

Profile of the export and import enterprises in Dominican Republic

Leveraging customs and business records to generate information for decision making.

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Abstract¹:

The process of globalization has significantly increased the productive units engaged in transactions abroad, seeking better business opportunities, making it necessary to measure the conditions of the companies that carry out these

¹ The authors acknowledge the support received from the World Bank purification process databases, as well as the backing of the executive staff of the National Statistics Office (NSO), the sectoral trade technicians, in particular, the technical Luis Miguel González, who works in the purification and unification of these databases. Also welcomes the support of the engineer Edgar Eloy Jupiter, who supported in developing the application of verification to correct RNC.

transactions in foreign markets.

This motivated the project "*Profile of the export and import enterprises in the Dominican Republic*", through an exchange of information of the Customs records with measurements of enterprises conducted by the National Statistics Office (ONE).

Thus, it is intended to characterize the exporting and importing companies, generating a profile from the structural variables that can be received through these sources.

These results will improve the knowledge of the Dominican business universe, generate statistics on MSME exporters and importers, as well as improve business statistics offer related to foreign trade.

Key words

Enterprises, Export, Import, Statistics, Administrative Records.

JEL

JEL: F14

Introduction

As the process of globalization advances, it significantly increases the number of production units engaged in transactions in foreign markets in search of better business opportunities that allow you to increase the profit margin of their activities.

Each transaction abroad is recorded through the customs sources tied to

information of interest to decision makers, the amounts related to the country of destination and the type of transaction they perform.

However, these transactions have no linkage to other sources, therefore trade information can only be exploited, unable to know the characteristics of the exporter and importer. Despite this, all enterprises performing transactions abroad do so through a unique registration number, which in our case is the National Taxpayer Registration (RNC).

Knowing that the NSO have done many surveys of information seeking to have the structural characteristics of the enterprises, which are bound by this RNC, makes us think about *how to link this information, and what would be the appropriate mechanism to take advantage of customs and business records, and to generate useful information to decision makers.*

The question that motivates this work came from a more limited interest, which sought to respond to a specific need that some countries, especially in Central America, needed to know what the contribution of MSME sector is in foreign trade, which suffered from lack of response in most countries.

This motivated that the research framework should be extended, as all the elements to characterize not only the micro, small and medium enterprises, but also large companies were possessed.

This characterization is important for many reasons. First, it is a use of administrative records, at a time when there are more and more budget cuts for the execution and implementation of statistical surveys in the field.

Second, it allows for periodic updating of the same, as the update sources is protected by deriving from these records. Third, it identifies specific patterns when meet the export potential of the various products that we place on foreign markets and determine market niches for local industry through knowledge of the plaintiffs of foreign products.

Similarly, this knowledge provides an important segmentation when identifying the contribution of key sectors such as the contribution of SMEs to the export market, as well as industrial and agricultural sectors.

In short, there are many utilities that can be achieved through the involvement of these sources of information, all necessary for correct decision making in the public and private sector of any nation.

This document has been divided into several parts for better understanding. In the first part, the study of the customs sources will be presented, and the treatment performed when these purges are done. In the second part, the sources of information that serve as pivot to have the information of structures will be presented.

Then a chapter will treat the work methodology used for these purposes. The fourth chapter, will be dedicated to present some preliminary results, as well as the possible outcomes that we aspire to achieve in this project. The last chapter will propose some improvements in order to improve this work for future measurements.

Literature review

The use of administrative records for statistical purposes dates from the 90s in the European Community (Cabal, 2012, p.18), who imposed a regional standard looking to capitalize on existing sources of information. This measure had a high acceptance, to the point that in the middle of the last decade, all countries in the region had taken the initiative.

In Latin America, the use of administrative records has recent dates, especially after the efforts made by the National Institute of Geography and Statistics (INEGI), who evaluated the steady growth in demand for statistical information,

which directly affected costs to generate it (Rodríguez, 2012, p.113).

This experience has been very well received in the region, although advances in most countries are below expected levels. The main source used for this, was derived from the work proposal by Wallgren (INEGI, 2012, p.114), the National Bureau of Statistics Sweden.

Essentially, suggested the following:

1. The statistical office should have complete access to administrative records kept by public authorities.
2. These administrative registers should be transformed into statistical registers.
3. A statistical record should be included in a system of coordinated records.
4. To calculate different surveys records are consistent, consistency with respect to required locations and variables.

Seeing the situation of business statistics, the diagnosis made by the Project on Regional Public Goods Directories of Companies and Establishments (Aguilera, 2012) presents an interesting framework for the use of administrative records for business statistics.

According to these data, 11 of 12 Latin American countries participating in the project conduct regular surveys of the DEE, most of them based on administrative records coming from the tax office and social security.

Furthermore, the result suggests that everyone has a link variable, which in as many cases coincides with the number assigned by the tax institution.

A study for the member countries of the Central American Economic Integration System (Sistema de Integración Económica Centroamericana, SIECA) reached interesting conclusions regarding the export market in this region, among which is the fact that despite the existence of an informal market of high weight in

the region there is no export informal² enterprise (Cristiani, Dec. 2013, ppt), which promotes links with other sources of information.

This study conducted by the consulting firm CONFIRMS also considered that the use of administrative records would be an appropriate methodology for estimating the value of the exporting MSMEs.

This means that, making the appropriate revisions, valuable data could be obtained result of the intersection of customs sources with company records. However, before we get to any conclusion a priori we will know the details about the sources of information that are to be evaluated.

Situation of administrative records of Customs

According to information obtained in ANDA catalog (NSO) from 1935 the country's external trade statistics are made continuously, a process regulated by the NSO and stored in its database.

The Generating System Statistics of Foreign Trade from the Dominican Republic (Estadísticas del Comercio Exterior de la República Dominicana, ECERD) it has been characterized by a strong level of decentralization allowing an important link between the institutions involved at different stages of capture, editing, processing and publication of information statistics, allowing a higher level of reliability.

The customs registration is done daily, according to the statement made by the operators, both at export or import. This information is recorded in detail, currently collected variables in Table 1³ for each source. In some cases, they are directly made in customs and frontier markets, but have now been systematized many of these processes, allowing better efficiency in the statement.

Within the category of identification, as variables have the RNC, which is defined as "*The number that serves as identification code of taxpayers in their tax activities, such*

² Understood by informal businesses that are not declared in tax institutions, nor have employees paying social security.

³ Information taken from the catalog given by the team of foreign trade of the ONE.

as management control to monitor the performance of the duties and these rights. This arises in order to establish a common numbering for the settlement and payment of the different taxes, levies and duties" (DGII, 2015, p. 1).

The RNC applies to both natural persons and legal entities, and it is mandatory to register in the customs transactions, according to the rules established by the Customs Management System (Sistema de Gestión Aduanera, SIGA), in which each transaction is linked to the code within the company.

There are additional features such as a variable called name of the exporter and importer, that until the implementation of SIGA, was recorded directly by the broker who oversaw the export realized.

Table 1: Category and variables in the database of import and export in the Dominican Republic

Category	Export	Import
Identification	Registro Nacional de Contribuyente (RNC)	
	Name of the exporter	Name of the importer
Period	Year, month and day	
Classification	Name of the product	
	Tariff code	
Country	Destination country	Country of origin
		Country of departure
Regime	Customs regim	
Weight of the goods	Weight in Kg	
Value of the goods	FOB value	FOB value
		CIF value

Data source: Compiled from information obtained in the variable dictionary..

The period identifies the time the transaction was recorded, and reveals the day, month and year of it.

