



JÖNKÖPING INTERNATIONAL BUSINESS SCHOOL  
JÖNKÖPING UNIVERSITY

# **The Impact of an Anti-dumping Measure**

## A Study on EU Imports of Chinese Footwear

Bachelor Thesis within Economics

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## Abstract

This essay analyse the anti-dumping policy of the European Union, with specific focus on the anti-dumping tariff imposed on imports of certain footwear from the People's Republic of China from 1997 to 2002.

Even though free trade is expected from the members of the World Trade Organization (WTO) there are certain exceptions. One is when there is a suspicion that goods are being dumped in a foreign market, i.e. the exporter sells the product at a lower price in the foreign market than in its home market. Article VI in GATT regulates this together with the Anti-dumping Agreement.

In 1997 EU imposed an anti-dumping measure on certain footwear imported from the People's Republic of China. This measure was in effect until 2002 (the maximum time for an anti-dumping tariff is five years). We expect to see a decrease of footwear exports from the People's Republic of China to the European Union during this period.

By using a log-linear regression analysis we can see that the EU imports of Chinese footwear did indeed decrease from its trend otherwise during 1997 to 2002. Since the industry overall increased its sales during the same period, we draw the conclusion that the tariff was the reason for the decreased imports.

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# 1 Introduction

In a market that is imperfectly competitive firms might sell a good in a foreign country for a different price than when they sell it on a domestic market. Charging different customers different prices is called price discrimination and the most common form of this in international trade is dumping. Dumping is when a firm charges a lower price for the same product on the foreign market than it does in the home market. Dumping is a very controversial issue in international trade (Krugman & Obstfeld, 2003).

There are many opinions regarding whether dumping is unfair competition or not. However, there are many countries taking action against dumping to protect their domestic industries. There is a WTO agreement on the matter of dumping but it does not judge if it is right or wrong. Instead it deals with how countries can or cannot respond to dumping and is called the “Anti-Dumping Agreement”. The agreement lets the countries to take action against dumping when it causes material injury to the domestic industries. To take such action, the government has to be able to show that the dumping exists, determine the difference in price level of the importer’s and exporter’s home markets, and show that it causes injury or will do so in the future (WTO I, 2006).

## 1.1 Research Problem

There have always been numerous economists promoting free trade as the ideal trade policy that every country should attempt to reach. The beliefs are that free trade leads to further gains when the distortions of production and consumption are gone (Krugman & Obstfeld, 2003). Trade policy measures like tariffs and quotas are usually there to protect certain groups of interest. Governments claim that the protection policies are of interest for the society as a whole, whereas economists often argue that free trade is better for the welfare of the nation. That said, even most economists agree that there also exist some certain situations where protection might be a better option (Krugman & Obstfeld, 2003).

Agriculture and clothing are the two sectors that are the most protected industries. It is especially the apparel industry in clothing production that has been heavily protected with both tariffs and quotas. The apparel industry is labor-intensive and the technology is simple and therefore the low-wage nations have a strong comparative advantage. The workers only need a little capital, there is no need of formal education and the technology is easily transferred to poor countries (Krugman & Obstfeld, 2003).

One of those countries with low-cost labor is the People’s Republic of China, which with its enormous population can produce apparel probably cheaper than anywhere else in the world. The People’s Republic of China has been accused of dumping production of shoes in the European Union market and has therefore been subject to a number of anti-dumping measures. These measures have been put in place in order to protect the European producers, who are seen to be faced by unfair competition from the dumped goods. We will take a look at one of these tariffs (imposed 1997 to 2002), to see what effect the anti-dumping measure had on imports from China to the EU during this period (Official Journal, 1997).

## **1.2 Purpose**

The purpose of this thesis is to examine the impact an anti-dumping measure has on the EU imports of Chinese footwear. An anti-dumping measure was put into place on EU footwear imports from the People's Republic of China in November 1997 until October 2002. The result is expected to show a decline in imports during this five-year period and this will be examined with a regression analysis.

## **1.3 Outline**

The next section will present the theoretical background to the concept of free trade, the concept of dumping, as well as the concept of anti-dumping. This will give the reader the necessary knowledge to follow the rest of the paper. The regulation regarding dumping and anti-dumping from the World Trade Organization will also be presented in the third section.

The fourth section will give some information about the EU industry in question, i.e. the footwear sector. The development of the industry as well as its trade performance internationally will be discussed. Following this, the particular case of the EU anti-dumping measures against Chinese footwear will be presented.

The sixth section presents the empirical analysis performed specifically for the thesis. A time series analysis will show that the EU imports of Chinese footwear declined during the period when the anti-dumping measure was imposed.

The paper will be wrapped up by a conclusion, including proposals for further research questions.

## 2 Theoretical Backgrounds

### 2.1 The Idea of Free Trade

A small country engaging in trade barriers cannot influence the foreign export prices. The use of a tariff will lead to an efficiency loss for that economy, because of the distortions of the incentives for consumers and producers. With free trade these distortions will be removed and the national welfare will increase (Krugman & Obstfeld, 2003).

Additional gains from trade arise from economies of scale. For protected industries in a country the competition is reduced and profit increased and this will cause too many firms to enter the market. It is not efficient when several firms produce a certain amount of products when fewer producers could manage the production. Another argument is that free trade provides incentives for entrepreneurs to find new ways to export and challenge the imports. With a free trade policy there will be more opportunities and spill over, promoting economic growth (Krugman & Obstfeld, 2003).

