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Fabricato: Do not break the thread

Introduction

With a handshake Carlos Alberto de Jesus made a commitment with the Board of Directors of Fabricato to implement an aggressive strategy of transformation in one of the leading companies in the Colombian textile sector. Beginning on November 1, 2013, he would move to Medellin and take over the business position as Executive President.

The challenge was great, because Fabricato more than a textile company represents one of the many ways to be Antioqueño. Founded in the second decade of the 20th century, it is the symbol of the entrepreneurial spirit of "paisas", not only because of its commercial activities, but also because of its deep commitment to the development of its region.

External factors such as the revaluation of the peso, the growth of exports of the Chinese textile industry, the smuggling of textiles that flooded Colombian market, the laundering of assets and a stock market bubble formed around the stock price of Fabricato, put in check the strategy of growth based on the export of wide range of fabrics.

While he was finishing his suitcases at the hotel where he had spent his last three days in Bogota, Carlos Alberto wondered what would be the best way to approach his new collaborators with whom he would have to develop in a few days an action plan that would allow to stabilize the company, knowing that it did not have more resources than the operation of the business could generate. Although it was not the first time that he took over the management of a textile company in trouble, this time the challenge was even greater because the results of his management plan have to pay off very quickly or else the liquidation of the business would be inevitable.

The Textile Industry in the World

The global textile market, which includes fibers and fabrics, generated sales of $ 683 billion in 2013, as well as an annual growth rate of around 6.8% in the period 2009-2013. Also, the expected growth rate for five-year period 2013-2018 is close to 8.8% in annual terms. The largest growth segment is Asia, whose sales grew by 6.8% per year during the 2009-2013 period. Textile companies in the American continent controlled 18.2% of world sales in 2013, with the Asia-Pacific region as the undisputed leader with 61.9% (see Exhibit 1).

The world textile industry is highly fragmented and capital intensive. It employs specialized equipment in customized industrial physical settings, and has the propensity to automation the most of the processes, which reduces the need to hire skilled labour. The rivalry in the sector is considered high, largely because textiles tend to be low differentiated (commodities), consequently, the change of suppliers is not expensive and there is no brand loyalty. In strategic terms, the textile industry is characterized by buyers and suppliers with moderate bargaining power, where new producers can enter with relative ease whenever they make investments in specialized equipment and comply with environmental restrictions.

Also, although there are in theory multiple substitute products, the vast majority of fibers have been designed to fulfill specific purposes. Many textile fiber producers simultaneously serve several market segments and are not likely to simultaneously produce several types of fiber, which is why the threat of substitute products is moderate.

The textile sector in Colombia[1]

Although Colombia's textile activity takes place nationwide, Bogotá, Medellín and Cali accounted for 83% of the 829 companies surveyed by the end of 2012. At that time, these companies tended to gather around three clusters: Antioquia (textiles, design and fashion), Bogota (fashion) and Tolima (clothing).

According to the Chamber of Cotton, Fibers, Textiles and Clothing, in 2012 the textile-apparel sector in Colombia processed approximately 200 thousand metric tons of fibers compared to 56 million tons, which was the world figure. Colombian exports in 2012 were composed of the following products: textiles and yarns (US $ 18.1 million), weaving of textile products (US $ 120.8 million), textiles (US $ 197.1 million) and clothing (US $ 581.7 million).

According to Seguros Sura (2014)[2] the GDP growth rate of the textiles and clothing sector in the last decade has been characterized by high volatility in relation to the growth of the economy in general and the manufacturing sector (see Exhibit 2) showing a great capacity of recovery after crises - this is evident when observing the period 2009-2011-. However, their results were very negative for the period 2013.

The main destinations for textile exports in 2013 (see Exhibit 3) were: The United States (30%), Ecuador (24%) Venezuela (18%), Mexico (12%), Peru others (7%). According to the DANE, the textile-clothing chain exported 38.7% of the sectorial GDP for this year, of which 19% corresponds to fibers and yarns, 16% to fabrics and the like and 65% to clothing and other textile products.

Colombia imported 2,073 million dollars FOB in textile chain products, according to figures from Seguros Sura (2014), where 71% corresponded to raw materials (yarns and fibers), which shows that for the year 2013 Colombia exported final clothing products and imported raw materials such as fibers and threads.

The Colombian competitive environment began to change dramatically since 2008. The entry of Chinese textiles into the United States and the European Union, the commercial crisis unleashed by political problems in Venezuela, increased smuggling of Chinese products to the domestic market, the laundering of assets, all the above in the context of a revaluation of the peso against the dollar, generated one of the largest crises in the history of the Colombian textile industry.

Colombia has been characterized as a very proactive country in promoting the fashion system[3]. The private sector is concerned with holding national events to give the industry visibility, among which the most important are: Colombiatex, the second largest textile fair in Latin America; Colombiamoda; Cali Exposhow and International Footwear & Leather Show. For its part, the State has signed free trade agreements with 13 countries that are large consumers of textiles and clothing including the United States and Brazil.

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[1] Superintendence of Societies (2014), Performance Report of the Textile-Apparel Sector 2012-2014.

[2] Colombian insurance company that performs sector studies to estimate the demand for coverage of its products.

[3] Fashion system refers to the entire textile production and marketing chain in Colombia, starting with the production of threads, through the design and manufacture until the sale of these products.

Fabricato: its beginnings and the time of expansion

The Fabric and Yarn Factory (Fabricato) was founded as a stock company on February 26, 1920 (see Exhibit 4) by Alberto Echavarría, Carlos Mejía and Antonio Navarro (Fabricato, 2012, 2017). From the beginning of its operations Fabricato was characterized by: incorporating the most modern technology in its production processes, contact with international markets through a constant flow of imports / exports and direct operation in neighboring countries, diversification and permanent innovation of its product portfolio, the technological updating of its production processes and a process of expansion based on the acquisition of other companies.

In 1960, trying to be more competitive in terms of costs, Fabricato inaugurated the "La Garcia", hydroelectric power plant that supplied energy to the firm and most of the municipality of Bello.

In the decade of the 70, the exports of Fabricato represented an important source of foreign exchange for the country (Diario El Colombiano, 2013). In addition, this performance in business generated a significant social impact on the regional environment of the company in aspects such as culture, sports and education, which were always supported by Fabricato.

The first crisis and the decade of the 80´s

During the 1980s Latin American economies faced rising commodity prices and a systematic increase in external debt, which led to a reduction in their imports and a contraction in trade, leading to a reduction in the economic growth and an increment on unemployment and inflation. Colombia was not alien to these conditions, to which was added the growth of smuggling that entered the country (Supersociedades, 2013).

The country's situation affected the industrial sector and especially to Fabricato, which in the last decade had dedicated itself to production for export and the growth of its operational capacity. As a consequence of the crisis, the company ran out of working capital, because it did not have enough cotton (main raw material) and the production capacity of its plants was reduced by 50%. The company's indebtedness to suppliers and delays in customer orders increased significantly (Diario El Colombiano, 2013).

In 1985, despite the efforts of Grupo Colombia [4] (who controlled the company see Exhibit 5) to deal with these claims, after a long and complicated process, Fabricato filled for bankruptcy agreement to 12 years. A strict cost reduction and budget adjustment plan allowed the company to complete the agreement in advance by the end of 1987 (Fabricato, 2017).

The second crisis and Law 550

The textile sector in Colombia enters the decade of the nineties submerged in a recession caused by financial institutions crisis and by the contraction of the demand. From 1995, Fabricato had difficulties to meet its creditors and finally had to enter in Law 550 of Economic Intervention in the year 2000 (Fabricato, 2017).

In addition to the restructuring, Fabricato initiated a strategic alliance with Tejicóndor in 2000,

[4] According to Revista Semana (1982), the Grupo Colombia was a business conglomerate which in the early 1980s had 44 companies concentrated in the region of Antioquia, operating mainly with the financial and industrial sector.

both companies were in crisis and were controlled by Grupo Empresarial Antioqueño[5]. This alliance resulted in a merger in 2002, which gave rise to a new company with 6,000 employees (Fabricato, 2017).

Although it was true that the company complied with the payment agreements established under Law 550, in 2008 it restructured that agreement to free part of the cash flow and give a greater margin of maneuver to management. In 2013 the company kept up to date with the payment of the debts tied to this agreement.

The third crisis[6]

The entrance of Fabricato in the process of business recovery under the framework of Law 550 coincided with a period of economic growth of the country that allowed to have positive expectations of the future performance of the company. Between the years 2006-2008 the companies Indulana and Fabriseda were bought to complete the group that formed Texmeralda, Riotex and Pantex.

These acquisitions were accompanied by an intensive investment plan as part of the Mi Norte Industrial Reconversion Plan[7]. Between 2008 and 2011 the company invested 70 million dollars in spinning, weaving and finishing processes equipment. It is worth noting that one of the most strengthened production lines was indigo. Unfortunately the purchase of plants and equipment was done in disordered way, wasting the opportunity to achieve synergies. By 2013 the company had an installed capacity of 5 million meters per month in weaving, capacity that was more than enough to meet sales plans.

The marketing strategy was intensified both locally and internationally with its own subsidiaries. At the international level, the concept of a commercial subsidiary was developed with operations in Ecuador, Peru, Mexico and Venezuela. These units at the international level received the finished product inventory and marketed it with their own sales team. At the national level, the commercial agency model was used, that is, wholesale distributors of the finished product among the different manufacturing companies who where customers of Fabricato.

Within the marketing strategy, a broad portfolio of products was developed with an emphasis on indigo fabrics and a wide offering of colors (500 colors). The company reached 5,400 customers, served through various distribution channels both nationally and internationally.

The marketing strategy developed between 2002-2008 could not be successfully implemented due to Fabricato´s decrease on sales both nationally and internationally (see Exhibit 6). This decrease was explained by low cost fabrics imports, smuggling and revaluation of the Colombian peso

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[5] According to Dinero (2016) the Antioquia Business Group is a group of companies focused on three sectors - financial, food and infrastructure - with a cross-ownership and a common corporate philosophy "whose income for 2015 represented more than 5% of Colombian GDP. The Antioquia Business Group is synonymous with paisa power.

The information from this section was taken from the Annual Fabricate Reports and from interviews with senior officials of the company.

The North Reconversion Plan was the response that Fabricato undertook in the process of industrial reconversion of the Colombian State, which sought to update the main productive processes of its industrial apparatus, thus preparing itself to face the change of an economic model based on the substitution of imports to an aperturista.

[6] The information from this section was taken from the Annual Reports of Fabricato and from interviews with senior officials of the company.

[7] The Plan de Reconversión mi Norte was the answer that Fabricato undertook under the process of industrial reconversion of the Colombian State, which sought to update the main productive processes of its industrial apparatus, being prepared in their way to face the change of an economic model based on the substitution of imports to an open economic model

against the dollar (see Exhibit 7). In addition, the purchase of cotton with futures contracts avoid that company benefit from the low of prices of this raw material (see Exhibit 8).

In 2012, a group of investors led by Italian businessman Alessandro Corridori began to buy and sell shares of the company to artificially raise its price (El País, 2014). These speculative activities were financed by the broker company Interbolsa and made the share price reach a maximum of 93 pesos per share. On November 19, 2012, Colombian National Superintendence of Financial Affairs decided to suspend the public listing of Fabricato shares to break the financial bubble created around the price of its shares. The share price was restarted on March 1, 2013 at a value of 12 pesos per share (see Exhibit 9).

Although this financial bubble was an exogenous phenomenon to the company, it was impossible to avoid the reputational damage that generated such situation. Most of the commercial and financial suppliers were not able to distinguish the extent to which the Interbolsa scandal affected Fabricato's solvency and therefore substantially reduced the company's lending. This issue exacerbated current problems originated in the falling sales (see Exhibit 10).

According to the magazine Dinero (2016), Grupo Empresarial DeLima became the majority shareholder of Fabricato with a 17% of shares, both as a consequence of shares accrual since 2006 and a block received during the liquidation process of Interbolsa.

Transformed into a majority shareholder, the DeLima Group decided to exercise control of the company and implement a restructuring strategy that began with the appointment of a new board of directors and the subsequent hiring of an executive president with experience in the textile sector, the Brazilian engineer Carlos Alberto de Jesus.

In the words of the Board of Directors of Fabricato [8]: “"Carlos is a professional with vast international experience in the textile sector, in first line companies, with remarkable success in the transformation of plants in this sector. His extensive knowledge of the market, his valuable experience in Argentina, Brazil, Chile and Ecuador and his chivalry and immense capacity to generate work among his collaborators, are a very important part of the realistic optimism that we want to transmit to shareholders this morning.”

The arrival of Carlos Alberto de Jesús

On November 1, 2013, Carlos Alberto de Jesús entered the facilities of Fabricato in Bello (Antioquia) for the first time. If anything had become clear from the discussions with the members of the Board of Directors, wasthat a company does not reach 93-year history without going through a series of cycles of successes and failures.

He knew that the decisions to be made would be very painful and needed to be implemented as soon as possible and with the active participation of the executive team of the company. From there, he began a round of meetings with the different areas of the company to put together his action plan that should be executed in the first forty days of his administration.

[8] Fabricato Anual Report 2013.

A high-growth company

During the first meeting with the management team, he met Juan Octavio Mejía (Director of Production and Operations), Armando Castillo (Director of Marketing and Sales) and Vicente Ramírez (Chief Financial Officer). After hours of conversation he validated the assumptions he had made when accepted the job:

- An export expansion strategy initiated in response to the opening of the Colombian economy in the 1990s had generated a network of plants, from which only three survived, poorly integrated plants that produced a wide variety of products that were difficult to handle in the same portfolio.

- A larger company (product of the acquisitions) was not invulnerable to the changes in the global textile industry, including the proliferation of commodities, smuggling and unfair competition.

- The sources for financing working capital were scarce due to the collateral effects of the Interbolsa scandal and the absence of an allied bank committed to the survival of Fabricato.

At the end of this first meeting Carlos Alberto asked each of the executives to prepare a summary by topics to understand in greater depth the situation and challenges of the company in the immediate future

Production and Operations

Juan Octavio Mejía's 27 years of experience in operations area had allowed him to identify a series of actions, ratified by consulting companies[9], which in his judgment would impact costs in the short term and he was anxious to discuss them with Carlos Alberto de Jesus.

In Mejía's opinion, the process of integration that had begun in 2012 could be further extended to capture savings by reducing logistics costs. By the time Carlos Alberto de Jesus was hired, the following plants were operating: Notejidos (Bello, Antioquia), F1 (main in Bello, Antioquia), and Riotex (Rionegro, Antioquia).

Mejia knew that the ratio of cost of sales and operating expenses over Fabricato´s sales far exceeded the industry average (see Exhibit 12); if he could convince De Jesus to centralize these plants in two specialized plants, Bello (tejido plano) and Rionegro (tejido knit)[10], it could generate savings in logistics costs close to 25% which would impact the cost of sales by 5%. Such calculations had been estimated very carefully by his work team.

