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Leverage and business profitability in SMEs in the industrial sector of Ecuador from 2017 to 2021

Apalancamiento y rentabilidad empresarial en las pymes sector industrial del ecuador periodo 2017 al 2021

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ABSTRACT

The present research aims to evaluate the leverage and profitability of small and medium-sized enterprises (SMEs) in the industrial sector in Ecuador. To achieve this, a documentary analysis of the financial statements issued by the Superintendence of Companies was carried out in order to identify trends and patterns of behavior in the period between 2017 and 2021. In addition, a correlation analysis was performed using Pearson's correlation test in SPSS, with the purpose of determining the existing relationship between financial leverage and profitability of SMEs. The study population consisted of the 5915 SMEs in the industrial sector that filed their financial statements with the Superintendency of Companies during the aforementioned period. The results obtained revealed a varied distribution of companies with different levels of profitability, expressed through the return on equity (ROE) indicator. In general, a concentration of companies with ROE below 0.1 was observed, indicating difficulties in generating profits and low efficiency in the use of financial resources. Over the years

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analyzed, a slight improvement was detected in some ROE intervals. However, the proportion of companies with high levels of profitability was limited. These findings suggest the existence of a positive relationship between leverage and corporate profitability in the period studied.

RESUMEN

La presente investigación tiene como objetivo evaluar el apalancamiento y la rentabilidad de las pequeñas y medianas empresas (PYMES) del sector industrial en Ecuador. Para lograr esto, se llevó a cabo un análisis documental de los estados financieros emitidos por la Superintendencia de Compañías, con el fin de identificar tendencias y patrones de comportamiento en el periodo comprendido entre 2017 y 2021. Además, se realizó un análisis de correlación utilizando la prueba de correlación de Pearson en SPSS, con el propósito de determinar la relación existente entre el apalancamiento financiero y la rentabilidad de las PYMES. La población de estudio esta conformada por las 5915 PYMES del sector industrial que presentaron sus estados financieros ante la Superintendencia de Compañías durante el periodo mencionado. Los resultados obtenidos revelaron una distribución variada de empresas con diferentes niveles de rentabilidad, expresados a través del indicador de retorno sobre el patrimonio (ROE). En general, se observó una concentración de empresas con un ROE inferior a 0.1, lo cual indica dificultades en la generación de utilidades y una baja eficiencia en la utilización de los recursos financieros. A lo largo de los años analizados, se detectó una ligera mejora en algunos intervalos de ROE. Sin embargo, la proporción de empresas con niveles altos de rentabilidad fue limitada. Estos hallazgos sugieren la existencia de una relación positiva entre el apalancamiento y la rentabilidad empresarial en el periodo estudiado.

Keywords / Palabras clave

Financial leverage, corporate profitability, manufacturing.

Apalancamiento financiero, rentabilidad empresarial, manufactura.

Introduction

The SME industrial sector in Ecuador is crucial to the country's economic development. However, these companies face challenges in

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terms of profitability and growth, including managing financial leverage in an uncertain economic environment.

According to the study conducted by Gil et al. (2018), a relationship has been observed between liquidity problems in companies and a high level of debt, also known as leverage. In these situations, it has been found that leverage can decrease the economic profitability of the firm. This suggests that financial uncertainty can lead to an increase in the level of leverage and an accumulation of financial risk in such organizations.

However, it is important to note that the results of Borja et al. (2022), failed to identify a statistically significant relationship between the level of leverage and economic profitability in the study period covering the years 2018 and 2020. These findings suggest that other factors may be influencing firm profitability during that specific period, and that financial leverage alone may not be the primary determinant of profitability in that time context.

In contrast, Rivera et al. (2018)mentioned that financial leverage can be a key factor for the success of a company. These authors found evidence of positive financial profitability in companies over a four-year period, which is attributed to positive financial leverage. In addition, they noted that companies that maintain an adequate level of financial leverage have greater opportunities to invest in new projects, which in turn can increase their profitability and long-term growth capacity.

According to the study conducted by Rivera (2020)it is noted that companies that managed to maintain an adequate balance in their financial leverage were able to take advantage of investment and growth opportunities that arose in their sector. Adequate management of leverage allowed them to access additional resources to finance projects, expand their productive capacity and improve their competitiveness in the market. As a result, they experienced stronger financial performance and a sustained ability to generate profits over time.

Therefore, it is essential to extend the study period in order to obtain more solid conclusions and advance knowledge in this area. The proper management of financial leverage can improve the profitability of companies and avoid insolvency situations, which guarantees the success in the operation of the company (Bonmatí, 2016).

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Small and medium-sized enterprises are an essential component of any country's economy, and the industrial sector is no exception. SMEs in the industrial sector are companies engaged in the production and manufacturing of goods and services, which represent an important source of employment and wealth for the economic development of any nation. (Economic Commission for Latin America and the Caribbean, 2022).. However, the industrial sector faces unique challenges and opportunities in today's business environment. Although these companies have fewer financial and human resources compared to large companies, they have the ability to be agile and flexible, allowing them to adapt quickly to market demands.

In this sense, proper management is vital to ensure the survival and growth of a company, especially in a highly competitive business environment. Strategic planning and effective resource management are fundamental in the business management of SMEs in the industrial sector. According to Moreno, Cevallos, and Balseca. (2018), strategic planning allows companies to set clear objectives and define a direction for the business in the long term, while human resource management is important to have qualified and committed employees to help achieve the company's objectives. Despite the above, access to financing is one of the biggest challenges facing SMEs in the industrial sector. Many of these companies do not have access to traditional financing, which can hinder business growth. To address this challenge, SMEs in the industrial sector can seek financing alternatives, such as venture capital or crowdfunding.

Another important aspect in the business management of SMEs in the industrial sector is risk management. These companies face various risks, such as those associated with investment in new assets, exposure to changes in markets, and economic and political uncertainty (Brito, 2018). In this sense, risk management involves the identification and assessment of risks, and the implementation of strategies to mitigate them.

It is an essential tool for business management, allowing companies to measure their financial performance and make informed decisions. These indicators provide information on the financial health of the company. According to Correa, Gómez, and Londoño. (2018), the analysis and measurement of financial indicators are fundamental in business management, as they allow managers to evaluate financial performance, identify areas for improvement and make informed decisions.

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Financial indicators are widely used in the business context to assess the company's ability to meet its financial obligations and make strategic decisions regarding investment and financing. There is a wide variety of financial indicators available, each with its own function and relevance in business management.

It is important to keep in mind that the selection of appropriate financial indicators depends on several factors, such as the size and complexity of the company and the industry in which it operates. Therefore, managers should carefully choose the most relevant financial indicators for their company in order to effectively measure financial performance and make informed decisions (Solano, 2016).

It should be noted that financial indicators should not be analyzed in isolation, but as a whole. According to Carchi, Crespo, et al, (2020)the analysis of financial indicators should consider the interrelationship between them and evaluate the coherence of the results in the context of the business. A positive financial indicator in one area does not always imply a healthy financial performance as a whole. Therefore, financial analysis should take into account the performance of the company as a whole, evaluating the results of financial indicators in relation to the company's strategic objectives.

