

An analysis of the demographic dividend on school enrollment in Brazil: a hierarchical and spatial-hierarchical approach

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The aim of this paper is to investigate the determinants of elementary and high school levels attendance in Brazil, combining two educational studies tradition. The first one deals with the demographic dividend and the second one with the theoretical approach of Educational Production Function. Additionally, this article takes into account the spatial dynamic in the educational analysis, through the construction of an alternative methodology that combines the spatial and hierarchical models.

The analysis is done via two different methodologies: hierarchical and spatial-hierarchical. The first one is important for incorporating the hierarchic structure of the data, providing better estimates of the parameters. The hierarchical-spatial model deals with spatial autocorrelation and heterogeneity which is important since we worked with areal data.

The main results show that in the elementary level, lower demographic pressure is among the most important contextual factors influencing children school enrolment. On the other side, educational supply, represented by teacher/population in school age ratio, is the areal most relevant aspect. The hierarchical-spatial model reveals that the dependency ratio and the additional contextual variables of adjacent cities have an influence on school enrollment when a specific city is considered.