Despite this idea was quite attractive, Mejía was aware that closed plants could not be sold in a secondary market, given the crisis of the Colombian textile market. To the 55,000 m2 already released in the plant of Ibagué and the 300.000m2 of the plant of Sibaté, Fabricato would have to release additional 106,000m2 of Notejidos[11].

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[9] Since the early 2000s, Fabricato had contracted a series of studies and business analysis to determine the strategy that would allow it to overcome the difficulties it was facing. Not all of the recommendations had been implemented since the change of direction did not allow continuity of policies

[10]The difference between tejido plano y tejido knits consist in the fact that latter is made with two threads, one aligned in vertical lines and the other horizontal, which intermingles in different passes, while the knit is a single thread that intertwines with itself.

[11] Fabricato undertook a real estate business with some of these spaces starting in 2014.

The technological investment

A second crucial point, according to Mejia's experience, was the need to maintain investment in technology in plants. Although the largest investment were made in 2008 and 2011, it was necessary to continue investing in technology to keep up with industry standards ranging between 1.5% and 2.5% of annual sales as an investment in CAPEX.

Mejía knew that investments in technology reduced the weight of the different components of cost of sales, especially the number of employees in textile companies. The investments of the year 2012 (30 million dollars) had reduced the workforce from 4,000 to 2,500, saving 25,000 million pesos annually, 3% of the cost of sales of the company.

Environmental management

Looking to the future Mejía knew that adequate environmental management could also make a difference not only in costs but also in attracting and retaining final consumers who are increasingly aware of the importance of clean production. But in the current conditions, asking for an additional investment of $ 9 million for the wastewater treatment plant might not be a clever idea, although his conversations with the suppliers of these plants allowed him to know that they would be willing to directly finance this purchase in 3 years.

Marketing and Sales

Armando Castillo the Director of Marketing and Sales, with 40 years in the organization as well as his colleague Mejía had a series of messages that he wanted to transmit as fast as possible to Carlos Alberto de Jesús. He hoped that during the next meeting he could discuss his ideas about products, marketing channels and customers.

The products

In Castillo's opinion, the product portfolio was excessively broad, with 6 product categories: denim, casual, knit, institutional, home and technical textiles. The home line was launched ten years ago intended to capture the benefits of selling directly to merchants, rather than to intermediaries, had never achieved acceptable levels of profitability (see Exhibit 13).

Castillo and his team considered that it was necessary to optimize the production process of the fabrics [12], generating a base product that would concentrate 75% of the final cost of production and in the last phase of production would adjust to the finishing needs of the confectioners. This change would reduce the inventory from 500 to 50 colors, in addition to charge each customer the finishing process.

The push marketing strategy implemented Fabricato at that time forced it to produce designs with a year in advance that ran the risk of going out of fashion. Working with base products that fit the final arrangements the customer's needs would reduce this risk.

Fabricato had reduced considerably accounts receivable turnover and was approaching the industry average that stood for the 2013 in 62 days. Also, the close contact with the suppliers had allowed them to increase their accounts payable turnover and in terms of inventory turnover

[12]The fabric production process has four phases: spinning, warping and gumming, weaving and finishing. The first three phases are common in the textile industry and the fourth depends on the requirements of the confectioner.

were close to the industry average (see Exhibit 12). However, Castillo asked himself if there still work to be done in this particular.

Commercialization

The commercialization of fabrics at Fabricato focused on a two-channel distribution strategy: (a) the factory or direct channel that served medium and large distributors, clothing brands and clothing manufacturers with significant purchases both domestic and foreign; and (b) commercial agencies in Colombia and in the main international markets (Peru, Mexico, Venezuela and the United States) to serve the smaller customers.

The direct channel represented 70% of the company's sales. Commercial agencies, with the remaining 30%, generated a higher contribution margin than the direct channel (between 8% and 15%), but had high working capital requirements (inventories and accounts receivable) and operation expenses. By 2013 alone, the agencies generated losses close to 10 million dollars.

The clients

The company had 5,600 customers (see Exhibit 14) classified as follows:

- Distributors: they bought the fabrics and sold them to small confectionists and retail distributors. They were characterized by their high financial capacity and the handling of great volumes of purchases.
- Confectioners and brands: they bought the fabrics as raw material of their production process. Such any company facing financial constraints, they expected its suppliers to finance much of its operation

The Factory or direct channel served 60% of the distributors (360 customers), which, because of their financial capacity, took advantage of prompt payment discounts or took the 85-day term of the credit policy. These customers bought high volumes continuously to Fabricato which gave them bargaining power that translated in lower margins of contribution for the company.

On the other hand, 80% of the manufacturers and brands (4,000 customers) bought from the commercial agencies channel. Due to their smaller size and financial capacity, these clients hoped that Fabricato would finance their working capital, giving them terms of credit of the order of 105 days. Fabricato achieved with them higher contribution margins than the distributor customers, but incurred inefficiencies in logistics costs and inventory management

New approach

From the point of view of Castillo, a restructuring process should focus on the following types of product:

- Fabrics used on army uniforms and for equipment for large companies: Fabricato could lead the interaction with the final customer for the design of uniforms and ally with small confectionist for the production process. In these businesses, a contribution margin of around 30% was expected. This new strategy could represent an additional 30% of sales in 5 years, although for the year 2013 it only reached 5%.
- Fabrics for large national and international confectionist: being unable to compete in the market of non-differentiated products (commodities) led by China and India opened the possibility of serving as maquila for major brands (national and international). Although

sales in this segment would have 20% contribution margins, lower than the expected target 27%, production volumes were significant and local representatives from Adidas, Under Armor and CI Jeans were very interested in business alliances.

Finance

Vicente Ramírez, the most novice of the directors of Fabricato, as he had only a year in the company, like his colleagues, wanted to express a very clear message to Carlos Alberto de Jesus about the financial situation of the company and therefore decided to focus in the company's financial indicators and its comparison with the industry (see Exhibits 11 and 12), the credit constrains and the financial results of the operation.

Financial Ratios

One of the monthly tasks of the financial area was to evaluate the Fabricato financial indicators (see Exhibit 11) and to analyze their evolution on an annual basis with the results of other equivalent companies in neighboring countries (see Exhibit 12). In general, the textile companies (including Fabricato) were going through a tough time in terms of their profitability levels. There were only differences in the level of indebtedness, which, for reasons already explained, was lower in Fabricato and the fact that its cash cycle consumed more days, except for the company Cedro and Cachoeira.

Credit Access

The Colombian financial sector saw Fabricato as a high-risk company due to the Interbolsa scandal and restructuring processes under Law 550. Until 2012 the company had a credit line with Banco Colpatria for 50,000 million pesos with the support of the client portfolio, which had given it some level of financial relief. Interbolsa's financial bubble coincided with the acquisition of Banco Colpatria by Scotiabank, which suspended the credit line and transferred the management of the business unit's ratio to the special unit for high-risk clients, as well as demanding a strict schedule of payments.

During the year 2013, Fabricato financed the operation with some suppliers who despite the situation of Interbolsa continued to believe in the company. One of the oldest suppliers said: "We had credibility and faith in Fabricato, because the support to Fabricato in the background was to support the paisa industry".

The textile sector worldwide requires constant updates on machinery and equipment and although in the case of Fabricato, these were recently acquired, it was necessary to continue trying to keep investments up to date, the only option to make this possible was that equipment suppliers financed them, although including a financial cost.

To evaluate the convenience of these investments, the discounted cash flow technique was applied. For discount rate calculation, the company leverage level was use aiming to keep a debt to market capitalization ratio not least than 0.0544. Fabricato borrowed from local commercial banks at the rate of 17%. The corporate income tax rate applied to this company was 34%.

Due to the illiquidity of Colombian stock market, Fabricato did not calculate shareholder return using information obtained from transactions on the Colombian Stock Exchange (Bolsa de Valores de Colombia). Instead Fabricato took as reference the market parameters of the companies indicated in Table 1. Fabricato used for its valuations the A. Damodaran methodology

that considers that a country risk premium should be added to the estimated classical model for a developed country[13].

Table 1. Value metrics for companies representing the textile sector in the United States by December 2013

	Albany International Corp.	Unifi, Inc.	Crown Crafts, Inc.
Market Capitalization in USD millions	1.720	598,41	55,98
Debt / Value of equity in the market	0,28	0,22	0,00
Beta of shares	1,96	0,35	0,40
Number of employees	4.400	2.700	119
Sales in USD millions	779	647,27	65,98
EBITDA in USD millions	172	64,14	10,03
Market value of shares / book value	3,29	1,69	1,43
Earnings per share (EPS)	1,56	1,82	0,55
P/E	34,45	18,04	10,12

Source: Authors based on Yahoo Finance data

Financial results of operations

Was a matter of fact that since 2008 (See Exhibit 10), the company suffered a fall in sales due to the revaluation of the peso, smuggling, and the imports of fabrics from China and India that deteriorated its competitive capacity both nationally and internationally.

A report requested by Ramírez to the company's cost team, which he hoped to review in detail with Carlos Alberto de Jesús, showed that 20% of the total cost was direct labor that could fall by up to 17% making the minimum investments planned in automation. The next item in importance corresponds to chemicals used in the entire process that are about 15% on costs and that would remain stable for the coming years. The energy, steam and water generated by the company represented 10% and that cost was lower than that charged by electricity companies. Finally, spare parts and supplies consumed 5% of the total cost.

A special mention in this report referred to share of cotton in the total cost was 50%. The price of this commodity quoted in international commodity markets and used in several industrial sectors, in addition to the textile industry, fluctuates abruptly due to multiple factors, such as the volume of crops, the price of substitute products, among others. To avoid the impact of cotton price volatility on the company's costs, Fabricato signed future contracts by setting the price at $ 1,50 USD per kilogram for a period of three years, after which the price of cotton on international markets declined substantially (see Exhibit 8).

[13] A detailed explanation of the calculation of the profitability required by the shareholder in an emerging market (*Estimating Country Risk Premium for Equities*) is found in Damodaran, A. (2015). Country Risk: Determinants, Measures and Implications – The 2015 Edition. Stern School of Business.
The historical average of the 10-year risk-free rate is 5.03% and the premium equity risk for Colombia is 10.30% (Damodaran A, 2015).
See CAPM in emergent markets , Garay, U. y González M. (2007). Fundamentos de Finanzas. Con aplicaciones al mercado venezolano. Segunda edición. Ediciones IESA.

No money, no credit and no rich dad

The second day of Carlos Alberto de Jesus in Bello, began with a courtesy call from Alberto Carrasquilla, a member of the Board of Directors and with high experience in financial issues. In addition to reiterating the unrestricted support of the Board once again emphasized the need to implement changes quickly. De Jesus jokingly concluded the call by saying: "Let me work, you know the numbers and finances and I know of fabrics."

So, it was, during forty days of intensive work with the management team, all decisions were made and measures to make the action plan happen were implemented.

Once the deadline expired and to close the last session of work, De Jesus wanted to give some closing words that summarize what was experienced in the previous days and serve as a motivating element to boost morale in the face the multiple changes that were coming.

"In the past, we have been bad negotiators, we have attached ourselves to unproductive assets due to emotional reasons, we hired international consultants to tell us what we already knew, we bought many companies that we never integrated and what we had was an incoherent tower of Babel. And now that we all finally agree on what needs to be done I come to take action on what you already know that must be done. It will hurt, but we will take care of the patient in his recovery. "

In the following weeks the team of eight Vice-Presidents was reduced to three; the home product line was eliminated; distribution offices in other countries which consumed working capital were close costing the company 10 million dollars; the marketing channels in Colombia were restructured, losing even more money; the operations were concentrated in two plants (Bello and Riotex) and it was decided to differentiate the products through finishing, so the catalog changed to make it much more modern and attractive[14] .

Relations with clients changed too. Credits were allocated based on the evaluation of their financial situation, which required building more complete records. As Fabricato begun to be more stringent, the company listen them carefully through monthly breakfasts meeting where company´s plans were explained and technical advice was offered to foster a close relationship.

The company began to explore other ways to strengthen its image in diverse activities as supporting communities of clothing workers who function as cooperatives and participating in international fairs to learn the latest trends in the textile world and to present their products to designers and brands.

Fabricato learned to work without working capital, reaching new agreements with suppliers such as the exchange of raw materials for fabrics and in some cases the financing of machinery. As in the case of customers, monthly informational breakfasts were established with suppliers and constant communication strengthened.

Within this new culture of relying on what they had, that is, from internally generated resources, the company dared to develop a new line of business unthinkable years ago: the real estate business associated to land of plants that were closed.

[14]Customers have the possibility of going to a showroom where the fabrics of the catalogs were shown in ready-made garments.

Months later Carlos Alberto de Jesus shared a table in "the bar" (company's cafeteria) with Esteban Jaramillo, Junior Financial Assistant, who candidly told him that he felt comfortable coming to work every morning in a company that is no longer closed because decisions were being taken. Carlos Alberto affectionately smiled at him and replied, "It's not just taking action, is to get results, and Estebitan, this is still to be seen."

