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# ROMANIAN TEXTILE INDUSTRY AND ITS COMPETITIVE ADVANTAGE

Empirical  
studies

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Romania

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## JEL Classification

F12, F19

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## Abstract

*Globalization has set up a new era of international trade flows and implicitly international competition. This is best understood by analyzing the rise and fall within certain industries. The Global Value Chains (GVC) framework has emerged from its theoretical origins to become a major paradigm used by several international organizations. A detailed scrutiny of GVC highlights the manner in which new patterns of production, international trade and employment shape prospects for development and competitiveness. The purpose of the article is to address the important role of the textile sector in national economy development. Firstly, the paper addresses the presentation of textile industry at global, European and national level. Then, it presents a competitiveness sectorial approach and the analysis of innovation in textile industry. Finally, it is presented the value chain for the textile industry in Romania.*

## Introduction

The contribution of globalization in today's economy development is undisputable. It is a truism that, since 1970s, through the flow of goods, capital and services nations have developed an interdependence relation. The new orientation towards export has changed the integration perception. Nowadays, integration is used as synonym for development. However, globalization gains are unequally distributed both within and among nations.

Several studies have emphasized the local drivers of competitiveness including: new economic geography, regional science, business studies and innovation studies. For instance, on one hand, Scott (1996) suggests that globalization reinforces the role of local factors in competitive advantage. On the other hand, Becattini (1990), Porter (1998) and others indicate that clustering fosters innovation and helps local forms to compete globally.

A recent study (IMD World Competitiveness, 2014) indicates that Romania is among the least competitive in the entire world. Romania is ranked 53, with a 3-position drop from last year, out of a total of 59 analyzed countries. Less competitive countries than Romania are Bulgaria, Argentina, Ukraine, Croatia, Greece and Venezuela. In contrast, the highest degree of competitiveness is held by countries such as Hong Kong and USA. (See Table 1)

Modern researches are focused on the analysis of globalization in terms of "value chains". The role of multinationals in international trade is obvious: they created chains linking companies in a variety of contracting and outsourcing arrangements.

## Romania's Competitiveness Degree

Competitiveness represents a concept that has an uncertain definition and it has not been yet developed any model to formalize its contents. In the most general interpretation, competitiveness is associated with a complex phenomenon based on a country's capacity to form and ensure an economic, social and political environment which has to support the accelerated creation of value added.

Specialists in various fields have attempted to define or construct representations of competitiveness and the first feature that distinguishes them is the perspective on competitiveness: cause or effect, means for obtaining performance or results? Further on, there will be presented various available definitions for competitiveness: "the only complete indicator that defines the concept of competitiveness at the national level is national productivity" Porter (1990); "a measure of a country's advantage or disadvantage in selling its products in international markets" OECD (2001); "the ability of companies, industries, regions, nations and supranational associations exposed to international competition to

provide a high relative return of factors of production [...] on a sustainable basis" European Commission (2005). Herein, as Gheorghiu et al. (2011) also perceive it, we consider competitiveness as an attribute derived from efficiency factors essential for creating more revenue, thus, a concept related to productivity.

But the direct connection that every analyst desires between a competitive product and the industry is diluted more and more as it continues the process of aggregation – for obvious reasons of accounting record and statistics. Moreover, as emphasized in many works devoted to sectorial analyzes (see Cojanu et al., 2012) for the case Romania, statistical databases available can only partially meet the needs for a comprehensive competitiveness analysis.

In Figure 1 are presented Romania's most competitive sectors according to the most recent available data provided by World Input Output Database (WIOD, [www.wiod.org](http://www.wiod.org)). As the figure shows, according the export value expressed in millions of USD, Textiles and Textile Products; Transport Equipment; Electrical and Optical Equipment; Machinery, Nec; Leather, Leather and Footwear and Manufacturing, Nec; Recycling are the most indigene competitive sectors.

