Human capital and internationalization of manufacturing firms in Colombia: an application of logistic regression analysis

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Abbreviated abstract: A logistic regression analysis is used to determine the incidence of general and specific human capital in export capacity of manufacturing companies in Colombia. In this sense, we use the data of the Annual Manufacturing Survey, for a total of 7,344 companies, corresponding to the year 2020. It is found that general human capital, positively affects the internationalization capabilities of manufacturing companies, while the experience of employees is not statistically significant.

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Problem, Data, Previous Works

- The academic literature on the determinants of internationalization of manufacturing firms in industrialized economies is extensive. The reason for this continuing interest is simple: an export-oriented manufacturing sector is a sign of a competitive economy that is integrated into global trade.

- A relatively new area on these links, particularly in developing economies such as Colombia, is human capital. In previous studies, there seems to be a link between the stock of human capital and the internationalization of firms in an emerging economy as Brazil (Fontes et al., 2020 and Mataveli et al. 2022).

- In the present study, general human capital, is assumed to be the proportion of employees with university, technical or technological training over the total number of employees. Specific human capital, on the contrary, is associated with the experience of workers, and will be considered as the total number of employees with long-term contracts.

Methods

- To explore these variables, a logistic regression analysis is used to determine the incidence of general human capital on the number of manufacturing firms that have sales abroad (export capacity) in Colombia.

- In this sense, we use the data of the Annual Manufacturing Survey of the National Administrative Department of Statistics (DANE), for a total of 7,344 companies, corresponding to the year 2020. Approximately, 31.6% of the manufacturing firms that were part of the survey had a percentage of sales in foreign markets.

- The dependent variable is the export capacity of firms, while the independent variables are generic human capital, specific human capital, total number of employees and industrial sector according to Marsili & Verspagen (2002) classification: Science based (SB), Fundamental process (FP), Complex system (CS), Continuous process (CP), or Other (OT).

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Results and Conclusions

Table 1. Results of the Logit analysis (dependent variable Export propensity)

Independent variables	Coefficients	Marginal effects
Generic human capital	1.2498***	3.4894
Specific human capital	-0.0083	0.9916
Control variables		
Number of employees	0.0094***	1.0094
Sector - SB	0.6883***	2.0105
Sector - FP	0.8706***	2.3883
Sector - CS	1.2066***	3.3422
Sector - PE	0.7108***	2.0357
Sector - OT	0.5666***	1.7624

Significance codes: ***$p < 0.01$

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