

FINANCIAL LEVERAGE AND VALUE CREATION BY TEXTILE MANUFACTURING SMEs IN THE CITY OF BOGOTÁ

Julio Cesar Ducón Salas
Universidad De La Salle
jcducson@unisalle.edu.co

Andrea Cely Torres
Universidad Santo Tomas
lucycely@usantotomas.edu.co

Abstract

Given that the fundamental purpose of any company is to grow and endure, external financing is considered, by definition, as a means to achieve short and long-term objectives. However, the input of these resources is often used to cover deficit situations, which does not always improve company results or achieve the objectives set. In this context, this article presents an analysis of the financial leverage of five textile manufacturing companies and their relationship with a group of risk indicators, and analyzes how this relationship was characterized by a group of financial and operational drivers. The analysis was carried out using a quantitative approach based on the financial statements of the companies, which served as the input for the study. The research process concluded that leverage, contrary to what was expected from the selected sample, was more related to negative results than to capital growth—which is corroborated through the characterization using the financial and operational drivers.

KEYWORDS: Correlation, Economic Growth, Financial Institutions, Manufacturing Industry.

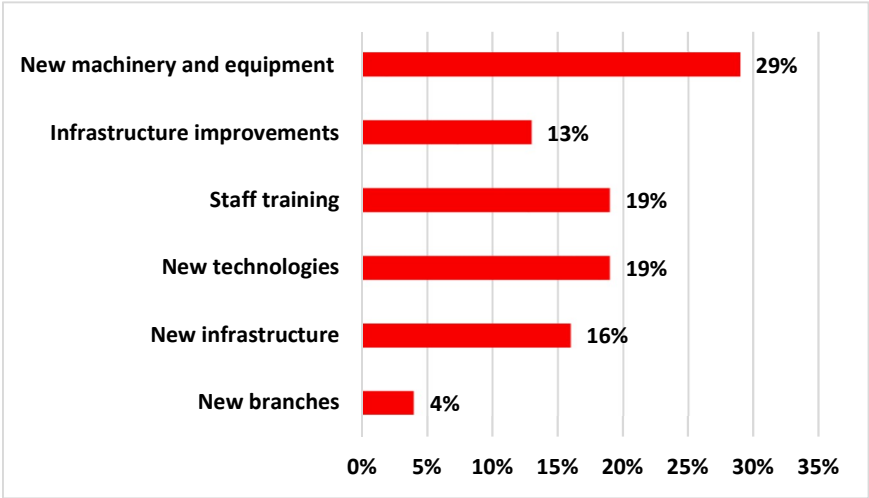
Introduction

Among the most sensitive financial decisions that organizations have to make are those related to financing. These decisions, rationally, must go beyond the mere pursuit of credit or access thereto since financing can comprehensively affect results in terms of short- or long-term performance.

Credit ratings, for individuals and businesses alike, are important due to their influence on reputation and good standing, and require management conducive to maximizing income given that their effects and/or implications, positive or negative, can determine organizational success or failure.

Colombian organizations, like those in any part of the world, are not exempt from the need for financing, whether due to deficit or strategy, and require capital to finance their operations or investments. For instance, according to a survey of business performance conducted by the Colombian Association of Micro, Small, and Medium-Sized Enterprises (ACOPI) in the first quarter of 2019, 29% of businesses that had made investments during that period did so in new machinery and equipment, 19% in both staff training and new technologies, and 16% in construction of new infrastructure (ACOPI, 2019, pág. 13).

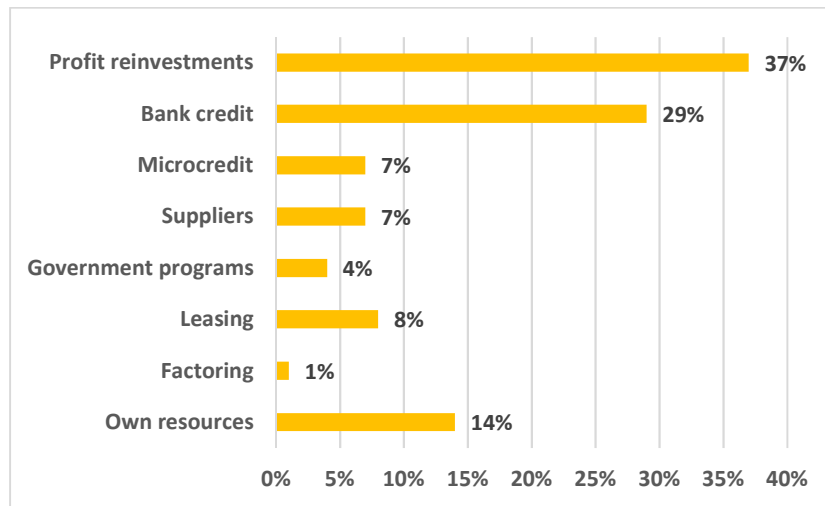
Figure 1: Allocation of investment, First Quarter 2019



Source: ACOPI (2019)

As to the sources of financing utilized for these investments (see Figure 2), the survey found that 37% of companies reinvested their profits, while 29% utilized bank loans, 7% drew on microcredits; 7%, capital providers; 8%, leasing; 14% continued using their own capital; and 4% took advantage of government programs (ACOPI, 2019). Thus, when it comes to the structure of dept/capital, companies finance themselves using their own capital through reinvestment of profits and capital contributions.

Figure 2 Sources of SME financing, First Quarter 2019



Source: ACOPI (2019)

According to the Index of Industrial Production (IPI) recorded by the National Administrative Department of Statistics (DANE), which is used to estimate the short-term evolution of the industrial sector, Colombian production has exhibited an annual variation of 3.2% and, in the first quarter of 2019, of 3.1% (DANE, 2019). This is favorable taking into account the Colombian economy's current climate of uncertainty due to political, social, and multiple other factors. In the case of the Colombian textile industry, which has traditionally been important for the country in terms of job creation, contributions to gross domestic product (GDP), and properties such as innovation, design, and quality, among others, this index has also behaved favorably, with an annual variation of 2.7% and 1% in the first quarter of 2019. This is particularly significant when it is recalled that it accounts for 6% of GDP and 24% of employment in Colombia.

Among the factors that have boosted expectations regarding the future of the textile industry is the increase in the use of installed capacity and the confidence that its activities generate (Inexmoda, 2018). However, textile production has been affected by multiple factors such as contraband (which is not a new problem), the liberalization of the national market through trade agreements and treaties that have compounded the risks for companies of different sizes throughout the country, and competition with major world powers such as China and India.

In this context, the article is an outcome of research on the effects of financial leverage in the textile manufacturing industry in Bogotá based on financial statements reported to the Superintendency of Corporations (Supersociedades) by five small and medium-sized enterprises (SMEs) between 2013 and 2017. The methodological process, which will be described later, is based on a quantitative approach that enables a correlational analysis in order to determine the impact of financial leverage on the value drivers and return indicators of the companies in the sample.

The first part of the article proposes the theoretical references that serves as a foundation for the conceptualization, interpretation, and analysis of the results. Next the methodological

process is described and the results are presented in three parts: company risk analysis based on financial indicator; leverage situation; and financial and operational drivers. The final section determines the correlation between the aforementioned factors and presents some conclusions on this basis.

Conceptual References

To meet their organizational targets and purposes, economic agents often need to avail of third-party financing to meet their capital resource needs, given that they cannot always rely on own capital.

On a day to day basis, businesses seek mechanisms through which to ensure their operational continuity, and this means continuing to run without entering into insolvency. One of the strategies companies often turn to is leverage, which related to an organization's capacity to generate income by optimizing the usage of fixed assets and financing. This yields the significant advantage of boosting profits, which, according to Moreno (2002), is an operational or financial attribute based on the utilization of the debt-to-equity ratio.