Proper interpretation of financial indicators is key to making informed business management decisions. Financial analysis can help managers identify areas of the business that require attention, either in terms of improving financial performance or in terms of a need for investment or financing (Valle, 2020). Similarly, they can be used in financial reporting for investors, shareholders and other stakeholders in the company. The objective leverage theory is an approach that argues that companies seek to achieve an optimal level of indebtedness, which allows them to minimize their capital costs. According to Mongrut et al. (2010)this optimal level is determined by the firm itself, depending on a number of factors such as the firm's risk, the availability of financing and market conditions.

The fundamental idea is that companies can improve their profitability through the use of debt, but only up to a certain point, beyond which the cost of debt exceeds profits. In this sense, the objective leverage theory suggests that firms should seek a balance between the benefits and costs of debt, in order to maximize the value of the firm for its shareholders (Vargas, 2014).

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It should be noted that the objective leverage theory has been the subject of numerous studies and debates in the financial literature. For example, authors such as Álvarez and Hernández (2017), have proposed that the choice of the optimal level of indebtedness may depend on the economic cycle, and that firms may have incentives to vary their level of indebtedness depending on macroeconomic conditions. Other authors have questioned the validity of the objective leverage theory in situations of uncertainty and volatility in financial markets, in such situations, firms may choose to maintain a lower level of indebtedness to avoid greater financial risks and not rely so much on leverage to maximize profitability.

Myers (1984)indicates that companies may choose to maintain a conservative level of indebtedness in times of instability in the financial markets to ensure their long-term solvency. In any case, it is important to consider the different factors and circumstances that may influence the relationship between indebtedness and corporate profitability. However, the objective leverage theory remains a relevant theoretical framework for understanding the relationship between capital structure and corporate profitability.

Myers (2013)indicates that leverage is a financial tool that allows companies to use debt to finance their operations and investment projects. (p. 277). By doing so, companies can increase their profitability through the use of financial resources that they do not possess in the form of equity capital. However, leverage also implies greater financial risk, since the company assumes financial obligations that must be fulfilled in the future.

In corporate governance, leverage is used to increase the profitability of the company, as the interest paid on debt is tax deductible, which reduces the company's tax burden and increases its net profits (Brealey, 2017, p. 224).. In addition, the use of leverage can enable the firm to undertake investment projects that would otherwise not be possible with limited equity.

However, leverage also entails risks. If the company is not able to generate sufficient profits to cover its financial obligations, it may go bankrupt or have to resort to debt refinancing, which would increase its financial burden in the future (Ross, 2016). Therefore, it is important for companies to carefully assess their ability to meet their financial obligations before making leverage decisions.

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In corporate governance, the choice of the appropriate level of leverage depends on several factors, such as the expected profitability of the investment project, the company's ability to meet its financial obligations, the cost of debt, and the availability of equity funds (Brigham & Houston, 2015). It is important for companies to carefully evaluate these factors and make informed decisions about the level of leverage that is appropriate for them.

Borja et. al (2022)mentions that "Financial leverage is a strategy used by companies in the industrial sector in Ecuador to increase their profitability through the use of debt". However, it is crucial to keep in mind that this strategy also carries a higher risk. Any decrease in revenues can negatively impact the company's ability to meet its financial obligations.

In this sense, it is essential for SMEs in the Ecuadorian industrial sector to carefully evaluate the optimal level of leverage that will allow them to improve their profitability. As mentioned by Gitman and Zutter (2013)an adequate level of leverage can be beneficial, but an excess of debt can increase the financial vulnerability of companies (p. 22). Therefore, it is crucial to find a balance between leverage and ability to pay, considering the risks associated with the use of debt.

In addition, according to Gaytán (2021)the appropriate use of financial leverage can generate a multiplier effect on the profitability of companies in the industrial sector in the period analyzed. However, it is necessary to carefully evaluate the costs associated with debt and ensure that the company has the capacity to meet its financial commitments. In this way, the benefits of financial leverage are maximized and the potential risks are minimized.

Perez and Titelman (2018)emphasize that it is crucial for companies to carefully consider their payment capacity and evaluate the risks associated with the use of debt. In this way, they will be able to make informed financial decisions and avoid situations that compromise their financial stability.

In addition, Temprano (2015)states that financial leverage can amplify both positive and negative returns for a company. SMEs in the industrial sector should be aware of the benefits and risks associated with leverage to make informed financial decisions.

It is calculated as follows:

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$$Apalancamiento\ Financiero = \frac{\frac{Utilidad\ antes\ de\ impuestos}{Patrimonio}}{\frac{Utilidad\ antes\ de\ impuestos\ e\ Interees}{Activo\ Total}}$$

The effect of leverage in SMEs is a major factor in understanding how the use of debt can influence both the profitability and financial stability of these firms. Pulgarin et al. (2021)argue that "an optimal level of leverage can allow them to take advantage of growth opportunities and increase their profitability by providing them with the ability to finance projects and operations with external funds". This highlights the relevance of prudent and strategic management of leverage to drive growth and profitability in the context of SMEs.

Furthermore, the effect of leverage on SMEs is closely related to their ability to generate profits and returns for investors and owners. Maejo (2022)states that "financial leverage can be used in any type of business to increase its capital instantly and be able to invest more in the short term". This highlights the importance of proper management of leverage, where generating profits in excess of the associated costs becomes a key objective for SMEs.

Leverage in SMEs also affects their ability to access additional sources of financing. According to Gómez (2012)indicates that companies that demonstrate a positive track record of responsible debt management and maintain good debt coverage indicators can increase their credibility and become more attractive to both lenders and investors. This underscores the importance of maintaining sound financial management and demonstrating a reliable ability to meet debt obligations, which facilitates access to additional financing for SMEs.

The choice of capital structure and financial decisions are also affected by the effect of leverage in SMEs. Sanchez (2014)mentions that the choice between financing operations and projects through debt or equity can impact financial flexibility and adaptability. This highlights the need to carefully evaluate financing options and consider the long-term effects on the financial flexibility and adaptability of SMEs when making leverage decisions.

Finally, the effect of leverage in SMEs has significant implications for financial risk management. Carella, et al. (2003)(2003), stresses that companies should carefully evaluate the risks associated with leverage, such as exposure to changes in interest rates, debt repayment capacity and possible impacts on corporate image and reputation. This emphasizes the importance of proper risk management and the

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adoption of mitigation strategies to ensure the financial stability of SMEs in a changing economic environment.

Corporate profitability plays a key role in assessing the financial success of companies. According to Gaytán (2018), he indicates it as the capacity of a company to generate profits in relation to the resources invested. This key indicator reflects the efficiency in the use of resources and the creation of value for owners, being essential to ensure the survival and growth of companies.

The measurement of corporate profitability is carried out through the use of various financial ratios and metrics. According to Bejar and Jijón (2017), Roe is the most common indicator used to evaluate Financial Profitability. These measures provide a clear view of the company's ability to generate profits in relation to the resources invested, allowing an accurate assessment of its financial performance.

It is important to keep in mind that corporate profitability can vary significantly depending on the industry and economic cycle in which a company operates. According to Duarte (2004)companies often face specific challenges that can affect their profitability, such as intense competition, changes in market demand and production costs. Therefore, understanding the particularities of the industry and adopting appropriate strategies are key elements to maximize profitability in a dynamic business environment.

