Obstacles to Export in Colombia

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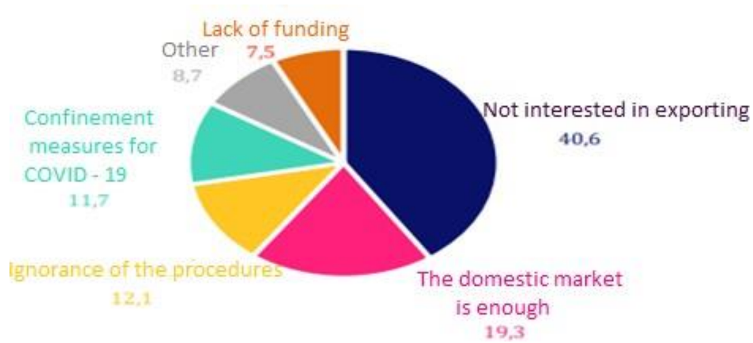
The low participation of exporting firms is one of the structural problems presented for the internationalization of the Colombian economy. By 2019, only 1.2% of all goods producing companies reached an external market (DNP, 2020). Therefore, it is crucial to understand which are the main obstacles and barriers that firms face in the process of internationalization. The Government of Colombia has made several efforts to identify those barriers and the main findings are presented in the following document, supported with some relevant literature. Furthermore, this exercise will contribute to the specific dialogue and working groups that are undergoing with the private sector under the Internationalization Mission development.

Main obstacles identified in the literature: Stylized facts

- According to the Business Pace survey[1] (ERE for its initials in Spanish) of the Cali Chamber of Commerce (Cali, 2020) for the second semester of 2020, 93.9% of the companies stated that they had not made international sales during the first half of 2020, considering that the main reasons for not exporting are concentrated in three main arguments: lack of interest in the foreign market (40.6%), consider the internal market as sufficient (19.3%) and ignorance of the procedures (12.1%), (Encuesta Ritmo Empresarial, Informe #13).

Graph 1: Main reason not to export (%) 1st semester 2020
Companies that indicated that their good or service is exportable



Source: ERE, September 2020, Report #13. DNP translation.

[1] The perception of 6,254 companies affiliated to 23 Colombian chambers of commerce was evaluated, among which are the main cities: Bogota, Medellin, Cali, Barranquilla and Bucaramanga.

- According to the Business Performance Survey[2] carried out by the Colombian Association of Micro, Small and Medium Enterprises (ACOPI, 2020) in the second quarter of 2020, it can be seen that:

    - During the second quarter of 2020, only 7.4% of the *MiPymes*[3] exported, this figure is maintained with respect to the first quarter of 2020.
    - Taking into account that more than 90% of the surveyed *MiPymes* do not export, they were asked what the reasons were, to which 45.9% of the companies responded that they do not consider that they have an exportable product or service, as shown in the following graph:

Graph 2: Reasons not to export (%)

Source: Business Performance Survey, ACOPI 2020, 2nd quarter report. DNP translation.

    - Considering the types of goods that MiPymes export, 55.6% of the companies surveyed stated that during the second quarter of 2020 they exported finished products and 11.1% intermediate products.
    - Among non-exporting companies there is a low export expectation for this year, since only 10.7% of the MiPymes stated that they expected to sell their products or services abroad, because of to the high uncertainty that is experienced in all global markets due to COVID-19.

- According to the *Gran Encuesta Pyme*[4] (ANIF, 2020), the second semester of 2019, businessmen expressed the main reasons for not exporting: not being interested in exporting and considering that their businesses do not have exportable products/services (Graph 3). Likewise, it was found that most of the surveyed companies have not consider an internationalization plan for their companies (Graph 4)

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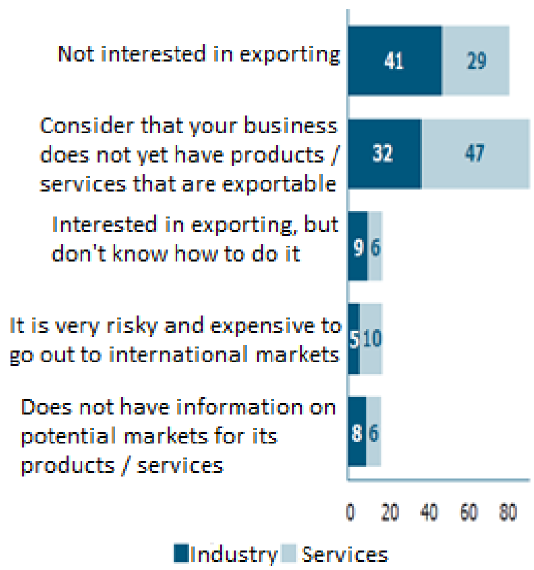
[2] The survey was conducted with 905 micro, small and medium-sized companies associated with National ACOPI, belonging to the macro sectors of manufacturing, services, and commerce. The companies surveyed correspond to the sections that make up National ACOPI such as: Atlantico, Antioquia, Bolivar, Cundinamarca, Caldas, Cauca, Nariño, Tolima, Norte de Santander, Santander and Valle del Cauca.

