

The impact of restrictions on working capital in Ecuadorian tourism companies in the period 2015-2021

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ABSTRACT

The subject of women's entrepreneurship in the tourism sector has attracted increasing academic Working capital affects the financial management of companies. Access to financing sources determines how it is financed. The presence of financial restrictions makes the entrepreneur or manager configure his capital structure based on the available resources. This article seeks to determine the impact of restrictions on working capital in tourism companies in the period 2015-2021. From the findings obtained through the econometrics of random effects panel data, it is worth noting that cash and accounts payable are influenced by the financial restrictions present in tourism companies.

Keywords: Financial constraints, working capital, tourist companies.

INTRODUCTION

The tourism sector is one of the sectors that the different governments of Ecuador have promoted in response to a diversification of the economy beyond being an exporter of raw materials and agricultural products. Tourism in Ecuador is quite limited to domestic tourism, except for the Galapagos, for its natural wealth, and Quito, for its cultural and heritage tourism, which are well-known destinations outside the country.

In this sense, the contribution to the tourist activity, regarding hotels and restaurants, is centered in the province of Pichincha (54.1%), followed by Guayas (25.3%). These reflect the importance of these areas in the Ecuadorian tourism economy, placing it as the third item of income from non-oil exports, after bananas and shrimp (Higuerey, et al., 2020).

Despite this, tourism companies, like any other productive sector, must finance their short-term resources to be able to work on a day-to-day basis (working capital). Nevertheless, resources are limited, and the attainment of funds is limited by credit history and the possible guarantees that can be provided in a negotiation with a financial institution at a given moment in time. Obtaining resources in the capital markets (Stock Market) is even more complicated because companies must have a certain size, the amount to be requested must be large, and the transaction costs are high. Some small Ecuadorian companies have used family loan to finance their short-term activities.

When the company uses working capital, it considers cash, accounts receivable, accounts payable, and inventory. These balance sheet items have an opportunity cost because if the capital is higher, the risk and the profitability are lower. Designating the optimal level that

compensates both objectives is a fundamental element within the financial management of the company (Dhole et al., 2019), and determining the diversity of strategies that can be generated to manage this (Baños-Caballero et al., 2014); and even more so in a sector that seeks rapid growth to meet the expectations of different users.

The objective of this article is to analyse whether the working capital of Ecuadorian tourism companies in its different components was influenced by financial restrictions in the period 2015-2021. It is a topic of interest for managers and entrepreneurs of tourism companies because it allows the design of strategies to manage working capital based on the restrictions that may arise when obtaining financial resources. The rest of the article is articulated as follows: in section two is the literature review, in section three is the methodology, in section four the results and finally the conclusions and future research are added.

LITERATURE REVIEW

There are several articles in the literature that state that financial restrictions improve working capital management because companies, having fewer financing options, must manage their resources more carefully (Baños-Caballero et al. 2014).

On the other hand, there are authors who show that restrictions worsen the performance of working capital (Almeida et al. 2011). Among the authors who highlight the positive impact of financial restrictions on working capital are Banerjee et al. (2021), who analysed companies listed in the US, concluding that companies with financial constraints have higher working capital efficiency. Jabbouri et al. (2022) studied listed companies in North Africa and the Middle East, finding that those with financial restrictions have more aggressive working capital policies, reducing investment in them.

A negative impact of financial restrictions on working capital has been evidenced by various authors. Altaf and Ahmad (2019) analysed non-financial companies in India, concluding that those with greater financial restrictions have lower optimal levels of working capital. In the same sector of non-financial companies, but in United Kingdom, Baños-Caballero et al. (2014) indicated that lower optimal working capital is more likely in companies with financial constraints. On the other hand, Dhole et al. (2019) studied Australian companies reaching the conclusion that efficiency in working capital is associated with lower levels of financial restriction. Chen and Kieschnick (2018) analysed North American listed companies and associated the financial restrictions they face with less customer credit (accounts receivable).

In the Ecuadorian case, Higuerey et al. (2023) concluded that the manufacturing companies with higher levels of financial restrictions are associated with lower levels of investment in the different elements of working capital. For his part, Ugando et al. (2018) highlighted in the transport sector that some managers prefer to work with high levels of own funds even if this leads to a lower profit. However, they did not consider using outside sources to invest own capital in other strategic objectives and provide the company of tax savings. Valladares et al. (2021) identified that the global models are significant for the periods 2014-2017 in manufacturing companies, implying that the working capital management indicators explain the fluctuations of asset profitability. Ugando et al. (2019) developed, in the context of SMEs, a criteria to consider for the establishment of a scientifically structured policy of efficient financial planning and optimization of resources economic with capital restrictions.

