

DATLAS

Intelligent Diversification: Value Proposition for the Textile and Apparel industry

· January, 2017 ·

 **MINCOMERCIO
INDUSTRIA Y TURISMO**

BANCOLDEX 

 **TODOS POR UN
NUEVO PAÍS**
PAZ · EQUIDAD · EDUCACIÓN

SUMMARY:

This document proposes certain actions for the textile and apparel industry to improve its export position based on the diversification of its markets and the development of higher-sophistication goods.

By: Gustavo Adolfo Montes

The comments of the team of Management Dynamics Ecosystems are grateful: Claudia Da Cunha, Sonia Cepeda, Sandra Mendez, Lizbeth Parada, Jessica Rodriguez, Juan Manuel Alvarado, Efren Cifuentes, Daniel Contreras, Elkin Manuel Preciado, Juan Fernando Ruiz y Andrés Vengoechea

Disclaimer: The views expressed in this document are the sole responsibility of the author and do not represent the official position of BANCOLODEX or its Board of Directors. In addition, BANCOLODEX does not guarantee that this report is free from errors. This document aims to analyze an economic sector in the light of Datlas Colombia (<http://datlascolombia.bancoldex.com>), so it should not be considered a recommendation for any trade operation or investment.

BANCOLDEX provides this intelligence report as an input for the decision-making process of businesses and associations.

Thus BANCOLDEx, as a partner of those entrepreneurs who dare to grow, presents the following proposal for Intelligent Diversification for the Textile and Apparel industry.

Intelligent Diversification is understood as the ability of companies to exploit their know how to:

- i. **Diversify international markets**
- ii. **Diversify markets in Colombia**
- iii. **Innovate and diversify with higher-sophisticated goods**

BANCOLDEX generates these intelligence reports from Datlas Colombia¹ (<http://datlascolombia.bancoldex.com>), and other sources of information.

¹ The exports information contained in this report is based on the Atlas of Economic Complexity for Colombia - Datlas Colombia, a tool developed by the Trade, Industry and Tourism Sector and the Center for International Development at Harvard University (CID). Because of the methodology used by Datlas Colombia, which makes a special geographical allocation of numbers, in some cases the information reported does not match the one published by the DIAN and DANE. For more information see <http://datlascolombia.bancoldex.com>

I. Characterization of the Textile and Apparel industry in Colombia, 2008- 2014

a) Industry exports statistics in 2014 ².

During 2014 the exports of the textile and apparel industry accounted for 1,8% of the country's exports. International sales of this industry concentrated mainly on the links of i) apparel and ii) fibers, yarns and fabrics, representing 94% of total exports. Thus, Table 1 shows exports by Colombia in 2014, its participation in the industry and in the overall of the country for the various links in the textile and apparel industry.

² The Textile and Apparel chain is taken from http://www.dian.gov.co/descargas/tlc/USAID_Manual_Sector_Textil_Confecciones.pdf

Table 1. Exports for the Textile and Apparel Industry in Colombia (2014)

LINK	EXPORT. MILLON USD	% EXPORT TEXTILES & APPA.	% TOT EXP.COL 2014	% COL EXPORT / WORLD EXPORT
Apparel	628	60,5	1,09	1,3
Fibers, yarns and fabrics	342	33	0,59	1,5
Luggage, handbags and fabrics	39	3,7	0,07	0,7
Fiberglass yarns and fabrics	15	1,4	0,03	1,3
Bedding	14	1,3	0,02	0,9
Umbrellas	0,08	0,01	0	0,02

Source Datlas Colombia, own calculations

b) Evolution of exports of the main links in the industry 2008-2014.

The evolution of exports of the textile and apparel industry had a negative performance in the period 2008-2014. As shown in Figure 1, the share of the textile and apparel exports went from 6.1% in 2008 to 1.8% of total exports in Colombia in 2014.

