measuring the costs and benefits of a tariff it is helpful to look at Figure 5 where three groups can be distinguished as winners or losers. There is the gain to the domestic producers, area a , which derives from receiving a higher price. Since this is the price paid by the domestic consumers, the higher price puts them in a reversed situation where they are worse off compared to before. The consumer surplus falls by the area labelled $a + b + c + d$. The third player in this game is the European government collecting the tariff revenues. This gain is equal to the sum of the areas c and e . Adding up the costs and benefits of the different groups we end up with a net cost of $b + d - e$. Area b is a production distortion loss where the producers produce too much as a result of the tariff. This is followed by a consumption distortion loss, area d , resulting from the consumers consuming too little due to the tariff. The only positive effect is area e , the gain from the tariff causing a decline in the foreign export price called the terms of trade (Krugman and Obstfeld 2009, pp.190-191).

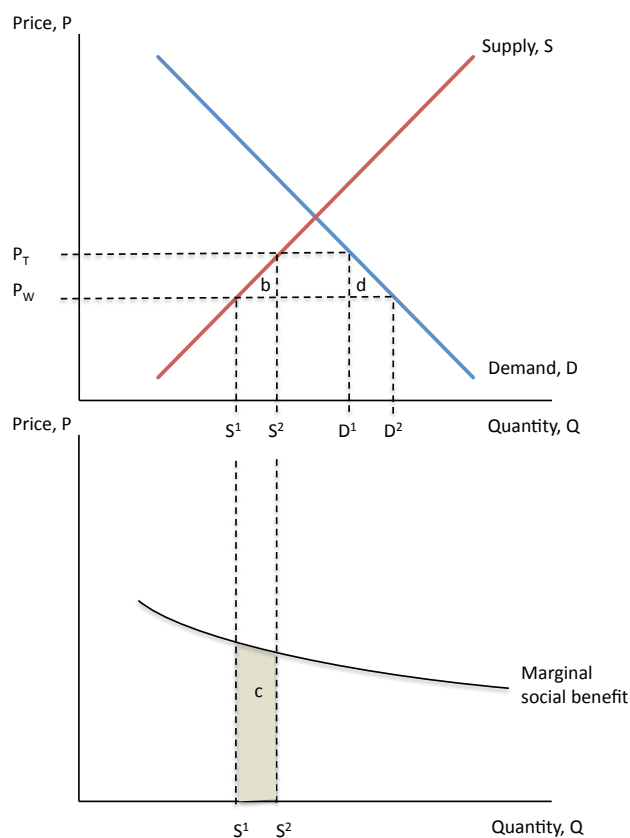
Figure 5. Import tariff illustration



THE DOMESTIC MARKET FAILURE ARGUMENT AGAINST FREE TRADE

One might question if the above-mentioned cost-benefit analysis does measure true the effects of imposing a tariff correctly. As an illustrative example, the workforce in the European footwear industry might have been unemployed without a tariff, and those costs are not accounted for in the diagram. Defects like these, which prevent the market from clearing efficiently, are called domestic market failures. This argument supports that a governmental intervention, that might distort incentives in one market, may actually have a positive effect on the economy as a whole. These benefits, additional to producer surplus, are known as marginal social benefits, illustrated as area *c* in Figure 6. Area *c* derives from the fact that due to a tariff and hence a higher price, producers will increase production from S_1 to S_2 , which on the other hand inevitably creates a distortion labelled *b*. If the net cost of unemployment exceeds the net welfare cost of the tariff we might have a situation where the tariff improves national welfare (Suranovic 2010, p.268). However, it should be known that this argument is also called “the theory of the second best” since the intervention still distorts one of the markets (Krugman and Obstfeld, 2009). In our example, the “*first best*” thing to do would be fixing the labour market through a direct domestic policy - not through an indirect trade policy.

Figure 6. Social benefits from a tariff



CUSTOMS UNIONS THEORY

Preferential trading agreements and customs unions

Under the WTO agreement nations are not allowed to offer different trade agreements to different countries within the WTO, in accordance with MFN. When deciding on tariffs under GATT, all decisions are made on a MFN basis, albeit with one exception (Suranovic 2010, p.296). The MFN rule clearly says that country A cannot impose different tariffs rates on imports from country B and C. However, if B and C would engage in having zero tariffs against each other that would be a permitted exception. This exception, that allows for economic integration through lowering tariffs with respect to each other but not to the rest of the world, can usually be done in two ways; either a customs union area or through a free trade area - the latter in which a group of countries agrees to eliminate tariff rates between themselves but independently set tariffs against the rest of the world (Krugman and Obstfeld 2009, p.239).

The European Union is one example of a customs union. In the EU countries have agreed to eliminate tariffs within the union but also to apply a common rate against imports from the rest of the world. According to Suranovic (2010, p.296) the most prominent issue facing a customs union is that of coordinating a joint policy across the members and over several different industries.

Trade diversion theory

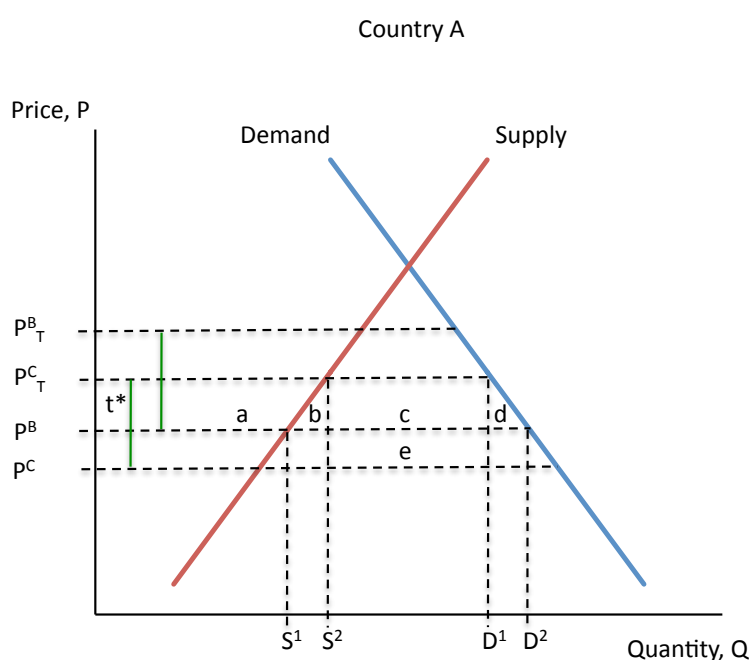
Jacob Viner was first to introduce the term *trade diversion* in the *Customs Unions Issue* in 1950. In international economics trade diversion means that a free trade area (FTA) diverts trade from an efficient exporter outside the area to a less efficient exporter within the FTA. The effect of the diverted trade can have both negative and positive impact on welfare (Krugman and Obstfeld 2009, p.242).

If a country imposes the same tariff to all countries, it will import from the most efficient producer since that country will provide goods to the lowest price. When engaging in a bilateral or regional FTA some times that may not be case. Assume there are three countries in the world, countries A, B and C. They supply and demand homogenous products that are traded across borders. Depicted in Figure 7 is country A's demand and supply curve; P^B is the free trade supply price for country B, and P^C for country C. Bare in mind that country C can

supply the good to a price below country B. The analysis will focus on country A that at first applies the alike tariff on imports from country B and C, $t^B = t^C = t^*$, which raises the initial domestic supply price to P_T^B and P_T^C , respectively. The tariff is illustrated with a green line and is the difference between the prices before and after the tariff for each country individually. Given this scenario A will trade solely with C at the lower price P_T^C , and not with B.

Now assume that A and B induce in a FTA which removes all tariffs between them, so that $t_B = 0$ but t_C is still t^* . Consequently the domestic prices on goods from country B and C will be P^B and P_T^C , respectively, where $P^B < P_T^C$. This relationship will result in country A importing goods from country B, and not from country C. We know from before that the non-distorted price in country C is lower than in country B. The FTA has made country A import goods from the less efficient producer B, and the trade is said to be diverted from a more efficient supplier to less efficient supplier (Suranovic 2010, pp.298-299).

Figure 7. Trade Diversion illustrated



But preferential trading agreements must not always come with a negative impact. It could likewise generate trade that would not have existed otherwise, called *trade creation*. In this case the joining of the FTA leads to supply from a more efficient producer of the product. Trade creation does in all cases result in positive welfare effects (Suranovic 2010, p.300).

PREVIOUS RESEARCH ON ANTI-DUMPING AND TRADE DIVERSION

The studies on trade effects from AD measures are both numerous and extensive, albeit no consensus of the true effects seem to prevail. What can be agreed upon in several of the studies (Staiger and Wolak 1994; Prusa 1997; Lasagni 2001; Brenton 2001; Konings et al 2001; Niels 2003; Malhorta et al. 2008) is that AD policy is rather effective when it comes to restricting imports from named countries⁶. Whether or not import is diverted to non-named countries or domestic production is still an empirical issue and depends on which country imposing the measure and further which industry that are targeted (Khatibi, 2009).

Lee and Jun (2004) use US data from the 1980s and find evidence of trade diversion in the chemical and fabricated metal industries, as opposed to in the steel industry where no such evidence can be found. Similar results are found in Prusa and Durling (2005) when using data from 1996-2001 from the global hot-rolled steel market. Although strong evidence of trade destruction is found, the evidence for any trade diversion is weak. However, when they restrict the sample to the US market, the evidence of trade diversion is in fact stronger. In line with the latter are findings by Prusa (1997, 2001) who finds evidence on both trade destruction and diversion. Prusa (2001) uses data on US AD actions during 1980-1994 and estimates the trade effects on US industry-level imports. He proves that the restrictive actions have a negative impact on imports from named countries, but also that there is a significant trade diversion effect to non-named countries. However, Prusa argues that a low tariff has a very small impact on trade restriction. An other interesting finding by Prusa (1997), in contrast to what he first suggests, is that trade diversion appears to be stronger when more countries are named in the same AD case. Brenton (2001) supports Prusa in his work and finds the same results for the EU. However Brenton (2001, p.603) is rather inconclusive of the trade diversion effects and states “The results for extra-EU countries have to be treated with a degree of caution (...). There are therefore doubts concerning the specification of this equation and there is possibility of omitted variable bias”.

An interesting finding by Brenton (2001) is that EU intra trade is unaffected by the AD measures, implying that firms within EU does not benefit from increased production volumes following the levying of the import restrictions on certain import suppliers. This is in contrast to Staiger and Wolak (1994), who uses US data from 1980-1985, to analyse the effects of AD

⁶ Named countries refers to targeted countries mentioned in the AD investigation

investigations on domestic production and imports. They find strong negative effects of AD actions on imports, but also significant corresponding positive effects on domestic production. This last finding should, as opposed to Brenton (2001), suggest that the domestic producers do benefit from AD measures, rather than producers in some non-named foreign country. And further, implicate that AD actions work better in the US than the EU, at least for the restricting country. According to Blonigen and Prusa (2001), Staiger and Wolak's model is "the most sophisticated econometric model used in the antidumping literature to date".

Lasagni (2000) and Konings, Springael and Vandenbussche (2001) both provide evidence of low trade diversion in the EU – in contrast to the US – and further suggest that the EU AD policy is more effective in restricting imports. In their empirical analysis they use data at the 8-digit product level from 1985-1990, resulting in 246 AD cases initiated by the EU during that time. Using pooled regressions Konings et al. (2001) find that trade diversion in the EU is limited.

Recent studies performed not on the US and EU support findings by Prusa (1997 and 2001) and Brenton (2001) when finding strong evidence of trade depression and trade diversion. Malhotra, Malhotra and Gulati (2005) investigate the trade effects of AD policy in the vitamin C industry in India. They find two key effects; the first and perhaps most evident being that the AD is very effective in restricting imports from named countries. Unfortunately their findings also suggest that the decrease in imports is not off set by domestic production, meaning that imports have been diverted to other non-named countries. Moreover, a rather peculiar finding is made, namely that the diverted imports come from exporters that before the duty were not even a supplier of vitamin C to India. Essentially, the intended restrictive policy works in the opposite direction and does in fact lead to new foreign suppliers entering the levied sector.

Through combining data on PRC's AD investigations with import data at the tariff-line level, Soonchan (2009), show the trade depressing and trade diversion effects of AD protection. More specifically he uses a system GMM estimator and finds strong evidence of import decrease as well as a reduced import share by named countries, the latter implying that the trade is diverted to non-named countries.