A company's financing is grounded in two factors: on the one hand, it is elementary for making investment decisions; and on the other, it illustrates the need for capital (Casanovas, 2013). For Casanovas and Bertran (2013, pg. 27), investment and financing decisions are reflected in the share prices of all listed companies and in debt securities such as bonds or debentures if they are listed on a secondary market. But in the case of companies that are not listed, these decisions are reflected in their value, which reflects their importance.

Thus, what constitutes a sufficient volume of finance is defined primarily by a company's needs. These can be classed as permanent, with regard to those that are constantly present, related to noncurrent assets (Casanovas, 2013), and therefore represent the investment-financing cycle, which is based on the useful life of the asset and its recovery. There are also temporary needs, whose primary characteristic is their transience or seasonality. There are therefore viewed in a short-term context and are composed of four stages: provisioning, production, sales, and collection.

For several authors, among them Vera (2010) and Casanovas and Bertrán (2013), short- and long-term sources of financing correspond to the acquisition of finance from partners or shareholders and third parties, and can include self-financing through retained earnings, financing through sales, reserves, contributions of new partners, and the role of capital providers in financial intermediaries, among others.

Table 1: Sources of financing

Classical conception	According to origin of source		Modern concept
External self-financing	Endogenous	Internal financing	With own capital

Internal self-financing	Exogenous	External financing	Direct with borrowed capital
Borrowed capital	-	-	Indirect

Source: (Casanovas, 2013).

The notion of an instrument (lever) used to increase the strength of an object at the cost of greater movement gives rise to the term “leverage” in the field of financing, in that internal or external sources of finance can maximize the owner’s expected earnings at the cost of greater risk (Higgins, 2004, pág. 160). Financial leverage can take two forms: **1) Operating**, when a company has higher fixed costs and lower variable costs per unit (Sapag, 2007) and **2) Financial**, when the company takes on debt to finance a project, assuming responsibility for interest payment regardless of the behavior of its sales, and so the payment has fixed-cost status (Sapag, 2007). In other words, the debt is used to increase the capital available to invest.

In the event that the source of financing is external, own sources of finance can be substituted for the generation of a fixed cost (when uniform payments are incurred) and an increase in earnings for investors. For Robert Higgins (2004), among the most salient motives for leverage using external sources of finance is the need for greater operating income in order to cover the fixed financial cost and the break-even point and, in turn, improve the return for investors. These sources of finance drive return on equity (ROE), causing the fluctuations in investment return to become more sensitive. As a result, exposure to financial, operating, and credit risks increases (Bodie & Merton, 2003) but at a lower opportunity cost (Garcia, 2009).

Thus, borrowing decisions involve the consideration of several aspects given that the possible effects within the company are related not only to profits or growth but also to financial cost, and so a certain minimum level of sales must be sustained so that these obligations are fulfilled. This type of risk can arise when interest payment becomes a fixed obligation so any decrease in cashflow can plunge the company into a situation of insolvency and, in turn, increase the risk of going bust (Nava, 2009).

With regard to the sort of risks that can arise from financial leverage or external financing Oscar León García (2009, pág. 229), has concluded that these are due primarily to operating problems. Moreover, according to the same author, companies that have unfavorable growth levers (GL) have a lower borrowing and profit-sharing capacity than those that are not in the same situation; this is reflected in a EBITDA margin higher than working capital productivity (WCP), and illustrates the importance of these indicators in the identification and measurement of credit risk in business.

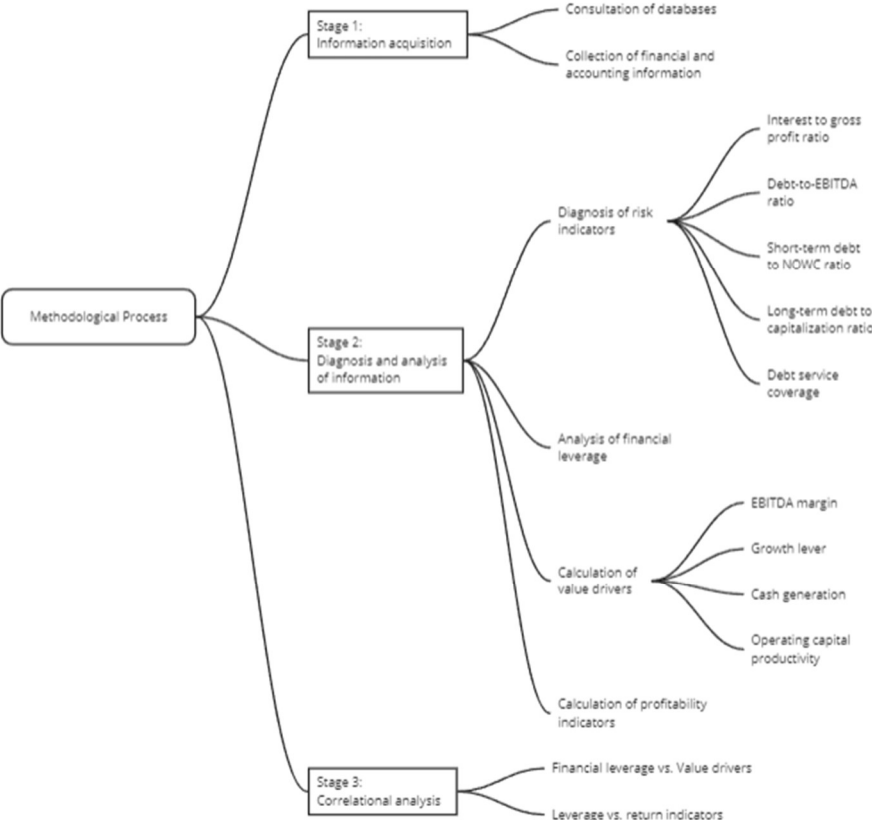
This type of risk can be analyzed from two different perspectives. The first and most common is associated with financial institutions, which offer financing by way of loans and thus expose themselves to defaults on payments and difficulties with their cash cycles or in recovering the capital placed. Thus, these risks are identified based on the likelihood of a company defaulting on the partial or total payment of an obligation as a result of situations that reflect a state of illiquidity.

The other perspective is that of non-financial organizations—that is, lenders—which are susceptible to the volatility of their operational activities. That is, they face a heightened probability of negative financial consequences and losses on the capital invested, and so the likelihood of defaulting on financial obligations increases in proportion to the volume of external financing increase.

Methodology

This research comprised a quantitative study across three stages: First, the necessary financial information was obtained and the risks that the companies in the sample faced in the period 2013-2017 was determined based on financial criteria. Second, the financial leverage behavior exhibited by these companies and their value drivers were analyzed. Third, drawing on the results of the previous stages, the correlation between these variables was calculated based on the effects of external financing (credit) on the financial results of the companies studied (Figure 3).

Figure 3: Methodological process



Source: compiled by authors

As to the sample analyzed, for reasons of confidentiality the names of the companies in the sample are withheld; instead, the companies are identified by way of numbering: Firm 1, founded in 1980, is a producer of finished textile products. Firm 2, established in 1997, produces articles using textile materials. Firm 3, operating since 1972, primarily engages in the manufacture of textile materials. Finally, Firms 4 and 5 have been in business for over 24 years.