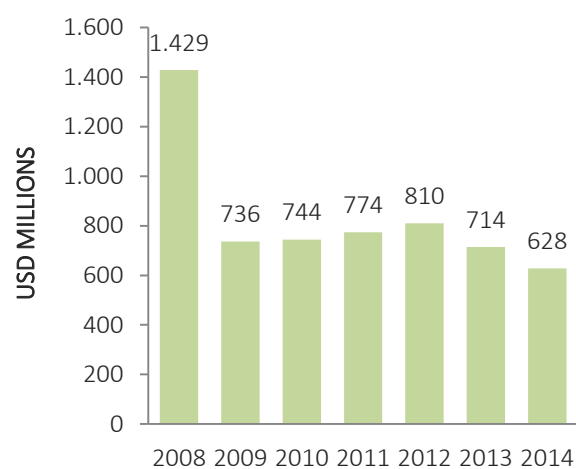
Figure 1. Evolution of exports share from the Textile and Apparel industry in Colombia, 2008-2014.



Source Datlas Colombia, own calculations

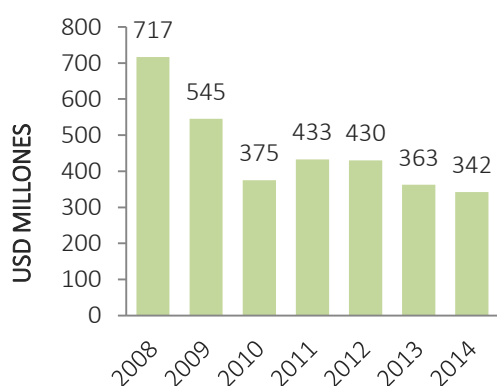
The link of the apparel showed an average annual decline of 12.8% of its exports over the period 2008-2014 (Figure 2). Likewise, exports of fibers, yarns and fabrics experienced an annual decline of 11.6% over the same period (Figure 3).

Figure 2. Evolution of apparel exports in Colombia 2008 -2014



Source Datlas Colombia, own calculations

Figure 3. Evolution of exports of fibers, yarns and fabrics in Colombia, 2008-2014.



Source Datlas Colombia, own calculations

According to the Performance of the Textile and Apparel Sector 2008 -2012 report published by the Superintendency of Companies³, the decline of Colombian exports from textiles and apparel occurred as a result of the revaluation of the colombian peso, smuggling, high production costs and a reduction of the domestic demand.

c) Sophistication of the links in the industry.

Datlas Colombia provides the understanding of the sophistication of the products developed by all industries in the world. Sophistication is measured using the complexity variable. Analyzing the degree of export sophistication is crucial because multiple studies published by Ricardo Hausmann, Eduardo Lora and others authors have shown the existence of a direct relationship between economic growth and the level of economic complexity of exported goods. Indeed, according to Datlas Colombia, "productivity and growth everywhere depend on firms to successfully produce and export goods and services that require skills and knowledge that are diverse and unique"⁴. As an example, in Table 2, there is a comparative of complexity indexes for 2014 according to Datlas Colombia.

³ <http://www.supersociedades.gov.co/Documents/Informe-Sector-Textil-Oct152013.pdf>

⁴ <http://datlascolombia.bancoldex.com/#/about/glossary>

Table 2. Complexity Index (sophistication) by sector 2014.

INDUSTRY	COMPLEXITY (SOPHISTICATION)
Machinery	2,28
Electronics	1,92
Transport vehicles	1,79
Chemical and plastics	1,67
Metals	1,44
Stone and glass	1,26
Vegetables, food and wood	-0,25
Textiles and furnitures	-0,36
Minerals	-0,82

Source Datlas Colombia, own calculations

According to the information provided by Datlas Colombia, the average complexity for the links in the textile and apparel industry is -0.21. As shown in Table 3, the apparel link (measured by economic complexity index -1.78) has a complexity lower than fiber, yarn and fabric (as measured by economic complexity index 0.48). Furthermore, fiberglass yarns and fabrics is the most sophisticated link.

Table 3. Comparative of sophistication degree by links in the textile and apparel industry, 2014.