However, with respect to the international trade, Romania's performance has suffered in previous years before the economic crisis. Although both imports and exports have followed a fairly strong upward trend from the early 2000s until 2008, Romania's trade balance continued to progressively deteriorate until 2008, reaching a peak of -23.5 billion euros. Along with a modest recovery of the European economy (2010) and national economy (2011), exports and imports have again experienced an augmentation. In 2012 import levels reached again and even slightly exceeded the one in 2008 (39.94 billion euros respectively, 39.82 billion euros). (urlea et. al, 2014, pg. 32,34)

According to a recent study (World Economic Forum, 2014, pg. 318), some of the factors that drawback Romania's level of competitiveness and banish international investors are: access to financing, tax rates, inadequate supply of infrastructure, corruption, inefficient government bureaucracy, tax regulations, restrictive labor regulations, inflation and policy instability.

## Global Textile Industry Overview

### Textile Industry in SUA and China

Global textile industry is constantly expanding and diversifying. A consequence of major brands production relocation in areas with cheap and affordable labor costs and raw materials, textile industry has highly concentrated in Asian countries, not only China and India but also in areas such as Bangladesh, Pakistan, Thailand, Cambodia, Sri Lanka and Vietnam.

Textile and garment USA industry continues on an upward trend development, forecasts also registering an optimistic evolution. These projections are based on:

- Increasingly better macroeconomic perspective (in 2014, gross domestic product (GDP) will record an advance of 2.5% and it is likely to a 3% next year, which will reduce the high rates of unemployment).
- A stronger financial position for the consumer (payment household debt as part of after-tax income is at the lowest point in the last 20 years. Also, access to credit is also improved and it allows access to extra money spent on clothing and other consumer goods).
- A recovery in the housing market (big decline in construction result of decrease mortgage of 2008-2009 took a clear turn; this is not an irrelevant movement as the construction sector accounts for a significant percentage for textiles sales, as well as GDP and unemployment rate).
- Improved industry's planning and strategies (they should include a greater emphasis on management in areas such as sourcing, inventory control, efficient use of equipment and machines, new and upgraded products, offers to support environmental protection and more labels - "Made in U.S."). (Reichard R, 2014)

There has been noticed a tendency to relocate production from low-cost providers to different providers, considering now intangible benefits such as matters of consumer proximity, product quality, technology, policy implications and degree of ease to run a business.

A recent study conducted by Boston Consulting Group involving more than 100 major manufacturers in the United States - including some textile and clothing companies - also confirms these predictions (eg: the erosion of Beijing's position as a low cost provider). A more detailed study on the change in the competitive position of China highlights the following: more than 1/3 of the surveyed companies are currently contemplating a relocation of some of the factories placed in China back to the United States; sourcing activities in Beijing are more expensive: simple comparisons that take into account labor costs currently include also labor productivity.

Notwithstanding, China has already taken corrective action to mitigate any loss of US customers. China has stepped up investment in automated equipment, leading to decreases in the labor cost. Equally important, the Chinese currency appreciation - the yuan - something which tends to increase the prices of China - has stalled, with very few clues about developments in the coming years.

In China, textile manufacturing is an industry with tradition that has a competitive advantage and plays an important role in the national economy. China is the largest producer and exporter of garments and

textiles. In 2011, total textile industry output accounted for 7.11% of China's GDP. (Market Research, 2012)

Over the past three years (2011-2013), the output growth of Chinese clothing enterprises above designated size fell from 17.68% (2010) to 1.27% (December 2013), with that in 2013 retreating by 4.93 % against 2012, 6.87 % from 2011, and 17.33 % over 2010, showing an apparent slowdown.

Compared with the sluggish growth of traditional channel consumption, the online channel of textile and apparel companies has registered a significant development, with proportion of sales in total revenue rising year by year. In the first quarter of 2014, China's online retail sales exceeded 70 billion EUR, a recovery of nearly 46%, accounting for 9% of total volume of retail sales, thus becoming a new growth engine for domestic demand. (Ambani, P., 2014)

### **Textile Industry in Europe**

European textile and garment industry became more and more diversified, innovation and creativity being the engine factors of the industry. In 2011 it achieved a total turnover of €179 billion and employed 1.8 million people in more than 146,000 companies. In addition, the industry exported goods worth a total of €39 billion.

European clothing imports rose by 6% in the first quarter of 2014 compared to the first quarter of 2013, currently reaching € 18,000 million. China strengthens and develops its position as a major provider for the EU market. Another amazing factor is the continued rapid expansion of the cooperation between Europe and Bangladesh.