In some cases concerning a large country, the terms of trade can actually improve because of a tariff. If the country is so large that it can affect the price of foreign exports, a tariff will decrease the price of imports and consequently give better terms of trade. The benefit of the improvement in the terms of trade must be larger than the cost of the tariff for it to benefit the nation (Krugman & Obstfeld, 2003).

Another argument against free trade is the one of domestic market failure. Market failure occurs if one market in a country is not working properly, e.g. the capital market is not allocating efficiently or the labor market is not clearing. It is also known as the theory of the second best. This theory says that free trade policy is the best alternative in a market only if all the other markets are working properly. The second best for the nation is therefore the option of intervening. Market failures are a problem but many still argue that free trade is the best option despite this. The defense of free trade is that; 1) domestic market failures is best solved by using domestic policies aimed at the sources of the problems and also that; 2) it is not easy for economists to diagnose market failure and find the specific policy for it (Krugman & Obstfeld, 2003).

Free trade can be advantageous in many circumstances, especially in a situation when there are only a few domestic producers competing. An opening of the market will lead to more competition, which is always beneficial. With other conditions it might be a good idea to impose a tariff to get part of the gains from a foreign exporter's monopoly, for example. Free trade is not always the best solution in markets with imperfect competition. If the required information about the conditions of the market is accessible, it is possible to increase the welfare of a country with intervening trade policy or the imposition of duties and subsidies (Kjeldsen-Kragh, 2001).

### 2.2 The Concept of Dumping

The concept of dumping was first introduced by Jacob Viner in his study *Dumping: A problem in International Trade* in 1923. He defined the concept 'dumping' as 'price discrimination between national markets' (Jacob Viner, 1923, *Dumping: A problem in International Trade* in 1923, p. 3). Dumping is when an identical product is sold at a lower price in the foreign market than in the home market. The definition also includes unusual situations where the same product is sold at a higher price in the foreign market than in the home market

(known as reverse dumping) and the situation where the price of the product is different in the various foreign markets. The main aspect is that a company charges a different price in different markets for the same product and this is price discrimination. The difference between general price discrimination and dumping is that dumping occurs in an international market between countries. (Li, 2003)

Today the economic analyses of dumping is mainly focusing on the situation where the product is sold at a lower price in a foreign market than in a domestic market, since anti-dumping law only deals with this situation. The concept of dumping has also been extended to include sales below the cost of production, not taking into account if there is price discrimination or not in different national markets (Li, 2003).

The discussion of dumping is sometimes associated with subsidies and bounties. But the idea of subsidies differs from dumping. In some cases the producer with subsidies might sell the exporting products at a lower price in the foreign market resulting in dumping. But dumping is not always caused by subsidies and the two are regulated by different rules (Li, 2003).

Viner (1923) made a distinction between different types of dumping:

- **Sporadic dumping.** In cases where the dumping is not intentional. The firm exporting the product may have an excess of supply due to demand changes after the production process. It may also result from lack of experience when pricing a product or unexpected exchange rate changes (Hoekman, 2001).
- **Short-run or intermittent dumping** (months or years at a time). When a firm wants to get access to a new market and get the consumers' attention to their product. It also includes predatory dumping, when the firm lowers the prices to drive domestic firms out of business.
- **Long-run or continuous dumping.** To keep the firm being the only producer in the market, or to attain economies of scale production without reducing domestic prices. Decreasing unit cost as output increases is a requirement for obtaining economies of scale (Hoekman, 2001).

Viner applied an economic rule: 'From the point of view of the importing country as a whole, there is sound economic case against dumping only when it is reasonable to suppose that it will result in injury to domestic industry greater than the gain to consumers' (Viner, 1923).

### 2.2.1 Reasons to Dump a Good

A company can have different reasons as to why they choose the practice of dumping in foreign markets. Every individual firm has to take action to accomplish its own economic interests. Dumping is mostly generated by the incentive to maximize profits rather than by any other goal. To maximize profits in the monopoly model, a firm has to charge a price so that the marginal cost equals the marginal revenue. The reason why a firm charges different prices is because the elasticity of demand in the different markets is not equal. A firm can increase its profits by charging different prices for the same product in different markets. The marginal revenue would be greater in some markets than in others if the firm would charge the same price in all markets. For a monopoly firm to increase profits it sells more in a market with high elasticity of demand and high marginal revenue, and less in a market with low elasticity of demand and low marginal revenue. They have maximized their profit

when the marginal revenue in each market is equal to the marginal cost of the firm (Li, 2003).

An example:

There are two markets and a firm will get €100 to sell 5 units of an identical product for the price of €10 in both markets. Now it happens that the firm can sell 6 units and charge a price of €9 in one market. The firm can now sell 5 units and get €50 in one market and €54 by selling 6 units in the other market. The total revenue is €104, €4 more than before. The firm will charge different prices in the two markets, as long as the additional revenue of selling an extra unit is greater than the additional cost of producing it (Li, 2003)

Price discrimination can only be profitable when three conditions are fulfilled; 1) the firm has to have some degree of market power to be able to be a price setter. Price discrimination will not work under perfect competition, since the markets will have perfectly elastic demand and the firms are price setters. The same price will be charged in all markets under perfect competition; 2) the markets that are subject to price discrimination must be separated by natural or human barriers. Price discrimination will fail if the product can be easily bought and sold at a higher price in the other market, or if customers in the higher price market can travel costless to the other market to buy the product, and; 3) there must be unequal elasticity of demand in the markets. It is more profitable to charge a higher price in the market with low elasticity of demand by maintaining or reducing the supply, and have a lower price in the market with high elasticity of demand by increasing the supply (Li, 2003).

