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Comparative analysis of capital structures in Latin America companies

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Abstract

This article aims to provide a comparative analysis of the capital structure of large companies in the manufacturing sector of Colombia and Ecuador regarding company size, guarantees or tangibility, cost of debt, growth opportunities, reputation, and liquidity as determinant variables. Based on a sample of 509 manufacturing companies in Colombia and Ecuador, a panel data model was applied to estimate the determinants of the indebtedness of companies in this sector. The findings expose that in Colombia, the variables that influence the total indebtedness of companies are ROA, tangibility, and liquidity. In Ecuador, variables that influence the analysis of the total indebtedness of companies are ROA, size, tangibility, and liquidity. The Pecking Order Theory explains these results. This study contributes to understanding the determinants of companies' financing types in Colombia and Ecuador, acknowledging that there are substantial differences between the economies of the two countries explained above, all by dollarization and the family structure of most companies in Ecuador and by more significant development in the Colombian stock market.

Keywords: Financial structure; capital structure; financing decisions; determinants of indebtedness.

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Análisis comparativo de la estructura de capital en compañías latinoamericanas

Resumen

El objetivo de este artículo es ofrecer un análisis comparativo de la estructura de capital de las grandes empresas del sector manufacturero de Colombia y Ecuador en relación con el tamaño de la empresa, las garantías o tangibilidad, el coste de la deuda, las oportunidades de crecimiento, la reputación y la liquidez como variables determinantes. A partir de una muestra de 509 empresas manufactureras de Colombia y Ecuador, se aplicó un modelo de datos de panel para estimar los determinantes del endeudamiento de las empresas de este sector. Los resultados exponen que, en Colombia, las variables que influyen en el endeudamiento total de las empresas son el ROA, la tangibilidad y la liquidez. En Ecuador, las variables que influyen en el análisis del endeudamiento total de las empresas son ROA, tamaño, tangibilidad y liquidez. La Teoría del Pecking Order explica estos resultados. Este estudio contribuye a la comprensión de los determinantes de los tipos de financiación de las empresas en Colombia y Ecuador, reconociendo que existen diferencias sustanciales entre las economías de los dos países explicadas anteriormente, todo ello por la dolarización y la estructura familiar de la mayoría de las empresas en Ecuador y por un desarrollo más importante del mercado bursátil colombiano.

Palabras clave: Estructura financiera; estructura de capital; decisiones de financiamiento; determinantes de endeudamiento.

1. Introduction

Companies finance their activities with their resources, debt financing, or a combination of equity and debt (Chen et al, 2023). Within each type of financing, many alternatives and possible combinations must be considered in strategic decisions, including their costs and repercussions. Consequently, the determinants of the capital structure for companies are still widely debated (Jardim et al, 2023), especially in developing countries (Lee & Dampha, 2023; Duran &Stephen, 2020).

Capital structure is an essential issue at academic and business levels (Vásquez-Tejos & Pape-Larre, 2021) because it affects the value of companies, and management decisions are important to guarantee the sustainability of company operations both in the short and long term (Boateng et al, 2022).

Particularly, studies in emerging markets are scarce (Muñoz et al, 2023; Díaz-Rivera, 2024; Melgarejo & Stephen, 2020). Therefore, this study aims to explore the determinants of companies' financing types in Colombia and Ecuador. Even though these countries are similar in social, political, cultural, and economic contexts, there are substantial differences between the economies of the two countries, as

explained above, all by dollarization and the family structure of most companies in Ecuador and by more significant development in the Colombian stock market.

Based on the trade-off theory (Kim & Sorensen, 1986) and the pecking order theory (Tulcanaza & Lee,2019; Awan & Amin, 2014; Serrasqueiro et al, 2016; Saeedi & Mahmoodi, 2009), capital structure was analyzed considering the relationship between indebtedness and variables such as tangibility, liquidity, asset profitability, size, or tax shields not generated by debt. A panel data methodology was applied to determine the importance of the independent variables, using data from the 2015-2019 period, which were also taken since there was no influence of the COVID-19 pandemic that affected the results of the models. Data corresponding to the manufacturing sector of Colombia and Ecuador considering the sector's relevance in the economy of the countries. According to the Departamento Administrativo Nacional de Estadística – DANE (2022), the manufacturing sector contributed 12.18% to the real Gross Domestic Product, and in the Ecuadorian case, Banco Central del Ecuador -BCE (2022) reports a contribution of 11.66%.