Textile activity in Colombia

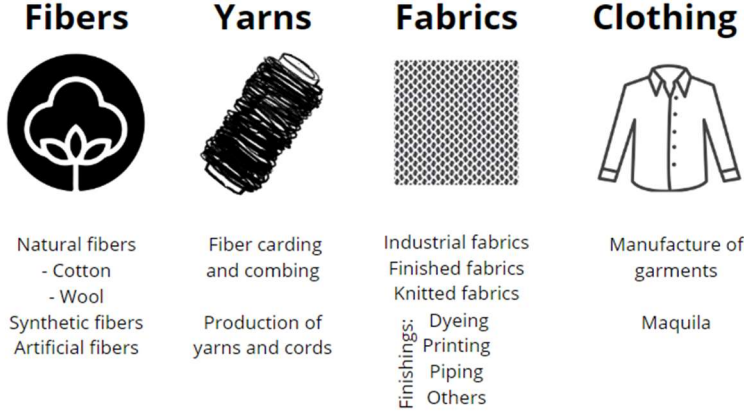
The textile industry is one of Colombia's largest. This production chain has stood out historically, among other reasons, for its contribution to GDP and to job creation. It also stands out for its productive transformation, having progressed from a fledgling industry to a pioneer in the intensive use of capital and technological development in the 20th century(Grupo SURA, 2018).

The reinvention that textile companies have had to undergo has proven one of their most important qualities given the challenges posed by contraband, fierce international competition, and customer disloyalty.

The textile and textile manufacturing chain is composed of several links. The activities that constitute these links are geared towards the production and supply of cotton, fibers, yarns, textiles, and clothing for the mass market, using widespread capital goods technologies. As an industry it is characterized by product differentiation, competitive niches, and the adoption of logistics and customer service strategies.

It is also a highly competitive industry, demanding the generation of value added and vulnerable to imports from certain Asian countries.

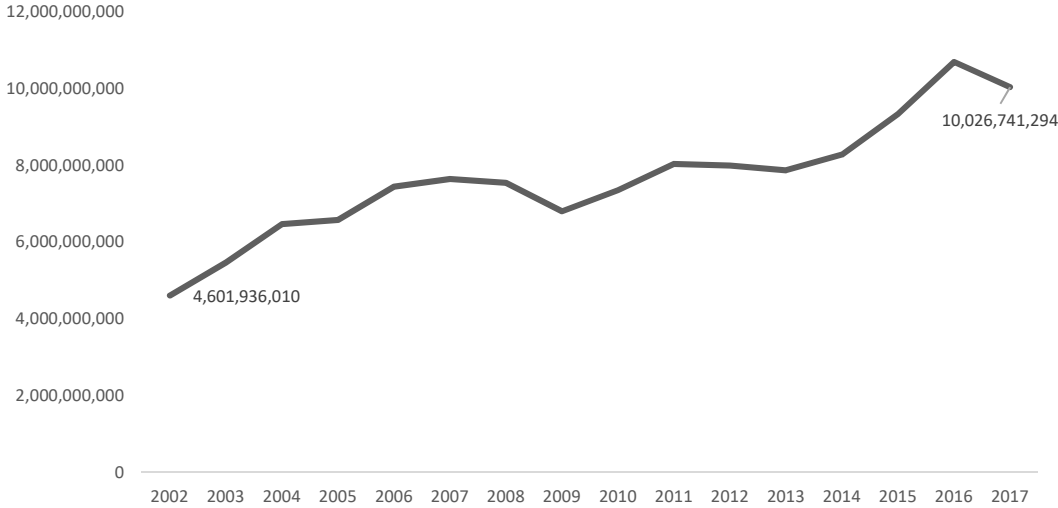
Figure 4. Textile Industry Activities in Colombia



Source: ANDI (n.d.)

Colombian textile production has followed an upward trend over the 2002-2017 period despite the entry into the market of low-cost foreign competitors and those marketing so-called “fast fashion” collections.

Figure 5: Production behavior of the Colombian textile industry, 2002–2017

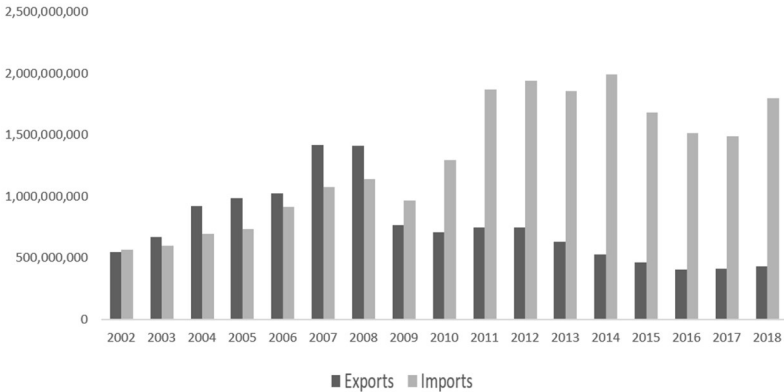


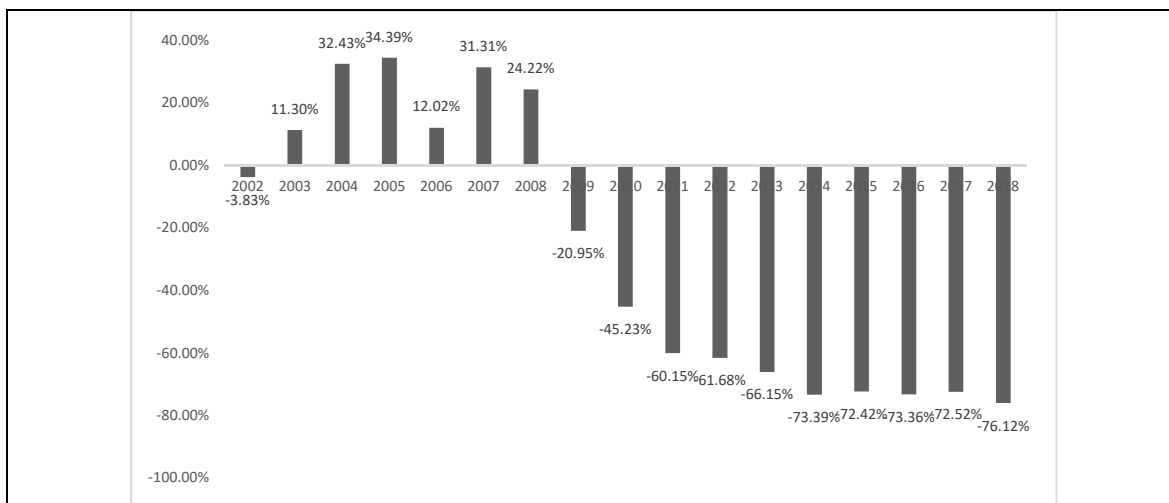
Source: Departamento Nacional de Planeación (2018)

Between 2003 and 2008 the export versus import ratio was favorable for Colombian manufacturers, whose sales to the international market exceeded inbound products by 11%. However, by 2019 this trend had reversed from that year, the entry into the country of textile products significantly exceeded its exports, bringing about a deficit for national industries of at least 20.95% and a maximum of 76.12% throughout the period (see Figure 5).

These results are mainly due to the major increase in production of both textiles and clothing by China in recent years, its advantages of low prices, cheap labor, and advanced technology enabling large-scale production in less time(Grupo SURA, 2018).