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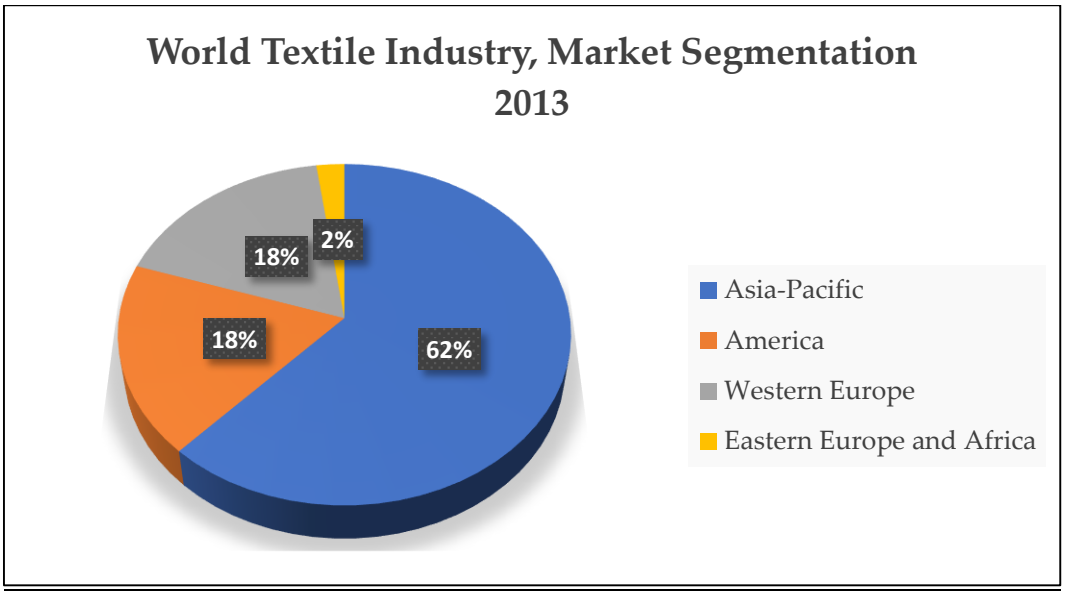
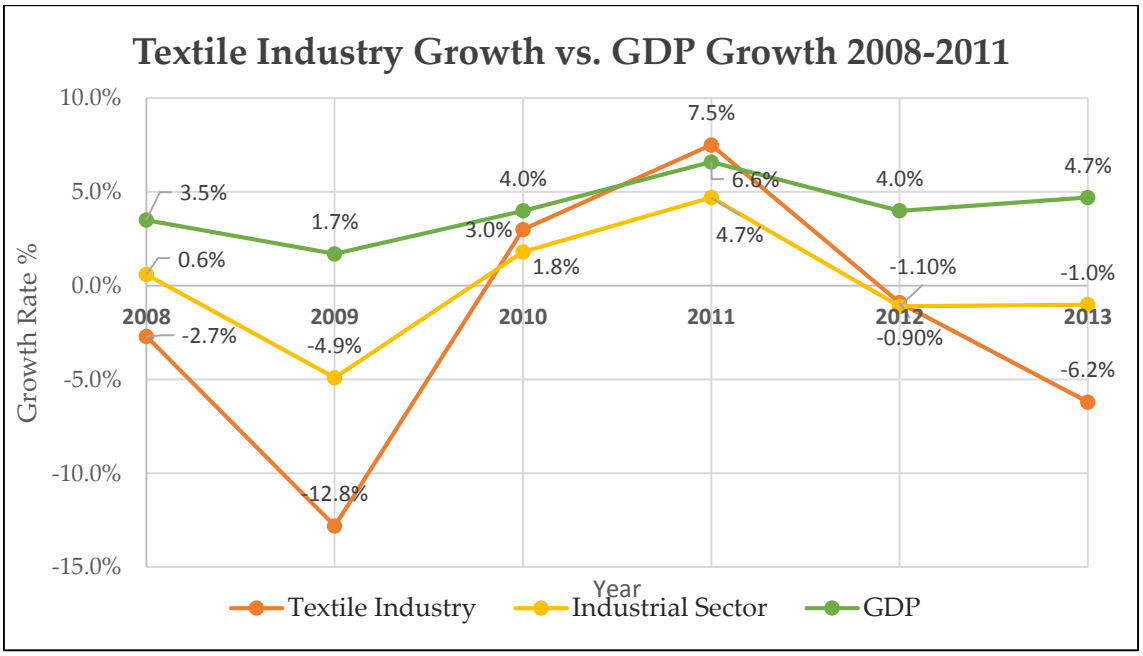
Exhibit 1. World textile industry, market segmentation



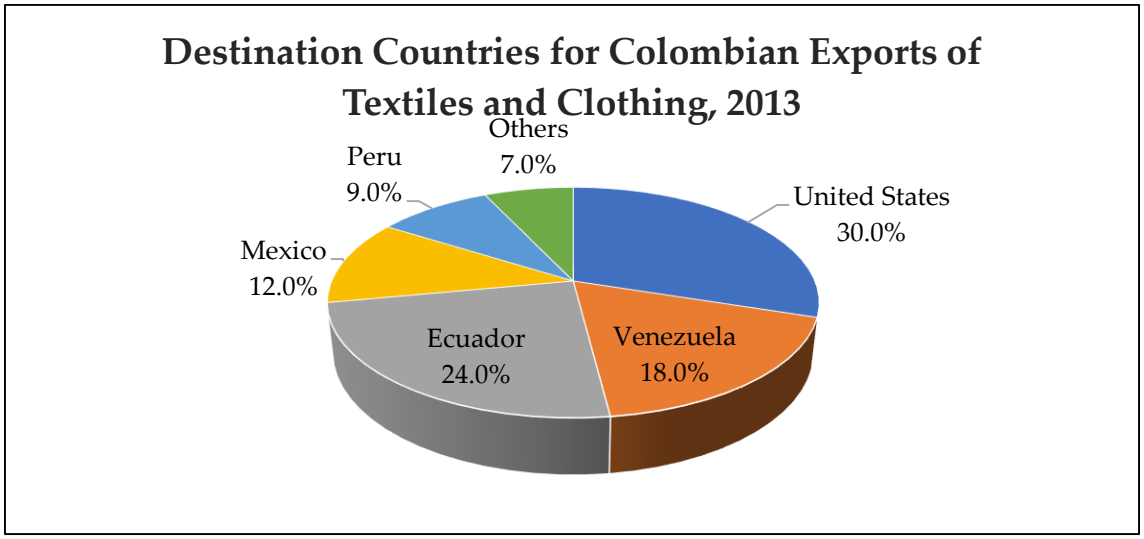
Source: Marketline (2014)

Exhibit 2. Textile industry growth vs. GDP growth



Source: Compiled by Authors' based on Sura, 2014

Exhibit 3. Destination countries for colombian exports of textile and clothing



Source: Sura (2014) with primary source on DANE

Exhibit 4. Historical evolution of Fabricato (from data of its web page)

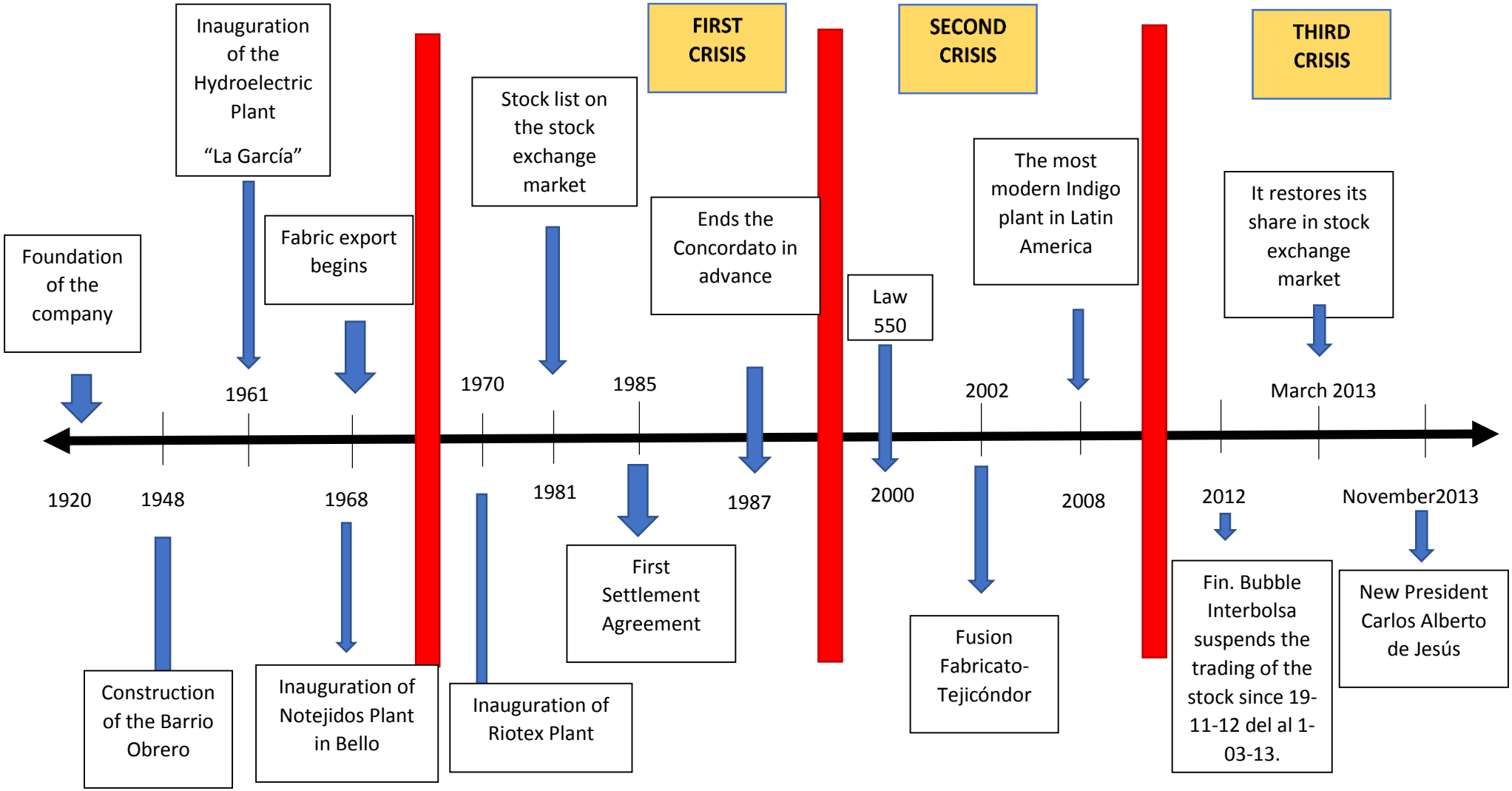
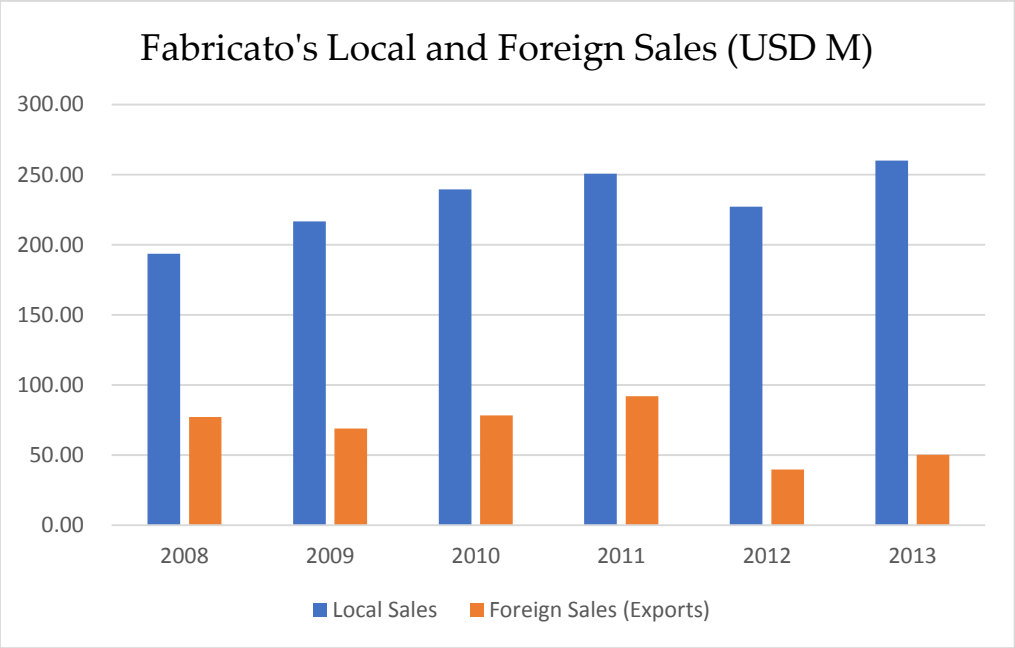


Exhibit 5. Evolution of majority shareholders

Period	Group
1920-1980	Founding shareholders and others
1981-1994	Grupo Colombia
1995-2011	Grupo Empresarial Antioqueño
2012	Alessandro Corridori
2013-Fecha actual	Grupo DeLima

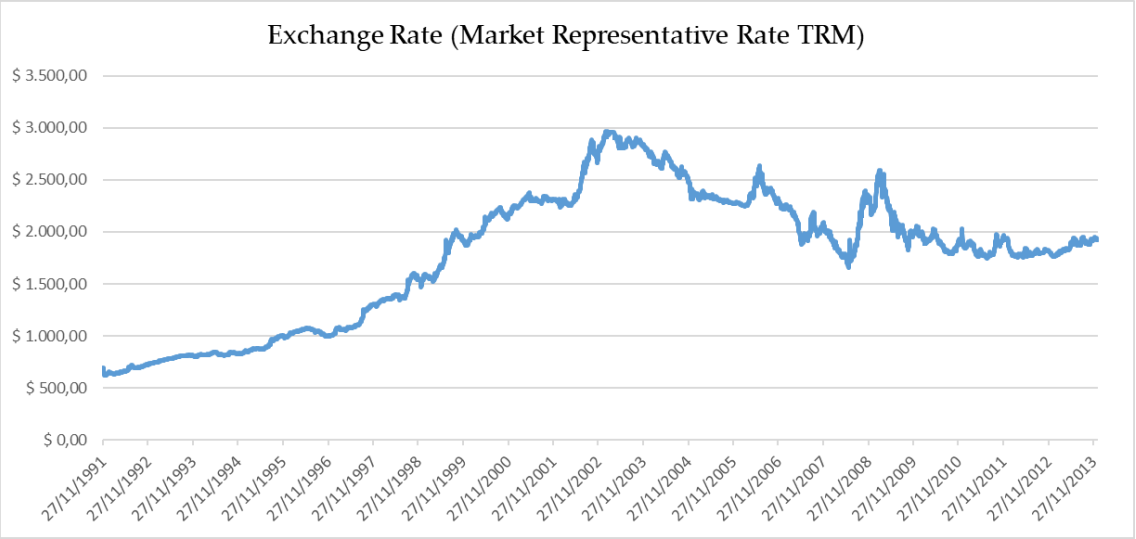
Source: Own calculations based on data from the Superfinanciera

Exhibit 6. Fabricato´s local and foreign sales



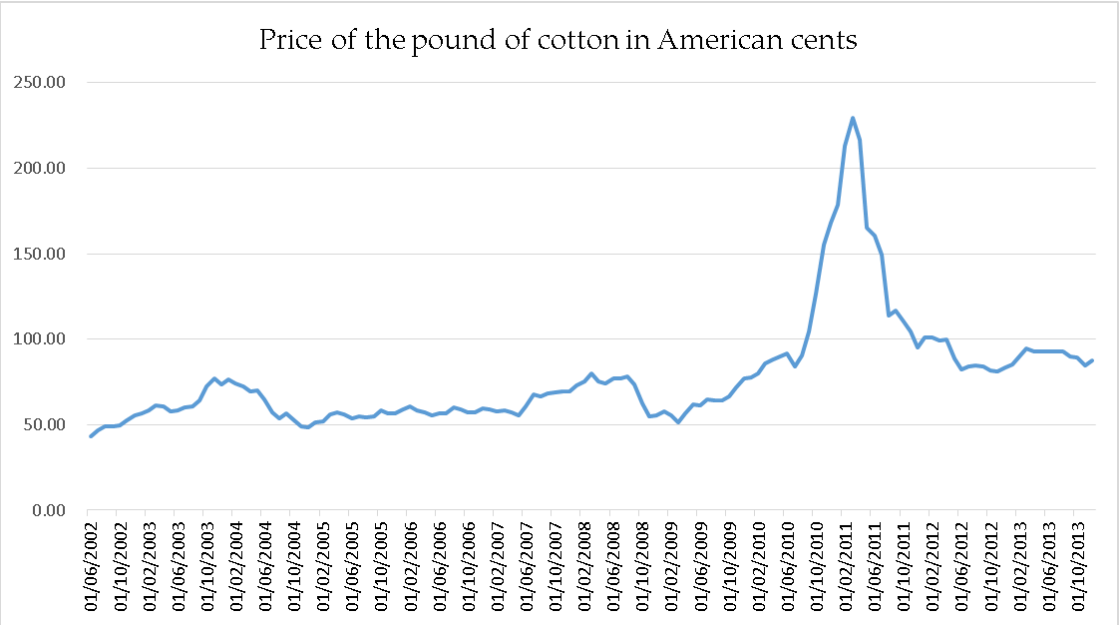
Source: Compiled by Authors based on the company annual reports

