

APPLICATION OF INFORMATICS TECHNOLOGIES INTO CUSTOMS: ORIGIN AND TARIFF CODE DIVERSION, IMPACTS AND IDENTIFICATION PROBLEM

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—Abstract —

The aim of this study is to introduce the effects of tariff code diversion and origin diversion, which are causing loss of tariff revenue, and difficulties in detecting of these diversions. For this purpose, first of all, we mention about customs regimes and especially the import regime process, one of the commonly used regimes in our country. In order to clarify import process, we describe some terminology. Then, we illustrate the phase of establishing of the tariff rate and of non-tariff measures taken to protect the domestic consumers and producers.

Being illegal methods referred by companies who want to avoid non-tariff measures taken, the tariff code diversion's and the origin diversion's scope and the challenges of determining the diversions were examined under customs processes (risk analysis, inspection ...).

Key Words: *Tariff Code Diversion, Origin Diversion, Customs, Risk Analysis, Fraud Detection*

JEL Classification: F14

1. INTRODUCTION

1.1. Literature

A common characteristic of Customs work is the high volume of transactions and the impossibility of checking all of them. Customs administrations therefore face

the challenge of facilitating the movement of legitimate passengers and cargo while applying controls to detect Customs fraud and other offences (UNCTAD, 2008). In literature, there are studies demonstrating application of risk analysis in Turkey under these conditions (Ozyazici, 2009) (Ozturk, 2005).

The proposed solution for the Tariff Code Diversion problem defined in this article is designing a decision support system that takes into account the past record of firms and non-tariff barriers. For such a system, in addition to customs data warehouse, there is a need for the system where non-tariff barriers are stored. The use of data mining is common in this type of outlier analysis (Phua, 2005).

There are also available studies conducted on customs about Fraud Detection. In these studies, methods used such as artificial intelligence (Digiampietri et al, 2008), attribute-value specification (Romani et. al. 2009). Apart from these studies, there are other studies also taking part in the literature, whose working area is still customs and on which data mining is applied (Shao et al, 2002). The problem of fraud detection is one of the most fundamental applications of data mining.

After such a study, in order to evaluate the efficiency of the study, it will be valuable to measure the performance of the information systems studies (Amin, 2010).

1.2. Customs Regimes and Import Process

When a vehicle arrives at customs area, the goods on the vehicle must be assigned to a customs regime. Below you can see some of the regimes. Import and export are the mostly known regimes. There are also other regimes that can be used for goods.

- Import Regime
- Export Regime
- Transit Regime
- Warehouse Regime
- Inward Processing Regime
- Outward Processing Regime

Customs taxes are applied for import regime. So, import process is the most important and used regime in customs. The main steps of this process are as follows:

1. Trader provides import declaration to Customs Administration.
2. Customs Administration controls the information and accepts the declaration.
3. Risk analysis system works. According to the information contained in the declaration, inspection line is assigned for that declaration.
4. An inspection officer (inspector) is assigned to the declaration.
5. Inspector carries out checks, and in case of incompatibility makes the required changes on the declaration.
6. If there is a difference occurred on customs taxes, the payment of this difference is requested.
7. After the payment of taxes, the vehicle may leave the customs zone.

1.3. Terminology

In order to figure out import process, we should understand some terminology.

Customs Declaration Form: This form is a written declaration indicating features, dimensions, attributes of the goods which will be imported or will be exported.

Tariff Code: A tariff code is a product-specific code as documented in the Harmonized System (HS) maintained by the World Customs Organization (WCO.) Tariff codes exist for almost every product involved in global commerce. Required on official shipping documents for tax assessment purposes, a tariff code ensures uniformity of product classification worldwide.

A tariff code is a number assigned to each type of product sold internationally. The Harmonized System features 21 sections and 97 chapters of product codes that must be used by WCO members to stay compliant with trade policies. Tariff codes are used for taxation, customs and statistical purposes by WCO member countries.

For example, 4418.90.80.90.12 is the tariff code used for “Closet” in TURKEY. Below you can see a small portion of 44th chapter of tariff code list. It starts with “Wood and Articles of Wood; Wood Charcoal” and branches up to “Closet”.

