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FINANCIAL DEBT OF THE CONSTRUCTION SECTOR IN COLOMBIA BETWEEN 2012-2015

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ABSTRACT

In order to analyze the indebtedness margins of the national construction sector to identify opportunities for improvement, a refined database of 10,708 companies arranged chronologically between 2012-2015 was consolidated and by mathematical transformation the indicators of leverage, concentration of the liabilities in the short term, indebtedness with the financial sector and the indebtedness ratio. Finally, high annual indebtedness margins were deducted in the construction sector in less than a year with its suppliers, which reduces the investment possibilities in macro projects of greater economic importance for companies and, therefore, slows growth of the sector.

1. INTRODUCTION:

The construction sector is key to the growth of nations due to its great contribution to the development of road infrastructure and job creation, and for Colombia it has been a source of wealth above sectors such as mining and services (Superintendency of Societies, 2013). The Construction Chamber of Commerce reported in 2019 the creation of 111,789 new jobs

in Colombia, with a sector contribution to GDP of 3.3% (DANE, 2019) still considered one of the pillars of the country's growth (DNP, 2011).
However, the global economic depression as an effect of Covid-19 has slowed the possibilities of own investment and third parties for the capitalization of companies (World Bank, 2020) and its effects could be reflected with greater intensity in the sector of Colombian construction. Consequently, it is necessary to inquire about self-financing strategies under own indebtedness or with third parties that companies access for their sustainability over time and competition in the markets.

In this measure, it is important to determine the sector's indebtedness ratio in order to know the financial risk run by the shareholders of the company and its creditors based on the degree of indebtedness existing in the determined period of time (Amat, 2005). Authors such as (Tybout, 1983; Nabi 1989, Gomez, 2007) highlight the importance of the availability and timely use of financial resources to keep the company operational, while Sánchez (2002) and Ramírez (2009) focus attention on financing, the time intervals for attracting the invested resources and the importance of maintaining a good credit life. Finally, the general objective is to know the state of indebtedness in the construction sector of Colombia during the period 2012-2015 in order to identify opportunities for improvement.

2. METHODOLOGY: DATA, SAMPLE SELECTION AND STUDY VARIABLES:

The sample of accounting data was collected from the Business Information and Reporting System - SIREM, for companies in the construction sector in Colombia that make annual reports of their financial statements and interest expenses, and that are subject to inspection and surveillance by the Superintendency of Companies. The data of the Financial Statements were selected by economic subsectors related to the main sector (construction), in Table 1 they are related from the International Standard Industrial Classification of All Economic Activities - ISIC (Rev. 4.)

Table 1. Classification of construction activities

Group	Class	Description
		Building construction
411		Building construction
	4111	Construction of residential buildings
	4112	Construction of non-residential buildings
		Civil engineering works
421	4210	Construction of roads and railways
422	4220	Construction of public service projects
429	4290	Construction of other civil engineering works
		Specialized activities for the construction of buildings and civil engineering works
431		Demolition and site preparation
	4311	Demolition
	4312	Site preparation

432		Electrical, plumbing and other specialized installations
	4321	Electrical installations
	4322	Plumbing, heating and air conditioning installations
	4329	Other specialized facilities
433	4330	Completion and finishing of buildings and civil engineering works
439	4390	Other specialized activities for the construction of buildings and civil engineering works
	1082	Manufacture of cocoa, chocolate and confectionery products
	1083	Manufacture of macaroni, noodles, couscous and similar farinaceous products
	1084	Preparation of prepared meals and dishes
	1089	Manufacture of other food products n.e.c.
109	1090	Manufacture of prepared animal feed
		Preparation of beverages
110		Manufacture of beverages
	1101	Distillation, rectification and mixing of alcoholic beverages
	1102	Manufacture of non-distilled fermented beverages
	1103	Production of malt, brewing of beer and other malted beverages
	1104	Manufacture of non-alcoholic beverages, production of mineral waters and other bottled waters

Source: ISIC Rev. 4.

The data are reported in the SIREM and correspond to records for the years 2012, 2013, 2014 and 2015 with a total number of 10,932 companies and that comply with the conditions that make the data comparable (Montegut et al., 2002); From this, the accounts with atypical data were eliminated for the final construction of a balanced panel of 10,708 companies as the final study sample.