Finally, this work has the following sections: First, in the Capital Structure: Theories and factors section, the literature review and theoretical perspectives are exposed; then, the methodology aspects are above. Next, the results are displayed in the Capital Structure: A Comparative View section, where the generation of models for Colombia and Ecuador is addressed. Finally, the conclusion is presented.

2. Capital structure: Theories and factors

The optimal capital structure is a topic that has been discussed for decades by different researchers, and multiple theories have emerged around it. Nevertheless, theories explaining the capital structure based on imperfect markets arose, such as the Trade-Off Theory or static equilibrium from Modigliani and Miller (1963), regarding the asymmetric information among others and the agents' conflicts Jensen and Meckling (1986) instead. According to Logreira & Paredes (2017), all these theories consider some market deficiencies, such as taxes that represent a tax benefit by allowing them to be excluded from the taxable base.

The Trade-Off Theory comprises most of the theories that propose an optimal capital structure. It considers that the company must borrow up to the point where the marginal value of the tax benefit in additional debt is diminished by the possible costs of bankruptcy and costs of the agency, which are increased when there is doubt about the credibility of the company's debt Pinos-Luzuriaga et al, (2021).

Another theory that explains how organizations finance themselves is the Pecking Order Theory or hierarchy of preferences of Myers and Majluf (1984). This theory affirms that for companies' investment financing, there is a first option, self-financing, then financing with financial entities, and finally, the issuance of new shares. Therefore, they consider financing via creditors less expensive since they only assume the financing risk. In contrast, in financing via

equity, the partner assumes a financing and operation risk, for which he will receive higher profitability. The theory of asymmetric information is also derived from this theory, which establishes that organizations are diverse. Therefore, they have very different information regarding investment opportunities, their assets, and the costs and risks each company must incur to finance itself (Logreira & Paredes, 2017).

Studies on financial and capital structure provide elements of knowledge that allows to know the operation of such resources within organizations. Such results have been carried out in various sectors and economic environments. Considering the geographical delimitation and the economic sector, this study aims to highlight the progress made to date, which is aimed at validating the application of static equilibrium theories and hierarchical order theory in the dynamics of the markets of the selected countries.

Some factors determine capital structure in Latin American companies' studies have considered variables such as debt ratio, short and long-term debts, total assets, current liabilities, equity market value, EBIT, debt-to-equity ratio, equity value, debt-to-equity market value ratio, book market value ratio, and equity market value ratio with total assets. However, considering the economic and financial characteristics of the Ibero-American countries, the inclusion of variables such as equity profitability and ownership concentration is recommended from a multiple linear regression analysis of information obtained from 162 Ibero-American companies that listed their shares on stock exchanges between 2009 and 2015 in Argentina, Brazil, Chile, Colombia, Spain, Mexico, and Peru. Their conclusion showed a closer approach to static equilibrium theories than to hierarchical order theory Vásquez & Lamothe (2018).

Establishing a market context, most of the business population in Latin America comprises small and medium enterprises- SMEs, which not only carry the economic, political, and social vicissitudes of the Latin American context but also of their business structure, revealing limitations in the decision-making process. Furthermore, financial decisions that contribute to its sustainability (Laitón & López, 2018). By locating the analysis of such a situation, previous studies have contributed to analyzing the capital structure of organizations in several Latin American countries. It allows to observe the factors that influence their dynamics and the effects caused by the financing of organizations.

Respecting, set out to identify these determinants by analyzing information from 304 companies during the 2012-2016 periods through panel data in conjunction with a fixed effects model. These results were contracted in the light of the theories of static equilibrium and the theory of the financial hierarchy, showing that the second had a more significant explanatory effect on the units of analysis based on the variables: profitability, tangibility, liquidity, size, shields, fiscal, debt level, and growth opportunities. The latter has little significance for the study Gutiérrez et al, (2019).