LINK	COMPLEXITY (SOPHISTICATION)
Apparel	-1,78
Fibers, yarns and fabrics	0,41
Luggage, handbags, wallets	-1,06
Fiberglass yarns and fabrics	2,22
Bedding	-0,72
Umbrellas	-0,33
Average links	-0,21

Source Datlas Colombia, own calculations

d) Export specialization of the links in the textile and apparel industry, 2014

In order to understand the specialization degree of Colombian exports for the links in the textile and apparel industry, this report uses the Revealed Comparative Advantage index (RCA) developed by (Balassa⁵, 1965) and presented in Datlas Colombia for each export product. The RCA compares the export of a product manufactured in a specific place (in this case Colombia), with the export of that same product in the world market. **The RCA is a practical indicator to estimate the export specialization of a product in a specific place.** When the value of the RCA is greater than 1, it is understood that Colombia has a share in the global market for that product higher than the corresponding amount based on all its exports. Thus it can be deduced that the country is relatively specialized in the export of that good.

By analyzing the average RCA for the links of the Colombian Textile and Apparel (Table 4), it can be observed that none has a Revealed Comparative Advantage (RCA) equal to or greater than 1. This allows us to infer that Colombia is not relatively specialized in these product groups (although, as we shall see, it is in some specific products within those groups).

Table 4. RCA links and exports Textile and Apparel Industry, 2014.

LINK	RCA	EXPORT MILLION USD
Apparel	0,34	628
Fibers, yarns and fabrics	0,35	342
Luggage, handbags and wallets	0,2	39
Fiberglass yarns and fabrics	0,42	15
Bedding	0,31	14
Umbrellas	0,0	0

Source Datlas Colombia, own calculations

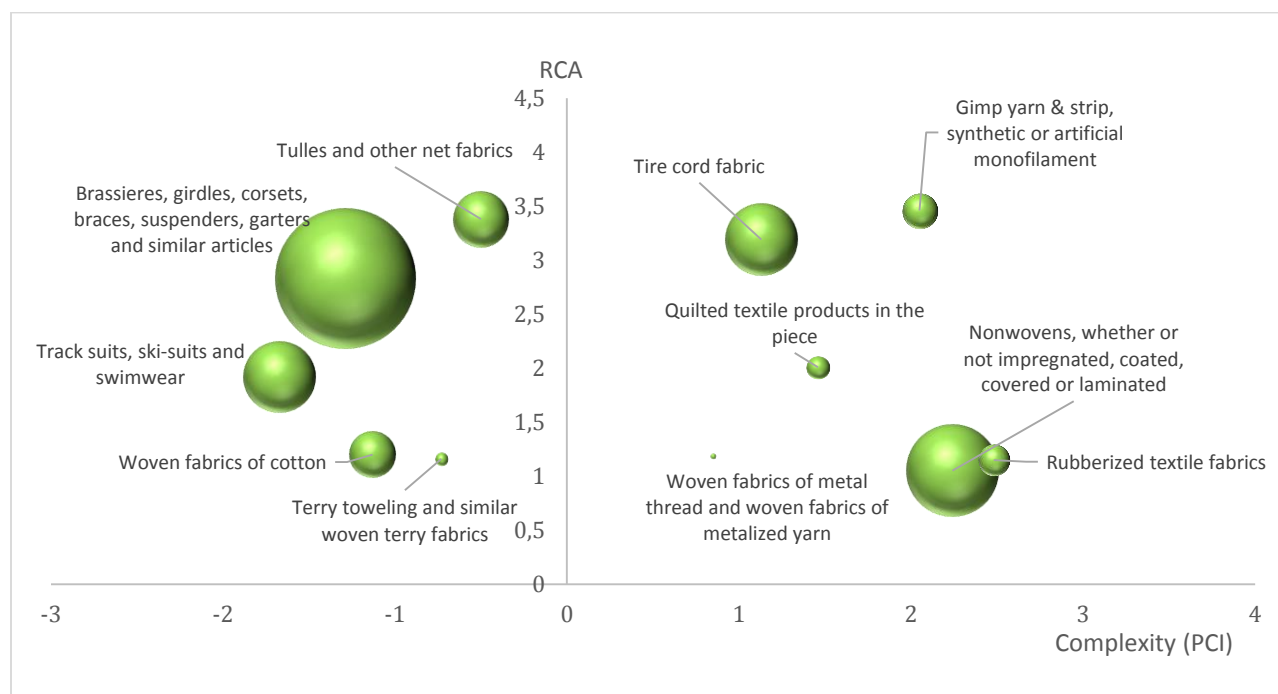
⁵Balassa, B. (1965), "Trade Liberalisation and 'Revealed' Comparative Advantage", The Manchester School, 33, 99-123.