Exhibit 7. Exchange Rate



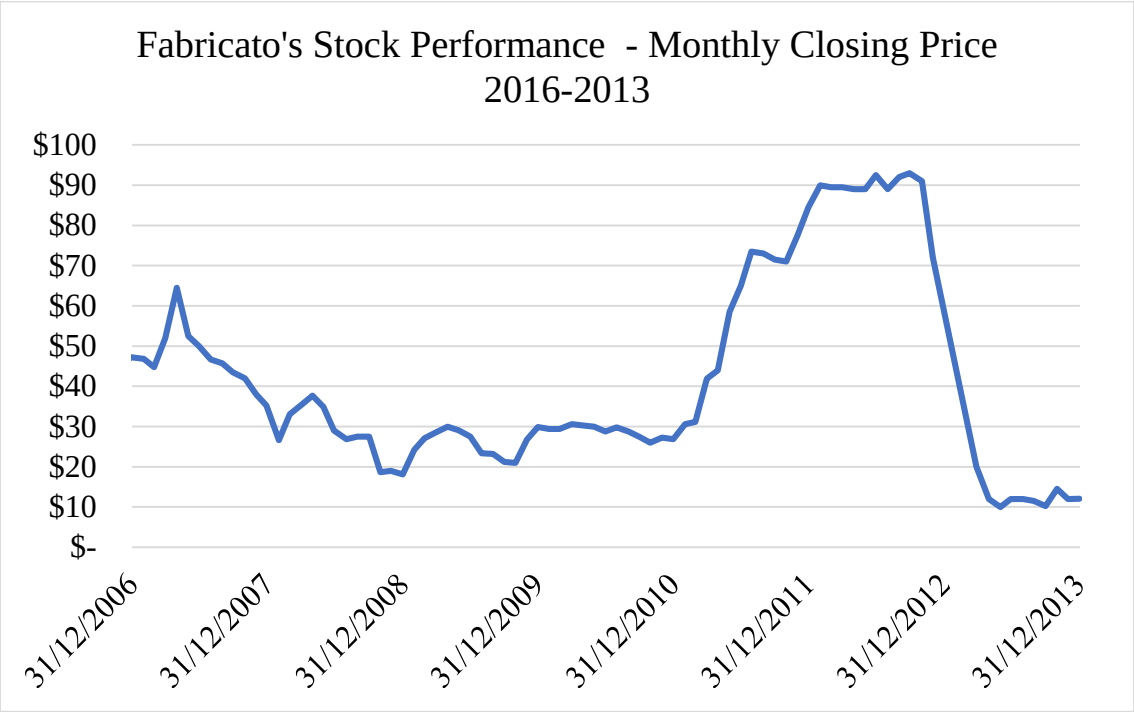
Source: Own elaboration based on data of Banco de la República

Exhibit 8. Price of the pound of cotton in American cents



Source: USDA Market News

Anexo 9. Fabricato's Stock Performance - Monthly Closing Price 2016-2013



Source: Own calculations based on Bloomberg data

Exhibit 10. Financial Statements

FABRICATO
Consolidated Statement of Balance Sheets
COP
***COLGAAP 2008-2013**

Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
ASSETS						
Current assets						
Cash and cash equivalents	24.092	4.084	14.391	27.069	38.852	10.844
Short-Term investments	71	31	248	923	1.593	128
Accounts receivable, net	198.257	218.251	197.146	199.101	121.287	82.294
Inventories, net	249.794	196.175	205.236	227.575	164.663	87.439
Intangible assets	-	-	-	6.576	26.895	11.610
Deferred assets and other assets	8.446	7.034	8.138	10.312	7.383	9.489
Total current assets	480.660	425.575	425.159	471.556	360.673	201.804
Non-current assets						
Long-Term investments	47.594	57.811	55.756	54.580	56.071	47.978
Accounts receivable	29.066	26.946	22.874	22.240	22.764	8.888
Property, plant and equipment, net	147.965	125.339	105.348	99.480	107.486	85.751
Intangible assets	17.442	17.442	25.125	20.028	17.442	17.442
Deferred assets and other assets	11.894	11.641	17.363	24.416	33.984	23.323
Revaluations	483.819	483.379	402.692	518.596	516.189	583.755
Total non-current assets	737.780	722.558	629.158	739.340	753.936	767.137
TOTAL ASSETS	1.218.440	1.148.133	1.054.317	1.210.896	1.114.609	968.941
Off-balance sheet items	559.304	558.553	673.979	703.669	659.724	729.959
LIABILITIES						
Current liabilities						
Financial liabilities	69.436	68.451	60.599	87.007	63.845	32.735
Trade payables	29.857	41.683	57.817	50.688	63.295	40.544
Deferred revenue	2.173	1.410	1.776	16.490	3.924	6.157
Accounts payable	17.328	26.145	23.343	18.037	24.481	13.766
Income taxes	1.909	6.501	3.583	2.247	5.214	5.889
Employee Benefits	25.170	26.187	21.971	11.231	11.453	6.884
Estimated liabilities and provisions	2.948	3.121	4.525	21.324	29.150	24.514
Total current liabilities	148.821	173.498	173.614	207.024	201.362	130.489
Non-current liabilities						
Financial liabilities	25.015	18.403	13.709	16.915	18.787	6.183
Trade payables	3.131	2.961	2.840	5.893	16.520	12.285
Accounts payables	20.866	8.647	8.216	450	592	572
Accounts payable - subsidiaries	5.864	5.864	5.864	-	-	-
Income taxes	18.000	15.595	9.889	-	-	-
Employee Benefits	87.377	90.017	93.014	1.548	575	2.329
Contributions and deductions	1.272	392	258	-	-	-
Deferred income taxes	15.295	13.924	11.974	11.406	7.925	6.115
Estimated liabilities and provisions	(145)	733	733	93.338	93.503	94.884
Total non-current liabilities	176.675	156.536	146.497	129.550	137.902	122.368
TOTAL LIABILITIES	325.496	330.034	320.111	336.574	339.264	252.857
SHAREHOLDERS EQUITY						
Share capital	33.021	33.021	33.021	36.753	36.807	36.807
Noncontrolling interests	1.438	819	1.008	192	(236)	(1.442)
Capital surplus	175.522	191.509	184.925	220.576	215.418	214.536
Reserves	97.324	97.896	97.896	97.896	97.896	97.896
Equity revaluations	107.250	107.250	107.250	107.250	107.250	107.250
Net income	1.311	(97.970)	(5.866)	(14.774)	(92.580)	(127.268)
Retained earnings	(6.639)	2.298	(86.629)	(92.068)	(105.352)	(195.428)
Revaluations surplus	483.717	483.276	402.601	518.497	516.142	583.733
TOTAL SHAREHOLDERS EQUITY	892.944	818.099	734.206	874.322	775.345	716.084
TOTAL LIABILITIES AND SHAREHOLDERS I	1.218.440	1.148.133	1.054.317	1.210.896	1.114.609	968.941
Off-balance sheet items	559.304	558.553	673.979	703.669	659.724	729.959
Checkpoint	-	-	-	-	-	-

Exhibit 10. Financial Statements

FABRICATO
Consolidated Statement of Income
COP
***COLGAAP 2008-2013**

Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Net sales	631.451	592.912	615.131	669.584	565.989	446.621
Cost of goods sold	(546.035)	(543.754)	(511.282)	(566.319)	(529.264)	(423.290)
Gross profit	85.416	49.158	103.849	103.265	36.725	23.331
Operating expenses	(80.785)	(72.722)	(77.352)	(87.586)	(90.723)	(104.703)
Administrative expenses	(30.870)	(26.113)	(26.723)	(29.400)	(47.219)	(66.948)
Selling expenses	(49.915)	(46.609)	(50.629)	(58.186)	(43.504)	(37.755)
Operating income (loss)	4.631	(23.564)	26.497	15.679	(53.998)	(81.372)
Non-operating revenues	42.537	16.189	31.201	19.271	26.976	17.149
Interest revenues	23.309	8.855	4.502	2.233	2.800	2.338
Foreign exchange balance, net	-	-	-	620	-	-
Income resulting from P,P&E and investments sales	34	7	6.212	2.092	5.337	197
Income resulting from intagible assets sales	-	-	10.755	-	10.603	-
Diverse revenues	19.194	7.327	9.732	14.326	8.236	14.614
Non-operating expenses	(45.887)	(86.928)	(59.846)	(46.670)	(64.795)	(63.273)
Interest expenses	(29.297)	(16.598)	(24.912)	(17.002)	(18.001)	(11.832)
Foreign exchange balance, net	-	-	-	-	(2.553)	(2.251)
Equity method	-	-	-	-	(328)	-
Post-retirement benefits	(9.913)	(18.560)	(14.090)	(13.567)	(13.871)	(13.884)
Diverse expenses	(6.677)	(51.770)	(20.844)	(16.101)	(30.042)	(35.306)
Income (Loss) before taxes	1.281	(94.303)	(2.148)	(11.720)	(91.817)	(127.496)
Provision for income taxes	(38)	(3.687)	(3.807)	(3.845)	(4.637)	(3.640)
Deferred taxes				762	3.508	2.580
Noncontrolling interests	68	20	89	29	366	1.288
Net income (loss)	1.311	(97.970)	(5.866)	(14.774)	(92.580)	(127.268)
Depreciation	20.635	19.015	18.519	18.358	19.188	18.060
EBITDA	25.266	(4.549)	45.016	34.037	(34.810)	(63.312)

Exhibit 10. Financial Statement

FABRICATO
Consolidated Statement of Cash Flows
COP
***COLGAAP 2008-2013**

Year	2008	2009	2010	2011	2012	2013
Cash flows from operating activities						
Net loss (income)	1.311	(97.970)	(5.866)	(5.655)	(92.580)	(127.268)
Depreciation	20.635	19.015	18.519	18.358	19.188	18.060
Amortization of deferred charges	-	-	-	12.335	18.797	20.647
Amortization of post-retirement plans	(3.967)	5.085	787	617	981	988
Provision (recuperation) accounts receivable, ne	(466)	14.920	(13.989)	1.819	19.118	45.659
Provision (recuperation)lLong-term investment:	(476)	20.029	-	(1.149)	1.532	672
Provision (recuperation) inventories	(191)	7.949	(7.321)	(772)	7.803	3.078
Provision (recuperation) P,P&E and Intagible As:	(380)	343	(128)	(422)	3	165
Recuperation of other assets	(239)	(31)	-	(496)	-	-
Deferred income taxes debit	(2.655)	997	1.770	(194)	(27)	(770)
Gain on sales of financial assets	-	-	-	(291)	(150)	-
Deferred income taxes credit	(1.102)	(1.371)	(1.950)	(10.327)	(3.481)	(1.810)
Net income on P,P&E, intangible assets and othe	(6)	-	(16.545)	(1.319)	(15.790)	233
Loss on disposal of equity investments	-	-	2.764	-	-	-
Loss on disposal of P,P&E	60	-	5.914	-	2.619	3.742
Noncontrolling interests	(1.562)	(619)	189	(816)	(428)	(1.206)
Consolidation effects	277	295	1.006	820	(1.055)	2.649
Loss on equity method	-	-	-	-	328	-
Changes in operating assets and liabilities, net of effect of business combinations						
Accounts receivable	23.665	(32.794)	39.166	(3.140)	58.172	7.966
Inventories	(10.932)	45.670	(1.740)	(21.343)	55.109	74.146
Deferred Assets	(1.660)	657	(9.292)	(20.505)	(670)	1.465
Short-term investments	13.687	40	(217)	(675)	(25.843)	(11.341)
Accounts payable	(12.788)	(5.045)	(3.001)	(4.480)	(5.980)	(8.502)
Employee benefits	(1.913)	1.017	(2.006)	1.181	(751)	(2.815)
Income taxes	(9.837)	2.187	(8.624)	(11.225)	2.967	675
Estimated liabilities and provisions	(6.374)	1.051	1.404	5.400	7.010	(4.243)
Trade payables	(6.187)	11.656	16.013	(4.076)	23.234	(26.986)
Cash flows from operating activities	(1.100)	(6.919)	16.853	(46.355)	70.106	(4.796)
Cash flows from investing activities						
Investments in P,P&E	(1.536)	(5.255)	(2.703)	(13.354)	(31.426)	(716)
Investments in intangible assets	-	-	(7.683)	(1.479)	(23.440)	15.285
Acquisition of equity investments	(12)	(46)	(171)	-		(769)
Sales of P,P&E, investments in securities and oth	455	-	16.557	2.623	17.195	6.702
Change in other assets	(2.234)	(191)	-	-	20	-
Cash flows from investing activities	(3.327)	(5.492)	6.000	(12.210)	(37.651)	20.502
Cash flows from financing activities						
Changes in financial liabilities	11.571	(7.597)	(12.546)	29.614	(21.290)	(43.714)
Changes in capital surplus	55	-	-	37.897	564	-
Capital contributions	-	-	-	3.732	54	-
Cash flows from financing activities	11.626	(7.597)	(12.546)	71.243	(20.672)	(43.714)
Net change in cash and cash equivalents	7.199	(20.008)	10.307	12.678	11.783	(28.008)
Cash and cash equivalents at the beginning of p	16.893	24.092	4.084	14.391	27.069	38.852
Cash and cash equivalents at the end of period	24.092	4.084	14.391	27.069	38.852	10.844

Source: Company annual reports 2008-2013

Exhibit 11. Financial Indicators of Fabricato

FABRICATO Financial Ratios	2008	2009	2010	2011	2012	2013
Liquidity						
Current ratio	3,23	2,45	2,45	2,28	1,79	1,55
Quick ratio	1,55	1,32	1,27	1,18	0,97	0,88
Solvency						
Debt-to-assets ratio	26,71%	28,75%	30,36%	27,80%	30,44%	26,10%
Financial debt-to-assets ratio	7,75%	7,56%	7,05%	8,58%	7,41%	4,02%
Financial debt (USD M)	42,11	42,49	38,82	53,49	46,73	20,20
Debt growth (%)	NA	0,91%	(8,62%)	37,79%	(12,64%)	(56,78%)
Interest coverage ratio (EBIT)	0,16	(1,42)	1,06	0,92	(3,00)	(6,88)
Interest coverage ratio (EBITDA)	0,86	(0,27)	1,81	2,00	(1,93)	(5,35)
Debt/EBITDA	20,40	(3,69)	2,80	6,63	(1,53)	(0,48)
Profitability						
Gross profit margin	13,53%	8,29%	16,88%	15,42%	6,49%	5,22%
Operating profit margin	0,73%	-3,97%	4,31%	2,34%	-9,54%	-18,22%
Net margin	0,00	-0,17	-0,01	-0,02	-0,16	-0,28
Return on assets (ROA)	0,11%	-8,53%	-0,56%	-1,22%	-8,31%	-13,13%
ROA Dupont Analysis						
Net margin	0,21%	(16,52%)	(0,95%)	(2,21%)	(16,36%)	(28,50%)
Assets turnover	51,82%	51,64%	58,34%	55,30%	50,78%	46,09%
Return on assets (ROA)	0,11%	(8,53%)	(0,56%)	(1,22%)	(8,31%)	(13,13%)
ROE Dupong Analysis						
Net margin	0,21%	(16,52%)	(0,95%)	(2,21%)	(16,36%)	(28,50%)
Assets turnover	0,52	0,52	0,58	0,55	0,51	0,46
Capital Structure	1,36	1,40	1,44	1,38	1,44	1,35
Return on equity (ROE)	0,15%	(11,98%)	(0,80%)	(1,69%)	(11,94%)	(17,77%)
Activity						
Receivables turnover	115	134	117	109	78	67
Inventory turnover	167	132	147	147	114	75
Payables turnover	20	28	41	33	44	35
Cash cycle (days)	262	238	222	223	148	108
Growth analysis						
Aggregated revenues	NA	(6,10%)	3,75%	8,85%	(15,47%)	(21,09%)
P,P&E growth	NA	(15,29%)	(15,95%)	(5,57%)	8,05%	(20,22%)
COGS/Revenues	86,47%	91,71%	83,12%	84,58%	93,51%	94,78%
Operating expense/Revenues	12,79%	12,27%	12,57%	13,08%	16,03%	23,44%

Source: Own elaboration based on data supplied by the company.