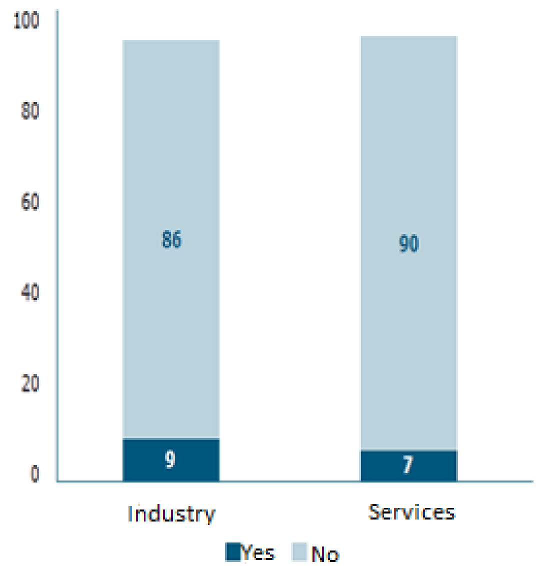
[3] Micro, Small and Medium-sized Companies

[4] Small and Medium-sized Companies

Graph 3: What are the reasons for not exporting? (%)

Graph 4: Have you consider an internationalization plan for your company? (%)





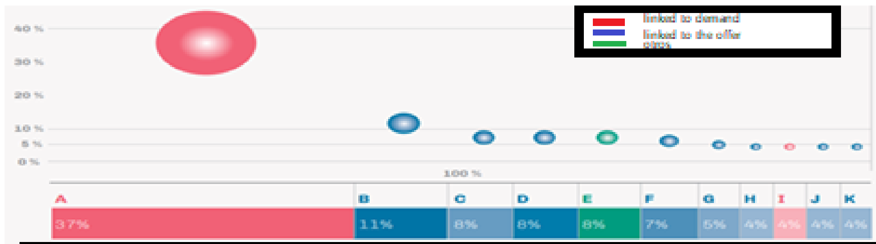
Source: *Gran Encuesta Pyme* (ANIF, 2020). DNP translation.

- The Institute for the Integration of Latin America and the Caribbean (INTAL for its initials in Spanish) of the Inter-American Development Bank (IDB), preform a survey [5] to 532 Latin American firms of different sizes and economic sectors in order to identify the new DNA of exports. (BID, 2020)

- In addition to the containment measures on the export supply, the companies highlighted other impacts such as greater restrictions or higher costs of international logistics (8%) or even national (7%). Problems with payment chains (8%), difficulties in the supply of domestic inputs (4%), or in the global chain (4%) are also mentioned, (Graph 5).

[5] The survey was carried out on May 7 and June 1, 2020, considering 25 countries with the presence of exporting firms in the activities of Agriculture-Fishing, Commerce, Construction, Mining and Quarrying, Finance and Insurance, Manufacturing Industry, Services , and Transportation.

Graph 5: Main reasons for the decreasing of exports

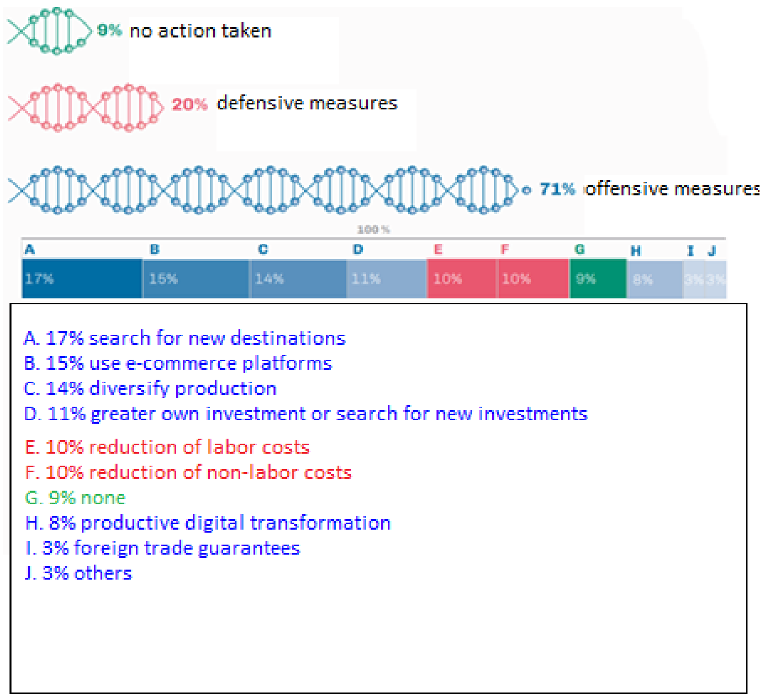


A. 37% FALL IN DEMAND
B. 11% The company is not operational
C. 8% new restrictions or higher international logistics costs
D. 8% problems in the payment chain
E. 8% Others
F. 7% new internal restrictions or national logistics costs
G. 5% new authorizations / permits to export
H. 4% difficulties in the global chain
I. 4% drop in the price of the good they export
J. 4% new import restrictions in destination countries
K. 4% Difficulty in the supply of household inputs

Source: INTAL based on the survey CO-BID.TRADE. INTAL 2020. DNP translation.