That AD actions lead to restricting targeted imports is widely agreed upon. However, Vandebussche and Zanardi (2009) add to these empirical findings new evidence that AD measures also can have negative spill over effects in other sectors not subject to an AD duty. The magnitude seems to be stronger for countries that systematically use this protectionist policy.

The case of footwear imports on PRC and Vietnam

When applying theories illustrated above on the case of PRC and Vietnam, we have reason to expect certain outcomes. A categorization that EU classifies as a “large country” must be made so that changes in demand and/or supply will have effect on the world market. Based on international trade theory, the imposition of AD measures against PRC and Vietnam will increase the price on footwear and hence reduce demand on imports from targeted countries. However, not the entire tariff is expected to be reflected in the new higher domestic price since parts of it is captured in a reduction of the foreign price due to a lower import demand from EU, as illustrated in Figure 5. How large the size of the effect is on the exporter’s price varies but is in practice often very small. Nevertheless, these consequences are not something that will be investigated in this study. The reduced demand on imports from PRC and Vietnam should result in either an increase in the production of footwear in EU or trade diversion, i.e. an increase in the import from other countries outside the EU that are not inflicted with the tariff.

SUMMARY AND RESEARCH QUESTION

After the admission of PRC in the WTO in 2001, a gradual deregulation of trade protectionist policies from the EU have taken place, mostly due to the framework and regulations that apply to all countries under the WTO. But there has also been an increase of various dumping remedies, which are, under certain vaguely defined and widely debated circumstances, permitted by WTO.

In 2005 EU removed the last quota on footwear imports from PRC after an almost ten year long period of combined tariffs and quota restrictions. However, after seeing imports from PRC soar and prices plummet, due to the free trade, a complaint on dumping was filed by CEC. Regardless of the opposition from 12 member countries (in contrast to the 9 in favour of the motion) the European Commission decided to endorse the complaint that dumping had taken place, and in 2006 a definite tariff on both PRC and Vietnam was imposed.

Where theory and empirical studies not yet are on terms or have come to a conclusion, we pick up and aim to scrutinize this topical issue and situation. The recent expiry of the AD tariff on leather footwear from PRC and Vietnam serve as an opportunity to try and unravel this discord. Following the aim of this thesis the subsequent questions will be investigated:

Using an empirical method we investigate if European AD policy was successful in restricting imports of certain footwear from PRC and Vietnam. Further we look at non-levied third countries to distinguish if there is an indirect effect of trade diversion.

METHOD AND DATA

In this section, the chosen method and models are described and examined, along with a presentation of the data used in the models.

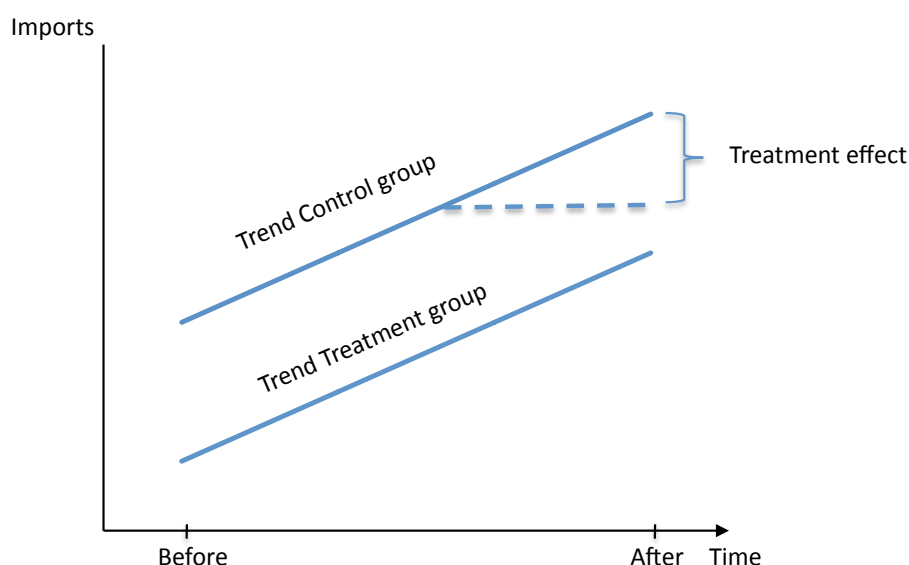
THE DIFFERENCE – IN – DIFFERENCES METHOD

We have chosen the Difference – in – Differences (DID) method as it provides a best practice way of measuring and estimating the outcome of a policy decision at a given time (Angrist and Pischke 2009, p.227). In our case we want to evaluate the effects on EU's import of certain footwear from PRC, Vietnam, India and Indonesia after the imposition of a tariff on the two former named countries.

The treatment is the basis for the use of the DID model; and it requires data from before and after the treatment. The basic thought is to compare the treatment group's result before and after treatment, as well as in comparison to a control group. The reason for using a control group is that we are able to deduct other changes that might affect the outcome during the same time period; for example a shock can be differenced out to isolate the treatment effect. In other words, we assume all other changes in the treatment and control group follows a common trend as depicted in Figure 8 (Angrist and Pischke, 2009). Certain advantages follow, since we deal with a panel data set as pointed out by Wooldridge 2009. For example we control for any unobserved fixed effects, in this case country or product specific features that do not vary over time, which we suspect would be correlated with our explanatory variables. Also, we do not have to worry for *self-selection*, where a binary variable of participation might be systematically correlated with unobserved factors. In other words,

endogeneity in the independent variables are excluded. Using a single cross section would in this case produce a biased and inconsistent estimator (Wooldridge 2009, p.463).

Figure 8. Casual effect in the DID model⁷



The method divides the observations into four groups, the treatment group (T) before and after change, and the control group (C) before and after change. Then, we take the difference between the Treatment and the Control group, in both the before period and the after period. Thereafter, the difference between these two differences is calculated, thereof the name Difference-in-Differences (Angrist and Pischke 2009, pp.228-233).

$$\beta_3 = (\bar{y}_{2,T} - \bar{y}_{2,C}) - (\bar{y}_{1,T} - \bar{y}_{1,C})$$

Table 2. Illustration of the DID-estimator⁸

	Before	After	After - Before
Control	β_0	$\beta_0 + \beta_1$	β_1
Treatment	$\beta_0 + \beta_2$	$\beta_0 + \beta_1 + \beta_2 + \beta_3$	$\beta_1 + \beta_3$
Treatment - Control	β_2	$\beta_2 + \beta_3$	β_3

⁷ J.D, Angrist and Pischke, J.S., (2009), *Mostly Harmless Econometrics*, Princeton, NJ: Princenton University Press, p.231.

⁸ Wooldridge, Jeffrey M., (2009), *Introductory Econometrics: A Modern Approach*, 5th ed., South- Western College Publishing, New York, p.454

This gives us the regression DID model:

$$Y = \beta_0 + \beta_1 \text{Afterperiod} + \beta_2 \text{Treatment} + \beta_3 \text{Afterperiod} \times \text{Treatment} + \varepsilon$$

Where *Treatment* is a dummy that takes on the value 1 if the observation is in the treated group and *Afterperiod* is a time dummy that takes on the value of 1 if the observation is from the after period. Finally there is an interaction term, which is the *Treatment* times the *Afterperiod*. Obviously, this will be 0 in all other cases except for observations obtained from the treatment group in the after period. The coefficient of concern, β_3 , is interpreted as the treatment effect on average outcome of y (Wooldridge 2009, pp.453-454).

THE DIFFERENCE – IN – DIFFERENCES TEST ON FOOTWEAR IMPORTS

Treatment group

The treatment group will be imports of the specific product codes levied with the tariff, thus the control group consists of the remaining footwear product codes imported from the exporting country.

After period

Since the provisional tariff was imposed in April 2006 we have defined our after period as post April 2006, consequently our before period is the observations obtained in the months before the imposition of the tariff (January 2005 – March 2006).

THE MODELS

One DID test will be performed on PRC and Vietnam and another one on India and Indonesia; the two models will differ slightly due to the fact that we wish to estimate the effects from the size of the tariff.

Model I: PRC and Vietnam

The following model will be employed for PRC and Vietnam:

$$\text{Import}_{i,t,p} = \beta_1 \text{Treatment}_p + \beta_2 \text{Afterperiod}_t + \beta_3 \text{Tariff}_{t,p} + \gamma_i + \delta_t + \varepsilon_{i,t,p}$$

$\text{Import}_{i,t,p}$: Value of the imports from either PRC or Vietnam expressed in €1000; the value represents imports of product code, p , into a specific country, i , in a certain month, t .

$Treatment_{t,p}$ = A dummy variable that takes on the value of 1 if the product is found in the treatment group, the products levied with a tariff.

$Afterperiod_t$: A dummy that takes on the value of 1 if the observation is obtained in the after period, i.e. after the imposing of the tariff in April 2005.

$Tariff_{t,p}$: A variable that takes on the value of the tariff expressed in decimal format (0,196) if the product, p , belongs to the treatment group and the observation is obtained in the after period. In all other cases the variable is 0.

γ_i : A dummy variable specifying the importing country out of EU25.

δ_t : A dummy variable capturing the year/month specific effect in a specific month. (January 2005, February 2005 etc.)

$\varepsilon_{i,t,p}$: An error term

Model II: India and Indonesia

The following model will be employed for India and Indonesia:

$$Import_{i,t,p} = \beta_1 Treatment_p + \beta_2 Afterperiod_t + \beta_3 TreatAfter_{t,p} + \gamma_i + \delta_t + \varepsilon_{i,t,p}$$

$Import_{i,t,p}$: Value of the imports from either India or Indonesia expressed in €1000; the value represents imports of product code, p , into a specific country, i , in a certain month, t .

$Treatment_{t,p}$ = A dummy variable that takes on the value of 1 if the product is found in the treatment group, the products levied with a tariff

$Afterperiod_t$ = A dummy that takes on the value of 1 if the observation is obtained in the after period, i.e. after the imposing of the tariff in April 2005.

$TreatAfter_{t,p}$ = The interaction term, which is the Treatment-dummy times the after period dummy. This variable will take on the value of 1 only if the observation is found both in the treatment group and in the after period, in all other cases it takes on the value of 0.

γ_i : A dummy variable specifying the importing country out of EU25

δ_t : A dummy variable capturing the year/month specific effect in a specific month. (January 2005, February 2005 etc.)

$\varepsilon_{i,t,p}$: An error term

The dummy-variables

The DID approach clear for any time constant unobserved factors of which could have an impact on variations in imports, e.g. country specific relations between the import and export country. Thus the reason for using dummies are other non-constant factors, e.g. a natural disaster, during the period of 2005 – 2010 that had happened only in Sweden and had inflicted on its imports. Such an event would be captured in a country dummy. The same rationale goes for the time dummies where any seasonal fluctuations will show.

Possible extensions of the model

A desired extension of the model would be to test with time lags for the tariff. Earlier literature by Staiger and Wolak (1994) suggest that effects on imports can be found before the date of the provisional or definite duty. Because of the limited comprehension of the essay in terms of both time and space, we have chosen not to perform this extension.

Robust standard errors

Furthermore we have chosen to use the robust standard errors in our calculations. In time-series modelling the homoskedasticity assumption conditions that the variance of the error, u , is the same across the observations, if this is not the case, heteroskedasticity prevails. Further we are worried about serial correlation between our error terms in the different time periods. Consequently, heteroskedasticity-robust standard errors are used to be able to use a model that has heteroskedastic residuals (Wooldridge 2009, pp.264-267).

METHODOLOGICAL ISSUES

There have been objections raised about the DID test worth noting. Bertrand et al. writes in the article “How Much Should We Trust Difference-in-Difference Estimates?” and point out that problem may arise when the model is applied on certain data, which may lead to inconsistency. Moreover they mean that many studies that use DID estimation focus on serial correlated data and therefore overlook the fact that the standard errors are inconsistent. The implications of this are higher t-statistics and more significant results, which they mean therefore is misleading. Serial correlation might be a problem in import data; however, no test has been carried out to test for serial correlation. As mentioned earlier there are some drawbacks when using a control group and assuming that time-varying factors have affected both of the groups. To avoid this kind of biases one could include control variables that would capture individual shocks.