At the part of classifications, it has important variables such as tariff, which is defined as *"A code assigned to each commodity recorded in the database or group of products with similar characteristics, based on the Harmonized Commodity Description and Coding Commodity (HS or HS)"* (Catalogue Anda, 2015).

According to the World Trade Organization (WTO), the SA *"is an international nomenclature established by the World Customs Organization (WCO), based on a classification of goods under a system of 6-digit code accepted by all participating countries."*

Importantly, this classification has a direct link with the Industrial International Classification (ISIC), for all derived from the Central Product Classification (CPC), as suggested by the National Office of Statistics and Information of the Republic of Cuba (ONEI).

In addition to this information, we have a description of the product by name, which allows the primary information that could produce a more detailed breakdown, if necessary conduct a national adaptation.

The variables of country of origin and source of imports, and the country of destination for exports, can meet the targets with which economic agents transact abroad.

The weight of the goods is one of the variables that are both bases, standardized rules of foreign trade records in kilograms. This facilitates the process of exchange between countries.

Finally, we have the information of the FOB value for exports. According to the catalog ANDA, *"it is the value of the goods free on board, or what it costs to import in the country of origin; does not include freight, insurance and other expenses."* For imports, it is added, the CIF value, which *"describes the cost, insurance and freight of imported goods."*

Importantly, for both imports and exports, as well as the CIF and FOB value, the currency used is the US dollar, which also facilitates comparisons and exchange between countries.

Note that annual reconciliation of figures is done with other sources recorded by customs information, in order to properly tune the results, especially in exports, which traditionally have a level of sub significant statement, and require special treatment for purposes of adjusting the System of National Accounts.

Situation of Directories of Companies and Establishments

Directory of Companies and Establishments (DEE) is a "record for statistical purposes of economic units of public or private property, with its own legal personality or not, established in the Dominican territory, in the reference period, performed some kind economic activity, characterized by variables of identification, location, activity and employment" (National Bureau of Statistics, 2012, p.13).

The DEE has been conducted annually since 2009⁴, and comes from a crossing of administrative records of business information from public institutions as are presented in Table No. 2, in which the characteristics of these sources occurs, the variables provided, and major limitations.

These databases are cross taking as a variable pivot the RNC. And considered various sources, prioritization by importance, according to the suggestion of the code of good practice on Directories of Companies and Establishments (ECLAC, p.16, 2013).

Then we proceed to update the information obtained by telephone, and later to its classification and treatment, leading to the final base is regarded as the Official Directory.

The DEE of Dominican Republic meets the variables suggested by the Regional Minimum Directory (ECLAC, p.6, 2013), according to the statement at the number Table 3. In it, a summary of the results of the assessment of the variables of the DEE are presented for the Regional Information System program MSMEs of Central America and Dominican Republic (Wood, p.13, 2014).

⁴ For 2014 and 2015 the DEE was not performed because the team focused on working on the National Register of Establishments (RNE).

Table 2: Category and variables in the database of import and export to the Dominican Republic.

Source	Characteristic	Variables	Limitations
Directorate General of Internal Revenue (Dirección General de Impuestos Internos, DGII)	It has the initial statement when starting a business; It is updated by the tax returns carried out by the legal entities and individuals.	RNC; economic activity declared; Status; Operating time; Location at the time of declaration.	Information when opening therefore might be outdated; Sales valuable information, protected by tax secrecy; classification by self-declaration; many companies have folder.
Treasury of the Social Security (Tesorería de la Seguridad Social, TSS)	It has the monthly statement of employment, wages, employer contributions. It is updated.	RNC; declared economic activity; employee number, location.	Legal limitations have prevented remuneration value; they don't have all the business world; individuals appear employing staff.
Ministry of Labour (Ministerio de Trabajo, MT)	Has updated the number of employees. all companies must report monthly.	RNC; declared economic activity; number of employees; location.	It's not always received; often very similar to TSS. Establishments have information not shared.
National Council of Free Zones (Consejo Nacional de Zonas Francas de Exportación, CNZFE)	Regulate the free zones sector. Perform constant monitoring. It is a public base.	RNC; economic activity; employment; geographic location; status.	The sector is relatively small.
Ministry of Industry and Trade (Ministerio de Industria y Comercio, MIC)	They own one-stop formalization; company records, such as gas stations, industries, etc.	RNC; economic activity; location.	The bases are often outdated and dysfunctional. Effective monitoring of them is difficult.
Other sources			No fixed periodicity; variables are used to contact; no information is known about the

			update.
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Data source: Compiled from information obtained in the general report.

Table 3: Variables measured by the DEE and its definition.

Variable	Definition
Identification number in the directory	RNC
Name or Social reason	Can be the name of the owner, in case of individuals, or business name, in case of legal persons.
Direction	Use the Official Territorial Division ⁵ ; also it includes phone, email, etc.
Legal form of the unit	Legal status of the company that affects, among other things, their way of taxation.
Code of main activity	This is coded according to the International Classification Standard Industrial fourth in its review (ISIC rev. 4) ⁶
Size	Measured in total employed persons.
<i>¿Export o not?</i>	If you export any goods or services produced.
Propriety	Defines whether is public, private or semi public.
Constitution date	Year in which it was created.

Source: statements from the report SIRMIPYME Development project.

The DEE is a source of regular and reliable updating of the formal companies in the country, which facilitates obtaining valuable information that by its nature can interact with other sources of information.

El DEE representa una fuente de actualización periódica y confiable de las empresas formales del país, lo cual facilita la obtención de información valiosa que por su

⁵ The territorial division can be found at the following address:
<http://one.gob.do/cartografia/276/informaciones>

⁶ For more information the following site can be consulted: <http://unstats.un.org/unsd/cr/registry/isic-4.asp>

naturaleza misma puede interactuar con otras fuentes de información.

Work methodology

Cleansing the data base

The methodology proposed consists of crossing customs administrative records, both import and export bases with databases of companies from the DEE. Check this raises a relative success, because with this link variable we could determine the appropriate junction.

However, it should not be overlooked as suggested by Wallgren (INEGI, 2012, p.115), the transformation of administrative records for statistical records requires specific treatment and that "... the criteria established by the laws and regulations [Referred to Administrative Records] may not be relevant for measuring social or economic phenomena, or there may be differences in definitions between different laws ...".

Figure 1: Flow to convert administrative records in statistical records.



Source: International Journal of Geography and Statistics, INEGI.

Thus, it began with a review of information from Customs, finding no significant

problems in any of the variables characterizing these sources.

However, a major problem was detected in the RNC in the customs sources: there was a high number of cases with errors in this variable export bases⁷.

Precisely this confirms the suggestions of Wallgren as the root cause of these errors is derived from the lack of interest by the customs institutions to capture the administrative information, and the focus decided to make only transparent information on value, volume, and source and destination.

This process is performed based on an assessment of the RNC and the Bonds, from an application evaluation that considered the algorithm from which they are generated, and number of characters⁸, and valid characters within the code⁹. Those who met this characteristics, were excluded as **records without problems**, which automatically passed to the analysis database.

However, those who did not meet these criteria, they were sent to search for the brand name or trade name that had the record in the search engine of DGII¹⁰. If you are associated with a single record sought name, then part of the RNC that he had was checked to see if this information was appropriately imputed.

From this process, the ones that were considered valid, stood in the category of **Fixed Records** and passed to the analysis database. Then, those who did not pass this test, you came to do another test looking to save the record, which was to find a part of the RNC declared in the database under the frame of RNC¹¹.

⁷ The data bases of imports showed no significant errors, in 2008 alone it showed a significant amount.

⁸ For the RNC has been established with 9 characters, while the schedule has 11 characters.