Exhibit 12. Exhibit 12. Comparative financial indicators with industry

	FABRICATO		2013			
Liquidity	**2012**	**2013**	**Coltejer**	**Cedro e Cachoeira**	**San Jacinto**	**Kaltex**
Current ratio	1,79	1,55	1,15	1,18	0,76	0,87
Quick ratio	0,97	0,88	0,79	0,72	0,37	0,45
Working capital (USD M)	90,10	37,01	11,67	18,09	(5,33)	(55,11)

	FABRICATO		2013			
Solvency	**2012**	**2013**	**Coltejer (Colombia)**	**Cedro e Cachoeira (Brasil)**	**San Jacinto (Perú)**	**Kaltex (México)**
Debt-to-assets ratio	#¡REF!	#¡REF!	42,12%	52,25%	42,12%	65,61%
Financial debt (USD M)	46,73	20,20	21,12	119,12	0,64	467,53
Financial debt-to-assets ratio	7,41%	4,02%	5,14%	40,71%	0,30%	28,90%
Capital Structure	43,8%	35,3%	26,5%	109,4%	72,8%	190,7%
EBIT (USD M)	(30,54)	(42,23)	(3,72)	16,80	4,35	(5,00)
EBITDA (USD M)	15,26	8,90	2,90	23,02	9,03	46,57
Interest coverage ratio (EBIT)	(3,00)	(6,88)	(0,39)	2,12	0,55	(0,16)
Interest coverage ratio (EBITDA)	(1,93)	(5,35)	0,27	2,91	1,14	1,48

	FABRICATO		2013			
Profitability	**2012**	**2013**	**Coltejer (Colombia)**	**Cedro e Cachoeira (Brazil)**	**San Jacinto (Peru)**	**Kaltex (Mexico)**
Gross profit margin	6,49%	5,22%	12,16%	18,85%	20,40%	15,37%
Operating profit margin	(9,54%)	(18,22%)	(3,21%)	6,79%	8,63%	(0,47%)
ROA	(8,31%)	(13,13%)	(4,18%)	2,33%	0,12%	(3,18%)
ROE	(11,94%)	(17,77%)	(5,29%)	4,87%	0,21%	(9,24%)

	FABRICATO		2013			
Turnover (days)	**2012**	**2013**	**Coltejer**	**Cedro e Cachoeira**	**San Jacinto**	**Kaltex**
Receivables	93	75	79	76	37	56
Inventories	114	75	100	81	69	75
Payables	61	47	130	20	67	82
Cash Cycle (Days)	**145**	**103**	**50**	**137**	**38**	**49**

	FABRICATO		2013			
	2012	**2013**	**Coltejer**	**Cedro e Cachoeira**	**San Jacinto**	**Kaltex**
P,P&E/Assets	#¡REF!	#¡REF!	62,31%	55,21%	91,73%	60,79%
Revenue growth	(15,47%)	(21,09%)	2,74%	15,74%	1,12%	NA
Operating expenses/Revenues	16,03%	23,44%	15,37%	12,06%	11,77%	15,83%
COGS/Revenues	93,51%	94,78%	87,84%	81,15%	79,60%	84,63%

NA: Not Available

Sources: Companies annual reports 2008-2013

Exhibit 13. Billing Discrimination by Product Line

Product Line Billing
Accumulated as of December 2013

	Line	Denim	Casual	Knit	Institucio-nal	Technical Textiles	Home Line	Total
Quantity (Miles of m2)	PPTO	20.498	17.486	6.967	4.423	9.558	685	59.617
	REAL	11.140	14.210	5.038	3.625	7.679	356	42.048
	Real/Ppto	54%	81%	72%	82%	80%	52%	71%
Value ($MM)	PPTO	133.504	99.589	45.315	50.859	17.730	3.987	350.985
	REAL	70.725	84.825	30.831	40.663	13.896	2.663	243.602
	Real/Ppto	53%	85%	68%	80%	78%	67%	69%
Variable Cost ($MM)	PPTO	98.522	72.254	30.939	32.563	10.799	4.187	249.264
	REAL	54.969	60.838	22.837	24.725	8.517	3.482	175.368
	Real/Ppto	56%	84%	74%	76%	79%	83%	70%
Price	PPTO	6.513	5.695	6.505	11.498	1.855	5.824	5.887
	REAL	6.349	5.969	6.119	11.216	1.810	7.484	5.793
	Real/Ppto	97%	105%	94%	98%	98%	129%	98%
Unit Cost	PPTO	4.806	4.132	4.441	7.361	1.130	6.117	4.181
	REAL	4.934	4.281	4.533	6.820	1.109	9.788	4.171
	Real/Ppto	103%	104%	102%	93%	98%	160%	100%
Contribution Margin	PPTO	26,2%	27,4%	31,7%	36,0%	39,1%	-5,0%	29,0%
	REAL	22,3%	28,3%	25,9%	39,2%	38,7%	-30,8%	28,0%

Source: Fabricato (2017)

Exhibit 14. Characterization of clients by channel of Fabricato in the year 2013

	Commercialization Chanel	
	Direct	**Agencies**
Type of clients		
Distribuitors	60%	20%
Confectioners and brands	30%	80%
Number Customers served	600	5000
% Sales	70%	30%

Source: Own elaboration based on data supplied by the company.

TEACHING NOTE

FABRICATO: do not break the thread

This case was designed to show how a leading company in the textile sector in Colombia implemented a process of corporate restructuring to avoid a possible bankruptcy. Students will recreate the restructuring process by identifying measures that aim at generating cash and reducing costs, using the tools learned in the courses of Financial Analysis. Once a business model, that will stabilize the company, is defined, they will evaluate the impact in the medium term by calculating the Fabricato share price (using the discounted Cash Flow method) obtained if the main premises of the plan proposed by the students are met.

The case was written for the first course of the financial chain of an MBA known under the name of Financial Management or Capital Budget (Gerencia Financiera o Presupuesto de Capital), can also be used in extension courses that introduce the subject of business valuation, or in courses of Financial Analysis, at the undergraduate level, with an emphasis on the interpretation of financial ratios and the impact of the environment on business performance

I. Summary

Carlos Alberto de Jesús was hired by the Board of the company as President of Fabricato with the mission of implementing an aggressive transformation strategy in one of the leading companies in the Colombian textile sector. Factors external to the company such as the revaluation of the peso, the growth of exports of the Chinese textile industry, the smuggling of textiles that cover the Colombian market, money laundering and a stock market bubble formed around the Fabricato stock, questioned a growth strategy based on the export of yarns and fabrics of a wide range.

The students play the role of Carlos Alberto and should produce an action plan that allows them to stabilize the company or else the liquidation of the business will be inevitable. The challenge is great because they do not have more resources than the business operation can generate. Likewise, they must estimate the price of the action under the assumption that the action plan works properly.

II. Assigments

Below, there is a series of questions that the instructor could use to guide students in the pre-making of the case with the help of the Excel document Students Template.xls:

Current Situation:

1. How do you evaluate the performance of Fabricato in the period 2008-2013? How does Fabricato compare with its national and international competitors?
2. What are the main problems of Fabricato?
3. Project Fabricato´s Financial Statements for the next five years (2014-2018) following the trends for the period 2011-2013; for these calculations, use only the first two sheets of the Students Template.xls file and create a new sheet in Excel with its projections. If you take these calculations as a reference, is Fabricato's operation feasible?

Projection and valuation model:

From the sheet called "Simulator" from file **Students Template.xls**, answer the following questions:

4. What would be the main measures of your action plan? Identify the parameters of the supplied model that best reflect those measurements.

5. Which of the measures proposed in your action plan have the greatest impact on the restructuring of Fabricato?

6. What values should the main parameters of the model take to have a successful restructuring plan? Are these achievable values?

III. Discussion Areas (Pastures)

1. Is Fabricato financially feasible in the five-year period 2014-2018 operating with the same strategy as in previous years? (35 minutes)

2. Why did the Board of Directors of Fabricato hire Carlos Alberto de Jesús? (20 minutes)

3. What would be the main steps you would take if you were Carlos Alberto de Jesús? If the plan you are proposing is successful would Fabricato be able to stabilize financially? What would be the estimated price of the action in this context? (90 minutes)

Teacher should orient the discussion from the general to the more specific, which implies starting with the "pasture" 1 and ending with the number 3. When he considers that one of the "pastures" is reasonably discussed, he must raise a provocative question that give way to the next. It is possible that some of the students try to approach a "pasture" later than the one

that is being treated at any moment of the class, for that reason we suggest that the Plan of Slates that appears throughout these Teaching Notes is deployed from the beginning and place these early interventions in the corresponding pasture, which ensures that the relevant issues are addressed in the suggested sequence.

The main "takeaway" of this case is as follows:

Managers must be able to recognize what value drivers are and use them to leverage their corporate strategies. As the reality is changing they must be ready at all times to take radical actions against a hostile environment, not forgetting, what are the sources of value generation.

These value generators are very diverse and include both tangible and intangible elements. Among the tangibles we have: possessing trend fixed assets, ability to produce at a lower cost to competition, geographic location of plants and warehouses in privileged areas, among others. Among the intangibles we have: a trained and committed workforce, ability to obtain bank financing under the best possible conditions, enjoy the trust of customers and suppliers and ultimately have a brand appreciated by the business community and society in general.

Students should remember that a fundamental principle of corporate finance is that businesses are valued for the cash flows generated by current business lines and the possible expansions or reorganizations that arise from capitalizing on what the organization learns while executing its mission.

IV. Learning Objectives

1. Understand how the elements of a corporate growth strategy are linked to the opportunities and threats generated by the environment.
2. Comprehend why in some business contexts, agents of change cannot come from the managerial frameworks of the same organization.
3. Identify the most relevant financial and strategic elements to develop a plan to ensure business continuity.

V. Teaching plan and substantive analysis

<u>First Discution: Is Fabricato financially feasible in the five-year period 2014-2018 operating with the same strategy as in previous years?</u>

Teacher will discuss with students the financial situation of Fabricato for the period 2008-2013, which students have done at home and which is supported both with the first two sheets of the file in Excel **Students Template.xls** and with Exhibits 10 to 12 of the Teaching Case.

As the first stage of this pasture and in line with the previous assignment Teacher must lead students to identify the behaviors of each of the groups of historical indicators that will be summarized in accordance with Table 1:

Table 1

Liquidity 2008- 2013 • The current ratio and the acid test have been falling. • The behavior of the inventory has affected the acid test in an increasing manner. Comparing with competition in 2013 • Higher levels of liquidity ratio and Quick Ratio.	**Activity-Efficiency** 2008- 2013 • Accounts receivable and inventory days declined. • The cash cycle improved in 154 days. Comparing with your competition 2013 • The cash cycle exceeds that of most competitors. • Low PPyE on Assets.
Indebtedness 2008- 2013 • Debt levels below 30% and financial indebtedness below 10% in the whole period. • No coverage of debt commitments (interest and capital payment) Comparing with your competition 2013 • Lower levels of indebtedness. • International competitors have interest coverage with EBITDA.	**Profability** 2008- 2013 • The gross margin is positive, but has fallen. • The operating and net margin have had a negative behavior, especially 2012-2013. • Consequently, ROA and ROE have been permanently negative. Comparing with your competition 2013 • The gross margin is lower. • Operating margin, ROA and ROE are consistent with most of the competition.

Based on these data Teacher can discuss with the students the business situations that explain the performance by Fabricato:

Liquidity

- Low structural share of both current assets (20.83%) and current liabilities (13.47%) over total assets in 2013.
- The largest participation in current assets for 2013 is accounts receivable (40.78%) and inventories (43.33%), which decreased their share over current assets during the period 2008-2013 and presented a drop more than the decrease in sales for the same period (29.27%).
- Current liabilities fell by 12% in the 2008-2013 period and were the most important source of financing in the short term because they accounted for 4.18% of total assets in 2013.
- The Quick Ratio shows the importance of inventories in liquidity measures

The classic liquidity measures show a situation where Fabricato has been adjusting its operation to the fall of its sales and the impossibility of having access to other sources of financing other than suppliers. These measures in absolute terms can be identified superior

to the competition, but in its composition, it is observed that Fabricato faced the difficulties had to control to the maximum its investment and short-term financing.

Efficiency-activity indicators

- The efficiency-activity indicators showed a decrease in the cash cycle from 262 days in 2008 to 108 days in 2013 due to the greater control in the days of inventory and portfolio.
- In terms of inventory, the drop of the sales (29.27%) in 2008-2013 pushed Fabricato to control its production and inventory management policies, reducing it from 167 days to 75 days.
- Days of account receivables decreased from 115 (2008) to 67 (2013), as the company's efforts to maintain a policy that would guarantee cash flow generation in shorter periods materialized. To do so, it granted smaller payment periods to its customers and remained alone with those who had the financial capacity to meet them.
- The financing provided by suppliers went from 20 to 35 days, which shows the need to finance the operation from this relationship. In 2013 this indicator fell in 9 days probably because of the Interbolsa scandal, as already mentioned in the Teaching Case.
- However, the performance of the financing with suppliers demonstrates the excellent relationship that Fabricato has maintained even in the worst moments (Ley 550 and Interbolsa), however, there is a great fragility on funding for its operations.
- The asset turnover component remained almost constant throughout the period, especially facing the company's sales decline and industrial update. The significant investment in CAPEX and the outflow of obsolete machinery affected depreciation levels. In net terms, the company did not maintain net Property, Plant and Equipment (PPyE) growth in most of the period 2008-2013, so when comparing the proportion of PPyE / Assets Fabricato presented the lowest level (8.85% in 2013) compared to its international competitors, which reached an average of 68%.