What should be acted upon is time varying factors that influence the demand for or supply of the different product groups within each country; shifts in the price of different inputs could be such a thing. Even though the compositions of the shoes in question differ a lot, one simplification about the two groups can be done. On average, products in the treatment group have a greater share of leather (uppers of leather) than products in the control group, which to a greater extent is made by textile (cotton) or rubber. The reason not to include any price indexes is partly that we have been unsuccessful in finding any accurate measures for leather, and partly that the products are not perfect substitutes. An increase in the price of cotton could in fact lead to a higher relative price on textile shoes; nevertheless, it would not bring on a situation where importers would substitute textile shoes for leather shoes. Consumer demand for different types of shoes, indirectly fashion and trends, could be an aspect worth noticing. Fluctuations in demand, whatever the reason is, could imply shocks to one but not the other product group. Unfortunately we have not been able to find a suitable measure or proxy for this factor.

Causality

A constant issue when making inferences about econometric analyses is whether or not the economist can prove that one variable has a casual effect on another variable. Finding correlation between two or more variables is necessary but not sufficient when making causal inferences with compelling confidence. Our model suggests that tariffs have a casual effect on imports. It could be argued that we have a reverse scenario where imports have impact on

tariff level. In that case EU would impose higher tariff levels for products with a higher total import value. We cannot infer with certainty that increased imports from India and Indonesia depends on the depressed imports in PRC and Vietnam. We will not test for any correlation and will only be able to draw suggestive conclusions. The reversed situation, that reduced import from PRC and Vietnam is due to the increase in India and Indonesia, could be conceivable when looking at labour cost data. Comparing the development for data on labour cost within the textile industry depicted in a report by Werner International (2009), the increase in labour cost for PRC surpass the development for India and Indonesia substantially.

DATA SELECTION

The data on the dependent variable, *imports*, is subtracted from the Eurostat (2010) database on External Trade - the statistical office of the European Union. Their online database provides monthly import data to all EU countries, sorted by product code and country of origin.

Product codes

All products imported to the EU are classified by a 10-digit product code. Footwear is regulated under chapter 64 and the 4-digit product codes: 6401 – 6406. Thereafter the products are divided into more narrow subcategories appointed with a 6-digit or 8-digit number.

The following product codes are affected by the tariff:

6403200000, 6403510500, 6403511100, 6403511500, 6403511900, 6403519100, 6403519500, 6403519900, 6403590500, 6403591100, 6403593100, 6403593500, 6403593900, 6403599100, 6403599500, 6403599900, 6403911600, 6403911800, 6403919100, 6403919300, 6403919600, 6403919800, 6403990500, 6403991100, 6403993100, 6403993300, 6403993600, 6403993800, 6403999100, 6403999300, 6403999600, 6403999800, 6405100000⁹

The common denominator for the concerned products is that they are footwear characterised by uppers of leather. The product codes are found in the 6-digit categories of 6403 20, 6403 51, 6403 59, 6403 91, 6303 99 and 6405 10. In the 8-digit subcategories we have found that there are very few products excluded from the AD measure and the majority is of insignificant values, and often not even exported by the investigated countries. Therefore we

⁹ European Commission, 2011

have chosen to use the 6-digit categories in order to reduce the number of products. This simplification has given us a treatment group of six product codes, all of which are imported from the four countries of interest. The control group on the other hand varies in size since not all products are imported from all countries; moreover this leads to different sample sizes.

Table 3. Treatment-, control group and sample size for the concerned countries

Country of origin	Treatment group	Control group	Observations
China	6	26	55800
Vietnam	6	30	64800
India	6	30	64800
Indonesia	6	30	64800

Value/Quantity

Eurostat allows us to extract import data measured in either quantity or value. For illustrative purposes both value and quantity is reported in the introduction. However, in the statistical analysis we have chosen to use the import measured in value.

Firstly, the quantity amount is measures in 100 kilos. The natural way of measuring shoes would be in number of pairs; consequently using quantity could be rather confusing. Secondly, value is used in other studies that also have measured the effect of AD measures on imports: Durling and Prusa (2005), Konings, Springael and Vassbussche (2001), and Brenton (2001). Finally, we have received indications from the Swedish National Board of Trade that there might be missing values and other faults in the quantity data from Eurostat. Apparently, small quantities are not always reported and hence registered as 0. This suspicion was verified when an initial downloading of data on a monthly basis country by country was done.

The main issue with using value is that there might be price fluctuations that have great impact on the importing value. In our case, this might be an issue since the Chinese government has been accused for subsidizing the Chinese shoe industry (Commission Document, 2006). However, it can be argued that this might not be the case since the EU indeed chose to take AD measures against PRC rather than anti-subsidy measures – which would have been an option as well. A way of solving this problem could have been using

value per kilo – to divide value with quantity. This would however give us problematic figures because small quantities are reported as 0 quantity.

Importing countries

The importing countries in our study are EU25, i.e. the 25 countries that are members of the EU for the entire period used. Bulgaria and Romania did not enter the EU until 2007 and are therefore not included in our dataset.

The tariffs

The tariffs against PRC and Vietnam were imposed gradually up to a certain provisional level. After the deciding on a definite duty it was marginally lowered to remain constant.

Table 4. Imposition of provisional and definite tariffs on shoes imported from PRC and Vietnam

Date	Tariff	
	PRC	Vietnam
7 April 2006 – 1 June 2006	4,8 %	4,2 %
2 June 2006 – 13 July 2006	9,7 %	8,4 %
14 July 2006 – 14 Sept. 2006	14,5 %	12,6 %
15 Sept. 2006 – 5 Oct. 2006	19,4 %	16,8% ¹⁰
6 Oct 2006 – 31 March 2011 ¹¹	16,5 %	10 %

As seen above, the length of the provisional tariffs varies. This was not possible to account for when designing the layout of our dataset since it would have required daily data of imports. Instead we have chosen to approximate every tariff change up until the definite duty to months. Thus, the first tariff of 4,8% and 4,2% is used in April and May in our dataset, the second in June and July, and so on. The definite duty applies from October 2006. In addition, one Chinese company, Golden step, had a somewhat lower tariff. This has not been accounted for since we have not been able to extract company specific data.

¹⁰ Commission Regulation, 2006

¹¹ Council Regulation, 2006

RESULTS AND DISCUSSION

RESULTS

The simple model: PRC and Vietnam

The results from PRC and Vietnam will be presented simultaneously to simplify a comparison. Before running the DID of our basic model, a simpler form is presented below for PRC and Vietnam respectively.

Table 5. Simple model, China

CHINA	Import coefficients	T-statistics	P-value
Treated group	611543	(8.01)	0.000
After period	161306.8	(7.53)	0.000
Tariff	- 2535801	(- 5.00)	0.000
β_0	440773.2	(26.34)	0.000
N	55800		
R²	0.0031		

Table 6. Simple model, Vietnam

VIETNAM	Import coefficients	T-statistics	P-value
Treated group	522532.3	(8.91)	0.000
After period	522532.3	(-1.42)	0.156
Tariff	-1159266	(- 1.85)	0.064
β_0	129359.7	(18.69)	0.000
N	64800		
R²	0.0186		

The coefficient on the import tariff is significantly different from zero for PRC, while in Vietnam it is only significant at the 10% level. Both coefficients are negative, indicating that tariffs imposed on imports from PRC and Vietnam have a negative impact on import flows to the EU. More specifically, the tariff coefficient for PRC is interpreted as: one percentage increase in tariff results in a € 25 358 (in € 1 000) decrease in imports from PRC into the EU. The equivalent interpretation for Vietnam is: one percentage increase in tariff results in a € 11 593 (in € 1 000) decrease in imports from Vietnam into the EU. The difference in magnitude

for the two coefficients imply that imports from PRC is more sensitive to a tariff than Vietnam. Further, the coefficient for the after period in Vietnam is not significant at a respectable significance level and an extended version of the model will follow. The explanatory power of the model is also rather low, 0,0031 for PRC and somewhat higher for Vietnam, 0,0186. In whatever way, the regression is likely to be biased due to omitted variables that correlate with the independent variables and so our basic difference – in – differences model follows.

The results from our basic DID model are found in Appendix 4, where country and time dummies have been included. We still see a significant negative value on our tariff coefficient for PRC, even greater than before. For Vietnam, the adding of dummies brought about a worse significance level for the corresponding coefficient, although still significant at the 10% level. The impact of the after period in PRC is highly insignificant in this regression, while in Vietnam still significant at the 1% level. The explanatory powers of the regressions are higher than before, mostly explained by the increased amount of variables. All countries but Finland, Ireland and Portugal are significant at the 1% level in PRC while the majority of the time dummies are insignificant and will be excluded in further estimations. The same pattern can be distinguished for Vietnam where most of the time dummies are insignificant at all acceptable levels. To avoid perfect multicollinearity between the country dummies on one side and the time on the other, Jan05 and Slovakia respectively has been excluded in the regression and is captured by the constant. Through adding other dummy coefficients the correct effects for the observation in question will be generated. Also, another time dummy is dropped since our Afterperiod variable is a linear combination of the time dummies.

The revised model: PRC and Vietnam

Excluding the time dummies for both countries give us a revised model of our basic DID model. (Appendix 5) When removing all time dummies, i.e. a reduction in the number of variables, we see similar R^2 values for both of the countries compared to the basic model. The explanatory power is of small value and importance, and tells us that there are many other factors explaining import of footwear. The coefficient for the tariff in PRC is still significant for all accepted levels, although the magnitude has decreased slightly. For Vietnam we have a reversed situation where the equivalent has increased in value, albeit negative, but is more significant than before with significance at the 5.4 % level. The comparison suggests that there are unobserved variations over time that decrease respectively increase the relationship

between tariffs and imports in PRC and Vietnam. The impact of the tariff is twice as large in PRC compared to Vietnam. Interestingly, when comparing the coefficients with earlier models (Appendix 4) we have alike values. This implies that there are no unobserved effects across countries affecting the relationship between the tariff and imports from neither PRC nor Vietnam.

Regarding the country dummies the results are almost unchanged from the basic model (Appendix 4). For PRC, Finland, Ireland and Portugal are still insignificant while all others are significant at all levels. In Vietnam, Austria is still the only country not significant. Although the constant for Vietnam is not significant, it is not of concern since our main subject of interest is comparing differences between the coefficients for tariffs across different countries (Wooldridge 2009, p.234). For PRC the constant is significant but takes on a negative value, implying that there would have been a negative import from Slovakia to PRC in January 2005, i.e. export of footwear. With our data, that finding is not logical but however ignored since the intercept is not central to our analysis (Wooldridge 2009, p.23).

The simple model: India and Indonesia

Following our thesis, the next results will act as support when analysing the possible effects of trade diversion to third countries due to AD duties imposed by EU on certain footwear from PRC and Vietnam. A minor change in the layout of the model is done, as reported earlier, which results in a different interpretation of the coefficient for the tariff variable that is now called *treat_after*. This have to do with the fact that instead of measuring a possible effect of the tariff step-wise we use an interaction dummy that takes on the value 0 or 1 depending on if it is a levied product before or after the tariff is imposed.

Table 7. Simple model, India

INDIA	Import coefficients	T-statistics	P-value
Treated group	75323.11	(8.73)	0.000
After period	-175.5804	(-0.08)	0.938
Treat_after	66602.04	(- 5.65)	0.000
β_0	28337.89	(14.24)	0.000
N	64800		
R²	0.0203		

Table 8. Simple model, Indonesia

INDONESIA	Import coefficients	T-statistics	P-value
Treated group	121340.8	(8.35)	0.000
After period	-5467.597	(-3.01)	0.003
Treat_after	128876.3	(6.62)	0.000
β_0	30359.05	(18.40)	0.000
N	64800		
R²	0.0315		

The first regression is a simpler version of our basic DID model. The coefficient for the interaction term takes on a positive value and is significant for both India and Indonesia. This implies that EU's import from India and Indonesia, of the corresponding type of footwear that was levied with a tax in PRC and Vietnam, enjoy an increase compared to the remaining footwear products not levied with a tariff. The sign and magnitude of the coefficients tells us that EU's imports from India, after the imposition of the tariff, will be € 66 602 (in € 1 000) higher of the particular type of footwear that was levied with an AD duty in PRC and Vietnam, than it will be of the other footwear that was not directly affected by a duty. The equivalent interpretation for Indonesia is a € 128 876 (in € 1 000) higher import compared to the other control group after the inflicted tariff; which is twice as much as for India. The coefficient for the *afterperiod* in India is highly insignificant while in Indonesia it is significant at the 1 % level. The explanatory power of the two editions of the model is, as expected, low as in the case with PRC and Vietnam. The R² is below 0.05 for both countries. The constant is significant and positive for both countries, albeit not very central for the following analysis. To avoid any unwanted biases we carry on to run the DID test of our basic model, adding country and time dummies.