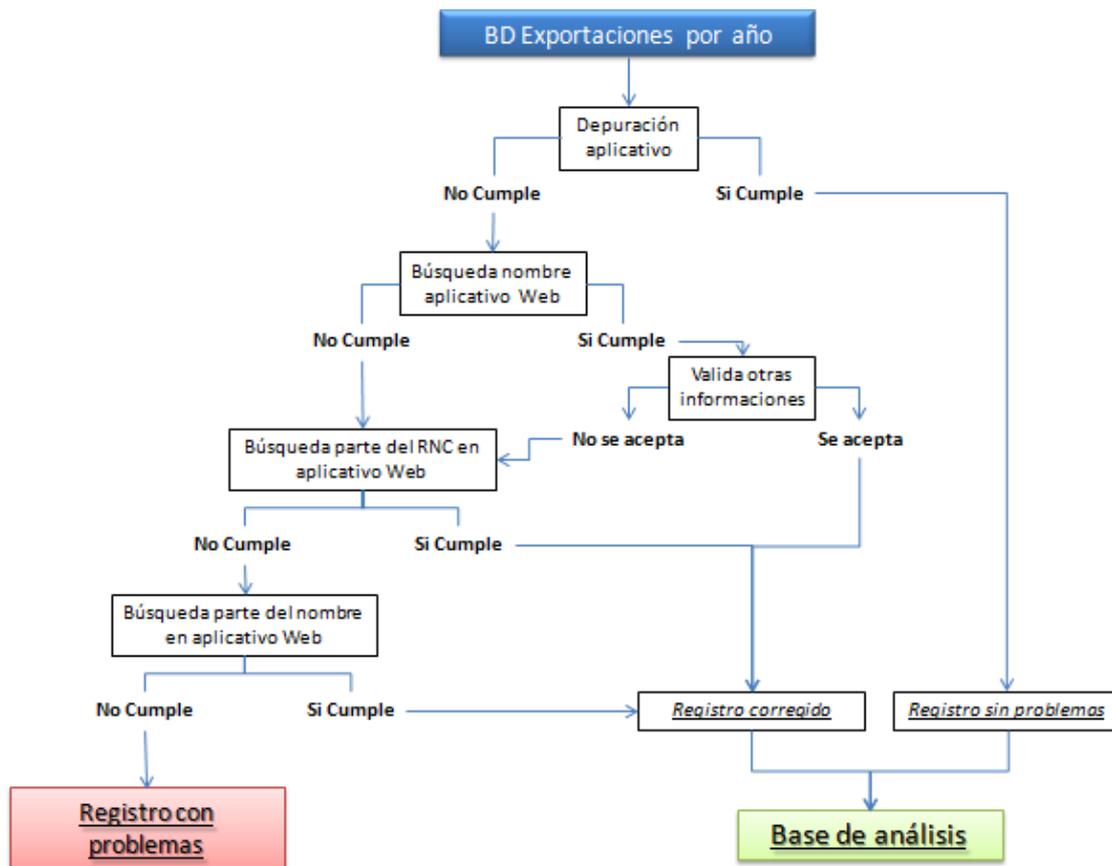
⁹ Whether the certificate to the RNC, only numerical values are allowed.

¹⁰ This can be verified at the following link:

<http://www.dgii.gov.do/servicios/consultas/Paginas/RNC.aspx>

¹¹ On the website of the DGII can be downloaded in .txt file listing all the RNC, whether or not they are currently active.

Figure 2: Process Flow debugging database export.



Note: Authors elaboration.

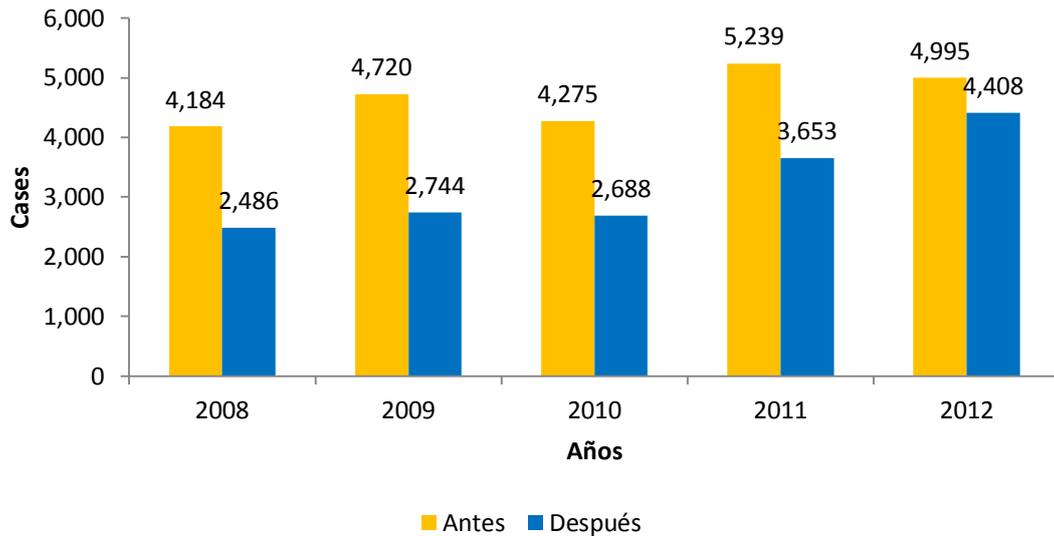
If this way there was any indication in the trademark or trade name coincide with the established in the company, was considered as part of the **Fixed Records**, going to the analysis database. If no matches were found in the latter process, then the last scan was performed.

The latter process was to select a portion of the readable name on the register, to search at the database of RNC that was downloaded. If matches were found in the numbering or several continuous digit of the registered RNC it was considered **corrected records**, going to the analysis database. Failure to achieve this, belonged to the database of **records with problems**.

This process generated significant improvements in the quality of the databases used for the analysis of information, as companies reduced the incidence of errors, as well as the amount.

The first major improvement is evident in graph 1, as they were able to identify many cases it was reported by the same company¹², but RNC errors could have been identified as another company. Analyzing exports, improvements were on average 32% throughout the series studied, although in some years was about 40%.

Graph 1: Number of cases that could be regarded from enterprises before and after purification was performed.



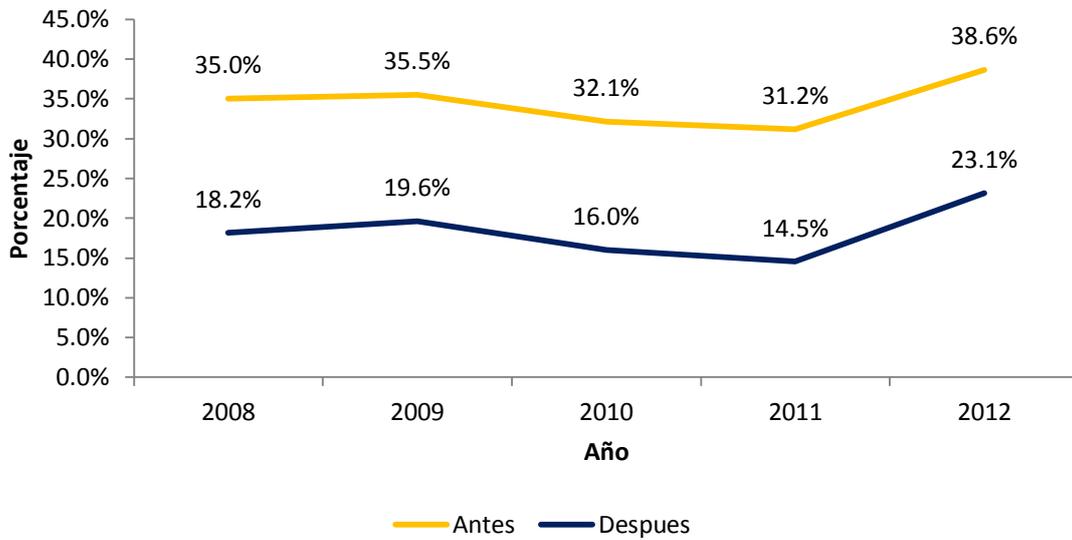
Note: Authors elaboration.