OBJECTIVE

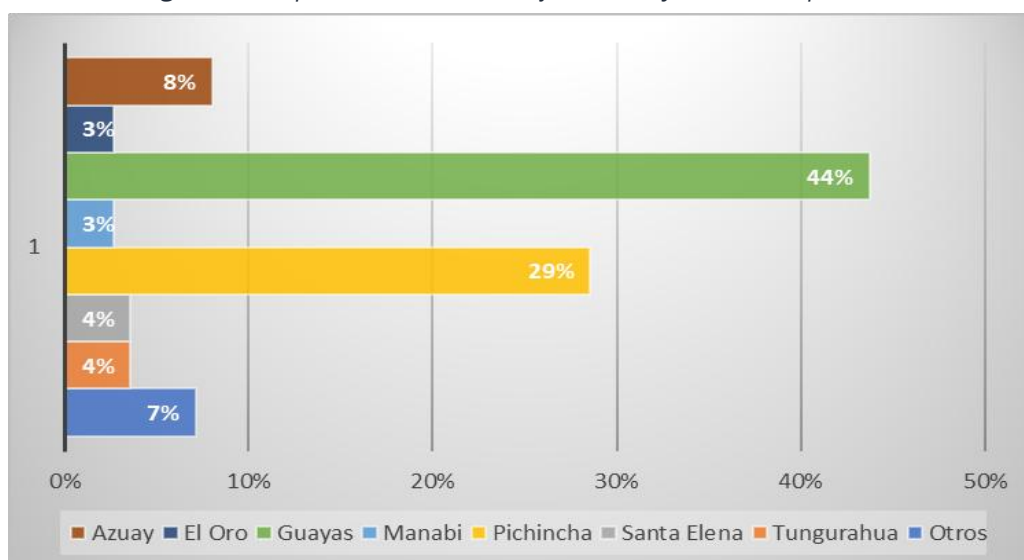
The present study aims to analyse whether the working capital of Ecuadorian tourism companies in its different components was influenced by financial restrictions in the period 2015-2021.

METHODOLOGY

In this article, the balance sheets and income statements of companies are from sector I (ISIC 4.0) in the period 2015-2021. The selection criteria of the companies imply that they are active and have data for all the years of study of the selected variables. The final database has 784 observations during the study period, which represent most of the provinces that make up Ecuador.

Figure 1 shows the distribution of the data by province, highlighting that the provinces with the highest tourist movement represent more than 70% of the sample, such as Pichincha and Guayas; while the other provinces are quite far away, confirming the representativeness of the sample taken in this study.

Figure 1 – Proportional distribution of the data by Ecuadorian provinces



Source: Own elaboration based on data from Supercias (Superintendencia de Compañías, Valores y Seguros del Ecuador)

The variables to be used in this research are shown below:

Dependent variables (Chen and Kieschnick, 2018):

Effect (Effective): It is the ratio between the cash and the assets of the company. The company can make it liquid at any time.

Ccob (Accounts Receivable): It is the ratio between accounts receivable and total assets. It brings together the accounts receivable of the normal course of business of the company.

Inv (Inventory): It is the ratio of inventories between the assets of the company. In the inventory are all the inventories of the company; In the case of tourism companies because they are service companies, the inventory is not important.

Cpag (Accounts Payable): It is the ratio between accounts payable and total liabilities. They are the accounts payable for the normal course of business.

Financial restrictions (independent variables):

Racob (Coverage Ratio): It is the ratio between assets and current liabilities of the company.

Carfin (financial charge): It is the ratio between financial expenses and income of the company.

Cargofin (Financial Expenses Coverage): It is the ratio between the operating profit (EBIT) and the financial expenses of the company.

Control variables:

Size (Size): It is the size of the company and is calculated as the logarithm of the total assets. It has been used by Armas and Higuerey (2022), among others.

ROE (Financial profitability): It is the profitability of the owners and is calculated as net profit divided by equity. It has been used by Higuerey Gómez et al. (2019), among others.

GDP: It is the annual growth rate of GDP. It has been applied by Armas and Higuerey (2022).

CPI: It is the annual growth rate of prices (inflation). It has been used by Armas and Higuerey (2022).

On the other hand, the hypotheses to be tested are formulated as follows:

- (i) H₁: The cash of tourism companies is influenced by the financial restrictions in the period 2015-2021.
- (ii) H₂: Accounts receivable from tourism companies are influenced by financial restrictions in the period 2015-2021.
- (iii) H₃: The inventory of tourism companies is influenced by financial restrictions in the period 2015-2021.

- (iv) H₄: The accounts payable of tourism companies are influenced by the financial restrictions in the period 2015-2021.

The methodology used in this article is panel data with robust random effects to consider the heterogeneity of the companies, heteroscedasticity and autocorrelation.

