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After Access: Divergent Learning Profiles in Vietnam and India

Caine Rolleston and Zoe James

In recent decades both India and Vietnam have successfully expanded access to schooling to near-universal levels, and have shifted their focus to quality-oriented policy reform. Yet international and national evidence show strongly contrasting learning profiles of children within the two systems. Simple indicators of numeracy suggest similar learning levels in both countries countries for 5-year-olds, but data suggest that by the time they are 15, Vietnamese pupils out-perform those in many OECD countries, while many pupils in India fail to master even the most basic skills. This article examines evidence from the Young Lives longitudinal surveys for Vietnam and the Indian state of Andhra Pradesh, on the diverging learning profiles of children in the light of their socio-economic, cultural and educational contexts. It considers various explanations for this divergence, including recent education policies, and highlights potential areas for cross-country policy learning.

Keywords: Education systems; Learning profiles; School quality; Vietnam; India; Value-added

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1. Introduction

The 2012 PISA (Programme for International Student Assessment) results placed Vietnamese pupils among the highest performers of children aged 15 – across 65 participating countries in tests of reading, mathematics and science – with scores comparable to Germany's, and higher than those of the UK and USA in all three subjects (OECD 2013a). These results are striking, given that Vietnam has the lowest GDP per capita among the 65 countries. India has not participated in recent international educational assessments, but selected states participated in an extension to PISA in 2009 and an exercise was conducted to link survey data for two states to the TIMSS (Trends in International Mathematics and Science Study) international scale for 2003. In 2009, data from two median states in economic terms (Tamil Nadu and Himchal Pradesh) ranked India next to last among 74 countries; and in 2003, data from 2 somewhat more disadvantaged states (Orissa and Rajasthan) ranked India 46th out of 51 countries (see Das and Zajonc 2008, p.2).

Despite these starkly different test results, the levels of per capita income and economic growth in India and Vietnam are remarkably similar. For example, in 2013 the gross national income (GNI) per capita at purchasing power parity was $5,350 for India and $5,030 for Vietnam, and annual GNI per capita growth averaged at 4.7% for India and 5.2% for Vietnam over the period 1990-2012 (World Bank 2014). These economic similarities have continued since the international Education for All (EFA) goals were established in 1990. Both countries have successfully expanded access to basic education since that time; the net enrolment rate (NER) for primary education in Vietnam had reached 99% in 2012, while the figure for India was 93% (World Bank 2014). Moreover, children in both countries can expect similar exposure to schooling, based on recent estimates of 'school life expectancy' for children entering primary school in 2008: 10.0 years in India and 10.6 years in Vietnam (UIS 2014a).

The Young Lives longitudinal study, begun in 2002 includes data collected from Ethiopia, Peru and Vietnam, along with the Indian state of Andhra Pradesh (AP). (In 2014, Andhra Pradesh was formally split into two new states, Telangana and Residuary Andhra Pradesh, or Seemandhra. The data we report here relates to the former united AP, with study sites located in both of the successor states). The study provides data, including information on school histories and learning attainment, across the life courses of 3,000 children in each country, drawn from two birth cohorts: 1994-95 and 2000-01. Comparable household data provide evidence of learning development from age 5 to 15, while data from schools shed light on the differences at the school-system level.

Our analysis is limited to AP, which is a median state in broad terms, with a human development index (HDI) of 0.473 compared to the national figure of 0.467 in 2008 (GoI 2011). Thus, while we do not consider the data from AP to be representative of India, findings from this state potentially offer broader insights at the national level. The estimate of 'net state domestic product' for AP in 2012-13 is 78,958 Rupees – somewhat higher than the all-India average of 67,839 Rupees – ranking AP 15th out of 32 states (GoI 2014b). At 84.6 million in 2011 (GoI 2014a), AP's population is large compared to those of many countries and is somewhat similar to Vietnam's 89.9 million in the same year (UIS 2014b). Despite the similarity in per capita incomes between India and Vietnam, Vietnam's 2008 HDI was 0.718 (UNDP 2011), notably higher than AP's and closer to that of Kerala (0.790 in 2008), the Indian state with the highest HDI (GoI 2011).

In both countries, pupils took PISA (age 15) and/or TIMSS (Grade 8) assessment item towards the end of basic compulsory schooling, after which the costs of schooling costs (including the opportunity costs of labour) typically rise, and when formal education for many pupils, especially the least advantaged, is nearing its end. These assessment outcomes are the result of individual, home, school and contextual 'inputs' across the children's life-course to age 15. Longitudinal data on learning trajectories, however, are scarce, so that it remains challenging to identify the influences which combine to determine learning outcomes by age 15, including the role of school quality. Using Young

Lives data to explore the reasons for the divergent levels and trends in learning outcomes, we examine recent education policies, among other causes, and highlight areas for cross-country policy learning.

2. Contexts and literature

In both India and Vietnam, early post-independence public education policies focused primarily on expanding education provision and alleviating supply-side constraints. At independence in 1947, India's national literacy rate stood at just 16% (Little 2010: 1); from the 1950s to the 1980s, successive national and state governments prioritised public education via policies to improve access and to achieve basic standards of infrastructure and resourcing. For example, the 1968 National Policy on Education (NPE) included a requirement – still in place today – that there be a school within 1km of each settlement of over 300 people. In Vietnam, while the country has a long tradition of public education, historically linked to Confucianism, colonialism, and socialism, armed conflict and economic shocks have interrupted educational development (London 2011). Following World War II and the separation of Vietnam into the Democratic Republic of Vietnam (DRV) in the North and the Republic of Vietnam (RVN) in the South, two separate education systems evolved. In the DRV, a 'Soviet-inspired' development strategy ushered in a publicly financed school system, under which enrolment increased markedly (London 2011). The RVN also placed a high priority on educational development, and the 1960s and 1970s saw primary completion rates rise to approximately 60% (London 2011: 15).

In AP, literacy rates have historically lagged behind the all-India average. In 1971, for the population over 5 years old, the rate was 25%, compared to 34% for all-India (GoI 2012). By 1979, the literacy rate for those over 15 years old in Vietnam already stood at 84% (UIS 2014b); in AP, in contrast, in 1981 the rate for those older than 7 years had reached only 36% (GoI 2012). Following reunification in 1975, the Vietnamese government established a national education system and, in 1981, undertook major reforms to provide a unified 12-year system and to address issues of highly uneven access and quality. This system effectively imposed the North's Soviet-style education system, including a curriculum celebrating nationalist symbols and heroes (London 2011). According to London (2011: 14), '[E]ducation was seen (and in most respects remains) as an instrument of state power for the achievement of progress and socialist revolution'.