- After the collapse of exports, most companies (91%) indicated that they had been taken some type of measure to endure these impacts and also showed a variety of interesting alternatives. Among the main ones are finding new market opportunities and destinations (17%), the use of electronic commerce (15%) as a marketing channel and the diversification of production (14%), (Graph 6).

Graph 6: Measures taken to support exports

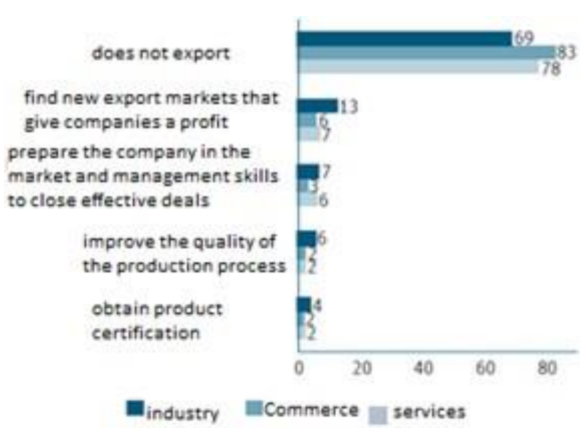


Source: INTAL based on the survey CO-BID.TRADE. INTAL 2020. DNP translation.

- According to the *Gran Encuesta Pyme* (ANIF, 2018), in the first semester of 2018 the exporters entrepreneurs, expressed that their greatest challenges to expand their external sales are: finding new markets with a considerable profit margin and preparing the company in marketing and skills (Graph 7). Likewise, they believe that the government's greatest challenge to increase exports is to provide more information on new markets and the benefits of trade agreements, as well as more financing to increase productivity (Graph 8).

Graph 7: What do you consider to be the most important challenge your company faces when expanding its sales to international markets? (%)

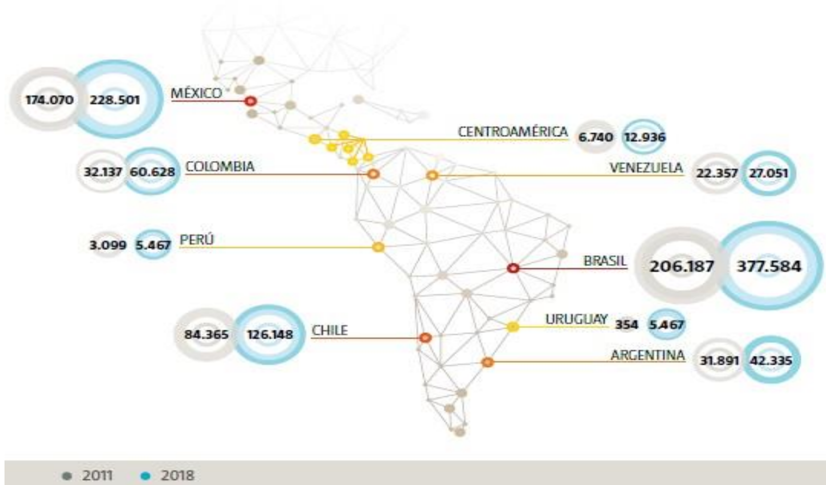
Graph 8: What do you think are the most pressing challenges that the government should work on to increase exports? (%)



Source: *Gran Encuesta Pyme* (ANIF, 2018). DNP translation.

- Another indicator of the internationalization of companies is foreign investment. According to (ICEX-España, 2019), in Latin America the accumulated Foreign Direct Investment (stock), which measures the assets that these companies have outside their country, has increased since 2011, and in 2018stood at 654,785 million dollars (3% of the world total), mainly concentrated in the companies from Brazil, Mexico, Chile and Colombia (Graph 9).

Graph 9: FDI issued accumulated in the main economies of Latin America (millions of dollars), 2011 and 2018



Source: (ICEX-España, 2019). DNP translation.

- According to (ICEX-España, 2019), among the main requirements for internationalization indicated by Brazilian companies are: the demand for information at the time of the execution of their expansion plans, business intelligence support, commercial promotion, internationalization programs and internationalization plans (Graph 10). The survey was conducted in August 2018, with the unions associated with the *Federação das Indústrias do Estado de São Paulo*, where 75% of the companies surveyed already operate abroad.

Graph 10. Companies demands to support internationalization process (% of responses)

Source: DEREX (Department of International Relations and Foreign Trade) cited in (ICEX-Spain, 2019)