The other important result is the quality of the information. This evaluation will be conducted from the perspective of number of cases and problems corrected, and from the standpoint of the value of cases with problems and corrected.

According to graph 2, we can show that the treatment process of the database shown significant improvements in the number of cases corrected, decreasing almost half of cases each year. The trend has slight movements towards improving the quality of information, although surprisingly shooting in the last year, still above the 2008 year in which is expected the existence of a smaller amount.

¹² Is important to point out that we have considered companies because they have the record with the same RNC, trade name and business name. Despite these purges, the number could be less than what is considered. Note also, that has been grouped into this concept to individuals who engage in foreign trade.

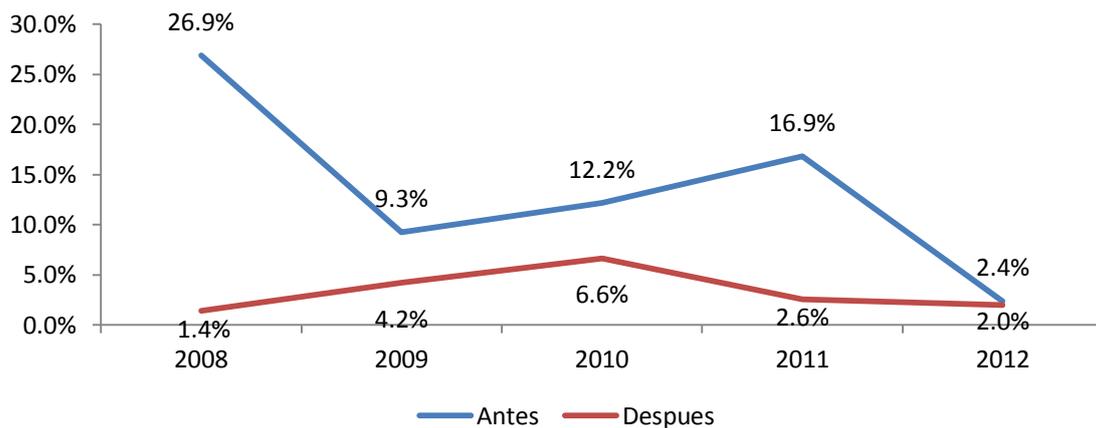
Graph 2: Percentage of cases with errors before and after the process of debugging information.



Note: Authors elaboration.

However, graph 3 shows that despite the increase occurred in the number of cases, representation in value is very low, which can be explained by an increase in attention to transactions of large taxpayers.

Graph 3: Percentage of amounts in error before and after the process of debugging information.



Note: Authors elaboration.

Unification criteria of the data bases

Obtained the refined data bases of the DGA, the crossing began with the sources of information that had been considered from the beginning: the Directory of Companies and Establishments.

However, a relatively low crossing DEE information with customs data bases was detected. When inquiring with technical experts from foreign trade, they explained that we have the existence of many portfolio companies, which only perform the function as broker.

To ensure better coverage, the following sources of information were identified:

- **General Directorate of Internal Taxes (Dirección General de Impuestos Internos, DGII)**, the general framework downloaded as a source of information. Thus, they had the foundation of all active RNC, with basic characterization of location and economic activity.
- **National Survey of Economic Activity (Encuesta Nacional de Actividad Económica, ENAE)¹³**, to improve information on activity, employment and business location.
- **Social Security Treasury (Tesorería de la Seguridad Social, TSS)¹⁴**, which provide inputs to generate the DEE. Thus, employment information was improved.

As noted, each data source has data on three basic characterization variables considered in the study: Economic activity, employment and business location. This requires considering a prioritization criteria that can be used to give a priority on each source.

To obtain the final model, basic rules of prioritizing information were created, starting from the information table number 2, for subsequent work it has enabled to know the quality of the data¹⁵.

¹³ The National Survey of Economic Activity (ENAE) is a statistical product produced by the NSO, and containing information on employment, wages, income, costs and expenses, among other financial variables.

¹⁴ Frame information obtained by the TSS is received annually before updating the DEE. Some records are excluded from DEE that doesn't have reliable information and aren't in the other administrative records.

¹⁵ The work referred to is the intersection of information sources to generate the update framework of the DEE. There is established the rule which prevails at the various sources received.

Assumptions of the final model.

The assumptions of the final data model are:

1. The classification of activity will take place at the level of large groups, at least in this first job. This is because some sources doesn't have detailed economic activity, or have a different classifier to ISIC in its fourth revision.
2. In employment, although the law 488-08¹⁶ consider the following:

Table 4: Categorization by company size range of workers and Law

Range of workers	Category
1 to 15	Microenterprise
16 to 60	Small enterprise
61 to 200	Medium-sized enterprise
200 and more ¹⁷	Large enterprises

Note: Own development from data found in the law 488-08.

However, we use the segmentation used by the NSO for their reports, as in some sources is not broken like in the Law. The analysis will be made as follows:

¹⁶ Law 488-08 establishes that for categorization should be considered the variables of number of employees, assets and income, the employment variable is normally used for the categorization of the company, because of the technical difficulty of measurement.

¹⁷ Although the law does not specify the latter range, it has been built by difference.

Table 5: Categorization by company size range of workers considering ENAE

Range of workers	Category
1 to 10	Microenterprise
11 to 49	Small Enterprise
50 to 99	Medium-sized enterprise
100 and more ¹⁸	Large enterprises

Note: Own development from data found in the law 488-08.

1. The order of relevance of the sources is established by the following variables:
 - a. Employment
 - i. ENAE
 - ii. DEE
 - iii. DGII
 - iv. TSS
 - b. Economic activity
 - i. DEE
 - ii. ENAE
 - iii. TSS
 - iv. DGII
 - c. Geographic location
 - i. ENAE
 - ii. DEE
 - iii. TSS
 - iv. DGII
2. Variable of export and import regime is deemed to discriminate in size. All belonging to the special regime zones, shall be considered as great, regardless of the number of employees they have. This based on the provisions of Article 6, paragraph C, which is required to have at least 200 employees, and 80% of

¹⁸ This last range of workers group two subgroups.

its production and export to qualify for the scheme¹⁹.

3. Since there is no information at the establishment level, is considered the location of the parent company as a place where the export was made.
4. The cases that could not be identified are more likely to be found in the stratum MSMEs that among large companies.
5. Although it has a total of certain companies, this number could be lower because it is calculated by the difference between RNC and not similar name and identified in the data base.

