



UNIVERSITY OF
OXFORD

Young Lives 
An International Study of Childhood Poverty



How Much Difference School Make and for Whom? A Two-Country Study of the Impact of School Quality on Educational Attainment

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EDUCATION IN THE POST MDG FRAMEWORK: TOWARDS QUALITY FOR ALL?

- In the last 2 decades, considerable progress has been made toward the MDG goal of **access** to primary education at the global level
- Focus/increased emphasis on **learning**, and more generally in delivering **quality education**
- Relates to the **distribution** of school quality across pupils alongside various axes of potential inequalities:
 - Gender
 - Location
 - Ethnicity
 - ...

WHY IS THIS RELEVANT FOR POLICY?

“ (...) The equalising promise of education can be realised only if children from different backgrounds have equal opportunities to benefit from quality education” (WDR 2006)

- A key **policy question** relates to whether school is able to **mitigate initial socioeconomic disadvantage**, as well as **which schools** are best suited for this purpose

THESE GLOBAL ISSUES ARE WELL REFLECTED IN THE CASE STUDIES OF VIETNAM AND PERU

While being different, the educational systems of Vietnam and Peru share similar aspects and challenges:

- Stark increase/universal access during the 1990s and 2000s
- Focus on **quality** of education
 - Infrastructure/teachers
 - Learning outcomes
- Emphasis on fostering **equity**
 - Persistent inequalities along the income, ethnicity, and location axes still exist



HOW WE DO DEFINE “QUALITY”?

- **Educational quality is a complex and multidimensional concept, difficult to define and to measure in a meaningful way**
- In the economics of education framework, traditional approaches have often relied on **proxy measures to define quality**, particularly inputs or learning attainments
- Understanding quality is also complicated by issues of:
 - **methodology** - resulting estimates can be biased (i.e. unobserved inputs, sample selection, endogenous programme placement, etc.)
 - **measurement** - variables that ‘really matter’ may not be captured in the estimations (i.e. incentives, school organisation etc.). Also, measures of school outcomes can only be imperfect proxies of latent cognitive traits.
 - **data**: cross-sectional data on school inputs (i.e. EMIS) usually unlinked to household-level data
- As such, the literature provides very inconsistent results, especially when international comparisons are concerned

WHAT ABOUT THE DISTRIBUTION OF QUALITY IN A GIVEN SCHOOL SYSTEM?

Quality levels can vary both:

The diagram consists of a central text 'Quality levels can vary both:' with two arrows pointing downwards to two separate boxes. The left box is titled 'BETWEEN SCHOOLS' and lists four factors: Rural / Urban, Public / Private, Linguistic issues, and Ethnic minorities. The right box is titled 'WITHIN SCHOOLS' and contains a paragraph stating that even in the same classrooms, children may have very different schooling experiences depending on their backgrounds.

BETWEEN SCHOOLS

- *Rural / Urban*
- *Public / Private*
- *Linguistic issues*
- *Ethnic minorities*

WITHIN SCHOOLS

*Even in the same classrooms,
children may have very
different schooling experiences
depending on their
backgrounds*

- The unevenness of quality is therefore a **critical issue** facing education systems, especially because disparities in quality education are often mirroring other inequalities
- In this paper, **we only look at inequalities in terms of SES**, measured by children's households wealth before they started school

RESEARCH QUESTIONS

- Are disadvantaged children accessing lower quality schools in Peru and Vietnam (“selection into schools”)?
- Also, are disadvantaged children benefiting less from similar levels of school quality as compared to their more advantaged peers?
- What does this mean for equality of opportunity for learning in these school systems?