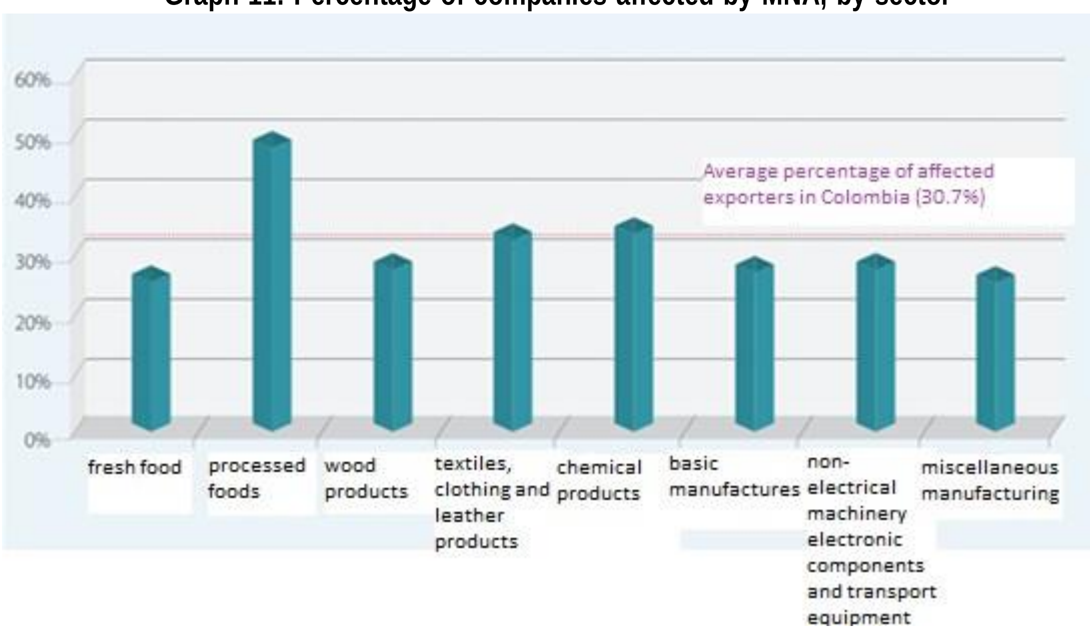
- In 2015, the Ministry of Trade, Industry and Tourism of Colombia (MINCIT) and the International Trade Center (ITC), conducted a telephone survey of 731 companies (30 importing companies, 200 exporters, and 501 exporters and importers) and examined 143 entrepreneurs, concluding in the documentation of 1,456 cases of companies of all sizes. The objective was to identify non-tariff measures and procedural obstacles that are particularly problematic for Colombian entrepreneurs (ITC & MINCIT, 2015). The main results are shown below:

  - Firms that carry out two-way foreign trade operations are those that register the greatest difficulties, 48% of the surveyed companies are in that group. Whereas, in the case of companies that exclusively import or export, these percentages are at 40% and 26%, respectively. This shows that there are challenges both in the entrance and departure of goods.

  - A significant impact was evidenced in all segments according to the size of the companies, but particularly in medium-sized firms (between 51 and 200 workers), which faced burdensome regulations and trade barriers in 44.1% of the cases. Big firms (more than 200 workers) and small firms (between 11 and 50 workers) were shocked in 43.1% and 40.3%, respectively, while in micro firms (10 or fewer workers) the degree of affectation was located at 30.3%.

  - In the exporters side, the greatest impact is on processed food companies, other sectors such as chemical products and textiles, clothing, and leather, also showed significant levels of impact (Graph 11).).

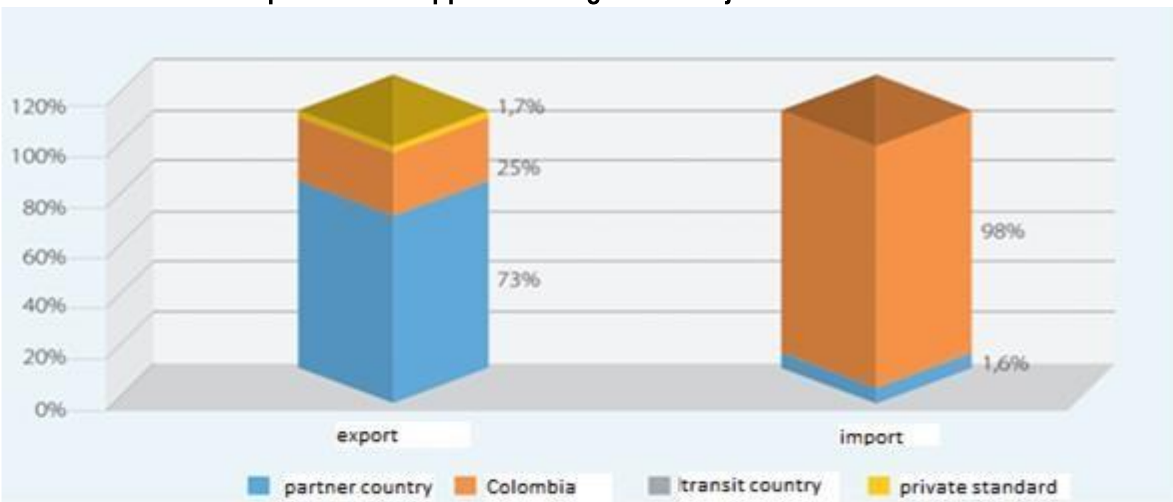
Graph 11: Percentage of companies affected by MNA, by sector



Source: ITC based on data from the survey on NTM in Colombia, 2014

  - In 25% of the total cases reported by businessmen, it is Colombia who applies the problematic regulation, a situation that contrasts, to some extent, with the export promotion and strengthening initiatives of the country. However, it should be mentioned that this percentage is similar to the one identified in the surveys of entrepreneurs carried out by ITC in other countries (Graph 12).