## **2.2.2 Effects of Dumping**

Both anti-dumping supporters and opponents agree that dumping always benefits the consumers of the importing country. Dumping results in cheap imported products and this causes the country's market prices to decrease. According to investigations by the European Commission, dumped imports are usually cheaper than the competitive products in the importing country. Even if the prices of the dumped imports are not lower, the additional products on the market can force down the price level. In both cases the consumers in the importing country will benefit from the lower prices of the commodities. Industrial users can also take advantage of lower prices if they are using dumped imports in their production. The dumping causes no harm if it is possible to shift from dumped imports to substitutes when the dumping ceases to exist. Consumers will only suffer if the dumping is predatory, i.e. when the firm lowers the prices to drive domestic firms out of business. Once the domestic firms are gone, the predatory company can enjoy market monopoly and set any price they like (only restricted by the elasticity of demand) (Li, 2003).

## **2.3 Anti-dumping**

As described above, a company is said to be 'dumping' a product if it exports the product at a lower price than it charges in its home market. There are different opinions whether this is unfair competition or not. Anti-dumping is a counteractive measure that the government uses to defend their domestic industries when dumping occurs.

Anti-dumping actions are supposed to protect the domestic industries from injuries. The interests of consumers and the public interest of a nation can be hurt by dumping as well as the imposed anti-dumping measures. The public interest is affected by the measures changing the competition and the price of the product in the importing country. (Li, 2003)

The WTO agreement (presented in section 2.4) does not pass judgment, but provides guidelines to how a government can or cannot respond to dumping. The 'Anti-Dumping Code' authorizes the government to react when dumping causes material injury to the domestic industry. For the government to be able to take actions it has to do a serious investigation according to the Code. The investigation has to show that dumping occurs, analyze the degree of dumping, and show that it causes injury or threatens to do so. If the analysis shows that dumping is taking place then an anti-dumping action is allowed. An action usually means imposing a duty on the imports from the specific country to bring its price closer to the 'normal value'. An anti-dumping measure can only be applied for five years unless an investigation shows that a removal of the duty will cause injury. Important is that the 'Anti-Dumping Code' says that the member countries must, quickly and in detail, notify the 'Committee on Anti-Dumping Practices' if taking preliminary and final anti-dumping actions. The investigations must also be reported twice a year (WTO I, 2006).

### **2.3.1 Effects of Anti-dumping Measures**

A country that is exposed to dumping will benefit from the lower prices. The consumers of the importing country will have a larger consumer surplus since they have access to a larger supply of goods to a lower price. These consumer benefits will be lost when the importing country imposes an antidumping measure on the low-price imports. When the duties are levied on the imports the products will have the same price-level in both domestic and foreign market. When the price is increased in the foreign market the supply will decrease and the producers have to comply with an inefficient low level of output. The consumers in the importing country have to pay a higher price for the products and have less consumer surplus. Other customers will not pay the higher price and are driven out of the market, which leads to a dead-weight social cost (Howse & Trebilcock, 1995).

Imposing an anti-dumping measure will cause all the consumers and industrial user benefits from dumping to disappear. The importing country will drive the dumped products out of the market if the anti-dumping duties are high enough, or the product might remain in the market at higher prices. If the dumped products leave the market, the domestic firms are able to raise their prices due to lesser competition. If an anti-dumping measure is introduced in a market where the domestic industry is composed of only one producer, it might lead to that producer charging monopoly prices since there will be no competition in the market (Li, 2003).

Trade diversion is another effect of anti-dumping measures. When the dumped imports decrease, the domestic market share, or imports from a third country, increases. By putting an duties on the dumped imports, those products will become more expensive. Consumers still want to consume the products but at the lowest price possible. This will benefit the exporters from other countries that are now relatively cheaper. Trade diversion will occur and the trade patterns will change. According to research done from European data on general anti-dumping measures, it is evident that the actual prices are highly related to the size of the imposed duties. The data indicates that three years after anti-dumping duties were levied the imports from the targeted countries had decreased by roughly 60 percent. The trade diversion effect is clear, as imports from non-targeted countries have increased by approximately 40 percent during the same time (Lasagni, 2000).

When foreign exporters are selling their goods at a lower price level, these low-cost suppliers will eventually drive the domestic producers out of the market. When producers have to leave the market this implies that the domestic workers will loose their jobs and the share-

holders of the firms will lose capital. With antidumping duties on the imported products, the domestic products will be more attractive to the consumers. The domestic producers will avoid the direct competition with the producers in the foreign country. Therefore, if the anti-dumping duties were removed the consumers will benefit from the lower price level, but on the other hand the producers might be seriously affected by losses from the low priced imports (Howse & Trebilcock, 1995).

## 3 Legislative Background

### 3.1 Legislative History

From 1904 to 1921 a number of industrialized nations (Canada, New Zealand, Australia, the Union of South Africa, Great Britain and the US) enacted anti-dumping laws to compensate for the ‘unfair advantage’ of the foreign producers by levying an anti-dumping duty. The subject has been on the table at an international level since 1920s. However, it was not until after the Second World War that rules were developed within GATT. GATT became effective on January 1<sup>st</sup>, 1948 and contains an article – Article VI – that deals with anti-dumping and countervailing duties. According to Article VI, there are two conditions for levying an anti-dumping duty. Firstly, measures can only be allowed when the price of the product in the importing country is less than in the domestic market. Secondly, no one should impose an anti-dumping duty unless it is clear that the effect of the dumping will injure a domestic industry. But this first attempt at formalizing the process was not satisfactory because it was not binding and it was not precise enough (Van Bael & Bellis, 1990).