The inclusion of country and time dummies had no affect whatsoever on the weight of the coefficient of interest, namely the *treat_after* variable (Appendix 6). Regarding the country dummies for India; all but Austria, Belgium and Portugal are significant at a 2% level. In Indonesia, only Denmark and Spain are insignificant. However, the model does not do well with respect to the time dummies where a greater part is insignificant in both reports. Neither is the constant nor the *after_period* significant in any of the models. Next, in our revised model, the time dummies will once again be excluded.

The revised model: India and Indonesia

As expected, the interaction term for both countries, in the revised model, seem impervious to the removing of the time dummies (Appendix 7). The results are still significant, positive and identical in magnitude for both India and Indonesia. An improvement of the significance level for the after period in Indonesia can be seen which now has a p-value of 0.004. The matter for India is unchanged, ergo, insignificant. Regarding the country dummies, Slovakia is dropped to avoid multicollinearity between the dummies, and is accordingly captured in the constant. The constant is hence the base value, which all other coefficients emanate from, and is positive and significant for both countries. Concerning the remaining country dummies and their significance, the situation remains unaltered. The explanatory power is somewhat higher than the first model, 0.07 respectively. Regardless, the R^2 is of little interest when analysing the effects of the tariff. Concluding discussion

CONCLUDING DISCUSSION

In this section we aim to analyse our results from the statistical test and couple these with theory, earlier research on AD measures and trade diversion, as well as other relevant sources. The discussion will start of by examining the impact of the AD measures on imports from PRC and Vietnam, we will then continue to the prolonged discussion about trade diversion by analysing our results on import from India and Indonesia.

The results from the DID model on China and Vietnam give us evidence for our hypothesis of decreased import into the EU of the levied products. These findings are in line with earlier literature and research on the subject of AD and also what we expected based on international trade theory on the effects of a tariff. In addition, this would support the imposition of AD measures in the matter of reducing imports from PRC and Vietnam, which was indeed one of the aims of the intervention. Both the EU and CEC have argued that this would happen due to the tariffs.

As seen in our results, the coefficient of the tariff is higher in PRC than in Vietnam. The implication behind these results is that due to some factor the tariff was more restrictive in PRC than in Vietnam; this finding is supported by Prusa (2001), who finds evidence that show how a larger tariff has relatively larger impact. An underlying explanation to this finding could be that the tariff in Vietnam (6.5 % units lower than PRC) was not harmful enough to encourage producers or importers to change country of origin as it did in PRC. This

is confirmed by Textilimportörerna (2011), who indicates that the benefits from moving production were less in Vietnam compared to PRC. However, Malin Kemi at the Nilsson Group (2011) declares that the company hardly reacted to the imposition of the AD measures, ergo her statements are somewhat contradictory to our findings.

Moreover, the finding does also bring about suspicions that there might be omitted factors, not accounted for or cleared in the DID method, influencing the reduced imports from PRC and Vietnam. One such factor is price fluctuations. After all, the EU did accuse the Chinese government of subsidizing their domestic enterprises in the footwear sector, if this is the case, what says this support has ceased? Since we measure imports in €, cut prices on the concerned products may enhance the negative relationship between import value and tariffs. The acknowledged interfering behaviour of the Chinese government is convenient also when explaining the mentioned difference in magnitude for the tariff coefficient for PRC and Vietnam. Then again, looking at Figure 2, showing imports of shoes in kilos, the obvious impression is that the decline in imports cannot entirely be accounted for by falling prices. However, according to trade theory, a tariff should not only increase the domestic price but also lower the foreign export price, meaning that some of the decrease in value could be due to the terms of trade effect. Important in this discussion are events that might have happened to one of the two groups (control and treatment). Such a factor is the inputs, since the treatment group is more dependent on leather than the other. A remarkable change in the price of leather could make our estimates misleading.

Although labour cost in PRC have escalated, it should be of no importance to our DID results, since it should have similar impact on both the product groups. The only plausible argument could be that of if the combination of a tariff and increased labour cost could have offset a shift of production from PRC that would not have taken place otherwise.

An interesting observation concerning cheating was made when talking to the retailer organisation Textilimportörerna (2011). They indicated that many of the manufacturers circumvented the tariff through simply changing the product code to one not included in the AD measures. Such actions cannot be accounted for as our results derive from data composed on these product codes.

In the second part of our test, regarding India and Indonesia, we found that imports of leather footwear from these countries had increased in relation to other footwear after EU had imposed the AD tariffs. This time the coefficient in question is a binary variable, which is twice as large for Indonesia as it is for India, implying that some factor may induce producers or importers to choose Indonesia over India. Labour cost development between the two countries is similar and cannot serve as an evident explanation. Nevertheless a case for trade diversion should be made, yet we cannot infer on causality between trade restriction in PRC/Vietnam and trade growth in India/Indonesia. The finding is supported by Customs Union theory saying that in some cases such a trade agreement can in fact result in less effective outcomes. As in this case, where the EU after the AD measures imports from a less efficient producer.

Although our implications of trade diversion are in line with earlier studies, some researchers have reached the conclusions that AD policy is more beneficial in the EU than in the US. Concluding from our study this is not the case for AD in the footwear sector.

Textilimportörerna (2011) also supports this conclusion, claiming circumvention by manufacturers - who produce in PRC but exports from a country close-by, possibly India or Indonesia. CEC on the other hand does not meet this argument. They solemnly argue that the tariffs will lead to a decrease in imports from PRC and Vietnam and an increased domestic production in the EU. Unfortunately this cannot truly be examined in our analysis. However, Figure 3 (where EU intra trade is used as proxy for domestic production) did not indicate any consistent increase in domestic production. Interestingly many recent studies, compared to earlier ones, have found evidence of trade diversion. This might indicate that as we move towards a more global world market, old trade theories need to be revised and updated.

Kemi (2011), the retailer for Nilsson Group, turned downed the possibility of circumvention and changing of importing country, which gives us reason to consider other possible explanations of the increased imports from India and Indonesia. Perhaps the supply and price of leather is lower in India and Indonesia or special knowledge have been worked up and accumulated over the years. Other group specific changes like demand shocks from fashion shifting towards leather shoes could increase our coefficient in question. This should however, as well affect the results from the tests on PRC and Vietnam.

CRITICISM

This section will evaluate the thesis and discuss the shortcomings and possible improvements of the study. Some criticism has been countered throughout the thesis and will therefore only be mentioned briefly.

Starting with the data selection, we have chosen to measure imports in € instead of quantity and therefore changes in price have not been controlled for. The reasons are mentioned earlier in the study and we are aware of this inadequacy of our thesis. The other major shortcoming of our dataset is the fact that the before period consists of one year. Even though we have used monthly data, it would have been beneficial for our DID model to have more observations in our before period. However, this was not possible since that year was the only year of free trade.

Looking at the suitability of footwear as goods in a case study some drawbacks can be recognized. It could have been better to follow Durling and Prusa (2006) and choose a more “trade sensitive” good or commodity to discern the direct effects on demand from imposing a tariff, consequently this would be more in line with theory. Footwear of this kind is not particularly standardized or interchangeable, characteristics that would make it easier for domestic importers or foreign producers to shift supply from one market to another. However, a corresponding argument in favour of choosing footwear, as the object of our study, is that the real world does not always look like it does in theory. Consequently a study like ours can be used to make conclusions more applicable to real world situations and in extension help tailor trade politics. Further, there is a limit to the generalisation one can draw from only investigating one case rather than extending the study to other cases of tariffs on footwear, in addition it might have been useful to investigate the possibility of trade diversion on more than two countries.

It would also be interesting to test our hypothesis using a multiple regression model instead of the DID test, in order to see if the same results could be obtained. Also, if the timeframe and scope of the essay had allowed for it, a deeper knowledge of the industry would be preferable. Unfortunately, we have neither had the possibility to interview any manufacturers in the countries of concern, nor any governmental – or organizational representatives in these

countries. More interviews and a better understanding of the industry would have improved our analysis.

However, we estimated the reliability of our test to be rather high, we would have got the same results in when repeating the test. This is due to that our dataset is found in a database governed by the European commission. Instead we experience weaker validity in our results. Firstly, the correlation between decreasing imports from PRC/Vietnam and increasing imports from India and Indonesia should be investigated further, also the causality between these two finding should be more extensively examined. We are fully aware of this constraint and are open to discussion about other possible explanations, rather than our conclusion that our findings are implications of trade diversion.

Moreover, one might question the construct validity of our results – whether our ways of operationalize has affected the study. This is closely related to our deductive approach; we started off in theory and formulated our hypothesis before we ran our statistical test. This hypothesis rests upon theory and is coloured by the economic paradigms and our academic environment at Stockholm School of Economics. Looking at our results from another angle, we might have reached other conclusions in our analysis.

CONCLUSION AND FURTHER RESEARCH

Using a difference-in-difference method we have obtained significant results that are in accordance with our hypothesis of trade restriction and trade diversion due to the imposition of the tariffs. These findings are in line with theory and earlier literature. However, as mentioned in the previous passage, our study has drawbacks such as wanting causality in the case of trade diversion. Further research should therefore be conducted in the field and on this specific case.

There is no clear consensus within the studies on the impact of AD measures. The results differ with regard to country, industries and method. One conclusion could be that this section of international trade theory calls for case studies rather than general theory. Something we hope to assist with this study. We also call for more research on the subject at whole, that pursuits to find common denominators for industries or countries better or worse suited for AD measures. Moreover, it is important to be able to infer on trade diversion. In our specific

case this should be better examined, as for further investigation on the development of the domestic production. Based on our results we also stress the importance of weighing the costs and benefits of policies against each other, studies that measure the social marginal benefits and put them in proportion to the distortions is scarce today and could therefore be an area of further research. Finally, the European Union is a political institution consisting of competing opinions and agendas. In our case, the European footwear industry is facing difficulties and is expected to do so some time ahead, this will particularly affect the shoe producing countries in the south of Europe. Hence, it would be interesting to map the motives, incentives and politics behind AD measures and couple this with economic theory in the field.

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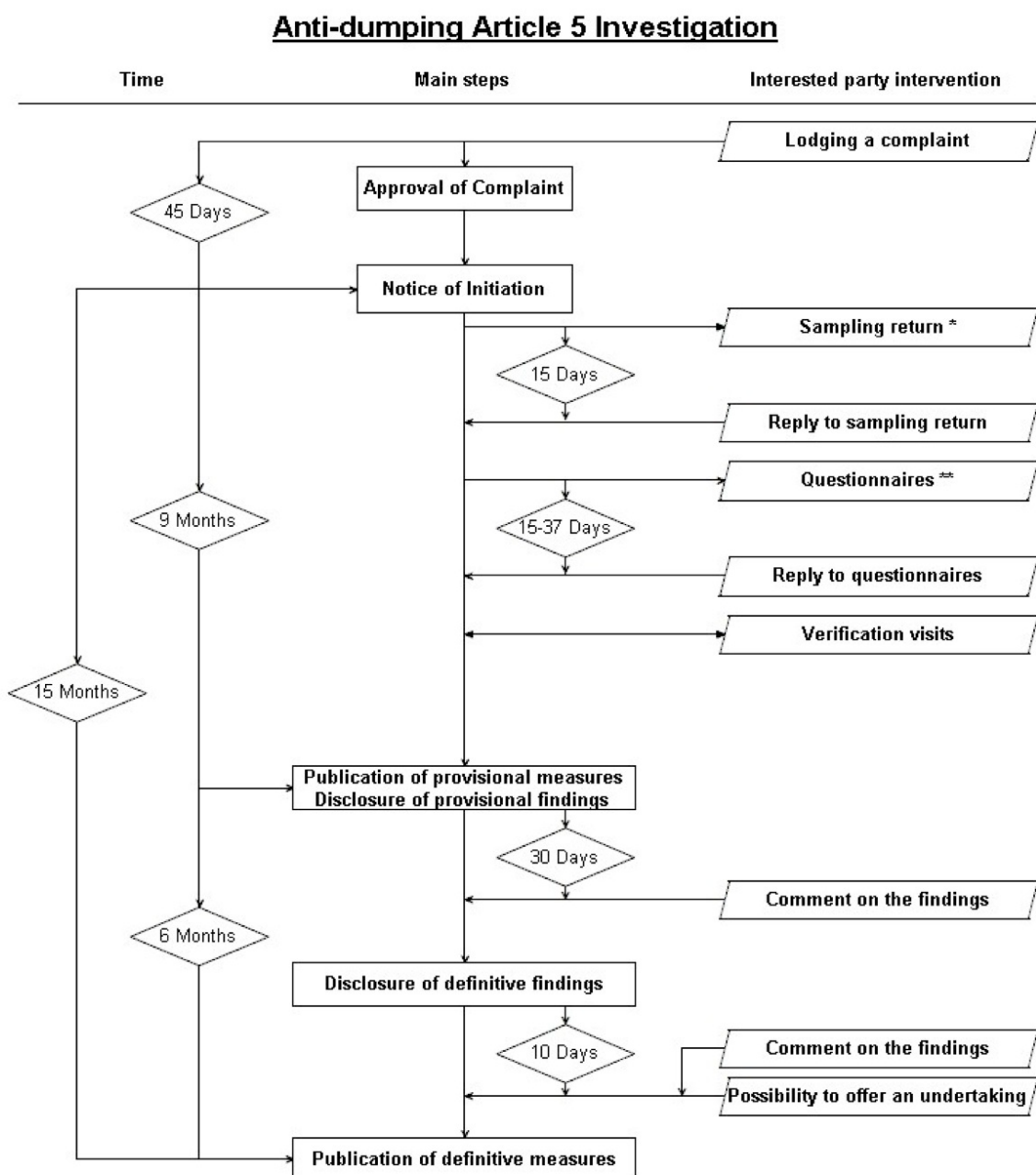
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APPENDICES

APPENDIX 1 – FLOW CHART OF THE ANTIDUMPING INVESTIGATION



* Sampling may be applied where the number of complainants, exporters and importers is large in order to limit the investigation to a reasonable number of parties.