In AP in the same period, large-scale school construction led to significant increases in both the number of primary schools and the proportion of children enrolled in school, although significant challenges of quality remained. The 1986 NPE addressed key quality issues –school environments, instructional materials, teacher training, the adoption of a 'child-centred' pedagogical approach and of 'minimum levels of learning' – while providing for a national curriculum framework (Little 2010: 19). Programmes included 'Operation Blackboard', which focussed on rooms, teachers and teaching-learning equipment (GoI 1986), but implementation was slow. Moreover, the policy itself was not always well conceived; for example, it mandated that every school should have at least two teachers, regardless of its size (see Dyer 2000). In the 1980s, Vietnam had a 'sprawling education system' and 'boasted enrolment figures comparable with countries ten times as wealthy', but 'the quality of education remained hamstrung by threadbare conditions' and 'school attendance figures masked the fact that a "school day" for most children in rural areas consisted of no more than 2 or 3 hours' (London 2011: 16). Further, the late 1980s saw the country fall into economic disarray and the education system struggled to function, with many young people dropping out of formal schooling.

From the late 1980s and early 1990s, both India and Vietnam undertook sweeping economic reforms, which were followed by sustained economic growth. India's economic liberalisation began in earnest in 1991, and reforms focused on improved macro-economic stability, greater trade-openness and foreign direct investment and on deregulation and privatisation. Economic liberalisation in Vietnam began with the policies of *Doi Moi* (renovation) in 1986, followed by extensive market-oriented

reforms from 1989, with aims broadly similar to liberalisation policies in India. Further, both Vietnam and India, and specifically AP, have experienced substantial demographic change since 1990. In 1991, children under 14 represented 37.1% of the Vietnamese population (UIS 2014b), while the comparable figure for AP was slightly lower at 35.9% (Venkatanarayana 2012: 6). By 2011, these figures had fallen to 23.1% for Vietnam (UIS 2014b) and 25.0% for AP (Venkatanarayana 2012: 6), indicating more rapid reduction in the proportionate size of the youth population in Vietnam, with potential benefits for education provision and quality.

Ensuring that mass schooling provides productive learning opportunities for a majority of pupils is of paramount importance, not least because of the strong economic 'returns' to the development of cognitive skills (see Hanushek and Woessman 2008) and the powerful social benefits of learning, including in terms of fertility and health (Hannum and Buchmann 2005). While the vast majority of pupils in Vietnam and AP have access to a full course of basic education, access does not guarantee that they develop appropriate skills for current and future livelihoods (see Hanushek and Woessmann, 2008). Researchers in several countries have shown that completing primary education does not guarantee that students will have acquired even the basic skills of literacy and numeracy (see Hill and Chalaux 2011, for India). Moreover, the expansion of school enrolment in some contexts has negatively affected the quality of education; in others, it has meant an ongoing struggle to maintain quality (see Clemens 2004).

Researchers using Young Lives data have demonstrated notably stronger learning progress among Vietnamese pupils than those in AP. Rolleston (2014) investigated changes in learning outcomes for children between ages 5 and 8 and between 12 and 15, and found that, across all levels of prior learning, students made notably greater progress in Vietnam than in AP. Further, specifically AP – there is evidence the girls made less learning progress than boys. Singh (2014) examined the role played by school quality or school 'productivity' in learning progress, finding that a year of schooling in Vietnam adds significantly more to pupil learning than its equivalent in AP across a number of model specifications.

School quality plays a crucial role in learning, but questions about which policies most effectively improve quality do not find readily generalisable solutions. This is partly due to differences in context and education systems and partly to the relatively limited availability of appropriate comparable data. In the following two sections, we describe the Young Lives data we employed, report enrolment and retention data, and illustrate the divergence in learning attainment between Vietnam and AP. We compare school-system level indicators gathered from the school surveys conducted in each country.

3. The Young Lives Study

The Young Lives study samples in each country comprise approximately 1,000 children born in 1994-95 (the 'older cohort') and 2,000 born in 2000-01 (the 'younger cohort'). Boyden and James (2014) provide an overview of the data. These children were randomly sampled from within twenty 'sentinel sites' purposively selected to represent the diversity of each country, although they are not statistically representative at the national level. Young Lives collected extensive data at children's households in 4 rounds to date: 2001-02, 2006, 2009 and 2013-14. We base this article on evidence from the first 3 data points, when the older cohort was aged 8, 12 and 15 and the younger cohort was aged 1, 5 and 8 respectively. The learning achievement data, from tests given as part of each of each survey, offer a unique opportunity to examine 'learning profiles' employing comparable data for AP and Vietnam. Moreover, since Young Lives administers these in households, data are available for out–of-school children.

Young Lives introduced school surveys in 2010 in order to gather more comprehensive data on the schools attended by participants, including learning resources, teacher competencies and curriculum-

related learning in reading and mathematics. These surveys follow somewhat different designs in each country, to reflect differences in schooling systems and policy and research priorities.

[Table 1]

In Table 1, we summarise the comparable learning assessments administered in the Young Lives household surveys. Tests in basic reading, writing, numeracy, and understanding of quantity and mathematics are translated versions of identical tests developed to be appropriate across country contexts. Basic reading, writing and numeracy tests are identical at each survey round, while mathematics tests require different content is required to assess skills in line with age- and grade-related curricula. Young Lives assessed children in their preferred language, almost always Vietnamese in Vietnam and most often Telugu in AP, while smaller numbers respond in Urdu or English (see Cueto et al. 2009).

4. Enrolment and learning progress in India and Vietnam

Today, children in AP typically enter grade 1 at the age of 5-6, and proceed through eight grades of primary and upper-primary education, usually taught for a full day. Children attending government primary schools almost always learn in Telugu, though a few school teach in Urdu. Sometimes teaching switches to English in upper primary, while private–school students often receive instruction in English from an early age.

In Vietnam, children typically enrol in Grade 1 at age 6, and attend five grades of primary schooling before attending lower secondary for three years, starting in Grade 6. Instruction is almost always in Vietnamese, and the numbers of instructional hours vary. In 2008-09, around 59% of pupils receiving 'full-day' tuition (World Bank 2011), while the remainder receive 'half-day' tuition. Full-day schooling typically requires supplementary fees for the second half of the school day. A comprehensive shift to full-day instruction is currently underway (World Bank 2014).