At the Kennedy Round in 1967, the anti-dumping legislation was again put on the agenda. The ‘GATT Anti-Dumping Code’ was achieved and this agreement had binding obligations. During this round the first guidelines for *how* and *when* to use anti-dumping measures were described. During the Tokyo Round in 1979, the ‘Anti-Dumping Code’ was adjusted mainly because of two reasons; 1) to differentiate between anti-dumping and countervailing duties and; 2) growing dissatisfaction of the European Commission because of the way the US interpreted the injury requirement and other requirements believed to be too stringent. The ‘Anti-Dumping Code’ was further developed and the guidelines were more elaborated on how to deal with anti-dumping. Another provision added to the ‘Anti-Dumping Code’ was Article 13, recognizing that ‘special regard must be given by developed countries to the special situation of developing countries when considering the application of anti-dumping measures under this Code’ (Van Bael & Bellis, 1990).

New negotiations arose during the Uruguay Round (1994) as a response to the managed trade and new protectionism in the late 1970s and early 1980s. It was successful and major trading nations were prepared to continue with multilateral cooperation and support the regulation of the non-tariff measures (Hoekman, 2001).

The ‘Anti-Dumping Code’ was further developed during the Uruguay Round. It allows countries to impose a specific anti-dumping duty on imports for a particular country (on top of any bound rates) where dumping will cause injury or materially hamper the domestic industry. The agreement provides the basic principles expressed in the original Article VI, to govern the investigation, determination, and application, of anti-dumping duties (WTO II, 2006).

### 3.2 World Trade Organization

There is an elaborate set of regulations surrounding the use of anti-dumping measures. This section will give a brief introduction to the procedures that need to be followed in order for a tariff implementation.

The World Trade Organization (WTO) allows for some exceptions from the principle of binding tariffs and applying them equally to all trading partners (most-favoured-nation treatment, or MFN). One of these exceptions is that actions against dumping are allowed

under certain circumstances. The WTO does not pass judgment when it comes to anti-dumping, but instead focuses on how governments can or cannot react to dumping. However, the WTO disciplines anti-dumping actions and this is usually referred to as the Anti-Dumping Agreement, although the formal name is the Agreement on Implementation of Article VI of GATT 1994. In broad definition, the WTO agreement allows governments to act against dumping where there is genuine injury to the competing domestic industry or the dumping threatens to materially retard the establishment of a domestic industry. According to the agreement, in order to do so a government must be able to prove that dumping in fact is taking place, calculate the extent of dumping, and show that the dumping is causing injury or threatening to do so (WTO I, 2006).

It is Article VI in The General Agreement on Tariffs and Trade (GATT) that allows countries to act against dumping. This article is clarified and expanded by the Anti-Dumping Agreement. The two agreements work together on the issue and let countries take actions that usually would break the GATT principles of binding a tariff and not discriminating particular trading partners (WTO I, 2006).

The Anti-Dumping Agreement specifies how to decide whether a particular product is being dumped heavily or lightly, by calculating a product's 'normal value'. The main method is to use the price charged on the product in the exporter's domestic market (WTO I, 2006). This 'normal value' is then compared with the 'export price' – i.e. the appropriate price in the market of the importing country (WTO II, 2006).

If the presented measure is not possible, two alternative measures are available. The first one involves a calculation that combines the exporter's production costs, other expenses, and normal profit margins. The other one is based on the price charged by the exporter in another country. What is more, the agreement denotes how a fair comparison can be made between the export price and what is expected to be the normal price (WTO I, 2006).

Whether dumping is heavy or light is not all that needs to be decided, since anti-dumping measures only can be applied if the dumping is hurting the industry in the importing country. An investigation to evaluate all relevant factors affecting the industry in question has to be conducted. This is done according to some specified rules. In cases where dumping is proved existing and hurting the local industry the exporting country may raise its prices to an agreed level to avoid anti-dumping measures (WTO I, 2006).

The implementation of an anti-dumping policy is surrounded by a detailed set of conditions. This includes instructions on how an investigation of a suspected dumping case is to be conducted and the assurance that all parties will be given the opportunity to argue the case. An anti-dumping measure has to expire five years after the date of imposition. Exceptions are made if an investigation shows that if in doing so, the home industry will suffer injury. If the margin of dumping is trivial (the margin is set to less than 2% of the export price of the product) the anti-dumping investigations are to be terminated at once. Another condition is that the investigations also need to stop if the volume of dumped imports is less than 3% of total imports of that product. Although, countries can act together and if their combined dumped imports are 7% or more of total imports, the investigation can go on (WTO I, 2006).

## **4 Industry Specific Background**

### **4.1 The Footwear Sector in EU**

In 2003 the footwear sector of the EU's first 25 members (EU25) consisted of 27,000 companies and had a turnover of € 26.7 billion. People employed and directly involved in footwear manufacturing were around 361,000. In Portugal, Slovakia, Italy, and Spain the footwear sector is of great importance in the industrial production where it contributes up to 3 percent of total industrial production and 6 percent of total industrial employment. Of the total footwear production in EU, 67 percent is concentrated in Italy, Spain, and Portugal, where Italy alone produces close to 50 percent of EU production (European Commission, 2005).