II. Identification of star products in the industry and intelligent diversification proposal

By analyzing the products of each link in the industry, we can observe several export goods in which the country achieves a high degree of export specialization. Indeed, **Colombia has 11 products⁶ out of 138 export products analyzed for the Textile & Apparel industry presenting RCA values above 1.** Figure 4 indicates those products in which Colombia has a RCA above 1 according to its degree of sophistication. These products can be divided into two broad categories: low sophistication level (5 products found to the left of the Y axis) and those of medium and high sophistication degree (6 products found to the right of the Y axis).

⁶ Datlas presents product information (export and import) with the International Classification of the Harmonized System (HS) to four digits.

Figure 4. Products with RCA above 1 and level of sophistication⁷



Source Datlas Colombia, own calculations

According to the information shown in the previous chart, it is suggested that Colombian firms in these industries have the capability to compete in global markets. However, exports of these industries are usually concentrated in smaller markets. This is the case for the brassieres industry (higher export product) and rubberized fabrics (product of greater sophistication) to be analyzed below.

a) Market diversification opportunities for the industries of brassieres and similar articles⁸

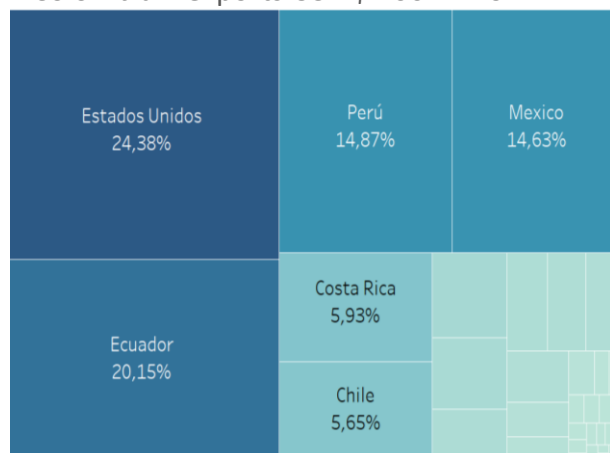
The manufacture of brassieres and similar products exported in 2014, 106 million dollars, becoming the largest product exporter of the textile and apparel industry. Colombian exports of this product reach a large global market (United States). However they have not yet reached other major markets such as Europe and Asia.

⁷ The size of the sphere represents the value of Colombian exports

⁸ The industry of brassieres and similar products is that associated with exports of products under tariff 6212. This item refers to female lingerie clothing.

Figure 5. Export markets for brassieres and the like, 2014.

Colombian exports USD \$ 106 million.



Source Datlas Colombia

Figure 6. World import markets of brassieres and the like, 2014.