Strategic decision making also plays a crucial role in corporate profitability. Rice (2013)(2013) point out that companies that manage to gain a competitive advantage in terms of prices and costs can improve their profitability. In addition, product diversification can enable them to access new markets and increase their profits. Appropriate pricing and efficient cost management are key factors in optimizing profitability and ensuring long-term sustainability.

In addition to asset management and strategic decisions, the appropriate use of debt can also influence corporate profitability. Lopéz (2014)argue that companies that manage to optimize the use of their assets and maintain a balanced level of debt can improve their profitability by maximizing returns and minimizing financial costs. Maintaining a balance between the use of debt and profit generation is essential to ensure long-term sustainable profitability.

In this context, the ROE formula is a key indicator for measuring a company's financial profitability.

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The following is the ROE formula:

$$Rentabilidad\ Financiera = \frac{Ventas}{Activo} x \frac{UAll}{Ventas} x \frac{Activo}{Patrimonio} x \frac{UAl}{UAll} x \frac{Utilidad\ Neta}{UAI}$$

Where:

Assets: All tangible and intangible resources belonging to the company.

Equity: Set of tangible and intangible assets that make up the company's capital.

Sales: Revenue generated by the company from the sale of its products or services.

UAll: Earnings before interest and taxes, i.e., income generated by the company before deducting these expenses.

UAl: Profit before taxes, i.e. the income generated by the company before deducting taxes.

Net Profit: Final profit of the company after deducting interest and taxes from gross profit.

Understanding business risks is crucial to assess their impact on the achievement of a company's objectives (Martinez & Blanco, 2017). These risks, both internal and external, may arise in the form of uncertain events or circumstances that may hinder the organization's progress. Therefore, appropriate management is required to minimize their negative impact and protect the company's interests.

Rodriguez et. al (2013)indicates that the classification of business risks into specific categories provides a solid basis for their identification and evaluation. Operational, financial, legal and strategic risks are just some of the categories into which they can be grouped. Each category has its own characteristics and consequences, which highlights the importance of identifying and assessing the relevant risks for the company in question.

Effective enterprise risk management involves a comprehensive process that includes the identification, assessment and mitigation of risks (Giler, 2016). This management is not limited to the

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identification of potential risks, but also involves the implementation of preventive and control measures to protect the company's interests. Anticipation and mitigation of risks are essential to ensure that business objectives are achieved safely and efficiently.

Although business risks are commonly associated with threats, they can also represent opportunities (Mejía, 2011). A company's ability to identify and take advantage of emerging opportunities, while anticipating and mitigating risks, is a crucial factor for its success and survival in a constantly changing business environment. Risk management thus becomes a strategic tool for a company's growth and adaptability.

Business risks can not only affect a company's operational performance, but can also have significant financial consequences. (Nava, 2009). These consequences can include financial losses, reputational damage and a decrease in the value of the company. Therefore, it is essential that companies implement appropriate risk management measures to safeguard their assets and ensure their long-term sustainability.

Materials and Methods

In the present study, a quantitative approach research was carried out, specifically a panel data study, in which the evolution of leverage and profitability of small and medium-sized industrial companies in Ecuador during the period 2017-2021 was analyzed. The main objective of the study was to systematically evaluate the effect of financial leverage on the profitability of these companies, for which relevant financial data were collected from the Superintendence of Companies, selected through the "C" classification corresponding to the industrial sector according to ISIC. The analysis of the evolution of the financial indicators made it possible to identify the relationship between leverage and the profitability of the companies studied, which contributed to a better understanding of the factors that influence the business success of small and medium-sized companies in the industrial sector in Ecuador.

The study was framed in a causal analytical type of research. The main objective of this study was to establish causal relationships between the level of financial leverage and the profitability of companies belonging to industrial SMEs in Ecuador. We sought to analyze in

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depth the effects of leverage on the profitability of these companies during the period 2017-2021, through the study of relevant financial indicators. Through a rigorous and systematic analysis, we sought to determine the influence of leverage on profit generation and the ability of companies to maintain a sustainable financial performance over time. Likewise, a correlational approach was used to analyze the relationship between both variables, without manipulating any of them. Specifically, the objective was to establish whether there was a significant relationship between the level of financial leverage and the profitability of these companies in the period 2017-2021. The correlational research provided valuable information on the nature and degree of relationship between the variables studied, which was essential for a thorough understanding of the country's business sector and for making informed economic decisions.

This study is based on the financial information provided by all the small and medium-sized companies in the industrial sector in Ecuador that submitted their financial statements to their regulatory body, the Superintendency of Companies (SuperCIAS, 2021). (SuperCIAS, 2021) during the period between 2017 and 2021. The data collected from these companies constitute the main source of information to carry out the evaluation of leverage and profitability of the 5915 small and medium-sized companies in the industrial sector, identified in the International Standard Code of Economic Activities (ISIC), in category "C", and that have provided information from 2017 to 2021.

To perform the analysis, the existing population is used with a high significance level, and it is considered as a finite sample. The following is the calculation of the sample:

Data for the calculation of the finite sample:

N = Population size = 5915

z = Confidence level for 95% = 1.96

q = Probability of failure = 50% = 50% = Probability of failure = 50% = Probability of failure = 50% = Probability of failure = 50%

p = Probability of success = 50% = 50% = Probability of success = 50% = Probability of success = 50% = Probability of success = 50%

e = Maximum permissible error = 5%.

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Finite sample formula:

$$n = \left(\frac{N * Z * p * q}{e^2 * (N-1) + z^2 * p * q}\right)$$

$$n = \left(\frac{5915 * 1,95 * 0,5 * 0,5}{5^2 * (5915-1) + 1,96^2 * 0,5 * 0,5}\right)$$

$$n = 361$$

As a result of the sample size calculation with a confidence level of 95%, it was determined that the sample should be composed of 361 small and medium-sized companies in the industrial sector that submitted financial information during the study period (2017-2021). This sample size will allow obtaining accurate and representative results of the population under study.

Results

The calculation of financial leverage and corporate profitability is performed using the database provided by the Superintendence of Companies Securities and Insurance, covering the period from 2017 to 2021. Below is a table of descriptive statistics that provides a quantitative summary of the data analyzed. These statistics provide an overview of the distribution, central tendency and dispersion of the variables under study, providing relevant information about the data.

Table 1. *Principal statistics of financial leverage*

Year	Minimum	Maximum	Media	Median	Est. dev.
2017	0,1021	4,583	1,941	1,749	0,8076
2018	0,00759	4,126	1,841	1,696	0,7555
2019	0,05681	4,333	1,790	1,606	0,7367
2020	0,03406	4,052	1,729	1,597	0,7244
2021	0,2954	3,763	1,825	1,682	0,6389

Note. The table shows information on the minimum, maximum, mean, median and standard deviation of financial leverage during the period

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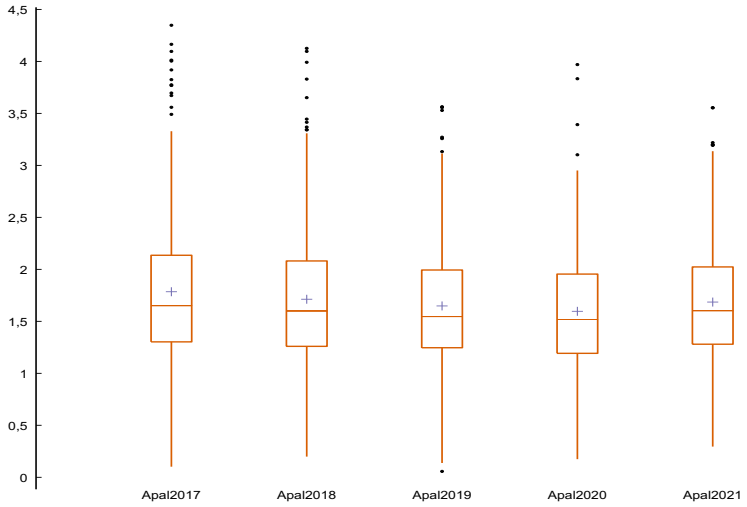
from 2017 to 2021. Taken from Statistical Package for Social Sciences, 2023, The Author.