Small and medium sized enterprises (SMEs) dominate the footwear sector. More than 45 percent of the value added is produced by firms that employ less than 50 people and more than 25 percent is produced by firms employing between 100 and 250 people. By comparison the number for the whole manufacturing industry is 30 percent. In Italy 60 percent of the value added is created by companies that have less than 20 employees. The opposite is seen in Spain, Portugal, France, and the UK, where medium and big companies form the main part of the footwear production with 100 to more than 1000 workers (European Commission, 2005, p. 4). Italy has no companies in the footwear sector with more than 100 people employed (European Commission, 2005).

The majority of SMEs in the footwear sector is considered to be a strength because those companies are usually more flexible and adaptable to changes in the market demand. On the other hand a high number of SMEs in a sector can make it vulnerable since those firms have limited capital and can have difficulties with external shocks and recessions (European Commission, 2005).

### **4.2 The Sector's Recent Development**

The footwear sector in the EU recently had a negative development. The demand for footwear in the EU has experienced an increase from 1.5 billion pairs purchased in 1995 to 1.8 billion pairs in 2003. But during the same period the production of footwear in EU has declined from 1.1 billion pairs to 710 million pairs, a fall of more than 36 percent. We can see that there has been a major substitution of the consumption of footwear, in that the demand has shifted from footwear produced in EU to products produced in third countries. In 1995, less than 50 percent of the demand of footwear was covered by imports, whereas eight years later the imports of footwear were 75 percent. There has also been a fall in the exports of footwear that has contributed to a decrease in EU production (European Commission, 2005).

In the EU25 there has been a faster decline in workers employed in the footwear industry than in footwear production. The workforce in the footwear industry has decreased by about 4 percent per year between 1997 and 2005, equal to about 160,000 jobs. The number for the whole manufacturing industry is less than one percent (European Commission, 2005).

### **4.3 International Trade Performance**

The performance of the EU in international trade has been disadvantaged by an unbalanced situation where the market access has not been equal. The EU step by step opened up its market, with reduced restrictions on quantities until January 2005, and the footwear industry has had to deal with high tariff and non-tariff barriers on its external markets. The net exports in the EU footwear sector has been negative, with the trade deficit in the industry more than doubling in the years from 1999 to 2003, from € 2 billion to € 5 billion. The worsening in the trade balance is caused by increased imports. Since 1999 the imports from third countries have increased by more than 40 percent and in 2004 the imports reached € 10 billion. This derives from the fact that footwear products are labor intensive which makes it difficult to compete with countries having unregulated labor markets, nonexistence of collective bargaining, and cheap labor costs. Also, many EU competitors do not have to bear the costs that come from environmental legislation. Of the top ten footwear suppliers to the EU there are no OECD countries; the imports to EU comes mainly from countries that have low labor costs (European Commission, 2005).

Imports from third countries have increased a great deal the last years resulting in the increased trade deficit in the footwear industry. The People's Republic of China is the main supplier of footwear to the EU market with a share of 25 percent of the imports. Some of the other main suppliers also come from Asia, such as Vietnam which has a share of 20 percent of the imports, or India and Indonesia with about 5 percent each the People's Republic of China and Indonesia are the two countries that have been accused of dumping their products in the European market and thus have faced anti-dumping measures from the EU (European Commission, 2005).

### **4.4 Quality Competitiveness**

Even though the EU industry faces great competition from cheap footwear produced by low labor cost countries, the EU industry is a leader of production of high quality footwear with 190 million pairs a year exported (valued at about € 4 billion). Although the EU has a considerable market share of high quality footwear, it has been declining not only on external but also internal markets (European Commission, 2005).

Quality competitiveness can explain why an industry can be able to maintain a fairly high level of exports even with the comparative advantage of low labor costs for competitors. Since many EU competitors have an advantage with low labor costs, the footwear industry in the EU has to differentiate itself to be able to compete. The EU footwear industry has managed to develop demand for high quality products as well as fashionable products. Companies have developed highly demanded brands that are associated with fashion, but also a strong image because of tradition, promotion, and marketing. Furthermore the firms are seen as modern in the case of safety, both in the case of environment and workers. These are advantages for the EU industry which have evolved from a high skilled labor force, management quality, creativity and innovativeness, and an efficient industrial organization. The main products exported by the industry in the EU (leather shoes) have a mark-up between the EU export price and the EU import price of nearly 200 percent. In developing economies, where the middle classes are growing and with a market that is conscious of quality, the EU has gained a comparative advantage with its high-quality, fashionable products (European Commission, 2005).

## 5 EU Anti-dumping Measure against the PR of China<sup>1</sup>

### 5.1 Procedure

The Commission Regulation (EC) No 165/97 of January 28<sup>th</sup>, 1997 is the document imposing a provisional anti-dumping duty on imports of certain footwear with textile uppers originating in the People's Republic of China and Indonesia. The procedure of imposing the duty was initiated on February 22<sup>nd</sup>, 1995, by the Commission announcing it in the publication *Official Journal of the European Communities*.

The investigation was initiated due to a complaint by the European Community of the Footwear Industry on behalf of national footwear federations. The complaint contained evidence of dumping of footwear with textile uppers and of material injury resulting from this dumping. This injury was considered great enough to justify the initiating of a proceeding. Since the footwear industry within the EU consists of a large number of producers, the commission decided to examine the degree of support, or opposition to, the complaint before initiating any investigation. The examination showed clear support for the investigation – 54 percent of the producers were concerned about dumping in the industry (Official Journal of the European Communities, 1997).

