

Simplified procedures for customs intellectual property rights enforcement

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Abstract

This paper investigates the benefits of using a simplified procedure for the forfeiture of goods that infringe intellectual property rights (IPR), using a simple theoretical framework to test eventual gain. This framework considers the flow of trade and the dynamics of finding and seizing counterfeits in a way that allows for statistical hypothesis testing using Ordinary Least Squares. The research used data from European Union countries and the results suggest that there are significant gains for countries that adopt a simplified procedure. By implementing such a system, it is expected that enforcement will be more efficient, and forfeiture will require fewer resources.

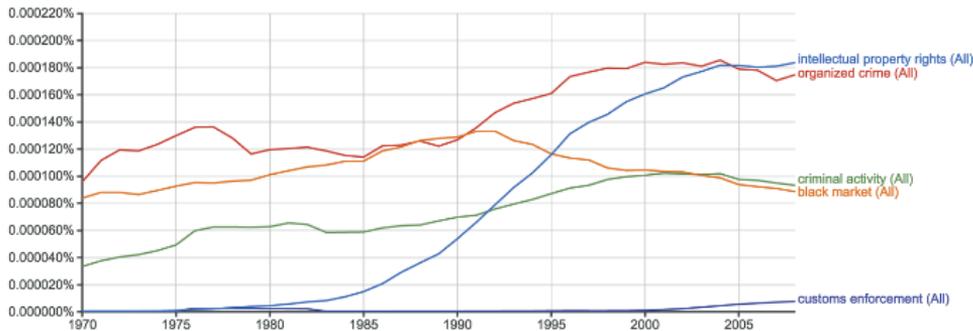
Introduction

The forfeiture of goods that contravene intellectual property rights (IPR) can be a complicated process that prevents customs officials from directing their efforts elsewhere. This paper investigates the benefits of using a simplified procedure when seizing goods that infringe IPR and uses a simple theoretical framework to test eventual gain.

According to Balaam and Dillman (2011, pp. 379–404), there is a substantial amount of academic literature on protecting IPR from infringers. This body of literature also recognises other related areas, such as criminological studies on transnational organised crime, sociological studies on the effects of criminal activities, anthropological studies on informal markets in developing countries, and studies by international relations experts on the connection between money laundering and terrorism. However, little or no work has been undertaken to produce a global picture of transnational IPR infringement. Therefore, the investigation set out in this paper not only assists in improving our understanding of IPR enforcement processing, but helps to populate a scarce area in the academic field.

Although Balaam and Dillman (2011) claim scarcity in the academic field of this study, their work does not present evidence of this claim. However, as an effort to obtain such evidence, a search performed in Google Ngram suggests their point is correct, as seen in Figure 1. This chart, extracted from Google (2016) Ngram Viewer uses the data from Google's book library from 1970 to the latest available—2008. The viewer plots the time series of the ratio of searched key terms divided by all terms present in their library. The horizontal axis represents the year and the vertical axis the ratio of occurrence in percentages. The chart data was smoothed by presenting the average of the last three ratios for reducing particular fluctuations and easing comprehension. For greater accuracy and to avoid arbitrary upper and lower-case fonts selection, the search was not case sensitive. The key terms were selected based on the themes suggested by Balaam and Dillman (2011).

Figure 1: Related themes Ngram



Source: <https://books.google.com/ngrams>.

As suggested by Balaam and Dillman (2011), the chart indicates that there is a significant amount of works dealing with IPR, organised crime and money laundering and black markets, but very little on customs enforcement. Nevertheless, it is important to acknowledge the recent increase in customs enforcement as a term in the Google books library. However, if there has been little research to date on customs enforcement, it is likely that there has been considerably less on customs IPR enforcement.

Background

A simplified procedure for Customs to process the forfeiture of goods that infringe IPR was introduced in the European Union (EU), as an option for its members, by Article 11 in Regulation (EC) No 1383/2003. This procedure is now mandatory for all members of the EU under Regulation (EU) No 608/2013. The procedure was made mandatory as it was seen as an improvement of IPR enforcement by Customs and, based on a stakeholder survey study, the EU (2013) concluded that the simplified procedure was very positive: ‘such procedure has proved very successful in the Member States where it has been available’.

