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Background Paper

The Learning Generation

Overcoming Inequalities Within Countries to Achieve Global Convergence in Learning

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Executive Summary

Addressing the combined challenge of expanding educational access together with raising learning outcomes for all children and young people, regardless of their background, must remain a top priority for governments and the international community in order to ensure inclusive quality education for all children by 2030.

In order to identify the extent of educational inequalities globally, we gathered data on educational access and learning from low and lower middle-income countries. As the basis for the analysis, we used the World Inequality Database in Education (WIDE), initially developed by the 2010 Education for All Global Monitoring Report. We updated its information using the most recent data, where feasible. Our analysis pays particular attention to the intersectionalities of wealth, gender and location, to show how these compound one another to exacerbate inequalities in education. Ideally our analysis would include other dimensions of disadvantage, such as disability, but data are not currently available to permit such analysis on a systematic basis.

Our analysis aims to understand learning gaps both between countries and within countries. We further highlight those countries where improvements in both access and learning were accompanied by narrowing of gaps over time.

Overall, our analyses provide us with three key messages, summarised as follows:

Key Message 1: Gaps in access and learning within countries are wide and persistent

Primary school completion represents a key step towards progressive convergence in learning for low- and lower-middle income countries. Despite overall progress in primary school completion, the average level of primary school completion is still only 74% across the 67 low- and lower-middle income countries. This average masks large and persistent inequalities in primary school completion in many countries, which are driven primarily by gaps between children from the poorest and richest backgrounds as well as by gender and location. In Burundi, for example, less than 25% of children from the poorest families, who are usually living in remote rural areas, complete primary school.

Overcoming inequalities in learning is key to achieving progressive convergence in education. National and international learning assessments suggest that the poorest who make it to school consistently perform at lower levels than the richest in low- and lower-middle income countries with data. When we account for the fact that children from the poorest households are also more likely to be out of school, and so lacking opportunities to learn the basics, the gap widens further. The higher magnitude of learning gaps between all children is most evident in countries such as Niger. The combination of low school completion rates, and low levels of learning for those in school results in very small numbers of children learning overall: about 10% of children from the richest households complete primary schooling having learned the basics, while less than 1% of the poorest achieve this.

Key Message 2: Sources of disadvantage interact to exacerbate inequalities in access and learning

Poverty is identified as the key driver of inequalities in access and in learning in many countries. In low and lower middle income countries where primary school completion rates are higher than 50% there is almost no gender gap between boys and girls. Nonetheless, we find that in countries where

the overall primary school completion rates are low (less than 50%), girls tend to be at a disadvantage. Gender learning gaps for in-school children are small: boys are just one percentage point more likely than girls to have learned the basics across the countries in our dataset, on average. However, the proportion of boys in school from the poorest backgrounds who are learning is almost always higher than that of the poorest girls.

We further find that inequalities in learning based on poverty start early in the lifecourse and determine future educational outcomes. Using longitudinal data in four countries from Young Lives, we estimate the educational trajectories of poor and rich children and found that cognitive differences at age 5 are strongly associated with learning at ages 8 and 12. This, in turn, is associated with access to higher education, such that young people from poor households who were not learning at age 8 are very unlikely to access higher education.

Key Message 3: Inequalities in access and learning between countries are not inevitable

Our analysis highlights that it is possible to achieve progress in both access and learning while also reducing inequalities. We assess this by focusing on whether countries are making absolute and relative progress in access and learning. Absolute progress is where the proportion of children learning the basics has increased over time whereas relative progress is where the gap between the poor and the rich in learning the basics has declined over time. We identify countries such as Kenya, Guatemala and Nicaragua where the proportion of the poorest learning has increased over time, and where rich-poor inequalities have narrowed. By contrast, in India and Armenia the proportion of the poorest learning the basics has decreased over time and the gap between rich and poor has widened.

Using data from community-led assessments from India, Pakistan, Uganda, Tanzania and Kenya we find that the learning gap between rich and poor children reduces significantly when poor children are given the same opportunities than rich children. In particular, in cases with low levels of learning, a better and more equitable educational system can reduce to less than one-third of the initial poverty-learning gap.

Our analysis further shows that on time progression in education for the most disadvantaged children significantly increases their chances to learn the basics. Among the poorest 11 year-olds in Uganda, most of those who are in the correct grade for their age will have learned to divide (60%), far more than those who are one year behind (36%), two (21%), three or more (7%), or out of school (1%). By age 14, almost all of the poorest children who are still in the correct age for grade will have learned this basic numeracy skill (94%), compared to just 43% of those who are in school but at least three years behind. This is a matter of progression when mastering the grade appropriate skills at the right age.

Key Message 3: To achieve global convergence, we must address inequalities within countries

It is not possible to achieve convergence in learning across countries without addressing inequalities in learning within countries. We explore this issue by comparing the magnitude of differences in learning the basics in maths among those within three to five years of primary school completion age. For within-country comparisons, we calculate inequality in learning the basics as the difference in the proportion of poorer and wealthier children who have learned the basics, regardless of

whether they are in school or not. In Cote D'Ivoire, for example, 4% of poorer children have learned the basics compared with 27% of wealthier chlidren, giving a within-country inequality of 23 percentage points. For between country comparisons, we used the proportions of poor and rich children who are able to learn the basics for each country to estimate an aggregate average measure (19 percentage points across all countries).

Within country inequalities in learning the basics are low in countries where even the rich are not achieving foundational skills (e.g. Niger, Chad and Yemen). As more children learn the basics, the gap in learning between the rich and the poor tend to increase (e.g. Mozambique, Zambia and Cameroon). Once the proportion of children learning the basics reaches levels above 80%, the gap between the rich and the poor narrows (i.e. Indonesia, El Salvador, and Peru). It is important to highlight that we do not know what happens to the "true" learning gap between rich and poor. It is likely that the rich continue to learn beyond the basics while the poor may not progress beyond foundational skills, particularly where their opportunities for continuing in school are limited.

Conclusion

Under current circumstances, without any deliberate push towards narrowing access and learning gaps in education, it is unlikely that countries will achieve the Sustainable Development Goal for education for the most marginalised populations, notably with respect to Target 4.1 on access and learning. Our analysis shows, however, that concerted efforts can result in narrowing of gaps in access and learning. This needs to be a priority if we are to achieve progressive convergence in education within a generation.

Contents

Figures

Section 1: Mapping access and learning outcomes

Key messages	• Gaps in access and learning within countries are wide and persistent. • Inequalities associated with poverty and gender interact, but poverty is identified as being the key driver. • If global convergence is to be achieved, we must address inequalities within countries.

Brief methodological note

Section 1 reports on patterns of access and learning for low and lower-middle income countries. There are 82 low and lower-middle income countries, as defined by the World Bank (2016). For 67 of these countries we have been able to obtain data regarding access to schooling, defined as the primary completion rate for children 3-to-5 years older than the official primary school graduation age. Additionally, 31 of the 82 countries also have data on children's learning outcomes in primary school, which we define as learning the basics in mathematics.

Some of these data are reported in aggregate form in the WIDE database (2016), a public database of educational inequality – we use the WIDE figures for our calculations reported here wherever possible. There are, however, a substantial amount of recent country surveys that are not contained in the WIDE database; hence, we analyse the newest DHS, MICS, PASEC, TERCE, ASER, Uwezo, and Young Lives surveys to complement the WIDE Data Base. For all these recent surveys, the results presented here are based on our own analysis, which follows the methodology employed by WIDE. For some of the analysis we have also provided our own analysis where the WIDE database does not provide disaggregation of the data and indicators in the way required. Whenever possible, we collect data at two points for a given, so that we can calculate changes over time in access and learning.[1]

Throughout sections 1 and 2, we use learning the basics in mathematics as the main indicator where possible. This is because it is less likely to be affected by differences in learning that might be associated with home environment (children with literate siblings and parents might be more exposed to a literate environment at home), or to language of instruction.

In section 2, we focus on learning levels defined as the proportion of children surveyed in large-scale assessments who have attained a minimum level of learning in mathematics, or, in the absence of continuous measures of attainment in mathematics, who can at least do division. Wherever possible, the learning levels are anchored to TIMSS 2011, creating a comparable set of indicators of learning.

Given our focus is on learning the basics throughout the paper, it should be noted that convergence in this indicator could be achieved even though learning inequalities remain. For example, rich children might progress to higher levels of learning, while children from poor backgrounds do not

[1] For technical information about the methodology, please contact the authors.

make it beyond this basic level. At the same time, it is important to identify learning of the basics as the foundation for any potential further learning.

Throughout both sections of the paper, analysis is based on descriptive statistics unless otherwise noted. Multivariate models follow standard methods in econometrics and are briefly described in the chapters.[2]

1.1. Growing numbers of children complete primary school, but poverty still drives completion chances

Primary school completion represents the first key stepping stone towards progressive convergence in learning for low- and lower-middle income countries. A key focus of the Millennium Development Goals, primary school completion has increased considerably over the past two decades. However, wide gaps remain between the rich and poor and, to some extent, between boys and girls.

Taking into account the increasing rates of primary school completion combined with growth in the school-aged population (based on data from the UNESCO Institute for Statistics), we estimate that 31.4 million more school-aged children are now completing primary schooling in the 67 countries included in our dataset.

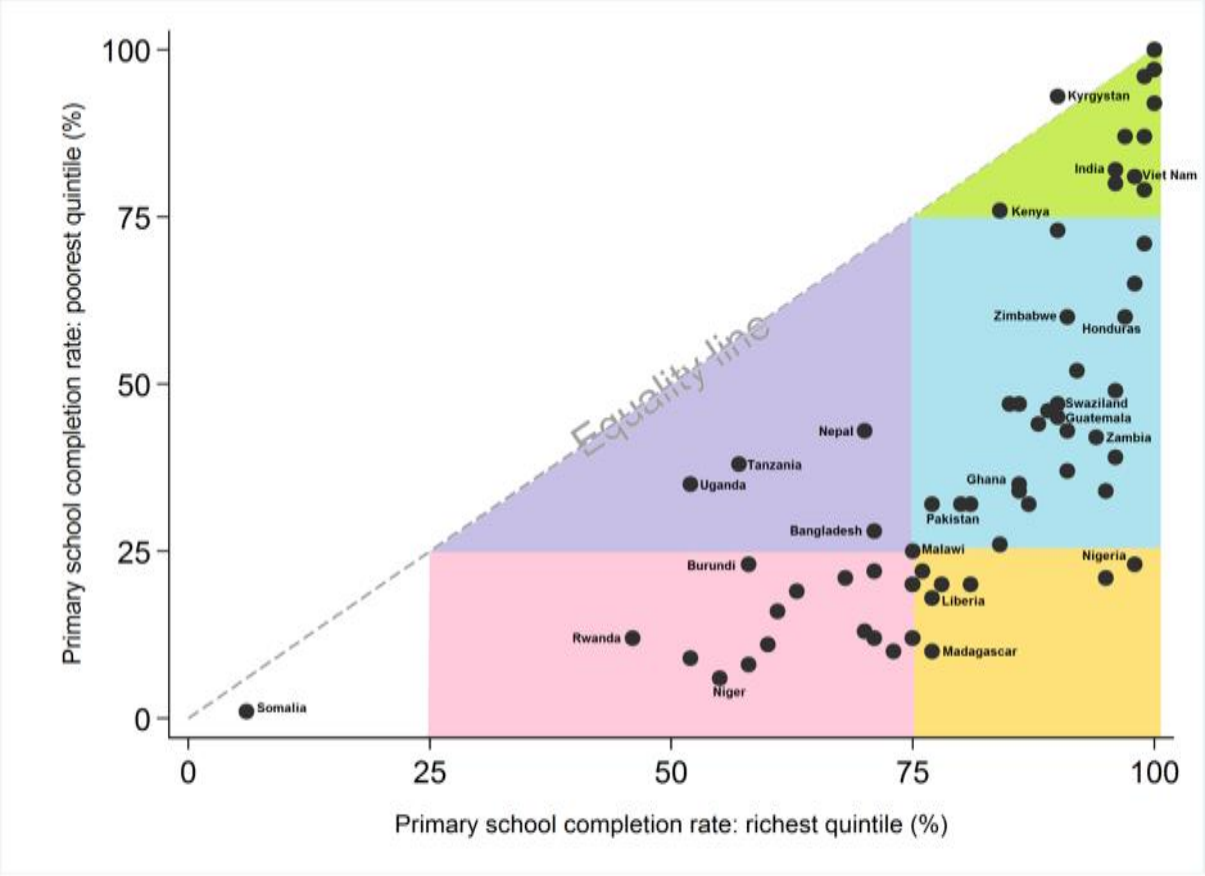
However, this increase in primary completion occurs against a backdrop of enduring poverty-driven inequalities. Moreover, the Sustainable Development Goals are shining a spotlight on to learning in addition. Our subsequent analysis therefore highlights how patterns of inequality in access map on to learning in ways that reinforce educational disadvantage for the poorest children.

1.1.1. Poverty drives unequal access to education

Despite overall progress in primary school completion, the average level of primary school completion is still only 74% across the 67 low- and lower-middle income countries (weighted for the different population sizes of the countries). This average masks large and persistent inequalities in primary school completion in many countries, which are driven primarily by gaps between children from the poorest and richest backgrounds.

[2] Further information about multivariate models can be obtained from the authors upon request.

Figure 1.1 Primary school completion gaps between the richest and poorest are large in most countries



Country groups:
Group 1 (green marker): High completion rates (over 75%) for both richest and poorest: Armenia, Bolivia, Egypt, Georgia, Guyana, India, Indonesia, Kenya, Kyrgystan, Moldova, Tajikistan, Ukraine, Viet Nam (13 countries)

Group 2 (blue marker): High completion rates (over 75%) for the richest and moderate completion rates (25% to 75%) for the poorest: Benin, Bhutan, Cambodia, Comoros, Congo, Djibouti, DR Congo, Gambia, Ghana, Guatemala, Honduras, Lao, Lesotho, Morocco, Nicaragua, Pakistan, Philippines, Sao Tome and Principe, Sierra Leone, Sudan, Swaziland, Zimbabwe, Timor-Leste, Togo, Uzbekistan, Zambia (26 countries)

Group 3 (yellow marker): High completion rates (over 75%) for the richest, and very low completion rates (below 25%) for the poorest: Cameroon, Ethiopia, Guinea, Haiti, Liberia, Madagascar, Mauritania, Malawi, Nigeria, South Sudan (10 countries)

Group 4 (purple marker): Moderate completion rates (25% to 75%) for both the richest and the poorest: Bangladesh, Nepal, Tanzania, Uganda (4 countries)

Group 5 (red marker): Moderate completion rates (25% to 75%) for the richest, and very low completion rates (below 25%) for the poorest: Afghanistan, Burkina Faso, Burundi, Chad, Central African Republic, Cote d'Ivoire, Guinea-Bissau, Mali, Mozambique, Niger, Rwanda, Senegal, Yemen (13 countries)

Amongst the 67 countries, very few have achieved equality in primary school completion between the rich and poor. Across these countries, the average gap between the richest and the poorest is 32 percentage points, indicating a continued disadvantage at the earliest stages for children from the poorest backgrounds.