### 5.2 Conclusions on Injury and Causation

The investigation clearly showed that the EU producers' situation worsened significantly between 1991 and 1994 in respect of the product concerned. There was a decline in production, sales volume and turnover, market share, profitability and employment, as well as a considerable number of factory closures. The conclusion was thus that the EU industry was suffering injury that could be considered material. After that conclusion, the Commission examined whether the material injury was caused by the Chinese dumped imports or if other factors were to blame. As mentioned, the dumped products mostly affect the lower to lower-middle end of the market, in general the most price sensitive part of the market. These products have, to the consumer, few or no significant differences in quality whether they are imported or produced in the EU (Official Journal of the European Communities, 1997).

The Commission found that the increasing volume and market share of those imports corresponded with the loss of market share and declining financial situation of the EU industry. The dumped imports continued to undercut the European industry's prices, leading to price pressure which in turn could clearly be linked to the deteriorating situation of the European industry. If internal competition had been the only driving force on the market, the EU market would not have experienced the steep decline now observed (Official Journal of the European Communities, 1997).

Although other factors than dumped imports from the People's Republic of China could have contributed to the injury to the EU footwear industry, the Commission concluded that low-priced, dumped imports from the People's Republic of China caused material injury to the EU industry. The conclusion was mainly based on the above arguments, espe-

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<sup>1</sup> For your knowledge, the following text from the European Commission investigates imports from People's Republic of China as well as imports from Indonesia. Since our interest lies in the imports from China, the information about the Indonesian case has been withdrawn where so have been applicable.

cially the price undercutting and the massive increase in dumped imports that lead People's Republic of China to gain almost half the EU market. The declining profitability of the EU companies occurred at a time when consumption was increasing and import from third party countries was declining (Official Journal of the European Communities, 1997).

The Commission further concluded that without any measures the deterioration of the EU producers' position would continue and ultimately, the whole industry would be at risk. On the basis of the facts established, the Commission assumed more close downs of EU producers and more lost jobs if the dumped imports were allowed to continue. Considering the interest for the European Union on imposing anti-dumping measures, the Commission concluded there was no convincing reason not to take action against the dumped imports in question. On the contrary, imposing no measures would add difficulties to the European footwear industry and could lead to disappearance or relocation outside of the EU (Official Journal of the European Communities, 1997).

### **5.3 Provisional Duty**

The Commission decided that a seven percent profit margin on turnover would be an appropriate minimum. This would remove the injury suffered by the EU producers as a consequence of dumping. The profit margin was set at a price level which would allow the EU industry to cover its costs and achieve a reasonable profit. No individual treatment was granted to any of the Chinese producers, but a single injury-elimination margin was calculated. This margin was thus based on the injury-elimination margins for the cooperating companies and for the non-cooperating companies. The injury-elimination margin was found to be 94.1 percent, which was lower than the dumping margin and should therefore make up the basis for the provisional anti-dumping duty for all imports originating in the People's Republic of China. On February 1<sup>st</sup>, 1997 a provisional anti-dumping duty was imposed on imports of footwear falling within CN code 6404 19 10 and CN code ex 6404 19 90, originating in People's Republic of China (and in Indonesia) (Official Journal of the European Communities, 1997).

## 6 Empirical Analysis

To answer our question if AD measures have an effect on EU footwear imports from China we will consider a case study concerning a specific kind of footwear. An AD measure (i.e. tariff) was levied on a particular footwear import to EU from China during a period from 1997 to 2002 because of evidence of dumping. All products are classified and this type of footwear in our case study has the code 6404 19 90 and has the characteristics of footwear with outer soles of rubber or plastic and uppers of textile materials (excl. indoor footwear, sports footwear, incl. tennis shoes, basketball shoes, gym shoes, training shoes and the like, and toy footwear). This AD measure is supposed to decrease the imports of this certain footwear during this period.

### 6.1 Data Selection

In this empiric study the focus is on the imports of Chinese footwear to the EU. This case study concerns the EU15, i.e. the first 15 countries to be a part of the EU and these are Belgium, France, Germany, Italy, Luxembourg, Netherlands, Denmark, Ireland, Great Britain, Greece, Portugal, Spain, Finland, Sweden and Austria. The focus is on EU15 since EU expanded after the tariff period had come to an end.

The study is based on monthly time series data over a time period from January in 1995 to August in 2006. The AD measure was put into place on the Chinese footwear imports in November of 1997 and was effective until October in 2002, a period of five years which is the maximum of an AD measure.

The source of the data is from the EU database, Eurostat. The data measures the quantity of 100 kilograms of imported footwear every month.

### 6.2 Model Specification

The chosen model is a log-linear trend model:

$$\ln IM_t = \beta_1 + \beta_2 t + u_t$$

where  $IM$  is the imports Chinese footwear to the first 15 members of the EU (EU15),  $t$  is the trend variable for the non-tariff period,  $u$  is the error term, and  $\beta_1$  and  $\beta_2$  are constants.