Debt indicators

- The company's level of indebtedness has remained below 30% compared to international competitors that reached an average of 40% by 2013.
- Financial debt is only 4% in 2013 and has remained below 10% for the entire period 2008-2013. This situation is due to the difficulties of access to credit that began after the First Bankruptcy Agreement in 1985 and continued with Ley 550 (2000) as well as the Interbolsa scandal (2012) (see Exhibit 4). For the period under review it is important to remember that the company only had an active credit line backed by specific assets.
- Despite the above, the company was not able to have adequate levels of coverage of its debt (both interest and capital) as its operating results are negative throughout the period.
- Under these conditions, Fabricato is a company with great difficulties to finance its operation and investment and has had to appeal to equity financing.

Profitability indicators

Regarding the margins, the situation of Fabricato has been impacted by:

- A structure of costs and expenses that could not be supported with sales prices. The cost of sales over sales almost reached 95% by 2013, while its international competitors achieved an average of 83%.
- Fabricato had very narrow gross margins that did not cover the rest of operations and financing activities. The gross margin between 2012-2013 has been at 6% and 5% respectively, when its competitors got 17% on average. In this factor, it is very important to analyze the impact of the cost of cotton which, given the contracting at fixed prices, has led to an unfortunate behavior of cost of sales.
- In terms of operating and net margins, performance in the last two years has been negative and with a negative trend and obtained an operating margin of (-18%) in 2013. The structure of operational and non-operational expenses demonstrated the difficulty of company to sustain its operation. Significant increases in administrative expenses and miscellaneous expenses were observed because the company had already started in 2013 an operational restructuring that included: plant consolidation, reduction of administrative staff, replacement of obsolete spinning mills, and optimization of the product portfolio.
- At last, margins were affected by sales dynamics, which fell by 29% (2008-2013). The factors that affected this behavior were: the revaluation of the peso, the fall in the yarn and fabric sector by 10%, a greater penetration of imports (legal and illegal), the fall in fabric prices due to lower cotton prices, among others.

In terms of financial performance measures, Fabricato presents the following situation:

- The ROA was strongly affected by the drop in the net margin on sales that had already been analyzed previously.
- The asset turnover component, as already mentioned in the Activity-Efficiency indicators, remained almost constant throughout the period, especially related with the drop in sales and the industrial update of the company.
- In 2013, the profitability at the level of international competition is very similar and did not reach prominent level of both ROA and ROE, the best performance is obtained by the companies San Jacinto and Cedro Cachoeira.
- The ROE is become more negative by both the fall in ROA and the slight decrease in financial leverage. In this sense, the increase in equity in the period 2008-2013 was due to the growth of accounting items with no effect on the company's cash flow. The valuation surplus increased by 21% and retained earnings (compared to the inability to distribute profits) increased by 2,844%.

At the close of this session Teacher should lead the students to develop the table 2, from the following questions:

- Which is the two most important internal and / or external factors in explaining each group of indicators?
- Rate from 1 to 5 the performance of each of the indicator groups (where 5 is the most critical situation)

Table 2

Liquidity • Fall in Sales • Control of inventories and accounts receivable • Financing of suppliers 3	Activity-Eficciency • Control of cash cycle • Low cost of PPyE over Assets 2
Indebtedness • Impact of Ley 550 and Interbolsa • There is not access to external financial sources 5	Profability • Structure of costs and expenses that does not allow generating adequate profits at any level. • High equity share making it difficult to generate adequate return. 5

Revised and discussed in class the interpretation of the financial analysis of the performance of Fabricato between 2008-2013, instructor will invite some of the students to present their projections of the Income Statement for the period 2014-2019. While there are different versions of the projections depending on the premises each student formulated, the vast majority should achieve similar results

Continuing, Table 1 below shows a Linear Projection under the premise of average sales growth for the last three years (2010-2013) and costs and expenses as an average percentage of sales for these same years.

NE-Table 1. Projected Financial Statements of Fabricato

FABRICATO

Extract of Statement of Income

Millons of COP

Income Statement	2014	2015	2016	2017	2018
Projected Revenues	405,353	367,898	333,905	303,052	275,050
COGS	(368,689)	(334,622)	(303,703)	(275,641)	(250,172)
Gross Profit	**36,664**	**33,276**	**30,202**	**27,411**	**24,878**
Administrative and General Expenses	(37,460)	(33,998)	(30,857)	(28,005)	(25,418)
Selling Expenses	(33,549)	(30,449)	(27,636)	(25,082)	(22,765)
EBIT	**(34,345)**	**(31,171)**	**(28,291)**	**(25,676)**	**(23,305)**

Source: Own elaboration based on data Annual Reports Fabricato

At this point of the discussion it is very evident to the students that the financial situation of Fabricato is unsustainable unless a deep restructuring of the business is made. Teacher will close the discussion of this "pasture", highlighting the following takeaways:

• The sources of financing are very sensitive to the perceptions of suppliers and financial institutions. Although the Interbolsa scandal involved the shareholders more than Fabricato, the company was exposed to a reputational damage that was evidenced in the reduction of access to credit.
• Even in adverse financial situations, companies can rely on their value drivers to increase available resources by improving the efficiency of different components of working capital.
• Technical and financial considerations should be reconciled when defining strategic inventory management policies, as illustrated by the case of the anticipated procurement of cotton at Fabricato.

Teacher can use as a transitional phrase for the following "pasture": Standing in front of the abyss, how do we begin to rectify?

SECOND DISCUSSION: Why does the Board of Directors of Fabricato hire Carlos Alberto de Jesús?

Teacher will invite the students to elaborate their own hypotheses on why Carlos Alberto de Jesús was hired and will write on the Table 3 the different explanations on the part of the students or make them respond in a natural way:

Pizarra 3

Why Carlos Alberto de Jesús?

• Has experience in similar situations
• Those who led the company to that situation do not have the capabilities to realize the changes
• Fabricato needs a cultural change that could not be implemented by an internal agent
• It takes someone who has no ties to the previous structure
• Controlling shareholders need to get their money back

Next, Teacher could motivate the discussion in this pasture by asking the students what would be the first action they would have taken if they were the president of Fabricato? Students could respond to activities such as those summarized on Table 4:

Table 4

It's your first day as President of Fabricato, what would you do?
• Hire an external audit firm
• Call a large international consulting firm
• Conduct a study of the organizational climate
• Visit all company headquarters
• Meet with key customers and suppliers
• Visit banks to seek financing
• Find a nice apartment in the best area of Medellín

The actions indicated by the students in the Table 4 although reasonable do not attend the main problem that is to implement the changes as fast as possible. The literature addressing the issues of financial stress (Cirmizi, Klapper & Uttamchandani, 2010) highlights the fact that the longer it takes to implement the required changes, the greater the economic value is destroyed, hence there is a propensity to try to achieve agreements between the relevant actors rather than availing themselves of a bankruptcy regime.

After that, Teacher could continue the discussion by asking Why did Carlos Alberto begin his task by calling meetings to the various managerial teams of Fabricato instead of some of the actions that you suggested?

During the writing process of this case the authors had the opportunity to interview a group of managers who had participated in the restructuring of the company. Frequently the interviewees affirmed that both the diagnosis and the measures that Carlos Alberto de Jesús

subsequently recommended had somehow already been identified and discussed within the organization and in some cases even begun to be implemented.

For his part, Carlos Alberto de Jesus commented that he was already very clear what course of action he was going to implement even before he came to the company, given his knowledge of the textile industry and his experience in previous restructuring processes , which did not he knew to what extent his idea of what had to be done would be shared by the managerial group of Fabricato, so he felt it necessary to begin his management by very quickly involving the managers of each functional area in the definition of the action plan. At such meetings Carlos Alberto identified those who could form the line of resistance to his proposal.

As anecdotal fact, the different interviewees mentioned that those who were resistant to change belonged to the areas of activity where the restructuring was begun.

To the extent that the discussion is running out, instructor will take the opportunity to close this "pasture", highlighting the following takeaways:

- The faster the changes are implemented in a restructuring process, the greater the probability of preserving value. One of Carlos Alberto's early successes was to demonstrate that it was urgent to define a course of action to save the company from bankruptcy.
- Every restructuring process requires a leader who can articulate a plan of painful measures that corporate employees identify but are afraid to execute. Most often, restructuring leaders are recruited outside the organization. As an anecdotal fact, instructor can point out that the Nestlé company hired Ulm Mark Schneider as President of the company to begin his management in 2017, it should be noted that he was the company's first president in 92 years who had not previously worked in organization. At the time of writing this case Nestlé undergoes a process of reorganization with a view to reaching its goal of organic growth of 6% year-on-year, such goal had not reached in the three previous years (Atkins & Daneshkhu, 2017).

Instructor could begin the following "pasture" with the question: Which areas require more attention within a Fabricato restructuring plan?

First, instructor should clarify that it does not refer only to those elements that can be modifiable in the Excel worksheet supporting the case, but to all those thematic areas, that if properly addressed, would have a positive impact on the creation of value for the company

<u>THIRD DISCUSSION: What would be the main measures you would take if it were Carlos Alberto de Jesus? If the plan you are proposing is successful would you be able to stabilize financially Fabricato? What would be the estimated price of the action in this context?</u>

Students will try to answer the question indicated at the end of the previous "pasture" with answers like those presented on the left side of the Table 5 and Instructor will complement the variables that can be modified in the Excel sheet:

Table 5

Which areas should be addressed as a priority?	
1. Product Portfolio 2. Age or antiquity of plants 3. Business units abroad 4. Cost structure of products 5. Client portfolio 6. Product and Plant Compatibility 7. Geographical dispersion of the company 8. Idle assets 9. Number of employees 10. Bank financing 11. Financing providers	Change scenarios in Excel: a. Innovation b. GDP growth c. Accounts Receivable Days d. Inventory days e. Days of accounts payable f. Debt / Asset Ratio g. Rate of growth of cash flows in perpetuity h. Corporate tax rate i. Cost of debt

Teacher will require the students, insofar as they answer the question on the Table 5, to justify their answer with numerical information prepared previously or extracted from the Teaching Case.

For example, it would be expected that the one who mentioned bank financing would highlight the fact that in the last three years (2010-2013) the financial debt / assets ratio was cut in half.

Another example might be that the student who noted the vendor financing indicates how the days of accounts payable in the last two years were reduced from 44 to 35 days.

There will be a moment of discussion, after analyzing some examples of the students, where Instructor will note that unfortunately it is not possible to transfer to the projection and valuation model all the measures that could be implemented to improve the performance of Fabricato, due to normal restrictions in access to this type of information. However, several of the measures noted by students on Table 5 (left side) can be modeled in the **Students Template.xls** through the variables indicated on the right side of Table 5, as shown below:

Table 5 (continuation)

Which areas should be addressed as a priority?	
1. Products portafolio 2. Age or antiquity of plant 3. Business unit abroad 4. Cost structure of products 5. Client portafolio 6. Product and Plant Compatibility 7. Geographical dispersion of the company 8. Idle Assets 9. Number of employees 10. Bank Financing 11. Financing providers	Changes scenarios in Excel: a. Innovation b. GDP growth c. Accounts receivable days d. Inventory days e. Days of accontus payble f. Debt/ Asset ratio g. Rate of growth of cash flows in perpetuity h. Corporate tax rate i. Cost of debt

Instructor with the help of Table 5 (right side) will review with the students the assumptions with which the "Simulator" sheet of the file was designed Students Template.xls:

- **Innovation scenarios**: to sell more you need to invest more in Property, Plant and Equipment. When the student selects the level of innovation (Low, Medium or High) will reduce the Cost of Sales and increase the item of investment in Property, Plant and Equipment, which will have an impact on the Free Cash Flow of the business. The greater innovation, greater investment, higher sales, lower sales costs, but lower free cash flows, due to the impact of the investment.

- **GDP growth**: this variable allows the student to evaluate the impact of the economy's performance on the cash flows of Fabricato. Instructor should remind students that the model allows modeling the growth rate of GDP, this is only allowed for the student to see the impact of changes in the economy on the price of the action, however, this is a variable on which managers do not have any level of incidence as its determine by the economy by itself.

- **Working capital**: students can affect working capital levels by modifying the rotations of inventories, accounts receivable and accounts payable. When making changes, Instructor will point out the challenges of making the items mentioned more efficient, for example, to improve the collections not only contemplates trying to monitor the payment of customers, it may also be necessary to solve problems of quality control which cause customers to receive defective orders and delay payments pending the resolution of such situation. In addition, variations in working capital must be consistent with industry practices.

  - Levels of leverage: Students can play with the Debt / Asset and Capital / Asset ratios as leverage ranges are consistent with those in the industry. It is important for the Instructor to note that Fabricato is a company with a low level of indebtedness for a set of reasons previously explained in the Teaching Case. As the Debt / Asset +

Capital / Asset ratio is always equal to 1, when setting Capital / Asset in the model, the other financial ratio is automatically set.

The number of outstanding shares, share on circulation, changes with the level of indebtedness. When the company has a level of indebtedness of 6% (Debt / Assets) the number of shares outstanding is 9,202 million shares, as is the case in real life, when the debt level is increased the number of shares in circulation is reduced to be consistent with the fact that the more debt there is there should be less capital.

-**Cost of debt**: by the time this simulation model was developed the Colombian companies could borrow by paying interest rates between 11% and 17%. However, this rate can be modified to give more flexibility to the simulation.

- Corporate tax rate: by the time this simulation model was elaborated, the corporate tax rate of Colombian companies was 34%. However, this rate can also be modified to give more flexibility to the simulation.

- Rate of growth of cash flows in perpetuity (g): to give a value to cash flows that are not calculated explicitly (year 2019 to infinity) a perpetuity is used increasing at rate g. Instructor can discuss both the value of g and its impact on the share price.

<u>General assumptions:</u>

- **Sales projection:** are a function of the growth of the Colombian economy and the impact of investment in technology to make production processes more efficient. With this simulation algorithm, the authors of the case tried to capture two elements present in the world textile industry. The first one, the propensity to automate more and more productive processes and the second associated with the performance of the local economy. When the local economy grows, so does the purchasing power of customers, but the local currency tends to be revalued, which stimulates the growth of formal and informal imports from countries like China and India, thus multiplying the percentage of GDP growth by a factor that softens the growth in sales (0.5%). The formula for sales would be:

Sales = (0,5% * GDP Growth + Innovation Effect) *Sales Previous Period

Cost of Sales: 80% of sales (industry average) minus the effect of innovation factor depending on the scenario chosen by the student. Where the cost of sales consists initially of: 50% cotton cost, 20% labor, chemicals 15%, 5% spare parts and 10% energy, steam and water; these levels will be reduced depending on the innovation scenario for each year in different proportions for each[15].

- **CAPEX:** Innovation factor multiply by sales.

