

Workers Earnings Determinants in Brazil: the Threshold Effect on Schooling and the Difference between States

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Abstract

The paper comprises a human capital investments empirical analysis on microeconomic level and its effects over earnings, in order to estimate the return to schooling on earnings. Using 2014 National Household Sample Survey Pesquisa Nacional por Amostra de Domicílios microdata, earnings equations are specified with Heckman's sample selection model for bias correction for each Brazilian state to test the hypothesis that there's a threshold effect on return to schooling, check its effects on return to schooling and differences between states. Results show that the threshold effect is relevant on every Brazilian state and that there's substantial differences between them. However, it is not possible to assert that there are significant differences on return to schooling, before the threshold, between states with similar returns.

Key words:

Return to schooling, threshold effect, Heckman model

Introduction

The paper is based theoretically on the concept of human capital – skills, abilities and characteristics of an individual that are capable of promoting his productivity. It was established as a field of study as such empirical form after Jacob Mincer's work, synthesized in Mincer (1974). It is understood as investment in this form of capital the expenditures that gives the individual such skills and abilities and, hence, gives the individual monetary return over time. Learning on-the-job, learn-by-doing and education are forms of investment in human capital. In this context, the paper has the objective of estimating the return to schooling for each Brazilian state, as well verifying the hypothesis of the threshold effect existence on return to schooling, always looking for differences between federative units. The return to schooling shows a threshold if returns gains are considerably bigger after a certain level of schooling.

Results and Discussion

The results were obtained estimating econometric regression models. It was utilized Heckman's method to correct a specific bias on estimated parameters caused by sample selection non-randomness. For this, it is inserted a variable (obtained from another equation, which evaluates the sample selection rule) in earnings determinants equation. There is, in the paper, two forms of viewing the return to schooling: before the threshold and after. The prethreshold return corresponds to the return of the individuals who possess schooling level less than the threshold. The states which have biggest prethreshold returns are Paraíba, Rio Grande do Norte and Sergipe. It is noted a trend to bigger returns in states with low schooling, and vice versa. Bigger differences between states are observed when it is considered the total return, beyond threshold. This result is shown in Image 1. Distrito Federal, Alagoas, São Paulo, Espírito Santo, Paraíba and Roraima are units that show returns bigger than 30% - each year of schooling beyond the threshold increases earnings in one third. These states also have high threshold.

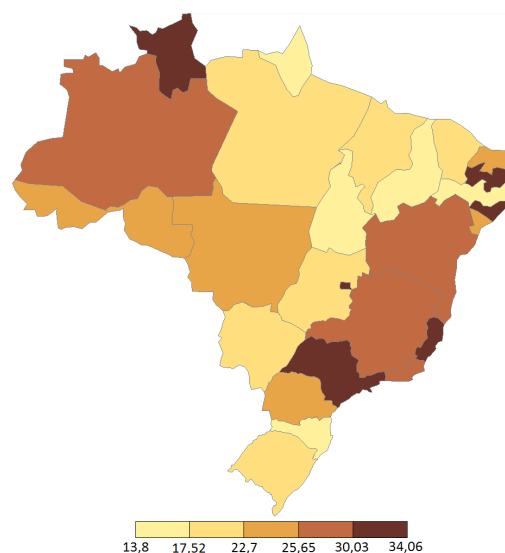


Image 1. Total return to schooling (%).

Conclusions

Education, by being a form of human capital accumulation, is prime on determining workers earnings. There's also a threshold effect, wherein returns gains are substantially bigger onwards certain point, which differs between states. Relevant differences between states are observed for beyond threshold returns, without necessarily following differences on average schooling or level of economic development. Policies of higher education ingress facilitation focused on poor people could favor the falling of inequality.

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Mincer, Jacob. *Schooling, Experience, and Earnings*. Nova Iorque: National Bureau of Economic Research, 1974.