Table 1: A Portion of the 44th Chapter of Tariff Code List

Chapter 44	WOOD AND ARTICLES OF WOOD; WOOD CHARCOAL
4418	Builders' joinery and carpentry of wood, including cellular wood panels, assembled flooring panels, shingles and shakes
4418 10	Windows, French windows and their frames
4418 20	Doors and their frames and thresholds
4418 40	Shuttering for concrete constructional work
4418 50	Shingles and shakes
4418 90	Other
4418 90 10	Glue laminated timber
4418 90 80	Other
4418.90.80.10.00	Cellular wood panels
4418.90.80.90	Other
4418.90.80.90.11	Ladder
4418.90.80.90.12	Closet

Source: <http://www.tariff-tr.com/>

Tariff: A tariff is a tax levied by governments on the value of imported products. The tariff is assessed at the time of importation along with any other applicable taxes/fees. Tariffs raise the prices of imported goods, thus making them less competitive within the market of the importing country.

Non-tariff barriers: Non-tariff barriers to trade (NTBs) are trade barriers that restrict imports but are not in the usual form of a tariff. Although they are called "non-tariff" barriers, they have the effect of tariffs once they are enacted. Non-tariff barriers can be grouped under the following titles:

- Specific Limitations on Trade
 - Quotas,
 - Import Licensing requirements,
 - Proportion restrictions of foreign to domestic goods (local content requirements),
 - Minimum import price limits,
 - Embargoes

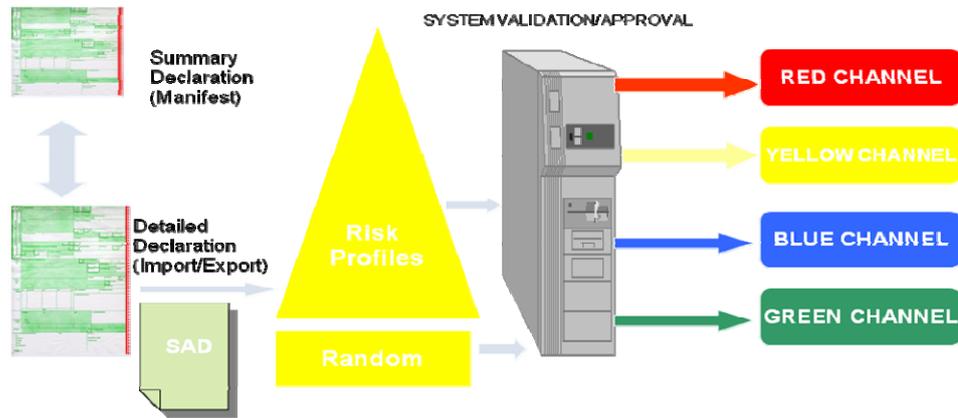
- Customs and Administrative Entry Procedures
 - Valuation systems,
 - Anti-dumping practices,
 - Tariff classifications,
 - Documentation requirements,
 - Fees
- Standards
 - Standard disparities,
 - Intergovernmental acceptances of testing methods and standards,
 - Packaging, labeling, and marking
- Government Participation in Trade
- Charges on imports
- Others

Risk: The emergence of an event or probability that would jeopardize the implementation of national legislation or other arrangements for customs procedures of the goods.

In terms of customs controls, Risk is the possibility of violating Customs Administration relevant laws, regulations and instructions intentionally or unintentionally. According to the definition of World Customs Organization, risk is the potential of non-compliance with customs legislation.

Risk Analysis: Risk Analysis is a method that aims customs' human and financial resources to be used for minimizing risk. The following figure shows the Risk Analysis's position at customs process.

Figure 1: Risk Analysis and Assessment Process



Customs Control Channels: After submitting the declaration, risk analysis system works and assigns declaration to customs control line / channel. There are four types of channels.

Blue Channel: Documents are controlled at a later stage (special channel, used for authorized firms)

Green Channel: Inspection is not done, allowed for rapid transition. This is used generally for military purposes or for humanitarian aid.

Yellow Channel: Document control is done.

Red Channel: Physical and document controls are done. There are three types of physical control methods.

- External visual inspection
- Partial inspection
- Full examination

2. TARIFF CODE DIVERSION

2.1. What is Tariff Code Diversion?

In order to avoid measures that taken to protect domestic consumers and producers, the owner of the declaration, may divert the information disclosed. If this diversion is on the tariff code field, it is called “Tariff Code Diversion”.