METHODOLOGY (i)

1. Using data from the Young Lives Study, link the panel information from the household survey to the school survey data

- YL particularly suited for investigating the complex relationship between poverty and education
- Allows to take into account of child, parents and household characteristics before children entered school
- The sample employs data from 548 Younger Cohort children in Peru and 1138 in Vietnam, for which linked school and household data are available

METHODOLOGY (II)

2. Measuring school quality through a “school-fixed effect”:

- Average level of achievement in Maths of all the children attending the same school, by taking into account of their backgrounds at preschool age
- Captures both school’s observable and unobservable characteristics
- Deals with the possible confounding effects of systematic differences of children going to better or worse schools
- Enables interpretation of the school effect as the impact of the school on a child’s attainment

3. We measure children’s learning attainment in Mathematics

- Test scores narrow measures of educational quality
- Scores subjected to Item Response Theory

4. Analyse the impact of school quality on students’ achievement in Maths

5. Analyse whether school quality affects students’ outcomes differently depending on their socioeconomic background

BACKGROUND CHARACTERISTICS AT AGE 5

CHILD	PARENTS	HOUSEHOLD
Age (in months)	Mother in the household	Location (rural/urban)
Gender	Father in the household	Sex of head
Ethnicity	Carer with no education	Head with no education
Mother tongue	Carer with primary education	Head with primary education
Height for age (z-scores)	Carer with lower secondary education	Head with lower secondary education
Youngest child	Carer expects child to be in school/professional occupation at age 20	Wealth index
Oldest child	Caregiver's position in the ladder of life	
Only child		
Attended crèche		
Attended preschool		
Hours of work		
CDA Rasch score		

EMPIRICAL RESULTS



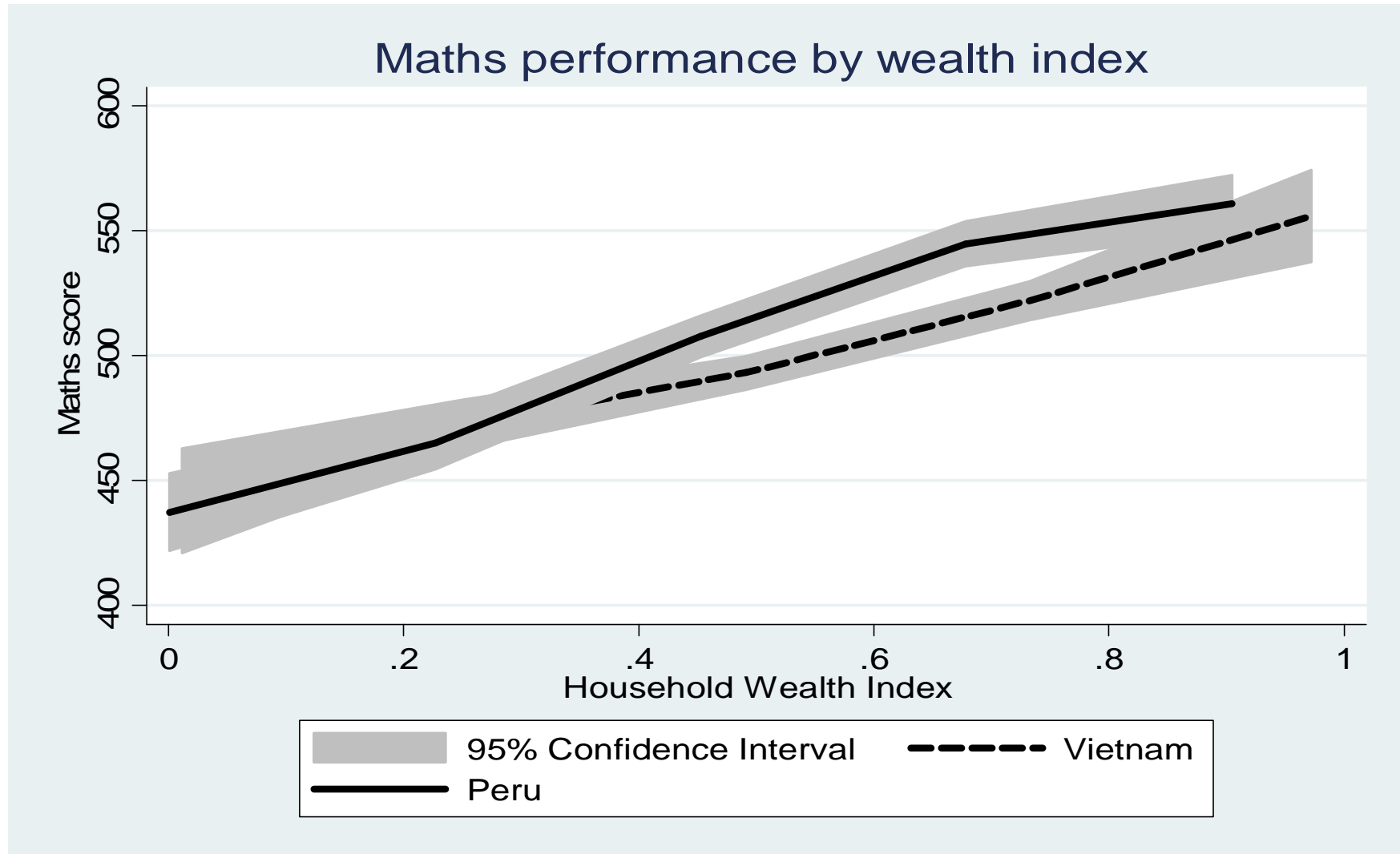
DESCRIPTIVE ANALYSIS:

HOW DO CHILDREN'S BACKGROUNDS RELATE TO THEIR ATTAINMENT?

- **There is a strong association between key indicators of background disadvantage at age 5 and Maths achievement at age 11**
 - **Minorities** perform less well in both countries
 - Role of **mother's education**
 - In Peru the median score of children with more educated mothers is more than 100 points higher than the overall mean
 - In Vietnam children whose mothers have never been to school had a median score around 100 points lower than the overall mean
 - In both countries, the difference between a child in the bottom versus top **wealth** quartiles is related to 100 points increase in Maths achievement
 - The relationship between wealth and Maths performance is stronger in Peru than in Vietnam

DESCRIPTIVE ANALYSIS:

HOW DO CHILDREN'S BACKGROUNDS RELATE TO THEIR ATTAINMENT?



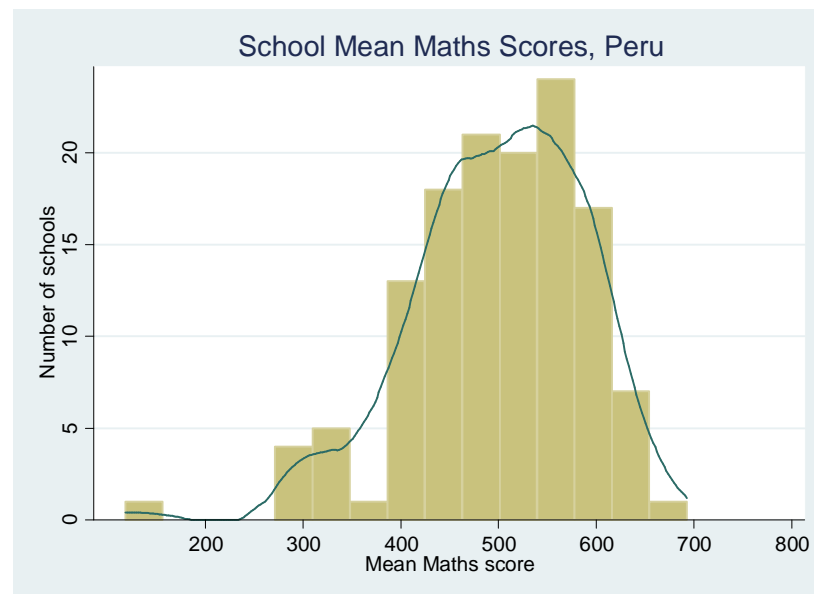
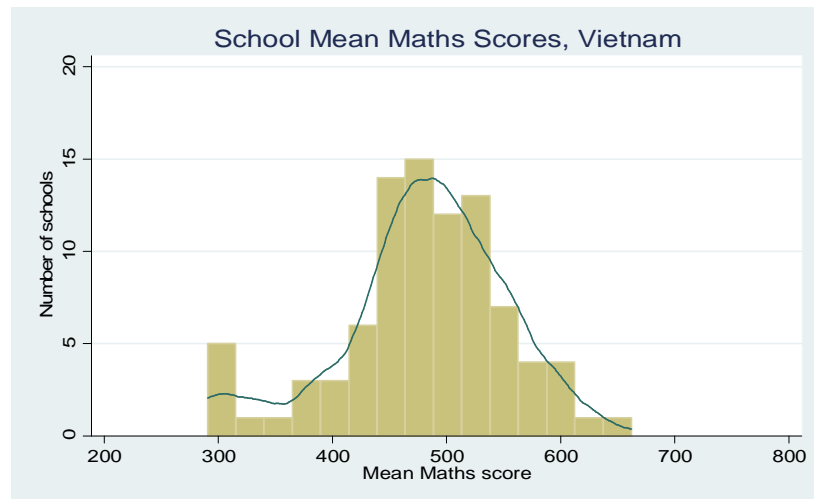
MULTIVARIATE ANALYSIS:

HOW DO CHILDREN'S BACKGROUNDS RELATE TO THEIR ACHIEVEMENT?



- Even after controlling for a wide range of background characteristics and prior attainment, the **associations detected in the descriptive analysis persist**
- Children who spent more time on household chores at age 5 scored lower at age 11
- Children who scored worst in Maths at age 5 continued to score less well

VARIATION IN SCHOOL QUALITY EXIST IN BOTH COUNTRIES



In both countries the quality of the average school in the bottom school fixed effect quartile is significantly worse than that in the top quartile.

- Moving from an average school in the bottom quartile to a one in the top quartile improves attainment by around 1.2 standard deviation of the score distribution
- This is equivalent to a movement from the first decile of the distribution of Maths test scores to around the mean
- **In Peru**, however, the distribution of school quality, as measured by the school effect, is wider than in Vietnam, **indicating a greater variation in school quality**

HYP I: ARE POORER CHILDREN ATTENDING LOWER QUALITY SCHOOLS?

- Mean standardised estimates of school quality by pre-school wealth quartile
(note: mean centered to zero)

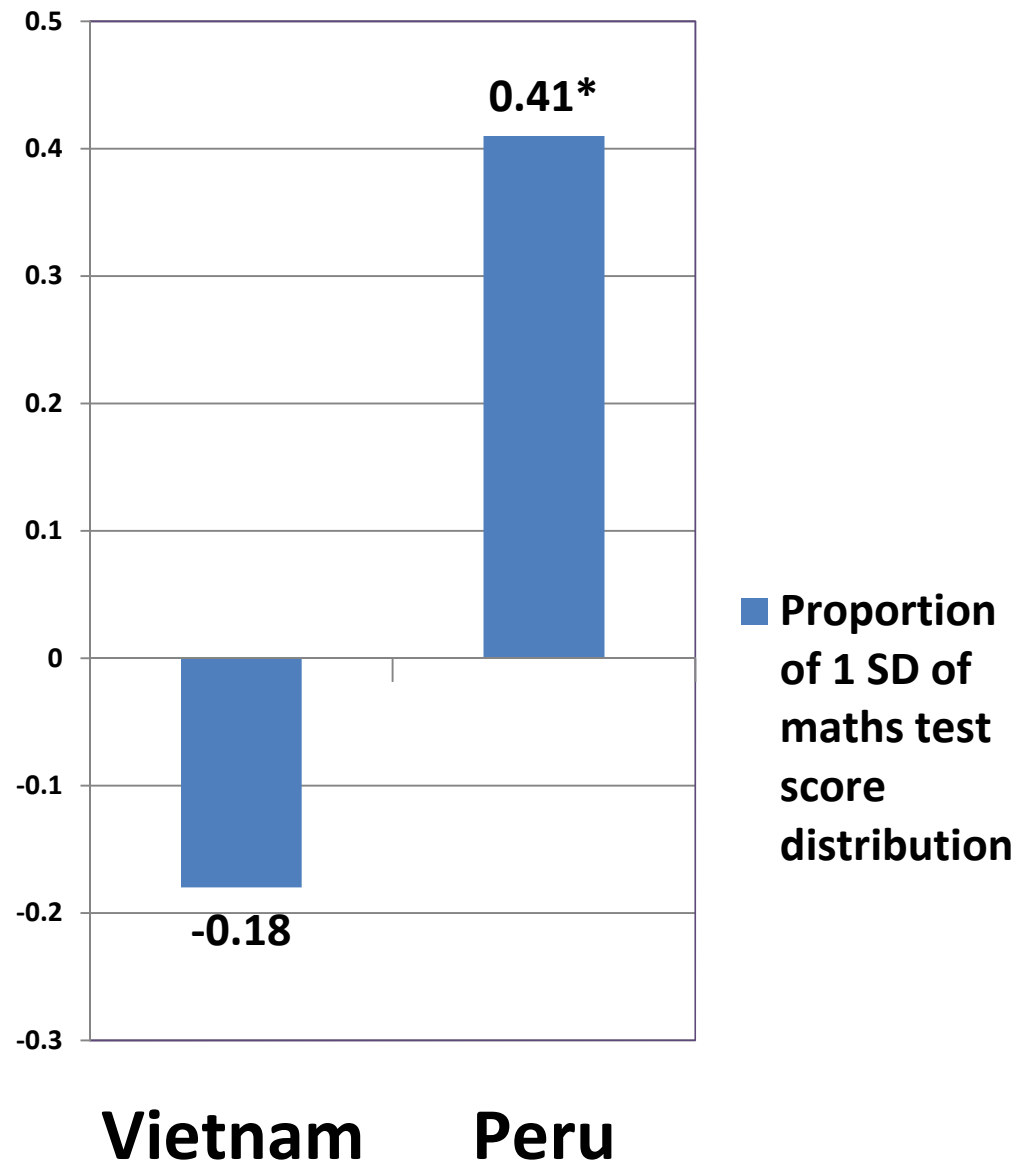
Pre-school wealth quartile	Vietnam	Peru
Lowest	-11.4 (47.6)	-15.9 (59.4)
2	-0.6 (44.2)	-1.6 (59.4)
3	-3.7 (43.0)	9.4 (43.2)
Highest	12.9 (36.9)	8.0 (38.9)

- Tendency of better-off children to access higher quality schools in both countries
- However, the differences are not as large as compared to the differences in average performance between schools in the top and bottom quality quartiles
- For instance in Vietnam, the difference in the average quality of the school attended by children from the bottom and top wealth quartiles in Vietnam is equivalent to a movement from the 40th percentile of scores to the mean of the score distribution.

HYP 2: ARE POORER CHILDREN BENEFITTING LESS FROM SCHOOL QUALITY?

- Methods:
 - We examine whether on average estimated school quality for children attending the same school differs depending on their pre-school wealth
 - Subsample of schools in which we have both better- and worse-off children within them
 - In order to not restrict the sample excessively, we compare the bottom 60% of children with the top 40% with respect to pre-school wealth

HYP 2: DIFFERENTIAL WITHIN SCHOOL QUALITY EFFECT?



- In Vietnam, schools are equally effective in teaching Maths to children irrespectively of their background.
- The average incremental effect for the top 40% is not significant and even negative
- In Peru, by contrast, schools appear to be significantly less effective at teaching children from disadvantaged backgrounds
- The mean positive increment in school quality for children in the top 40% of the wealth distribution is equivalent to a movement from the 35 percentile to the mean of the test score distribution

TO SUMMARISE...