During the analysis period, there has been minimal variation in the average financial leverage, remaining stable at around 1.6. This indicates a constant trend in the average level of leverage in the sector studied. Likewise, a similar trend has been found in the median financial leverage, with relatively stable values around 1.6. This suggests that half of the values are above this point and half below.

Regarding the variability of the data, a wide dispersion has been identified in the extreme values of financial leverage over the years analyzed. The minimum values range between 0.05680 and 0.2954, while the maximum values vary between 3.555 and 4.348. This variability at the extremes indicates the presence of exceptional cases in terms of financial leverage as shown in Figure 1.

Figure 1 **.** Cash and Whisker Diagram Leverage 2017-2021



Note. The figure shows information on the distribution and variability of financial leverage during the period from 2017 to 2021. Taken from Statistical Package for Social Sciences, 2023, The Author.

These findings highlight the general stability of the average level of financial leverage in the sector studied during the analysis period. However, the wide dispersion in the extreme values suggests the existence of companies with significantly higher or lower leverage levels, which is evident when generating the corresponding frequency distribution for each year. It is relevant to analyze the frequency

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distribution of financial leverage in the companies studied. This distribution provides detailed information on the frequency with which different levels of leverage are present within the sample.

In addition, by examining the distribution of frequencies over time, it is possible to identify possible variations in leverage patterns. This may reveal changes in the financial strategies adopted by companies as the economic environment and market conditions evolve.

Table 2. *Frequency distribution for Leverage 2017*

Interval	Midpoint	Freq.	Rel.	Accum.
< 0,5307	0,26536	8	2,23%	2,23%
0,5307 - 1,0614	0,79608	29	8,10%	10,34%
1,0614 - 1,5922	1,3268	130	36,31%	46,65%
1,5922 - 2,1229	1,8575	101	28,21%	74,86%
2,1229 - 2,6536	2,3883	48	13,41%	88,27%
2,6536 - 3,1843	2,919	24	6,70%	94,97%
3,1843 - 3,7151	3,4497	9	2,51%	97,49%
3,7151 - 4,2458	3,9804	8	2,23%	99,72%
>= 4,2458	4,5111	1	0,28%	100,00%

Note. This frequency distribution allows us to analyze the concentration or dispersion of the values of financial leverage in 2017 and to obtain an overview of how these values are distributed in the sample studied. Taken from Statistical Package for Social Sciences, 2023, The Author.

Business Profitability Analysis

The results obtained from a table of descriptive statistics that provides a quantitative summary of the data analyzed are presented below. These statistics provide an overview of the distribution, central tendency and dispersion of the variables related to ROE, which is relevant for understanding the profitability and financial performance of SMEs in Ecuador.

Table 3. *Key statistics of the ROE 2017-2021*

Year	Minimum	Maximum	Media	Median	Est. dev.
2017	0,1226	0,09196	0,1181	-0,01552	0,6883
2018	0,1027	0,07996	0,1004	-	0,6859
2019	0,0922	0,07215	0,1012	0,02873	0,7133
2020	0,0880	0,05932	0,1068	-0,03521	0,8132

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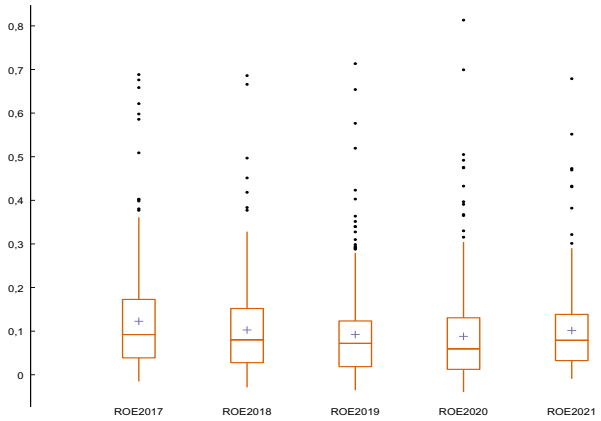
2021	0,1014	0,07925	0,0918	-0,03976 -0,00924	0,6788

Note. The table shows information on the minimum, maximum, mean, median and standard deviation of the ROE during the period from 2017 to 2021. Taken from Statistical Package for Social Sciences, 2023, The Author.

During the analysis period from 2017 to 2021, a stability in the average return on equity (ROE) has been observed in the companies studied, remaining around 0.1. This indicates a constant trend in the average level of profitability generated by shareholder investment. A similar trend has also been found in the median ROE, with relatively stable values around 0.09. This suggests that half of the values are above this point and the other half below, which reflects a balanced distribution in terms of the profitability of the companies. Regarding the variability of the data, a wide dispersion in the extreme values of the ROE has been identified throughout the years analyzed. The minimum values range between 0.0568 and 0.1027, while the maximum values vary between 0.6788 and 0.8132. This variability at the extremes indicates the presence of companies with exceptionally high levels of profitability compared to the average. These significant differences at the extremes of ROE point to the existence of companies with outstanding financial performance and many others that face challenges in terms of profitability, as can be seen in Figure 2.

Figure 2. Box-and-Whisker Diagram ROE 2017-2021



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Note. The figure shows information on the distribution and variability of the ROE during the period from 2017 to 2021. Taken from Statistical Package for Social Sciences, 2023, The Author.

By analyzing the frequency distribution of ROE in the companies studied, a more detailed view of the frequency with which different levels of profitability are present in the sample is obtained, providing more complete information on this business indicator, serving as an aid in making informed financial decisions.

Relationship between the level of financial leverage and corporate profitability of industrial SMEs in Ecuador during the study period.

Table 4. *Correlation Matrix*

Correlation Coefficient (Leverage, ROE)
0,22338333

Note. Taken from Statistical Package for Social Sciences, 2023, The Author.

A correlation coefficient of 0.22 between financial leverage and ROE of industrial SMEs in Ecuador indicates that there is a weak positive connection between these two variables. This implies that, in general, a high level of financial leverage is associated with a slight increase in the financial performance of firms. However, it is important to note that this relationship is not very strong, implying that there are other factors that may have a more significant influence on the ROE of these companies. In order to visualize more clearly the relationship between financial leverage and ROE in industrial SMEs in Ecuador, a scatter plot is presented below. This will allow us to analyze the strength and direction of the relationship between these two key variables in the financial performance of the companies.