** Questionnaires to exporters, EU producers, importers and EU users. Deadline for reply is minimum 37 days.

MET/IT questionnaire for exporting producers in countries considered as countries with economy in transition. Deadline for reply of MET/IT questionnaires is minimum 15 days.

For exporting producers not granted MET an analogue country will be applied for the purpose of establishing the normal value.

Producers in the analogue country will also receive questionnaires and be subject to verification visits.

Countries with economy in transition are China, Kazakhstan and Vietnam.

APPENDIX 2 - ABSTRACT FROM THE OFFICIAL JOURNAL OF THE EUROPEAN UNION REGARDING THE PRODUCTS AFFECTED BY THE PROVISIONAL DUTY.

COMMISSION REGULATION (EC) No 553/2006 of 23 March 2006 - imposing a provisional anti-dumping duty on imports of certain footwear with uppers of leather originating in the People's Republic of China and Vietnam, L 98/11

(42) The investigation has shown, as mentioned above, that all types of footwear with uppers of leather despite the differences in terms of type and style, have the same basic physical and technical characteristics, i.e. outdoor footwear with uppers of leather, they are basically used for the same purposes,

(43) Therefore, for the purpose of this investigation the product concerned is footwear with uppers of leather, as described in the 'General' part above, originating in PRC and Vietnam (the product concerned). This product is currently classifiable within the following CN codes: ex 6403 20 00, ex64033000, ex64035115, ex64035119, ex64035195, ex64035199, ex64035911, ex64035935, ex64035939, ex64035995, ex64035999, ex64039113, ex64039116, ex64039118, ex64039193, ex64039196, ex64039198, ex64039911, ex64039933, ex64039936, ex64039938, ex64039993, ex64039996, ex64039998 and ex64051000.

(44) It should be noted that until 1 January 2005, the products originating in PRC and falling within the above CN codes were subject to a quantitative quota, with the exception of the products falling within CN codes 6403 20 00 and ex 6403 30 00, and those footwear used for sporting activities and involving a special technology.

(45) It is therefore concluded that, for the purpose of the present anti-dumping proceeding, all types of the product concerned are regarded as one product.

2.3. Like product

(46) The investigation showed that the product concerned and the footwear with uppers of leather manufactured and sold domestically in PRC and Vietnam as well as footwear with uppers of leather produced and sold in the Community by the Community industry were similar as far as their basic physical and technical characteristics and uses are concerned, and that they are perceived by users as being interchangeable.

(47) Certain interested parties argued that footwear with uppers of leather produced by the Community industry and sold on the Community market was not similar to the product concerned. They claimed that this is evidenced in particular by differences between products in terms of quality, consumer perceptions, channels of sales and segmentation. It was further claimed that the consumers in the Community usually perceive the product concerned as being a cheaper product and that those

products do not benefit from any brand premium.

(48) The investigation revealed contradictory statements by importers in that respect. While some claimed that the product concerned is usually of inferior quality and remains in a different price category compared to Community made products, others claimed that brand footwear manufactured in the countries concerned is imported at higher prices, probably of mediocre quality, imported at an extremely low price, from those same countries. On the other hand, the investigation confirmed that in the Community both, low and high quality footwear are manufactured and sold via the same distribution channels as the product concerned, i.e. independent retailers, non-specialised super-markets, department stores, etc.

(49) In addition, footwear does not necessarily indicate its country of origin, and it is therefore often very difficult for the consumer to make the distinction between footwear manufactured in the countries concerned and Community made products.

APPENDIX 3 – LARGEST EXPORTERS OF FOOTWEAR INTO THE EU

	2005	2006	2007	2008	2009	Share of 2009 imports	% growth 2005 - 2009	% growth 2008 - 2009
Total imports	10844917	12203570	12757131	13054604	12562226	100%	16%	-4%
China	4911288	5579063	5797382	5924086	6029947	48%	23%	2%
Vietnam	2107402	2131993	2100728	2287049	1873960	15%	-11%	-18%
India	706220	862266	959983	971108	950722	8%	35%	-2%
Indonesia	518484	624364	644633	701796	769702	6%	48%	10%
Tunisia	355806	385181	434281	434281	416250	3%	17%	-4%
Brazil	377083	441544	468030	507170	411529	3%	9%	-19%

APPENDIX 4 – THE BASIC MODEL, PRC AND VIETNAM

China

Number of obs = 55800
F(97, 55702) = 54.58
Prob > F = 0.0000
R-squared = 0.1279
Root MSE = 2.3e+06

imports	Robust					
	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
treatedgroup	639609	71681.41	8.92	0.000	499113	780105
afterperiod	37104.22	93871.07	0.40	0.693	-146883.7	221092.1
tariff	-2759237	477416.8	-5.78	0.000	-3694977	-1823497
austria	57719.65	11375.99	5.07	0.000	35422.65	80016.66
belgium	1200807	62740.27	19.14	0.000	1077836	1323778
cyprus	-75693.79	8503.78	-8.90	0.000	-92361.25	-59026.32
czechrepub	137369.3	15829.79	8.68	0.000	106342.8	168395.8
germany	2648549	133224.3	19.88	0.000	2387429	2909670
denmark	194004.9	15422.25	12.58	0.000	163777.2	224232.6
estonia	-89238.24	8345.487	-10.69	0.000	-105595.4	-72881.03
spain	1312782	77301.62	16.98	0.000	1161270	1464294
finland	4735.401	9618.985	0.49	0.623	-14117.87	23588.67
france	1584716	84263.33	18.81	0.000	1419559	1749872
uk	2742373	113409	24.18	0.000	2520091	2964656
greece	234071.1	22585.46	10.36	0.000	189803.5	278338.8
hungary	-70792.78	8440.244	-8.39	0.000	-87335.71	-54249.84
ireland	7078.575	10610.29	0.67	0.505	-13717.66	27874.81
italy	1734727	83121.34	20.87	0.000	1571809	1897645
lithuania	-66154.58	8537.162	-7.75	0.000	-82887.48	-49421.69
luxemburg	-96690.93	8346.925	-11.58	0.000	-113051	-80330.9
latvia	-85695.87	8354.66	-10.26	0.000	-102071.1	-69320.68
malta	-92383.6	8392.244	-11.01	0.000	-108832.5	-75934.75
netherlands	1511207	72922.97	20.72	0.000	1368277	1654136
poland	161130.2	17875.99	9.01	0.000	126093.2	196167.3
portugal	-12345.8	9682.347	-1.28	0.202	-31323.26	6631.664
sweden	218510.7	17005.94	12.85	0.000	185179	251842.5
slovenia	-54991.33	8599.12	-6.39	0.000	-71845.66	-38137
slovakia	(dropped)					
jan05	(dropped)					
feb05	43859.18	99445.49	0.44	0.659	-151054.6	238773
mar05	21828.11	92141.72	0.24	0.813	-158770.3	202426.5
apr05	-93318.87	85416.48	-1.09	0.275	-260735.7	74098
may05	-121522.3	84181.46	-1.44	0.149	-286518.5	43473.94
jun05	-7041.19	92482.83	-0.08	0.939	-188308.1	174225.8
jul05	162541.9	104097.9	1.56	0.118	-41490.79	366574.5
aug05	275556.5	107932.9	2.55	0.011	64007.34	487105.6
sep05	191080.7	100182.5	1.91	0.056	-5277.667	387439.1
oct05	-31014.12	84787.31	-0.37	0.715	-197197.8	135169.6
nov05	-44029.82	86173.63	-0.51	0.609	-212930.7	124871.1

dec05		12023.11	95927.33	0.13	0.900	-175995.1	200041.3
jan06		258503.9	122921.1	2.10	0.035	17577.75	499430.1
feb06		295671.7	124440.8	2.38	0.018	51766.86	539576.5
mar06		162730.3	108059.6	1.51	0.132	-49067.18	374527.9
apr06		(dropped)					
may06		-13394.04	93258.13	-0.14	0.886	-196180.6	169392.5
jun06		26962.94	93047.69	0.29	0.772	-155411.1	209337
jul06		193605.1	101818.9	1.90	0.057	-5960.748	393170.9
aug06		294171.8	103227.4	2.85	0.004	91845.47	496498.1
sep06		231016.5	96787.63	2.39	0.017	41312.11	420720.9
oct06		67615.07	87305.25	0.77	0.439	-103503.8	238733.9
nov06		2165.793	86840.53	0.02	0.980	-168042.2	172373.8
dec06		-5153.222	87281.04	-0.06	0.953	-176224.6	165918.2
jan07		248310.7	114333.2	2.17	0.030	24216.87	472404.6
feb07		369090.9	131233.4	2.81	0.005	111872.7	626309.2
mar07		300917.6	120316.3	2.50	0.012	65096.78	536738.4
apr07		15869.55	91991.47	0.17	0.863	-164434.3	196173.4
may07		24235	91964.3	0.26	0.792	-156015.6	204485.6
jun07		100247.4	98853.8	1.01	0.311	-93506.73	294001.5
jul07		361051.3	118038.7	3.06	0.002	129694.7	592407.8
aug07		412600.6	116747.7	3.53	0.000	183774.2	641426.9
sep07		234932.3	100123.5	2.35	0.019	38689.49	431175.1
oct07		76625.5	88948.7	0.86	0.389	-97714.53	250965.5
nov07		1601.677	86260.02	0.02	0.985	-167468.5	170671.9
dec07		17211.48	90853.64	0.19	0.850	-160862.2	195285.2
jan08		371211.4	132206.5	2.81	0.005	112085.8	630337
feb08		397664.3	135103.4	2.94	0.003	132860.8	662467.9
mar08		145862.3	102789.7	1.42	0.156	-55606.2	347330.8
apr08		43277.96	94947.21	0.46	0.649	-142819.2	229375.1
may08		-1649.265	88211.01	-0.02	0.985	-174543.4	171244.9
jun08		89664.69	93714.48	0.96	0.339	-94016.3	273345.7
jul08		361257.8	114195.8	3.16	0.002	137433.3	585082.3
aug08		363435.1	111629.5	3.26	0.001	144640.7	582229.6
sep08		301729.9	105099.9	2.87	0.004	95733.32	507726.5
oct08		86554.93	91054.09	0.95	0.342	-91911.68	265021.5
nov08		49450.82	90106.93	0.55	0.583	-127159.4	226061
dec08		115528.5	98358.07	1.17	0.240	-77253.99	308311
jan09		428372.9	141657.7	3.02	0.002	150722.9	706022.9
feb09		504794.9	153107	3.30	0.001	204704.2	804885.6
mar09		178020.3	108163	1.65	0.100	-33979.99	390020.6
apr09		133794.4	106176.6	1.26	0.208	-74312.36	341901.1
may09		30835.3	94807.22	0.33	0.745	-154987.5	216658.1
jun09		180475	106863.6	1.69	0.091	-28978.28	389928.2
jul09		404000.7	123551.7	3.27	0.001	161838.6	646162.8
aug09		356512.4	116223.2	3.07	0.002	128714.2	584310.5
sep09		256526.6	105966	2.42	0.015	48832.57	464220.7
oct09		54985.13	90967.41	0.60	0.546	-123311.6	233281.9
nov09		-48701.17	83778.81	-0.58	0.561	-212908.2	115505.8
dec09		12517.2	91084.43	0.14	0.891	-166008.9	191043.3
jan10		242172.9	117685.1	2.06	0.040	11509.29	472836.5
feb10		344952.3	130719.7	2.64	0.008	88740.75	601163.8
mar10		432368.6	143088.9	3.02	0.003	151913.3	712823.8
apr10		99244.29	101906.1	0.97	0.330	-100492.4	298981

may10		118390.9	104594.5	1.13	0.258	-86615.06	323396.9
jun10		265382.5	118094.1	2.25	0.025	33917.32	496847.8
jul10		555460.5	143892.7	3.86	0.000	273429.9	837491.2
aug10		657005.1	153270.4	4.29	0.000	356594.2	957416
sep10		603126	146363.3	4.12	0.000	316252.9	889999.1
oct10		277987	109069.1	2.55	0.011	64210.97	491763.1
nov10		161880.5	97264.92	1.66	0.096	-28759.35	352520.4
dec10		218988.7	107838.5	2.03	0.042	7624.51	430353
_cons		-164015.3	66688.44	-2.46	0.014	-294725.1	-33305.54