1. Children's backgrounds matter for learning in both countries, although this relationship seems more prominent in Peru than in Vietnam
2. Also, there is a wider (and hence more uneven) distribution of school quality in Peru
3. Children from more disadvantaged backgrounds tend to attend lower quality schools in both countries, although the degree to which selection into schools affects Maths learning is less pronounced than the effect of attending schools of different quality
4. An important source of inequality in educational attainment in Peru is differential *within* school effectiveness, which is not found in Vietnam

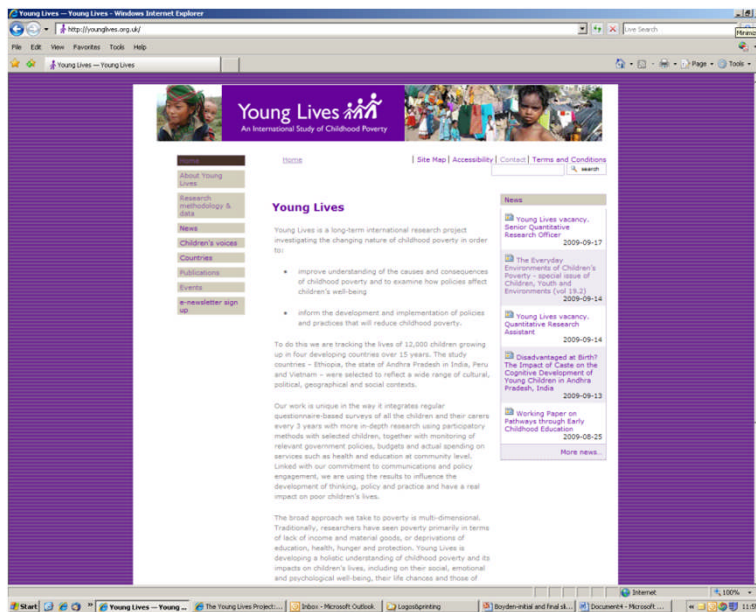
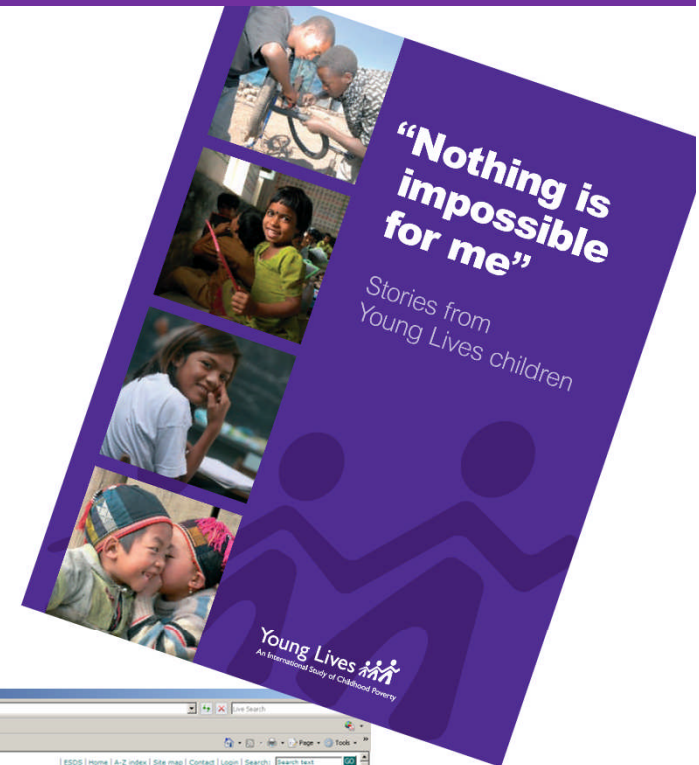
IT IS NOT JUST ABOUT SCHOOL QUALITY, DISTRIBUTION ALSO MATTERS

- This last finding suggests that reducing educational inequality in Peru may be more complicated than just investing in improvements of overall school quality
- Emphasis should be placed on how education investments are distributed across more vulnerable groups
- A ‘minimum standards’ approach to school quality may serve to address the most pervasive forms of inequality and mitigate the negative effects of initial SES
- This approach, which has been implemented during the 2000s in Vietnam, has shown some success in the country

FINDING OUT MORE

www.younglives.org.uk

- methodology
- datasets (ESDS International)
- publications
- child profiles and photos
- e-newsletter





THANK YOU
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