The properties of this model are that for a given absolute change in the explanatory variable (the  $t$  variable in this case) the slope coefficient shows the relative change in the dependent variable (IM). If the relative change in IM is multiplied by 100, we will get the growth rate in IM for an absolute change in  $t$ . The explanatory variable,  $t$ , is known as the trend variable and if the slope coefficient is positive there is an upward trend, i.e. the growth rate is positive. When the growth rate is negative then of course the slope coefficient is negative and there is a downward trend. Also there is a disturbance term to adjust for unexplained information.

Some variables are added to show if the imposed tariff has an effect on the imports. The tariff was levied on the imports in 1997 until 2003. For the tariff period in consideration we need to have a dummy variable,  $D$ , which takes on the value of 1 for the tariff period

(1997-2003) and 0 for the non-tariff period (1995-1997 and 2003-2006). Which leads to a new model:

$$\ln IM_t = \beta_1 + \beta_2 D_t + \beta_3 t + \beta_4 D_t t + u_t$$

The model has now a dummy variable and two new coefficients. With the dummy variable, the regression analysis will show if the tariff period takes on different values for the intercept and slope coefficient. The regression will show if there is a change in the import patterns of the Chinese footwear.

The data indicates that there is a seasonal pattern that needs to be dealt with. By studying the data there is evidence of import troughs during the months of February and March and peaks during August, September, and October. Therefore, two dummy variables are added to deal with this. The dummy variable  $D_{23}$  takes on the value of 1 during February and March and 0 during the other months. The other dummy variable,  $D_{8910}$ , will have the value of 1 during August, September, and October and 0 for the remaining months.

$$\ln IM_t = \beta_1 + \beta_2 D + \beta_3 t + \beta_4 D t + \beta_5 D_{23} + \beta_6 D_{8910} + u_t$$

### 6.3 Results of Regressions and Analysis

Table 1. Result of regression

Variable	Coefficient	T-statistic	Prob.
Constant	9.756	45.72	0.000
D	-1.802	-3.34	0.001
t	0.009	4.28	0.000
Dt	-0.003	-0.36	0.723
$D_{23}$	0.833	3.58	0.001
$D_{8910}$	-1.091	-5.31	0.000
R square	0.626		
F-statistic	44.8		
Durbin-Watson	0.521		

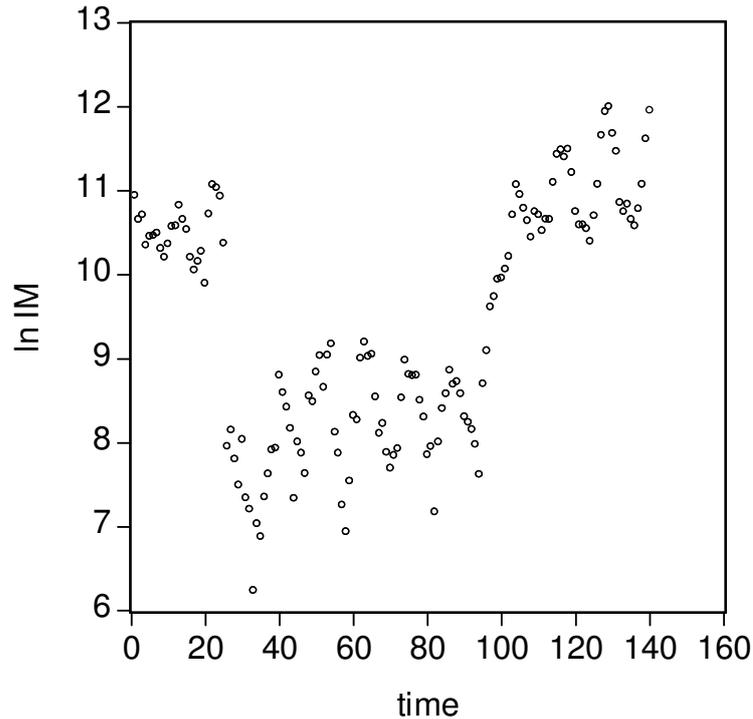


Figure 1. Logged imports (ln IM) plotted against time

The second coefficient estimate presented in Table 1 shows that during the tariff period the quantity of Chinese footwear imports had an estimated decrease of 84 %<sup>2</sup> all else equal. At a low significance level this estimate is also significant since the p-value is low, 0.0011. In graph 1 the logged import values are plotted against time and display a significant decrease in imports during the tariff period.

The slope coefficient estimate for the trend variable during the non-tariff period is significant at such a low p-value (0.0000). This estimate tells us that the growth rate of the Chinese footwear imports during the non-tariff period is 0.95 % each month. The coefficient estimate for the time period with the tariff is not significantly different from the non-tariff period since the p-value for the coefficient estimate of Dt (0.7229) is large and cannot be rejected. However, the estimated coefficient indicates that the growth rate of imports decreased during the tariff period with 0.28 %.

The dummy variables  $D_{23}$  and  $D_{8910}$  were inserted to adjust the seasonal pattern (but from the low Durbin-Watson statistics it did correct for some but not all autocorrelation, which is discussed below). The two coefficient estimates are significant with low p-values (0.0005 and 0.0000). During February and March the imports increases by 130 % and during the period of August, September, and October the imports decrease by 66 %.

The calculated F-statistic is 44.80860 and this we compare with a critical value to see if the model has explanatory power. We have the F-statistic equal to 44.80860 and this value is

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<sup>2</sup>To interpret the coefficient estimate we use the formula  $(e^{\beta} - 1) \times 100$

larger than the approximate F critical value of 2.29.<sup>3</sup> We reject the null hypothesis and believe that at least one of the coefficients is not equal to zero.