World Imports USD \$ 11 billion

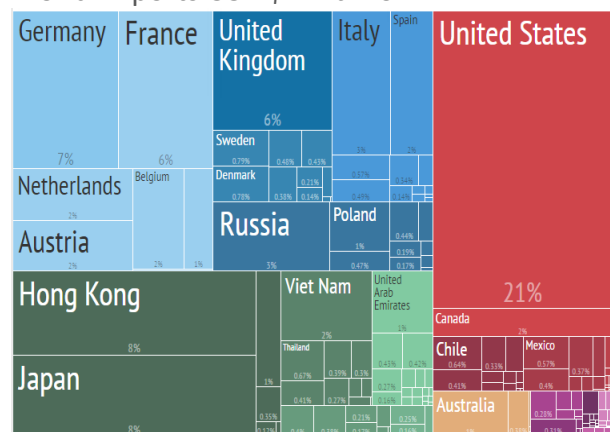


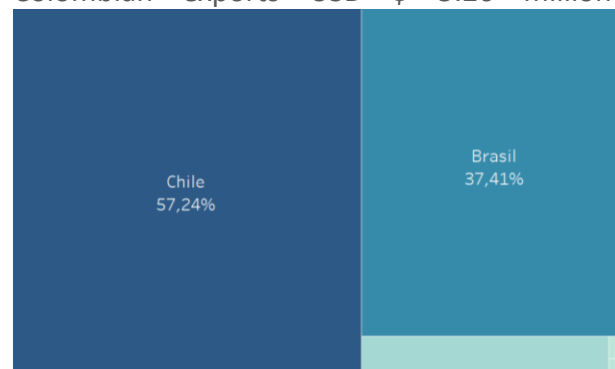
Chart taken from The Atlas of Economic Complexity

b) Market diversification possibilities for rubberized fabrics⁹

Rubberized fabrics industry exported during 2014, 5,26 million. Today it is the highest sophistication product exported by Colombia with RCA above 1. The global market for this product is 1.3 billion dollars, out of which Colombia exported 0.04% of total world exports. The comparison between figures 7 and 8 we can see that Colombian exports of this good are outside of the major world markets: Europe, Asia and North America.

Figure 7. Export markets for rubberized fabric, 2014

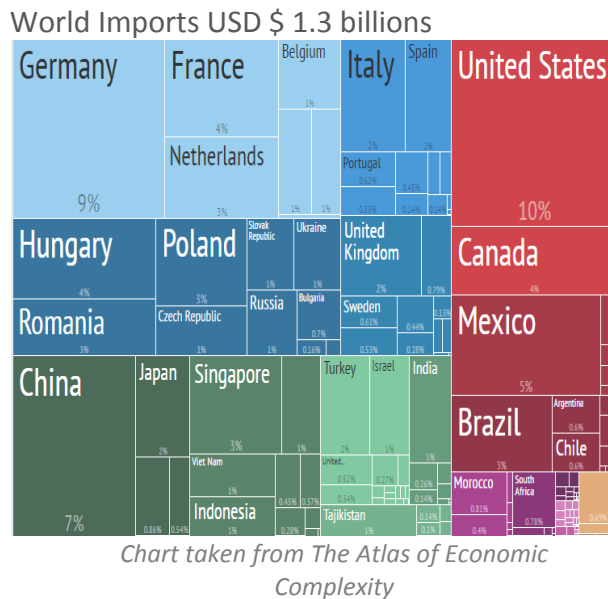
Colombian exports USD \$ 5.26 million



Source Datlas Colombia

⁹ The industry of rubberized fabrics is that associated with exports of products under tariff 5905. This item refers to fabric formed by rubber

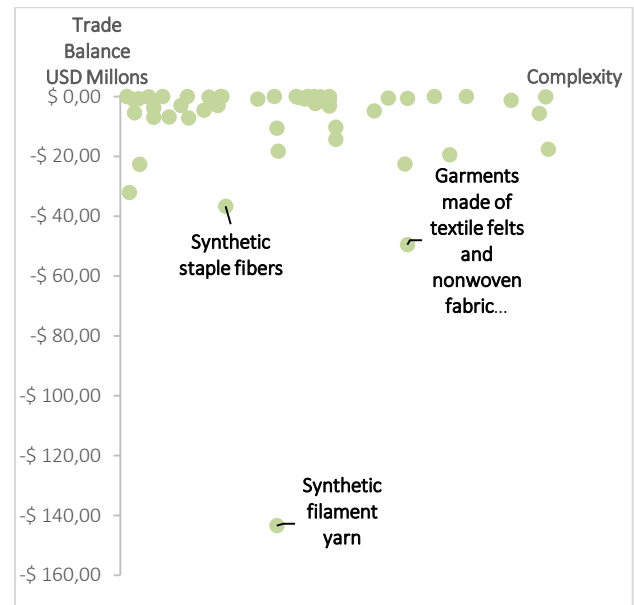
Figure 8. Import world markets for rubberized fabrics



c) Development possibilities of sophisticated industries in which Colombia is highly dependent

The trade balance of the textile and apparel industry in Colombia in 2014 had a deficit of 2.137 million dollars. This figure indicates that there are multiple firms in the country in need of products that can be developed in the domestic market and are currently imported. The development of industries focused on the domestic market of synthetic filament yarns (trade balance -143 million USD) and impregnated, coated, covered or laminated non-wovens (trade balance -50 USD million) can be of benefit to the country for its levels of sophistication and impact on the trade balance. Figure 9 shows the trade balance of the textile and apparel industry in Colombia for products that have a degree of complexity above 0 (medium and high sophistication).