This conclusion had already been reached by the EU (2010), as expressed in the European Parliament resolution of 18 December 2008:

... whereas the simplified procedure laid down in Article 11 of Regulation (EC) No 1383/2003 in Member States such as Portugal, Greece, Hungary, the Netherlands and Lithuania which allows for the destruction of large quantities of counterfeit goods in a short period of time and with relatively low costs, is very successful ...

Thus, from experience and based on the stakeholder survey, the EU concluded that adopting the simplified procedure would be positive for customs IPR enforcement.

Nevertheless, the motto of the oldest scientific organisation, the Royal Society, is *Nullius in verba* (‘Take nobody’s word for it’), the corollary of which is that scientists should verify all statements through testing and experimentation.

Under the light of this principle, the goal of this work is to scientifically evaluate the impact of the adoption of the simplified procedure. Whenever possible, data from results of practice in different countries is used. Eventually, further confirmation of the EU’s conclusion will increase the foundation and reasoning in favour of adopting this alternative procedure in countries where it has not yet been implemented.

Defining the procedure

To obtain a wider concept than the one adopted strictly in the EU, a concept that is consistent with other developed countries with a major role in international trade, such as the USA and Japan, is presented. The simplified procedure for forfeiture of IPR enforcement by Customs can be defined as the procedure where, after suspension or seizure, Customs follows through to forfeiture or destruction without the need for further intervention or participation by the holder of the rights.

After seizing the goods there are different criteria for adopting the simplified procedure in different countries. For example, in the USA, if there are counterfeit marks or the goods are clearly pirated, then the simplified procedure is applicable (WCO, 2016). According to Article 23 1 (c) of Regulation (EU) No 608/2013, in the EU the criteria for adopting the simplified procedure is the lack of opposition by the importer to the fact that the goods are counterfeit. Japan Customs (2016), however, adopts criteria similar to the USA (i.e. if the counterfeits and piracy are obvious the procedure can be applied). The focus of this work, however, is not on what criteria is adopted for the simplified procedure, as the criteria differ from country to country, but on evaluating whether adopting any of them improves the efficiency of enforcement, regardless of the criteria used.

The WCO (2011) model legislation for implementing the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) suggests, through item (2) of article 11, the adoption of simplified procedures.

Note 11.04 for this article reflects a global perception:

In a number of cases, the fact that the suspended goods are pirated or counterfeits is not disputed. Experiences from WCO member states demonstrate that the opposition procedure suggested here offers a fair and efficient way of dealing with seizures and destruction of infringing goods. Such a procedure has the added benefit of reducing the cost incurred by customs from the storage of the infringing goods.

The provision in the WCO standard is that a simplified procedure is followed in cases where there is a request and adequate evidence supplied by the rights holder, and there is no opposition from the importer within 20 days, as emphasised in the transcript of article 11(2) as follows:

Customs may at the request of the right holder forfeit and subsequently destroy the detained goods or place them outside the channels of commerce, or have them destroyed by the right holder under customs' supervision, ex officio and without a court order, wherever:

- a. the right holder has provided adequate evidence to prove that the goods are infringing goods, and;
- b. the importer, the exporter, the consignee, the consignor, the owner of the goods, or the declarant has been served by customs with the notice of suspension referred to in Article 6.2, has been informed about the possibility of confiscation and destruction or disposal outside the channels of commerce *by default of the allegedly infringing goods and he does not oppose the measure within twenty (20) working days* after having been served the notice, or alternatively if after reasonable efforts by customs the importer, exporter, consignee, consignor, the owner of the goods, or the declarant has not been identified.

In the event the applicant is granted an extension of the time limit for taking legal actions, such extension is automatically applied to the opposition procedure referred to in this paragraph.

Summarising the ideas presented here, some of the most developed countries and the WCO suggest, based on their experiences, the adoption of some sort of simplified procedure. These claims appear to be consistent with, and arise from, practices in many countries. On the other hand, one must still consider that for economic policy decision-making it is important to ground policy in data that leads to measurable expectations from policy change. That is where this study makes a significant contribution.