Table 2. Indebtedness indicators

Indicator	Definition	Formulas
Leverage (times)	Compare the asset with the equity invested in a financial operation	Total Liabilities / Total Equity
Short-Term Liability Concentration (%)	Measures the percentage of debts with third parties to be paid in the short term.	(Current Liabilities / Total Liabilities) x 100
Indebtedness with the Financial Sector (%)	Express as a percentage the total debts that have been acquired with the financial sector	(Total Financial Obligations CP and LP / Total Assets) x 100
Debt Ratio (%)	It allows to measure the percentage of participation of creditors within the company	Total Liabilities / Total Assets

Source: Amat (2005)

The variables selected to analyze the indebtedness of the sector described in Table 2 follow the International Financial Reporting Standards (IFRS) and whose mathematical obtaining formula followed the criteria of previous studies carried out by Rappaport, 1998; Sanchez, 2002); Amat, 2005; Radi and Bolívar, 2007; Ramírez, et al, 2009; Correa et al., 2016).

3. RESULTS AND DISCUSSION:

83.83% of the companies in the construction sector in Colombia that report to the SIREM were selected as sample objects for this research. By geographical location, 39.86% of the companies in the sector are located in Bogotá, the Capital District, followed by the department of Antioquia (11.01%), Atlántico (4.7%), Valle del Cauca (3.84%)) and Santander (3.81%).

For each of the years (2012 - 2015), it is presented in Fig. 1, Fig. 2, Fig. 3 and Fig. 4, the ranges of contributions of the companies and their percentage of participation for the variables Total Assets, Total Liabilities and Total Equity.

Figure 1. Average total assets of construction companies in 2012.

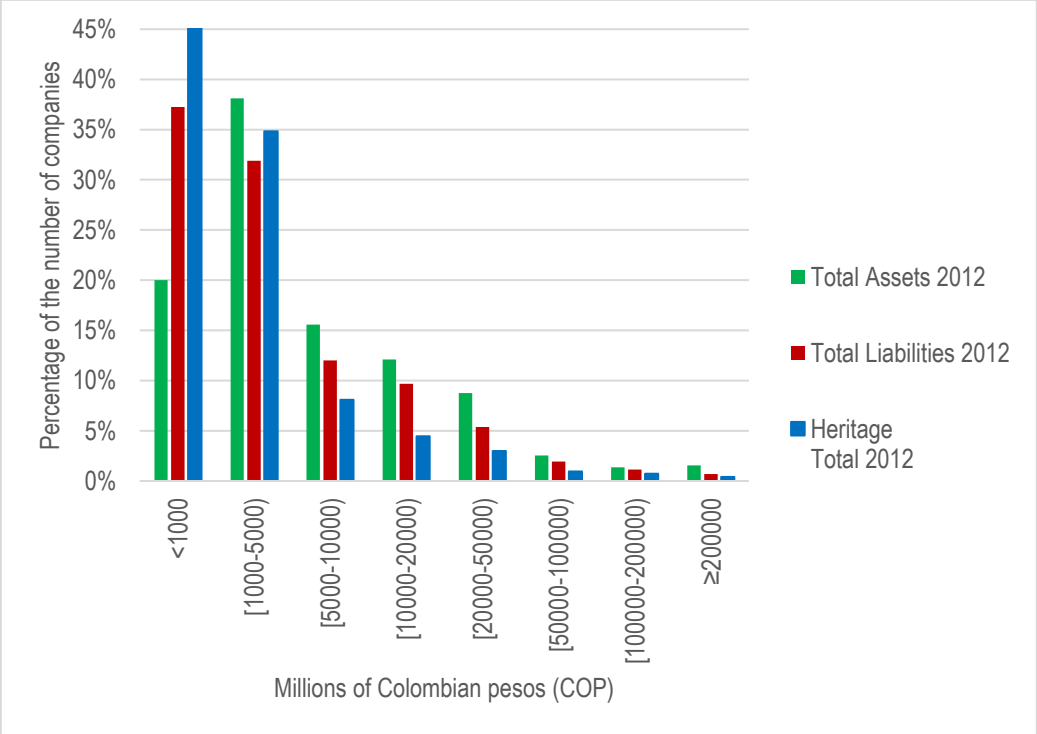


Figure 2. Average total liabilities of construction companies in 2013.