The *Equality Line* in Figure 1.1 indicates that the poorest and richest have achieved the same primary school completion rate. The further a data point for any country is from the line, the larger the gap between completion rates between the richest and the poorest, with all the points below the line indicating that the richest have higher primary school completion rates than the poorest. We separate the 67 countries into 5 distinct groups:

- In Group 1 (green marker) countries such as Kenya, India, or Viet Nam show high completion rates for both the poorest and the richest. In India, for instance, completion rates are 82% for the poorest and 96% for the richest.

- A large proportion of countries exhibit high completion rates for the richest, but only moderate to low rates for the poorest (Group 2, blue marker). In Pakistan, for instance, more than 75% of the richest children complete primary school, but fewer than 30% of the very poorest do so.
- Even wider poverty gaps in completion are displayed by countries in Group 3 (yellow marker), whereby the richest are at least 3 times, and often much more, likely to complete primary schooling than the poorest. Countries such as Nigeria, Malawi and Ethiopia fall under this category.
- Performing at the same level as the red group for the richest, but more positively for the poorest are countries in Group 4 (purple marker): Nepal, Tanzania, Uganda, and Bangladesh. Here, the poverty completion gaps are relatively narrow compared to the other groups, but this occurs against a backdrop of moderate levels of completion for both the poorest and the richest.
- Finally, in Group 5 (red marker) wide poverty gaps interact with generally extremely lower levels of overall completion rates in countries such as Rwanda, Burundi, or Niger, where less than 25% of the poorest finish primary schooling.

Somalia is the only country in the set which does not fit in any of the groups, displaying particularly low levels of primary completion (below 10%) for both the richest and the poorest.

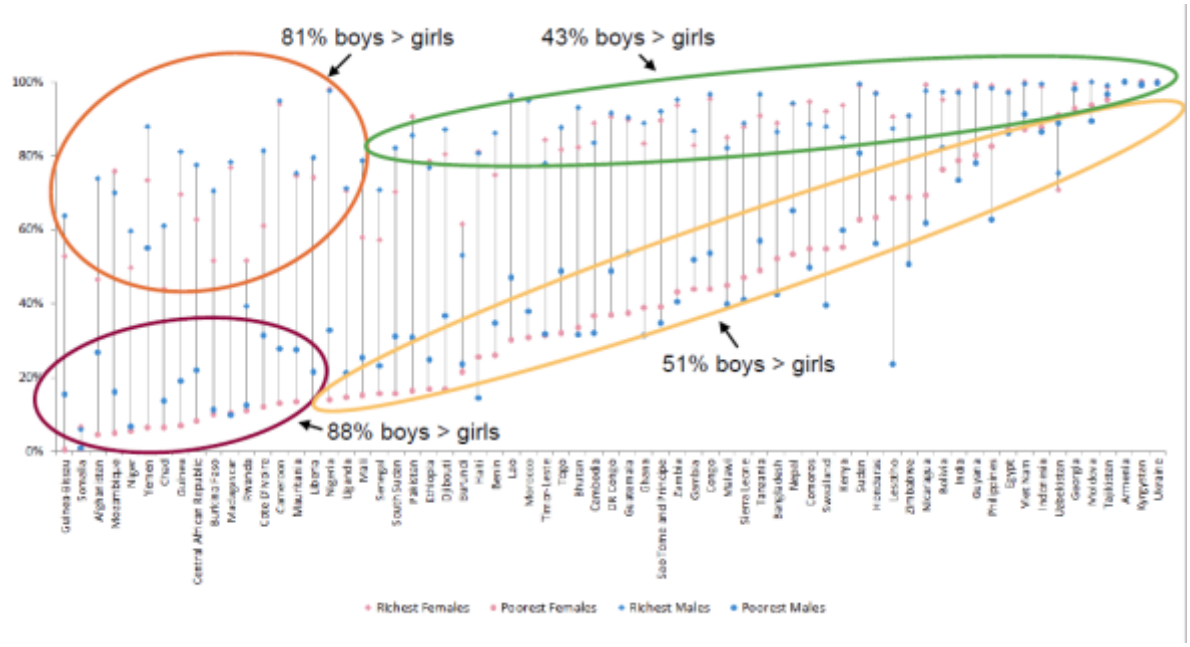
1.1.2. In many countries, gender is an additional determinant of inequalities in access for the poorest

At the beginning of the MDG period, gender disparities in enrolment were apparent. There are some indications that, on average, these disparities are narrowing. Our data show that girls continue to be less likely than boys to complete primary school. However, the gap between boys and girls is very small, and substantially smaller than the poverty gaps: across the countries boys are only 2 percentage points more likely than girls to complete primary. Further, in 31 of the 67 countries, girls have a higher likelihood of primary school completion than boys.

We find that the absolute gender gap (that is, the difference between genders in primary school completion regardless of which group has higher chances) is 7 percentage points. Although still substantially smaller than the poverty-driven gap, where all but one country exhibit gaps favouring the richest, this absolute gender gap shows the continued need to tackle the unequal access of genders to schooling.

Gender, however, interacts with poverty to create differential chances of primary school completion, whereby the poorest girls are in a wide majority of cases the group with the lowest likelihood of completing primary school (Figure 1.2). We find that poverty continues to be the main driver of inequality, so that the gender gaps within each wealth group are smaller than the overall poverty gap between the poorest and the richest.

Figure 1.2 For primary school completion, in most countries the poorest girls are at a disadvantage



Further supporting this point, we find that for countries that exceed 50% average completion rates, the gender gap amongst both the richest, and the poorest is relatively small: the richest families don't have to decide between boys and girls in terms of who they send to school, and equally, it appears that the poorest of families in this group have relatively narrow gaps between boys and girls in general (yellow and green circles). However, in countries where the overall completion rates are low, girls are consistently at a disadvantage, whether within the richest or the poorest groups (red and purple circles).

1.2. More children are now learning across the world, but poverty-driven inequalities remain

Primary school completion rates represent only one side of a complex process that results in inequalities between the poorest and the richest across the entire educational system. Learning represents another important dimension, but is far more difficult to monitor and track in a comparative and systematic way with available data.

Combining learning assessment data with school-aged population data, we estimate that across the 31 countries with data, an additional 15 million children are now learning at least basic skills in mathematics (change from 2006 to 2012/2013). These results do not include India. We find that the now well-documented drop in learning levels in India, coupled with a large increase in the population size has led to a reduction in the absolute numbers of children learning in India, estimated to be around 17 million children between 2007 and 2014 (ASER, 2015; Rose & Alcott, 2015). This is sufficient to offset the growth in numbers in all other countries included in our analysis. Excluding India, this increase in the number of children learning (excluding India) represents an increase of around 18% of the number of children learning the basics in the countries with data at around 2006.

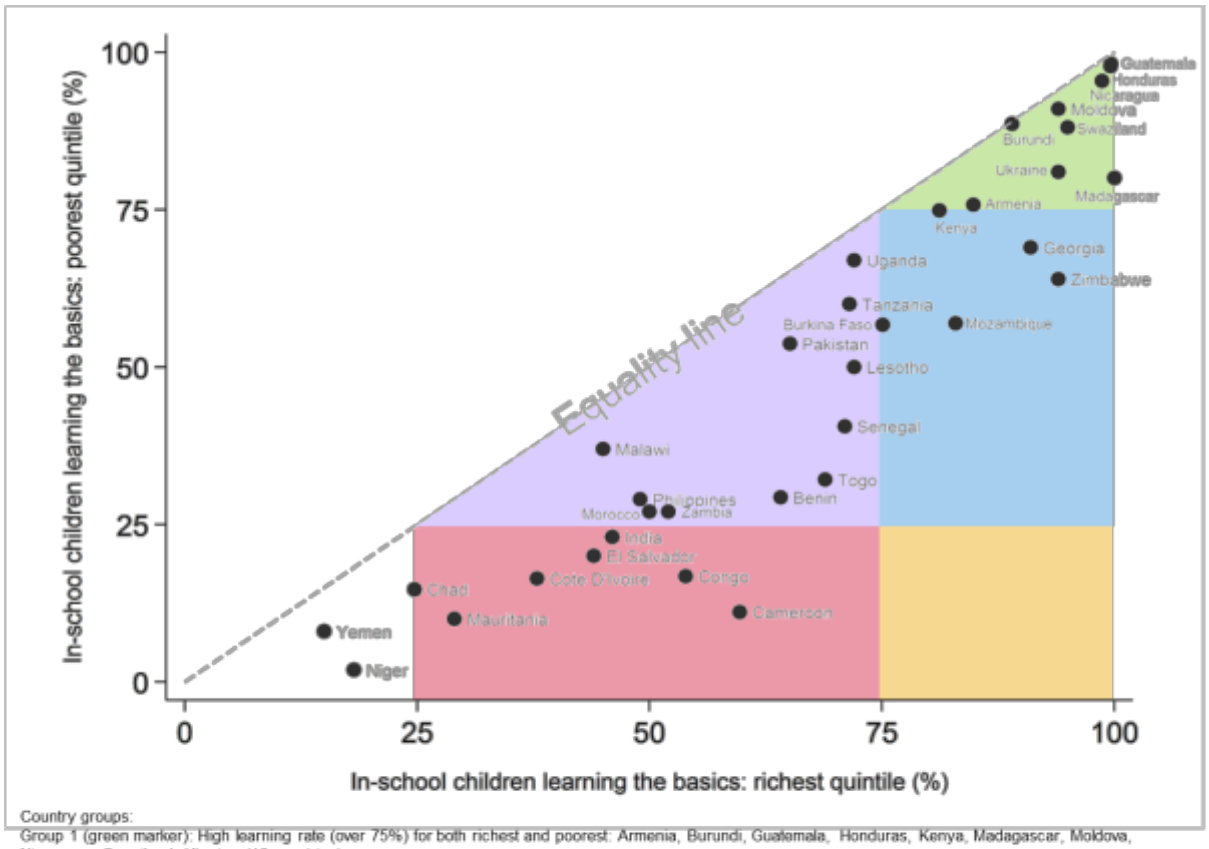
Overall, the growth in learning in the other countries in our set highlights the general positive trend in both school completion and learning patterns. Our attention now turns to exploring the levels of inequalities in learning that remain despite the general improvement in learning levels.

1.2.1. In-school poor children perform at lower levels than their richer peers

National and international learning assessments suggest that the poorest who make it to school consistently perform at lower levels than the richest in low- and lower-middle income countries with data. This occurs against an overall backdrop of low levels of learning, with an average of 42% of in-school children in the countries with learning assessments having achieved the basic level of learning in mathematics by the 6th year of primary school (Figure 1.3).

Amongst the countries in the analysis, the average gap between the richest and the poorest in-school children is 20 percentage points: accounting for the size of each country's population, 55% of the richest children attain the basics, while only 34% of the poorest do so.

Figure 1.3 Poverty-driven learning gaps for in-school children are large in many countries



Country groups:
Group 1 (green marker): High learning rate (over 75%) for both richest and poorest: Armenia, Burundi, Guatemala, Honduras, Kenya, Madagascar, Moldova, Nicaragua, Swaziland, Ukraine (10 countries)

Group 2 (blue marker): High learning rates (over 75%) for the richest and moderate learning rates (25% to 75%) for the poorest: Georgia, Mozambique, Zimbabwe (3 countries)

Group 3 (yellow marker) High learning rates (over 75%) for the richest and very low learning rates (under 25%) for the poorest: no countries

Group 4 (purple marker): Moderate learning rates for both richest and poorest: Benin, Burkina Faso, Lesotho, Malawi, Morocco, Pakistan, Philippines, Senegal, Tanzania, Togo, Uganda, Zambia (12 countries)

Group 5 (red marker): Moderate learning rates (25% to 75%) for the richest and very low learning rates (under 25%) for the poorest: Cameroon, Chad, Cote d'Ivoire, Congo, El Salvador, India, Mauritania (7 countries)

We find variability in both the average levels of learning, and the magnitude of the poverty-driven gaps between countries. The country groups, following the same logic applied to primary school

completion patterns, distinguish between high, moderate and very low levels of learning for the richest and the poorest respectively.

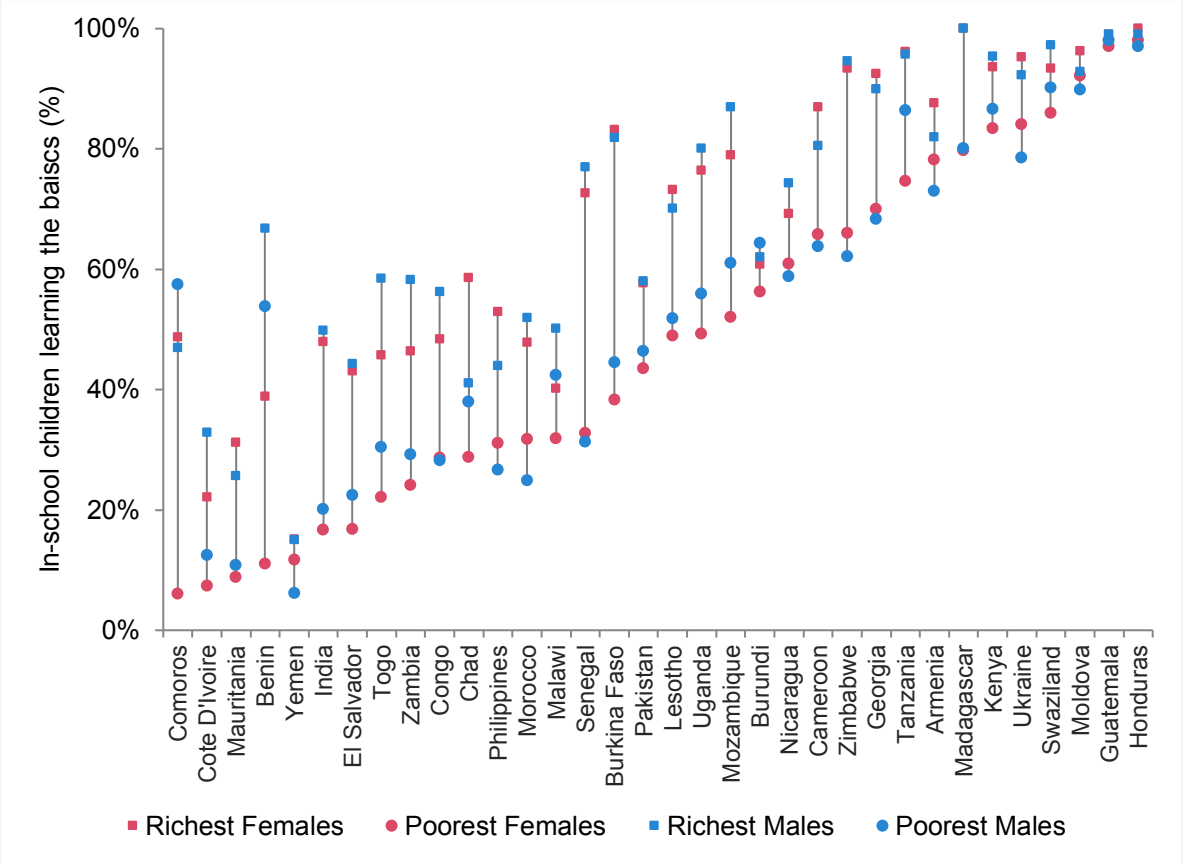
- Countries such as Kenya, Honduras and Guatemala feature in Group 1 (green marker) whereby high proportions of both poor and rich in-school children are learning.
- Group 2 (blue marker) includes countries, such as Zimbabwe, where the richest children in school have high chances of having learned the basics, but the poorest in-school children only moderate chances.
- In contrast to the access pattern, where we observed 10 countries in Group 3 (yellow marker) indicating the largest gaps between the richest and the poorest, none of the countries with learning assessment data fall in this category.
- There are, however, a substantial number of countries (12) in Group 4 (purple marker) where the overall levels of learning for in-school children are below 75% for both the poorest and the richest. Countries such as Pakistan, Malawi, Uganda and Tanzania are part of this group.
- Group 5 (red marker) contains 13 countries where learning levels are only moderate for the richest, and very low (below 25%) for the poorest of in-school children: India finds itself here (moving from the green group on access), along with Congo and Cameroon.
- Lastly, there are two outlier countries with particularly low levels of learning for everyone: Yemen and Niger.