The test

Objectively, the goal for this work is to perform the following hypothesis test:

H_0 : simplified procedure does not increase seizures of infringing IPRs goods; against

H_1 : simplified procedure increases seizures of infringing IPRs goods.

By rejecting the proposed null hypothesis one expects to obtain further confirmation of the success of the simplified procedure adopted in the EU.

The model

A model is needed to support the proposed test. To construct such a model, it is assumed that the quantity of seizures is a function of the number of illicit shipments, number of legal shipments, quality of risk targeting, and the number of inspection/enforcement activities.

From the point of view of enforcement, the flow of trade contains both legal and illicit shipments that are to be targeted and treated accordingly. A simplified vision of the goal of enforcement is to detect an illicit shipment, seize it, process it, and start over again. The faster and more efficiently enforcement agencies process their cases, given the same structure, more cases and more illicit goods are removed from the market, thus contributing to a more secure society.

Since the target of the test is the procedure, the quantity here refers to the quantity of cases, since it is a more adequate measure of procedure than quantity of seized goods.

The illicit shipments are the object of the procedure. In the extreme, if there were no illicit shipments there would be no seizures, so a positive effect on the number of illicit shipments on the quantity of seizures is expected.

The quality of targeting (i.e. the identification of illicit shipments within the stream of international trade), is essential if there is to be a reduction in the level of enforcement resources devoted to inspecting lawful shipments. The quality of targeting is a result of a number of factors, such as the technology employed, staff qualifications, available data for risk assessment, and the volume of trade. Considering the same amount of illicit shipments, the greater the volume of trade, the harder it is to identify the illicit shipments.

Finally, enforcement refers to goods being seized. An increased efficiency in the enforcement process leads, if all else is equal, to more enforcement and more seizure cases as more is produced with the same resources. Therefore, an efficient procedure is expected to increase seizures through increasing enforcement. One important issue within enforcement is the amount and quality of resources deployed for enforcement activities, such as staff, equipment and training.

These ideas can be expressed in the following mathematical structure:

$$\text{Seizure} = f(\text{illicit}, \text{targeting}(\text{licit}), \text{enforcement}(\text{staff}, \text{procedure}, \dots))$$

By looking at different countries, the factors that lead to the amount of cases of IPR infringing goods processed by Customs can be compared.

The reasoning within this simple model for customs enforcement can also be used for more specific types of enforcement, such as IPR enforcement. Therefore, it will support the testing further exposed in this work.

The data and ordinary least square structure

The structure of the model proposed here must be adapted to the available data to provide a reliable means for the hypothesis test.

To support the results of the procedure, data on the quantity of cases of IPR seizures was retrieved from EU Commission reports from 2011, 2012 and 2013. The data set for the study is limited to this period, as these are the years for which data was available.

Unfortunately, it was not possible to obtain data and realistically estimate the ratio of illicit to licit shipments within different countries, thus, it was necessary, within the limited resources and access of this work, to assume it as being the same level across the sample. This is a reasonable assumption as, even though there are significant differences amongst the EU members, they are part of the same customs union, sharing common cultural and economic features.

Also, one may consider that the quantity of illicit shipments will be positively related to the global quantity of shipments, as this figure reflects the total demand for imported goods (licit and illicit). The volume of imports also influences risk management as the greater volume may dilute the illicit shipments, as mentioned above. Therefore, either as a demand measure or due to its impact on targeting, the presence of imports is essential to assure the model is not biased.

The figures for imports available at the UN COMTRADE database were extracted for the years of 2011, 2012 and 2013 for each of EU countries.

In addition to using the volume of imports, the model can be significantly improved by adding the number of staff for each customs administration. If a given country has a great amount of imports, including counterfeits, but few resources for enforcement, there will be few cases processed for IPR infringement. Although it's not possible to account for capital and technology factors invested in customs administration, the data on staff is available from the WCO. It is expected that, where there is a greater number of staff there will be more staff employed in enforcement and therefore more cases processed, presuming the amount of imports remains constant. It would be better to have data on the staff deployed for enforcement activities, however such data was not available for this work. Including the number of staff for each country should reduce any bias towards countries with more or less resources dedicated for customs enforcement.