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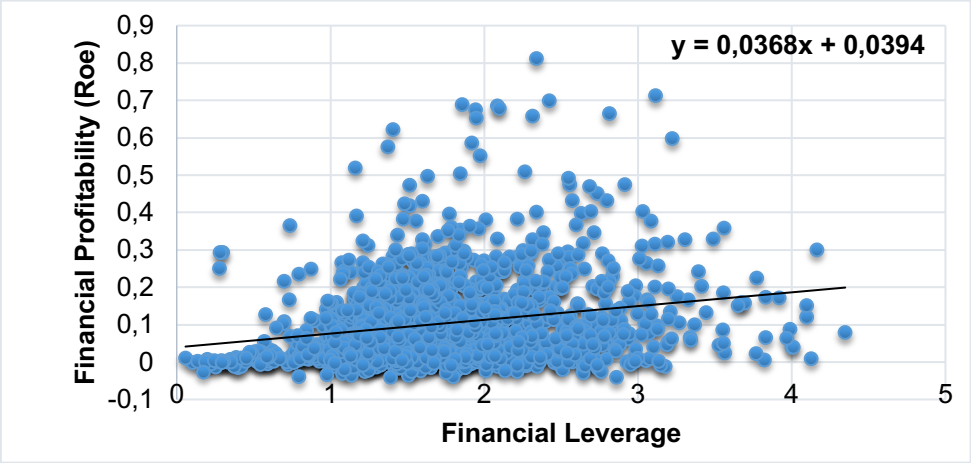
Figure 3. Leverage vs. ROE scatterplot



Note. Taken from Statistical Package for Social Sciences, 2023, The Author.

The slope obtained in the analysis, with a value of 0.0368, indicates that, for each additional unit in Financial Leverage, an average increase of 0.0368 in Financial Profitability is expected. However, it is important to keep in mind that this relationship is weak, which implies that other factors may have a significant influence on the Financial Profitability of the companies.

This graphical analysis provides us with an overview of the relationship between Financial Leverage and Financial Profitability in industrial SMEs in Ecuador. It is important to consider this link when assessing the impact of leverage on the financial performance of companies and to make informed decisions on capital structure and financial management in general.

This study examines the relationship between financial leverage and the profitability of companies in the industrial sector, with previous research in different economic sectors.

Through a detailed analysis of financial data, case studies and comparisons between companies in the industrial sector, this study will provide a clearer picture of how financial leverage influences profitability and financial management in this specific sector. It will also provide insight into best practices in managing financial leverage, strategies for minimizing the associated risks, and key considerations

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that companies should take into account when making financing decisions.

On the other hand, in the case of financial leverage, it was found that it can have a positive impact, since, with an increase in leverage, financial profitability increases by 0.22 These results contrast with the results of the study by Segura (2021), where he examined the relationship between financial leverage and profitability in companies in the beverage sector in Ecuador. The objective was to evaluate the incidence of different leverage indicators on financial profitability. According to the results obtained, an increase in short-term indebtedness decreases financial profitability by -1.35, while an increase in financial leverage increases it by 1.78.

In Prado's research (2020), he found that the influence of indebtedness on the financial performance of companies in the agricultural sector, the incidence of indebtedness on the financial profitability of these companies was evaluated. According to his results, an increase in financial leverage is associated with a variation of 0.39% in profitability.

Conclusions

During the period analyzed from 2017 to 2021 in the industrial SME sector in Ecuador, different patterns and trends were observed in relation to ROE and financial leverage. In terms of financial leverage, a trend of moderate use of debt by industrial SMEs was detected. This suggests that these companies did not rely heavily on external financing for their operations and had a more cautious approach to their capital structure.

In terms of ROE levels, there was a varied distribution of companies with different levels of profitability. In general, there was a concentration of companies with ROE below 0.1, indicating difficulties in profit generation and low efficiency in the use of financial resources. Over the years, a slight improvement was observed in some ROE ranges, but the proportion of companies with high levels of profitability was limited.

It is important to highlight that the economic context during these years was marked by several factors, such as the economic slowdown, the COVID-19 health crisis and the restrictive measures that affected

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companies in general. These events had a significant impact on the financial performance of industrial SMEs, hindering their profitability and generating additional challenges for their operation.

References

Álvarez, M., & Hernández, M. (2017). Public Debt, economic growth and politics. *Polis Online Magazine*, 41-71. Retrieved from https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1870-23332017000200041

Apaza, E., Salazar, E., & Lazo, M. (2019). Leverage and profitability: case study in a Peruvian textile company. *6*(1), 9-16. doi:https://doi.org/10.17162/rivc.v6i1.1253

Apazu, E., Salazar, E., & Lazo, M. (2020). Leverage and profitability: case study in a Peruvian textile company. *Valor Contable, Vl*(1). doi:10.17162/rivc.v6i1.1253.

Argüelles, L., Quijano, R., Fjardo, M., & Cruz, C. (2018). Indebtedness as an indicator of financial profitability in tourism MSMEs in Campeche. *International Journal Management and Finance*, 13. doi:delivery.php?ID=715101068095086091074101031073000010005085068040063064091025077069068084121064099126032054038038047007041077097082075029009024049023054028000112077093092016015027121067009022065104100105127066086020026091071101

National Assembly of Ecuador (2014). Codigo Organico de la Producción, Comercio e Inversiones. Retrieved from https://vlex.ec/vid/codigo-organico-produccion-comercio-643461561

National Assembly of Ecuador (2019). Organic Code of Production, Commerce and Investments. Retrieved from https://www.gob.ec/sites/default/files/regulations/2020-04/CODIGO%20ORGANICO%20DE%20LA%20PRODUCCION%2C%20COMERCIO%20E%20INVERSIONES%20COPCI.pdf

National Assembly of Ecuador (2019). Organic Law of Entrepreneurship and Innovation of Ecuador. Retrieved from https://www.gob.ec/sites/default/files/regulations/2020-03/Documento_LEY-ORGANICA-EMPRENDIMIENTO-INNOVACION.pdf

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743

Ávila, B., Ramírez, J., Pérez, S., Lechuga, C., Ramírez, D., & Bonilla, B. (2021). Does financial hierarchy theory apply to large Mexican firms? *Ingenio y Conciencia Boletín Científico de la Escuela Superior Ciudad Sahagún, 8*(16), 31-35. Retrieved from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiLue3tieD4AhUqt4QIHU9yD0UQFnoECAUQAw&url=https%3A%2F%2Frepository.uaeh.edu.mx%2Frevistas%2Findex.php%2Fsahagun%2Farticle%2Fdownload%2F6998%2F8137%2F%23%3A~%3Atext%3DLa%2520teor%25C3

Ayón, G., Pluas, J., & Ortega, W. (2020). Financial leverage and its impact on the level of corporate indebtedness. *FIPCAEC, 5*(17), 117-136. Retrieved from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwi-hJeBxfj-AhVjg4QIHc4BD6wQFnoECBUQAQ&url=https%3A%2F%2Fwww.fipcaec.com%2Findex.php%2Ffipcaec%2Farticle%2Fview%2F188&usg=AOvVaw3zivLnvq-9D-ZB3ij4GiUx.

Ayón, G., Pluas, J., & Ortega, W. (2020). Financial leverage and its impact on the level of corporate indebtedness. *Rebista Científica Ciencias económicas y empresariales, 5*(15), 117-136.