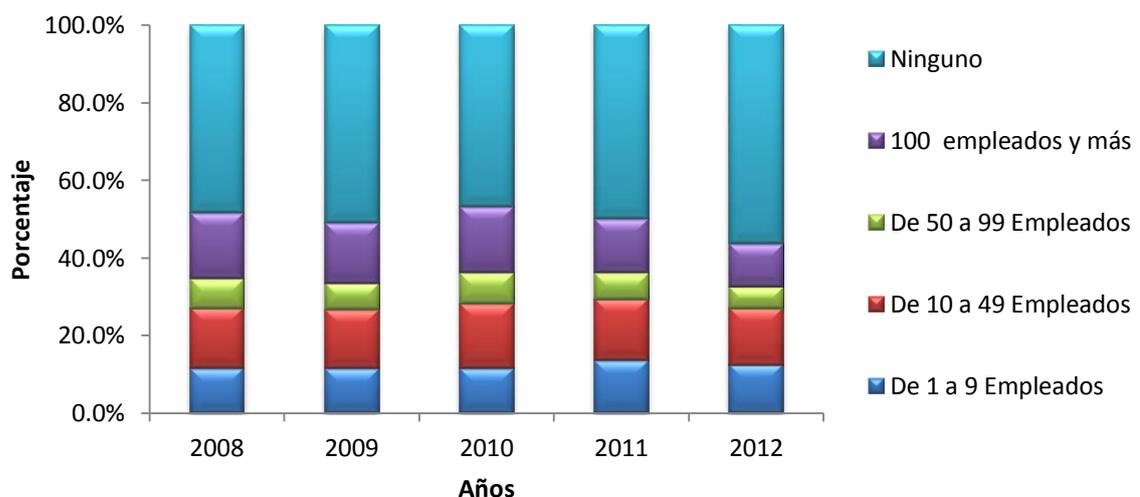
Results

Exports

From processing databases, test cases and value were obtained for profiles of economic activity, employment range and geographic location within the database of national exports.

The range of employee, which can serve as a proxy to determine the size of the company, the graph 4 presents cases at the level of enterprises with fewer than 50 employees have the highest proportion of cases as exporters.

Graph 4: Percentage of cases per year, according to enterprise size



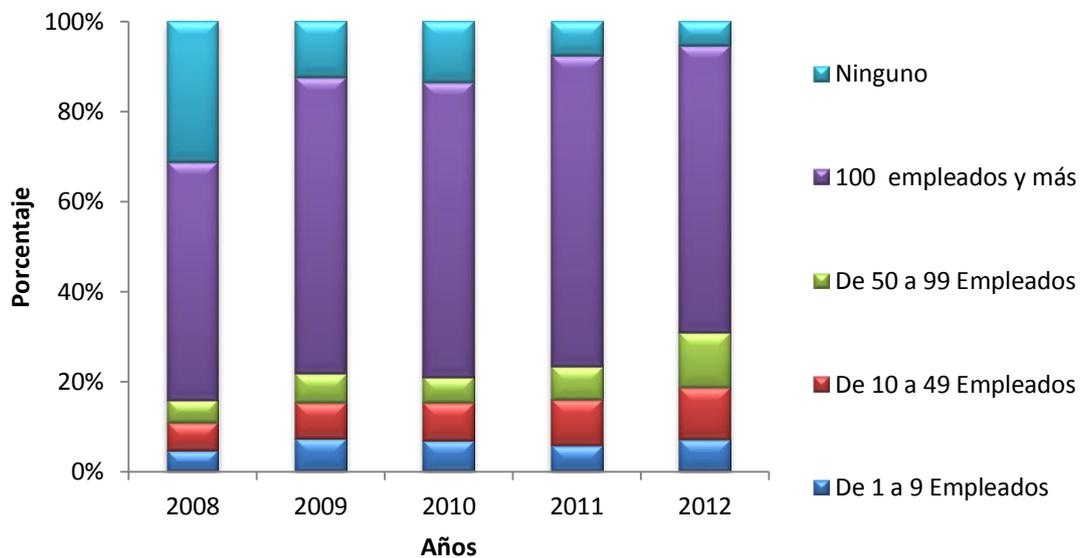
Note: Authors elaboration.

¹⁹ See amendment made to the law 8-90 on Promotion of Free Zones.

Note that throughout the series it was averaged that 50% of the cases had no employment information. As seen above, this response bias could be found distributed among groups of companies with smaller size, as there is high probability that large are identified with greater accuracy. The same situation occurs with the study of economic activity and province.

This is shown in graph 5, which has the same result of the above, only with weighted value. According to the data, this large volume of business with none characteristics, have low weight in terms of value, which gives indication that are small exporters.

Graph 5: Percentage of FOB value of exports per year, according to company size



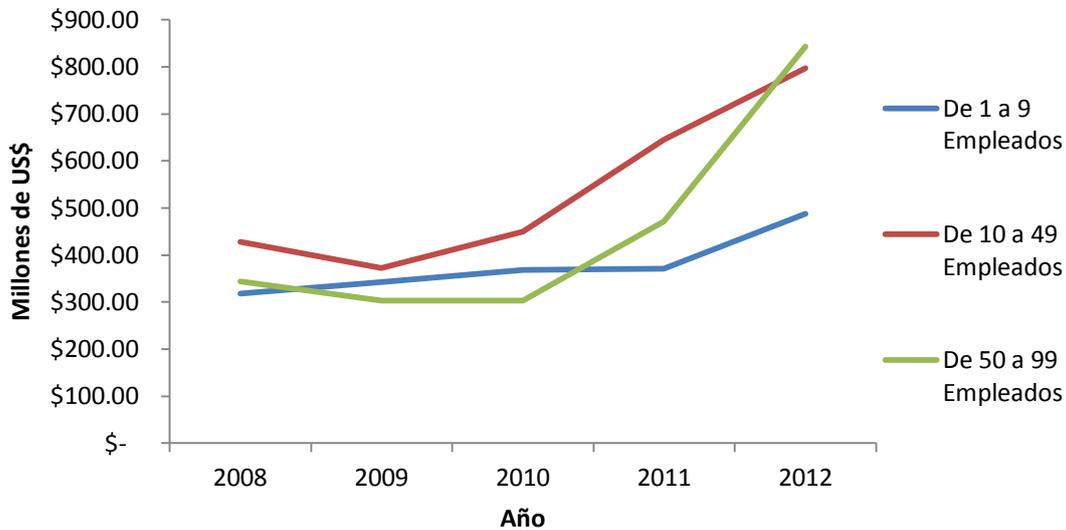
Note: Authors elaboration.

In fact, the decrease in range None in range of workers is more evident as the years go by, which is distributed in the groups. From 2009 there's a decreased weight of the range exportable amounts for employment, remaining below the 10% mark.

Then, it is verified that between 2010 and 2012, exports of the group of 50 to 99 employees grew 2.7 times, the group of 10 to 49 employees grew 1.8 times, and those with 1 to 9 employees grew 1.3 times, which it is positive, because it presents an increase of the export capacity of enterprises with less propensity to export, as it is known the difficulty that may have a MSME in entering international markets, as evidenced in the graph 6. In this same period, exports of only large companies increased

by 1.25 times.

Graph 6: MSMEs exports for years, in millions of RD\$.



Note: Authors elaboration.

Then, it is verified that between 2010 and 2012, exports in the group of 50 to 99 employees grew by almost 3 times, the 10 to 49 grew by more than 1.3 times, which is positive, it presents an increase of the export capacity of enterprises with less propensity to export, as evidenced in graph 6.