1.2.2. Gender affects in-school learning levels less than poverty, but the interaction between gender and poverty drives learning gaps

Similar to completion of primary schooling, we find that the gender learning gaps for in-school children are small: boys are just one percentage point more likely than girls to have learned the basics across the countries in our dataset, on average. However, as previously mentioned, this occurs on a backdrop of relatively low overall levels of learning, suggesting that girls and boys have similarly *low* levels of learning. Caution needs to be taken to ensure that, as learning levels increase, this is achieved equally for girls and boys.

Mirroring our evidence on the patterns regarding access, we find that in a wide majority of countries where learning assessments have taken place, gender and poverty interact in a manner that sees the poorest girls displaying the lowest likelihood of learning basic skills in mathematics. The proportion of the in-school boys from the poorest backgrounds is almost always higher than that of the poorest girls. Additionally, we find that amongst the richest groups, the gender gaps are most pronounced when few children overall are learning the basics (Figure 1.4).

Figure 1.4 Gender affects in-school learning levels, but less so than poverty, with which it interacts to create different chances of learning



Taken together, the poverty- and gender-driven gaps in learning for in-school children indicate less positive educational experiences for those from the most disadvantaged groups. In Section 2 we use inferential models to analyse how children from the most disadvantaged backgrounds perform when their schooling environment is taken into account for selected countries with more detailed data.

1.3. Accounting for school access, the learning gap between the richest and the poorest widens

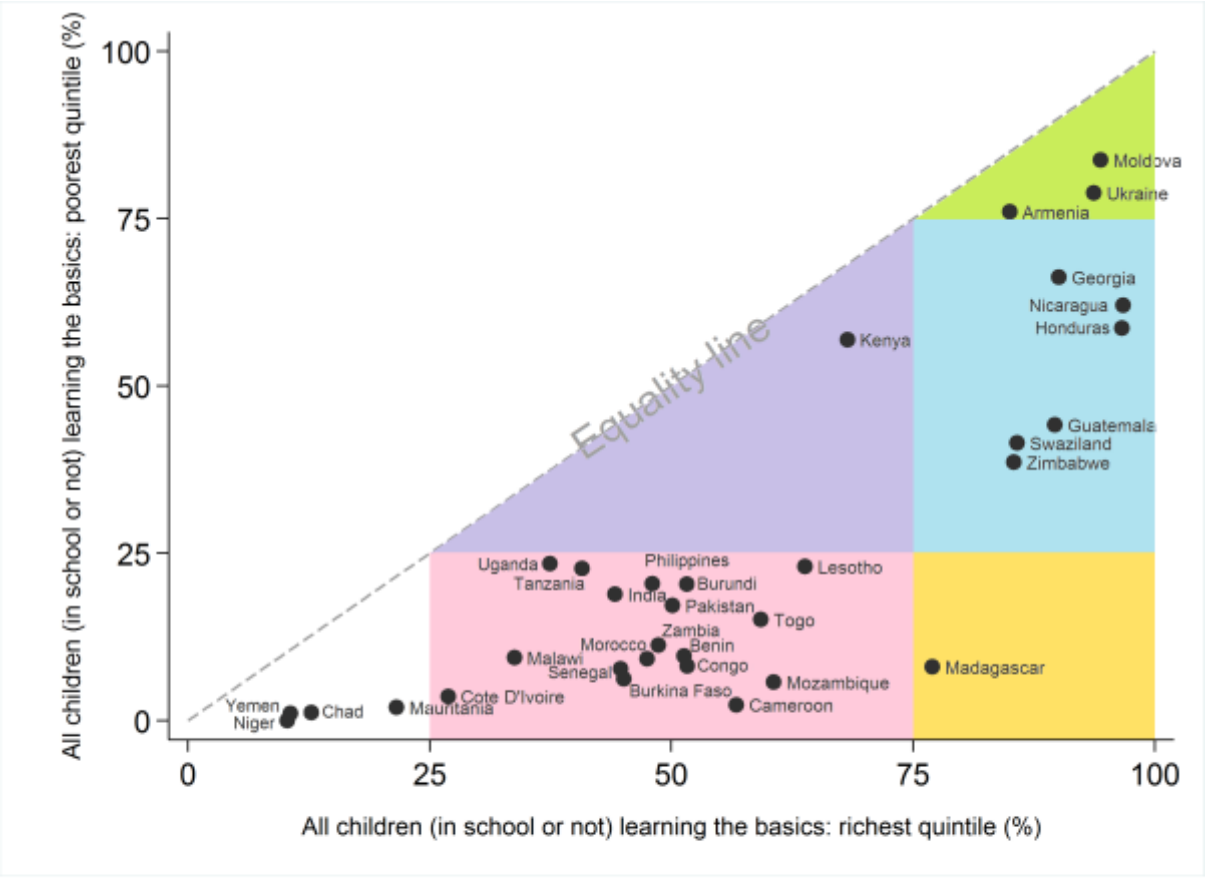
The above learning inequalities reveal only the extent of gaps for children already attending school. We have already shown evidence that children from the poorest backgrounds in all cases have smaller chances of completing school. Therefore, the numbers of children from these poorest population groups who are learning (regardless of whether they are in school or not) are significantly lower than those from the richest population groups (Figure 1.5).

Across the countries in the analysis, the learning levels of all children, regardless of whether they are in school or not, and taking into account country population sizes, is 31%. Within this, the poorest display overall learning levels of 19%, and the richest of 46%, i.e. a gap of 27 percentage points (Figure 1.5). Gender compounds this inequality: the average difference between the poorest girls and the wealthiest boys is 37 percentage points.

The higher magnitude of learning gaps between all children is most evident in countries such as Niger, an outlier from all the other groups, where the combination of low school completion rates, and low learning for those in school results in very small numbers of children learning overall: about 10% of children from the richest backgrounds complete primary schooling having learned the basics, while only 0.1% of the poorest achieve this. Group 5 (red marker) contains over half of the countries among which India is particularly notable given that it was in Group 1 (green) for enrolment (Fig 1.1), At the opposite end of the spectrum, countries in Group 1 (green marker), such as Moldova, Ukraine and Armenia exhibit much higher learning levels for all children, and much smaller poverty gaps (around 10 percentage points in each of these countries).

Between these two extremes, countries from all regions display varying patterns of inequality, with the unifying feature being that of low numbers of the poorest children having learned the basics in mathematics. In Group 2 (blue marker) the learning levels are relatively high for all of the richest children, over 80% in countries such as Zimbabwe, Nicaragua or Honduras, but the poorest children display learning levels that do not exceed 75%, and are in some countries (such as Swaziland) closer to the 50% level. There is only one country each in Group 3 (yellow marker – Madagascar) and Group 4 (purple marker – Kenya). Madagascar display large learning gaps for all children, with the richest being almost 7 times more likely to have learned the basics than the poorest. By contrast, learning levels in Kenya are less driven by poverty, with roughly 70% of the poorest and richest children, whether in school or not, learning the basics.

Figure 1.5 Poverty learning gaps for all children (regardless of whether they are in school or not) are large in most countries



Country groups:
Group 1 (green marker): High learning rate (over 75%) for both richest and poorest: Armenia, Moldova, Ukraine (3 countries)

Group 2 (blue marker): High learning rates (over 75%) for the richest and moderate learning rates (25% to 75%) for the poorest: Georgia, Guatemala, Honduras, Nicaragua, Swaziland, Zimbabwe (6 countries)

Group 3 (yellow marker) High learning rates (over 75%) for the richest and very low learning rates (under 25%) for the poorest: Madagascar (1 country)

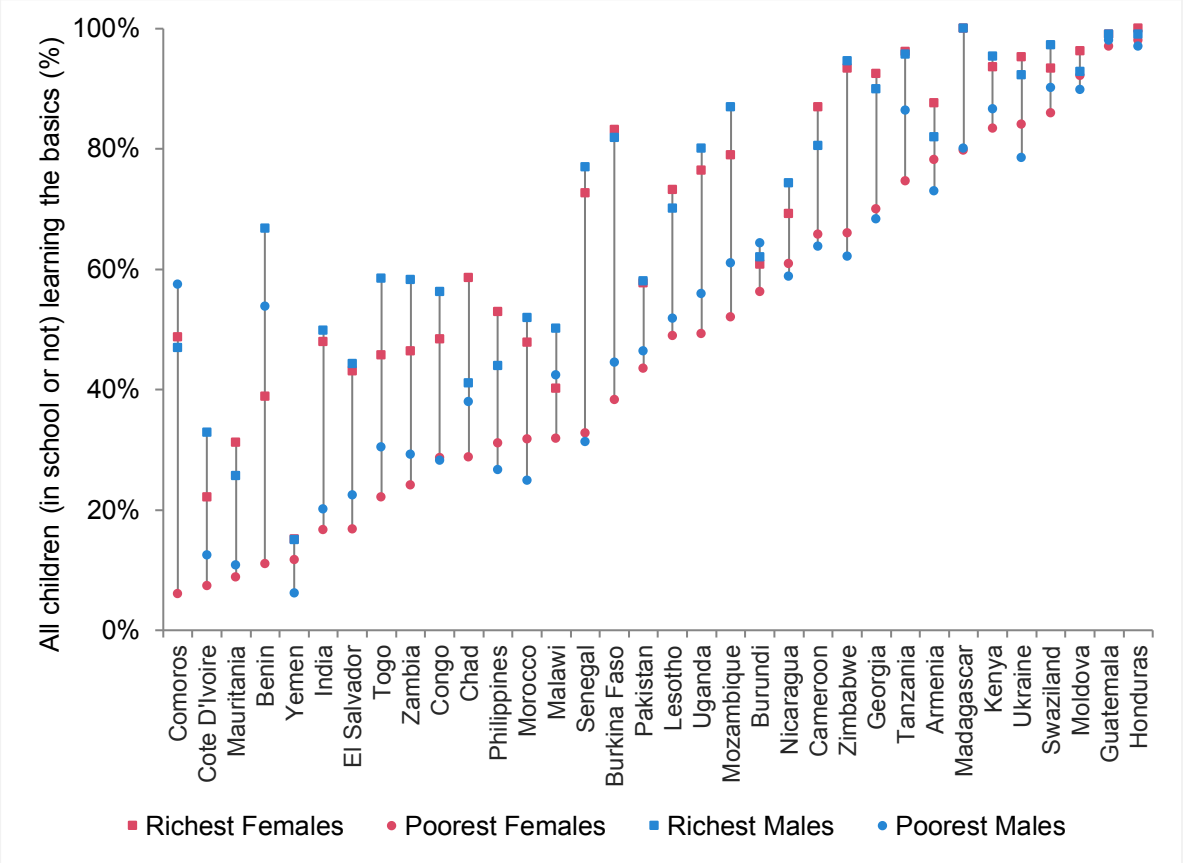
Group 4 (purple marker): Moderate learning rates for both richest and poorest: Kenya (1 country)

Group 5 (red marker): Moderate learning rates (25% to 75%) for the richest and very low learning rates (under 25%) for the poorest: Benin, Burkina Faso, Burundi Cameroon Cote d'Iovire Congo India Lesotho Malawi Morocco Mozambique Pakistan Philippines Senegal Tanzania Togo Uganda

1.3.1. Gender and poverty interact to create large learning gaps, but poverty still drives inequalities

The main message regarding gender inequalities in learning holds no matter whether focusing only on in-school children or both those in and out. Here, exploring the inequalities between boys and girls both in and out of school, we again find smaller gender gaps than poverty gaps. We also find though, consistent with our previous results, that there is an important interaction between gender and poverty: yet again, in a wide majority of cases, the poorest girls face a learning disadvantage compared to all other groups, a disadvantage that is particularly striking in comparison to the richest boys (Figure 1.6).

Figure 1.6 Gender and poverty interact to create large learning gaps between the poorest girls and richest boys (all children, whether they are in school or not)



1.4. Early learning determines future chances of educational success

1.4.1. High-achieving poorer children struggle to keep up with wealthier peers

An important question for policymakers is whether poorer children who are learning early on are able to keep up with similarly high-achieving but wealthier peers. Young Lives longitudinal data enables us to track children's attainment over time. In particular we explore how well children who at age 5 are from the poorest background (poorest half of each country's sample) and also perform in the top half of the attainment distribution, continue to do over time, in relation to their wealthier peers. We therefore capture children's attainment at age 5, age 8, and age 12, whether they are in school or not.

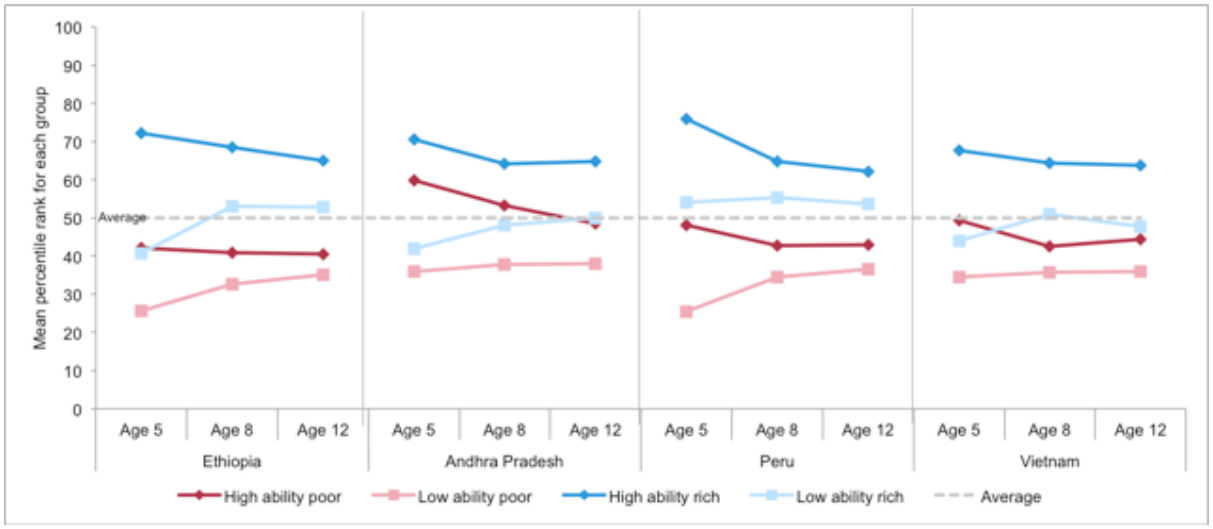
To avoid the well-documented problem of regression to the mean (Marsh & Hau, 2002) in the context of tracking children's attainment over time, we employ the methodology proposed by Jerrim and Vignoles (2013), which argues for using one attainment measure to initially rank children, and another to then trace their attainment levels over time. The aim of this approach is to account for the random error that may occur when children sit a test, whereby a child achieving a very high or very low level of attainment are likely to receive a less extreme mark on subsequent testing.