Ayón, G., Pluas, J., & Ortega, W. (March 2020). Financial leverage and its impact on the level of corporate indebtedness. *Ciencas Económicas y empresariales*. doi:10.23857/fipcaec.v5i5.188.

Bambaren, I., Campos, X., & Cubas, V. (2022). Financial leverage and profitability of heavy freight transportation companies - Bellavista district - 2021. *Continental Institutional*. Retrieved from https://repositorio.continental.edu.pe/bitstream/20.500.12394/12452/2/IV_FCE_310_TE_Bambaren_Campos_Cubas_2022.pdf

Central Bank of Ecuador (2021). *Informe de la evolución de la economía ecuatoriana en 2021 y perspectivas 2022*. Quito. Retrieved from https://contenido.bce.fin.ec/documentos/Administracion/EvolEconEcu_2021pers2022.pdf

Central Bank of Ecuador (May 31, 2022). *Credit supply and demand outlook*. Retrieved from https://contenido.bce.fin.ec/home1/economia/tasas/ET-ODC-IT-2022.pdf

Bejar, L., & Jijón, E. (2017). Measuring shareholder profitability. Is ROE a reliable indicator to evidence shareholder profitability?

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743

Polo del Conocimiento, 2(5), 1354-1361. doi: 10.23857/casedelpo.2017.2.5.may.1354-1361.

Bonmatí, J. (2016). Profitability and financial leverage. *Cont4bl3*(58), 31-34. Retrieved from https://dialnet.unirioja.es/descarga/articulo/7520658.pdf

Borja, L., & Villa, O. (2022). FINANCIAL LEVERAGE AND PROFITABILITY OF THE CANTON MANUFACTURING INDUSTRY IN CUENCA, ECUADOR. *Revista de investigación unmsm*. doi:10.15381/quipu.v30i62.22103.

Borja, L., Villa, O., & Armijos, J. (2022). Financial leverage and profitability of the canton manufacturing industry in Cuenca, Ecuador. *Quipukamayoc, 30*(62). doi:http://dx.doi.org/10.15381/quipu.v30i62.22103

Borja, L., Villa, O., & Armijos, J. (2022). financial leverage and profitability of the canton manufacturing industry in Cuenca, Ecuador. *Quipukamayoc, 30*(62), 47-55. doi:https://dx.doi.org/10.15381/quipu.v30i62.22103

Brealey, A. (2017). *Principles of Corporate Finance*. McGraw-Hill Irwin. Retrieved from https://marcelodelfino.net/files/Brealey__Myers_y_Allen_2009_Principles_of_corporate_finance.pdf

Brigham, E., & Houston, J. (2015). *Fundamental of Financial Management*. Thomson South-Western. Retrieved from http://213.55.90.4/admin/home/Dmu%20Academic%20Resource//Burie%20Campus/Under%20Graduate/Accounting%20and%20Finance/Accounting%20and%20Finance%20Extension%20Program/Third%20Year/Fundamentals%20of%20Financial%20Management.pdf

Brito, D. (2018). Entrepreneurial risk. *University and Society Journal*, 269-277. Obtenido de http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2218-36202018000100269

Buenaventura, G. (March 2002). El estudio de Apalancamientos como Metodología de análisis de la gestión en la empresa. *Estudios Gerenciales*, 65-91. doi:scielo.php?script=sci_abstract&pid=S0123-59232002000100004&lng=en&nrm=iso&tlng=es

Calderón, B. (2022). LEVERAGING AND FINANCIAL PROFITABILITY IN MANUFACTURING COMPANIES IN TUNGURAHUA. *UTA Respositories*. Retrieved from https://repositorio.uta.edu.ec/bitstream/123456789/31753/1/T4876ig.pdf

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743

Carchi, K., Crespo, M., González, S., & Romero, E. (2020). Financial ratios, the key to managerial finance applied to a manufacturing company. *INNOVA RESEARCH JOURNAL, 5*(2), 32-33. doi:10.33890/innova.v5.n2.2020.1193

Carchi, K., Crespo, M., González, S., & Romero, E. (2020). Financial ratios, the key to managerial finance applied to a manufacturing firm. *INNOVA Research Journal*, 26-50. Obtenido de https://repositorio.uide.edu.ec/bitstream/37000/4153/1/1193-Texto%20del%20art%C3%ADculo-6198-1-10-20200507.pdf

Carella, Á., Hernández, A., & Pi, J. (2003). *Research in the savings and credit cooperative sector in southern Latin America*. Retrieved from DGRV FUCAC: https://www.aciamericas.coop/IMG/pdf/cooperativas._america_sur.pdf

Carranco, R. (2017). The contribution of small and medium enterprises (SMEs) in the Ecuadorian economy. *International University of Ecuador*, 146-157. Retrieved from https://www.uv.mx/iiesca/files/2018/03/14CA201702.pdf

Carriel, F., & Flores, J. (March 2020). *Indebtedness and Corporate Profitability*. Retrieved from Empirical Analysis of manufacturing firms in the provinces of Guayas-Ecuador: https://dspace.ups.edu.ec/bitstream/123456789/19522/1/UPS-GT003052.pdf

Economic Commission for Latin America and the Caribbean (2022). *About Microenterprises and SMEs*. Retrieved from https://www.cepal.org/es/temas/pymes/acerca-microempresas-pymes

Contreras, I. (2006). Analysis of economic (ROI) and financial profitability (ROE) in commercial companies and in an inflationary context. *Visión Gerencial*. Retrieved from https://www.redalyc.org/pdf/4655/465545874003.pdf

Correa, D., Cardo, N., & Murillo, M. (December 12, 2021). Financial indicators: Tools to evaluate the going concern principle. *Desarrollo Gerencial*. doi:10.17081/dege.13.2.4882.

Correa, J., Gómez, S., & Londoño, F. (2018). Financial indicators and their efficiency in explaining value generation in the cooperative sector. *Revista Facultad de Ciencias Económicas: Investigación y Reflexión*, 129-144. doi:https://doi.org/10.18359/rfce.3859

Corredor, G., & Zambrano , S. (December 2013). Pecking Order theory versus Trade off theory for the company Coservicios S.A. E.S.P. *Apuntes del Cenes, 32*(56). Retrieved from http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-30532013000200009

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743

Daza, J. (2016). Corporate growth and profitability in the Brazilian industrial sector. *Accounting and Management, 61*(2). doi:10.1016/j.cya.2015.12.001.