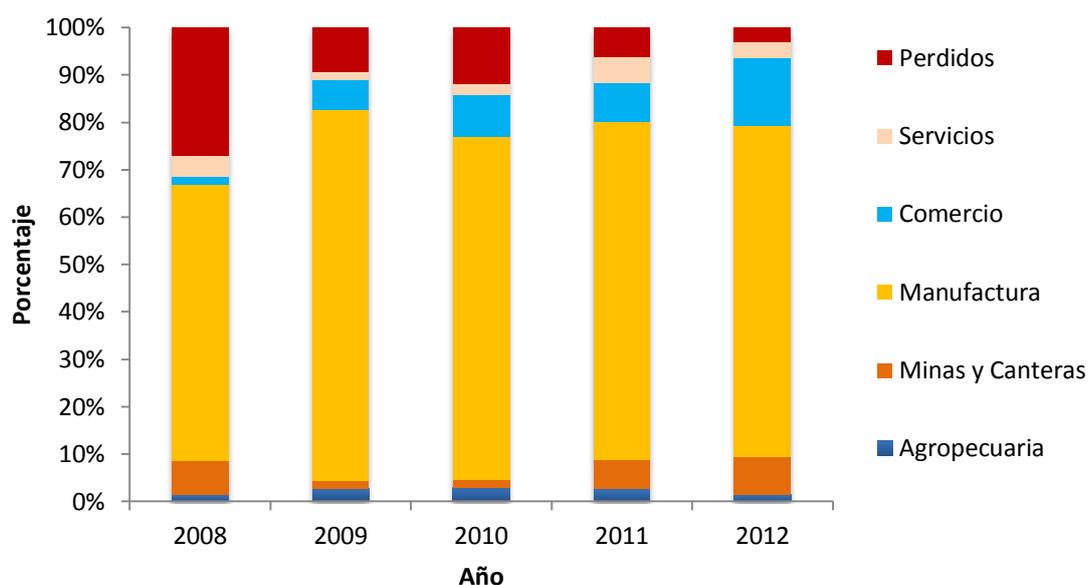
The chart below shows the weight per year of the value of exports, categorized by economic activity broadly²⁰. In it, a domain rated companies in manufacturing industries in the country's exports, with a slight increase in trade since the last two years is evident.

An increase in mining and quarrying activities is noted, especially from 2011, after the recovery by Merca occurred between 2009 and 2010. The enterprises dedicated to services have low export orientation.

As in employment, a decrease in the amounts exported by enterprises that failed to qualify for each year, from 30% to less than 10% in the period studied shows.

²⁰ The agricultural section belongs to this sector; mining and quarrying, manufacturing, electricity and water, and construction belong to manufacturing; trade to its separate section; others belong to the services sector.

Graph 7: Percentage of FOB value of exports per year, according to industry.



Note: Authors elaboration.

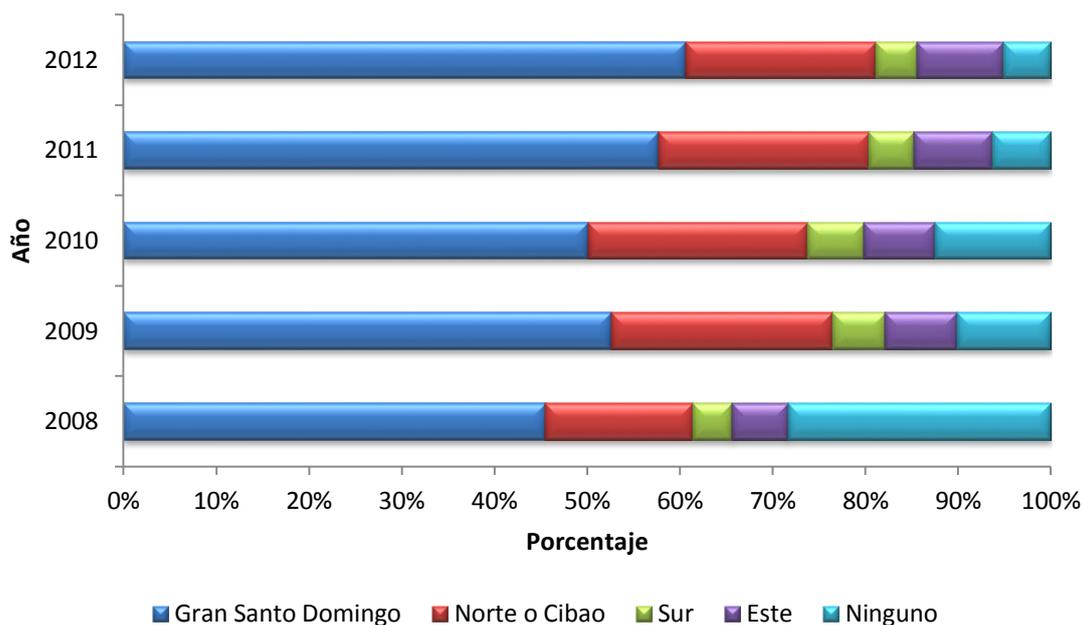
By analyzing the geographical location of the companies, the data confirm the trend also occurred in activity and employment, and is a significant drop in the default case, another sign of improvement in the records.

Assuming normal distribution of the omission, the great Santo Domingo²¹ has the largest share on the volume exported, with a growing trend. Also it shows that the North or Cibao region ranks second in exports.

These results make much sense to the Dominican business composition, since the Great Santo Domingo has the highest concentration of headquarters of a significant number of companies around the country. Also, they have the largest markets in relation to volume and population size.

²¹ This region refers to the Ozama or Metropolitan. Because of the relative importance that is excluded from this macro region and analyzed separately.

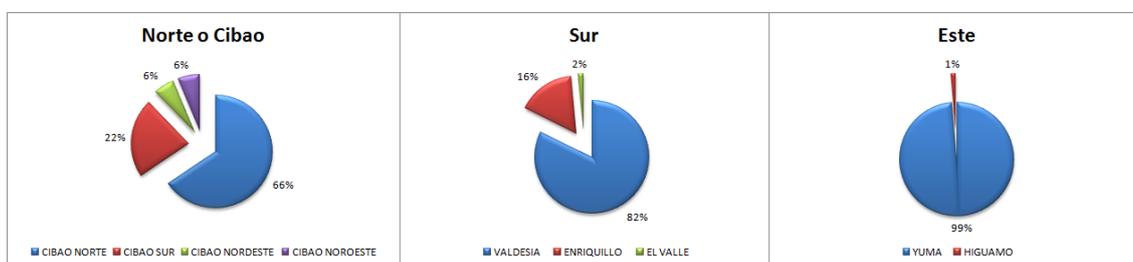
Graph 8: Percentage of FOB value exported per year, according macro region.



Note: Authors elaboration.

The exports have a high level of concentration, especially in the macro region East, where 99% of sales to foreign markets in 2012 were made by the enterprises located in the Yuma region. In the case of South macro-region, 8 out of 10 US dollars exported occurs in Valdesia region, noting that only 2% occur in the region of El Valle.

Graph 9: Participation of the value of exports at the level of planning region, for 2012.



Note: Authors elaboration.

The Northern Region also has a relatively high concentration, with the finding that 2 out of every three US dollars sold abroad are made by companies belonging to the three provinces of the northern Cibao region, while the remaining 11 accumulate a third of the sales.

In fact, 5 provinces in 2012 (National District, Santo Domingo, Santiago, La Romana and San Cristobal), showed that exports reached 90% of the national total, while 22 provinces held together a 3.15% of national exports.

Imports

The weight in value of the cases in the customs data bases presents a similar characteristic as the one of exports, with the difference that the number of importers cases significantly exceeds exports, dominated by a large number of individuals.