This slight advance in European exports is mainly due to a weak demand of two leading markets: Switzerland and Russia. However, exports to Hong Kong and China have registered a significant increase in this period. (Reichard R, 2014)

An enhanced European cooperation and adequate measures to support research and innovation are presented in projects such as Horizon 2020 Framework Programme for European Research and Innovation.

### **Textile and Apparel Industry in Romania**

#### **General Overview of Textile and Apparel Industry in Romania**

In Romania, the textile and clothing industry is an industry with tradition and companies operating for over 100 years (Carpatex SA - Brasov, Fabrics SA - Buhu i Textile Olt SA - St. Gheorghe, Ciserom SA Sebes). However, counties like Timi, Sibiu, Ia i, Mure and Bucure ti have the largest share in national textile industry.

Romania's competitive advantage in textile industry reported to the European one, is mainly due to low-cost labor force. Analyzing the top considering value-added per employee, Romania is placed on the

penultimate place, before Bulgaria. In terms of value added in the total labor costs in industry, Romania has a better position than the EU average for the textiles and clothing industry. However, taking into account the country with the highest value added per employee in the EU, Romania does not exceed 12% of the results.

A competitive advantage that Romania has in the textile industry is confirmed by a study published by DG Enterprise and Industry in 2012. This indicates that out of all EU countries, Romania has the greatest untapped export potential in the textile industry, namely 15 % of all EU untapped potential.

With a share in GDP of 3.22% in 2011, the textile industry is among the main branches of Romanian manufacturing industry after industry-agro food and transportation. And from this point of view, the textile sector is a key sector for economic enhancement and its development strategy. (Pâslaru S, 2014)

Moreover, in Romania, the garment sub-sector employs the largest number of employees in manufacturing industries, especially women. In addition, Romania is endowed with the necessary resources for the production of fibers and fiber silk and wool, flax and hemp bast fibers, but it still needs huge investments. Therefore, the industry is dependent on imports of raw materials.

### **Regional Analysis of Textile and Apparel Industry**

As it can be noticed in the analysis presented further on, there is an unequal distribution of local units, employees, turnover among the 8 macro regions, but also among the sub-sectors of the textile and apparel industry.

Analyzing Figure 2, it can be noticed that overall, in light of all the 8 development macro regions of Romania, the number of local units decreased by 5%. In 2010 it was recorded the highest number of local units of 4446. The region with the highest number of local units is North-West Region (2032), while at the opposite pole is situated South -West Oltenia Region (994).

In Figure 3, it can be observed that the number of persons employed in the clothing sector increased by about 6%. In 2011 it was recorded the highest number of people employed: 101.157 for all 8 regions. The region with the highest number of persons employed in the clothing sector is South Muntenia (47.913), while at the opposite pole is situated Bucure ti - Ilfov Region with a number of 23.226 employees.

The evolution of turnover in the clothing sector registered an upward evolution between 2010-2012, increasing by 12%. In 2012 it was recorded the highest turnover for all 8 regions of the country. The region with the highest turnover in the clothing sector is the Central Region (3347), while South-

West Oltenia Region has the lowest turnover (1724). (See Figure 4).

### **Competitiveness Sectorial Approach - Streamlining Value Chains and Priorities of Textile and Apparel Sector (NACE 13, NACE 14)**

In 2012, the textile processed products sub-sector occupied a modest place in exporters ranking (16). On one hand, the share of this products in Romanian total exports is low, reaching 0.67% in 2012. On the other hand, the share of sub-sector exports in total exports varies between 0.63% and modest 0.73%. Given the fact that the goods are part of raw materials for other industries, this sub-sector exports depend directly proportional on the development of the manufacturing industry, which in turn, is influenced by the final consumer purchasing power. (Strategia Na ional de Export, pg. 49)

Economic clothing sub-sector has a significant place (4) in the exporters top in 2012. The total share of these goods in total Romanian exports was 5.8% in 2012. Regarding the share of exports in total exports sub-sector, it varies slightly between 8% (2008) and 5.8% (2012). The evolution of exports experienced a tortuous path as follows: - 20% (2009), + 5.5% (2010), + 12.4% (2011) and - 0.1% (2012). Productsales are influenced by variations in the purchasing power of users. Exports of this sub-sector grew at a rate similar to the overall growth of total national exports.