Data from the staff employed in Customs in each country were retrieved from the WCO annual reports (2011, 2012 and 2013).

To distinguish between the countries that adopted simplified procedures and those that did not, we referred to Altenburg and Rechtsanwälte (2012):

The following 15 EU member states have adopted national provisions for a simplified procedure in their trademark laws: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Germany, Hungary, Ireland, Lithuania, Portugal, Romania, Slovakia, Slovenia and Spain. In the United Kingdom, a similar proceeding is applied by customs, whereas Greece, the Netherlands and Latvia apply Article 11 of the Counterfeit Goods Regulation directly.

Article 11 of the Counterfeit Goods Regulation, referred to by Altenburg and Rechtsanwälte (2012), adopted the simplified procedure in the EC Regulation No 1383/2003 before it became mandatory for all EU members, that is, when Regulation (EU) No 608/2013 came into force.

The countries mentioned above were treated as adopting the simplified procedure and treated as 1 in the variable set for this purpose, while the others received value 0.

The number of cases, import trade volume, staff and whether the country uses the simplified procedure figures were paired for each respective year.

After running different combinations of nonlinear arrangements, such as squares and logs, $\ln(\text{staff})$ improved the data fit to the model, though the same did not occur with squares or with Imports. Therefore, the natural logarithm of the staff data was also included in the final dataset.

The result is cross sectional data that can fit the following structure to be estimated:

$$\text{Seizure} = \beta_0 + \beta_1 \text{Import} + \beta_2 \text{Staff} + \beta_3 \ln(\text{Staff}) + \beta_4 \text{Simplified} + \varepsilon$$

Where:

- Seizure is the number of seizure cases in each country from the EU Commission Report, represented as CSeizure in the following statistics.
- Imports is the volume of import for a given year for a given country from the UN COMTRADE database
- Staff and $\ln(\text{Staff})$ are respectively the number of staff and the natural logarithm of the number of staff from the WCO annual reports
- Procedure is the binary indicative if the country adopts the simplified procedure, as specified by Altenburg and Rechtsanwälte (2012).

The table of the data statistical descriptive figures follows:

Table 1: Summary descriptive statistics of the gathered data

| Summary Statistics, using the observations 1 - 82 | | | | |
|---|-----------|-----------|-----------|--------------|
| Variable | Mean | Median | Minimum | Maximum |
| Cseisure | 3109.24 | 516.5 | 1.07 | 32905 |
| Imp | 2.15E+11 | 8.21E+10 | 6.42E+09 | 1.26E+12 |
| Staff | 7011.06 | 2395 | 335 | 66000 |
| l Staff | 7.89588 | 7.78088 | 5.81413 | 11.0974 |
| Simplified | 0.695122 | 1 | 0 | 1 |
| Variable | Std. Dev. | C.V. | Skewness | Ex. kurtosis |
| Cseisure | 6267.94 | 2.01591 | 3.03858 | 8.95106 |
| Imp | 2.82E+11 | 1.30962 | 1.95344 | 3.60222 |
| Staff | 13202.6 | 1.88311 | 3.29878 | 10.7942 |
| l Staff | 1.31709 | 0.166807 | 0.469051 | -0.172828 |
| Simplified | 0.463189 | 0.666342 | -0.847701 | -1.2814 |
| Variable | 5% Perc. | 95% Perc. | IQ range | Missing obs. |
| Cseisure | 11.73 | 21342.9 | 2957.25 | 0 |
| Imp | 7.58E+09 | 7.15E+11 | 2.95E+11 | 0 |
| Staff | 391.5 | 33992.9 | 3900 | 0 |
| l Staff | 5.96994 | 10.4339 | 1.52072 | 0 |
| Simplified | 0 | 1 | 1 | 0 |

Source: Gathered data in GRETL.