Figure 6: Imports vs. exports and percentage difference, 2002–2018





Source: Departamento Nacional de Planeación (2018)

Analysis of results

Diagnosis of risk from external sources of finance

Based on the financial statements reported by the companies analyzed to Colombia's Superintendency of Corporations through its Business Information Portal, a diagnosis was proposed to show the risk posed to these companies by the inclusion of external sources of finance during the period 2013–2001. To this end, the following indicators are taken as a reference:

Table 2 Risk Indicators

INDICATOR	CALCULATION	INTERPRETATION
Interest to gross profit ratio	$\frac{\text{Financial costs}}{\text{Gross profit}}$	This ratio shows, in percentage terms, the amount of money required for interest in comparison to gross profits. A result in excess of 30% is considered risky given that it reduces the capacity of a company to invest or repay the debt capital.
Debt-to-EBITDA ratio	$\frac{\text{Debt}}{\text{EBITDA}}$	This ratio reflects the company's total obligations to its operating profit. If the ratio is greater than 1:5, it is assumed to represent a high level of financial risk since this level of profit cannot be allotted to the payment of debts but rather must be distributed

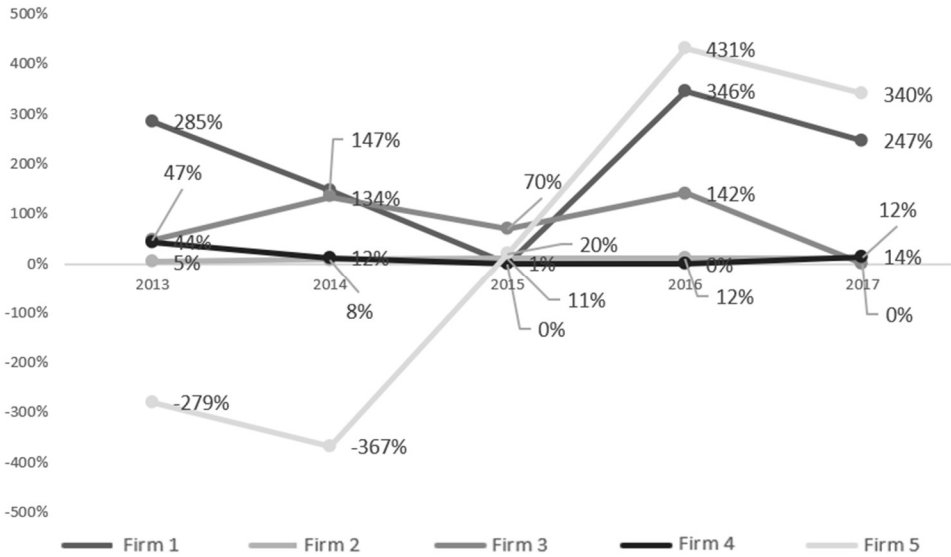
		among other commitments such as taxes, interest, asset renewal, and dividend payment.
Interest coverage ratio	$\frac{\text{EBITDA}}{\text{Financial costs}}$	This indicator represents the magnitude of the risk as determined by the number of times a company must use its operating profit to pay interest. The lower this ratio, the lower the capacity to cover these payments and therefore the greater the probability of non-payment.
Short-term debt to NOWC ratio	$\frac{\text{Current liabilities}}{\text{NOWC}}$	The use of short-term debt to finance the NOWC represents a measure of minimum risk provided that its result is less than 1, since a drop in sales could force the company to invest less in NOWC and therefore in the fulfillment of its commitments.
Long-term debt to capitalization ratio	$\frac{\text{Noncurrent liabilities}}{(\text{Noncurrent liability} + \text{Equity})}$	In the case of this indicator, the higher the ratio, the greater the risk that the company incurs since a decrease in the volume of operations could bring about serious illiquidity as a result of the high financial burden that the debt would impose. It represents the owners' involvement in long-term financing.
Debt service coverage ratio	$\frac{\text{Free cash flow}}{(\text{Financial debt} + \text{Financial costs})}$	This indicator how many times over a company's cash flow covers its debt service. It can be used as a metric of a company's debt capacity. The greater this ratio, the higher the level of debt a company can take on since the only additional commitment to be met is the distribution of dividends.

Source: Compiled by authors based on García, O. (2009)

The interest to gross profit ratio, for the companies analyzed, indicates volatile behavior in which the majority of the data obtained significantly exceeds the limit (30%) of the indicator. This situation represents excessive risk, especially in a situation like that of Firm 1, for example, which posted results in excess of 146% (except for 2015, for which it did not report financial expenses). The case of Firm 2 is the complete opposite, which remained in a range of 5–12%, which in interpretive terms means that the financial cost absorbed a small part of the gross profit. For its part, Firm 3 also exhibited unfavorable behavior, in that the interest that the company paid on the financing it obtained over the period was greater than 47% (In 2017, the company did not report financial expenses, which mathematically makes the result equal to 0).

In 2013, Firm 4’s cost to revenue ratio was 44%. However, from then on its situation improved, peaking at 1%. Finally, Firm 5 is that with the greatest data dispersion. In the 2013-14 period it posted accounting losses, whereas in 2019 its financial statements illustrated a recovery in terms of profits. This could be considered favorable, yet the interest paid was between 20% and 431%. The above examples highlight the impact that external sources of finance have by reducing a company’s capacity to make new investments or capital payments, where applicable (see Figure 7).

Figure 7: Interest to gross profit ratio

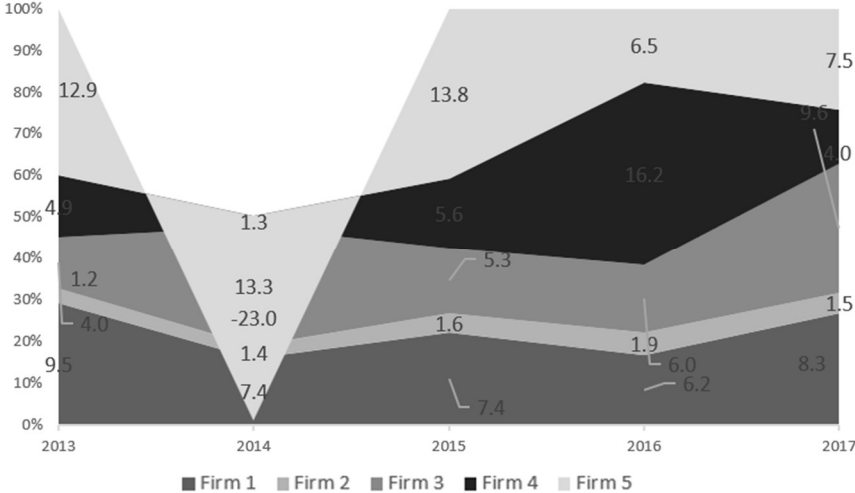


Source: Compiled by authors based on own calculations.

In turn, the debt-to-EBITDA ratio measures the number of times by which a company owes its operating profit. A ratio greater than 1.5, as recorded for the majority of the companies in the sample (except Firm 2) represents a high level of risk because a majority of the profits is owed to creditors, which critically affects the generation of capital. It is therefore assumed that the companies analyzed, rather than allocating operating profit, which are suited to increasing or building a certain level of wealth, are adversely affected by external financing.

For this indicator, the company that posted the best results was Firm 2, as this was the only one to sustain a ratio below the established limit throughout the period. The other companies have debts in excess of the EBITDA generated (see Figure 8).

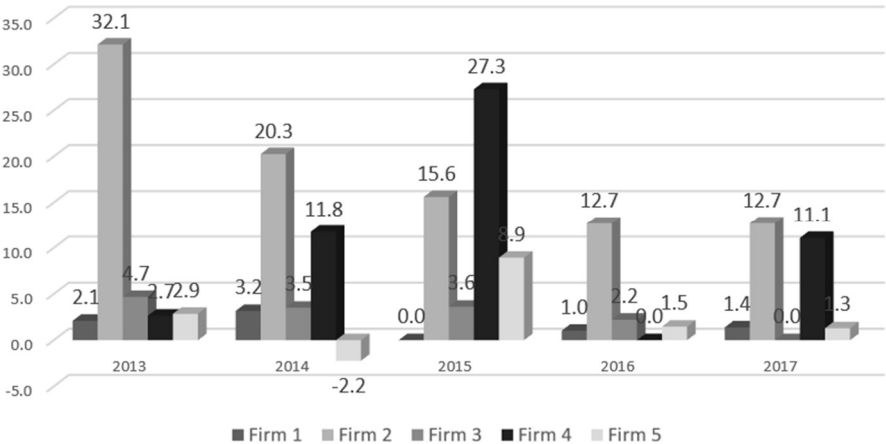
Figure 8: Debt-to-EBITDA ratio



Source: Compiled by authors based on own calculations.