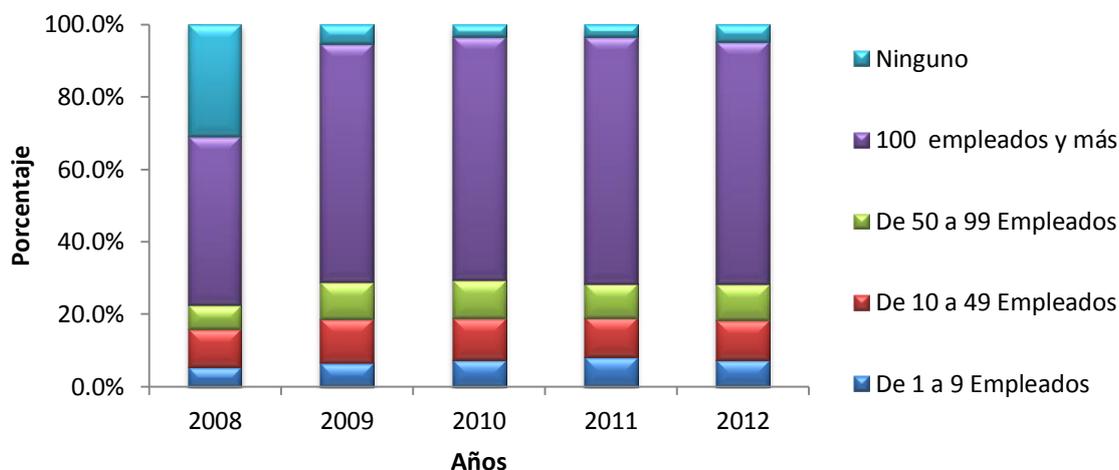
Since 2009, the data base demonstrates a significant improvement in the statements of logs ID or RNC, with the result that at the level of enterprise size the participation value of imports was around 95%.

The data tell us that no significant changes have occurred in relative terms in the imports by enterprises from 2009, maintaining a similar structure over the years.

In graph 10 is noticeable the large volume of imports by the large companies, which remains almost constant over time, contributing about 70% per year. Micro (1 to 9 employees) have an almost stable share, from 6% to 7% annually.

With regard to imports by economic activity, is evident the high weight of manufacturing, which accounts for about 50% of the imported amount. On the other hand, trade accumulates a 20% stake, but recorded a slight drop from 2010. The services close the series with a stake close to 15%.

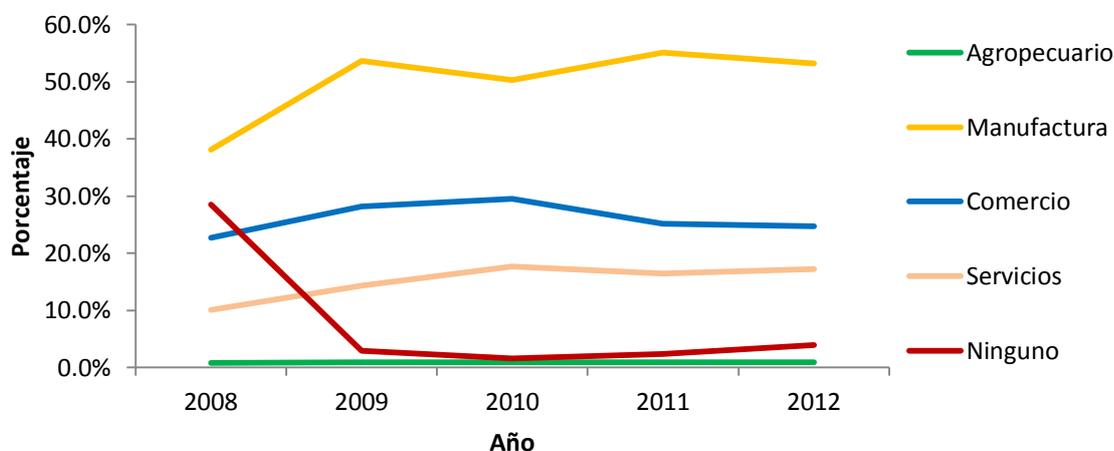
Graph 10: Percentage of FOB value imported per year, according to company size



Note: Authors elaboration.

Unlike exports, imports of mining and quarrying sector are included within manufacturing, as this segment do not have the same level of relative relevance.

Graph 11: Percentage FOB value of imported per year, according to industry.

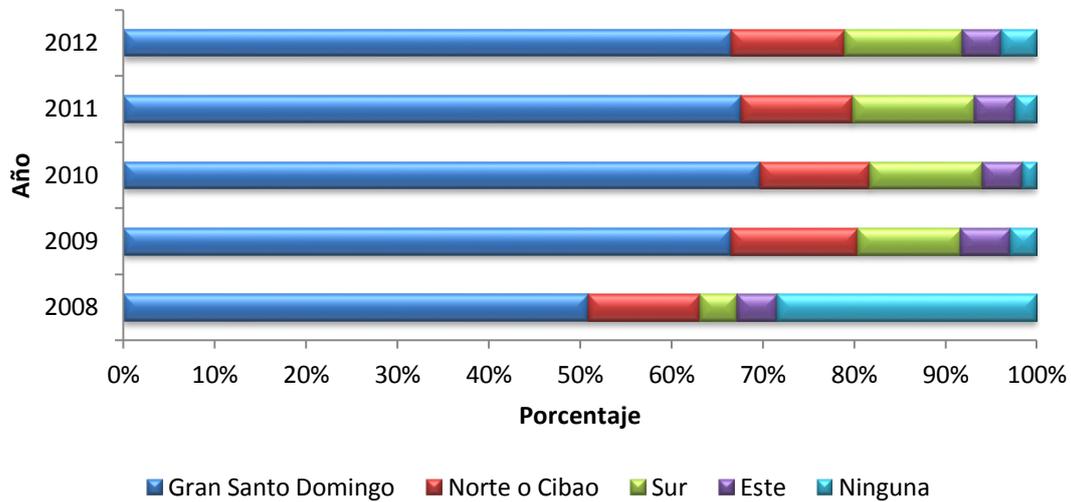


Note: Authors elaboration.

Figure 12 shows that the region with the largest volume of imports is the great Santo Domingo, with approximately 70% of the amount of the value of goods purchased abroad.

The relationship of the northern region and the southern region is relatively similar, with an average of 1% or higher for the northern Cibao region over the southern region. It also identifies that this region has a low proportion of imported goods.

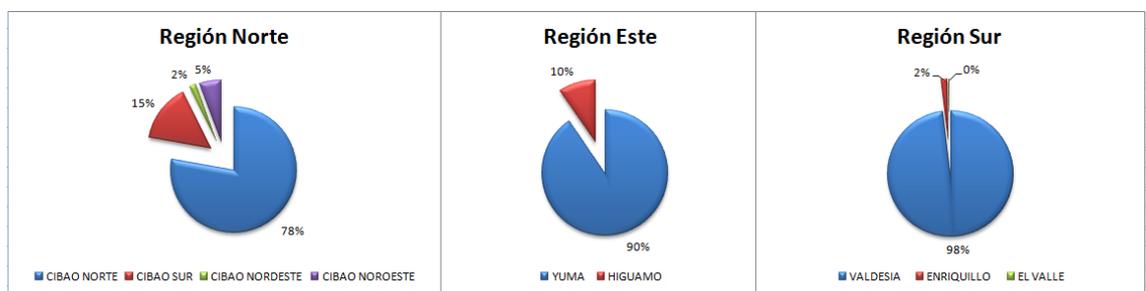
Graph 12: Percentage of FOB value imported per year, according macro region.



Note: Authors elaboration.

Additional there's evidence that internally in each region there is a large concentration in productive enclaves. Within the North or Cibao macro region, 80% of imports in 2012 occurred in the northern Cibao region, which has only 3 provinces, which includes the capital city of Santiago. It is noteworthy that the Cibao Northwest and Northeast together contribute only 7% of imports, despite having within eight provinces.

Graph 12: Participation of the value of imports at the level of planning region, for 2012.



Note: Authors elaboration.

The southern region has a much stronger concentration, since 98% of the imported amount is from enterprises that have their place in any of the four provinces of the Valdesia region, with very little input from the remaining 7 provinces that make this

region. In fact, 87% of imports in this region occurred in a single province, San Cristobal.