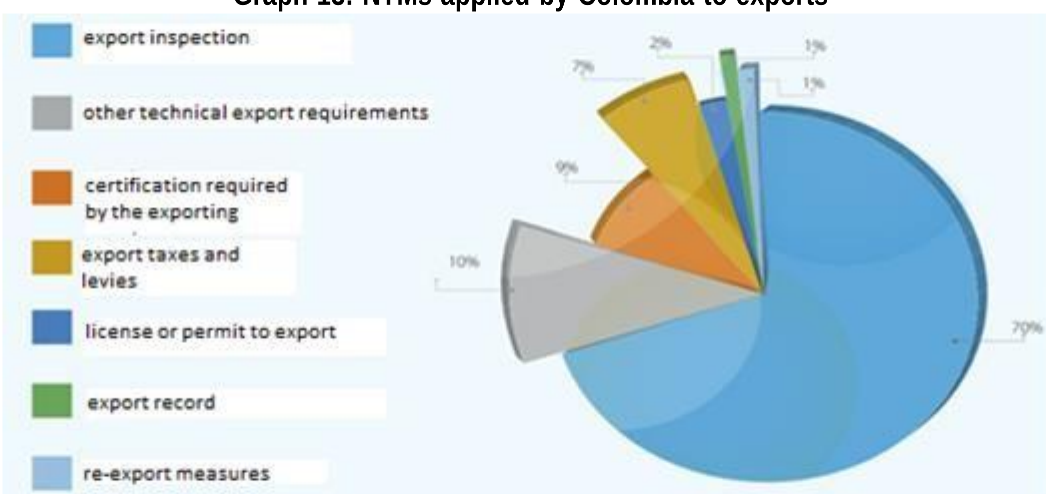
Graph 12: Who applies the regulation object of the obstacle?



Source: ITC based on data from the survey on NTM in Colombia, 2014

- Seven measures that affect exports were identified according to the ITC's Non-Tariff Measures classification; It was evidenced that three of these account for nearly 90% of the cases identified: inspections, specific technical requirements, and required certifications (Graph 13).

Graph 13: NTMs applied by Colombia to exports



Source: ITC based on data from the survey on NTM in Colombia, 2014

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- In concordance with the previous item, (Ibáñez & Ballesteros 2017) in a research using data for 25,584 exporting companies for the period 2010 - 2015, encountered the following obstacles:

a. Unfavorable exchange rates
b. Deterioration of world economic conditions
c. Competition abroad
d. Restrictions by rules and regulations

Likewise, the authors found that these results are not homogeneous by type of company and that the smaller the size of the firm, the more affected it is by variables of information, capacity, structure, and experience.

Problems identified in Plan 100 of the Ministry of Trade, Industry and Tourism

The “Plan 100” is a strategy to promote and increase exports in the short term, looking into the barriers that prevent TOP 100 exporting companies from increasing their sales volume abroad (MinCIT, 2020).

Frequent barriers in all sectors:

- **Procedural Obstacles:** All the relevant stake holders at the national level identified the need to improve the times, performance, and the number of personnel belonging to the entities that participate in foreign trade processes.
- **Procedural Obstacles for the Approval of AEO figure**: The deadlines, procedures, and decision responses for acquiring the status of Authorized Economic Operator by the DIAN are seen as a persistent problem for several companies.

Barriers identified in Agrofood:

- **Logistical obstacles:** In the Confectionery subsector, they identify that the use of ecological fuel by shipping companies increases costs and transit times. Likewise, the Agro-industrial sector has identified that export logistics costs in the domestic market are higher than the average of the international physical distribution.
- **Problems in the handling of the cargo:** Cocoa and flowers expressed inconveniences in the inspection of anti-narcotics in the port, where the product is damaged. The flower chain requests that the phytosanitary pre-inspection is made in the origin in order to not break the cold chain. Likewise, a second request emphasizes the need for the ICA to maintain the cold chain process.
- **Other procedural obstacles:** the confectionery and chocolate sector states that despite being classified as AEO, the merchandise is inspected in the port of Cartagena. There are also delays with INVIMA for the issuance of the non-mandatory health registration. In the case of the Pacific Alliance, a need of regulatory harmonization was stressed by confectionery entrepreneurs regarding sugar and calorie stamps and the labeling, because each country has different formats affecting the production costs.

Barriers identified in the manufacturing sector and other industries:

- Need to develop a new decree for the Shipyard sector that allows ballast ships to be considered as a good under repair (Means of Transport) and not as merchandise as currently stipulated in the customs statute. This allows us to generate agile and simplified procedures.
- The guarantees are not issued by the importer, which generates an extra cost for companies of 26% of the costs in the boat repair service.
- Time limits by DIAN officials for DTA (Customs Transit Document) matters, increase storage costs.
- Documentation problems are reported to transport companies.
- Regarding VUCE, an operational difficulty is mentioned, particularly with the air exports module. The system is constantly falling, especially with air exports. MINCIT offered to transmit the situation to the internal area of the Ministry that manages the VUCE.
- Problems are reported in the nationalization of vehicles.
- There are inconveniences for the refund of VAT for exports made from the Free Trade Zone operation.
- Problems of damage to merchandise at the time of the anti-narcotics inspection.
- There is a Procedural Obstacle with the times that are managed for the approval of the PROFIA in the Ministry.
- Two incentives have been identified as key to promote exports: CERT and Reimbursement of the Investment Tax.