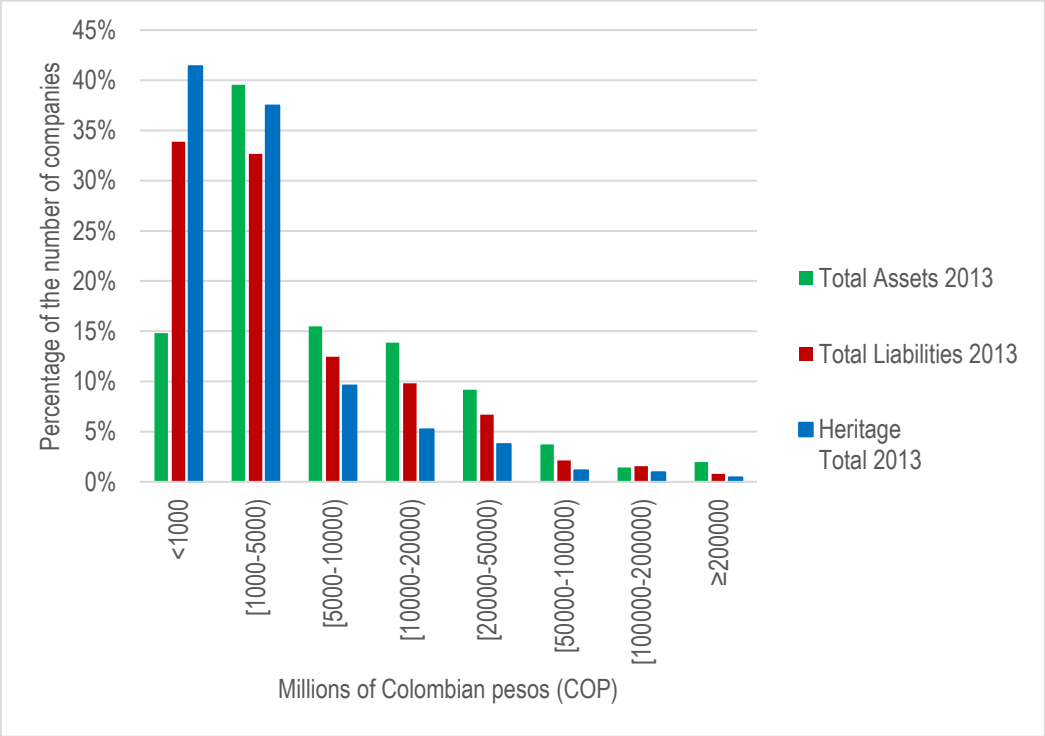


Figure 3. Average equity of construction companies in 2014.

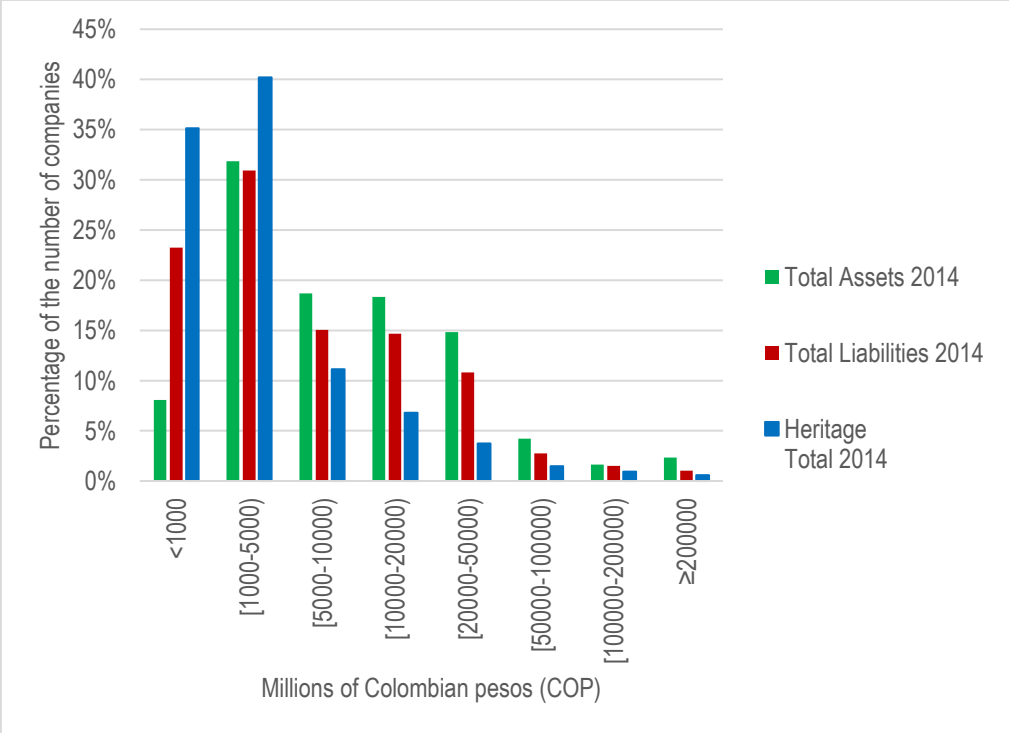
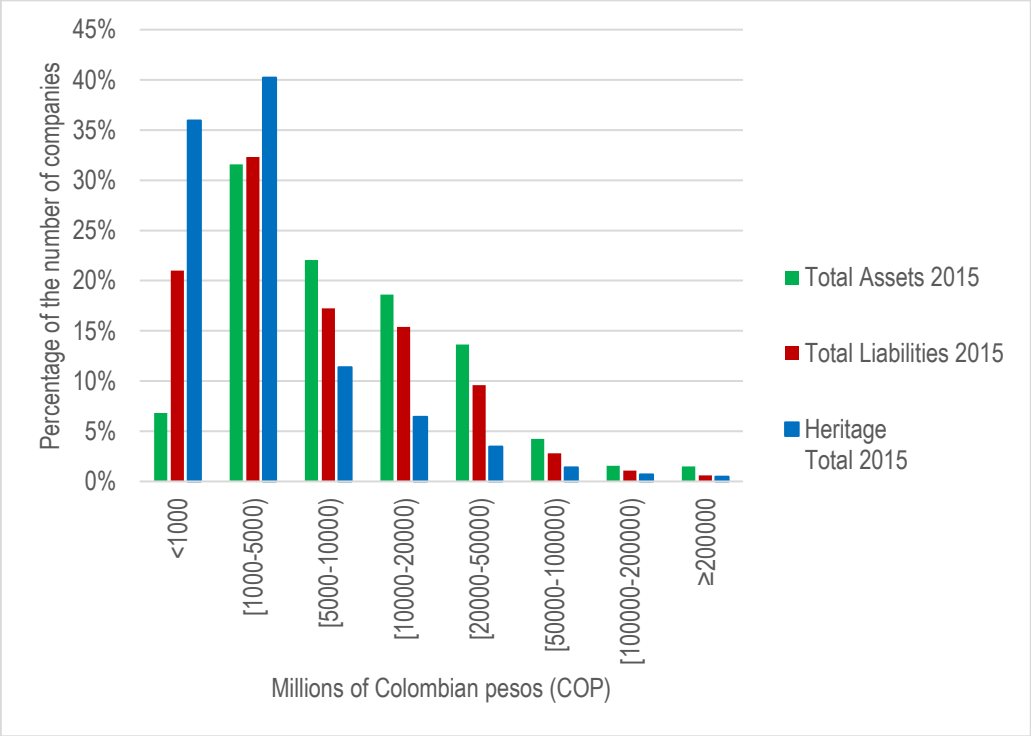