Figure 8 shows the magnitude of the risk faced by the companies analyzed. According to the interest coverage indicator, risk is determined by the number of times by which a company must use its operating profit to cover its financial cost. The lower this ratio, the lower the capacity to cover these payments and therefore the greater the probability of non-payment. A downward trend can be appreciated for most of the companies, which means that the level of risk increases given the greater probability of non-payment (see Figure 9).

Figure 9: Interest coverage ratio

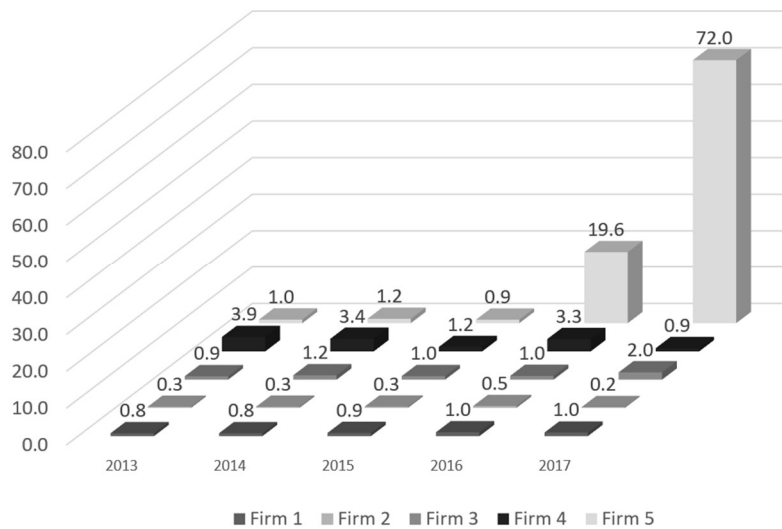


Source: Compiled by authors based on own calculations.

All organizations require working capital to cover short-term operational needs. Therefore, efficiency in the use of this resource is dependent on its usage in the course of the economic activity. However, one of the limitations upon this occurring is the existence of short-term debt, which can absorb operating capital and reduce the ability to utilize it without restricting liquidity. Therefore, the ratio between short-term debt and NOWC allows risk to be established based on the possibility of a reduction in the application of financial resources in current operations due to the need to meet commitments. Thus, the results are expected to be acceptable provided that the ratio is less than 1.

The results show that the ratio is unfavorable for Firms 3, 4, and 5. Firm 2 is the only one to express an optimal ratio: its short-term debts accounted for 30% of the NOWC over the first three years, increasing in 2016 and decreasing to 20% in 2017 (see Figure 10).

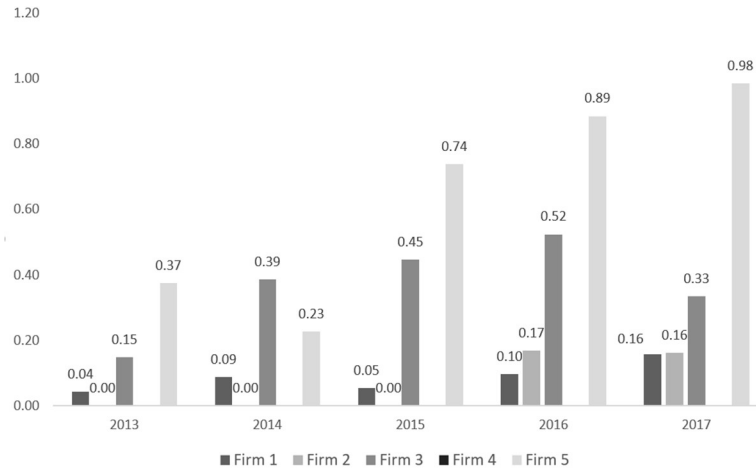
Figure 10: Short-term debt to NOWC ratio



Source: Compiled by authors based on own calculations.

The long-term debt to capitalization ratio is an indicator that allows a company's risk level to be identified through a comparison of non-current liabilities with equity. It stresses the weight of long-term debt on capital structure—that is, it indicates the company owners' share in in this type of financing. Therefore, the greater the decrease in the operation, the greater the risk, since long-term financing could create a serious situation of illiquidity as a consequence of the high financial burden that the debt would cause (Garcia, O. 2009). According to the financial results posted by the companies analyzed, the companies most exposed to risk are Firms 3 and 5; that is, their long-term liabilities significantly increased while their equity generally remained unchanged and without growth (see Figure 11).

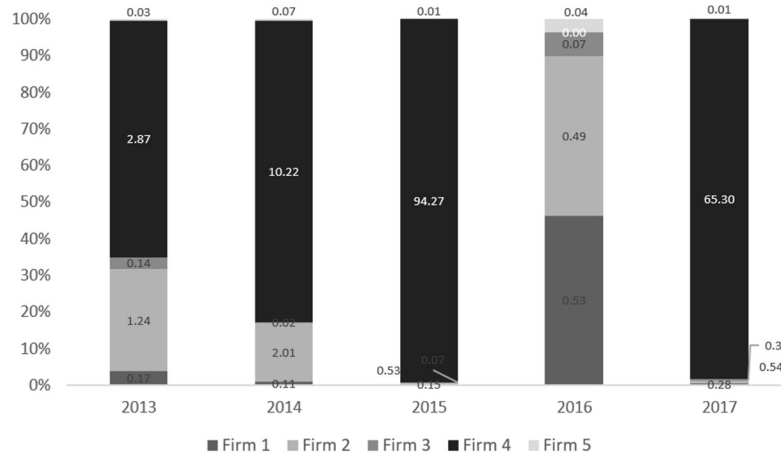
Figure 11: Long-term debt to capitalization ratio



Source: Compiled by authors based on own calculations.

The debt service coverage ratio shows the number of times by which the free cash flow can cover financial debt and the costs that stem from them. The company with the greatest debt capacity during the period was Firm 4, which did not report debts of this type and only incurred payment of financial expenses. The other four companies exhibit a situation of weakness in this regard; they exhibited low levels of debt due to cash generation deficiencies and have limited access to financing from institutions in the financial system, so will likely seek other forms of financing (See Figure 12).

Figure 12: Debt service coverage ratio



Source: Compiled by authors based on own calculations.

Behavior of financial leverage and value drivers

Financial leverage is understood as the effect on company return of the inflow and use of external sources of financing in the capital structure. This allows a distinction to be drawn

between the concepts of return and profit: the former denotes a return on investment while the latter, in the sense of profit and loss, has an accounting connotation.(Wild, 2007).