Primary and secondary schooling in Vietnam is overwhelmingly in government schools, with fewer than 1% of primary pupils attending fully private schools (World Bank 2014); in AP, however, a significant proportion of children from all strata of society, especially the more advantaged, attend private schools. In 2013-14, 41.9% of lower-primary pupils attended private schools, increasing to 57.6% for the entire primary phase (NUEPA 2014: 6). These figures which have been rising rapidly in recent years as parents abandon no-fee public schools in favour of low-fee private schools (Woodhead et al. 2013). Young Lives data show increasing 'migration' to the private sector over time, including among disadvantaged pupils (Woodhead et al. 2013). One implication of this, along with the generally larger number of small schools in AP, is that children in Young Lives sites in AP attend a larger and more heterogeneous group of schools than do children in Vietnam. In 2009-10, Vietnam had 15,683 primary schools (UNESCO-IBE 2011), compared with AP's 105,195 (of which 75,089 were government schools) in 2013-14 (NUEPA 2014: 6), despite somewhat similar youth populations in the two contexts.

The most recent estimates of enrolment in rural AP suggest that only 2.8% of children aged 6-14 are not enrolled in school (ASER 2013). Estimates of the NER, at 78.3% at primary and 62.3% for upper primary (NUEPA 2014: 7), indicate that 'over-age' enrolment is not uncommon. In Vietnam, NERs are near-universal at 95% to 100%, depending on the method used (World Bank 2011:10), indicating notably lower 'over-age' enrolment.

Using Young Lives data, we compared school enrolment between AP and Vietnam for children at ages 5, 8, 12 and 15. Figure 1 shows enrolment levels for both countries for the highest and lowest quintiles of household wealth. (The Young Lives wealth index is a composite index scaled to take values from 0

to 1; it is comprised of indicators of housing quality, households' durable assets and access to basic services.) While children in AP typically enrol in school slightly earlier than in Vietnam, at age 8 enrolment is near-universal in both countries, with only small differences by wealth. As children grow older, however, more drop out; in AP, only 88% of children remain enrolled at age 12, and 75% by age 15. In Vietnam, enrolment remains near-universal at age 12 but by age 15 only 73% of children – much fewer for those in poorer households – are still enrolled, by which time some pupils would have completed the compulsory nine grades.

[Figure 1]

In Table 2 we report the percentages of children enrolled in school at age 12 dropped out of school by age 15, disaggregated by achievement in maths (at age 12) by quartiles of raw test scores. By comparison with AP, Vietnam has a greater proportion of dropouts, including a considerably higher proportion in the lowest (compared to the highest) achievement quartile. In Vietnam, almost half of the poorest performers at age 12 had dropped out by age 15, compared with around a quarter in AP. The causes of poor learning and early dropout are likely to be strongly linked, with children from poorer households being more likely to be absent due to ill health or work, factors that one would expect to affect both performance in school and the likelihood of dropping out.

[Table 2]

Despite these relatively similar patterns of enrolment and retention, there are great differences in learning achievement and progress. Results from the 2013 ASER surveys (ASER 2014: 80) report sobering findings in rural AP: only 51.6% of children in Grade 3 could read at least a Grade 1-level text, and only 58.0% in Grade 5 could read a Grade-2 level - and both of these outcomes have deteriorated since 2009. In mathematics, 23.2% of children in Grade 5 could not recognize the numbers 10 to 99 and only 36.7% could perform simple division (ASER 2014: 81). Levels of learning are low in both the government and private sectors, although these is a small premium in terms of learning progress for private schools (see Singh 2013).

Regarding Vietnam, data from nationally representative data on Grade 5 pupils' attainment (gathered in 2001, 2007, and 2011) indicate overall improvements in mathematics and reading over time, although progress is lowest in remote areas (World Bank 2011). Moreover, World Bank (2011) evidence suggests that the achievement of Vietnamese Grade 5 pupils, on average, compares favourably with that of their counterparts in much more economically developed countries, consistent with the 2012 PISA results.

Using Young Lives data, in Figure 2 we compare the proportions of children in AP and Vietnam across cohorts at age 8 who provided correct responses to simple single-item questions. Although they had entered school slightly later than had students in AP and had received fewer hours of formal instruction, the majority of Vietnamese children in both the older and the younger cohorts had mastered basic skills in reading, writing and numeracy. In AP, by contrast, while a similarly high proportion of children could answer a basic numeracy item correctly, only around 50% in each cohort could read sentences, compared to nearly 90% in Vietnam. The difference in basic writing skills at age 8 was even greater.

[Figure 2]

Regarding numeracy and mathematics – the mose directly comparable subjects – in Figures 3 and 4 we report the average percentage of correct scores (within a country) for each asssessment. (Young Lives surveys also include assessments of receptive vocabulary and reading, but they are much less readily

comparable across countries because they rely heavily on language.) We took the data from four separate age-appropriate multi-item tests (the last four tests in Table 1), administered separately from – and at a higher level of difficulty than – the numeracy indicator considered above.

In Figure 3 we see that, for children aged 5 - typically before they are exposed to formal schooling – a differences on the CDA-Q (early numeracy skills) are very small across countries. But by the time they are 8, maths scores for the same Vietnamese children are over 1.5 times higher, on average, than for AP students. At age 12, Vietnamese pupils also perform notably better than those in AP, though the gap is apparently smaller. (Scores on tests administered to 8-, 12- and 15-year-olds contain different items; so while scores are higher in Vietnam in all cases, 'gaps' between countries are affected by the items' level of difficulty, and we cannot interpret them directly with respect to change over time.) We see a large gap at age 15, when scores for the same Vietnamese children are more than twice those for AP children. Moreover, at age 15, children in the Vietnamese site with the lowest average performance in maths - a remote rural site with a largely ethnic minority population - perform at levels only slightly below those of pupils in the highest-performing and most advantaged site in AP (in Hyderabad).

[Figure 3]

In Figure 4, we disaggregate this data for children in the poorest (WQ1) and least poor (WQ5) quintiles. It is clear that from age 8 onward, the *most* economcially disadvantaged children in Vietnam perform similarly to the *least* disadvantaged AP children; and that the gap in performance between the most and least advantaged pupils is somewhat smaller in Vietnam.

[Figure 4]

In Table 3 we provide a more detailed comparison concerning specific questions on multiplication number operations. At Age 8, a similar proportion of children in AP and in Vietnam responded correctly to the simple item 2x4 considered earlier. At age 12, when presented with a two-stage word problem, approximately half of the same children in each country responded correctly. However, when presented with the same word problem again at age 14-15, around three-quarters of the students in Vietnam answered correctly, a notable increase; meanwhile, in AP, the proportion answering correctly fell to around one third. On a question involving multiplication of fractions and a four-digit multiplication word problem, appropriate for 15-year-olds, a majority of Vietnamese children answered correctly, while only around a third of AP children in AP did so.