The footwear subsector - leather products have an important place in exporters ranking (8) in 2012. The share of these products in total Romanian exports is about 3.2% in 2012. The share of exports of sub-sector products in total exports varies between 4% (2008) and 3.2% (2012). The evolution of this sector fluctuated from year to year as follows: -17% (2009), + 16.5% (2010) + 22.8% (2011) and -9.1% (2012). As in the case of the clothing sub-sector, sales are influenced by the changing purchasing power of end consumers. (Strategia Na ional de Export, pg. 50)

In 2012, at national level, there were produced 56 million pairs of shoes. Production for footwear and leather products uses intensively labor and raw materials of superior quality. The footwear sub-sector improved competitive advantage due to the uptake of new technologies and greater capacity for creativity. (Strategia Na ional de Export, pg. 50)

### **The analysis of Innovation in the Textile and Apparel Industry in Romania**

Innovation represents the main implication for developed countries to expand the industrial base in textiles and clothing, garments and footwear, particularly. At company level, the innovation perspective is to develop new products that differentiate them from the rest through utility, quality and comfort in use.

The key attributes of the new generation of textiles will be temperature and humidity control, anti-microbial control, durability, resistance to water and dirt, biodegradation. Another innovative category is the "advanced textiles" which includes products for military, security and maintain order, aerospace and automotive. The achieved results are due to Technological and Business Incubator ITA TEXCONF, representing a new entity in the infrastructure of technology transfer for textile-clothing and textiles – medical.

Remarkably, the National Institute of Research and Development for Textiles and Leather is a member of textile clusters in Romania: ASTRICO NE (North – East Region), Romanian Textile Concept (Bucharest – Ilfov Region), Traditions Manufacturing Future - TMV South East (South – East Region) and Transylvania Textiles & Fashion (Central Region). The institute has a central role in the management of innovation.

The examples presented below indicate important results obtained by the institute in research activity: AgroTextile (1): fabrics to protect crops from excessive sunburn, insect, bird and hail were making by transparent polyethylene monofilament yarn stabilized through UV; AgroTextile (2): Thermo-Texcover designs and performs nanostructured materials with UV protection and selectively transmission radiation to protect crops and materials flexible for mulching (a substance such as decaying leaves that you put on the soil to improve its quality, to protect the roots of plants, or to stop weeds growing), Eureka Project: it implies the development of anti-microbial textiles using threads containing silver or finishing containing silver. Textile for Sport/leisure/protection: This project achieved Lycra Sport fabric – a 100% synthetic fibers for moisture management and comfort to wear, Sport and Leisure Equipment: The product is designed to manufacture suits for various styles of martial arts training and competitions. (Visileanu, 2011)

### **Global Value Chain and the Textile Industry in Romania**

Companies in developing countries, as do companies everywhere, are under pressure to improve their performance and increase the level of competitiveness. The literature on competitiveness indicates that the most feasible response is to 'upgrade' – to make better products, to produce them more efficiently or move into more skilled activities (Porter, 1990; Kaplinsky, 2000).

Both clusters and value chain perspectives emphasize the importance of upgrading in order to face increasing competition in global markets. Clusters have traditionally been researched for their capacity to promote processes of endogenous development based on small and medium enterprises (SMEs) and much of the attention has been devoted to their internal features. The position

of clusters in global value chains depends on the innovation and learning processes that can be stimulated through local and global interactions. The local, regional and national innovation framework plays a key role in strengthening the internal scope of clusters to learn, innovate, upgrade and compete within global markets.

The creation of the competitiveness pole in textile industry is a recent approach. It consists of members of the textile cluster. The existent clusters in Romanian textile industry are presented in the Table 2.

Value Chain analysis is used to identify the activities in which textile producers have an actual or potential competitive advantage and it specifies the initiatives to be implemented at national, sectorial, cluster and/or company level.

The assessment of the national value chain involves various steps and knowledge-based researchers. However, in simple terms, the value chain can be perceived as follows:

- Drawing sector value chain map: at this step it has been started from the consumer to the initial stages of the production process. Value chain map is a map that locates and views all operations, activities, and connections between all operators in the market (Romanian and foreign) which affect the final product or service. See Figure 5.

- Assessment of value added: here is measured the influence of each activity on chain. See Table 3.