We therefore make use of the two existing measures of ability at age 5 in the Young Lives data set. We initially rank children based on a measure of overall cognitive ability (the Cognitive Development Assessment) and then use the measure of literacy at age 5 (a PPVT score) as the baseline for our

learning trajectory. We then return to using measures of mathematics learning at ages 8 and 12, though the results we present here also hold for the later measures of literacy. For all these measures we present (in Figure 1.7) the relative mean ranks of each of the ability-poverty groups.

Our first finding is that, even by age 5, children with high initial cognitive ability but from poor backgrounds perform less well than their wealthier peers on the literacy measure. Given that by age 5 very few of the children in the sample have attended school, we believe this evidence is suggestive of a substantial impact the home environment is likely to have on children's early development, in line with findings from developed countries (Cunha et al, 2006, Goodman et al, 2009).[3]

Figure 1.7 High ability poor children learn at lower levels than their richer peers



Starting from age 5, we find that high ability poor children are likely to drop in their relative levels of learning compared to less able but richer peers. The pattern is especially stark in Andhra Pradesh, India, where although high ability poor children start with a high relative rank in learning (below just the most able of the richest), by age 12 they are overtaken by rich but initially less able children.

Overall, these results suggest two main issues. Firstly, the learning levels of all children are significantly impacted by their home environment. We conclude this given evidence that age 5, before children start attending school, high cognitive ability children from poorer backgrounds have lower levels of literacy skills than their richer peers. And secondly, children from very poor backgrounds face significant hurdles over the course of their childhoods and into early adolescence, and, whether in school or not find it difficult to translate initially high levels of cognitive ability into learning.

1.4.2. Early learning gaps persist into secondary and higher education

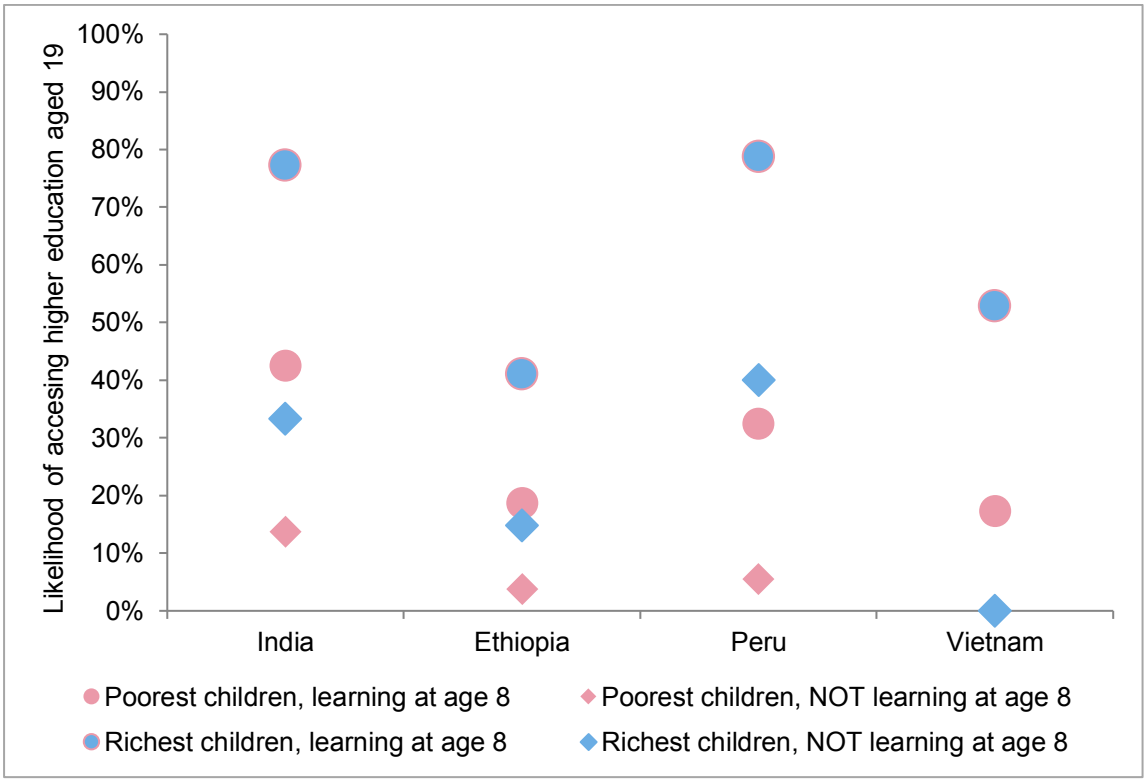
Inequalities in access and learning at primary school become even more important when the influence of early learning on future chances of educational success is taken into account. There is substantial evidence from developed countries (e.g. Chowdry et al, 2013) that early learning matters

[3] We are unable to conduct this analysis using numeracy as there are not comparable indicators of numeracy across the cohorts in the Young Lives dataset.

to children's attainment later on in life, and this is also the case in the low- and lower-middle income countries in this analysis.

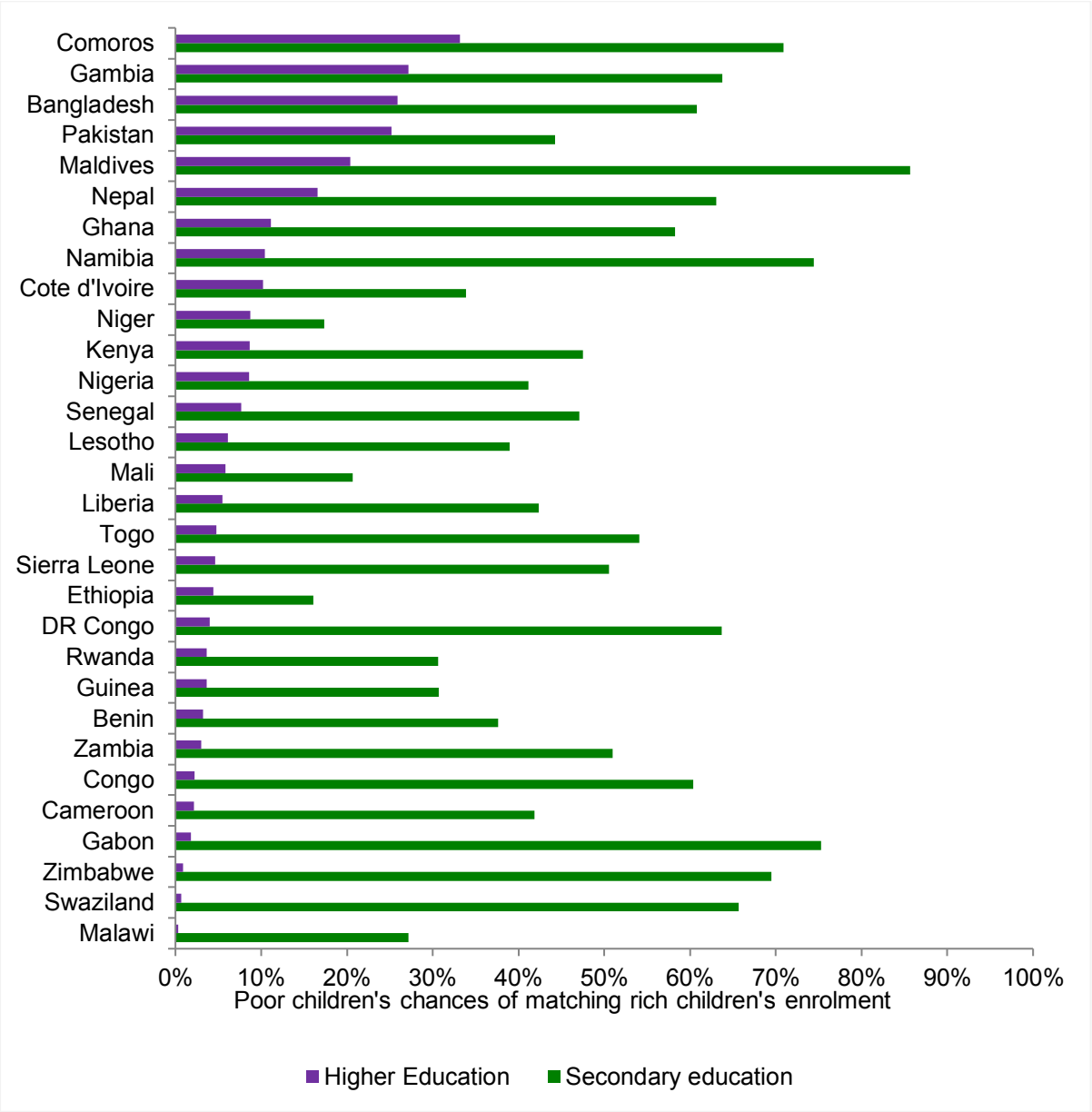
In Andhra Pradesh, India, longitudinal data from the Young Lives study shows that early learning (at age 8) is a strong predictor of learning during early and late adolescence (ages 12 and 15) and also of higher education access at age 19. This influence remains important even when children's background characteristics are taken into account with inferential modelling, including their gender, school attendance, their parents' education, and poverty status. Indeed, at the individual level, the effect of learning the basics at age 8 is second only to poverty status in importance (Figure 1.8).

Figure 1.8 Early learning and poverty interact to determine educational success (higher education access) later in life



Additionally, there is substantial evidence to show that early schooling inequalities perpetuate and increase during subsequent educational levels (e.g. Ilie & Rose, 2016) (Figure 1.9). More precisely, wealth gaps in access increase from primary to secondary schooling, and then from secondary schooling to higher education.

Figure 1.9 Poor children have much smaller chances of enrolling in secondary or higher education than their wealthier peers



As Figure 1.9 illustrates, the chances of poor children enrolling in either secondary or higher education are much lower compared to their wealthier peers. While the chance of enrolling in secondary education for the poorest range between 20% and 85% compared to the richest, higher education enrolment displays much larger poverty-driven gaps. In a large majority of countries the poorest have less than 10% of the chances of rich children to attend higher education. Some countries display striking gaps, as for instance Malawi, where children from a poor background have about 30% of a wealthier child's chances of enrolling in secondary school compared to children from richer backgrounds; but less than 1% of a wealthier child's chances of enrolling in higher education.

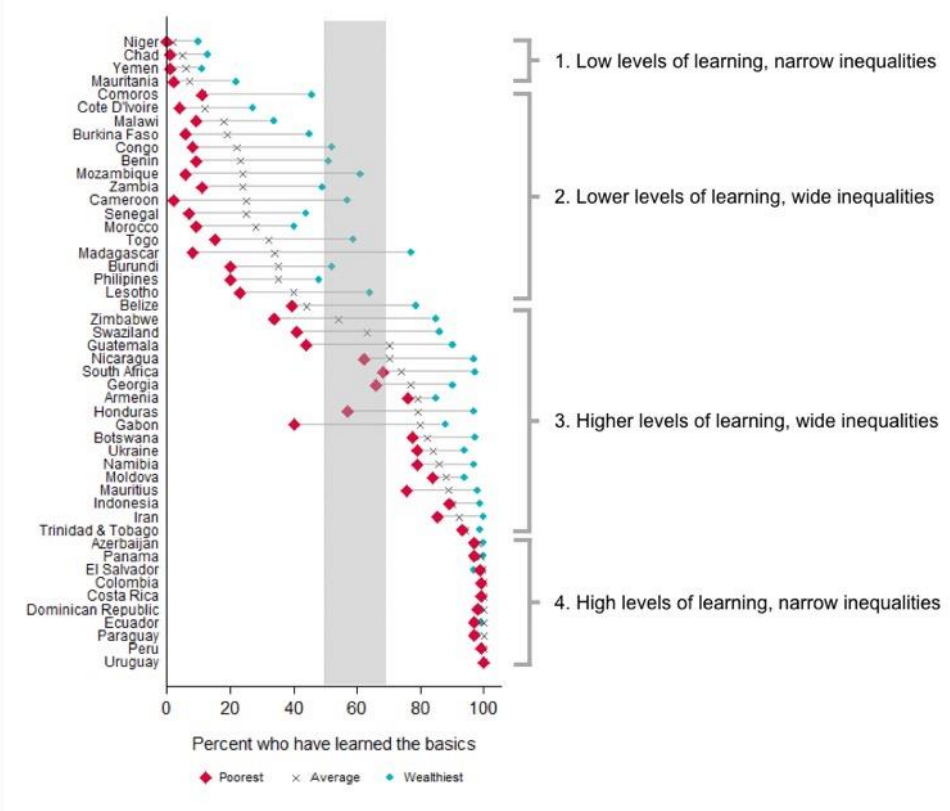
Our results therefore suggest that the most disadvantaged children face ever diminishing chances of accessing higher levels of education, and therefore ever diminishing chances of learning at a more advanced level. This also highlights that for inequality in the later stages of education to be tackled, a

narrow focus on just that level is insufficient; it is crucial to address gaps manifesting earlier in the system.

1.5. Addressing within-country poverty-driven inequalities in learning are essential to resolving across-country inequalities

It is not possible to achieve convergence in learning across countries without first addressing inequalities in learning within countries. As we have shown, increases in school enrolment in many low- and lower-middle income countries should not mask the fact that disadvantaged children continue to be left behind. For all countries to reach the average learning rates of the strongest performing countries, educational opportunities must improve for the most disadvantaged. In order to ensure education for all, it is thus essential to focus on the poorest children within each country.

Figure 1.10 Poverty-driven inequalities in learning are larger within countries than between-countries



Note: the edges of the grey bar show the average rates of learning for poorer and wealthier children across all countries, and so the bar's width represents the average learning inequality.

To explore the association between across and within-country inequalities, we compare the magnitude of differences in learning the basics in maths among those within three to five years of primary school completion age (Figure 1.10). To enable cross-country comparisons, for each country, a grey cross represents the average proportion of children within that country who have learned the basics. Countries are then ordered on the vertical scale, from that with the lowest overall proportion of learning the basics (Niger, 2%) to that with the highest (Uruguay, 100%). For within-country comparisons, we calculate inequality in learning the basics as the difference in the proportion of poorer (large red diamond) and wealthier (smaller blue diamond) children who have learned the

basics. In Cote D'Ivoire, for example, 4% of poorer children have learned the basics compared with 27% of wealthier chlidren, giving a within-country inequality of 23 percentage points.

For between country comparisons, we used the proportions of poor and rich children who are able to learn the basics for each country to estimate an aggregate average measure. For all the countries in Figure 1.10 the edges of the grey bar represent the average proportion of poor children who are able to learn the basics and the average proportion of rich children who are able to learn the basics. These estimates are 48% and 67%, respectively, giving an average rich-poor inequality of 19 percentage points across all the countries.