2.2. Impacts and Identification Problem of Tariff Code Diversion

In order to detect Tariff Code Diversion, the control of the goods is necessary. Inspector, opening the truck, controls the goods, and if he decides that the declared Tariff Code is different from Tariff Code of the goods in the vehicle, he performs a change on the declaration form and demands from the declarative to pay taxes for the goods. After the payment of customs taxes, the vehicle can leave the customs area.

At this point some issues occur:

1. If the vehicle is assigned to Yellow Line, because of not doing the control of the goods at Yellow Line, Tariff Code Diversion cannot be caught. For this reason, in addition to risk analysis criteria, a decision support system should work also. So, inspector may change control line yellow to red and control the goods.
2. Even if the vehicle assigned to Red Line, it may be difficult to detect that Tariff Code has been set to a wrong Tariff Code. It is sometimes very difficult for an inspector to be able to determine the real Tariff Code of goods. However, if the inspector gets a warning that says there could be a Tariff Code Diversion, he may request control of the goods in the laboratory, and know which tariff code must be used for this product.

So, it is clear that we need a system that warns the inspectors. But, how should the warning system be? Would it be a solution to remind non-tariff barriers to the inspectors? And when such a warning must be displayed to the officer?

It does not seem to be possible to give warning like "This product may be the product having ... tariff code, suspicion of Tariff Code Diversion!" by looking at the declared tariff code.

It is also not possible to predict which tariff codes will be used for the product. Tariff code list is very long, and each product can use one of large number of similar tariff codes. Without any mainstay, making such an inference may cause all operations to lead to the red line control. So, it may cause the process to last too long and even to lock the customs administration. In fact, it may also lead to disruption of works of traders who have a clear declaration.

As a solution, we may make such an inference from the firms past records. If the firm brings the same product for years and at the latest customs operations, instead of importing this product, he has made a transition to another product, this may indicate a diversion.

Let's consider a textile company engaged in importing large quantities of chemical products. When non-tariff barriers bring to the product, the firm sustains to import with a tariff code of another product with lower duty and very similar to the old product.

By data mining, the diversion can be determined through the company's past records and with a warning displayed to inspector, vehicle can be routed Red Line.

3. ORIGIN DIVERSION

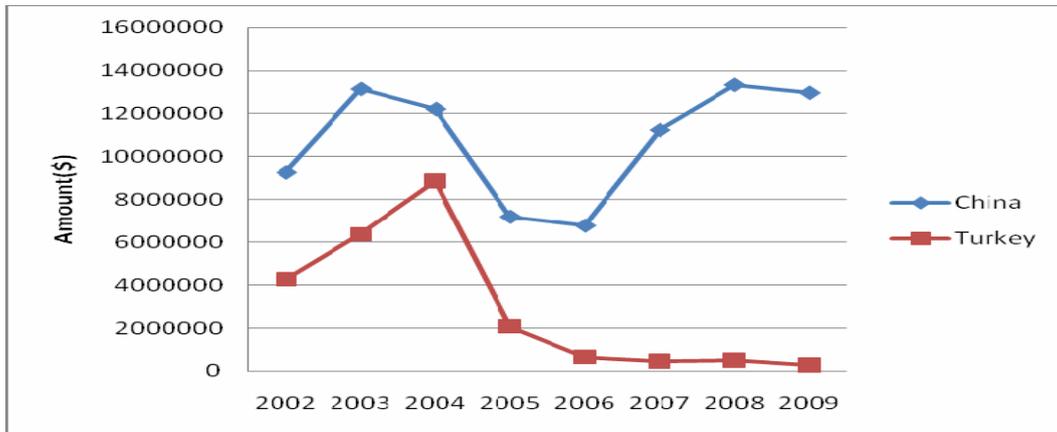
In origin diversion, in order to avoid from non-tariff barriers, country field is changed in the declaration form. Including fake origin country information, documents required by the customs are supplied from one of other countries on vehicle's route. When the vehicle comes to Turkish customs area, driver gives customs declaration that includes diverted origin country information, accompanied by these false documents.