In the eastern region, 90% of imports occur for the provinces of the Yuma region, leaving the remaining three remaining provinces of the region Higuamo 10%.

Like exports, 90% of the value of imports in 2012 was conducted in 5 provinces (National District, Santo Domingo, San Cristobal, Santiago and La Romana), while 25 provinces reached barely 3.3% of the total imported.

Conclusions

In general it can be concluded that it is possible to link the customs data bases and administrative sources for business registers, given the level of formality that must have the enterprises that import or export some of their products.

However, constructing historical series poses significant challenges, especially in the purification of this information, since there have been key issues in the identification of trade records.

Despite this, if adequate clearance is established, you can take advantage of many of these records to support decision makers, since the level of value lost cases represent less than 5%, while cases not found at the sources represent a significant percentage.

There are strong indications that these unidentified cases may be natural persons engaged in foreign trade transactions sporadically, explaining how low amount despite being many.

MSMEs are active in foreign trade transactions, when the size is sized by a variable number of employee, it increased over time.

There is a geographical concentration in foreign trade transactions, with a high command of the companies located in the Greater Santo Domingo. In other macroregions concentrations ranging from 66% to 99% occur, and five provinces dominate 90% of the transactions with the foreign market.

The continuity of this work for the 2013 and 2015 series is recommended, since the implementation of SIGA application is expected that the DGA has improved identification records, going from a more manual to an automated process.

Equally, a project of automation that allow basic information from these sources are updated through business intelligence tools, allowing these data can be obtained online to meet public and private needs.

Bibliography

Cabal, Miguel (2012). Situación y práctica de la información MIPYME en Centroamérica y la República Dominicana. Informe presentado a CENPROMYPE por el Programa Sistema Regional de Información MIPYME de Centroamérica y República Dominicana. Diciembre. San Salvador, El Salvador.

CEPAL (2013), Compendio de Recomendaciones Técnicas y Buenas Prácticas para el Desarrollo de los Directorios de Empresas. Séptima Reunión de la Conferencia Estadística de las Américas de la Comisión Económica para América Latina y El Caribe. 5-7 de noviembre, Santiago, Chile.

Congreso Nacional (1990), Ley 8-90, sobre Fomento de Zonas Francas. Santo Domingo, República Dominicana.

Congreso Nacional (2007), Revisión Ley 8-90, sobre Fomento de Zonas Francas. Santo Domingo, República Dominicana.

Congreso Nacional (2008), Ley 488-08, sobre Régimen Regulatorio para el Desarrollo y Competitividad de las Micro, Pequeñas y Medianas Empresas (MIPYMES). Santo Domingo, República Dominicana.

Cristiani, David R. (2013), Diseño e implementación de Metodología para cuantificar la participación directa de la MIPYME en las exportaciones de bienes al mercado intrarregional. Informe Avance de la Consultoría para el Sistema de Integración Económica Centroamericana (SIECA). 29 de noviembre de 2013, Ciudad de Guatemala, Guatemala.

Cristiani, David R. (2013), Diseño e implementación de Metodología para cuantificar la participación directa de la MIPYME en las exportaciones de bienes al mercado intrarregional. Informe de resultados de la consultoría para el Sistema de Integración Económica Centroamericana (SIECA). Diciembre 2013, Ciudad de Panamá, Panamá.

Dirección General de Aduanas (DGA) (2010). Manual de Usuarios Externos del Sistema Integrado

- de Gestión Aduanera (SIGA). Abril 2010, Santo Domingo, República Dominicana.
- Dirección General de Impuestos Internos (DGII) (2007). Norma General 01-07, sobre Remisión de Informaciones. Santo Domingo, República Dominicana.
- Dirección General de Impuestos Internos (DGII) (2015). Guía del Contribuyente #6, Registro Nacional de Contribuyente (RNC). Santo Domingo, República Dominicana.
- Madera Sued, Luis (2013). Herramienta de captura de información para el Diagnóstico Regional sobre los Directorios de Empresas y Registros Administrativos Nacionales como fuentes principales de información. Informe de la consultoría para el Sistema de Información MIPYME de Centroamérica y República Dominicana. 9 de mayo 2013, Santo Domingo, República Dominicana.
- Oficina Nacional de Estadística (2013). Encuesta Nacional de Actividad Económica 2011 (ENAE). Santo Domingo, República Dominicana. (<http://one.gob.do/Categoria/Publicaciones>)
- Oficina Nacional de Estadística (2013). Archivo Nacional de Datos, Comercio Exterior de Mercancías de la República Dominicana. Santo Domingo, República Dominicana. (<http://anda.one.gob.do/index.php/catalog/56>).
- Oficina Nacional de Estadística (2014). Anuario de Comercio Exterior 2013. Santo Domingo, República Dominicana. (<http://one.gob.do/Categoria/Publicaciones>)
- Oficina Nacional de Estadística (2014). Archivo Nacional de Datos, Directorio de Empresas y Establecimientos 2013. Santo Domingo, República Dominicana. (<http://anda.one.gob.do/index.php/catalog/96>).
- Oficina Nacional de Estadística (2015). Directorio de Empresas y Establecimientos 2013. Santo Domingo, República Dominicana. (<http://one.gob.do/Categoria/Publicaciones>)
- Oficina Nacional de Estadísticas e Información (ONEI) (2014). Clasificador de Productos de Cuba (CPCU) Versión 1.2. La Habana, Cuba. (www.one.cu/ryc/nocambian/cpcu/Caracteristicas%20CPCU%201.2.doc)
- Organización de las Naciones Unidas (2009). Clasificador Industrial Internacional Uniforme de todas las Actividades Económicas (CIIU) Revisión 4. Nueva York, Estados Unidos. (http://unstats.un.org/unsd/publication/seriesM/seriesm_4rev4s.pdf)
- Organización Mundial del Comercio. Glosario de términos. (https://www.wto.org/spanish/thewto_s/glossary_s/glossary_s.htm)
- Rodríguez H, Eric M. (2012). De los Datos Administrativos a la Información Estadística. Revista Internacional de Estadísticas y Geografía, Vol. 3, Número 1: 113-117.

Annex:

Annex 1: Territorial division.

OFICINA NACIONAL DE ESTADÍSTICA DEPARTAMENTO DE CARTOGRAFÍA Division territorial por macroregión, región y provincia República Dominicana actualizada al 2015.			
Macroregión	Región número	Región	Provincia
NORTE	I	CIBAO NORTE	Santiago
			Puerto Plata
			Españat
	II	CIBAO SUR	La Vega
			Monseñor Nouel
			Sánchez Ramírez
	III	CIBAO NORDESTE	Duarte
			Salcedo
			María Trinidad Sánchez
			Samaná
	IV	CIBAO NOROESTE	Valverde
			Monte Cristi
Dajabón			
Santiago Rodríguez			
SUROESTE	V	VALDESIA	San Cristóbal
			Azua
			Peravia
			San José de Ocoa
	VI	ENRIQUILLO	Barahona
			Baoruco
			Pedernales
			Independencia
	VII	EL VALLE	San Juan
			Elías Piña
SURESTE	VIII	YUMA	La Romana
			La Altagracia
			El Seibo
	IX	HIGUAMO	San Pedro de Macorís
			Hato Mayor
			Monte Plata
	X	OZAMA O METROPOLITANA	Distrito Nacional
			Santo Domingo

Nota: La regionalización es establecida mediante el Decreto 685 de fecha 1ro. de septiembre del año 2000; fue modificada en su Artículo 46, del Decreto 710-04 el 30 de julio del 2004, que establece esta nueva regionalización del país compuesta por tres (3) macroregiones y diez (10) regiones.