RESULTS

Table 1 shows the descriptive statistics of the variables used. The Effect variable has an average of 0.14. The tourism companies, in the study period, have an average of 14 percent of the assets in cash. In the case of accounts receivable (Ccob), they represent on average almost 16 percent of total assets, while inventory is on average 6.66% of assets. Because they are service companies, this item reflects their minor importance, unlike manufacturing companies, in which this item is the most important. In companies in the tourism sector, accounts payable (Cpag) represent an average of 23% of total liabilities. The financial restriction variables have positive averages and the control variables also, except in the case of GDP, which has a negative average due to the incidence of Covid-19.

Table 1 – Descriptive statistics of the variables

Variable	Observations	Mean	Standard desv.	Min	Max
Effect	784	0,1400	0,1859	0,0000	0,9510
Ccob	784	0,1597	0,2141	0,0000	1,0000
Inv	784	0,0666	0,1332	0,0000	0,9884
Cpag	784	0,2323	0,2702	0,0000	1,0000
Racob	778	3,2734	9,7368	0,0025	162,2751
Carfin	784	0,0243	0,0917	0,0000	2,2626
Cargofin	589	57,95	708,10	-4.923,79	14.992,20
Tam	784	12,6875	1,4279	8,9148	16,6883
ROE	784	0,1849	0,3576	-0,9227	1,8844
GDP	784	-1,6886	3,4877	-9,0713	3,0104
IPC	784	0,0079	0,0137	-0,0093	0,0338

Table 2 shows the correlations between the variables. It should be noted that no correlation exceeds the value of 0.5, which indicates that there is little associativity between the variables. There is a weak correlation between cash and size, medium between accounts payable and receivable, weak and negative between ROE and size, weak between ROE and GDP, and ROE and CPI, with the correlation between CPI and GDP being around 0.5.

Table 2 – Correlation of the variables

Variable	Effect	Ccob	Inv	Cpag	Racob	Carfin	Cargofin
Effect	1,0000						
Ccob	-0,0247	1,0000					
Inv	0,0361	-0,0804	1,0000				
Cpag	0,1213	0,4131	0,1728	1,0000			
Racob	0,0752	-0,0015	0,0055	0,0173	1,0000		
Carfin	-0,1144	-0,1280	-0,0965	-0,1291	-0,0474	1,0000	
Cargofin	0,1511	-0,0230	0,0197	0,0171	0,0959	-0,0258	1,0000
Tam	-0,3043	-0,1078	-0,1393	-0,1337	-0,0916	0,2298	-0,0256
ROE	0,2600	0,2509	0,0775	0,1298	-0,0366	-0,1314	0,0913
GDP	0,0336	0,0452	0,0036	-0,0093	0,0076	0,0159	0,0460
IPC	0,0077	0,0305	0,0148	-0,0087	0,0077	0,0112	0,0374
Variable	Tam	ROE	GDP	IPC			

Tam	1,0000			
ROE	-0,1344	1,0000		
GDP	0,0047	0,1909	1,0000	
IPC	-0,0258	0,1677	0,4903	1,0000

Table 3 shows the regression of the variables, because of the models applied to companies in the tourism sector using a data panel with random effects.

Table 3 – Results of the econometric models, applied to companies in the tourism sector. Random effects panel data regression

VARIABLES	Equation 1 Effect	Equation 2 Ccob	Equation 3 Inv	Equation 4 Cpag
Racob	0,000384 (0,000697)	-0,0007 (0,000772)	0,000138 (0,000321)	0,00305*** (0,00101)
Carfin	-0,0323 (0,0545)	-0,0341 (0,0602)	-0,0195 (0,0249)	-0,064 (0,0785)
Cargofin	1,92e-05** (7,84E-06)	-2,80E-06 (8,69E-06)	-1,40E-06 (3,61E-06)	1,59E-05 (1,13E-05)
Tam	-0,0290*** (0,00843)	0,00659 (0,0105)	-0,00786 (0,00549)	-0,0205 (0,0127)
ROE	0,0566*** (0,0168)	0,0703*** (0,0187)	-0,00817 (0,00781)	0,00749 (0,0242)
GDP	0,00122 (0,00157)	0,00224 (0,00172)	-0,000519 (0,000705)	-0,00214 (0,00226)
IPC	-0,738* (0,408)	-0,294 (0,447)	0,192 (0,183)	0,0837 (0,586)
Constant	0,504*** (0,11)	0,0782 (0,137)	0,171** (0,0718)	0,487*** (0,165)
Observations	589	589	589	589
R-squared	0,161	0,078	0,027	0,04

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

From the results shown in Table 3, it can be indicated that Cargofin has a positive impact on cash (Effect), so H₁ is not rejected; while the rest of the variables that represent financial restrictions are not significant. In the case of accounts receivable (Bcc), these are not influenced by any of the variables that represent financial restrictions (H₂ is rejecting). Inventory (Inv) is not affected by financial restrictions (H₃ is rejected), while accounts payable (Cpag) depend positively on the coverage ratio (Racob) (H₄ is not rejected). Table 4 shows the results with quadratic terms to check whether there are non-linear specifications in the relationship of the variables studied in these econometric models.