On the other hand, analyzing the determinants of the capital structures of Colombian companies, precisely 42 companies that were listed on the stock market and 250 large companies categorized by level of assets during the period 2010-2018, based on the variables profitability, growth, size, GDP

cycle, and interest rates it was obtained that positive GDP growth motivates own financing before external financing and that indebtedness increases as tax benefits are offered for the debt Zuluaga (2020). This is consistent with the postulates established by the theories of the hierarchy of preferences and the Trade-Off Theory, respectively.

The following results were obtained from the significant variables, depending on the theory they apply in Table 1.

Table 1
Signes according to economics theories

Country	Static equilibrium theory	Signe	Hierarchical order theory	Signe
Argentina	Tangibility of assets	(+)	The market ratio of equity over asset value.	(-)
	Profitability	(-)		
Brazil	Growth opportunities (Sales)	(-)	Market value ratio of equity with total assets.	(-)
	Size (Sales)	(-)	Size based on assets.	(+)
	Cost effectiveness	(-)		
Chile	Tangibility of assets.	(+)	Market value ratio of equity with total assets.	(-)
	Size (assets).	(+)		
	Cost effectiveness	(-)		
Colombia	Tangibility of assets.	(+)	Size (Sales).	(-)
	Size (Assets)	(+)	Market ratio of equity over asset value.	(-)
			Profitability.	(-)
			Growth opportunities (Assets)	(+)
Mexico	Profitability.	(-)	Tangibility of assets	(-)
			Market ratio of equity over asset value	(-)
Ecuador	Profitability	(-)	Liquidity	(-)
	Size (Sales)	(+)	Tax shields are not generated by debt.	(+)
Peru	Size (Sales).	(+)	Size (Assets).	(-)
	Profitability.	(-)	Market value ratio of equity with total assets.	(-)

Note: Author's elaboration respecting Vásquez & Lamothe, (2018); Gutiérrez et al, (2019); Zuluaga, (2021); Arévalo et al, (2022).

3. Methodological foundation

Data analyzed from Colombia and Ecuador was taken from the financial structure of large companies in the manufacturing sector (sector C according to the ISIC 4.0 classification) during the period 2015-2019. The universe under study is companies that have remained active during this period and reported their financial information to the control entities in each country: The Superintendency of Companies of Colombia (2020) and the Superintendency of Companies, Securities, and Insurance of Ecuador (2020). To obtain the final database, those companies that did not have the information in one or more years during the study period were eliminated. In total, 291 companies from Colombia and 218 from Ecuador were analyzed. The Eviews 10.0 software was used to elaborate the econometric model.

A model was applied to estimate the determinants of the indebtedness of companies in the sector with panel or longitudinal data (Fernández & Murillo,

2014). Gujarati and Porter (2010) mention that when referring to panel data, cross-section data is combined with time series data, and it offers a vibrant environment for developing estimation techniques and theoretical results (Greene, 2000). However, from a more practical point of view, researchers have been able to use time series and cross-section data to examine questions that could not be studied in time series or cross-section settings alone. The study was developed with a balanced and short panel. It is so called because the number of cross-sectional units exceeds the number of periods.

The dependent variable is the level of indebtedness, which is defined as the ratio of total debt to total assets: . In addition, it will estimate the equations to explain the components of the long and the short-term debt ratio:

As evidence, there is no difference between short-term and long-term debt. The variables that explain the level of indebtedness are:

Company size: The size of a company significantly influences its debt and support capacity, with the most prominent company offering the most support. Total assets and revenue determine this value: $Ln\ (Total\ Assets)$ $L(total\ \ Sales)$. The Trade-Off Theory predicts a positive relationship between size and the level of indebtedness. This is because the largest company is much more diversified than the smallest company, and its probability of bankruptcy is lower. Thus, size is also an important mechanism for negotiating power with creditors. Authors such as Fernández and Murillo (2014), Acedo et al, (2012), and Serrasqueiro and Caetano (2015) agree that there is a positive and statistically significant relationship between the size of the company and the level of indebtedness. On the other hand, the preference hierarchy theory predicts a negative relationship between size and the level of indebtedness, prioritizing internal sources of financing such as retained earnings to finance growth. Authors such as Acaravci (2014) and Paredes, Ángeles, and Flores (2016) have obtained a negative relationship between indebtedness and business size. Among the authors who have shown that the variable business size is statistically insignificant is Tresierra (2008).