Ordinary least square results

Following the outline of this work, the ordinary least square (OLS) estimations were calculated using GRETL, presenting the following output, as displayed in Table 2.

Table 2: Results of the regression

Model 1: OLS, using observations 1–82

Dependent variable: CSeizure

| | Coefficient | Std. Error | t-ratio | p-value | |
|-------------------|-------------|-------------|---------|---------|-----|
| const | 10466.4 | 2514.4 | 4.1626 | <0.0001 | *** |
| Imp | 8.68956e-09 | 1.40391e-09 | 6.1896 | <0.0001 | *** |
| Staff | 0.417918 | 0.0309149 | 13.5183 | <0.0001 | *** |
| l_Staff | -1719.27 | 337.577 | -5.0930 | <0.0001 | *** |
| Simplified | 2037.24 | 532.459 | 3.8261 | 0.0003 | *** |

| | | | |
|---------------------------|-----------|---------------------------|----------|
| Mean dependent var | 3109.239 | S.D. dependent var | 6267.941 |
| Sum squared resid | 3.68e+08 | S.E. of regression | 2187.341 |
| R-squared | 0.884232 | Adjusted R-squared | 0.878218 |
| F(4, 77) | 147.0308 | P-value(F) | 3.11e-35 |
| Log-likelihood | -744.3897 | Akaike criterion | 1498.779 |
| Schwarz criterion | 1510.813 | Hannan-Quinn | 1503.611 |

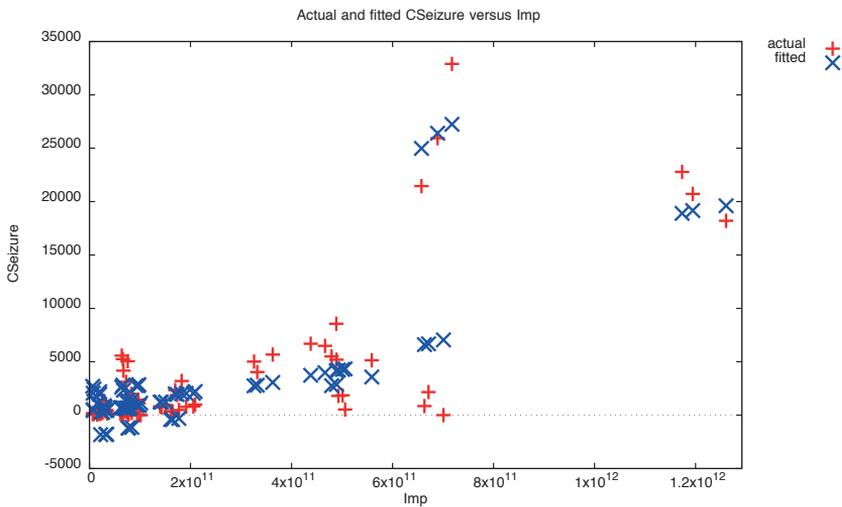
Source: Gathered data in GRETL.

With an $r^2 \cong 0.88$ and all p-values under 1 per cent, the results suggest that, following the reasoning of the model, the selected data entered into this particular framework explains to a very high level the behaviour of the dependent variable. More importantly, the data and framework are adequate to test the alternative of adopting, or not adopting, the simplified procedure.

As expected, the coefficient for imports is positive and significant at 99 per cent confidence interval. The amount of imports accounts for factors such as the strengths of the economy of the country, the demand for imports, the demand for imported counterfeits, and others that may relate to the number of cases of seizures. The positive coefficient indicates that these previous factors, in relation to seizure cases, overcome an eventual effect of trade volume diluting the counterfeits and making it more difficult for management to identify these shipments.

