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Project
Understanding the expenditure per child in ECE by Brazilian municipalities: An analysis of the effective expenditure per child, the driver of the expenses, and the cost of inaction for Brazil

Jaqueline holds an M. Sc. in Applied Economics and a Bachelor in Economic Sciences from the University of São Paulo. She currently works as an Education Network Management Specialist and focuses on guiding Brazilian municipalities in their efforts to expand access to Early Childhood Education (ECE) along with quality and equity.
Understanding the expenditure per child in Early Childhood Education by Brazilian municipalities

ECDAN Knowledge Fellow Program
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Agenda

• Overview
• Methods
• Main findings
• Plans to use it
Overview

- Municipalities are in charge to offer Early Childhood Education (ECE) - 5568 municipalities
- Enrollment in ECE is the main public policy to foster Early Childhood Development (ECD) in Brazil
- Brazil has made significant advances in terms of access
  - But, the access is unequal
  - Along with low quality

When it comes to the expenditure per child...

The expenses depends on two factors:
- Political priorities
- Financial resources
Methods

Data

• SIOPE
  • 2019
  • Revenue and Expenses data.
  • Focus on the 95% of the financial resources which is compounded by the
    • Constitutional minimum spend of 25% (Own and FUNDEB);
    • Salário-Educação (social contribution);
    • National School Feeding Program (PNAE);
    • National Transport Support Program (PNATE).

• School Census

Statistical Analysis

• Descriptive analysis
• COI model
Main findings

The annual average expenditure per child through the Constitutional minimum spend of 25% is a significant amount

Annual average expenditure per child through the Constitutional minimum spend of 25% by Brazilian municipalities using SIOPE’s data

The annual average expenditure per child by Brazilian municipalities observed through SIOPE’s data is four times higher than FINBRA’s data and higher than some cost estimated for Daycare and Preschool.

Note: The number of municipalities for daycare is 5352 and for preschool is 5564. Exchange rate of R$3.94 per dollar. Source: Adapted from Natal et al. (2021) using SIOPE and School Census data.
Main findings

Annual average expenditure per child through the Constitutional minimum spend of 25% by Brazilian municipalities per Major Regions (2019 US$)

### Daycare

<table>
<thead>
<tr>
<th>Region</th>
<th>N</th>
<th>Min</th>
<th>1st Qu.</th>
<th>Median</th>
<th>Mean</th>
<th>3rd Qu.</th>
<th>Max</th>
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### Preschool

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<th>Mean</th>
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Note: Exchange rate of R$3.94 per dollar. Source: Own elaboration using SIOPE and School Census data.
Main findings

Percentage of municipalities per level of annual expenditure per child and the geographic distribution

Minimum wage in 2019 was equivalent to 253 (2019 US$)

Note: The number of municipalities considered is 5568. Exchange rate of R$3.94 per dollar. Source: Own elaboration using SIOPE and School Census data.
Main findings

• The annual average expenditure per child through the Constitutional minimum spend of 25% is a significant amount;

• However, it is important to be cautious when it comes to interpretation of it since there is a significant variation in the expenditure per child throughout the school year;

• At least one-quarter of the municipalities’ expenses per bimester is compounded only by FUNDEB resources that requires to be done in a defined way;

The final report has more information about

• The expenditure per child through other financial resources;
• The driver of the expenditure per child;
• Total revenue and expenses;
• The relationship between expenditure per child and outcomes;
• Cost of Inaction
Plans to use

• Publish

• The study seems to be a starting point
  • It’s a change on the speech from “Brazilian municipalities don’t have enough financial resources” to “how are Brazilian municipalities spending the financial resources?”
  • Future investigations
Cost of Inaction model

It is calculated as the difference between the potential economic benefits and the costs of a possible Early Childhood intervention.

\[
COI = \left( \sum_{j=a}^{t+a} \frac{PCI_j \cdot i \cdot e_j \cdot s_j}{(1 + d)^j} - c \right) \times N
\]

- \( N \) is the number of children covered;
- \( d \) is the discount rate;
- \( t \) is the benefit duration;
- \( a \) is the first year the benefit if obtained;
- \( i \) is the impact on individual income as a consequence of the intervention;
- \( c \) is the average intervention cost;
- PCI is the per capita income projection;
- \( e \) is the employment rate;
- \( s \) is the probability to survive.