Table 3: Financial leverage

<i>Financial leverage = e * (RE - K)</i>	
Variables	Components
ER = Economic return	$RE = \frac{\text{Earnings before interest and taxes}}{\text{Total assets}}$
e = Level of indebtedness	$e = \frac{\text{Liabilities}}{\text{Equity}}$
k = Cost of debt	$k = \frac{\text{Financial expenses}}{\text{Liabilities}}$

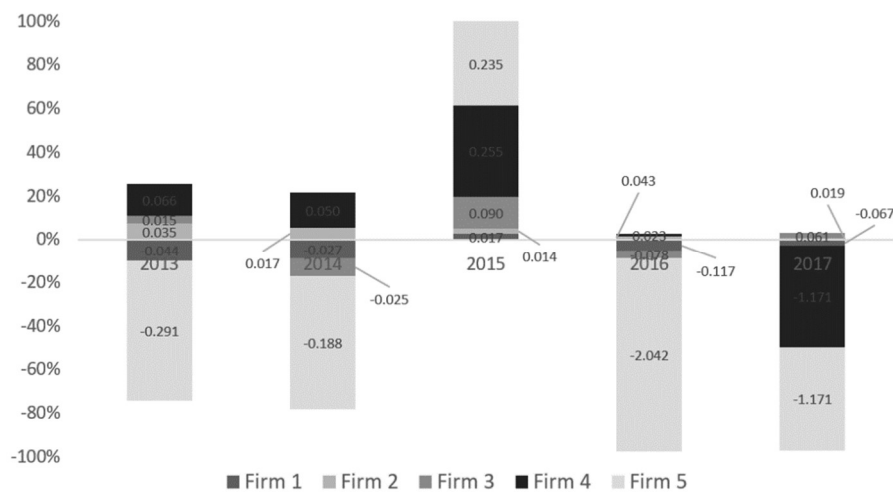
Source: Compiled by author based on Gironella (2005)

This indicator helps to determine whether financing, as a means of acquiring assets (investments), can increase the return on own capital. However, if financing used appropriately, the solvency of the company will be assured, making it a “return accelerator.” Unfavorable results or losses can have consequences related to credit risk, as reflected in the diagnostic indicators.

The data obtained through this indicator showed that the financial leverage behavior was stable for Firms 1, 2, and 3; Firm 4 posted a positive result in 2015, and Firm 5 recorded a negative result starting from that same year.

These results attest to the limited impact that financing had on the return of the companies given that its contribution to capital structure was very low (see Figure 13).

Figure 13: Behavior of financial leverage, 2013–17



Source: Compiled by authors based on own calculations.

Value drivers

The concept of “value driver” arises from the need to establish cause/effect relationships with regard to the creation of value in a company. According to García (2009, p.14), value drivers are a dimension associated with the operation that have a causal relationship with value and therefore allow us to explain why increases or decreases occur as a consequence of the decisions made.

Table 4: Variables of analysis

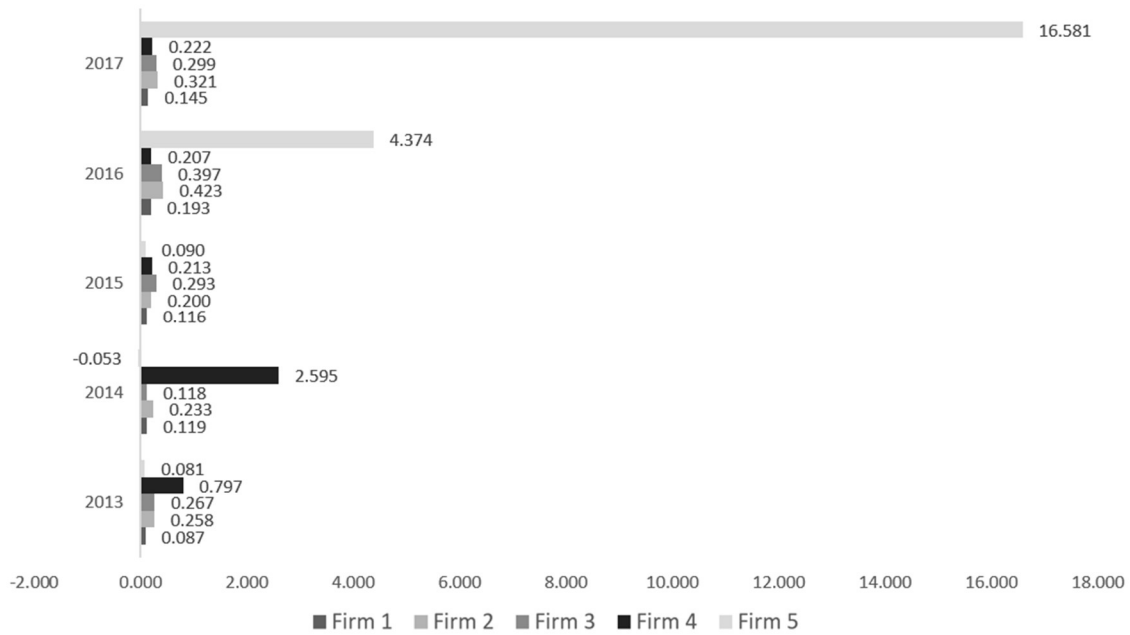
VARIABLES	INDICATOR	SUB-VARIABLES
Growth levers (GL)	EBITDA Margin / Working Capital Productivity	EBITDA Margin = EBITDA / Operating Income Working Capital Productivity = Net Operating Working Capital / Operating Income Net Operating Working Capital = Accounts Receivable + Inventories – Accounts Payable
Cash generation (CG)	Var. EBITDA / Var. Net Operating Working Capital	Var. EBITDA = EBITDA 2 – EBITDA 1 Var. Net Operating Working Capital = Net Operating Working Capital 2 - Net Operating Working Capital 1
Working Capital Productivity (WCP)	NOWC / Sales	CxC + Inventories – CxP Price * Units sold
EBITDA margin	EBITDA / Sales	Operating Profit / (Price * Units Sold)

Source: Compiled by authors based on García, O. (2009)

The growth levers (GL) indicator, defined as the attractiveness of optimizing growth for a company through the ratio between the EBITDA margin and working capital productivity (WCP), show that, with the exception of the last two years for Firm 5 and the second year for Firm 4, none of the companies managed to achieve or maintain a favorable indicator in that most of the results were below 1.

When it comes to the cases expressed as optimal, that of Firm 5 was a product of a substantial reduction in NOWC. This allows us to infer that as financial outflows (costs and expenses) decrease and sales increase, the business becomes more attractive (see figure 14).

Figure 14: Growth lever, 2013–2017

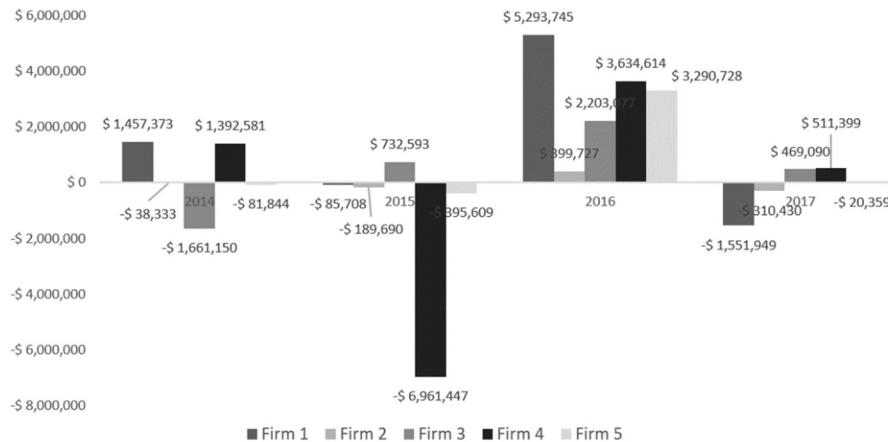


Source: Compiled by authors based on the own calculations

With respect to the dispersion recorded by Firm 5 in the final year (see Figure 14), this result was found to have occurred for two reasons: on the one hand, the increase in the company's inventories and accounts payable, which significantly decreased its NOWC; and on the other, the increase in its EBITDA margin in recent periods.

Cash generation refers to the positive or negative margin between the absolute variation in EBITDA and that of NOWC. This mainly represents the available cash that arises from the income-generating activity and the financial resources required to this end, allowing us to determine whether the companies in the sample generated profits from their operations (see Figure 15).