[15] To see more detail of the impact of the innovation scenario on costs you can check the "Calculator" sheet of the file Students Template.xls.

- **Administration and Sales expenses**: it is 17% of sales (industry average).
- **Depreciation**: is 4% of sales.
- **Cash:** 1.2% of sales.
- **Other income**: 4% of sales.
- **Accumulated expenses**: 30% of the expenses in operations.
- **Taxes payable**: 3% of sales.

File Dynamics in Excel Students Template.xls.

When you enter the independent variables in the "Simulator" the file **Students Template.xls**, the Financial Statements (Statement of Financial Position and Income Statement) and Free Cash Flows are projected automatically and the WACC is calculated according to the procedure described in NE-Annex 1 and the Fabricato share price is calculated.

Identification of value drivers

Given that students as part of their pre-class assignment have already made changes to **Students Template.xls** for themselves, in order to present a proposed action plan, Instructor will ask what action price they obtained and what combination of parameters in the sheet allowed them to reach that price. After that, Instructor will write on the board the highest and lowest prices and the combination of variables that allowed them to reach those variables.

To begin the dynamics of identification of value generators all students will return to work in the **Students Template.xls**, starting from the initial conditions of the case, which yield a share price of $ 7.83:

NE-Chart 2. Initial Variables

MODEL INPUTS	2014	2015	2016	2017	2018
Growth Scenario	A	A	A	A	A
GDP Growth	1%	1%	1%	1%	1%
Receivables Turnover (Days)	67	67	67	67	67
Payables Turnover (Days)	35	35	35	35	35
Inventories Turnover (Days)	75	75	75	75	75
Financial Leverage	94%				
Estimated future cash flows growth (g)	1%				
Cost of debt	17%				
Corporate tax rate	34%				

Source: Own elaboration

a) Accounts receivable:

The analysis of the value generators will begin, increasing the turnover of accounts receivable, leaving the rest of the variables constant. Three scenarios were considered, the first one being the days of initial accounts receivable, in the second these days were gradually reduced to approach the industry average and in the third, abruptly it reaches the average of the industry and remains in the five years. The following results will be obtained::

NE-Chart 3. Sensibility of Accounts Receivable

MODEL INPUTS	2014	2015	2016	2017	2018	Stock price
Receivables Turnover (Days)	67	67	67	67	67	7.83
Receivables Turnover (Days)	65	63	60	57	55	8.84
Receivables Turnover (Days)	50	50	50	50	50	9.23

Source: Own elaboration

b) Inventaries:

It will increase the rotation of the inventories, leaving the rest of the variables constant. There were three scenarios, in the first one the days of initial inventories are maintained, in the second these days were gradually reduced to approach the industry average and in the third, the industry average is abruptly reached and is maintained in the five years. Might get the following results:

NE-Chart 4. Sensitivity Inventory Days

MODEL INPUTS	2014	2015	2016	2017	2018	Stock price
Inventories Turnover (Days)	75	75	75	75	75	7.83
Inventories Turnover (Days)	73	72	70	68	65	8.60
Inventories Turnover (Days)	60	60	60	60	60	8.75

Source: Own elaboration

c) Accounts payable:

Continuing, the turnover of accounts payable will be reduced, leaving the rest of the variables constant. Three scenarios were considered, the first one being the days of initial accounts payable, the second gradually increasing the days to approach the industry average and in the third, abruptly reaches the average of the industry and remains in the five years. The following results will be obtained:

NE-Chart 5. Sensitivity Days of accounts payable

MODEL INPUTS	2014	2015	2016	2017	2018	Stock price
Payables Turnover (Days)	35	35	35	35	35	7.83
Payables Turnover (Days)	37	40	43	45	50	9.04
Payables Turnover (Days)	55	55	55	55	55	9.06

Source: Own elaboration

Students should note that by improving the efficiency of accounts receivable and payable, a similar improvement in the share price is achieved, especially the efficiencies in accounts receivable days, therefore both variables are higher value generators to the variable rotation of inventories.

These are very specific results of Fabricato and its cost structure and should not be inferred as universal.

d) Innovation Scenarios

Instructor will remind students that when investing more, a dual effect is achieved: greater production capacity and reduction of the cost of sales over sales. The following chart shows how the share price increases because of innovation:

NE Chart 6. Sensibility of Innovation Scenarios

MODEL INPUTS	2014	2015	2016	2017	2018	Stock price
Growth Scenario	A	A	A	A	A	7.83
Growth Scenario	B	B	B	B	B	8.77
Growth Scenario	C	C	C	C	C	9.70

Source: Own elaboration

This variable shows how important it is for Fabricato to maintain an investment policy in Property, Plant and Equipment that allows it to be at the forefront of the technology of the world textile industry. Instructor must tell students that in the case it is said that the textile industry tends to be intensive in investment in fixed assets which allows you to reduce costs and optimize production times.

e) Impact of indebtedness

Instructor will review with students how the Weighted Average Cost of Capital (WACC) is calculated, which calculation is already included in the "FCF" sheet of the Excel file Students Template.xls.

Once students are familiar with the WACC formula they may be asked to recalculate such opportunity cost using Capital / Asset ratios ranging from 0.96 to 0.10. Students should be made aware of two very specific facts. The first one, that the value of a business increases with the level of leverage, as evidenced in the following table; the second, that the capital or stock β also grows with the level of leverage, which reinforces the idea that the higher the risk the higher the return, and undoubtedly a more indebted company generates greater profitability to the shareholder on a lower level of investment but makes it more fragile financially, because in extreme scenarios where not enough cash is generated to meet debt service creditors could take control of the company

It is important to note that we work with a wide range of levels of leverage only to show the relationship between financial leverage and the economic value of the company. It is a well-known that the possible levels of leverage depend on how tangible the assets and the availability of resources are in the financial markets of a country, so a Debt / Asset level of 0.90 is not feasible for an industrial company as Fabricato. Although the level of leverage of its competitors is very variable (see Exhibit 12) it is worth noting that the industry's average indebtedness is substantially higher, due to the reasons already set out in the Case.

File Students Template.xls allows to verify if the increase in the level of indebtedness increases the total value of the company, decreases the investment of the shareholder and increases its profitability. This is a numerical check of Miller & Modigliani (1963), in a world where there are corporate taxes and debt is risk free. The following is a summary of the sensitivity when making changes in the Capital / Asset Ratio[16]:

NE Chart 7. Indebtedness Sensibilty

[16] Capital / Assets + Debt / Assets = 1.

MODEL INPUTS Level of Financial Leverage	Firm value	Equity value	Debt Value	ROE	Stock price
94%	76,644	72,045	4,599	23.66%	7.83
50%	83,336	41,668	41,668	30.83%	8.51
30%	86,818	26,045	60,773	41.04%	8.87
10%	90,629	9,063	81,566	92.09%	9.26

Source: Own elaboration

f) Other variables subject to change:

The model also allows to change:

- The corporate tax rate

- The rate of the cost of debt

- The GDP growth rate

- The growth rate of cash flows in perpetuity (g)

Since the above variables do not depend on managerial decisions, no results of possible simulations are presented. However, Teacher could modify them to illustrate the impact they might have on the assessment in case of presentation.

It is important to remember that "g" can never be greater than WACC, as will be explained in the next section.

Criteria for defining the rate of growth of cash flows in perpetuity (g)

It is normal if students ask how many years to project the Cash Flows in any business valuation and how to set the rate g (growth rate of free cash flows in perpetuity). It should be noted that n is set by the assessor by taking information from the environment or following the customs of any economic sector, for example, commercial real estate investments are evaluated in the periods of 25 to 30 years; there are situations where n is defined exogenously, as is the case of concessions in the oil industry where those who enjoy such privilege have a predefined number of years to execute the business activity

Variable g is defined by the product of:

g = Retention (Withholding) ratio × Return on retained earnings

Where the retention ratio is the percentage of profits that are reinvested in the business and the return on retained earnings is nothing more than the opportunity cost of the shareholder.

The instructor will mention that the above equation can be used when relevant historical information exists; It should also warn students of the dangers of overestimating the value of a going business if the value of g is excessively large. A g value of 25% is unsustainable over time as no activity can grow at that rate indefinitely

It is suggested to invite students to discuss the impact that perpetual value can have as a percentage of the total value of the business in progress. It is worth mentioning that in very conservative valuations is assumed equal to zero. In the case of Fabricato can work with g

values ranging from 1 to 3% to reflect the fierce competition between domestic production and export.
Teacher with the help of Table 6 will open a brief discussion on what type of discount rates to apply in the various occasions when an organization evaluates the relevance of an economic proposal.

Table 6

Discount Rate
• Profitability of assets • WACC When to use one or the other?

Organizations use the required return on assets when assessing whether a business proposal, such as expanding a production line or launching a new product, creates value, regardless of funding sources.

The Weighted Average Cost of Capital (WACC) is used when the amount of the investment to be considered is important enough to go to the capital markets to raise fresh money and eventually could change the existing capital structure.

When the business proposal is of great magnitude as in the case of the merger between brewers Anheuser-Busch and SABMiller in November 2015, in which Anheuser had to acquire financing in the order of 80 billion USD to complete the operation, the WACC would have to be recalculated to reflect the capital structure of the new company arising from the merge. Prior to the merger, these companies had long-term debt of USD 8.7 million (SABMiller) and USD 51.5 billion (Anheuser).

In the case of Fabricato is presented the calculation of the profitability of the asset and WACC so that Teacher is free to delve into this subject as much as the level of preparation of the audience allows.

Once students understood the impact of different families of variables (working capital, innovation, indebtedness) Teacher will request a new model execution in Excel file **Students Template.xls**, where all variables take the ideal levels. Results similar to the following will be observed in the sheet:

NE Chart 8. Sensibility of ideal levels

MODEL INPUTS	2014	2015	2016	2017	2018
Growth Scenario	C	C	C	C	C
GDP Growth	1%	1%	1%	1%	1%
Receivables Turnover (Days)	50	50	50	50	50
Payables Turnover (Days)	55	55	55	55	55
Inventories Turnover (Days)	60	60	60	60	60
Financial Leverage	70%				
Estimated future cash flows growth (g)	1%				
Cost of debt	17%				
Corporate tax rate	34%				

Source: Own elaboration

NE Chart 9. Summary with ideal levels

SUMMARY	2014	2015	2016	2017	2018
Stock Price	**13.81**				
Cash Flow	69,920	10,690	15,225	19,908	24,743
COGS/Revenues	78.08%	76.21%	74.39%	72.62%	70.90%
Projected CAPEX	8,271	8,519	8,775	9,038	9,309
Net profit	2,009	6,272	10,675	15,220	19,914

Source: Own elaboration

The value of the stock depends on strategic management of variables associated with working capital, investment in technology and financial leverage as expected.

Fabricato has a cost of sales well above its industry, composed of 50% for the cost of cotton, 20% labor, chemicals 15%, 5% spare parts and 10% energy, steam and water. To achieve a reduction in this cost is necessary to be efficient in the use of its components, part of these improvements comes thanks to the automation of processes, which involves investments in CAPEX and another part, the most appropriate management of raw material inventories, products in process and finished products.

The measures taken by Carlos Alberto de Jesus and his management team in the weeks following his arrival in Fabricato of one form or another pointed to reducing the size of cost of sales. By reducing international operations, the range of products, the number of plants in operation was intended to reduce investment in working capital and expenses associated with a large number of employees and workers.

As stated in the case: "In the following week of the arrival of Carlos Alberto, the team of eight Vice-Presidents was reduced to three; the home product line was eliminated; closed the distribution offices in other countries which consumed working capital reflected in slow-moving inventories and accounts receivable that did not charge and in taking that measure assumed losses for 10 million dollars; the marketing channels in Colombia were restructured, losing even more money; the operations were concentrated in two plants (Bello and Riotex) and it was decided to differentiate the products from the finishes, so the catalog changed to make it much more modern and attractive.

(...) "They learned to work without working capital, reaching new agreements with suppliers such as the exchange of raw materials for fabrics and in some cases the financing of machinery."

To the extent that Fabricato presented financial problems since the mid-1980s (Annex 4) it was never able to take advantage of the impact of financial leverage on creating shareholder value.

Although Fabricato has always tried to keep the property, plant and equipment as up to date as possible, the weight of these assets over total assets is well below the rest of the industry, suggesting that they were not always able to make acquisitions they would have wanted if they had the availability of the resources.

Finally, Teacher will close the discussion of this last "pasture" by asking the students what they think may be the main lesson (or takeaway) extracted from the analysis of this company. In this regard, it may be noted:

- The modeling of the cash flows of a company allows identifying the key variables in the creation of value of the corresponding industrial sector.
- The textile industry creates value through a combination of trend technology that allows it to manage adequate levels of cost of sales and for that it requires resources that are generated internally, if the company is profitable, and / or through borrowing that is obtained only if the creditors see potential business.
- To the above factors is added important to add complex reality that the managers of this type of corporations should understand, that in the case of the textile industry is associated to the presence of great international competitors that handle volumes of production that allow them to have very unitary costs combined with high contraband, money laundering and revaluation of the local currency.
- Finally, Fabricato is viable if the plan conceived by Carlos Alberto de Jesus is executed in all its extension.

VI. Epilogue

Although Fabricato since November 2013 has developed a strategy of differentiation by focusing its production on fabrics with high added value (fabrics for large brands and for endowment), covering niches that were not attack aggressive by the big competitors, the result of this strategy is materialized in positive net profits as of 2015, as can be seen in the following chart:

NE Chart 10. Income Statement Extract of Fabricato

FABRICATO
Consolidated Statement of Income
Millions of COP

Year	2014	2015	2016
Net sales	337,039	366,263	385,760
Cost of goods sold	(316,665)	(318,947)	(339,697)
Gross profit	**20,374**	**47,316**	**46,063**
Other revenues	17,634	18,682	15,769
Logistic expenses	(3,476)	(2,286)	(3,380)
Administrative and selling expenses	(15,944)	(15,817)	(14,317)
Employee benefits expenses	(19,716)	(17,002)	(18,941)
Impairment losses	(5,376)	(1,673)	13,557
Others expenses	(14,042)	(12,274)	(21,048)
Operating income (loss)	**(20,546)**	**16,946**	**17,703**
Foreign exchange balance, net	(160)	244	636
Interest revenues	1,537	1,205	1,207
Interest expenses	(18,550)	(15,561)	(20,648)
Equity method	-	32,593	-
Income (Loss) before taxes	**(37,719)**	**35,427**	**(1,102)**
Income taxes	(3,655)	(1,953)	1,864
Net income (loss)	**(41,374)**	**33,474**	**762**

Source: Annual Reports Fabricato (2014-2016)

However, threats from a hostile environment remain present. Fabricato suspended operations of its plant between August 26 and September 10, 2017, to avoid continuing to accumulate inventories of finished products, faced with a considerable drop in sales as part of a slowdown in the Colombian economy.

The next day after the announcement of the suspension the share price fell by 15.67% over the previous day, from $ 13.30 to $ 11.30.