Because the documents are actually containing false information, and they are obtained from countries that are not much tight at all, there is no evidence that we can prove diversion of origin country. If the country of origin is specified on the product, it can serve as a basis. However, when products do not contain information of the origin of products, we have to rely on the information written on the documents.

Proof of the existence of origin diversion is possible by the difference between imports of the product of our country and exports of the product of the other countries to our country. Figure 2 shows the difference between Turkey's import amount from China and China's export amount to Turkey for the product category "Slide fasteners other than those fitted with chain scoops of base metal" (960719). Here we see that after 2005 while China's export amount increase, Turkey's import amount is decrease. The gap between amounts gets larger in time.

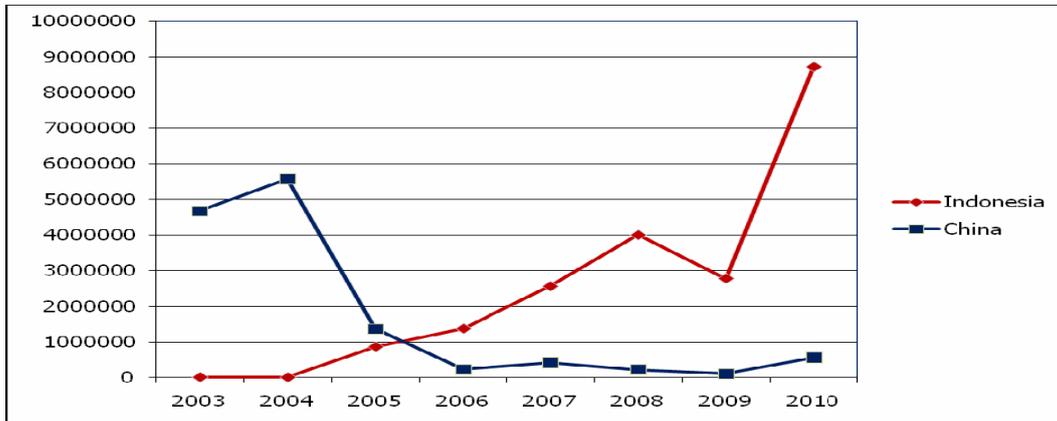
Anti-dumping measure of 3\$/Kg was taken between 12.03.2005 and 29.10.2010 for "Plastics Slide Fasteners" (9607.19.00.00.11). Figure 3 illustrates the import amounts of this product from China, and Indonesia. According to China (Figure 2), Turkey should have increased imports of this product. In contrast, according to our data, there is a decrease in the amount of imports from China and an increase from Indonesia.

Figure-2: Comparison Between China’s Export Amount and Turkey’s Import Amount of “Slide Fasteners Other Than Those Fitted With Chain Scoops of Base Metal” (9607.19) Between 2002 and 2009



Source: <http://comtrade.un.org>

Figure 3: Import Amounts of “Plastics Slide Fasteners” (9607.19.00.00.11) Between 2003 and 2010 from China and Indonesia



Source: Customs Data Warehouse System of Turkey (GÜVAS)

4. CONCLUSION

In this study, the causes, effects and detection methods to prevent the impacts and challenges of tariff code diversion and origin diversion, which lead to a loss of customs tax, are described. Consequently suggestions to provide technological support for management such as decision support systems or instantaneous exchange of information to address these diversions can be given.

By means of the tariff code diversion, traders, who want to avoid non-tariff barriers, use tariff code of another similar product without non-tariff barriers instead of the actual tariff code. To detect this diversion, physical control is necessary. In order to facilitate the work of inspection officer during the inspection, it is required to warn the officer before the inspection that there might be diversion. To form such a warning and decision support system, there is a need for systems that keep data of the companies recorded in the past and non-tariff barriers. With these systems, an early-warning system against tariff code diversion can be developed by applying data-mining operations.

In origin diversion, non-tariff barrier is applied to the traders only for specific countries that export the product. For this reason, traders avoid this measure by declaring another origin country for the product. While it is easy to see the effects of this diversion over time, it is difficult to determine when it is first occurred. It is much more difficult, because the amendment on the origin country is also supported by counterfeit bills. With information system solutions facilitating instantaneous exchange of information between countries, a permanent solution can be available. The effects of the origin diversion can be reduced with mutual agreements between countries. And for detecting of diversion, exchanging statistical data regularly can have positive effects.

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