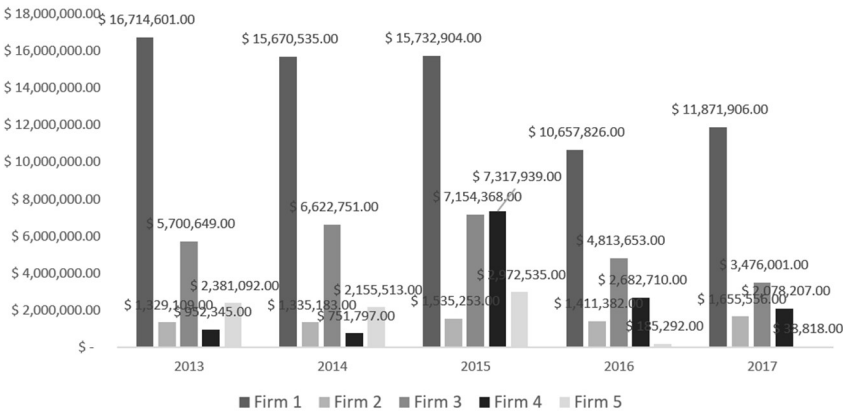
Figure 15: Cash generation, 2013–2017



Source: Compiled by authors based on the own calculations

This inductor reveals that the instability endured by the companies during the 2013–2017 period was a product of the negative variations in EBITDA. However, the situation was more favorable for Firms 3 and 4, which managed to maintain positive results from 2015 and were able to use the operating surplus to pay taxes, financial expenses, dividends, and other outgoings.

Figure 16: Net operating working capital (NOWC) 2013–2017

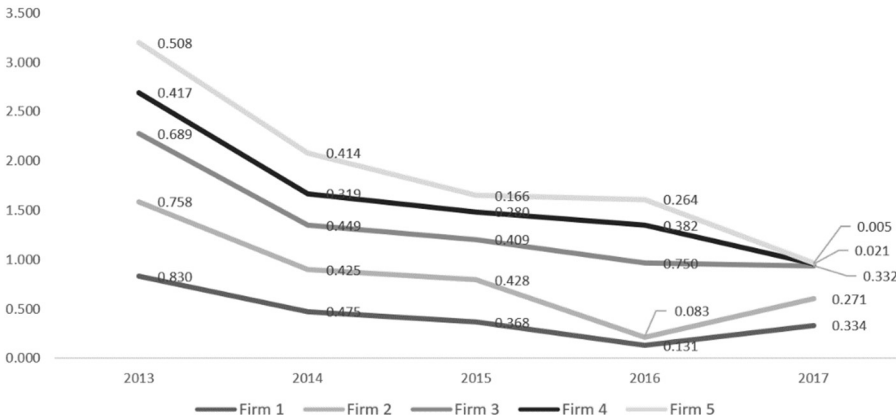


Source: Compiled by authors based on the own calculations

Mathematically, NOWC shows the difference between accounts receivable, inventories, and accounts payable. It indicates the company's needs for financing to generate cash and a favorable result is given by the amount of money that the operation demands; that is, the more financial resources needed to generate cash, the more negative the effect on the operation.

Among the companies studied, a high level of variability was observed between the years 2013-2017, though the overall behavior of this driver improved due to the reduced proportion of accounts receivable and of inventory to sales.

Figure 17: Working capital productivity (WCP) 2013-2017

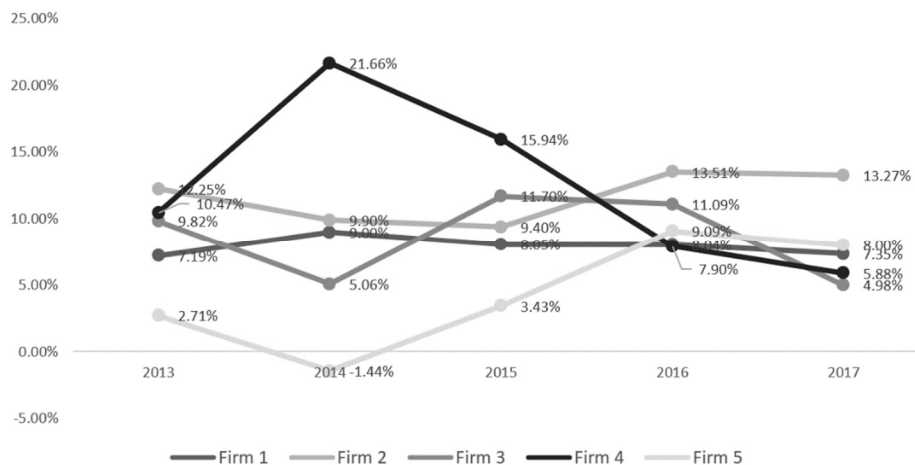


Source: Compiled by authors based on the own calculations

WCP is a driver that shows how much cash should be applied to working capital per monetary unit of sales; that is, how efficient the short-term operation is in terms of income generation. The general behavior of the five companies studied indicated good use of working capital, which translates into efficiency. Figure 16 shows that the financial resources required to generate sales became increasingly few. This is favorable in relation to the creation of value since it makes the acquisition of income more efficient; the companies were able to free cash flow resources as operating volume grew and current requirements were reduced, which prove, by way of this driver, an important contribution in the creation of value for companies.

The financial driver known as EBITDA margin (or cash margin) reflects the true impact of operating efficiency on company value. Insofar as sales grow at a faster rate than costs and fixed expenses, this margin can be increased; therefore, as an operational driver, it is thought to increase the value of the company because it necessarily has a favorable effect on the free cash flow.

Figure 18: EBITDA margin. 2013–17



Source: Compiled by authors based on the own calculations

According to the results of this driver, the companies studied could be classified into different groups: the first denotes stability and includes Firm 1, whose behavior over the five years followed a near horizontal trend. This indicates that both fixed expenses and sales did not undergo very significant variations during the period 2013–2017. The second group is composed of Firms 2 and 5, both of which posted rebounds in their margins due to increases in sales while EBITDA remained the same. The third and final group is made up of Firms 3 and 4, which exhibited negative behavior, resulting in value destruction and affecting free cash flow.

Correlational analysis: financial leverage vs. value drivers

When it comes to the impact of financial leverage on the generation of value among the companies studied, Firm 1 had a negative correlation with GL and CG, and a direct relationship with WCP (71.19%).

As to the EBITDA margin, the effect of external sources of finance was low, at just 21.58%. This shows that external sources of financing only favored short-term operational productivity, while the opposite was the case for cash the acquisition. For Firm 2, something completely different was observed: the correlation was positive and high (74.32% and 84.65%) for GL and CG, respectively. But there was an inverse relationship with WCP (52%). The EBITDA margin also had a direct correlation, of 70.19%.

Table 5: Correlations: financial leverage vs. value drivers

Leverage vs. driver		CORRELATIONS				
		FIRM 1	FIRM 2	FIRM 3	FIRM 4	FIRM 5
	GL	-0.7522	0.7432	-0.0910	0.2568	-0.5267
	CG	-0.6010	0.8465	-0.1514	-0.2667	-0.8647
	WCP	0.7119	-0.5200	-0.0296	0.2509	0.9033
	EBITDA MARGIN	0.2158	0.7019	-0.0250	0.5931	-0.8079

Source: Compiled by authors based on the own calculations

According to the correlation between leverage and return indicators such as RAN, ROE and ROI, the inflow of external sources of finance for Firm 1 was only positive in the case of return on equity, although at a level of less than 60%. In the case of RAN and ROI the relationship was inverse, which indicates that external sources of finance do not have a direct impact on these returns. On the other hand, for Firm 2, leverage is strongly related to RAN but not to ROE or ROI. The correlations found for Firm 3 reveal a positive impact of 55.27% and 83.99% for ROE and ROI, respectively, but to a lesser extent for RAN (17.81%). The financial leverage of Firm 4 had an impact between 38% and 49% for RAN and ROE, but for ROI it was negative.