The Cámara Colombiana de la Confección that includes Fabricato and other national textile companies have been pressing for several years the Colombian government to establish measures to reduce technical smuggling that allows to introduce to the country merchandise much cheaper than the produced at a national level.

In addition, 10% tariffs on imported yarns by these companies to manufacture part of their fabric production make domestic firms even less competitive.

Although the announcement of temporary closure was accompanied by very negative press reviews, its directors have once again received special support from their customers and suppliers.

Fortunately, the real estate project that the company planned to carry out on plant lands that were closed during the restructuring has been developing normally and expects to generate an estimated total flow of 162,000 million pesos over 10 years.

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NE Exhibit 1

a. Calculation of the cost of opportunity of Fabricato without debt

Although Fabricato is listed on the stock exchange and therefore there should be a measure of the β of the company's shares, the Colombian capital market is not very liquid and its profitability is very variable (see NE Exhibit 2) so that companies do not use the risk measures derived from the application of the Capital Asset Pricing Model (CAPM) with data from the Colombian market, considering them biased estimates of this model. For this reason, we make the calculations that apply to companies that are not listed on the stock exchange as shown below:

$$(1)\ \beta Assets = \frac{D}{V}\ \beta Debt(1 - T_c) + \frac{C}{V}\ \beta Capital, \text{ were}$$
$$Value\ of\ Company\ (V) = Capital + Debt$$

It is common practice to assume that the β of debt is zero, which is to say that companies issue debt that is free of risk, a fact that is far from being true, but since there are no sources of β calculations of debt, for agility those who are dedicated to valuing business in progress always use this assumption. Thus, equation (1) becomes:

$$(2)\ \beta Assets = \frac{C}{V}\ \beta Capital$$

The financial theory assumes that companies that are engaged in the same activity using the same technology should have the same β of assets; therefore, we identified three US companies whose main activity is the production of fabrics. This information was used to calculate an average β of the assets of that sector. To use equation (2) we need to find the C / V relationship as the previous step by proposing the following system of equations:

$$\text{(I)} \qquad C + D = V, \text{ were}$$

$$\text{(II)} \qquad \frac{C}{V} + \frac{D}{V} = 1$$

$$\text{(III)} \qquad \frac{D}{C} = \alpha\ (know\ number)$$

Replacing (III) on (II), we obtained:

$$\text{(IV)} \qquad \frac{C}{V} = \frac{1}{1+\alpha}$$

The average β of the assets of the sector is calculated using information from the reference companies indicated in Chart 11. The following table shows the calculations:

NE-Chart 11. Asset β Calculation

	β stock	Debt/Equity (D/E)=α	C/V=$\frac{1}{(1+\alpha)}$	β of assets
Albany International Corp.	1,96	0,28	0,78	1,53

Unifi, Inc.	0,35	0,22	0,82	0,29
Crown Crafts, Inc.	0,40	0,00	0,00	0,40
β average of asset				**0,74**

Source: Own elaboration based on Yahoo Finance

Calculation of asset return using CAPM for the US

Applying the analytical expression of the Capital Asset Pricing Model:

$$(1)\ E(r_i) = r_f + \beta_i(r_m - r_f)$$

From the Damodaran (2016) statistical series it was choos an r_f of 5,03% (T.bills 10-year,10-year historical average) and r_m of 8,65% (S&P 500,10-year historial average). In this way, the value of $E(r_i)\ is$:

$$(1)\ E(r_i) = 5{,}03\% + 0{,}74(8{,}65\% - 5{,}03\%) = 7{,}71\%$$

This is the required return on assets in the US, so it is necessary to "tropicalize" it to Colombia, for which one of the corrections proposed by A. Damodaran (2016):

$$\mathrm{E(r_i) = r_f + \beta_i(ERPC)}$$

Where ERPC = Equity Risk Premium Including Country Risk. Damodaran proposes in its working paper, mentioned above, three different ways of incorporating country risk in the measurement of the risk premium of the stock market. The first of these will be used, based on the fact that the Republic of Colombia has sovereign debt securities denominated in dollars.

To calculate Colombia's risk premium, the methodology proposed by Damodaran was followed::

1) Estimate the market risk premium for a mature market (USA) in force at 2013, at which time the Fabricato evaluation is made, which is 5.80%.
2) Among the data base we search for the *spread*[17] corresponding to Colombia, which for the referred date was 300 basis points (credit rating: Baa3 according to Moody's).
3) Since this is a measure of risk was inferred from the debt market and what is sought is a risk premium for the stock market, it was assumed that the stock market is 1.5 times more volatile than the debt market[18]. When multiplying the *spread* of point 2 by 1,5 we obtained the risk country premium for Colombia in 2013 of 450 basis points.
4)) Finally, Colombia's risk premium is added to the risk premium of a mature market (step 1) and the risk premium of the Colombian stock market is corrected by country risk: 5.80% + 4, 5% = 10.30% (1,030 basis points).

[17]Spread is understood as the differential of return between a sovereign bond of any country versus the yield of a sovereign bond free of risk.
[18] Damodaran (2015)

Subsequently, by substituting in formula:

$$E(r_i) = r_f + \beta_i(ERPC)$$

$$E(r_i) = 5{,}03\% + 0{,}74(10{,}30\%) = 12{,}65\%$$

This is the required return in dollars for the assets of Fabricato in Colombia.

To bring the previous return to Colombian pesos, it is necessary to extract US inflation and add Colombian inflation by the following formula:

$$(2)\ \ (1 + r_N) = (1 + r_R)(1 + \pi)$$

Where r_N the nominal return of any financial security or investment project, r_R is the real return of any financial title or investment project and π is the inflation of the country in whose currency the returns are reported. In this case US inflation in 2013 was 1.47%, the nominal return on the Fabricato assets calculated in the previous section is 12.65% and it is desired to obtain the real return in dollars in Colombia. By replacing:

$$(1 + 0{,}1265) = (1 + r_R)(1 + 0{,}0147)$$

$$r_R = \frac{(1{,}1265)}{(1{,}0147)} - 1 = 11{,}02\%$$

To add Colombian inflation, we again apply equation (2), where inflation in Colombia for 2013 was 1.94% and the unknown variable is the nominal return on assets in pesos:

$$(1 + r_N) = (1 + 0{,}1102)(1 + 0{,}0194)$$

$$r_N = (1{,}1102)(1{,}0194) - 1 = 13{,}17\%$$

It is very common, that some companies add to the profitability of the assets an illiquidity premium. In the case of Fabricato we consider this premium important because the stock has dramatically lost liquidity following the Interbolsa scandal (See NE Exhibit 3). As a result, we add an illiquidity premium of the order of 10%:

$$r_N = (1{,}1102)(1{,}0194) - 1 + Iliquidity\ Premiun = 13{,}17\% + 10\% = 23{,}17\%$$

The **Students Template.xls** file discounts the free cash flows of Fabricato using the profitability of the assets so that it finds the value of a company without debt.

Teacher should note that parameters such as r_f and r_m will vary depending on the source consulted to estimate them. Also, there are two ways to determine the β of the assets, the first one is deleveraging the β of the shares of the competitors as we did in the previous section. The second, using the β of assets of the industrial sector proposed by Damodaran; in this case, it would be necessary to decide whether to consider the segment of emerging markets to which Colombia belongs, or to work with a global asset β for the textile industry[19].

[19] Damodaran collects assets and shares of a huge variety of economic sectors organized by regions (USA, Europe, Japan, Emerging Markets and Global) on its New York University website.

Instructor should remember that A. Damodaran annually updates this information and should mention that the β of both stocks and assets are not stable over time.

Also, Teacher can devote a space within the discussion to highlight the impact of local inflation on opportunity cost when cash flows are calculated in local currency.

b. Calculation of the cost of opportunity of Fabricato with debt

Fabricato is financed from local sources of funds, which is why we calculate the weighted average cost of capital in pesos.

Teacher will present the formula of the weighted average cost of capital (WACC):

$$WACC = \frac{D}{V} r_d (1 - T_c) + \frac{C}{V} r_c, where\ V = C + D; \text{ in this case } \alpha = 0{,}0544$$

$$\frac{C}{V} = \frac{1}{1+\alpha} = \frac{1}{1{,}0544} = 0{,}94\ y\ \frac{D}{V} = 0{,}06$$

Given that, $\beta Assets = 0{,}74$ (previous section) y $\frac{C}{V}$=0,94 for Fabricato, we got that βAssets or share is $\frac{0{,}74}{0{,}94} = 0{,}79$ (β Re leveraged)

Recall from the case that Fabricato was indebted in pesos with the local commercial bank at the rate of 17% and that the corporate income tax rate used in business valuations is 34%. To calculate the WACC all that is needed is to estimate the profitability required by the shareholder in local currency.

From the tropicalized CAPM calculated from the previous section, it´s obtained that:

$$E(r_c) = 5{,}03\% + 0{,}79(10{,}30\%) = 13{,}17\%$$

13.17% is the dollar yield for the shareholder of a fabric company in Colombia. It is recalled that this number includes a country risk correction proposed by A. Damodaran.

As the company evaluates its businesses in pesos we must transform the profitability of capital to local currency. To do this, we must extract US inflation and add Colombian inflation, using inflation data from the US (1.47%) and Colombia (1, 94%), we have:

.

$$(2)\ (1 + r_N) = (1 + r_R)(1 + \pi)$$

$$(1 + 0{,}1317) = (1 + r_R)(1 + 0{,}0147)$$

$$r_R = \frac{(1{,}131)}{(1{,}014)} - 1 = 11{,}53\%$$

To add Colombian inflation, we re-apply equation (2):

$$(1 + r_N) = (1 + 0{,}1153)(1 + 0{,}0194)$$

$$r_N = (1{,}1153)(1{,}0194) - 1 = 13{,}69\%$$

Where, 13.69% is the profitability required by the shareholder of Fabricato in local currency. As in the previous point, an illiquidity premium of 10%:

$$r_N = (1{,}1153)(1{,}0194) - 1 + Iliquidity\ Premium = 13{,}69\% + 10\% = 23{,}69\%$$

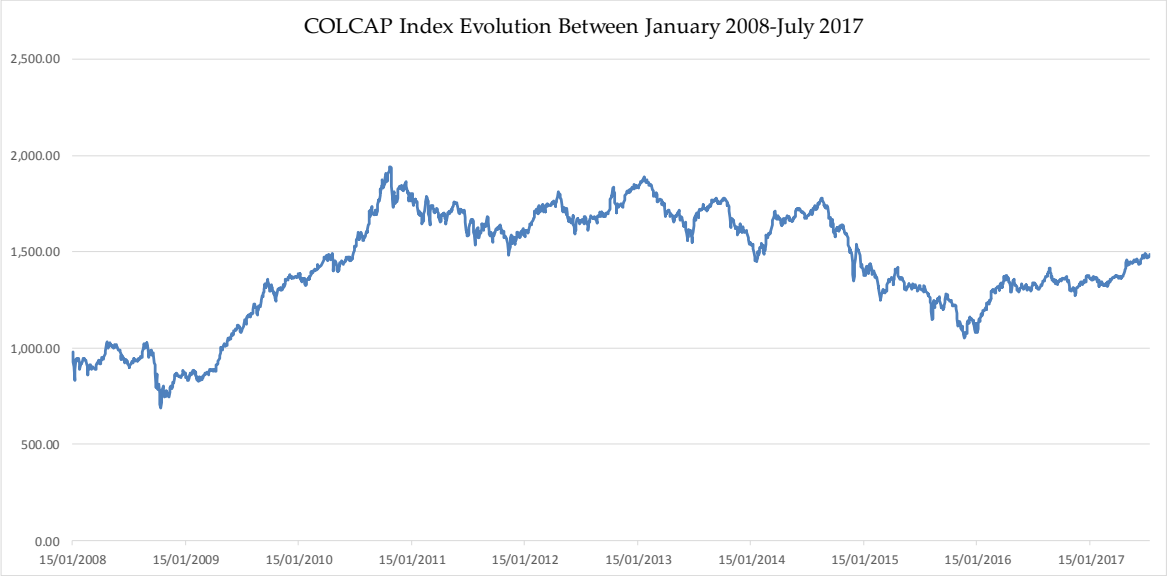
By replacing the previously calculated values in the WACC formula, you have:

$$WACC = \frac{D}{V} r_d (1 - T_c) + \frac{C}{V} r_c$$

$$WACC = (0{,}06)(0{,}17)(1 - 0{,}34) + (0{,}94)(0{,}2369) = 22{,}94\%$$

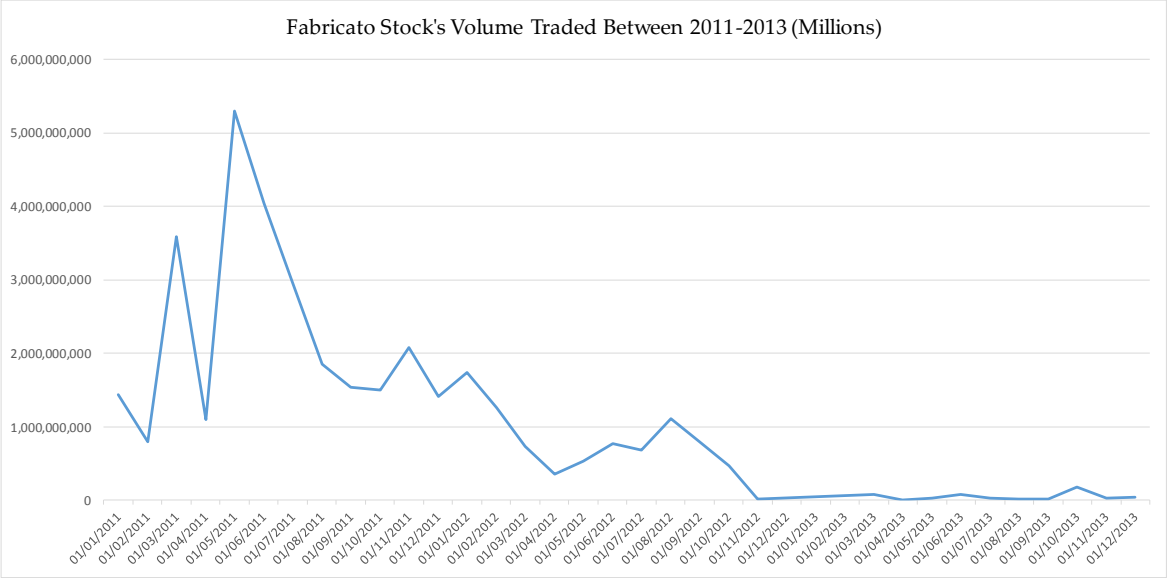
When discounting the free cash flows from the file in the **Students Template.xls** "FCF" sheet to a WACC of 23%, it is obtained that the value of Fabricato is $ 70,197 million pesos, of which correspond to the debt on 6 ($ 4,212 million pesos) and the remaining 94% ($ 65,985 million pesos).

NE Exhibit 2



Source: Own elaboration based on Banco de la República

NE Exhibit 3



Source: Own elaboration based on data from Bloomberg