- Establishing critical success factors: Value chain analysis indicates the great importance of integrating into the value chain the following activities into their upstream (supply) to downstream (final consumer): sourcing and logistics, quality control, quality certifications including eco, product design, development of a brand, promotion and marketing.

### **Conclusions**

The emergence and spread of global value chains in the last three decades has changed the production process, giving it a multilateral dimension with more and more countries participating in producing a single final product. This expanded fragmentation of the production process across different countries and continents has added new dynamics to the international trade. Nowadays, exporting more is no longer necessarily associated with producing more, and much less with gaining more. (Banga, 2013, pg.1)

Global context of the textile industry indicates that the tendency of production relocation to Asian areas is slowing down, while in developed countries, the industrial base of this sector is restored by reshoring activities, especially in niche domains and innovative products in parallel with the relocation process to proximity countries, both USA and EU-9 (nearshoring).

The European Union also has a reshoring and recovery policy for the textile industry, including the creation of European chains and vertical integration. The main driver of the European Union is the investment in research and development, which lead to innovative textile products.

Although Romanian Textile Industry has a tradition over 100 years, it still needs huge investments in innovative processes. Currently, the main Romanian innovation driver is fashion design, activity which started to propel a small number of 100% Romanian brands at both national and European level. Technological innovation is at an extremely low level due to the incipient links between universities, research centers and companies but also because research and development expenditures at firm level are very low. This is a great challenge for Romanian textile industry and opportunities are related to the access to European and national funds.

Value chains are flexible constructions that continuously adapts to market conditions, at an extremely rapid process of change. Product life cycle is significantly decreasing, while the risk of the stock increases, these being the main concern of companies in the field. Critical success factors for value chains are exactly those that allow the chain to maintain influence at the upper ends to individual producers or producer groups through innovation, quality, creativity, efficiency and lower costs and flexibility in adapting to the market.

#### Acknowledgement

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Table 1: World Competitiveness Rank

Pozi ia 2014	Pozi ia 2013	ara	Scorul
1	1	SUA	100.00
2	2	Elve ia	92.423
3	5	Singapore	90.966
4	3	Hong Kong	90.329
5	4	Suedia	85.833
6	9	Germania	85.782
7	7	Canada	85.429
8	8	Emiratele Arabe Unite	84.892
9	12	Danemarca	84.040
10	6	Norvegia	83.293
11	13	Luxemburg	82.164
12	15	Malaysia	82.088
...	...	...	...
46	44	Italia	52.871
47	55	România	52.841
48	50	Ungaria	52.505

Source: IMD, The World Competitiveness Scoreboard 2014, 2014

Table 2: Clusters in the textile industry

No.	The Cluster
1	ASTRICO NE Cluster, located in the North-East Region;
2	ROMANIAN TEXTILE DESIGN (RTxC) Cluster located in Bucharest-Ilfov Region;
3	TRADITIONS MANUFACTURE FUTURE (TMV) Cluster, located in South -East Region
4	“TRANSILVANIA” TEXTILE&FASHION Cluster, located in Center Region

Source: Author’s Interpretation of Statistical Data, 2013

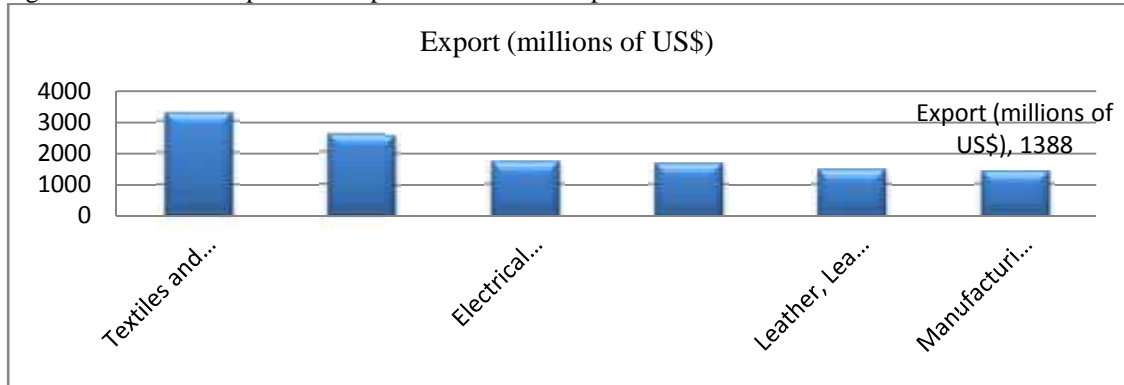
Table 3: Assessment of value added in textile industry