[Table 3]

In Figure 5, we show responses to items presented in Table 3, disaggregated by wealth quintile. In both countries, children from more advantaged households were more likely to respond correctly to all questions. Noteworthy, however, are the responses to the two-stage word problem administered at ages 12 and 15 to the same children. In Vietnam, children across wealth groups make progress on this item between ages 12 and 15, and the poorest group shows the greatest learning gain. In AP, children from all wealth quintiles were less likely to answer correctly at age 15 than at age 12, and the gap in performance between the poorest and richest quintiles widened over time. Concerning the remaining items administered to children at age 15, we found larger within-country gaps based on economic advantage in India than in Vietnam. Moreover, the Vietnamese students performed substantially better on all items at both levels of household wealth, despite very similar proportions of children being in school.

[Figure 5]

Observable indicators of school quality provide only limited explanations of differences in the 'value-added' by schools (see Glewwe et al. 2011). Moreover, differences between school systems make it difficult for us to compare many school-quality indicators across countries directly. However, data from the Young Lives surveys provide useful evidence from the schools children attended in the study sites. We present these in Table 4. Given the large private sector in AP, we report indicators for private and public schools separately.

Teachers sampled in Vietnam have notably more years of experience than their counterparts in both the private and government sectors in AP and have always received formal teacher training, while a 41% of teachers in the private sector in AP have no formal training. Although class sizes in Vietnam are, on average, larger than in AP, this average of less than 30 pupils is relatively low; in India, class size in the government sector may be considered somewhat small among developing countries. Teacher absenteeism in Vietnam is strikingly low: just over two days per year, In AP, one third of pupils in both sectors reported that their teachers were frequently absent. The pattern of teachers' salaries illustrates the diversity within AP between public and private schools; in the latter, teachers are paid much less than Vietnamese public school teachers, while public school teachers in AP earn notably more than those in Vietnam. However, reports of teacher salaries in Vietnam exclude parents' contributions to 'extra classes', so they likely underestimate teachers' total income. Regarding access to learning materials, almost all children in Vietnam reported having access to a mathematics text book for their own use, but this was true for only around three-quarters of pupils in India. Evidence indicates that teachers in Vietnam and private schools in AP are more likely to mark pupils' maths homework than are public school teachers in AP.

[Table 4]

While differences in enrolment between AP and Vietnam are generally small – albeit favouring Vietnam (with the exception of a higher drop-out rate for low performers at age 15) - differences in learning attainment from age 8 onwards, and especially at age 15, are large. Moreover, while we see evidence that the learning levels in Vietnamese primary schools are improving, evidence for AP suggests stagnation at best. Compared to Vietnamese pupils, those in AP attend a larger number of more heterogeneous schools. We found wider within-country gaps in AP in regard to learning attainment by household economic status (a key equity indicator). While learning levels are higher for all Vietnamese children compared to those in AP, a greater gap among disadvantaged children drives part of the average 'gap' between countries. Moreover, basic school-quality indicators point to more favourable conditions in Vietnam.

In the next section, we explore potential explanations for divergence in learning that relate to supply-and-demand conditions in the two contexts, including policies and historical, social, and cultural factors.

5. Discussion

Stark differences in learning progress between Vietnam and AP cannot readily be explained by differences in incomes or access and retention in basic education *per se*. Today, school-life expectancies and per capita incomes are similar between the two countries, but Vietnam has a notably longer history of mass literacy, in addition to a longer life-expectancy (linked to better health), leads to a considerably higher HDI. As a result, differences between these two countries' learning levels can be attributed in part to differences in observable 'home inputs', linked to broader human development and educational assets, behaviours and preferences.

Singh (2014) shows that although gaps in household wealth between AP and Vietnam are small, gaps in parental education (a key indicator of educational preferences) are large; and that children in AP, at least officially, spend notably more time in school, while spending less time studying outside of school. His analysis shows, however, that much of the learning gap remains after accounting for differences in these key child- and home-level indicators and inputs, including health status. Differences in the 'quality' of home inputs, such as parental education and out-of-school learning, may explain a portion of this gap.Moreover, these residual differences include those due to differences in school quality and to unobserved and less tangible inputs and behaviours on the demand-side - common to children in each of the countries – including social and cultural factors.

These social and cultural factors are difficult to measure. However, some evidence suggests that in Vietnam strong learning performance is linked to particularly high levels of motivation, effort and aspiration. PISA 2012 survey results for Vietnam indicate very high levels of parental expectations of children's academic performance, high attendance at additional tuition, and amounts of time spent on homework, and low levels of truancy and lateness compared with OECD averages (OECD 2013b). These are consistent with similar indicators from the Young Lives' school survey in Grade 5 (see Rolleston et al. 2013). In AP, school attendance rates are notably lower. For example, in a study based on unannounced visits to schools, researchers reported a primary attendance rate of 72.7% (Ed.CIL 2009) - with poverty, children's work, temporary migration and 'lack of interest in school' most commonly given as explanations. Young Lives evidence on educational aspirations indicates generally high levels overall in AP, but with gender bias against girls in both the aspirations of both parents and children (Dercon and Singh 2013). Higher aspirations in AP are also linked to private-school choice (Galab et al. 2013; Woodhead et al. 2013).

Although influences on attainment – such as motivation and effort – reflect, at least in part, social and cultural factors linked to broader educational culture and traditions, they also likely reflect genuine school experiences that are influenced by educational policy. Vietnam formally adopted its policy for universal basic education in 1991, a decade earlier than India's Sarva Shiksha Abhiyan (SSA) (Fducation for All) policy, introduced in 2000-01. Based on the most recent data available, Vietnam spends a relatively high proportion of its budget on education, around 20% (World Bank 2011: 6), or approximately US$208 per primary pupil in 2008 (World Bank 2014). While data are not available for AP, India spent only around one third as much, at US$74 per pupil in 2006 (World Bank 2014). In India, expenditure per pupil in primary education in 2010 was 7.2% of GDP per capita, compared with 25.4% in Vietnam (World Bank 2014), revealing a wide disparity in school resourcing. While Vietnam has benefitted from slightly faster demographic transition towards a relatively smaller youth population it is apparent that the country has nonetheless given considerably greater priority to investment in primary education. Beyond its higher spending levels, efficient resource allocation is also key in explaining its educational quality.