Vietnam	Number of obs =	64800
	F(98, 64701) =	28.96
	Prob > F	= 0.0000
	R-squared	= 0.0918
	Root MSE	= 1.1e+06

		Robust				
imports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
-----+-----						
treatedgroup	503310.8	55393.69	9.09	0.000	394739.2	611882.5
afterperiod	-353148.1	82379.18	-4.29	0.000	-514611.4	-191684.9
tariff	-1035251	594874.1	-1.74	0.082	-2201204	130702.7
austria	3854.334	8940.468	0.43	0.666	-13668.99	21377.66
belgium	530283.3	36271.08	14.62	0.000	459192	601374.6
cyprus	-67143.13	8079.481	-8.31	0.000	-82978.91	-51307.34
czechrepub	-47363.98	8102.339	-5.85	0.000	-63244.57	-31483.39
germany	1008803	61395.86	16.43	0.000	888467	1129139
denmark	-29506.37	8320.182	-3.55	0.000	-45813.93	-13198.8
estonia	-68816.55	8084.993	-8.51	0.000	-84663.14	-52969.96
spain	269607.1	20004.64	13.48	0.000	230398	308816.2
finland	-56448.13	8071.571	-6.99	0.000	-72268.41	-40627.84
france	311784.8	23215.32	13.43	0.000	266282.7	357286.8
uk	1051277	71915.94	14.62	0.000	910322	1192233
greece	-18770.48	8532.384	-2.20	0.028	-35493.96	-2046.998
hungary	-65725.57	8066.381	-8.15	0.000	-81535.69	-49915.46
ireland	-58386.25	8100.49	-7.21	0.000	-74263.22	-42509.29
italy	417725.1	28242.19	14.79	0.000	362370.4	473079.8
lithuania	-65358.28	8070.521	-8.10	0.000	-81176.51	-49540.06
luxemburg	-68565.11	8082.179	-8.48	0.000	-84406.18	-52724.03
latvia	-68266.04	8083.719	-8.44	0.000	-84110.13	-52421.94
malta	-68542.28	8085.372	-8.48	0.000	-84389.62	-52694.95
netherlands	310079.6	23308.77	13.30	0.000	264394.4	355764.8
poland	-55964.82	8081.936	-6.92	0.000	-71805.42	-40124.22
portugal	-66186.74	8074.421	-8.20	0.000	-82012.61	-50360.87
sweden	41005.83	9850.391	4.16	0.000	21699.05	60312.6
slovenia	-65325.26	8080.455	-8.08	0.000	-81162.96	-49487.57
slovakia	(dropped)					
jan05	-306197.9	101209.3	-3.03	0.002	-504568.3	-107827.6
feb05	-290652	102428.6	-2.84	0.005	-491412.1	-89891.92
mar05	-341623.1	98183.86	-3.48	0.001	-534063.5	-149182.6

apr05		-353222.8	97686.53	-3.62	0.000	-544688.5	-161757.1
may05		-391704.5	93427.87	-4.19	0.000	-574823.2	-208585.8
jun05		-326036.6	100290.3	-3.25	0.001	-522605.6	-129467.7
jul05		-267955.8	103865.9	-2.58	0.010	-471533	-64378.64
aug05		-265463	100674.1	-2.64	0.008	-462784.2	-68141.69
sep05		-287998.2	99648.93	-2.89	0.004	-483310.1	-92686.2
oct05		-352952.6	96322.35	-3.66	0.000	-541744.5	-164160.7
nov05		-348201.6	99067.17	-3.51	0.000	-542373.3	-154029.9
dec05		-331433.9	100846.4	-3.29	0.001	-529093	-133774.9
jan06		10359.23	58946.27	0.18	0.860	-105175.5	125894
feb06		-13184.35	55757.77	-0.24	0.813	-122469.6	96100.91
mar06		-40209.72	55015.15	-0.73	0.465	-148039.4	67620.01
apr06		-89829.59	48124.18	-1.87	0.062	-184153	4493.846
may06		(dropped)					
jun06		42371.19	51519.63	0.82	0.411	-58607.33	143349.7
jul06		77254.68	55661.69	1.39	0.165	-31842.28	186351.6
aug06		96784.35	50919.01	1.90	0.057	-3016.935	196585.6
sep06		69154.55	47307.78	1.46	0.144	-23568.72	161877.8
oct06		-114.0938	43455.41	-0.00	0.998	-85286.73	85058.55
nov06		13534.8	49696.22	0.27	0.785	-83869.83	110939.4
dec06		23830.7	49841	0.48	0.633	-73857.7	121519.1
jan07		68712.85	52313.59	1.31	0.189	-33821.82	171247.5
feb07		101520.6	60241.3	1.69	0.092	-16552.4	219593.6
mar07		45787.78	50118.87	0.91	0.361	-52445.24	144020.8
apr07		-12850.25	44349.48	-0.29	0.772	-99775.26	74074.76
may07		1856.403	45377.94	0.04	0.967	-87084.38	90797.19
jun07		41869.14	48925.07	0.86	0.392	-54024.02	137762.3
jul07		125353.9	57971.2	2.16	0.031	11730.29	238977.5
aug07		123290.7	54873.17	2.25	0.025	15739.25	230842.1
sep07		52128.25	47392.05	1.10	0.271	-40760.19	145016.7
oct07		2312.047	43515.33	0.05	0.958	-82978.04	87602.13
nov07		9366.918	46986.34	0.20	0.842	-82726.34	101460.2
dec07		18724.86	49113.47	0.38	0.703	-77537.57	114987.3
jan08		101218.6	60075.97	1.68	0.092	-16530.37	218967.5
feb08		100873.1	58920.71	1.71	0.087	-14611.55	216357.7
mar08		32618.27	49623.42	0.66	0.511	-64643.66	129880.2
apr08		-1376.908	45583.97	-0.03	0.976	-90721.53	87967.71
may08		5670.932	44511.06	0.13	0.899	-81570.78	92912.64
jun08		41924.93	49159.17	0.85	0.394	-54427.06	138276.9
jul08		111714.6	56179.84	1.99	0.047	1602.035	221827.1
aug08		130058.1	57883.86	2.25	0.025	16605.69	243510.5
sep08		69713.53	47629.67	1.46	0.143	-23640.66	163067.7
oct08		6522.766	44565.08	0.15	0.884	-80824.82	93870.35
nov08		34642.17	47567.28	0.73	0.466	-58589.73	127874.1
dec08		151290.9	70945.94	2.13	0.033	12236.83	290345
jan09		79214.6	58827.69	1.35	0.178	-36087.72	194516.9
feb09		75168.91	53712.64	1.40	0.162	-30107.91	180445.7
mar09		31803.03	47795.79	0.67	0.506	-61876.75	125482.8
apr09		-7616.818	44750.95	-0.17	0.865	-95328.7	80095.07
may09		812.3817	46069.32	0.02	0.986	-89483.51	91108.27
jun09		46414.19	48601.18	0.96	0.340	-48844.16	141672.5
jul09		100730.7	55426.08	1.82	0.069	-7904.45	209365.9
aug09		71465.92	49148.2	1.45	0.146	-24864.59	167796.4

sep09		28741	43954.71	0.65	0.513	-57410.27	114892.3
oct09		-33719.41	39873.16	-0.85	0.398	-111870.8	44432.02
nov09		-42718.53	38974.42	-1.10	0.273	-119108.4	33671.35
dec09		-26322.95	41732.36	-0.63	0.528	-108118.4	55472.49
jan10		42655.45	51320.43	0.83	0.406	-57932.62	143243.5
feb10		50790.21	48909.98	1.04	0.299	-45073.38	146653.8
mar10		58364.02	51075.45	1.14	0.253	-41743.9	158471.9
apr10		-224.8672	45405.57	-0.00	0.996	-89219.82	88770.08
may10		-3023.609	42946.18	-0.07	0.944	-87198.16	81150.94
jun10		33928.51	48130.66	0.70	0.481	-60407.61	128264.6
jul10		78918.3	49794.15	1.58	0.113	-18678.27	176514.9
aug10		98891.8	51964.99	1.90	0.057	-2959.614	200743.2
sep10		68020.28	47602.46	1.43	0.153	-25280.57	161321.1
oct10		-5329.414	40126.16	-0.13	0.894	-83976.71	73317.88
nov10		-5525.398	40105.01	-0.14	0.890	-84131.25	73080.45
dec10		15217.14	43658.18	0.35	0.727	-70352.92	100787.2
_cons		309710.4	87518.96	3.54	0.000	138173.2	481247.6

APPENDIX 5 – REVISED MODEL, PRC AND VIETNAM

Linear regression, China

Number of obs = 55800
F(27, 55772) = 199.82
Prob > F = 0.0000
R-squared = 0.1235
Root MSE = 2.3e+06

imports	Robust					
	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
treatedgroup	611543	71119.45	8.60	0.000	472148.4	750937.5
afterperiod	161306.8	20208.99	7.98	0.000	121697.1	200916.6
tariff	-2535801	471382.7	-5.38	0.000	-3459714	-1611888
austria	57719.65	10755.41	5.37	0.000	36638.97	78800.33
belgium	1200807	62845.42	19.11	0.000	1077629	1323984
cyprus	-75693.79	7154.53	-10.58	0.000	-89716.71	-61670.86
czechrepub	137369.3	15452.04	8.89	0.000	107083.2	167655.4
germany	2648549	133483	19.84	0.000	2386922	2910177
denmark	194004.9	15234.29	12.73	0.000	164145.6	223864.2
estonia	-89238.24	6950.591	-12.84	0.000	-102861.4	-75615.04
spain	1312782	77682.41	16.90	0.000	1160524	1465040
finland	4735.401	8730.795	0.54	0.588	-12377.01	21847.82
france	1584716	84510.13	18.75	0.000	1419075	1750356
uk	2742373	113455	24.17	0.000	2520001	2964746
greece	234071.1	22367.76	10.46	0.000	190230.1	277912.1
hungary	-70792.78	7086.862	-9.99	0.000	-84683.07	-56902.48
ireland	7078.575	9680.247	0.73	0.465	-11894.77	26051.92
italy	1734727	83587.26	20.75	0.000	1570895	1898558
lithuania	-66154.58	7274.151	-9.09	0.000	-80411.96	-51897.2
luxemburg	-96690.93	6984.08	-13.84	0.000	-110379.8	-83002.09
latvia	-85695.87	6959.18	-12.31	0.000	-99335.9	-72055.83
malta	-92383.6	6986.929	-13.22	0.000	-106078	-78689.17
netherlands	1511207	73136.1	20.66	0.000	1367860	1654554
poland	161130.2	17481.58	9.22	0.000	126866.2	195394.2
portugal	-12345.8	8820.29	-1.40	0.162	-29633.62	4942.027
sweden	218510.7	16793.67	13.01	0.000	185595	251426.4
slovenia	-54991.33	7359.344	-7.47	0.000	-69415.69	-40566.97
slovakia	(dropped)					
_cons	-83458.58	17247.34	-4.84	0.000	-117263.5	-49653.68