Barriers in chemicals and life sciences

- Validate with DIAN how to streamline the process of physical inspections and nationalization of imported products (palm oil as raw material for soap production), since delays are being generated in these processes.
- The "Daily" generation of VAT in the implementation of the special import declaration for operations in the Free Trade Zones when the product leaves the FTZ towards national customs territory. This operation, which to date is carried out monthly, will begin daily in May, generating a recurring procedure and loss of competitiveness for the company.
- The Anti-Narcotics Police often do not have sufficient and available personnel at airports or ports, which generates delays and cost overruns. In ports, the fall of the MUISCA system has resulted in losses of time and money due to additional expenses in warehousing and storage.
- For the chemical sector, the availability of ICA and INVIMA officials in ports such as Cartagena and Buenaventura are not enough.
- Problems for the acquisition of import permits for the acquisition of raw materials.
- Procedural obstacles by INVIMA for the issuance of certificates or other essential procedures for export. This has been the most recurrent barrier at the national level and despite of the efforts that have been made to meet the goals of the health diplomacy strategy, there are always delays in procedures, sometimes due to the loss of human capital and others due to the suspension of terms.
- Good Manufacturing Practices are highlighted as a specific barrier for this chain. In logistical terms, despite not being a technical barrier, two issues that affect the competitiveness of Colombian exports are identified: the cost of freight and the lack of control in the yards in Cartagena.

Barriers in the fashion system:

- The technical standards that have been established in resolutions 2107 and 2109 (unification of labeling footwear and clothing in CAN countries) are considered a technical barrier.

Industry 4.0 barriers:

- Audiovisual Sector: a barrier against the equipment that must be purchased for filming, which is not explicitly considered audiovisual, so companies cannot request a VAT refund on these goods.
- Data protection: In the collection service there is no international data protection standard, which affects the provision of the service.
- Telemedicine: When international travelers come to Colombia, medical insurance is not required and, in some cases, patient do not pay for services and the debts remains for the supplier.
- Software and IT. Clarification of VAT: Many software companies state that the benefit of exporting services does not apply to the sales made abroad to a company that is established outside of Colombia but have legal presence in Colombia, as well.

Barriers identified in the Growth and Employment Generation Agreements

The Growth and Employment Generation Agreements between the national government and the private sectors, are and effort to solve short term barriers (Government and, in some cases, market failures) with the objective of promote production, investment and employment in some specific sectors of the economy. This strategy was promoted under the leadership of the Vice-presidency of the Republic.

- To achieve economic growth, Colombia´s Government has implemented the Growth and Employment Generation Agreements strategies through the establishment of working groups with different sectors that have export potential, value generation, development of local productive chains, generation of investment and employment in Colombia.
- Barriers to growth in each sector were identified, prioritizing the concept of production chains that could generate added value, with the capacity to innovate and produce goods and services withhigher levels of sophistication to serve the internal and external market based on current and potential demand.
- The agreements have been developed under the concept of a public-private alliance in which the efforts of all sectors concur to define the set of priority activities that must be implemented to achieve reforms needed.
- Barriers that prevent further growth have been jointly identified between public and private sector. As a result, an agenda has been defined with the Government's commitment to eliminate in the short term the prioritized obstacles that can be attributed to the public sector. Correspondingly, private sector committed to generate improvements in the sectors.

Table1: Barriers identified in the Growth and Employment Generation Agreements related to internationalization

Measure	Pact	Barrier	Responsible leader
Technical barriers to trade	Movement Industry (Automotive, Shipyard and Aerospace)	Low harmonization of technical standards in accordance with international references	Ministry of Transport and the Civil Aviation Authority
Technical barriers to trade	Movement Industry (Automotive, Shipyard and Aerospace)	Disparity in the certification process of aeronautical products between certifying entities of the defense and civil / commercial sectors	Civil Aviation Authority and Colombian Association of Aerospace Producers
Incentives and taxation	Movement Industry (Automotive, Shipyard and Aerospace)	Lag compared to competing countries in policies to promote the automotive sector productive linkages	Ministry of Trade, Industry and Tourism.
Technical barriers to trade	Fashion	Unawareness and non-compliance with technical regulations	Colombia Productiva
Technical barriers to trade	Fashion	Low standardization of production processes with effects on the quality of products.	ACICAM
Technical barriers to trade	Fashion	Shortage of inputs and specialized technology for production.	Ministry of Trade, Industry and Tourism.
Technical barriers to trade	Chemical	Lack of readiness for the regulatory challenges of the OECD standards.	Ministry of labor and Ministry of Environment and Sustainable Development
Technical barriers to trade	Software and IT	Low levels of internationalization of companies in the sector.	Colombia Productiva
Incentives and taxation	Software and IT	Inefficiencies in the double taxation model.	Consejera Presidencial
ICTs	Software and IT	Low participation of SMEs and limited growth of electronic commerce	Ministry of ICT
Technical barriers to trade	BPO	Low adoption of quality standards related to information security and management models	Colombia Productiva
Technical barriers to trade	BPO	Low adoption of quality standards related to information security and management models	ICONTEC

Source: DNP based on obstacles registered in the Growth Pacts and Employment Generation.