The coefficient of determination, more familiar as R-squared, measures how well the regression model fits the data. The R-squared from this regression is about 0.63 and this tells us that the variance of the dependent variable, the log of Chinese footwear imports, is to 63 % explained by the explanatory variables.

## 6.4 Estimation problems

Autocorrelation is defined as “correlation between members of series of observations ordered in time [as in time series data]” (Gujarati, p 442). The classical linear regression model assumes that autocorrelation among the disturbances is absent. In other words, the disturbance term of one observation does not influence the disturbance term of another. (Gujarati, p 442)

This autocorrelation can be the result of that the time series data is nonstationary, which is common among this kind of data. (Gujarati, p792) Nonstationary means that the time series data characteristics, the mean and variance, change over time. (Gujarati, p 448)

A problem of the regression in Table 1 is the evidence of positive autocorrelation that the low Durbin-Watson  $d$  statistic shows, 0.521448. By deriving a lower bound  $d_L$  and an upper bound  $d_U$  and if the  $d$  statistic lies outside those values, it can be calculated if there is positive or negative serial correlation. This upper and lower bounds depends on the number of observations ( $n$ ) and number of explanatory variables ( $k$ ). By looking in the table by Durbin and Watson, with  $n = 150$  (closest number to  $n = 140$ ) and  $k = 3$ , we get  $d_L = 1.693$  and  $d_U = 1.774$ . As our  $d$  statistic (=0.521448) lies between 0 and  $d_L = 1.693$ , there is evidence of positive autocorrelation.

An attempt to deal with the autocorrelation was made by using the first-difference method. The first-difference equation that we used to run a regression with is

$$\Delta \ln IM_t = \beta_1 + \beta_2 D + \beta_3 D_{23} + \beta_4 D_{8910} + u_t$$

Where  $\Delta \ln IM_t = \ln IM_t - \ln IM_{t-1}$

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<sup>3</sup> The critical value we get from a F-distribution table, with the numerator equals to 5 and the denominator is 134 (closest to 134 in the table is 120), this gives us the value of 2.29. If the F-statistic is larger than the F critical value then we can reject the null hypothesis that at least one of the coefficients is equal to zero.

Table 2. Result of regression using first-differende method

Variable	Coefficient	T-statistic	Prob.
Constant	0.017	0.215	0.830
D	0.024	0.242	0.809
D <sub>23</sub>	0.092	0.685	0.495
D <sub>8910</sub>	-0.186	-1.565	0.120
R square	0.027		
F-statistic	1.258		
Durbin-Watson	1.249		

Unfortunately, the regression did not show any significant results; all the p-values are very high. This is also shown by that the F-statistic equal to 1.257696 is lower than the approximate F critical value of 2.68.<sup>4</sup> Therefore, we cannot reject the null hypothesis that all the slope coefficients are equal to zero.

Even though the results in Table 2 are not significant, it indicates that during the tariff period, there is a positive change of 2.4060 percentage points, in the monthly growth rate of imports of Chinese footwear.

The regression analysis in Table 1 shows a clear negative impact on the amount of imported Chinese footwear during the period the tariff was imposed. This decrease was present even though statistics show an overall increase in footwear sales in the EU during the same period. The conclusion to draw from this is that as predicted the imposed anti-dumping tariff on Chinese footwear exports to EU did decrease these exports.

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<sup>4</sup> The critical value is achieved from the F-distribution table (with numerator equal to 3 and denominator is 120 the closest value in the table is 136).

## 7 Conclusion & Suggestions for Further Research

With overall sales of footwear in the EU increasing between 1997 and 2002, the decrease in Chinese exports during the same period can be traced to the imposition of the tariff during the same period. The tariff thus worked as it was intended to work – protecting the European producers against what was seen as unfair competition from low-cost production in the People’s Republic of China.

What we cannot see from our regression analysis is whether the reduced imports from China led to increased sales for the European products or not. It might as well be that a third party stepped in and increased its sales on the EU market. This is a question for further study and a big one for decision makers; if that is the case, the anti-dumping measure did not eliminate the unfair competition posed at the European producers, but merely helped another low-labor producer to take over the Chinese market position.

The Chinese government had strong reactions regarding the imposition of this anti-dumping measure, as well as other AD measures against the country during the years. The point that the country at times feels particularly targeted by anti-dumping measures is understandable. The People’s Republic of China has long been the target for the most anti-dumping measures among all countries. Since the country until 2016 is considered a non-market economy within the WTO, the country has been an easy target for anti-dumping measures. Due to this fact, investigators are not forced to use the Chinese domestic input prices in determining the cost of the production of the investigated product, but can use the production cost of a similar product in another country. The investigator can thus choose a country with much higher costs (especially labor costs) than the Chinese costs and thereafter motivate dumping practices (Chu & Prusa, 2004).

Chinese officials have outraged about the unfairness of many of these AD tariffs, calling it a lose-lose situation. The only winners with a tariff like the one we have examined here are the European producers and possibly some other country’s producers who can increase their market share. The losers are among the majority – the European consumers and importers (paying higher prices) and the Chinese producers and exporters (making less profit), as well as the numerous European producers with production facilities in the People’s Republic of China (Mu, 2006). These claims would suit well for further research – to examine the gains and losses for the European as well as the Chinese society due to anti-dumping measures. After all, in most cases free trade is actually the best option and to protect a small, but apparently very influential industry in Europe (mainly Italy), might leave the European society with more losses than gains.

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