Figure 4. Average equity of construction companies in 2015.



From the set of figures, it stands out that on average 48% of the national companies in the construction sector are micro-companies, 18% are small, 16% are medium and only 17% are large; regarding Total Liabilities, 61% of the companies concentrate their financial obligations in a range of less than 5,000 million Colombian pesos (COP); and in the same way, the Total Equity with 78% is located in this investment range.

Table 3. Financial indicators of the construction sector

Year	Leverage	Concentration of liabilities in the short term	Indebtedness to the financial sector	Debt ratio
2012	8	66	29	211
2013	32	66	18	58
2014	19	65	19	64
2015	1457	64	20	64

Table 3 shows in 2015 an exponential increase in financial leverage from own capital, which according to Amat (2005) is not entirely unfavorable if said indebtedness is reflected in proportional increases in the profitability of the company through of a more efficient use of its assets; This question is reflected in future research in the construction sector where it is required by activities and particularities of the company (Correa et al., 2016). The concentration of liabilities in the short term reflects a slightly decreasing behavior over

time, however, high financing margins are observed with company own capital above 64%, whose indebtedness margins differ from those reported by the Superintendency of Companies (2013) for the same sector in response to its financial obligations and commitments.

In general terms, construction companies in Colombia do not exceed 29% of sectoral financial indebtedness, which implies payment of deferred obligations and in the long term to a lesser extent than the obligations contracted at less than one year of collection; This scenario coincides with the results of the 2008-2011 sector study carried out by the Superintendency of Companies (2013) and consolidates the behavior of taking a low financial risk to access wide-ranging loans that support large and long-lasting projects in the sector, except alliances peer-to-peer strategies.
Finally, the Debt Ratio is considered high but stable in relation to the historical trend of the sector, when reporting an investment with investors' own resources between 58 and 64 Colombian pesos (COP) for each peso of external financing received; This behavior infers undercapitalization of investors and to be constant over time, as a result of similar results that the Superintendency of Societies (2013) produced, consequently a strategic intervention of Colombian public policy is proposed that makes obtaining more flexible credit in the medium term and long term for its survival in the construction sector market.

4. CONCLUSIONS:

The study of indebtedness indicators for the construction sector in Colombia during the period 2012-2015 reflects a high margin of indebtedness with suppliers in the short term and decapitalization of direct investors, although at the sector level the proportion of indebtedness is low in the medium and long term. This behavior limits the growth of the sector over time, access to macro-projects at the individual level and makes foreign investment in the sector unattractive.

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