However, class sizes in Vietnam are no smaller than in AP's public schools, where, to some extent, very small classes are a result of a trend of pupil migration to low-fee private schools. Allocating resources in AP more efficiently – e.g. by making teaching and learning materials more widely available in slightly larger classes – could potentially improve its quality indicators, such as textbook access in public schools. Equally, investments in fully training teachers and in improving teacher practices, such as attendance and marking, might be efficient ways to balance expenditure and inputs to improve quality. Resource allocation may be considered more efficient in private schools, to the extent that pupil-textbook ratios are more favourable in somewhat larger classes; moreover, private schools appear to produce at least comparable learning progress at distinctly lower cost. However, while private schools may be slightly more effective, differences in observed characteristics – e.g. teaching qualifications and experience – between AP public and private school teachers favour those in public schools. Researchers have noted that the somewhat paradoxical relationship between teacher-quality

indicators and learning outcomes, linking this to weaknesseses in management and accountability in public schools (see, for example, Kingdon 1996).

By contrast, results of the PISA 2012 questionnaires in Vietnam indicate high levels of 'external accountability' (OECD 2013b: 430) as well as high levels of 'quality assurance' (OECD 2013b: 428) and 'teacher monitoring' (OECD 2013b: 430). Researchers often discuss these indicators as areas of concern in the Indian public school system (Kingdon and Muzammil 2008), with teacher absenteeism gaining particular attention as a potential consequence of poor accountability (see Kremer et al. 2005). Although accountability may be stronger in private schools, potentially explaining apparently better teacher practices (e.g. marking of pupils' work), test scores remain typically low in such schools. Based on teachers' salaries, which absorb the vast majority of expenditure, per-pupil spending is considerably lower in private than in public schools and very low in absolute terms, providing the principal explanation for the lower levels of teacher experience and training in that sector.

Since 1991, Vietnam has made extensive changes in its education system, linked to 'large and sustained increases in education spending' and to 'shifts in the principles and institutions governing the provision and payment for education' (London 2011: 22). Recently, the government has implemented policies specifically designed to improve the quality of basic education, the first strategic goal in the national Education for All Plan for 2003-13 (Attfield and Vu 2013). These focus on teacher training, curricula, textbooks, instructional hours, school facilities, and materials at the primary level. In particular, the government has implemented programmes such as PEDC (Primary Education in Disadvantaged Communes) (see World Bank 2004), intended to ensure 'minimum standards' of quality or Fundamental School Quality Levels (FSQL) (see Carr-Hill 2011), with a focus on disadvantaged areas. These policies have improved key standards; between 2003 and 2008/9, the overall FSQL index increased from 62% to 71% (World Bank 2011).

Vietnam's very low rates of teacher absenteeism is evidence of a high level of professionalism. While we do not have comparable evidence for AP, we asked Vietnamese teachers to report their own assessments of pupils' performance in mathematics (on a 0-10 scale), an indicator of their knowledge of pupils' progress. On average, teachers' assessments were remarkably consistent with those of the Young Lives survey test results, indicating that teachers were strongly aware of pupils' learning levels and competencies (Table 5).

[Table 5]

In India, the 1994 District Primary Education Programme (DPEP) set out to address the continuing need to improve learning quality, particularly for disadvantaged groups, including those from scheduled castes and scheduled tribes. However, poor educational infrastructure and low levels of resourcing have persisted, as outlined in the damming PROBE Report (PROBE 1999). The report examined education quality in Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh and reported low levels of school quality overall as well as increasing disparities between regions. In 2009, India passed the Right to Education (RTE) Act, enshrining in law the right of all children to a free and compulsory primary education and requiring that private schools reserve 25% of their places for disadvantaged pupils. However, much debate has arisen about financing these reforms (Mehrotra 2012), and about their implementation (see Noronha and Srivastava 2013).

Differences in curricula between Vietnam and AP may also play a role in explaining divergent levels of learning progress. In Vietnam, the primary curriculum is relatively narrow, focussing on foundational skills in 6 subjects, particularly mathematics and Vietnamese, in Grades 1-3; and 9 subjects in Grades 4-5. In India, the 2005 National Curriculum Framework (NCERT) (2005) provides for a broad curriculum of 10 subjects, with particular attention to the higher-order skills necessary students will need in later

schooling (UNESCO 2014), although curricula vary between public and private sectors. Despite the fact that curricular expectations in mathematics are broadly similar in both countries, we observe, from Young Lives data, that pupils' actual learning levels in Vietnam are more closely matched with expectations over time. Given the levels of prior learning in AP, the potentially negative role of 'over-ambitious' curricula (see Beatty and Pritchett 2012) may inhibit progress, which is consistent with the apparent regression in learning illustrated above. Banerjee and Duflo (2011) describe the 'elitist' education systems found in many developing countries, which, for historical and cultural reasons, prescribe overly demanding curricula based on the capacities of a small group of advantaged pupils; the suggest this situation serves to disadvantage the majority. By contrast, given Vietnam's generally high levels of attainment, its system appears to have a 'mass' orientation. The focus in Vietnam on a fairly narrow curriculum, centred on basic skills early on, may indeed support the progress of less-advantaged pupils progress in core subjects, laying the foundations for further progress. Unmistakably, sound learning at earlier stages of education plays a key role in attaining the high average learning levels found in PISA.

Differences in school quality comprise both average differences between the two contexts and differences in distribution, or in homogeneity, of school quality. We have presented suggestive evidence both on AP's greater inequality in learning outcomes (compared to Vietnam_ and on AP's greater variation in schooling types and quality, especially as a result of greater 'school choice' due to its large private sector and number of small schools. In the 2003 TIMSS data linking exercise for India, the levels of inequality on test scores were higher than in any other participating country except South Africa (see Das and Zajonc 2008: 2), indicating substantial inequalities in attainment in India beyond AP. In practice, such inequality is due somewhat to a 'long tail' of poorly performing pupils and schools. In Vietnam, by contrast, PISA (2012) data for students at age 15 show relatively low levels of inequality in test scores, with inequality levels lying close to the mean for OECD countries (OECD 2013a), although inequality in developing countries is typically greater than in the OECD.

In recent years, increased access and social demand for education have amplified pressure on state education budgets in both Vietnam and AP. Moreover, in both countries, the costs to households of education have risen significantly, raising equity concerns. In in AP, the shift towards private schooling has largely driven these problems; in Vietnam, 'socialisation' policies have driven them. In Vietnam, 'socialisation' denotes sharing responsibility between provider and beneficiary - including sharing costs between government and households, but with support from the government for those in disadvantaged areas, providing some equity safeguarding. In practice, cost sharing has long existed through parents' payment for 'extra classes'. Under 'socialisation' the government has increasing formalised these arrangements, such that, in selected disadvantaged areas it provides free full-day schooling and levies fees in other, more advantaged, areas, charges (see Carr-Hill 2011). Although socialisation and *de facto* privatisation have led to large increases in household spending, the latter may be considered substantially more regressive since private-sector pupils – regardless of their families' income –effectively receive no state subsidy, unless they attend under the RTE reservation.