One clear pattern emerges from the results: among all countries in the middle groups of the distribution, (Groups 2 & 3), within-country inequalities tend to far exceed the average between-country inequality of 19 percentage points. Madagascar offers the most stark example, with a 69 percentage point internal gap between the poor and the rich. In total, 16 countries have within-country inequalities of 30 percentage points or greater.

These within-country inequalities are greatest in the lower performing of these groups where the proportion learning is below the between-country average (Group 2). In this group, the average within-country inequality is 37 points, and 13 of the 14 countries exceed the average between-country inequality of 19 percentage points. In the relatively better performing countries on average (Group 3), within-country inequality is 18 points on average, ie a far smaller degree of inequality than in Group 2. A reason for this is because 12 of these 18 countries are performing better than the between-country inequality gap.

By contrast, within-country inequalities are far lower among those countries with the highest rates of learning the basics (Group 4). For these countries the gap in the proportion of poor and rich children who have learned the basics is never more than five percentage points. It is important to highlight that the fact that these countries have a near convergence between rich and poor in learning the basics should not be taken to mean that true learning equality exists within these countries; it is reasonable to think that inequalities may exist on higher order skills, such as algebra in maths. Nonetheless, these countries make clear that any push to catch up among lower performing countries must ensure that the most disadvantaged are enabled to learn the basics.

A final pattern that emerges from this analysis, which is perhaps the most worrying result, is that the very lowest performing countries (Group 1, ie Niger, Chad, Yemen and Mauritania) have average learning rates of between just two and seven percent. And although inequalities between the poor and the rich are inevitably low as so few children are learning (less than 10% in each case), the challenge for these countries will be both to improve the quality of learning overall and to make sure that learning levels are raised for all population groups equally – to avoid the pattern observed in group 2 countries of widening inequalities as learning improves.

1.6. Some countries are making progress in increasing learning and narrowing gaps

Over time, access to education has been made possible for more children, but not all children have had the same opportunities. As we have shown above, children from wealthier backgrounds are

more likely to attend and complete primary school. They are also more likely than their peers from poorer backgrounds to have acquired basic skills.

We explore the extent to which these trends have evolved over time and report the change in the relative gaps between the richest and the poorest children in terms of their completion of primary school, and also of their learning (whether they are in school or not).

- In terms of access, we find that in around 55% of the low and lower-middle income countries in our analysis, poverty-driven inequalities in primary completion rates are narrowing over time. The best-performing countries in terms of their narrowing of completion gaps are Nicaragua, Nepal, and Togo – in these countries the gap between the richest and the poorest has narrowed by more than 20 percentage points over a standard period of 5 years.
- These countries are followed by Kenya, Egypt, Guatemala, Lesotho, and DR Congo, where gaps have reduced by at least 10 percentage points over the same period of time.
- This still leaves 45% of countries where gaps between the poorest and the richest have increased over time. From amongst the countries in this analysis, Yemen and Sierra Leone display the largest worsening of poverty-driven gaps, at 20 percentage points over 5 years.
- Burundi, Rwanda, Central African Republic, Pakistan, Nigeria, Malawi and Swaziland all exhibit an increase in the relative poverty gap, of at least 10 percentage points.

It is important, however, that both access and learning are referred to in terms of absolute and relative changes over time. For this reason we next consider how far countries have come in recent years in terms of learning for all children. We classify countries' progress according to two considerations:

1. Absolute improvement: are poor children more likely to both be in school and learning now than in the past?
2. Relative improvement: is the learning gap between all poorest and richest children (whether they are in school or not) smaller than it used to be?

For this analysis we make use of the 25 countries which have both access and learning data at two points in time. We allocate each of these countries to one of four typologies (Figure 1.11):

1. Relative and absolute improvers: countries where the proportion of the poorest learning increases over time, and where rich-poor inequalities narrow (the most positive case)
2. Inequality-widening improvers: countries where the proportion of the poorest learning increases over time, but where the rich-poor gap widens
3. Inequality-narrowing regressors: countries where the proportion of the poorest learning decreases over time, but where the rich-poor gap decreases
4. Relative and absolute regressors: countries where the proportion of the poorest learning decreases over time, and where rich-poor inequalities expand (the most negative case)

Figure 1.11 Typologies of countries in relation to relative and absolute improvement of learning levels for all children

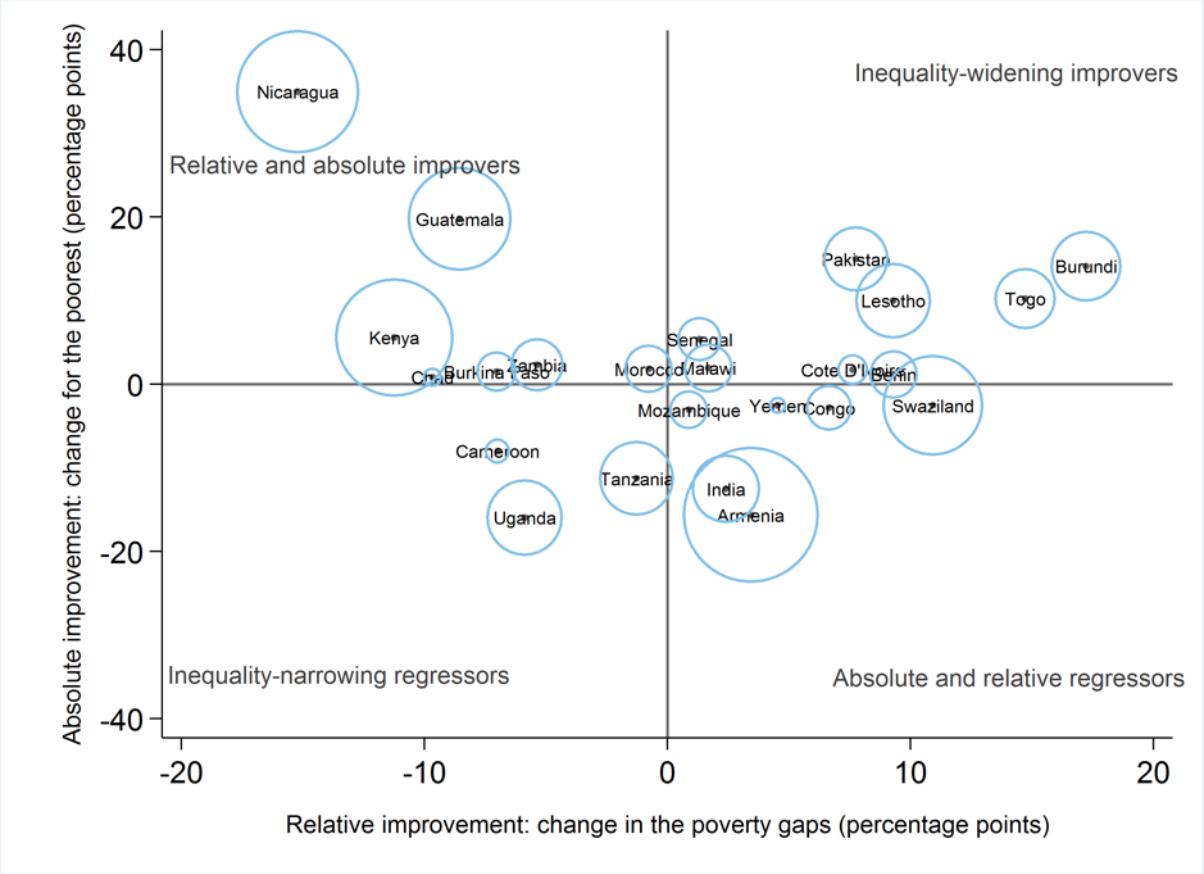


Figure 1.11 illustrates the four typologies, as well as the relative learning levels for the poorest children (whether they are in school or not) by means of the sizing of each data point. For example, Kenya has made good progress in both absolute and relative improvement for the poorest and represents Typology 1, whereas India has regressed on both the overall levels of learning for the poorest children, and in terms of the learning gaps between the richest and the poorest, and therefore represents Typology 4.

Further countries in Typology 1 are Guatemala, and Nicaragua, both of which exhibit marked improvements in the absolute levels of learning for the poorest children; and also Chad, Burkina Faso and Zambia, countries which display slight improvements in the learning levels for the poorest and also small reductions in the inequalities between the richest and the poorest. Typology 4 includes the countries where the poorest now have fewer chances of learning the basics, and the gaps between them and their richest counterparts have increased. In addition to India, this includes Swaziland, Congo, Yemen, Armenia, Morocco, and Mozambique.

The middle typologies refer to the combination of countries that exhibit improvements on one dimension, but not on the other. In Typology 2, the countries that are inequality-widening improvers display patterns of change whereby the poorest have increased chances of having learned the basics, but the gaps between them and the richest children have widened at the same time. These countries include: Malawi, Senegal, Cote d'Ivoire, Benin, Pakistan, Lesotho, Togo, and Burundi. Typology 3 refers to countries where the chances for the poorest to learn the basics are lower, but the gaps between them and the richest have decreased. Interestingly, while this typology may be

viewed as partially positive given the reduction in inequality, as opposed to Typology 1, the countries here display decreasing patterns of learning for both the poorest and the richest, signalling a lowering of levels of learning for all children. Only three countries fall under this Typology: Cameroon, Tanzania and Uganda.

1.7. Most countries are off track for achieving sustainable development goals, particularly for the most disadvantaged

For the same set of countries with data at two points in time for learning and access (so that learning rates in the entire population may be calculated), we project forward to estimate the ways in which progressive convergence in learning may be achieved, if at all. The projection can be carried out in two ways, both of which are based on the assumption that countries continue to make progress at a stable rate. Firstly, we can estimate what we expect learning for the poorest children to be in 2030, as well as what the level of inequalities will be, if countries continue changing at the rate they have most recently. Secondly, we can estimate what the time frame for the complete narrowing of poverty gaps across the countries may be, again given most recent rates of change.

1.7.1. Progress likely to be made by 2030

With this approach, we can project what the learning of the poorest children is potentially likely to be in 2030, as well as what the magnitude of the poverty-driven inequalities is likely to be. We find that in many of the countries in this set, the absolute level of learning for the poorest children (whether they are in school or not) actually decreases over the most recent period. Therefore, if changes were to continue at the same rate of change, many countries would see a full reversal of any learning progress already made and lower levels in 2030 compared to the most recent point in time with data.

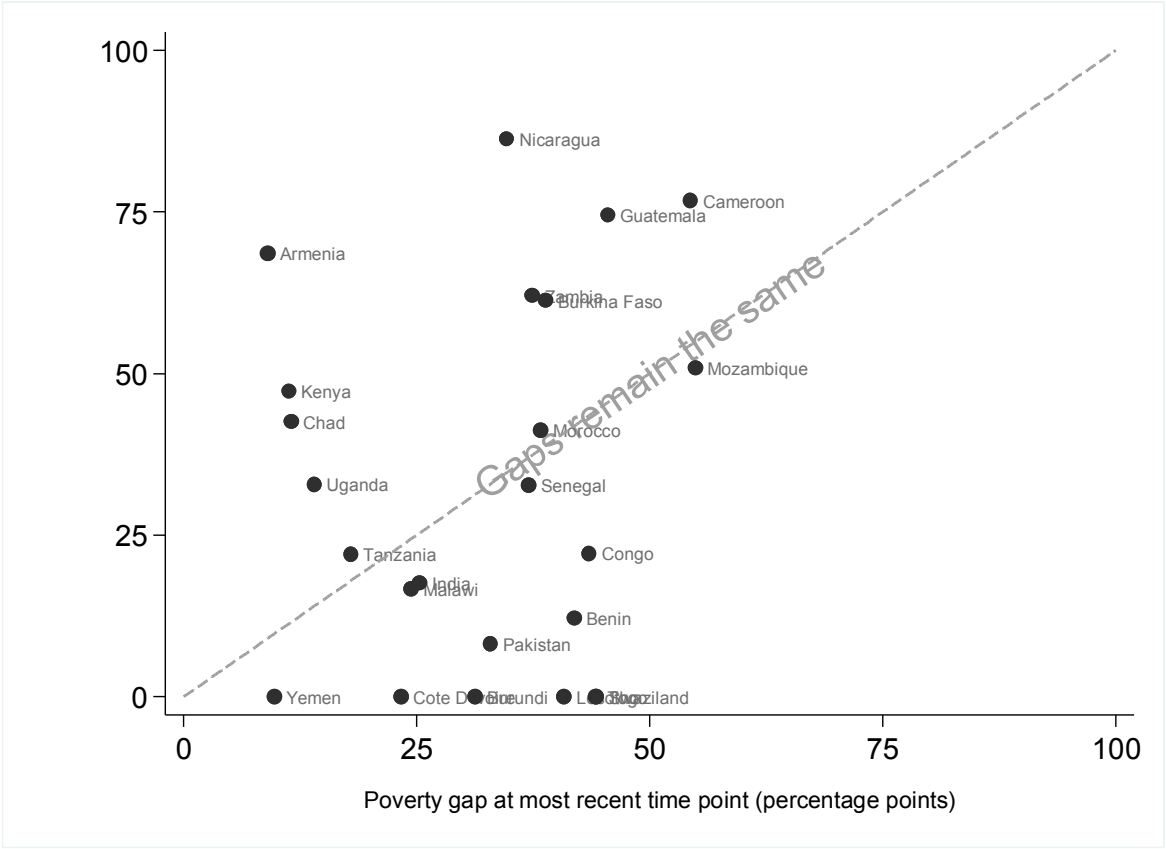
Additionally, as Figure 1.12 below illustrates, we also find that the poverty gaps are likely to develop in very different directions amongst the group of countries in the analysis. Approximately half of the countries in the group are expected to be able to close the poverty gaps: Yemen, Cote D'Ivoire, Lesotho, and Swaziland are estimated to attain gaps in learning that are close to 0; Pakistan, Benin, and Congo are estimated to reduce their gaps by more than 50%, significantly improving the learning of the most disadvantaged.

However, these gap-narrowing countries are likely to reach very different levels of learning. For instance, Pakistan is likely to increase from around 17% of the poorest learning at the most recent point in time to around 42% by 2030, while Swaziland is likely to increase to over 90% for the poorest, and over 85% for the richest in society, essentially reversing the poverty learning gap.

Several further countries are expected to maintain the size of their poverty learning gaps by 2030. These countries are: India, Malawi, Tanzania, Morocco, Senegal, and Mozambique (in Figure 1.11 these are the countries located most closely to the 'Gaps remain the same' line). Although the gaps are estimated to remain relatively stable, two of these countries (Morocco and Tanzania) display regressive patterns in learning for the poorest children, so that the learning levels at 2030 are estimated to be lower than the current learning levels. Additionally, similarly to the group above, the learning levels estimated to be reached by 2030 are also different between these countries, ranging from 9% of the poorest learning in Mozambique, to 27% learning in India.

Lastly, a third group of countries displays inequality-widening patterns, whereby the poverty learning gap is estimated to increase by 2030. The countries in the categories include: Nicaragua, Armenia, Cameroon, Guatemala, Zambia, Burkina Faso, Kenya, and Chad. With such a range of countries in terms of geographical location and also in terms of current learning levels for all children, it comes as no surprise that both the overall increase in gaps as well as the estimated learning levels at 2030 vary substantially between these countries.