Guarantees or tangibility: Guarantees are the company's real support to investors or lenders, calculated as pledged elements or mortgaged elements, and priority elements, calculated as thoft value of tangible asset value relative to total assets (Gutiérrez et al, 2019): . The named authors refer to this variable as tangibility. According to the Trade-Off Theory, this variable is expected to have a direct relationship with the level of indebtedness since the creditors appreciate the high value of the assets or the so-called collateral. Authors such as Titman and Wessels (1988) and Serrasqueiro, Matias, and Salsa (2016) show a positive relationship between the tangibility or guarantees that the company has and the level of indebtedness. On the contrary, the preference hierarchy theory proposes a negative relationship of the guarantee or tangibility variable with the level of indebtedness since this theory focuses on using internal resources to finance itself and, therefore, using debt. As a source of financing, it is a decision that remains in the background. Authors such as Huang and Song (2006) and Padilla, Rivera, and Ospina (2015) obtained results showing the inverse relationship between the guarantees or tangibility

and the level of indebtedness.

Cost of debt: This indicator is traditionally estimated based on the relationship between financial expenses and total debt. This is to evaluate the reduction in the tendency to acquire debt: . The relationship between the level of indebtedness and the cost of debt would be expected to be negative. This relationship is based on the investment function in which it is shown that there is an inverse relationship between investment and the interest rate. According to Mochón (2009), the investment demand is given by increases desired or planned by companies with physical capital and inventories. Therefore, the higher the cost of capital, the less incentive economic agents will have to finance their projects with debt.

Growth opportunities are an element of valuing the company's intangibles and capacity to generate value. Its calculation method is shown below: . The Trade-off Theory predicts a negative relationship between the growth opportunities variable and the level of indebtedness. According to this theory, the greater the growth opportunities, the greater the bankruptcy risk and the higher the agency costs. Several investigations, such as Serrasqueiro, Matías, and Salsa (2016), have supported the trade-off theory. The preference hierarchy theory assumes a positive relationship between growth opportunities and the level of indebtedness because domestic resources are not inexhaustible, and for financing significant growth, an alternative source of resources is required, which will be indebtedness. Acaravci (2014) concludes that there is a negative relationship between debt and growth opportunities. On the other hand, authors such as Serrasqueiro and Caetano (2014) and Titman and Wessels (1988) show no statistically significant relationship between the level of indebtedness and growth opportunities.

Reputation: This variable will be measured by the company's age, so it is necessary to analyze old and active companies to date. Reputation indicates the company's seriousness and maturity in the market and is a sign of prestige: $L(age\ of\ the\ company)$. According to the Trade-Off Theory, the reputation variable has a positive relationship with the level of indebtedness; the longer its years of existence and, therefore, its credit history is, the greater the company's capacity to finance its investments with debt. On the contrary, according to the financial hierarchy theory, the relationship between reputation and the level of indebtedness will be negative. The company will prioritize internal financing. Authors such as Fernández and Murillo (2014) conclude that there is an inverse relationship between the level of indebtedness and the reputation of the company measured through the logarithm of the years of existence.

Liquidity measures a company's ability to meet its short-term obligations (Besley and Brigham, 2016): . The Trade-Off Theory predicts a direct relationship between the level of liquidity and the level of indebtedness of the company; that is, companies with a high level of liquidity have a greater capacity to pay their obligations. Furthermore, the preference hierarchy theory suggests a negative relationship between liquidity and the level of indebtedness of companies. As mentioned above, companies prefer to finance themselves with retained earnings rather than debt. Some authors such as Serrasqueiro, Matías, and Salsa (2016) and Gutiérrez, Morán, and Posas (2019) endorse this theory.