In AP, the expansion of private schooling also reduces the state's role in education and negatively affects the demographic composition of public schools, given the outflow of typically more advantaged pupils. Regulation of the private sector is relatively limited where teacher qualifications and professional standards, and educational resources and materials are concerned. In Vietnam, on the other hand, 'school autonomy' is comparatively limited (OECD 2013a); its schools use standardised curricula and textbooks, and almost all teachers are trained to government standards. However, though centralisation help to ensure high common standards in Vietnam, it is not clear that such policies are transferable to AP. In AP, the state may have less capacity to ensure accountability and centralised management and, arguably, the effectiveness of low-fee private schools compared to public schools may support the benefits of greater school autonomy in that context.

However, to the extent that private schools are of better quality - and especially if quality is somewhat linked to fees - *de facto* privatisation may strengthen the link between school quality and ability to pay.

6. Conclusion

For mass education to expand effectively, policymakers must design models that ensure an adequate learning progress for a majority of pupils. In this regard, countries in the 'post-access' phase of development should look closely at Vietnam's educational system. Vietnam has pursued successful education policies with an explicit equity focus – with the purpose of 'narrowing gaps' and ensuring access plus learning for all – including a focus on minimum standards in disadvantaged areas and equity safeguards in cost sharing. Nonetheless, despite Vietnam's apparent success, its policymakers at national level are greatly concerned about the existing system's ability to meet the needs of the future economy; and comprehensive curricular reform is currently underway.

In AP, low levels of progress overall, particularly among the least advantaged - typically those in government schools in rural areas - indicate that large numbers of pupils are failing to reach their potential despite gaining access to schooling. Demand-side explanations (e.g., parental education, children's absenteeism) remain important, but lot levels of quality, efficiency and equity in basic education also offer substantive explanations for poor learning progress. Policies must 'raise the floor' of learning standards are mandate more general quality improvements, which likely require greater resourcing. At the same time, policies must emphasise efficiency and accountability in public schools as well as curricula that reflect actual levels of learning. The RTE Act is beginning to mobilise efforts to improve some basic standards and has an explicit equity focus; however, it remains to be seen whether the private school reservation for disadvantaged pupils will ultimately improve the learning of these students.

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Table 1. Young Lives household survey learning assessments across three survey rounds

Test	Domain	Description of Test	Survey Year	Cohort	Age
Basic Reading	Reading	Read single letters, words and a simple sentence	2001/2	Older	7-8
			2006	Older	11-12
			2006	Younger	4-5
			2009	Younger	7-8
Basic Writing	Writing	Write a sentence	2001/2	Older	7-8
			2006	Older	11-12
			2006	Younger	4-5
			2009	Younger	7-8
Basic Numeracy	Mathematics	Single numeracy item (2x4)	2001/2	Older	7-8
			2006	Older	11-12
			2006	Younger	4-5
			2009	Younger	7-8
CDA-Q (Cognitive Development Assessment - (Quantity)	Understanding of quantity	Multi-item test of basic quantity and number	2006	Younger	4-5
Mathematics	Mathematics	Multi-item mathematics test	2006	Older	11-12
Mathematics	Mathematics	Multi-item mathematics test	2009	Older	14-15
Mathematics	Mathematics	Multi-item mathematics test	2009	Older	7-8

Source: Young Lives

Table 2. Drop-out between ages 12 (2006) and 15 (2009) by achievement in mathematics at age 12

	India (%)	Vietnam (%)
Total drop-out by age 15 (all enrolled at Age 12)	9.6	23.4
Drop-out by age 15 of lowest quartile Maths at age 12	26.0	47.7
Drop-out by age of 15 of highest Quartile Maths at Age 12	11.7	19.7

Source: Authors' calculations from Young Lives data

Table 3. Responses to mathematics items among Older Cohort pupils over time

	Age	Item Type	Item	% Correct India	% Correct Vietnam
(a)	8	One digit multiplication	2 x 4	90.4	86.0
(b)	12	Two-stage word problem (multiplication and addition)	A garden has 14 rows. Each row has 20 plants. The gardener then plants 6 more rows with 20 plants in each row. How many plants are there altogether?	46.2	52.1
(c)	15	Two-stage word problem (multiplication and addition)	A garden has 14 rows. Each row has 20 plants. The gardener then plants 6 more rows with 20 plants in each row. How many plants are there altogether?	33.3	71.3
(d)	15	Multiplying fractions	$\frac{9}{8}$ x $\frac{2}{3}$	25.8	75.7
(e)	15	Four digit multiplication word problem	About 7000 copies of a magazine are sold each week. Approximately how many magazines are sold each year?	35.8	55.4

Source: Young Lives surveys

Table 4. Comparison of school indicators (India and Vietnam)

Indicator	Vietnam	Andhra Pradesh		
		Total	Government	Private
Mean class size	27.6	24.2	16.2	31.6
Mean years of teacher experience	17.5	6.4	7.7	5.0
Mean monthly teacher salary (USD/Month)	140-164 (1)	150	226	67
% of teachers with no formal teacher training qualification	0%	27.8%	16.5%	40.7%
Teacher absenteeism	2.3 days per year (2)	33.2% (3)	35.1%	31.1%
All children have access to mathematics textbooks	96.2%(4)	73.5%(5)	60.8%	82.5%
Teacher always checks/marks mathematics homework	41.3%(6)	32.5% (7)	18.1%	53.0%

Notes

(1) As recently reported in the media: http://talkvietnam.com/2012/10/study-urges-reforms-in-vietnam-teachers-salaries/#.UWH8219wbiw. Young Lives did not collect data on teacher salaries in Vietnam.

(2) Mean number of days of teacher absence reported in the school register.

(3) Pupil's response to the question 'my class teacher often does not come to school'.

(4) Pupil's reported ownership of mathematics textbook.

(5) Observation of prevalence of textbooks in class observation.

(6) Pupil reported.