Linear regression, Vietnam

Number of obs = 64800
F(27, 64772) = 102.30
Prob > F = 0.0000
R-squared = 0.0896
Root MSE = 1.1e+06

imports	Robust					
	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
treatedgroup	522532.3	56347.46	9.27	0.000	412091.2	632973.3
afterperiod	-11272.43	7762.777	-1.45	0.146	-26487.48	3942.618
tariff	-1159266	600572.7	-1.93	0.054	-2336389	17856.45
austria	3854.334	8914.27	0.43	0.665	-13617.64	21326.31
belgium	530283.3	36331.48	14.60	0.000	459073.6	601493
cyprus	-67143.13	7945.998	-8.45	0.000	-82717.29	-51568.97
czechrepub	-47363.98	7980.278	-5.94	0.000	-63005.33	-31722.63
germany	1008803	61474.14	16.41	0.000	888313.6	1129292
denmark	-29506.37	8234.907	-3.58	0.000	-45646.79	-13365.94
estonia	-68816.55	7950.555	-8.66	0.000	-84399.64	-53233.45
spain	269607.1	20051.28	13.45	0.000	230306.6	308907.6
finland	-56448.13	7949.701	-7.10	0.000	-72029.54	-40866.71
france	311784.8	23288.98	13.39	0.000	266138.4	357431.2
uk	1051277	71921.46	14.62	0.000	910311.2	1192243
greece	-18770.48	8448.424	-2.22	0.026	-35329.39	-2211.561
hungary	-65725.57	7934.825	-8.28	0.000	-81277.83	-50173.31
ireland	-58386.25	7970.754	-7.33	0.000	-74008.93	-42763.57
italy	417725.1	28333.9	14.74	0.000	362190.6	473259.6
lithuania	-65358.28	7943.345	-8.23	0.000	-80927.24	-49789.32
luxemburg	-68565.11	7947.716	-8.63	0.000	-84142.64	-52987.58
latvia	-68266.04	7949.173	-8.59	0.000	-83846.42	-52685.65
malta	-68542.28	7950.377	-8.62	0.000	-84125.03	-52959.54
netherlands	310079.6	23350.51	13.28	0.000	264312.6	355846.6
poland	-55964.82	7955.686	-7.03	0.000	-71557.97	-40371.67
portugal	-66186.74	7940.467	-8.34	0.000	-81750.06	-50623.42
sweden	41005.83	9826.582	4.17	0.000	21745.72	60265.93
slovenia	-65325.26	7948.157	-8.22	0.000	-80903.66	-49746.87
slovakia	(dropped)					
_cons	6397.686	9910.931	0.65	0.519	-13027.75	25823.12

APPENDIX 6 – BASIC MODEL, INDIA AND INDONESIA

Linear regression, India

Number of obs = 64800
 F(97, 64702) = 20.21
 Prob > F = 0.0000
 R-squared = 0.0715
 Root MSE = 3.3e+05

imports	Robust					
	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
treatedgroup	75323.11	7997.215	9.42	0.000	59648.56	90997.66
afterperiod	-4721.199	11139.76	-0.42	0.672	-26555.13	17112.73
treat_after	66602.04	11132.3	5.98	0.000	44782.73	88421.36
austria	-3728.524	5159.128	-0.72	0.470	-13840.42	6383.369
belgium	1884.404	5121.157	0.37	0.713	-8153.067	11921.87
cyprus	-35786.43	4397.199	-8.14	0.000	-44404.95	-27167.92
czechrepub	-28976.12	4414.518	-6.56	0.000	-37628.58	-20323.66
germany	198193.2	16939.67	11.70	0.000	164991.4	231394.9
denmark	-23026.41	4501.95	-5.11	0.000	-31850.23	-14202.58
estonia	-35557.66	4399.452	-8.08	0.000	-44180.59	-26934.73
spain	67118.32	8949.039	7.50	0.000	49578.2	84658.45
finland	-29784.73	4437.566	-6.71	0.000	-38482.37	-21087.1
france	104931.4	10069.51	10.42	0.000	85195.14	124667.6
uk	190448.9	12849.41	14.82	0.000	165264	215633.7
greece	-27090.42	4431.082	-6.11	0.000	-35775.34	-18405.5
hungary	-19833.89	4827.176	-4.11	0.000	-29295.16	-10372.62
ireland	-33392.7	4394.82	-7.60	0.000	-42006.55	-24778.85
italy	210720.7	19750.06	10.67	0.000	172010.6	249430.8
lithuania	-34120.17	4409.664	-7.74	0.000	-42763.12	-25477.23
luxemburg	-36019.4	4398.599	-8.19	0.000	-44640.66	-27398.14
latvia	-35976.56	4398.586	-8.18	0.000	-44597.79	-27355.33
malta	-35864.77	4397.377	-8.16	0.000	-44483.63	-27245.9
netherlands	18786.48	7932.608	2.37	0.018	3238.559	34334.39
poland	-21248.19	4942.165	-4.30	0.000	-30934.84	-11561.55
portugal	4750.348	6240.548	0.76	0.447	-7481.13	16981.83
sweden	-23881.45	4528.167	-5.27	0.000	-32756.66	-15006.24
slovenia	-34548.66	4402.862	-7.85	0.000	-43178.27	-25919.04
slovakia	(dropped)					
jan05	(dropped)					
feb05	3176.971	10891.95	0.29	0.771	-18171.26	24525.21
mar05	6823.458	10946.71	0.62	0.533	-14632.1	28279.02
apr05	530.8133	10341.07	0.05	0.959	-19737.69	20799.31
may05	-3562.644	10226.77	-0.35	0.728	-23607.12	16481.83
jun05	-2960.463	10410.53	-0.28	0.776	-23365.11	17444.18
jul05	3160.784	11104.6	0.28	0.776	-18604.25	24925.82
aug05	8501.169	11325.68	0.75	0.453	-13697.17	30699.5
sep05	17254.92	12644.92	1.36	0.172	-7529.133	42038.97
oct05	3570.302	11340.11	0.31	0.753	-18656.31	25796.92
nov05	-3478.631	10295.87	-0.34	0.735	-23658.54	16701.28
dec05	-2441.186	10590.24	-0.23	0.818	-23198.06	18315.69

jan06		7421.038	11653.39	0.64	0.524	-15419.62	30261.69
feb06		9093.33	11769.16	0.77	0.440	-13974.24	32160.9
mar06		18331.44	12687.65	1.44	0.149	-6536.36	43199.24
apr06		(dropped)					
may06		-3740.113	10703.62	-0.35	0.727	-24719.21	17238.98
jun06		-2402.384	11706.51	-0.21	0.837	-25347.14	20542.38
jul06		5193.028	12900.66	0.40	0.687	-20092.26	30478.32
aug06		19919.65	14675.04	1.36	0.175	-8843.426	48682.73
sep06		31134.18	17876.46	1.74	0.082	-3903.69	66172.05
oct06		12401.99	14590.45	0.85	0.395	-16195.3	40999.28
nov06		2194.927	14188.52	0.15	0.877	-25614.58	30004.43
dec06		-2695.779	11904.44	-0.23	0.821	-26028.49	20636.93
jan07		7694.641	12580.67	0.61	0.541	-16963.48	32352.76
feb07		8897.834	12533.56	0.71	0.478	-15667.95	33463.62
mar07		7812.054	11821.45	0.66	0.509	-15357.99	30982.1
apr07		2608.218	11236.39	0.23	0.816	-19415.12	24631.55
may07		-1024.457	11377.87	-0.09	0.928	-23325.09	21276.18
jun07		2288.432	12367.89	0.19	0.853	-21952.65	26529.51
jul07		15888.87	15074.11	1.05	0.292	-13656.39	45434.13
aug07		30828.37	17014.92	1.81	0.070	-2520.886	64177.63
sep07		35960.43	18316.18	1.96	0.050	60.70382	71860.16
oct07		16384.94	15968.24	1.03	0.305	-14912.81	47682.7
nov07		489.6944	11907.43	0.04	0.967	-22848.87	23828.26
dec07		-8804.338	10764.89	-0.82	0.413	-29903.52	12294.85
jan08		3666.378	12444.44	0.29	0.768	-20724.74	28057.49
feb08		2583.127	11181.38	0.23	0.817	-19332.39	24498.65
mar08		3318.267	11209.61	0.30	0.767	-18652.57	25289.1
apr08		-2307.353	11081.3	-0.21	0.835	-24026.71	19412
may08		-4384.991	11412.93	-0.38	0.701	-26754.35	17984.37
jun08		-1444.488	12408.54	-0.12	0.907	-25765.24	22876.26
jul08		21011.96	15885.85	1.32	0.186	-10124.32	52148.23
aug08		29947.05	18032.6	1.66	0.097	-5396.85	65290.95
sep08		39560.04	20366.67	1.94	0.052	-358.6398	79478.72
oct08		9970.301	13892.77	0.72	0.473	-17259.55	37200.15
nov08		-6552.352	10774.12	-0.61	0.543	-27669.63	14564.93
dec08		-9011.044	10625.43	-0.85	0.396	-29836.9	11814.81
jan09		-6484.346	10608.64	-0.61	0.541	-27277.29	14308.59
feb09		-5240.112	10433.82	-0.50	0.616	-25690.4	15210.17
mar09		-1707.498	10832.28	-0.16	0.875	-22938.77	19523.77
apr09		-8941.031	9955.453	-0.90	0.369	-28453.72	10571.66
may09		-10077.12	10233.56	-0.98	0.325	-30134.89	9980.658
jun09		-894.7589	11695.51	-0.08	0.939	-23817.96	22028.44
jul09		21078.56	15875.75	1.33	0.184	-10037.92	52195.03
aug09		25795.95	17566.21	1.47	0.142	-8633.846	60225.74
sep09		34610.96	21711.86	1.59	0.111	-7944.297	77166.22
oct09		8731.697	14155.49	0.62	0.537	-19013.07	36476.47
nov09		-8584.774	10642.94	-0.81	0.420	-29444.95	12275.4
dec09		-8026.204	10604	-0.76	0.449	-28810.04	12757.63
jan10		-4362.287	10700.16	-0.41	0.684	-25334.61	16610.03
feb10		-3855.117	10645.59	-0.36	0.717	-24720.48	17010.24
mar10		8698.229	12013.4	0.72	0.469	-14848.05	32244.51
apr10		-1434.959	10852.93	-0.13	0.895	-22706.7	19836.78
may10		-2541.71	10812.47	-0.24	0.814	-23734.16	18650.74

jun10		8738.67	12545.06	0.70	0.486	-15849.66	33327
jul10		23256.16	16331.79	1.42	0.154	-8754.162	55266.48
aug10		50776.87	23023.23	2.21	0.027	5651.317	95902.43
sep10		61591.89	28389.3	2.17	0.030	5948.852	117234.9
oct10		41150.16	21169.92	1.94	0.052	-342.9044	82643.23
nov10		14662.3	14387.26	1.02	0.308	-13536.75	42861.34
dec10		3372.556	12139.25	0.28	0.781	-20420.39	27165.5
_cons		10456.57	9060.977	1.15	0.248	-7302.952	28216.09

Linear regression, Indonesia

Number of obs = 64800
F(97, 64702) = 18.43
Prob > F = 0.0000
R-squared = 0.0752
Root MSE = 4.7e+05