4. Capital structure: A comparative view

First, an exploratory data analysis was conducted to verify the prevalence of heterogeneity between companies and over time for each type of debt (total, short-term, and long-term). As expected, the results showed the existence of heterogeneity between companies and over time in Ecuador and Colombia.

The estimation of the econometric model was testing to which theory the financing decisions of large companies in Ecuador and Colombia are more adjusted; the study carried out six econometric estimations, three for each country, with the total, short, and long-term indebtedness as a dependent variable. Through the previous exploratory analysis, it was possible to verify the existence of heterogeneity between the agents graphically and over time. Therefore, the pool data model would be ruled out a priori. However, it is essential to formally verify, through hypothesis testing, the validity of different types of models.

Firstly, data pooling, fixed, and random effects were estimated to decide the best method. A Fisher test was performed to compare the pool data model with the fixed effects model, which is a test of individual and/or effects based on comparing the within and the pooling model. The null hypothesis of this test is that the pooling model is better than the fixed effects model. In the case of both countries, the fixed effects model turned out to be better.

Secondly, a linear model for panel data- PLM test was performed to compare the pooling data model and the random effects model. The null hypothesis of this test is that the pooling data model is better than the random effects model. Both countries rejected the null hypothesis; therefore, the random effects model is better than the pooling data model. Finally, a Durbin-Wu-Hausman test was performed to compare the fixed effects model and random effects model, also called the Hausman test or Durbin-Wu-Hausman test. The null hypothesis of this test is that the random effects model is better than the fixed effects model. The fixed effects model is better in both countries than the random effects model.

The variables used in the models for both countries are profitability, company size, tangibility, growth opportunities, liquidity, asset structure, return on assets, return on equity, and tax shields. Once the estimations of the fixed-effects model had been made, we selected the models with the 5% significance level for each country. The results are shown below (Table 2):

Table 2
Model's results

	Ecuador			Colombia		
	Total debt ratio	Short-term	Long Term	Total debt ratio	Short-term	Long Term
Size	0,0848		-0,0649			
ROA	-0,2942		0,1561	-0,5854	-0,2469	-0,3364
Guarantees	-0,0316	-0,0502	0,0337	-0,2577	-0,3337	
Liquidity	-0,0298	-0,0473		-0,0154	-0,0178	
Tax shields are not generated by debt.						0,5954

Regarding Colombia, it can be concluded that it was found that the variables that best explain the behavior of Short-term Indebtedness of companies in Colombia are guarantees (-0.33), ROA (-0.24), and liquidity (-0.01). The three previous variables have a negative relationship concerning short-term indebtedness; the more outstanding the tangibility, ROA, and liquidity, the lower the short-term indebtedness. Therefore, it can be deduced that pecking order theory fits best to this behavior. In the short term, companies in Colombia prefer to finance themselves with their resources and latter external financing.

In the analysis of long-term indebtedness, the model shows that ROA and tax shield variables are significant at 1% and 5%, respectively. The latter is more relevant to explaining the long-term indebtedness of Colombian manufacturing companies. The model demonstrates that the Tax Shields not generated by the debt positively affect the long-term Indebtedness. On the other hand, the return on assets (ROA) has an inverse relationship concerning long-term indebtedness. Long-term indebtedness increases as ROA decreases, consistent with the Pecking Order Theory.

In the analysis of the total indebtedness of companies in Colombia ROA (-0.58), guarantees (-0.25), and liquidity (-0.01) are included. All of them have a negative relationship concerning the dependent variable; that is, the higher ROA, tangibility, and liquidity the companies have, the lower their total indebtedness, demonstrating the applicability of the Pecking Order Theory.

On the other hand, the R^2 of the fixed-effects model is 0.88, which demonstrates solidity in the structure and the influence of the independent variables in explaining the dependent one.