The following chart (Figure 2) displays the scatter plot of the actual and fitted number of seizure cases against the volume of imports in each

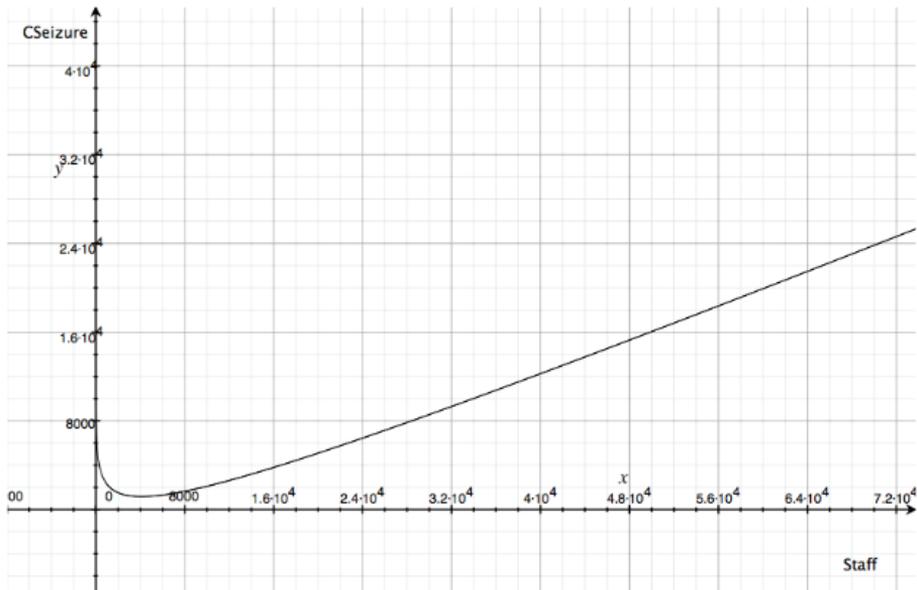
Figure 2: Seizure vs import scatter plot



Source: Gathered data in GRETL.

The nonlinearity of staff can be visualised in Figure 3, which presents the predicted CSeizure vs Staff according to the estimated parameters at the average of other variables as plotted in OSX Grapher.

Figure 3: Predicted seizure vs staff



Source: Estimated parameters and OSX Grapher.

For the estimated parameters in the frameworks equation the algebraic minimum value occurs when staff is approximately 4113.

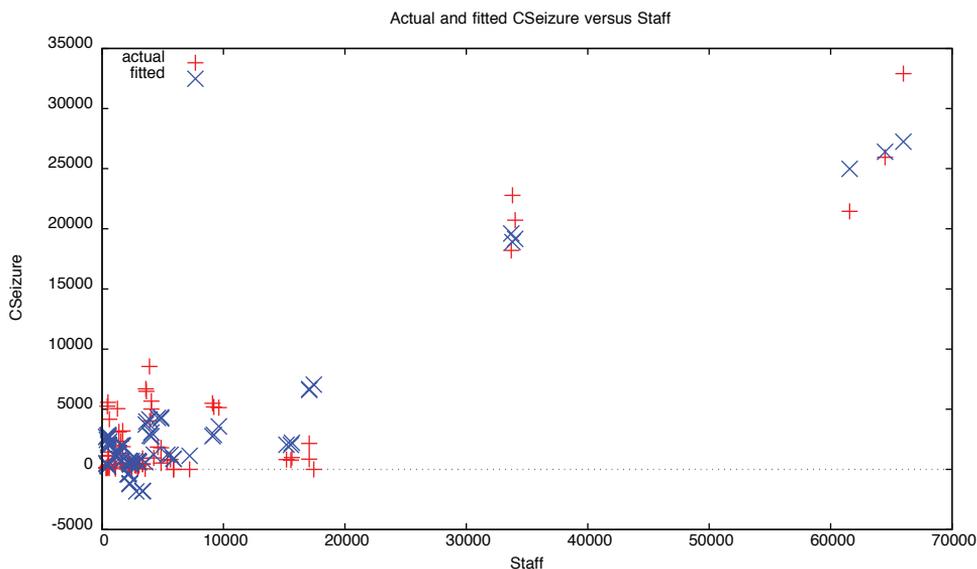
The equation suggests that, to fit very small countries, especially those with less than 1000 staff, a reduction of 1 seizure case when increasing staff. That may be explained by the fact that the average staff

is 7000 and few countries are below this, and trying to best fit the log and linear parameters adjusted to a flat response in the range around 2000–6000 to a slightly accelerating increase from 6000 onwards. Looking specifically at the staff curve, this equation may not be a good tool for predicting and studying the countries with less than 1000 staff members, as the equation in this region predicts that the number of cases will reduce with an increase of staff members, a behaviour that goes against common sense. Another explanation for such a curve shape is the possibility that there are economies of scale in relation to the number of cases and the staff in a given customs administration.