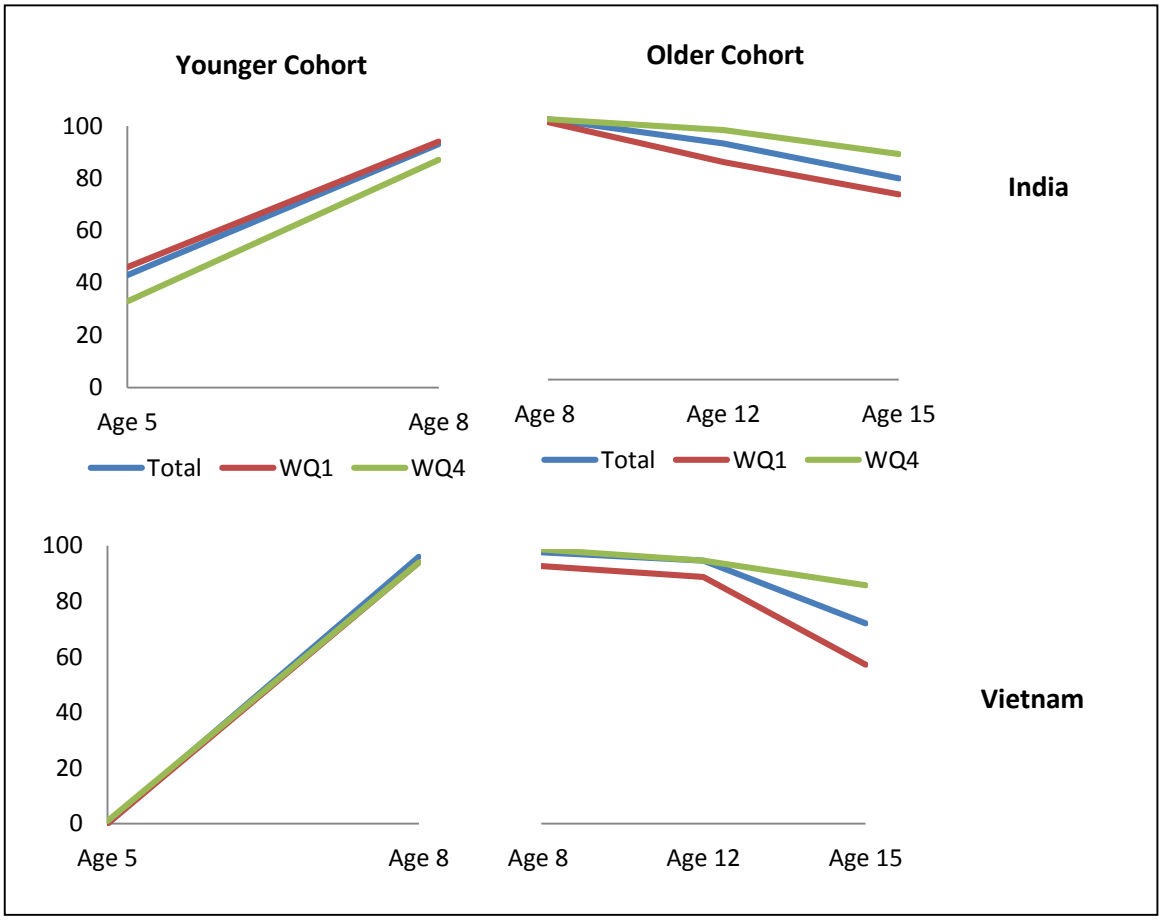
(7) From observation of pupils mathematics workbooks.

Table 5. Teacher ratings of pupil performance in mathematics compared to Young Lives test scores

Teacher Rating	Mean YL Test Score
0	402
1	437
2	468
3	470
4	486
5	489
6	520
8	541
9	558
10	604

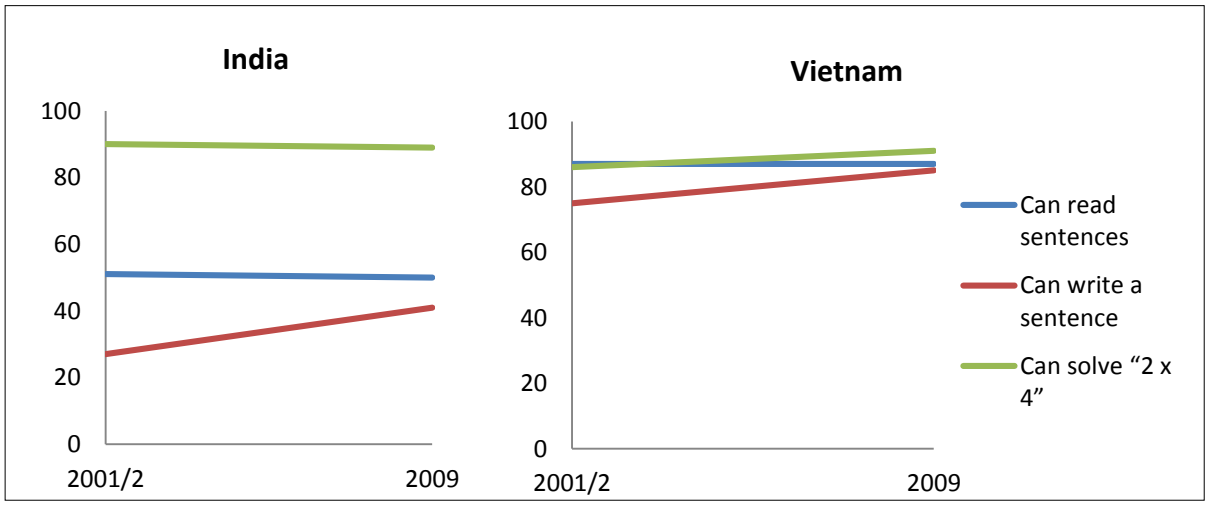
Source: Authors' calculations from Young Lives data

Figure 1. Proportions of children enrolled in school by age and home wealth level