Regarding Ecuador, the variables explaining the behavior of companies' short-term indebtedness are guarantees (-0.05) and liquidity (-0.04). The variables have a negative relationship concerning short-term indebtedness: the more outstanding the tangibility and liquidity, the lower the short-term indebtedness. Therefore, the pecking order is the theory to which this behavior best fits. In the short term, companies in Ecuador prefer to finance themselves with their resources and external financing.

The model shows that ROA, company size, and tangibility are significant variables at 5% in analyzing long-term indebtedness. The latter is more relevant to explaining the long-term indebtedness of Ecuadorian manufacturing companies. The model demonstrates that tangibility and return on assets (ROA) positively relate to long-term debt. On the other hand, the company's size has an inverse relationship concerning long-term indebtedness; long-term indebtedness increases as size decreases, which is consistent with the Pecking Order Theory.

The influential variables to the total indebtedness of companies in Ecuador are ROA (-0.29), size (0.08), guarantees (- 0.03), and liquidity (-0.02). ROA, tangibility, and liquidity have a negative relationship concerning the dependent variable; the higher tangibility, ROA, and liquidity the companies have, the lower total indebtedness, demonstrating once again the applicability of the Pecking Order Theory. On the other hand, the R^2 of the fixed effects model is 0.88, which demonstrates solidity in the structure and the influence of the independent variables to explain the dependent one.

Finally, the heteroskedasticity and autocorrelation tests were performed. In

the case of heteroskedasticity, Breusch-Pagan showed its existence. In the case of autocorrelation, the Breusch-Godfrey-Wooldridge test was performed, and it showed the presence of autocorrelation. To mitigate these problems, the matrix of variances and covariances was made consistent with the presence of heteroskedasticity and autocorrelation. Therefore, HCO (heteroskedasticity Consistent) was used (White,1980; Arellano, 1987).

From the results it can be inferred that, on the one hand in the short-term indebtedness of large manufacturing companies in Colombia, a negative relationship was obtained between tangibility, ROA, and liquidity, thus demonstrating an application of the Pecking Order Theory. This result corresponds to what Tulcanaza & Lee (2019) stated in their study of the capital structure of large Korean and Vietnamese firms. It also corresponds to the results of Awan and Amin (2014), who suggest profitability as a statistically significant variable and a negative relationship compared to short-term indebtedness in Pakistani manufacturing companies.

On the other hand, In the long-term indebtedness of the companies analyzed in Colombia, a negative result was obtained for ROA and a positive result for the tax shields generated by the debt. This means that in the long term if companies obtain higher profitability, they have less long-term debt; that is, they are financed with their resources generated by profits, which is consistent with what was stated by Vo (2017) in its structure analysis of the capital of large Korean companies.

Furthermore, the positive relationship with tax shields not generated by debt means that the higher these are (depreciation and amortization), the more they are financed via long-term debt. According to Gutiérrez, Morán, and Posas (2019), there is a discrepancy between the relationship between tax shields not generated by debt and the capital structure of organizations. Some studies show a negative relationship or no effect, such as Saeedi & Mahmoodi (2009), Acaravci (2014), and Titman & Wessels (1988).

Others demonstrate a positive relationship, such as the present study that agrees with Bradley, Jarrell, and Kim (1984), who affirm that these shields are an auxiliary variable for the security of assets. In turn, it corresponds to the results of Khan et al, (2014) and Awan & Amin (2014), where non-financial companies in Pakistan are analyzed and demonstrate a positive relationship between indebtedness and tax shields not generated by debt. Regarding the results of total indebtedness, companies in Colombia prefer to finance themselves with their resources rather than external resources.

This is based on the Pecking Order Theory and coincides with studies that have shown a negative relationship between profitability and indebtedness, such as the works of Serrasqueiro, Matias, & Salsa (2016); Saeedi & Mahmoodi (2009); Acaravci (2014); Serrasqueiro & Caetano, (2015); Booth et al, (2001); Tenjo et al, (2006); Paredes et al, (2016); Köksal & Orman, (2015) and Zuluaga (2020). These results contradict the Static Equilibrium Theory, which considers a positive relationship between the company's indebtedness and profitability. The higher the profitability, the higher the indebtedness, which implies a higher interest payment deducted from taxes (Kouki & Said, 2012; Padilla et al, 2015).

