

# Early education: equalization or Matthew-effects? A cross-country analysis

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## Abstract

This paper asks the question whether pre-primary education is associated with age 15 score point gains that reduce socio-economic achievement gaps. The literature on early education identifies a huge potential of this policy to contribute to equality of opportunity via improving the skills of disadvantaged children. At the level of international policy discourse, this policy has been singled out as contributing both to equity and efficiency. Still, so far only a few studies have explicitly analysed the distribution of early education impacts by socio-economic background, and the findings so far show that in some programs and contexts, pre-primary education does not equalize opportunities.

This analysis looks at age 15 score point gains associated with pre-primary attendance by quartiles of socio-economic background, relying on the OECD PISA 2012 educational achievement dataset, using information on 40, mostly Western developed countries. It employs within-country regressions with standardized PISA achievement scores and socio-economic background information, to generate cross-country comparable data that also allows for country-level factors, without explicitly incorporating them into the analysis. Distributional effects of pre-primary attendance are identified on the basis of interaction specifications of pre-primary attendance with the OECD ESCS<sup>2</sup> index of socio-economic background. This way, the paper looks at correlational findings, which represent net skill outcomes of whole education systems, jointly impacted by a set of policy, institutional and cultural factors.

The findings indicate that in most education systems, an absolute equalizing impact of participating in pre-primary education is not detectable. An explicit absolute equalizing pattern is much less common among the countries than it could be expected on the basis of the evaluation literature. Moreover, in a distinct set of countries, the findings robustly show that participation in pre-primary education is associated with an apparent broadening of the socio-economic achievement gap. This pattern can be produced by three factors, individually or jointly at play: to selection into pre-primary education, to the uneven quality of pre-primary education serving children from different socio-economic backgrounds, and to a relative, rather than absolute equalizing impact of pre-primary education. However, the cross-country heterogeneity of the results underlines a significant role for public policies in producing these patterns, indicating that the equalizing potential of early education highlighted by evaluation studies is not fully exploited in several countries.

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2 ESCS: economic, social and cultural status