One must consider that the OLS curve fitting has been adapted to better explain the middle and upper range of the sample in regard to the number of staff members.

The following chart (Figure 4) displays the scatter plot of the actual and fitted number of seizure cases against the staff of each observation in the dataset, enabling a visualisation of the issues discussed.

Figure 4: Seizure vs import scatter plot



Source: Gathered data in GRETL.

It should also be noted that, in theory, it would be better if there were data of staff specifically working with IP enforcement in customs. This more specific data could also reflect how a particular customs administration prioritises its resources regarding IPR enforcement. It is also important to note that not only human resources (staff and training), but the equipment, infrastructure, and the budget for third-party expenditures, such as those related to the destruction of goods, are important for fast and effective IPR processing. These different factors could be reflected in the enforcement staff variable. Due to the lack of this specific data, such factors may be partially embedded in the simplified procedure variable, slightly overestimating its real value. This bias could occur if there is a correlation between countries or customs administrations that are concerned with IPR, and thus, that adopt the simplified procedure and also deploy more resources towards the fight against IPR infringing goods. Hopefully, if such phenomenon occurs, it is not significant enough to contaminate the conclusions of this work.

Regarding the estimated parameter for the simplified procedure coefficient, its value was positive and with a respective P-value well under 1 per cent, therefore, the null hypothesis can be rejected with over 99 per cent of confidence.

In other words, by rejecting $\beta_4=0$ with $\beta_4>0$, with the available data and under the assumptions made, one concludes that adopting the simplified procedure contributes to an increase in the expected number of cases of IPR infringements seized by customs, if other factors remain constant.

Since this data is cross-sectional, and according to the way the model was constructed, it is important to keep in mind that the conclusions here can't be seen as having a causality relationship, but just as related factors. Therefore, based on the results one cannot conclude categorically that adopting a simplified procedure will cause a country to increase the number of counterfeit cases. On the other hand, one can state that, within the sample, if all else is equal, countries that process a greater number of cases of IP infringement adopt the simplified procedure.

Conclusion

The objective of this work was to define and evaluate the simplified procedure for the enforcement of IPR by Customs. The concept was defined along the work and the evaluation, based on EU data, hypothesis testing, OLS and a specific model, following claims by the EU and WCO, presented strong evidence that the simplified procedure is related to a greater capacity of processing IPR cases by customs.

It is important to highlight that adopting a simplified procedure does not imply a shift of customs resources prioritising the enforcement of counterfeits against other of the important issues tackled by Customs. The simplified procedure is an alternative working process that may lead to a more efficient use of the resources dedicated to customs IPR enforcement.

Even though the simplified procedure variable received a positive figure and very low p-value, other factors that relate to that variable may influence the result. For instance, a country that decided to implement the simplified procedure is also one that pays attention to the matter of enforcement of IPRs and is likely to dedicate more resources to enforcement. Therefore, it would not be realistic to assume the result to be unchanged. Regardless of these sorts of conjectures, the result from the test is that changing to the simplified procedure generates an expected increase in the number of seizure cases for a given country.

For those countries that have not adopted some sort of simplified procedure, there is strong evidence that by doing so one expects gains in the efficiency of processing IPR infringing goods for forfeiture.

Adopting a more efficient procedure to process IPR cases must not be confused with any political position on IPR. A high efficiency procedure for IPR processing by Customs can contribute to social welfare as a means of either achieving better results with the same resources or the same results with less resources given that all WTO members must enforce at least to a certain point IPR at borders.

As a final remark, this study found evidence that countries that don't employ any sort of simplified procedure for customs IPR enforcement may, by adopting such procedure, be more efficient and better able to contribute to social welfare within the customs mandate.

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