Link on Value Chain	Estimate d Sale Price (Euro)	Estimated Cost (Euro)	Level of influence on chain (big, medium, small)	Link with national chain	Type of supportive action or initiative
Final Consumer		100	big	no	
Retailers	100	75	big	no	Client Service
Wholesaler	75	50	big	no	Design
Marketing/Branding	50	25	big	no	Information
Sales Logistics	25	23	big	yes	Transportation
Custom	23	22	Small	Yes	Custom
Storage, stock, end products	22	21	Small	Yes	Storage
Final Product	21	20	Small	Yes	Quality control
Packaging	20	19	Small	Yes	Packaging
Finishing	19	18	Small	Yes	Quality Control
Trimming	18	16	Small	Yes	Quality Control
Making	16	13	Small	Yes	Quality Control
Cutting	13	11	Small	Yes	Quality Control
Pattern Grading	11	9	Medium	Yes	Quality Control
Row material stock	7	6	Medium	Yes	Storage
Supply Logistics	6	5	Medium	Yes	Transportation
Custom	5	4	Medium	Yes	Custom
Row materials suppliers	4	-	Medium	No	Sourcing

Source: Author’s interpretation

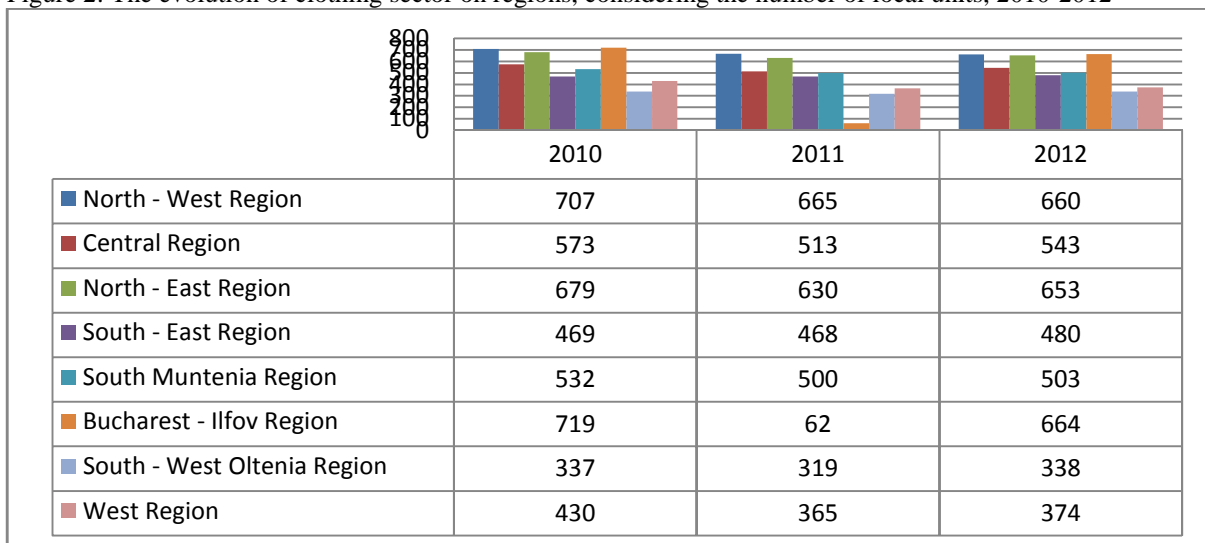


Figure 1: Romania's top most competitive sectors to export



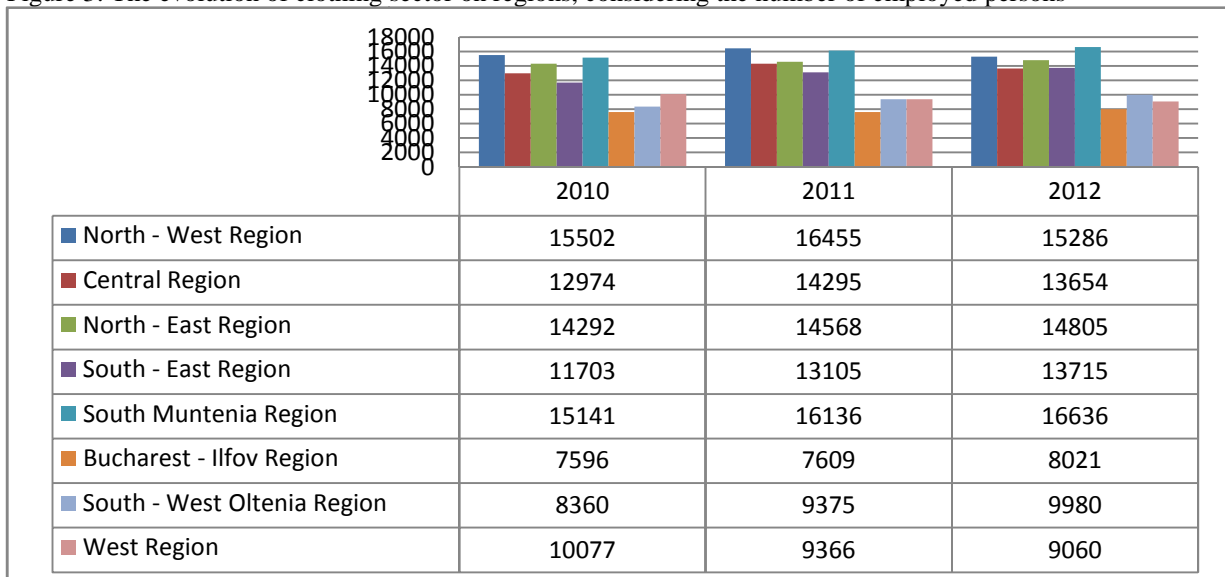
Source: Author's calculations. Data from WIOD (2011)

Figure 2: The evolution of clothing sector on regions, considering the number of local units, 2010-2012



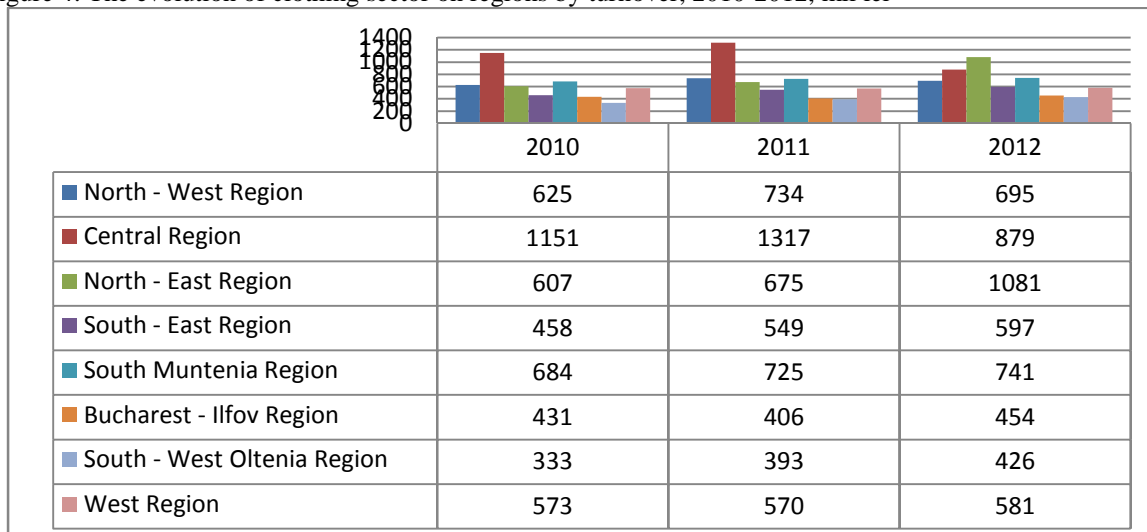
Source: Author's Interpretation of Statistical Data, 2013

Figure 3: The evolution of clothing sector on regions, considering the number of employed persons



Source: Author's Interpretation of Statistical Data, 2013

Figure 4: The evolution of clothing sector on regions by turnover, 2010-2012, mil lei



Source: Author's Interpretation of Statistical Data, 2013

Figure 5: Drawing value chain map in textile industry sector



Source: Author's interpretation