The negative relationship between

tangibility and indebtedness in large manufacturing companies in Colombia reaffirms the Pecking Order Theory and agrees with studies by Serrasqueiro, Matias, and Salsa (2016), Saeedi & Mahmoodi (2009), and Booth et al. (2001). It contrasts with studies that have found a positive relationship, such as Huang and Song (2006), Hernández and Ríos (2012), and Padilla et al. (2015).

Likewise, the negative relationship between liquidity and total indebtedness obtained as a result in Colombia coincides with the Pecking Order Theory, as companies prefer to use retained earnings rather than issue instruments to raise capital. Some studies coincide with this result (Serrasqueiro et al, 2016; Saeedi & Mahmoodi, 2009; Eriotis et al, 2007). On the other hand, this result contrasts with the static equilibrium theory that predicts a positive relationship between liquidity and indebtedness, which maintains that having a more remarkable ability to pay obligations on time should make more use of debt (Serrasqueiro et al, 2016).

On the other hand, the Pecking Order Theory supports two critical arguments against the negative relationship between the size of the company and the level of indebtedness. Large companies with better and easier access to capital markets are more willing to provide more and better information to potential investors than small companies (Gutiérrez et al, 2019). Another argument is that they have higher retained earnings which they can be financed (Saeedi & Mahmoodi, 2009; Acaravci, 2014; Sultan & Adam, 2015; Paredes et al, 2016).

In the case of Colombia, the model did not show the size variable as a significant variable, which may be due to economic factors in the environment that have to do with debt, such as monetary policy and the stability of placement interest rates according to the Central Bank decisions in controlling inflation, which fluctuate a lot in the country. These fluctuations mean that the debt is perceived as having a level of risk that many companies are unwilling to assume. In turn, it may be due to non-financial factors, such as the orientation of the company's management, which is more conservative due to risk aversion and the loss of power and control of the company.

5. Conclusion

The article aimed to explore the financial structure of large companies in the manufacturing sector of Colombia and Ecuador. The fixed effects model is better in both countries than the random effects model. It was found that the variables that best explain the behavior of short-term indebtedness of companies in both Colombia and Ecuador are tangibility and liquidity. All of them have a negative relationship concerning short-term indebtedness. Therefore, it can be deduced that Pecking Order Theory best fits this behavior. In the short term, companies in Ecuador and Colombia prefer to finance themselves with their own resources and external financing.

In the analysis of long-term indebtedness, it can be concluded that the Pecking Order Theory best fits Colombia and Ecuador. Nevertheless, there is a difference between the variables that influence most. In Colombia, tax shields are more relevant to explaining the long-term indebtedness with a positive relationship. For its part, the return on assets (ROA) has an inverse relationship concerning long-term indebtedness. In Ecuador, tangibility is more relevant to explain the

long-term indebtedness of Ecuadorian manufacturing companies. Tangibility and return on assets (ROA) positively relate to Long-term Indebtedness. On the other hand, the company's size has an inverse relationship with Long-term Indebtedness; long-term indebtedness increases as size decreases.

Finally, it can be concluded that Pecking Order Theory is the one that best explains the total indebtedness of companies in Colombia and Ecuador. ROA, tangibility, and liquidity are variables that most influence the financial structure of companies from both countries, but Ecuador identifies another variable: size. This may be due to economic factors, such as monetary policy and interest rates in Colombia.

These fluctuate a lot according to the decisions of the Central Bank, making debt perceived with a level of risk that many companies are unwilling to assume. Also, it may be due to non-financial factors, such as the orientation of the company's management and the loss of power and control of the company. In this way, this article can lead to other research works that delve into the reasons why large companies in Latin America do not use long-term financing through the non-intermediated market (stock market); maybe this could change with the integration of the stock exchanges of Colombia, México, Perú among others.

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