Figure 1.12 Poverty learning gaps are likely to change in most countries by 2030, but not always positively



The key implication of this rests in the fact that, at the current pace of development, many countries are off track for achieving the sustainable development goals in relation to equal access and learning for all by 2030. Of course, this is especially true for countries with regressive trends. It is, of course, possible, that these regressive trends represent a momentary adjustment of systems to various external shocks (such as conflict, for instance) and therefore the systems in question are likely to recover from these shock and subsequently display positive trends in learning, and ultimately achieve convergence in learning for the poorest and the richest.

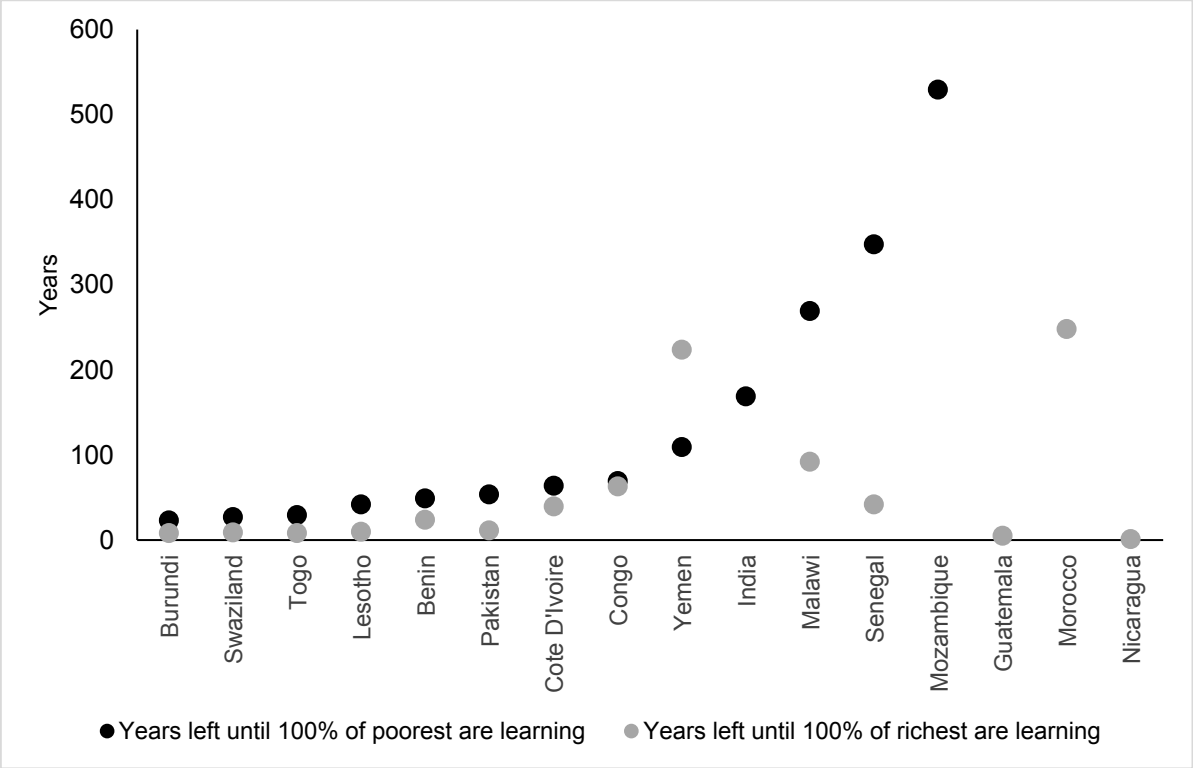
1.7.2. When will countries achieve convergence in learning?

Evidence from Morrison and Murtin (2010) suggests that as countries expand educational access, learning inequalities in basic skills are likely to increase in the first instance. This is because in the short term, most countries, in particular low and lower-middle income countries, cannot cope with the rapid expansion of education, which is also likely to attract children lagging behind in education or not previously exposed to education. In the first years of educational expansion, it is unlikely that children will reach meaningful learning and mastering of basic skills. However, as systems adapt to

cope with educational expansion, and more children remain in education, learning inequalities in basic skills are likely to decline. We estimate what this time frame for inequality reduction is likely to be, assuming that the end goal is to achieve 100% levels of learning of basic skills for all children.

As section 1.6.1 has shown, several countries in our set exhibit declining levels of learning for the poorest children, regardless of whether they are in school or. Therefore, we are unable to estimate at what point in time these countries may reach full convergence in learning at the highest level. In what follows we report the results for the countries that exhibit an upward trend in learning in the latest period.

Figure 1.13 Countries currently showing a positive learning trend require in excess of 20 years to reach convergence, and sometime far longer



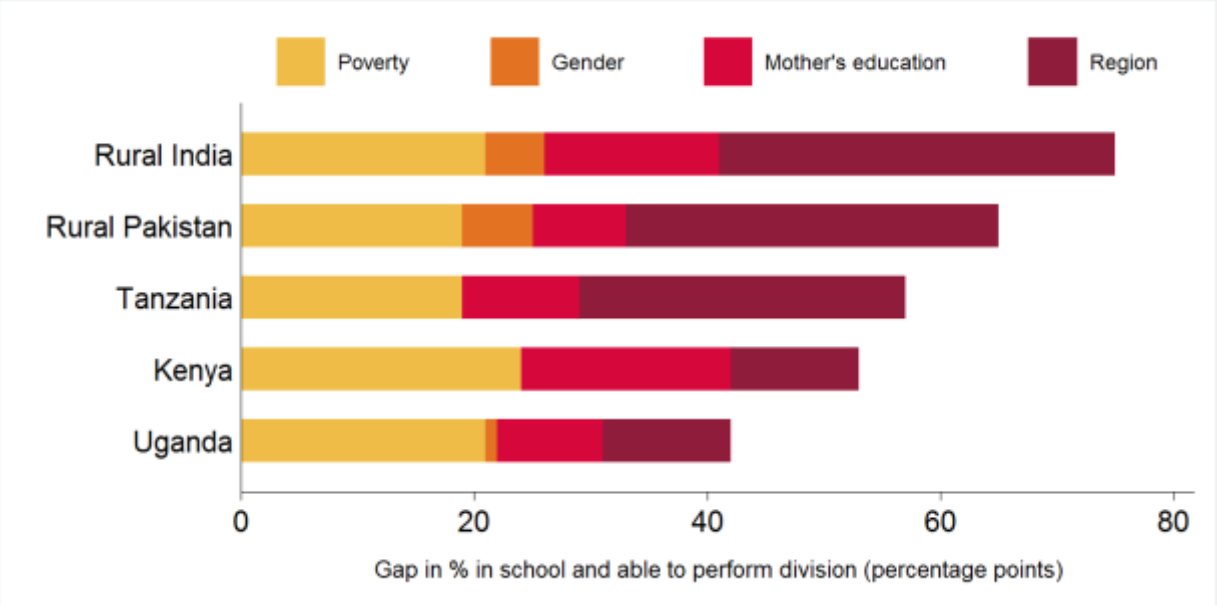
We find that, for the countries currently displaying positive learning trends for either the richest or the poorest in each society, at least 20 years are needed until full convergence at the highest level is attained; in many cases, however, countries require far longer to attain these levels, sometimes as high as 500 years (e.g. Mozambique for the poorest). In all countries except Yemen the richest are predicted to reach full learning levels earlier, partly due to their already higher levels of learning, but also given that in some countries the rate of change for the richest is higher than the rate of change for the poorest.

Section 2: Household and school determinants of inequalities

Key message	Multiple disadvantages compound one another to exacerbate inequalities, and are largely driven by poverty.
Structure	1. Poverty shapes learning outcomes, but is exacerbated by other disadvantages 2. Regional differences within countries matter a great deal 3. Poorer children do far better when given similar school opportunities 4. In certain countries, overage status is highly detrimental to poor children 5. High-achieving poorer children struggle to keep up with wealthier peers

2.1. Poverty shapes learning outcomes, but is exacerbated by other disadvantages

Fig. 2.1. Wealth inequalities in enrolment and learning are exacerbated by other disadvantages



Having identified the importance of poverty on influencing gaps in access and learning, we now extend the analysis to show how look at other sources of inequalities, and how they compound each other. For this, we use household survey data from ASER (rural India and rural Pakistan) and UWEZO (Kenya, Tanzania and Uganda). We use a multivariate model that not only accounts for poverty along with other sources of inequality (gender, mother's education and region), but also allows for an

interaction between poverty and these other factors. This can show, for example, whether poor girls face even greater disadvantages than poor boys, if the gender-poverty interaction is significant.[4]

Across the ASER and Uwezo countries, there are sizeable gaps between poorer and wealthier children in enrolment and learning. In each of the countries, there is at least a 20-percentage-point gap between rich and poor in the share of children aged 10–13 who are in school and have learned basic maths skills (Fig. 2.1).

These gaps are considerable in and of themselves. Yet, when taking account of multiple dimensions of disadvantage, inequalities grow further still. In rural India, rural Pakistan, and Uganda, wealth gaps are compounded by gender inequalities. In rural Pakistan, for example, the gap between poorer and wealthier children increases by a third, from 19 to 25 points, when comparing poorer girls to wealthier boys. However, such gender gaps are not apparent in either Tanzania or Kenya.

While the occurrence of gender inequalities varies by country, first-generation school-goers are at a disadvantage in all of the countries. When focusing not only on poor girls, but on those whose mother never attended school, the gap between these children and wealthier boys whose mother did attend school increases learning inequalities in each country by at least 8 points. In Kenya, this almost doubles the gap, from 24 to 42 points.

Within each country, regional disparities further exacerbate inequality, most starkly in rural India, rural Pakistan, and Tanzania. In Tanzania, regional disparities double the inequality in rates of children in school and learning: the gap between wealthier boys whose mothers went to school and poorer girls whose mothers did not stands at 29 points, but this gap increases to 57 points when comparing advantaged boys in the best performing region to disadvantaged girls in the worst perform region. In rural India, while the most advantaged boys in Himachal Pradesh are highly likely to be in school and learned division (66%), the most disadvantaged girls in Gujarat have next to no chance (4%).

Box: Children with moderate to severe disabilities are least likely to be learning

Children with disabilities are likely to be amongst the most disadvantaged in education. However, identifying children with disabilities in surveys is often challenging, especially in poorer contexts. One major effort to address this comes from ASER Pakistan who, in their 2015 household survey, used questions developed by the Washington Group of Disability Statistics (with adaptions based on UNICEF's Multiple Indicator Cluster Survey).

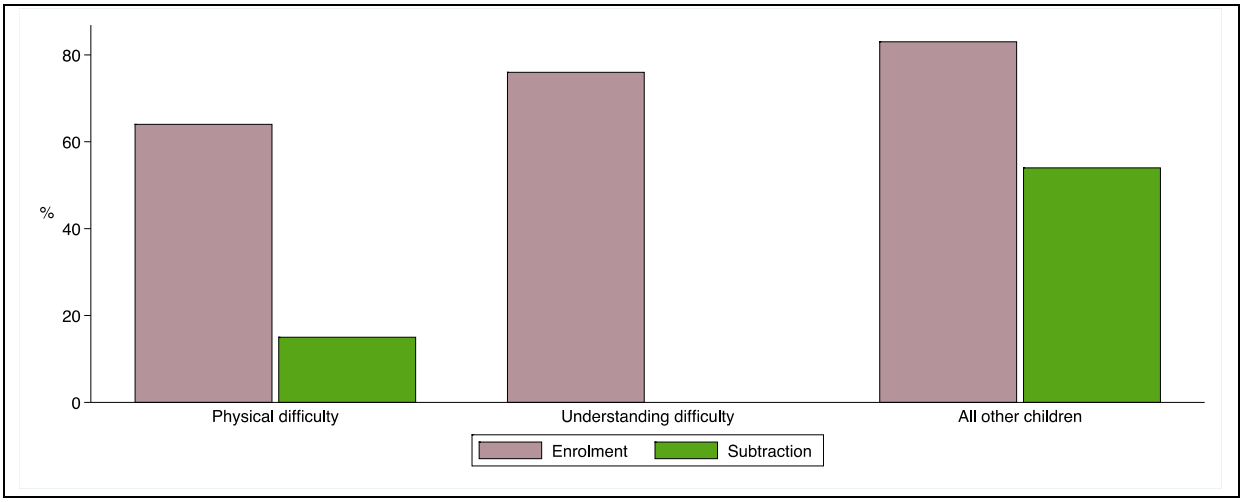
Using these data, 1.2% of children in Punjab were reported as having 'moderate to severe difficulties' in seeing, hearing, walking, caring, understanding or remembering (Singal and Sabates, 2016). These children are more likely to be out of school (71%) than their peers (83%). There is an even starker gap though in rates of learning: just 11% of children with moderate to severe difficulties could do subtraction, compared to 53% of children with no difficulties.

Type of disability matters too: children with moderate to severe physical difficulties were twice as likely to be out-of-school as children with moderate to severe learning difficulties. However none of

[4] Further technical details can be obtained from the authors upon request.

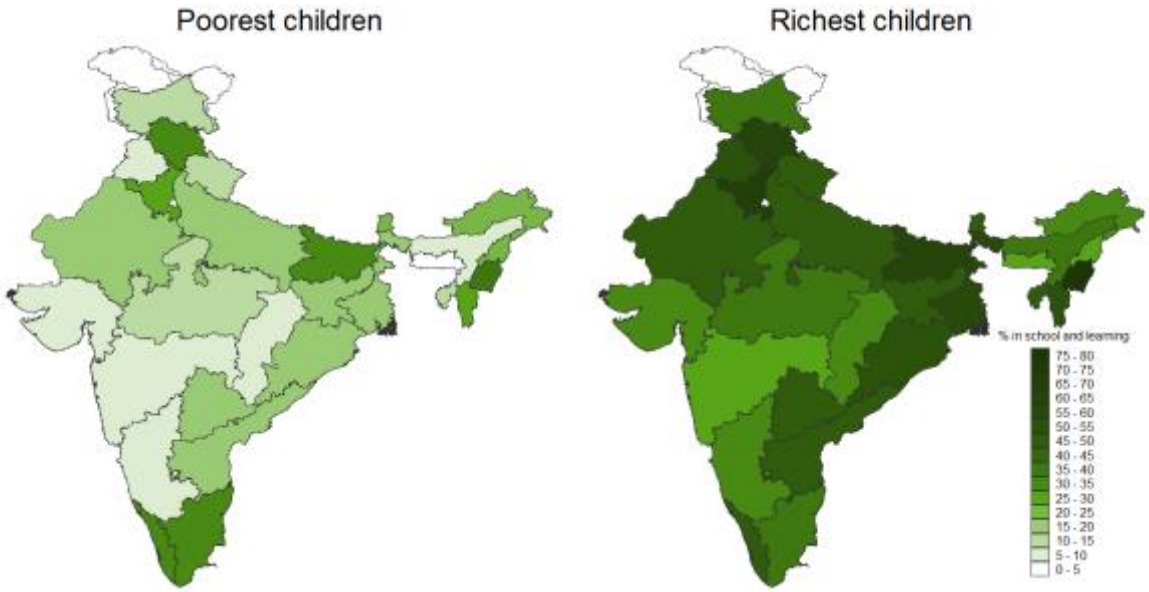
the children with moderate to severe learning difficulties were able to do subtraction, in contrast to 15% of children with moderate severe physical difficulties.