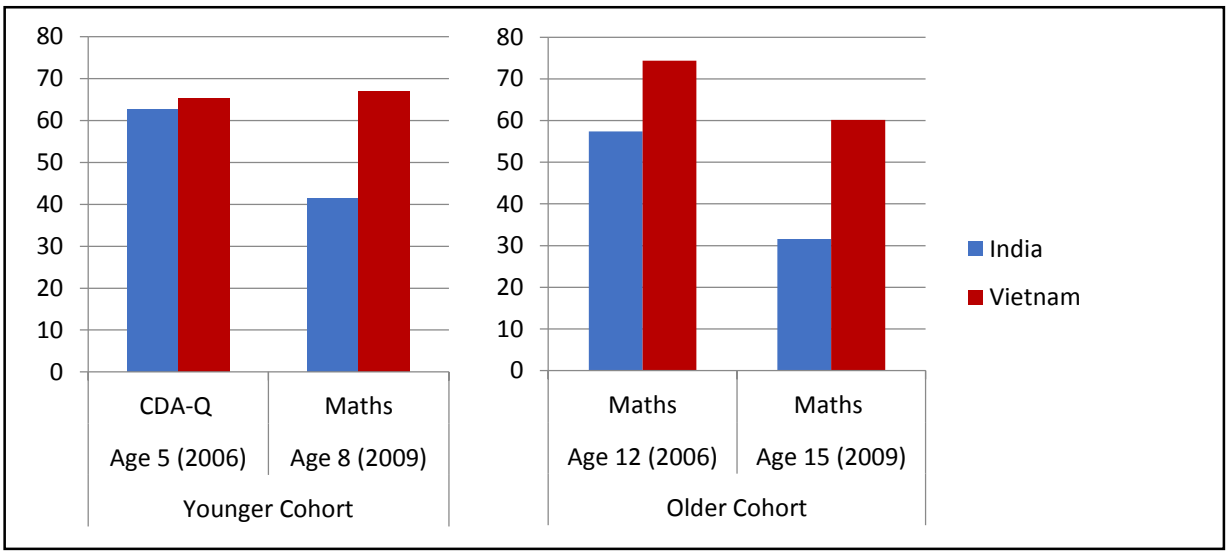
Source: Authors' calculations from Young Lives data

Figure 2. Percentage of pupils mastering basic literacy and numeracy at age 8 at two points in time



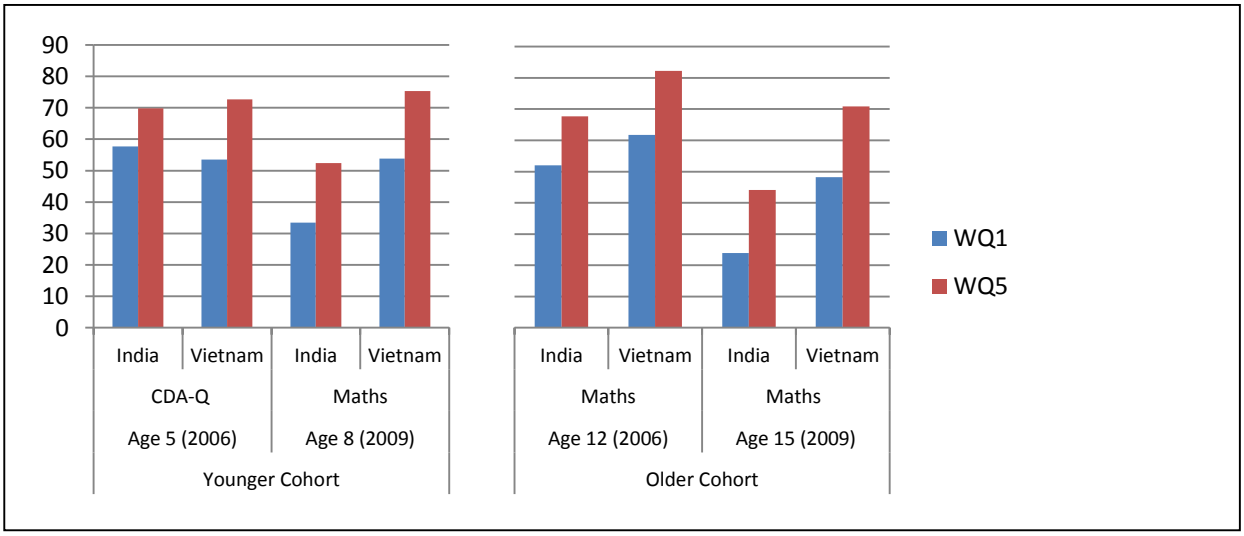
Source: Authors' calculations from Young Lives data

Figure 3. Child scores on assessments of CDA-Q and Mathematics by cohort, age and country (% correct)



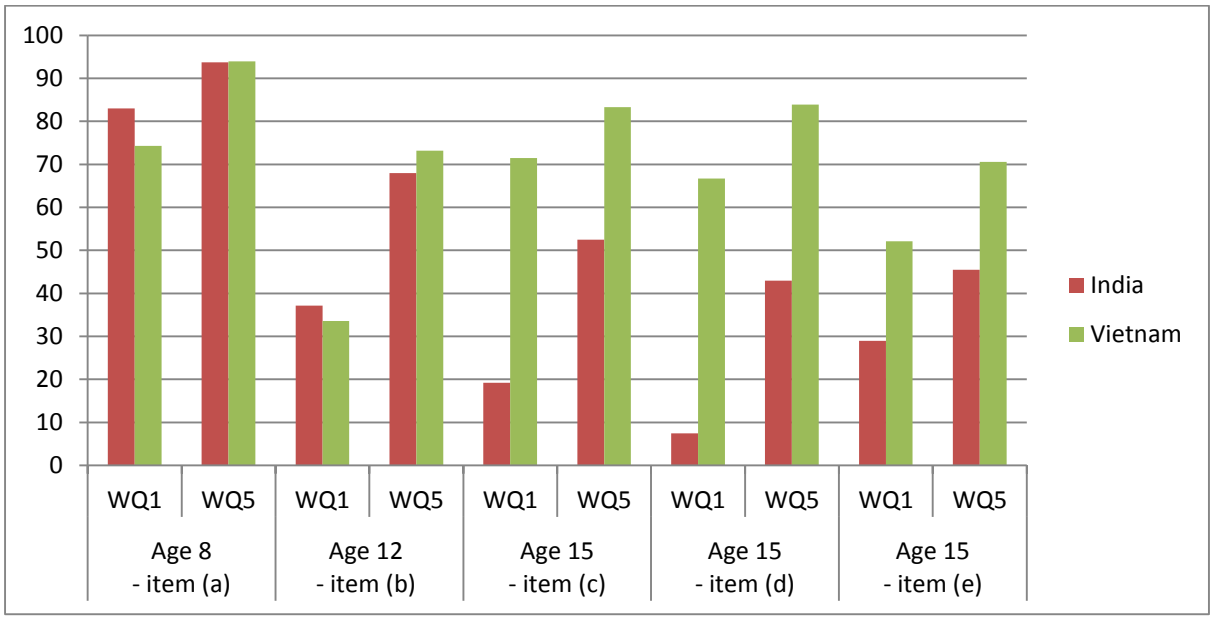
Source: Authors' calculations from Young Lives data

Figure 4. Child ccores on assessments of CDA-Q and mathematics by cohort, age, country and wealth quintile (% correct)



Source: Authors' calculations from Young Lives data

Figure 5. Correct responses to selected mathematics items by household wealth quintile[1] and country (Older Cohort)



Source: Authors' calculations from Young Lives data

Note:
(1) Wealth quintiles are produced using the wealth index collected at the same time as each test.