Figure 9. Textiles & Apparel Trade balance for Colombia by level of sophistication.



Source Datlas Colombia, own calculations

d) Innovate and diversify with higher sophistication products

Datlas Colombia and the Atlas of Economic Complexity identify products that share similar production capacities (knowledge, institutions, infrastructure, etc.). These results generate a connected network by pairs of products that have higher chances of being co-exported. This network is brought to a graphical representation called Product Map. Figure 10 shows the Product Map expanded for rubberized fabric products. According to the analysis of the Product Map, we can infer that it is quite possible that firms that are developing rubberized fabrics can also develop plastic-coated or plastic-impregnated fabrics exported under tariff heading 5903.

Figure 10. Product Map for rubberized fabrics.

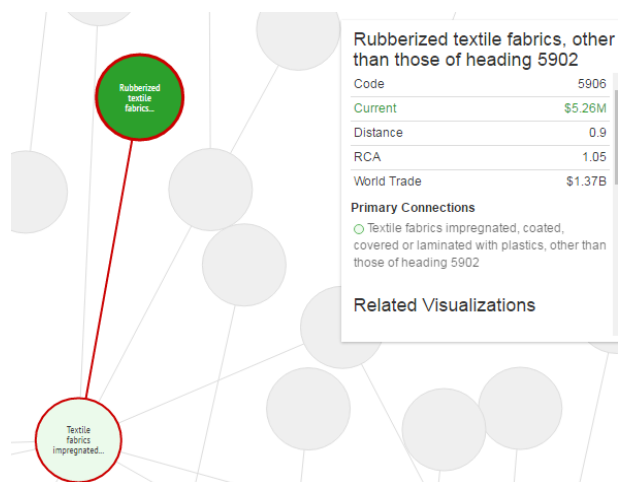


Chart taken from The Atlas of Economic Complexity

From the analysis of the Product Map by Datlas Colombia and the Atlas of Economic Complexity we can understand that i) **sophistication of the textile and apparel industry is obtained when business go from generating fabric-base products like cottons and similar fabrics, to incorporating into their processes the utilization of new fibers such as glass, rubber, plastic, etc. and ii) it is possible that business and territories in the country possess part of the production capabilities necessary to develop these more sophisticated goods.** These industries have a large global demand, and these are usually emerging exports in Colombia. Table 5 presents the higher sophistication products in the Textile and Apparel industry, Colombian exports of these goods and their world market.

Tabla 5. Exportaciones de Colombia y mercado mundial de productos de mayor sofisticación de la industria Textil y Confecciones, 2014.

INDUSTRY	COMPLEXITY	EXPORT. COL MILLIONS USD	GLOBAL MARKET MILLIONS USD
Textile articles for technical uses	3,34	3,55	4.660
Linoleum, floor coverings	3,32	0	362
Artificial filament cables	3,27	0,245	1.350
Transmission or conveyor belts of textile materials	3,05	0,016	5.850
Textile material coverings for walls	2,7	0,006	105

Source Datlas Colombia, own calculations

III. Conclusión

There are multiple possibilities to improve export position of the textile and apparel industry. In the case where industries are competitive (lingerie and rubberized fabrics), it is suggested to diversify markets with a focus on major global markets. Moreover, opportunities in domestic markets are evident in sophisticated industries with heavy dependence on international market (synthetic yarns and fibers and; impregnated, coated, covered or laminated non-wovens). Finally, it is suggested that industries innovate and diversify to more sophisticated products. **BANCOLDEX has instruments to support entrepreneurs who wish to start their diversification process in order to reach new markets or innovative products.**

BANCOLDEx | DATLAS

