

# PRIMARY EDUCATION EXTENSION UNDER IMPERFECT COMPLIANCE AND MOTHERS' LABOUR MARKET OUTCOMES: EVIDENCES FROM A SCHOOL REFORM IN BRAZIL

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## Objectives and Motivation:

This study verifies the impacts of a reform on Brazil's primary education system on mothers' labour market outcomes. This reform has brought forward the school starting age by one year, which might change the allocation of time and earnings of the family members, particularly of the mothers. This research is encouraged by the fact only recently Brazil has achieved a high level of primary education covering, simultaneously achieving a higher level of female labour participation. In spite of this, the eventual effects that childcare policies, options or choices have on Brazilian mothers' labour market outcomes is still quite understudied. Therefore, this study aims to fill at least partially this gap, contributing for the comprehension of this issue in the context of a developing country.

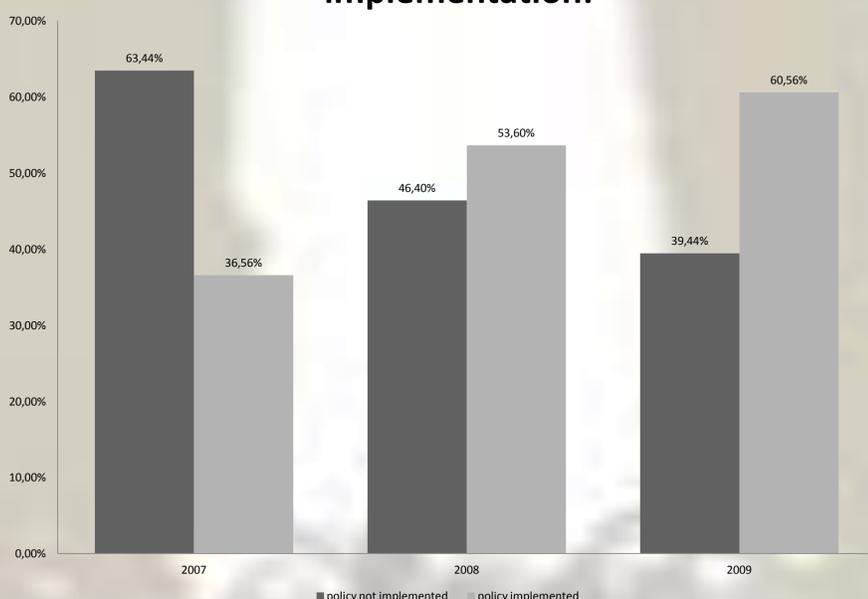
## The Reform and its Imperfect Compliance:

The reform was implemented gradually at a state level between 2004 and 2009, allowing children to enrol compulsory school at age 6 instead of 7. However, compliance is far from perfect, under both the old and the new system. Besides, the timing of implementation also appears to be endogenous. Therefore, it is not possible to identify an intention to treat effect by using the reform directly.

## Data:

The empirical part of the research is based on pooled cross-sectional data from the Brazilian Household Survey Data (PNAD) for the years 2007, 2008 and 2009, from which a sample of 8,154 mothers whose youngest child is aged 6 is obtained.

## Distribution of the sample according to the policy implementation:



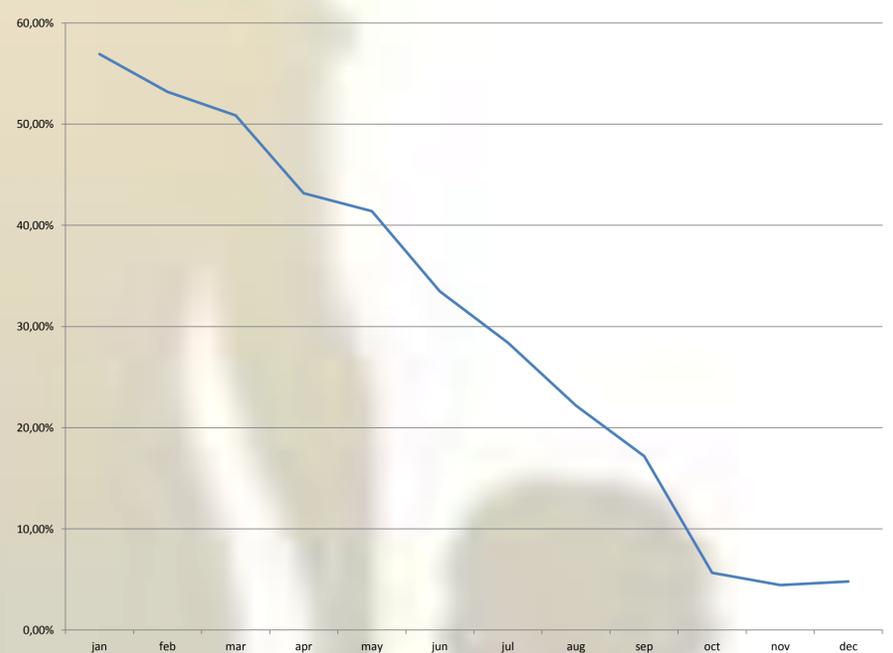
Total Sample; 8,154.

Source: PNADs 2007, 2008 and 2009.

## Methodology:

A child's school enrolment is instrumented using her month of birth as exogenous variation. This variable is correlated with the child's enrolment in school in a specific year, but has no direct effect on the mother's labour market outcomes. Thereby, labour supply and earnings equations are estimated through two-stage least squares and controlling for self-selectivity.

## Percentage of children attending school according to their month of birth:



Total Sample; 8,154.

Source: PNADs 2007, 2008 and 2009.

## Results and Policy Implications:

The results show that causal and significant effects are found for sub-samples of mothers, specifically the single and least educated ones: to have their 6-years-old children enrolling school increases the single mothers' participation in labour market in 12.9% and the least educated mothers' probability of being full time workers in 10.9%. No significant effects are found for mothers' earnings. These results are quite different of those found by the literature about traditional kinds of childcare, suggesting that childcare and primary education reforms have important differences regarding their effects on mothers' labour market outcomes, with important consequences for policy designs. Besides, the policy implementation is not sufficient to guarantee its perfect compliance, being mothers' heterogeneity also important to determine the right moment to enroll their children in schools. It must be interpreted under the context of the policy implementation, identifying its imperfect compliances and their eventual interferences on its outcomes.