Duarte, J. (2004).), companies often face specific challenges that can affect their profitability, such as intense competition, changes in market demand and production costs. *Departament D'Econoomia de L' Empresa*. Retrieved from https://www.tdx.cat/bitstream/handle/10803/3957/jldc1de1.pdf

Fornero, R. (2018). Financial analysis with accounting information. *Programmed study manual*. Retrieved from https://economicas.unsa.edu.ar/afinan/dfe/trabajos_practicos/afic/AFICCap3.pdf

García, A., & López, G. (2017). Analysis of the interrelationship between operating and financial leverage explained through the Trade-Off Theory for real sector companies in Colombia, which are not listed on the stock exchange between the years 2005 to 2015. *EAFIT University*. Retrieved from https://repository.eafit.edu.co/bitstream/handle/10784/12372/AlexanderAntonio_GarciaGonzalez_Gonzalo_LopezLopez_2017.pdf?isAllowed=y&sequence=2

García, D. (2008). Growth, indebtedness and profitability of trade fair institutions in Spain. *Academia: Accelerating the word's research*, 111. Retrieved from https://d1wqtxts1xzle7.cloudfront.net/46785285/Crecimiento_endeudamiento_y_rentabilidad20160625-24181-1y0jw4p-with-cover-page-v2.pdf?Expires=1657645631&Signature=Sd7QfSLqTrjLrqNPzo2CNrtcM6xToaGwgV9yCOw~6zXh8ifvVLftZ9Ai6TmNI~ICAOvR1W~2wOMztckXQaAmKgHVsQgm2

Gaytán, J. (2018). Financial resources invested in operation and installed capacity in organizations. *Markets and Business, 34*, 131-144. Retrieved from https://www.redalyc.org/journal/5718/571864087007/html/

Gaytán, J. (2021). The DuPont Model and return on assets (ROA). *Markets and Business*(43), 119-132. doi:https://doi.org/0.32870/myn.v0i43.7638

Gil, J., Cruz, J., & Lemus, A. (January 23, 2018). Corporate financial performance. *Revista EAN*. doi:10.21158/01208160.n84.2018.1920.

Gil, J., Rosso, J., & Ocampo, J. (2018). Leverage level and corporate financial stability: the case of firms from Colombia and

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743

Argentina. *Redalyc*. doi:https://doi.org/10.14718/revfinanzpolitecon.2018.10.2.4

Giler (2016). *Kristy*. Editorial Universitaria Abya-Yala. Retrieved from https://dspace.ups.edu.ec/bitstream/123456789/12825/1/GESTION%20DE%20RIESGO%20EMPRESARIAL.pdf

Gironella, E. (2005). Financial leverage: how increased indebtedness can improve a firm's financial profitability. *Journal of Accounting and Management, 2*, 71-91. Retrieved from https://accid.org/wp-content/uploads/2018/09/analisis_castellano_071-091.pdf

Gitman, L., & Zutter, C. (2013). *Principles of financial management*. Pearson. Retrieved from https://economicas.unsa.edu.ar/afinan/informacion_general/book/pcipios-adm-finan-12edi-gitman.pdf

Gómez, R. (2012). *Introduction to Financial Management: The international versus domestic arena*. Retrieved from https://www.ugr.es/~rgomezl/documentos/publiclibros/Gestion-Financ/GestionFinanciera.pdf.

Granados, R. (2016). *University of Granada*. Retrieved from Multiple Linear Regression Models: http://www.ugr.es/~montero/matematicas/regresion_lineal.pdf.

Graterol, Á., Alizo, M., & Molero, N. (August 2010). Evaluation of the financial performance of the cooperatives in the municipality of Maracaibo, Zulia State. Period: 1999-2006. *Revista Omnia*(2), 150-177. Retrieved from https://www.redalyc.org/pdf/737/73715084009.pdf

INEC. (2022). *Directory of Companies and Establishments 2021*. Quito: Dirección de Estadísticas Económicas (DECON). Retrieved from https://www.ecuadorencifras.gob.ec/documentos/web-inec/Estadisticas_Economicas/DirectorioEmpresas/Directorio_Empresas_2021/Boletin_Tecnico_DIEE_2021.pdf#page=9&zoom=100,53,637

Jaramillo , Y. (2021). LEVERAGE AND INFLUENCE ON FINANCIAL PERFORMANCE IN MANUFACTURING INDUSTRIES: IICUC-1020.0 IN ECUADOR. Retrieved from https://cia.uagraria.edu.ec/Archivos/JARAMILLO%20QUINTO%20KATHERINE.pdf

Jaramillo, Y. (February 24, 2021). *UAE Repository*. Retrieved from https://cia.uagraria.edu.ec/Archivos/JARAMILLO%20QUINTO%20KATHERINE.pdf

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743

Lopéz, J. (2014). *Technical University of Ambato*. Retrieved from Apalancamiento Financiero y su impacto sobre la rentabilidad de las Pymes de las Pymes de la ciudad de Ambato durante el año 2013: https://repositorio.uta.edu.ec/bitstream/123456789/20697/1/T2730i.pdf

Maejo, R. (2022). *Nubox*. Retrieved from What is financial leverage from an accounting point of view: https://blog.nubox.com/empresas/que-es-el-apalancamiento-financiero

Manrique, G., & Salazar, G. (2017). Debt and its impact on profitability. *Dialnet*, 154-182. Retrieved from https://dialnet.unirioja.es/servlet/articulo?codigo=7883811

Marcillo, C., Aguilar, C., & Gutiérrez, N. (April 2021). Financial analysis: a key tool for management decision making. *Digital Publisher*. doi:10.33386/593dp.2021.3.544.

Martínez, R., & Blanco, M. (2017). Risk management: reflections from an emerging business management approach. *Revista Venezolana de Gerencia*, 693-707.

Martínez, R., & Blanco, M. (2017). Risk management: reflections from an emerging business management approach. *Revista Venezolana de Gerencia, 22*(80), 693-711. Retrieved from https://www.redalyc.org/journal/290/29055967009/html/

Medeiros, V., Goncalves, L., & Camargos, E. (2019). Competitiveness and its determinants: a systemic analysis for developing countries. *CEPAL Review*, 7-27.

Mejía, D., Gómez, L., & Gutiérrez, J. (December 2019). Credit Risk, Cost of Capital and Excessive Financial Leverage. *Echoes of Economics, 23*(49). doi:10.17230/ecos.2019.49.3.

Mejía, R. (2011). Identification of business risks. *Fondo Editorial Universidad EAFIT*, 50. Retrieved from https://www.eafit.edu.co/cultura-eafit/fondo-editorial/colecciones/academicos/Documents/1er%20CAPÍTULO-IDENTIFICACIÓN%20DE%20RIESGOS.pdf

Mongrut, S., Fuenzalida, D., Pezo, G., & Teply, Z. (December 2010). Exploring capital structure theories in Latin America. *Cuadernos de Administración Journal, 23*(41). Retrieved from http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-35922010000200008

Mongrut, S., Fuenzalida, D., Pezo, G., & Teply, Z. (December 2010). Exploring capital structure theories in Latin America. *Cuadernos de Administración, 23*(41). Retrieved from

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743

http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-35922010000200008

Moreno, C., Cevallos, D., & Balseca, N. (2018). Strategic planning in the Ecuadorian business sector. Case study: Cerraduras Ecuatorianas S.A. *Revista Espacios*, 18-36. Retrieved from https://www.revistaespacios.com/a18v39n42/a18v39n42p18.pdf

Myers, B. (2013). *Principles of Corporate Finance*. McGrawHill Education. Retrieved from https://www.economicas.unsa.edu.ar/afinan/informacion_general/book/princ_de_finanzas_corporativas_9ed__myers.pdf

Myers, S. (1984). The capital structure puzzle. *The Journal of Finance, 39*(3), 575-592.