Fig. 2.2. In Punjab, Pakistan, almost no children who face difficulties in understanding are able to subtract, and very few children with physical disabilities are able to do so



2.2. Regional differences within countries matter a great deal

Fig. 3.3. Educational opportunities vary greatly across rural India



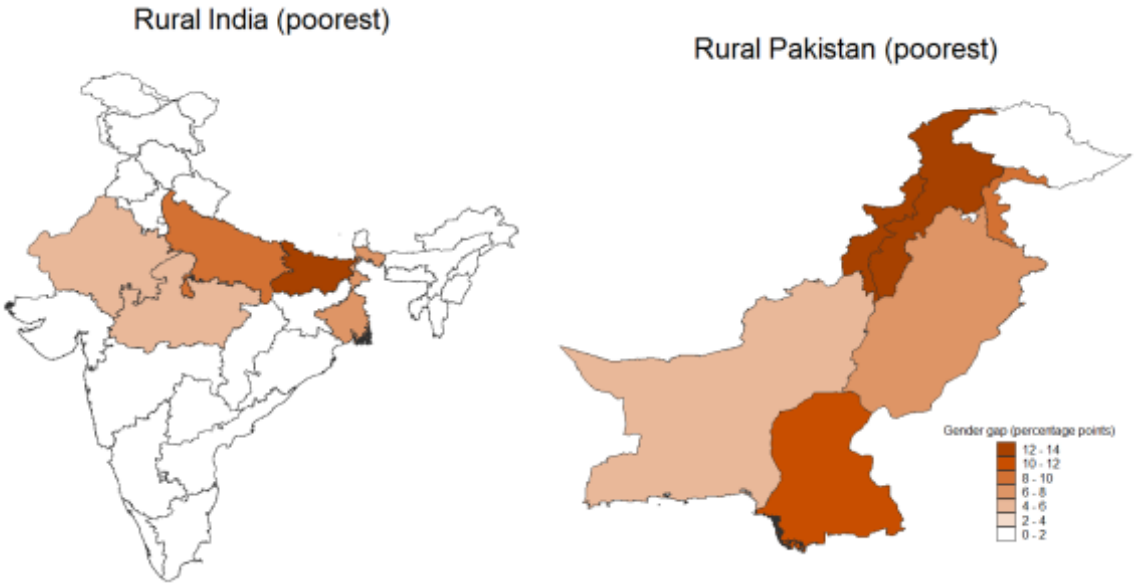
Note: data not shown for contested areas of Jammu and Kashmir, Shaksam Valley, and Aksai Chin

Regional disparities within countries matter greatly, and cannot be overlooked if policies are to support those most in need. This is essential to targeting policies so as to improve their accuracy, contextual relevance, and efficacy.

Taking rural India as an example, when comparing poorer children with equivalent levels of household deprivation, the proportion of 10–13 year-olds who are in school and learning (i.e., able to perform division) varies greatly, from 7% in Gujarat to 33% in Tamil Nadu (Fig. 3.3).

As large as these disparities are though, wealth inequalities supersede regional differences throughout the country. While the proportion of children in school and learning also varies greatly for wealthier children depending on which state they live in, wealthier children outperform poorer children in every single state.

Fig. 2.4. Gender inequalities vary across rural India, but are pervasive throughout rural Pakistan



Note: data not shown for contested areas of Jammu and Kashmir, Shaksam Valley, and Aksai Chin

A focus on regional disparities can also help to identify where particular forms of inequality exist. For example, among poorer children in rural India gender disparities in the proportion who are in school and learning exist in a minority of states: Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh, and West Bengal (Fig 2.4). This suggests that policies aiming to redress gender inequalities are likely to be more effective if targeted towards these states, rather than using a blanket nationwide approach. In contrast, in rural Pakistan gender disparities among poorer children are apparent in almost the entirety of the country, albeit especially pronounced in Khyber Pakhtunkhwa and the Federally Administered Tribal Areas (both 13 points). In this instance, nationwide efforts are necessary.

2.3. Poorer children do far better when given similar school opportunities

While there is a heated debate on the benefits of private schooling for reaching the poor, the majority of children in Kenya, Tanzania and Uganda are attending government schools, and this is particularly the case for poorer children (Fig 2.5). In addition, rich children in government schools are more likely to be learning than poor children in private schools (Fig 2.6). This highlights the importance of understanding the conditions under which children, whether rich or poor, can learn in government schools.

Fig.2.5. The majority of children are studying in government schools in East Africa

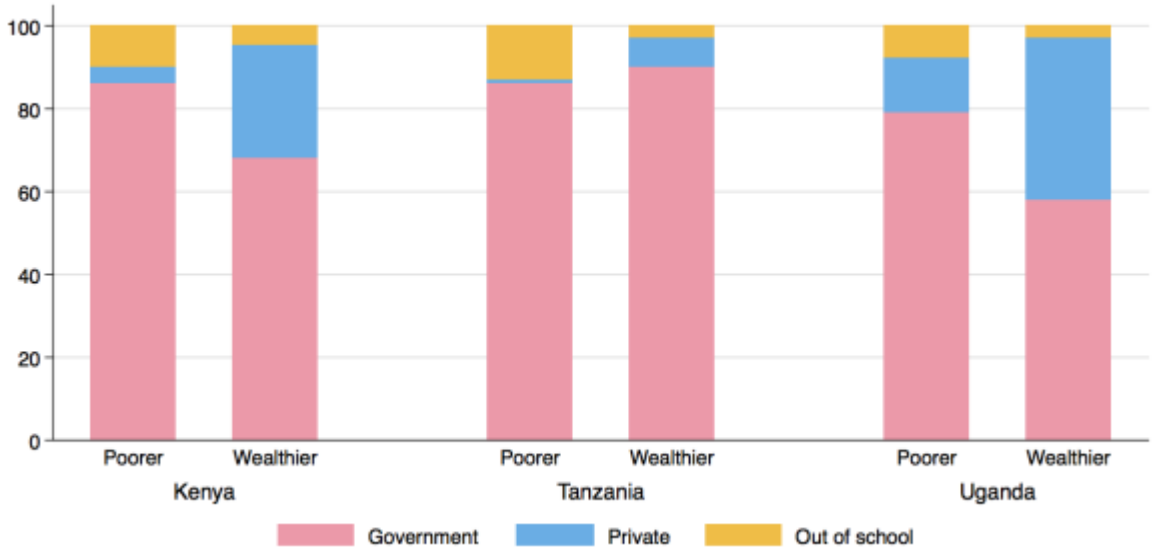


Fig.2.6. Rich children in government schools are as likely to be learning as poor children in private schools

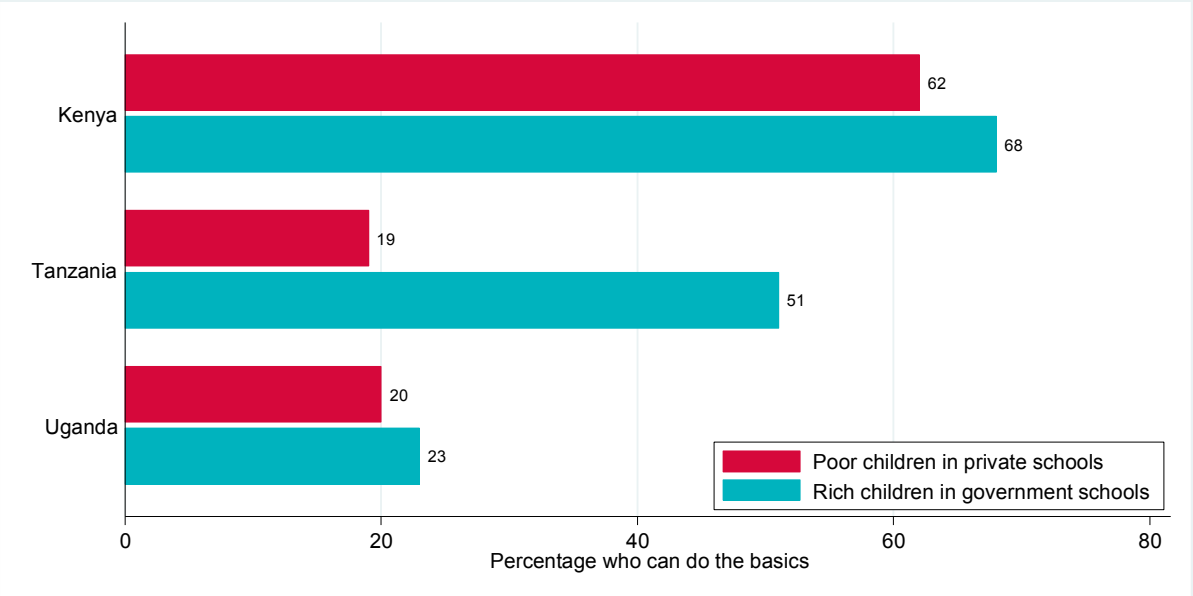
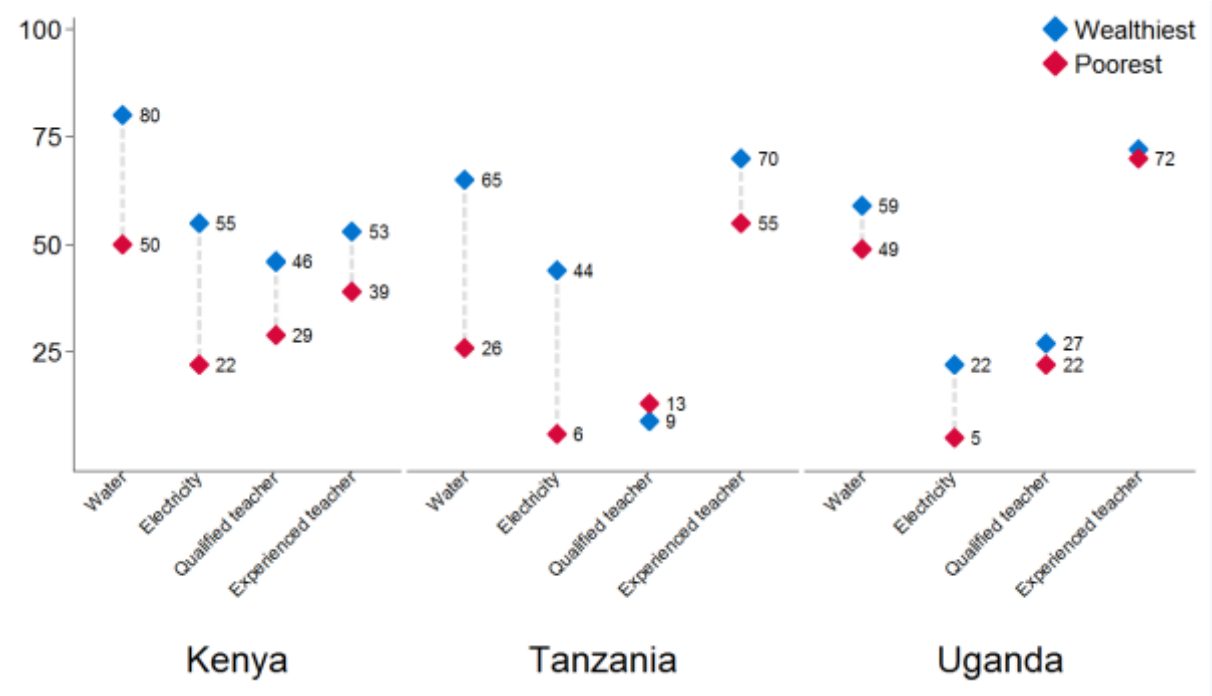


Fig.2.7. Wealthier children get better-resourced government schools



Across each country's government school system, there are wide inequalities in school resources. In Kenya, Tanzania, and Uganda, government schools that serve wealthier children are better resourced than government schools that serve poorer children. For example, in Tanzania more than twice as many wealthy children attend a school with running water as do poor children, and in Uganda wealthier children are over four times as likely to attend a school with electricity (While there is a heated debate on the benefits of private schooling for reaching the poor, the majority of children in Kenya, Tanzania and Uganda are attending government schools, and this is particularly the case for poorer children (Fig 2.5). In addition, rich children in government schools are more likely to be learning than poor children in private schools (Fig 2.6). This highlights the importance of understanding the conditions under which children, whether rich or poor, can learn in government schools.

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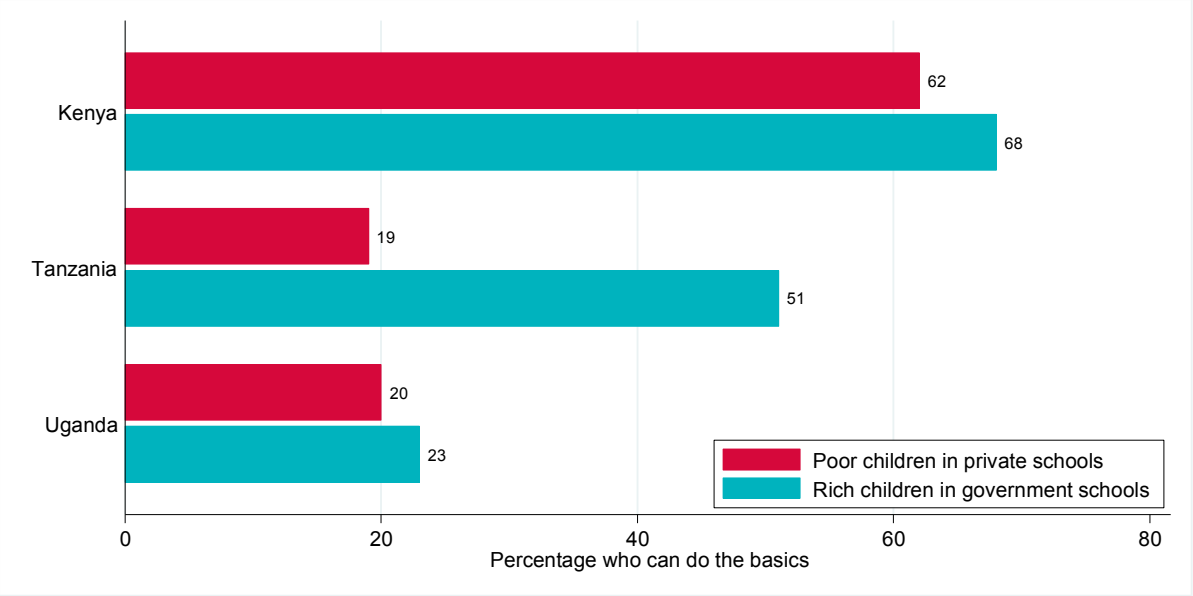