All this shows that external sources of finance had a negative relationship with the return on assets; that is, they did not have a positive impact on the use of assets to generate profits. Finally, for Firm 5, the results of the RAN and ROE are negative, showing that the return for investors and on net assets was not affected by the financial obligations contracted during the study period. Despite this, ROI had a direct relationship of 61.06% with the inflow of obligations.

Table 6: Correlations: financial leverage vs. return indicators

Leverage vs. Indicator		CORRELATIONS				
		FIRM 1	FIRM 2	FIRM 3	FIRM 4	FIRM 5
	RAN	-0,4407	0,9857	0,1781	0,3874	-0,9325
	ROE	0,5976	-0,2671	0,5527	0,4899	-0,7027
	ROI	-0,0917	0,0578	0,8399	-0,1524	0,6106

Source: Compiled by authors based on the own calculations

Final considerations

Although the growth figures reported by the industry can represent an important opportunity, there is a need to develop capabilities with which to take advantage of the conditions that arise in the environment. One factor that may be relevant is the improvement in companies' financial leverage situation. Indeed, the impact of this indicator between 2013 and 2017 reflects a situation in which the inflow of external sources of financing did not favor them but placed them at risk, since the debt itself and the interest it generates cause a significant financial burden that affects the business operationally. In this regard, what one observes, for example, in the results of the debt-to-EBITDA ratio is evidence of the impact that cash flow and, in particular, profits have when their capacity to generate capital is reduced. This is also true of interest coverage. This shows that, operationally, companies have a problem in terms not only of liquidity but also of commitment to their operation and the necessary sources of financing for value to be generated in the short term.

When it comes to the impact that external sources of finance had on return, as Ignacio Vélez (2010) notes, when making an investment one must first study situations related to economically quantifiable alternatives in terms of future net profits or expenses, acknowledging that such decisions carry a certain level of uncertainty. In this regard, it is worth highlighting that the decision-making carried out by the companies in this sample did not take into account the potential for variability—for example, of cash generation in relation to financial leverage—given that, for the most part, the financing of the investments did not fulfill the purpose of increasing own capital, generating value for owners or investors, or making companies more attractive as businesses.

However, one aspect worth highlighting as favorable is the improvement in working capital productivity over the period studied. In this case, one appreciates a reliance on short-term sources of financing, resulting in better and greater efficiency in the realization of textile production.

Finally, the creation of value was something that was entirely evident. The correlations between leverage and value drivers paint an overall picture of this, in that the inflow of financing is directly related to some indicators. In the case of the RAN, only in the case of Firm 2 was the correlation too high, which means that this was the only business to use net assets productively.

With respect to equity, financing was below 60%, indicating that the creation of value by leverage made less of an impact. And regarding the use of assets, only Firm 3 showed a high correlation.

Thus, even though the companies have been established in the market for more than 20 years, over the period analyzed their operations did not necessarily result in financial growth and, on the contrary, have exhibited high levels of risk with compromised cash flow.

References

- ACOPI. (March 31, 2019). *Asociación Colombiana de las Micro, Pequeñas y Medianas Empresas*. https://acopi.org.co/wp-content/uploads/2019/06/ENCUESTA_DEDESEMPE%3%91O-EMPRESARIAL-PRIMER-TRIMESTRE-2019.pdf
- A, J. (2007). Renta fija. *Revista IN56A*. Colombia, S. B. (2018). *Gestión del riesgo de crédito*. Bogotá.
- Bodie, Z. &. (2003). *Finanzas*. México: Pearson Education.
- Casanovas, M. &. (2013). *La financiación de la empresa. Cómo optimizar las decisiones de financiación para crear valor*. Barcelona: Editorial Profit.
- DANE. (May 30, 2019). *Departamento Nacional de Estadísticas*. <http://www.dane.gov.co/index.php/estadisticas-por-tema/industria/indice-de-produccion-industrial-ipi>
- Dinero, R. (2018). El S.O.S de los empresarios para rescatar a la industria de confección. *Revista Dinero* , <https://www.dinero.com/edicion-impresa/negocios/articulo/crisis-de-la-industria-de-la-confeccion-en-colombia/254274>.
- E, V. R. (2000). *repository.eafit.edu.co*. https://repository.eafit.edu.co/bitstream/handle/10784/12712/JHONJAIRO_%20JARAMA_LORUA_EDGARLUVIN_%20VELASQUEZ_2018.pdf?sequence=2&isAllowed
- Efxto, P. d. (2011). *Riesgo de crédito*. <https://efxto.com/diccionario/riesgo-de-credito>
- F, A. G. (2009). Apalancamiento financiero, su efecto sobre la rentabilidad y la generación de valor. *Revista Universidad Antonio Nariño*.
- García, O. (2003). *Gerencia de valor. valoración de empresas y EVA*. Cali: Prensa Moderna Impresores S.A.
- García, O. (2009). *Administración Financiera. Fundamentos y aplicaciones*. Cali: Libre expresión creativos.
- González, S. (2014). *La gestión financiera y el acceso a financiamiento de las Pymes del sector comercio en la ciudad de Bogotá (Tesis de Maestría)*. Bogotá: Universidad Nacional de Colombia.
- G, D. L. (2003). *Gestión De Riesgos: Tratamiento contable, La*. <http://empresas.wke.es/proysan/11113.pdf>
- Grupo SURA. (2018). *Seguros SURA*. <https://www.sura.com/estrategiasComerciales/documentos/pdf/informeSectorial-sistemaModa.pdf>
- Higgins, R. (2004). *Análisis para la dirección financiera*. Madrid: McGraw Hill.
- Inexmoda. (August 31, 2018). *Inexmoda*. http://www.saladeprensainexmoda.com/wp-content/uploads/2018/08/Informe_Especial_Textil_y_Confecciones_-_Ago_2018.pdf
- J, L. R. (2000). *aecal.org*. http://www.aecal.org/pub/on_line/comunicaciones_xvicongresoaeaca/cd/170a.pdf
- L, R. (2017). Pérdida de rendimientos en la inversión: tipos de riesgos financieros. *Journal digital* , <https://revistadigital.inesem.es/gestion-empresarial/riesgo-financiero/>.
- M, E. H. (2000). *upcommons.upc.edu*. <https://upcommons.upc.edu/bitstream/handle/2117/94069/09CAP3V3.pdf>

- Nava Rosillón, M. (2009). Análisis financiero: una herramienta clave para una gestión financiera eficiente. *Revista Venezolana de Gerencia*, 14(48), 606-628
- N, L. (2018). *Entrepreneur*. <https://www.entrepreneur.com/article/307396>
- N, M. G. (n.d.). *repository.ean.edu.co*. <https://repository.ean.edu.co/bitstream/handle/10882/9013/MorenoNestor2017.pdf?sequence=1&isAllowed=y>
- Sapag, N. (2007). *Proyectos de inversión. Formulación y evaluación*. Mexico: Pearson Educación.
- SuperSociedades. (2017). *SuperSociedades*. Superintendencia de Sociedades: https://www.supersociedades.gov.co/delegatura_aec/estudios_financieros/lists/sectores_economicos/allitems.aspx
- Supersociedades. (2017). *Instituto Nacional de Contadores Públicos*. INCP: <https://incp.org.co>
- Van Horne, J. & Wachowicz, J. (2010). *Fundamentos de administración financiera*. Mexico: Pearson.
- Vélez, I. (2010). *Decisiones de inversión para la valoración de proyectos y empresas*. Bogotá: Universidad Javeriana.
- Vera, M. (2010). *Guía para el estudio del curso Finanzas Corporativas. Maestría en Administración*. Bogotá: Universidad Nacional de Colombia.
- Wild, J. S. (2007). *Analysis of financial statements*. Mexico: McGraw Hill.