Obstacles identified in the Trade Facilitation Committee

In 2017 Colombia adopted the “The trade Facilitation Agreement” of the WTO (Law 1789 of 2018), and one of the mandates was to implement a national Trade Facilitation Committee, which was formally established in august 2018 by the Act No. 2 of 2018 of the System for National Competitiveness and Innovation. The committee aims to coordinate, guide, advise and support the construction of coordinated actions between the control authorities and public and private actors involve on international trade. The objective is to simplify, harmonize and streamline procedures related to trade operations, as well as the implementation of trade facilitation measures at the national level.

The committee organizes regular sessions to gather requests and propose specific commitments and follow up action on the concerns raise by different actors and sectors involve in trade operations. During the sessions, some obstacles have been identified in terms of exports, especially in the avocado, cannabis, and controlled substances sector.

Session 14 and 16, for the avocado sector:

- One of the biggest obstacles to exports in this sector was the absence of the tariff subheading for Hass avocado. For this reason, during the development of the sessions, it was agreed to present the request for splitting it to the government, and to create a specific subheading for Hass avocado. To date, Decree 1085 has been issued on August 3, 2020, where the subheading for Hass avocadowas created.

- Delays in the certification and labeling process of Hass avocado farms for export. It was agreed in the CFC sessions to carry out trainings by the ICA to speed up the certification process. Based onthe follow-up made by the technical secretary of the CFC, to date the ICA has held meetings with avocado growers to include markets in China, Japan, and Argentina. Furthermore, different meeting and events have been made to share the relevant information. As a result, the number of certified farms has increased substantially compared to 2018. Additionally, the ICA is reviewing within theentity its operational capacity to monitor and surveillance in the field.

Session 15 for the cannabis derivative products:

- The draft amendment to Decree 613 of 2017 includes the obligation of a quota for cultivation and licenses of cannabis to be used for the manufacture of cannabis derivatives. Additionally, the International Narcotics Control Board (INCB) establishes quotas for consumption and exports by each country but doubles the record of consumption and export of psychoactive substances. It means, that what is deducted from the quota as export is also discounted as consumption in the destination country. However, the National Narcotics Fund (FNE) has made approaches with the Colombian Ministry of foreign affairs and the INCB to clarify the interpretation of the discount and not doubled within the quotas. During session 15, it was agreed to issue an official statement between the Government and the private sector before the INCB regarding the interpretation of the uses of the quotas according to the requirements of the export destination countries.

- Based on the follow-up made by the technical secretary of the CFC, a meeting has been held with the INCB in which clarity was given on the application and accounting of the quotas (forecasts). In addition, a high-level working group was established and is led by the Presidential Council for Competitiveness and Public-Private Management. Also, it is relevant to mention another scenario led by the Ministry of Justice, to address issues of institutional strengthening, agility in procedures and bottlenecks in the sector.
- FNE requires prior authorization to issue the NO OBJECTION certificate for uncontrolled substances to export to countries that do not need it. In session 15, it was agreed to coordinate actions to clarify the application of the procedure and reduce the processing times for the issuance of no objection certificates to less than 30 days.
- Accordingly, the solution to the problem by the FNE was: i) Perform 3 training sessions with representatives of Cannabis sector interested in learning about the procedures. ii) Eliminate procedures for those products that contain less than 0.2% THC as a result of the regulatory improvement and international standard harmonization regarding the classification of pharmaceutical products made from cannabis (update of resolution 1478 of 2006 through the issuance of resolution 315 of March 2, 2020 - art. 5).
- The cannabis industry must carry out different procedures in different entities for the production and export of the product (Ministry of Justice; Ministry of Health; FNE; ICA and INVIMA).In session 15, was agreed the implementation of the Cannabis Control Information Mechanism (MICC) and were created alternatives to generate interoperability within the Sigle Window for Foreign Trade (VUCE). Moreover, The Ministry of Justice carried out internal tests in April 2020 to adjust prior to the pilottests with users aiming to ensure that appropriate corrections are made and launch the first stage of the MICC. Alongside, it has been working in the interoperability of MICC with INVIMA, FNE, Ministry of Trade, ICA, and Ministry of Health.
- For activities related to customs and clarence of merchandise, it is necessary for all the actors to know in depth the handling of this type of merchandise, since there are airlines and customs agencies who resist to work with the cannabis industry. In addition, there are not clear procedures by the Anti-Narcotics Police about these types of merchandise. As a result, there are many delays and reprocesses in exports. For this, in session 15 was proposed to carry out special session of capacity building and awareness with actors involved in the logistics chain. The first one took place on January 21, 2020, with the Anti-Narcotics Police.