Table 4 – Results of the econometric models applied to companies in the tourism sector. Quadratic function data panel random effects

VARIABLES	Equation 5 Effect	Equation 6 Ccob	Equation 7 Inv	Equation 8 Cpag
Racob	0,00352* (0,00189)	0,00282 (0,00214)	0,00134 (0,000907)	-0,0115*** (0,00268)
Carfin	-0,468** (0,193)	-0,303 (0,221)	-0,255*** (0,0970)	-0,826*** (0,273)
Cargofin	3,15e-05** (1,48e-05)	-1,51e-05 (1,65e-05)	5,22e-07 (6,89e-06)	1,09e-05 (2,09e-05)
Racob2	-2,35e-05* (1,26e-05)	-2,48e-05* (1,42e-05)	-8,70e-06 (5,97e-06)	0,000104*** (1,78e-05)

Carfin2	0,201** (0,0853)	0,123 (0,0976)	0,106** (0,0424)	0,350*** (0,121)
Cargofin2	-1,18e-09 (1,06e-09)	9,30e-10 (1,18e-09)	-2,03e-10 (4,88e-10)	6,75e-10 (1,49e-09)
Tam	-0,0249*** (0,00860)	0,0101 (0,0106)	-0,00660 (0,00545)	-0,0216* (0,0124)
ROE	0,0490*** (0,0170)	0,0708*** (0,0190)	-0,0104 (0,00799)	0,00116 (0,0240)
GDP	0,00111 (0,00157)	0,00202 (0,00173)	-0,000622 (0,000713)	-0,00298 (0,00220)
IPC	-0,725* (0,404)	-0,257 (0,447)	0,200 (0,184)	0,00343 (0,568)
Constant	0,456*** (0,112)	0,0316 (0,138)	0,158** (0,0712)	0,554*** (0,161)
Observations	589	589	589	589
R-squared	0,171	0,104	0,043	0,126
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1				

From the analysis of table 4, it can be inferred that there is a non-linear relationship between cash and financial charge (Carfin). In the case of accounts receivable (Ccob), the square terms of the financial constraints have no influence at a 95 percent confidence level. In the case of inventory (Inv), Carfin is relevant to explain the investments in it; while, for accounts payable (Cpag), the quadratic terms of Carfin and Racob are relevant to explain them. These results shown in the present study indicate that financial charges have various impacts on the components of working capital in companies in the tourism sector in Ecuador, which coincides with the central idea of the work presented by Chen and Kieschnick (2018), and Higuerey et al. (2023), in which it is shown that the management of financial charges can influence the variables that configure the working capital.

CONCLUSIONS

This article studied the impact of financial restrictions on the different components of the working capital of Ecuadorian tourism companies in the period 2015-2021. Tourism companies are important for Ecuador, because they diversify the Ecuadorian economy.

From the findings, it can be highlighted that cash is influenced by financial restriction variables. When companies faced with these difficulties, they choose to have more cash. On the other hand, accounts receivable and inventories do not depend on the financial restrictions in the linear panel regression, which is feasible, because companies must have a defined credit policy and inventories. The presence of financial restrictions makes companies to have more accounts payable as an alternative financing method.

When an analysis with quadratic terms is performed to check non-linearity in the relationship between working capital and financial constraints, findings are different. Cash and accounts payable are influenced by quadratic terms, but with this specification, inventories are related to financial constraints, unlike linear panel regression. In future research, other control variables will be added to consider specific factors in the tourism industry and other estimation techniques such as PLS-SEM models will be employed.

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AUTHORS' CONTRIBUTIONS (CREDIT)

Conceptualization, AAHG and MUP; methodology, ERIL and MUP; software, ARSG; validation, MUP and ARSG; formal analysis, AAHG, RAH and PDDM; investigation, AAHG, RAH, PDDM and MUP; resources, AAHG, RAH and ERIL; data curation, AAHG, RAH and ARSG; writing—original draft preparation, MUP and ARSG; writing—review and editing, AAHG, MUP and ARSG; visualization, ARSG; supervision, RAH, PDDM, ERIL and MUP; project administration, PDDM, ERIL and MUP; funding acquisition, AAHG, RAH and MUP.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Data supporting the findings of this study are available upon reasonable request.

ETHICS STATEMENT

This study did not involve human participants or animals and therefore did not require ethical approval.

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