		Robust					
imports		Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
treatedgroup		121340.8	13901.98	8.73	0.000	94092.89	148588.7
afterperiod		-22166.05	15702.8	-1.41	0.158	-52943.55	8611.439
treat_after		128876.3	18740.5	6.88	0.000	92144.9	165607.7
austria		-38542.08	6485.719	-5.94	0.000	-51254.09	-25830.06
belgium		244122.7	26358.89	9.26	0.000	192459.2	295786.1
cyprus		-47826.59	6444.261	-7.42	0.000	-60457.35	-35195.84
czechrepub		-44975.62	6427.398	-7.00	0.000	-57573.32	-32377.91
germany		229642.9	19754.73	11.62	0.000	190923.6	268362.1
denmark		6157.056	8355.722	0.74	0.461	-10220.17	22534.28
estonia		-48560.43	6444.939	-7.53	0.000	-61192.52	-35928.35
spain		146.9259	7109.253	0.02	0.984	-13787.21	14081.07
finland		-43539.5	6461.834	-6.74	0.000	-56204.7	-30874.3
france		23605.67	8397.485	2.81	0.005	7146.59	40064.74
uk		236385.5	22112.62	10.69	0.000	193044.8	279726.3
greece		-29419.48	6504.646	-4.52	0.000	-42168.59	-16670.37
hungary		-47287.65	6438.38	-7.34	0.000	-59906.88	-34668.42
ireland		-47454.32	6437.87	-7.37	0.000	-60072.55	-34836.09
italy		193134	18989.85	10.17	0.000	155913.9	230354.1
lithuania		-48341.04	6442.45	-7.50	0.000	-60968.25	-35713.84
luxemburg		-45830.01	6481.416	-7.07	0.000	-58533.59	-33126.43
latvia		-48369.27	6442.717	-7.51	0.000	-60997	-35741.54
malta		-48285.75	6443.848	-7.49	0.000	-60915.69	-35655.8
netherlands		132643.2	13278.64	9.99	0.000	106617	158669.3
poland		-46213.49	6433.406	-7.18	0.000	-58822.97	-33604.01
portugal		-31309.91	6967.309	-4.49	0.000	-44965.84	-17653.98
sweden		-36373.83	6449.135	-5.64	0.000	-49014.14	-23733.52
slovenia		-47576.93	6439.424	-7.39	0.000	-60198.2	-34955.65
slovakia		(dropped)					
jan05		(dropped)					
feb05		-1274.743	13744.04	-0.09	0.926	-28213.07	25663.58
mar05		-2361.759	13785.76	-0.17	0.864	-29381.87	24658.35

apr05		-7156.596	13128.43	-0.55	0.586	-32888.32	18575.13
may05		-7944.908	12713.9	-0.62	0.532	-32864.15	16974.34
jun05		-213.3689	13891.63	-0.02	0.988	-27440.97	27014.23
jul05		4131.892	14214.21	0.29	0.771	-23727.97	31991.75
aug05		6492.157	14683.29	0.44	0.658	-22287.11	35271.42
sep05		-181.1167	13964.57	-0.01	0.990	-27551.68	27189.45
oct05		-11068.38	12586.54	-0.88	0.379	-35738	13601.24
nov05		-2571.716	14903.84	-0.17	0.863	-31783.26	26639.83
dec05		-12029.19	13145.56	-0.92	0.360	-37794.5	13736.12
jan06		4468.63	15761.65	0.28	0.777	-26424.22	35361.48
feb06		12914	16687.07	0.77	0.439	-19792.66	45620.66
mar06		14445.29	18070.29	0.80	0.424	-20972.49	49863.08
apr06		(dropped)					
may06		-418.4644	17010.38	-0.02	0.980	-33758.83	32921.9
jun06		10767.27	18634.35	0.58	0.563	-25756.07	47290.61
jul06		18787.77	19266.11	0.98	0.329	-18973.82	56549.35
aug06		25520.27	20834.89	1.22	0.221	-15316.13	66356.66
sep06		12516.2	18725.35	0.67	0.504	-24185.5	49217.91
oct06		3748.05	17339.99	0.22	0.829	-30238.34	37734.44
nov06		-8969.39	15707.33	-0.57	0.568	-39755.76	21816.98
dec06		-6076.706	17177	-0.35	0.724	-39743.64	27590.23
jan07		16921.81	21001.64	0.81	0.420	-24241.41	58085.04
feb07		21565.15	22591.58	0.95	0.340	-22714.35	65844.66
mar07		12242.81	20938.68	0.58	0.559	-28797.03	53282.64
apr07		2705.742	19447.5	0.14	0.889	-35411.38	40822.86
may07		3292.339	18429.42	0.18	0.858	-32829.34	39414.02
jun07		11961.5	18027.51	0.66	0.507	-23372.43	47295.43
jul07		31587.71	21593.55	1.46	0.144	-10735.67	73911.08
aug07		27715.35	21721.18	1.28	0.202	-14858.16	70288.87
sep07		5026.671	17572.27	0.29	0.775	-29414.99	39468.33
oct07		-5766.28	16868.53	-0.34	0.732	-38828.61	27296.05
nov07		-8785.444	15802.86	-0.56	0.578	-39759.06	22188.17
dec07		-3893.496	16593.72	-0.23	0.814	-36417.2	28630.21
jan08		13996.88	20174.74	0.69	0.488	-25545.62	53539.38
feb08		22987.99	21712.37	1.06	0.290	-19568.27	65544.25
mar08		8004.509	18869.27	0.42	0.671	-28979.27	44988.28
apr08		198.95	17475.52	0.01	0.991	-34053.09	34450.99
may08		3307.803	18043.35	0.18	0.855	-32057.17	38672.77
jun08		18809.23	20539.94	0.92	0.360	-21449.06	59067.53
jul08		36410.06	23485.06	1.55	0.121	-9620.662	82440.78
aug08		33384.31	23421.74	1.43	0.154	-12522.32	79290.95
sep08		15033.09	20342.46	0.74	0.460	-24838.16	54904.33
oct08		-1306.869	18104.14	-0.07	0.942	-36791	34177.26
nov08		7315.119	19469.36	0.38	0.707	-30844.84	45475.08
dec08		19817.65	22838.95	0.87	0.386	-24946.71	64582.01
jan09		46854.41	28210.98	1.66	0.097	-8439.131	102148
feb09		43286.16	27847.26	1.55	0.120	-11294.49	97866.82
mar09		28456.97	23812.53	1.20	0.232	-18215.6	75129.54
apr09		10287.98	21288.72	0.48	0.629	-31437.91	52013.88
may09		12011.91	21138	0.57	0.570	-29418.59	53442.42
jun09		31878.42	24513.11	1.30	0.193	-16167.3	79924.14
jul09		54405.55	28640.58	1.90	0.057	-1730.003	110541.1
aug09		35924.06	23817.89	1.51	0.131	-10759.03	82607.14

sep09		12480.78	20014.45	0.62	0.533	-26747.55	51709.11
oct09		-5921.386	16641.87	-0.36	0.722	-38539.46	26696.69
nov09		-16342.67	14534.99	-1.12	0.261	-44831.25	12145.92
dec09		487.1467	17084.92	0.03	0.977	-32999.31	33973.61
jan10		11507.78	20110.1	0.57	0.567	-27908.04	50923.59
feb10		35762.45	23117.61	1.55	0.122	-9548.072	81072.97
mar10		35017.11	23957.86	1.46	0.144	-11940.31	81974.52
apr10		11344.48	20015.25	0.57	0.571	-27885.43	50574.39
may10		15175.74	18829.13	0.81	0.420	-21729.36	52080.84
jun10		34561.3	22345.7	1.55	0.122	-9236.283	78358.88
jul10		56396.61	25381.05	2.22	0.026	6649.743	106143.5
aug10		46618.29	24085.25	1.94	0.053	-588.8226	93825.39
sep10		37428.83	22638.02	1.65	0.098	-6941.691	81799.36
oct10		9399.737	18000.71	0.52	0.602	-25881.66	44681.13
nov10		19839.39	18033.21	1.10	0.271	-15505.71	55184.49
dec10		27614.15	20325.99	1.36	0.174	-12224.8	67453.11
_cons		15878.43	11801.03	1.35	0.178	-7251.605	39008.46

APPENDIX 7 – REVISED MODEL, INDIA AND INDONESIA

Linear regression, India

Number of obs = 64800
F(27, 64772) = 66.69
Prob > F = 0.0000
R-squared = 0.0697
Root MSE = 3.3e+05

		Robust				
imports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
treatedgroup	75323.11	8002.019	9.41	0.000	59639.15	91007.07
afterperiod	-175.5804	2245.223	-0.08	0.938	-4576.219	4225.058
treat_after	66602.04	11146.29	5.98	0.000	44755.32	88448.77
austria	-3728.524	5158.427	-0.72	0.470	-13839.04	6381.996
belgium	1884.404	5119.926	0.37	0.713	-8150.655	11919.46
cyprus	-35786.43	4379.195	-8.17	0.000	-44369.66	-27203.21
czechrepub	-28976.12	4397.919	-6.59	0.000	-37596.05	-20356.2
germany	198193.2	16948.99	11.69	0.000	164973.1	231413.2
denmark	-23026.41	4494.012	-5.12	0.000	-31834.67	-14218.14
estonia	-35557.66	4381.65	-8.12	0.000	-44145.69	-26969.62
spain	67118.32	8955.096	7.49	0.000	49566.33	84670.32
finland	-29784.73	4422.292	-6.74	0.000	-38452.43	-21117.04
france	104931.4	10079.27	10.41	0.000	85176.02	124686.8
uk	190448.9	12856.62	14.81	0.000	165249.9	215647.9
greece	-27090.42	4412.893	-6.14	0.000	-35739.69	-18441.15
hungary	-19833.89	4815.96	-4.12	0.000	-29273.18	-10394.61
ireland	-33392.7	4377.432	-7.63	0.000	-41972.47	-24812.93
italy	210720.7	19760.71	10.66	0.000	171989.7	249451.7
lithuania	-34120.17	4392.695	-7.77	0.000	-42729.85	-25510.49
luxemburg	-36019.4	4380.642	-8.22	0.000	-44605.46	-27433.34
latvia	-35976.56	4380.605	-8.21	0.000	-44562.55	-27390.57
malta	-35864.77	4379.502	-8.19	0.000	-44448.59	-27280.94
netherlands	18786.48	7949.193	2.36	0.018	3206.052	34366.9
poland	-21248.19	4933.44	-4.31	0.000	-30917.74	-11578.65
portugal	4750.348	6229.683	0.76	0.446	-7459.834	16960.53
sweden	-23881.45	4520.113	-5.28	0.000	-32740.88	-15022.03
slovenia	-34548.66	4385.669	-7.88	0.000	-43144.57	-25952.74
slovakia	(dropped)					
_cons	14817.99	4715.145	3.14	0.002	5576.302	24059.67

Linear regression Indonesia

Number of obs = 64800
F(27, 64772) = 64.68
Prob > F = 0.0000
R-squared = 0.0742
Root MSE = 4.7e+05

imports	Robust					
	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
treatedgroup	121340.8	13901.85	8.73	0.000	94093.15	148588.4
afterperiod	-5467.597	1873.603	-2.92	0.004	-9139.86	-1795.334
treat_after	128876.3	18743.41	6.88	0.000	92139.2	165613.4
austria	-38542.08	6465.392	-5.96	0.000	-51214.25	-25869.91
belgium	244122.7	26349.47	9.26	0.000	192477.7	295767.6
cyprus	-47826.59	6421.423	-7.45	0.000	-60412.59	-35240.6
czechrepub	-44975.62	6405.271	-7.02	0.000	-57529.95	-32421.28
germany	229642.9	19760.08	11.62	0.000	190913.1	268372.6
denmark	6157.056	8352.898	0.74	0.461	-10214.63	22528.74
estonia	-48560.43	6422.189	-7.56	0.000	-61147.93	-35972.94
spain	146.9259	7101.707	0.02	0.983	-13772.42	14066.28
finland	-43539.5	6439.989	-6.76	0.000	-56161.88	-30917.12
france	23605.67	8399.367	2.81	0.005	7142.903	40068.43
uk	236385.5	22107.73	10.69	0.000	193054.4	279716.7
greece	-29419.48	6488.107	-4.53	0.000	-42136.17	-16702.79
hungary	-47287.65	6416.356	-7.37	0.000	-59863.71	-34711.58
ireland	-47454.32	6415.366	-7.40	0.000	-60028.44	-34880.2
italy	193134	19003.03	10.16	0.000	155888	230379.9
lithuania	-48341.04	6419.701	-7.53	0.000	-60923.66	-35758.42
luxemburg	-45830.01	6461.009	-7.09	0.000	-58493.59	-33166.43
latvia	-48369.27	6419.959	-7.53	0.000	-60952.39	-35786.14
malta	-48285.75	6420.939	-7.52	0.000	-60870.79	-35700.7
netherlands	132643.2	13281.93	9.99	0.000	106610.6	158675.8
poland	-46213.49	6411.672	-7.21	0.000	-58780.37	-33646.61
portugal	-31309.91	6942.443	-4.51	0.000	-44917.1	-17702.72
sweden	-36373.83	6428.88	-5.66	0.000	-48974.44	-23773.22
slovenia	-47576.93	6416.954	-7.41	0.000	-60154.16	-34999.7
slovakia	(dropped)					
_cons	15721.77	6719.26	2.34	0.019	2552.021	28891.53