Session 19 controlled substances sector:

- Lucta Grancolombiana SAS (a company that manufactures chemical products), manufactures additives for animal feed and has potential demand for inputs from abroad. However, the exporting countries request a certificate from ICA that does not exist in Colombia and therefore the authority does not issue it. During session 19, a representative of ICA proposed to hold a meeting with theMinistry of Trade and the company with the aim of reviewing the trade regulation for products ofanimals, since they have realized the risk in competitiveness that the entry of some additive substances of animal feed without control implies (legal loopholes).
- C.I. IMPORTEX SA (chemical products trading company) exports xylene and toluene products to Ecuador. In Colombia, toluene is a controlled substance, but xylene is not, while in Ecuador both products are controlled substances. During session 19, the company requested the intermediation of the Ministry of Trade to speed up the process of approvals of the Ministry of Justice through the

Single Window for Foreign Trade (VUCE) to export to Ecuador. Last May 18, 2020, the interoperability of VUCE with the Ministry of Justice was implemented to speed up the response time of approvals.

Successful cases of exporting companies

Fresh cut-flower exports in Colombia

According to the "Export Pioneers in Latin America" report from the IDB 2012, the case of flower exports in Colombia was a successful story explained by the following reasons (BID, 2012):

I. **Active role of the Government:**
   - Reduce import restrictions and a currency devaluation scheme to ensure a competitive rate.
   - Grant incentives to exports and credits with low rates, as well as creation of export promotion instruments such as the Vallejo plan (Imports free of custom tariffs and VAT deferral for exporters).
   - Create commercial promotion strategies through Proexpo (today Procolombia)

II. **Role of export pioneers, dissemination of knowledge and promotion of FDI.**
   - A group of pioneers leading entrepreneurs were able to identify the competitive advantages for flower production (geography, land prices, climate, and human resources) and take advantage of the potential of international demand, especially in the United States.
   - The export pioneers revealed that the activity had large profit margins and encouraged the entry of new exporters and investors. They also helped with the dissemination of knowledge regarding business conditions and international markets.
   - Appearance of new participants allowed overcoming barriers through coordination and cooperation among exporters, improving competition and efficiency in the market.
   - FDI played a crucial role, especially the association with distribution companies that knew the demand from external markets was crucial. In fact, one of the pioneers, Floramérica, was a company with 100% foreign capital.

III. **Association and public-private partnerships**
   - ASOCOLFLORES was key to coordinating the efforts of entrepreneurs and solving bottlenecks in transportation, legal issues, increasing access to international markets, quality control and phytosanitary requirements, increasing benefits for workers, among others.
   - The government supported the association´s efforts by creating favorable conditions for exporting.

International experiences

The case of software industry in Uruguay

ARTech, GeneXus:

ARTech is the first software company in Uruguay that managed to export in a sustained manner. ARTech's main product is GeneXus, which is software with integrated tools for managing large databases. Genexus is currently one of the largest products in its international market niche. According to the study by (IDB, 2012) the determining factors of success were:

The industry of software in Uruguay focused on the exploitation of a proprietary knowledge niche that was generated and maintained through intensive R&D. ARTech's proposal consisted in meeting the needs of its segment, and providing in-depth solutions on the specific problems of each client. This approach allowed Artech to conquer a space in a competitive industry like software development.

ARTech developed strategic alliances with the leading companies in the industry. Another relevant factor to explain the export growth was ARTech's alliances, especially with IBM. Using the reputation and marketing channels of IBM, ARTech was able to disseminate its main product (GeneXus). Likewise, as Microsoft consolidated its dominant position, ARTech managed to make alliances with this company. Both alliances facilitated the process of learning about the organizational structure of multinationals, which would later allow ARTech to enter new markets.

Alliances with the academy. Likewise, one of the causes of the growth of this company is its close relationship with the academy, as they have maintained constant cooperation with universities, many of which teach GeneXus management as part of the engineering curriculum. Inclusion in the pensum was a way of increasing the number of users of the software and generating positive feedback. With the cooperation with the universities, it has been possible to develop a human capital specialized in software, the main input for this industry.

Provision of public goods and institutional support for the growth of the industry. Regarding the characteristics of the Uruguayan state that facilitated ARTech's growth, it is worth highlighting the remarkable Uruguayan infrastructure in information and communication technologies. Uruguay has a digital telecommunications network that covers the entire country, and a fiber optic network. Likewise, the industrial protection laws of Uruguay provide economic guarantees to software producers. Additionally, in 1999 the industry was declared of national interest receiving tax benefits like the reduction of up to 30% to the value added tax on capital goods.

The software industry is geographically concentrated in the same industrial zone of Uruguay, which facilitates spill overs. Positive externalities are generated for the industry through labor mobility and interactions between companies in the software sector. This facilitates the flow of information and human capital, main inputs in the software development industry

The case of Chile

The growth in exports is mainly due to new companies derived from large corporations. (Blum, Claro, & Horstmann, 2020) found that new companies, which come from large corporations, are the main sources of export growth. This type of company represented only 27% of the new exporters in Chile, but they receive 55% of the income of the new exporters. These can be explained since, unlike traditional startups, companies created by large corporations take advantage of the corporation's network of contacts, as well as know-how.

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