Nava, M. (2009). Financial analysis: a key tool for efficient financial management. *Revista Venezolana de Gerencia, 14*(48), 606-628. Obtenido de http://ve.scielo.org/scielo.php?script=sci_arttext&pid=S1315-99842009000400009

Oliveros, J., & Pinto, B. (2014). Quantitative variables and their impact on asset profitability. Case: PYMI's of the San Cristobal Municipality, Venezuela. *Actualidad contable Faces*, 56-58. Retrieved from https://www.redalyc.org/articulo.oa?id=25731098005

Párraga, S., Pinargote , N., García , C., & Zamora, J. (March 2021). Financial management indicators in small and medium-sized enterprises in Ibero-America. *Revista Dilemas Contemporáneos: Educación, Política y Valores.*(Special Issue), 24. doi:10.46377/dilemas.v8i.2610.

Pérez, E., & Titelman, D. (2018). *Financial inclusion for productive insertion and the role of development banking*. Retrieved from ECLAC: https://repositorio.cepal.org/bitstream/handle/11362/44213/1/S1800568_es.pdf

Prado, L. (May 5, 2020). *UAE repository*. Retrieved from https://cia.uagraria.edu.ec/Archivos/PRADO%20MOSCOSO%20LINDA%20KATHERINE.pdf

Pulgarin, S., Rodríguez, K., & Acevedo, W. (2021). Leverage and investment methods as a financing strategy for SMEs. *Corporación Universitaria Minuto de Dios*. Retrieved from https://repository.uniminuto.edu/bitstream/10656/16721/1/T.CP_PulgarinPosadaSandraCatalina_2021.pdf

Quimi, K., Zeas, J., & Orellana , M. (2021). Debt and leverage: Strategic ally or business enemy? *studies*. Retrieved from

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjU94mezPj-AhWkRDABHeAYC94QFnoECD8QAQ&url=https%3A%2F%2Fjournalbusinesses.com%2Findex.php%2Frevista%2Farticle%2Fdownload%2F209%2F533%2F1302&usg=AOvVaw3Apgps6HWCdidyYx-elsa_

Rice, E. (2013). The role of Competitive Advantage in the economic development of countries Economic Analysis. *Economic Analysis Journal, 69*(28), 55-78. Retrieved from https://www.redalyc.org/pdf/413/41331033004.pdf

Rivera, J. (2020). Accounting performance and EVA in SMEs in the leather, footwear and leather goods industry in Colombia. *rev.univ.empresa, 22*(38). doi:https://doi.org/10.12804/revistas.urosario.edu.co/empresa/a.7335

Rivera, J., Lopeda, S., & Oviedo, N. (2018). Financial evaluation of the paper, cardboard and derivatives manufacturing industry in Colombia 2010-2015. *Entramado, 14*(1). doi:https://doi.org/10.18041/entramado.2018v14n1.27104

Rodríguez, M., Piñeiro, C., & Llano, P. (2013). Risk Map: Identification and Management. *Atlantic Review of Economics, 2*(1). Retrieved from https://dialnet.unirioja.es/servlet/articulo?codigo=4744304

Ron, R., & Sacoto, V. (2021). Ecuadorian SMEs: their impact on employment as a contribution of GDP SMEs to total GDP. *Revista Espacios*, 15-26. Retrieved from https://www.revistaespacios.com/a17v38n53/a17v38n53p15.pdf

Ross, J. (2016). *Fundamentals of Corporate Finance*. McGrawHill. Obtenido de http://www.untag-smd.ac.id/files/Perpustakaan_Digital_1/CORPORATE%20FINANCE%20Fundamentals%20of%20Corporate%20Finance,%206th%20Ed%20-%20Vol%20I.%5B2002.ISBN0072553073%5D.pdf

Sanchez, A. (2014). Optimal capital structure in the presence of financial distress costs. *Research and Development, 1*(14), 44-65. Retrieved from http://www.scielo.org.bo/scielo.php?script=sci_arttext&pid=S2518-44312014000100004

Sancho, A., & Serrano, G. (2005). *Econometrics of Economic*. Retrieved from https://www.uv.es/~sancho/panel.pdf.

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743

Segura, T. (June 2021). *UTA Respository*. Retrieved from https://repositorio.uta.edu.ec/bitstream/123456789/33086/1/T5081ig.pdf

Solano, A. (2016). Managerial decision making. *Technology in Motion Magazine*, 44-51. Retrieved from https://dialnet.unirioja.es/descarga/articulo/4835719.pdf

SuperCIAS (March 2021). Super Intendecia de Compañias, Valores y Seguros. 6-7. Retrieved from https://www.supercias.gob.ec/bd_supercias/descargas/ss/20111028102451.pdf

Talleado, J. (2021). Financial leverage and profitability of the company desnivel Perú SAC. Miraflores - 2019. *Peruvian University Repository*. Retrieved from http://repositorio.ulasamericas.edu.pe/bitstream/handle/upa/1404/TALLEDO%20FRIAS_TESIS.pdf?sequence=1&isAllowed=y

Tehulu, T. (2013). Determinants of Financial Sustainability of Microfinance Institutions in East Africa. *European Journal of Business and Management, 5*(17), 152-158. Retrieved from https://core.ac.uk/download/pdf/234624875.pdf

Temprano, A. (2015). Analysis of the effect of financial leverage. *International Graduate Center*. Retrieved from https://digibuo.uniovi.es/dspace/bitstream/handle/10651/32509/TFM_%20AinhoaVallina.pdf?sequence=6

Temprano, A. (July 2015). *International Graduate Center*. Retrieved from https://digibuo.uniovi.es/dspace/bitstream/handle/10651/32509/TFM_%20AinhoaVallina.pdf?sequence=6&isAllowed=y

Valle, A. (2020). Financial planning a key tool for achieving business objectives. *Revista Universidad y Sociedad*, 160-166. Obtenido de http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2218-36202020000300160

Vargas, A. (2014). Optimal capital structure in the presence of financial distress costs. *Research & Development Journal*, 44-65. Retrieved from http://www.scielo.org.bo/scielo.php?script=sci_arttext&pid=S2518-44312014000100004

Vásquez , C., Choquecahua, N., & Diego, R. (June 2021). Comparative analysis of liquidity and indebtedness, in sugar companies listed on the BVL. *Espíritu Emprendedor TES, V*(2). doi:10.33970/eetes.v5.n2.2021.256.

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743

Vázquez, A. (2001). Results of the current process of change in corporate asset and liability structures: The complementarity and interdependence between operating leverage and financial leverage. *European Research in Management and Business Economics*, 67-90. Retrieved from https://dialnet.unirioja.es/descarga/articulo/206170.pdf

Zaitoun, M., & Alqudah, H. (2020). The Impact of Liquidity and Financial Leverage on Profitability: The Case of Listed Jordanian Industrial Firm's. *International Journal of Business and Digital Economy, 1*(4), 29-35. Retrieved from https://www.researchgate.net/publication/347510749_The_Impact_of_Liquidity_and_Financial_Leverage_on_Profitability_The_Case_of_Listed_Jordanian_Industrial_Firm's/link/600337f8299bf140889ec002/download.

Zambrano , F., Sánchez, M., & Correa, S. (March 2021). Analysis of profitability, indebtedness and liquidity of microenterprises in Ecuador. *Journal of Management Science and Economics, 11*(22). doi:10.17163/ret.n22.2021.03.

Received June 04, 2022 / Approved October, 22 2021 Pages: 45-75
eISSN: 2600-5743