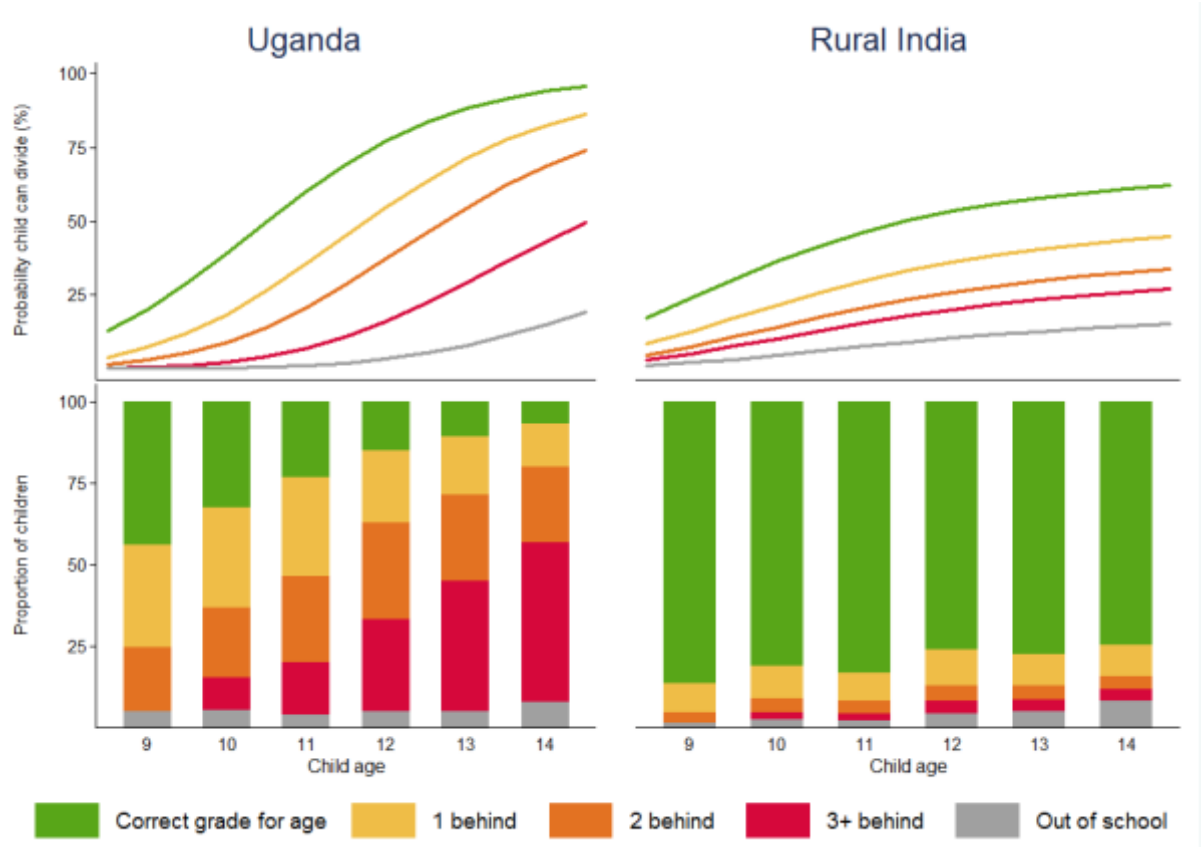
Fig.2.8. Wealthier children are also likely to be taught by better prepared teachers. In Kenya, 46% of wealthier children have a teacher with some form of qualification, compared to 29% of poorer children, while in Tanzania, 70% of wealthier children have a teacher with at least three years of experience, in comparison to 55% of the poorest.

Fig. 2.8. Learning diadvantages are far lower among poorer children who get similar schooling opportunities

When poorer children do get similar schooling opportunities to wealthier children, learning inequalities narrow drastically. Based on three multivariate models, first without fixed effects, second with fixed effects at the school level, and third with fixed effects at the classroom level finds that, across Kenya, Tanzania, and Uganda, the gap between poorer and wealthier children in the ability to do division is between 20 (Uganda) and 25 (Tanzania) percentage points (Fig. 2.8). However, when comparing poorer and wealthier children who attend the same schools, the gap halves, to between 8 and 12 percentage points. This gap then decreases further, to between 4 and 6 points, when comparing poorer and wealthier children who are not only in the same schools but also in the same class grades.

2.4. In certain countries, grade progress matters to learning

Fig. 2.9. In Uganda, the poorest children are far more likely to be learning when progressing through the grades

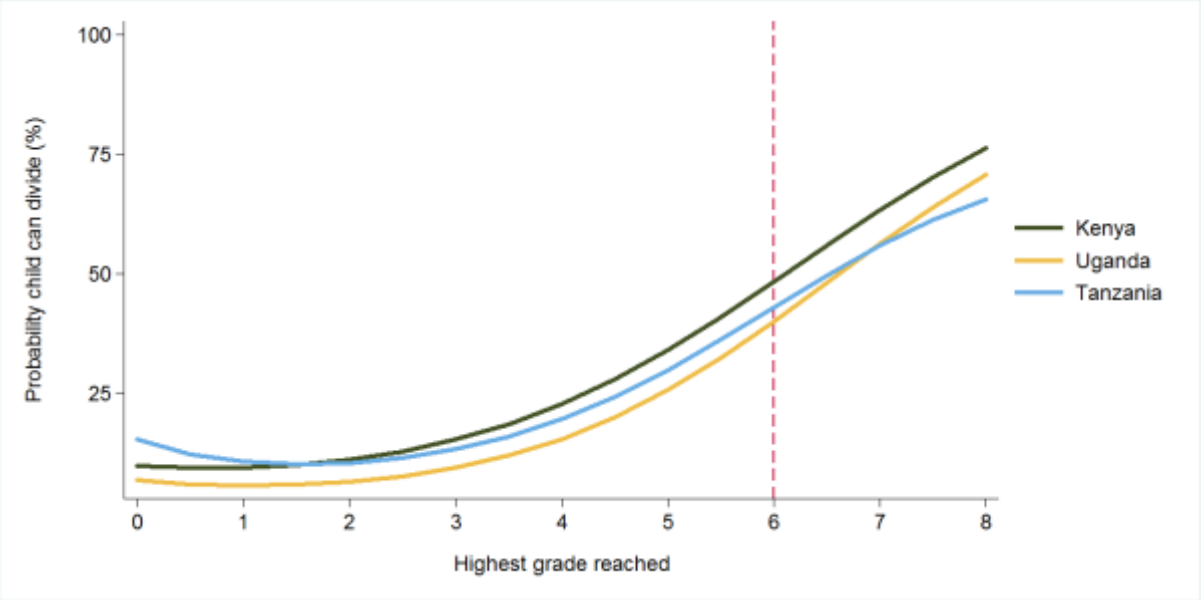


The most disadvantaged are far more likely to be learning when they progress through the class grades on time. Among the poorest 11 year-olds in Uganda (Fig. 2.9), most of those who are in the correct age for grade will have learned to divide (60%), far more than those who are one year behind (36%), two (21%), three or more (7%), or out of school (1%). By age 14, almost all of the poorest children who are still in the correct age for grade will have learned this basic numeracy skill (94%), compared to just 43% of those who are in school but at least three years behind. However, the proportion of poor children who are still in the correct grade decreases as they get older, from 44% at age 9 to 7% at age 14. By age 14, half of poor children are still in school but now three or more years behind the correct grade.

It is important to note though that over-age enrolment is not an issue for all of the countries. One clear counterpoint is India, where the Right to Education Act (2009) contained a 'no-detention' policy, meaning that all children should automatically progress a grade each year. In rural parts of the country, 87% of poorer nine year olds are in the correct grade, and by age 14 three quarters of poorer children are still in the correct grade. While poorer children in the correct grade are still more likely to be learning than those who are overage, the link between progress and learning is not as stark as in Uganda. It should also be noted, however, that the proportions of those learning in rural India are far below those of Uganda. This implies that the solution to addressing over-age enrolment is not necessarily simply to allow children to progress through the grades regardless of whether they are learning but, rather, to understand what is resulting in them not learning and tackle the causes of this. This includes, for example, ensuring that the curriculum is set at the right level for their age.

School progress also matters to the learning of children who left school early. Using a multivariate model for Kenya, Tanzania, and Uganda, the proportion of children learning (i.e. the ability to perform division) is particularly low among poorer young people age 14–16 who dropped out in grade three or earlier. The chances of learning increase for young people who made it to later grades. For those who made it to grade 6, 14-16 year olds have a 50:50 chance of learning (Figure 2.10).

Fig. 2.10. Amongst 14-16 year olds, those who dropped out early are least likely to have learned



2.5. Second-chance opportunities for learning

Given that many of the most disadvantaged children have either never entered school or dropped out before completing primary school, it is vital to provide opportunities for them to learn. The number of children out of school is unlikely to decline substantially if factors that inhibit their schooling are not properly tackled. These include issues such as fixed school calendars and long

hours in school, teacher absenteeism, irrelevant and culturally unresponsive curriculum, poor teaching methods, use of corporal punishment, lack of accountability and use of an unfamiliar language as medium of instruction.

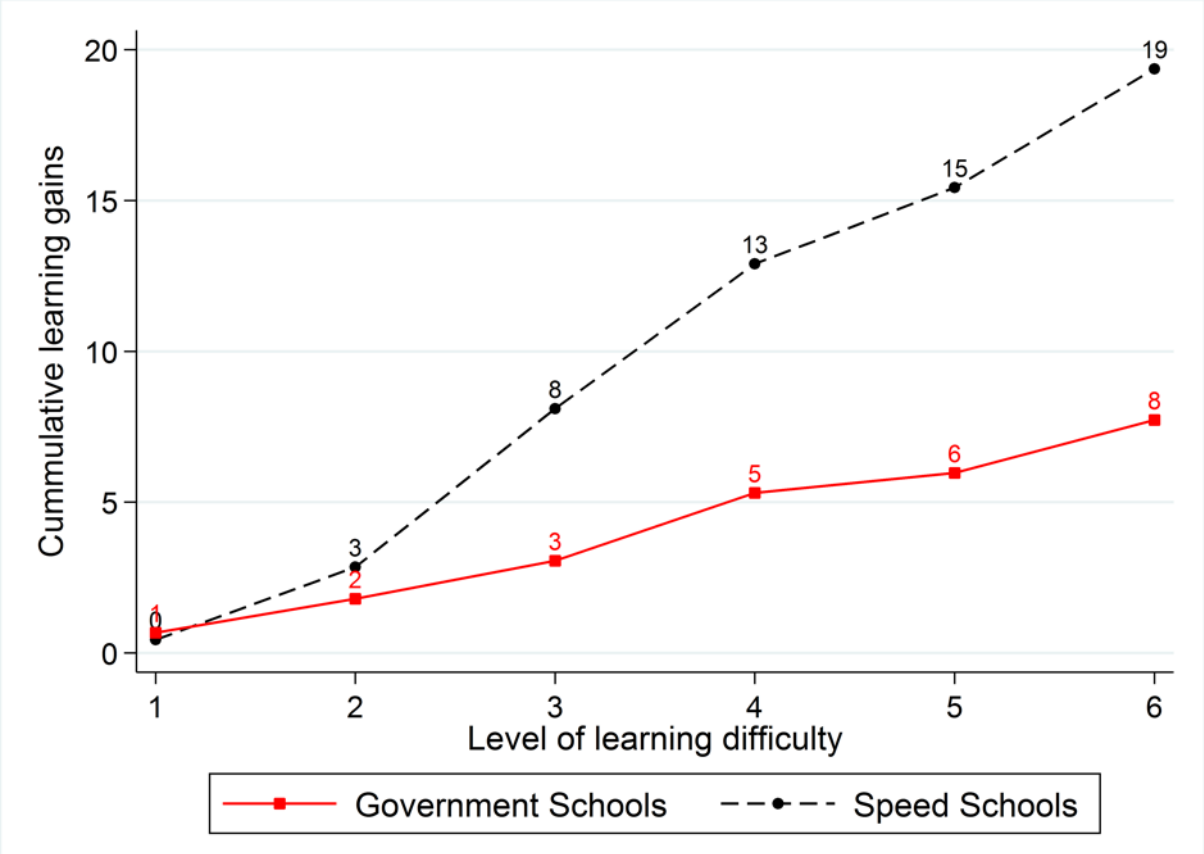
Overcoming the barriers for out of school children requires very different approaches to support learning for a specific group of children and their communities. Over the last decade a number of accelerated learning or flexible education programmes have arisen to provide learning opportunities for out of school children with the aim to increase their learning and more importantly most programmes aim to reintegrate children into the mainstream education system. These programmes include aspects of school mobility and flexibility, small classes of 25-30, multi-age and mixed ability groups, accelerated and locally relevant curriculum, productive use of learning time, local usually unqualified volunteer teachers or facilitators fluent in the local language used as medium of instruction intensively trained without formal certification, flexible hours and calendar and interactive methods. These programmes are also characterised by strong local community and civil society involvement and commitment, careful monitoring and school governance outside formal education management systems with well-defined roles.

There are many examples of reintegration programmes (or accelerated learning programmes), for instance Schools for Life in Ghana, BRAC Schools in Bangladesh, Community Schools in Afghanistan and Zambia, Accelerated learning programmes in Liberia, Sierra Leone, Tanzania, Ethiopia, to name some. These complementary education programmes are characterised by a move away from the formal overcrowded government curriculum to a narrower one, with greater community engagement and recruitment and training of local teachers, usually unemployed young people. Based on a review of accelerated learning programmes for the Global Monitoring Report 2013-14, Longden (2013) found important benefits in terms of attendance rates, completion rates and in some cases learning outcomes. For example, attendance rate in BRAC primary schools is 96% compared with 61% in government schools. In Ghana, 91% of participants reported completing the Schools for Life Programme, whereas for the same age cohort in comparable areas only 66% completed grade 3 of primary school. Learning outcomes in terms of basic skills were found in Bangladesh for BRAC schools relative to public schools (70% achieved basic skills versus 27%), but not for Honduras (around 65% of students in accelerated learning programmes and in government schools achieved basic skills). Other accelerated learning programmes such as in Liberia have found to successfully prepare students for national examinations.

Speed Schools in Ethiopia offer a successful example of a programme providing a second chance for never enrolled or dropout children, giving them the opportunity of reintegration into government schools, along with supporting families with potential income generation projects to ameliorate poverty related barriers to education (Akyeampong, et al. 2013). The Speed School project was implemented in one of the most educationally disadvantaged areas of Ethiopia, the Southern Nations, Nationalities and People's Region (SNNPR), where in 2011 nearly 60% of primary school age children were out of school. Speed Schools provide the first three years of the national curriculum within an intensive period of 10 months of learning with the aim of providing children with the academic skills necessary to engage back into school. One of the strengths of the Speed School pedagogical approach is the flexibility to adapt and flexibility for the teacher to make contributions to pupils' learning of specific concepts. More specifically, while there is a lesson structure, there is also some flexibility as to the way in which a concept could be taught and what kind of tasks are

given to each group and in this way teachers' ingenuity can shape the learning. Figure 2.11 provides an illustration of the learning gains in literacy (mother tongue Sidamigna) for children participating in Speed Schools relative to children enrolled in government schools. Comparing learning improvements between baseline and endline over the 10 month period, children aged between 10-14 years participating in Speed Schools increased their overall literacy test scores by 19 points, whereas children of a similar age enrolled in government schools (but identified as being at risk of dropping out) increased their literacy test scores over the same period by 8 points (Akyeampong, et al., 2013).

Figure 2.11. Cumulative learning gains in literacy for children in Speed Schools and children in public schools before and after the accelerated learning programme



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