Developing Effective Private Education Nigeria (DEEPEN)

EDOREN
Education Data, Research and Evaluation in Nigeria

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Developing Effective Private Education Nigeria

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BASELINE REPORT
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Executive summary

This is a draft baseline evaluation report on Developing Effective Private Education Nigeria (DEEPEN) conducted by Education Data, Research and Evaluation in Nigeria (EDOREN). It summarises results from quantitative and qualitative fieldwork and a review of secondary documents. It is accompanied by a more detailed quantitative research report, and will be the base for shorter policy and research summary notes.

DEEPEN is a five-year (2013–2018) UK Department for International Development (DFID) funded education programme, and is the first programme to employ a market systems approach to improving children's education (DEEPEN 2014a) in primary schools in Lagos. Building on the Making Markets Work for the Poor (M4P) approach, DEEPEN's approach had no obvious parallel in Nigeria or elsewhere (*ibid.*) at the time of design As well as being an innovative and experimental learning project, DEEPEN also incorporates significant research and evaluation activities. DEEPEN's workstreams are:

Workstream 1: Improving **rules and standards for private schools**, in part through the roll-out of a new system for Graded Assessment of Private Schools (GAPS).

Workstream 2: Improving **access to information on best practice and school quality for parents and schools** by working with media outlets to increase the quality and scope of education coverage; sharing information about school performance with parents; and conducting and sharing analytical studies with policy-makers.

Workstream 3: **Improving the cash flow and revenue of private schools** by increasing the accessibility of financial products and services which benefit the private education, such as alternative fee payment systems and affordable loans for schools.

Workstream 4: Stimulating the **market for school improvement services for private schools** by working with schools, associations, and private service providers offering, for example, training and pedagogical innovation to raise awareness, and willingness and capacity, to promote pedagogical improvement and innovation.

Workstream 5[1]: In addition to the four core interventions, results measurement, research and learning are key elements of the programme. DEEPEN aims to conduct rigorous and robust monitoring and results measurement to assess and evaluate its impact and generate new evidence.

Workstream 6: Innovative business models for schools and supporting services introduced to the market (NB: this Output is managed separately to the DEEPEN programme.)

More on the DEEPEN programme

- What is DEEPEN? Making education markets in Lagos work for the poor: Section 1.2

This report presents the mixed-methods baseline results from the DEEPEN quantitative and qualitative research conducted in four Local Government Areas (LGAs) in Lagos State between November 2014 and October 2015. The key objectives of the report are:

- To provide an assessment of the current status of, and therefore to establish the relevant baseline levels of, pupil learning achievements, teaching practices, parents' information levels, access to financial services, school improvement services and the market for private schooling at the start of DEEPEN activities[2], and particularly in the very early stages of the quasi-experimental roll-out of GAPS; to provide baseline results to test the numerous assumptions that underlie DEEPEN's theory of change

[1] Workstreams 5 and 6 are beyond the scope of the current evaluation.

[2] It is worth noting that at the time of writing this report, DEEPEN's activities were already well underway and that while these findings will shape implementation, the timing of the baseline and the start of activities has happened concurrently.

for each workstream, and thus help inform potential adjustments to DEEPEN's design and implementation; and

- to answer questions about DEEPEN's relevance, including the programme's assumptions regarding how the regulatory and financial environment, parental awareness and attitudes, school characteristics and teaching practices affect children's learning in private schools in Lagos.

More on the role of the DEEPEN baseline
• Why evaluate DEEPEN? Section 1.3
• What is the scope and coverage of the evaluation? Section 1.4
• The policy, institutional and aid context for the evaluation: Section 1.5

Evaluation design

The evaluation is anchored in and developed around the theories of change for each workstream and a mixed-methods approach which combines quantitative and qualitative data and a variety of research methods, including quasi-experimental evaluation designs, to identify the impact of specific DEEPEN interventions. The detailed indicator framework for the evaluation, taken from the evaluation framework, is given in Annex A.

The evaluation of DEEPEN mixes an attempt to implement a quasi-experimental difference-in-difference design in relation to a particular component of DEEPEN (the GAPS) in two LGAs in Lagos with a wider set of contribution analyses of the other components spread across the city. GAPS was selected for rigorous evaluation partly because DEEPEN is a complex and multi-faceted programme, with different interventions operating in different places at different times. This limits the opportunity for rigorous assessment of these interventions, and means that not all of them can be evaluated using the same instruments. As a result, and given the relationship with the existing evidence base, the evaluation plan focused most resources on interventions (i.e. GAPS) prioritised by the DEEPEN team and by other stakeholders.

Important limitations to the evaluation of the GAPS component have, however, been identified. The delayed roll-out, and the imbalances between treatment and control LGAs, could prove a challenge for the evaluation of this component. Mitigating strategies are discussed in this report. It should also be noted that the findings of the baseline survey are representative only of private schools and the pupils attending them in the four LGAs and the results are not representative of Lagos more broadly. The external validity of the analysis results is therefore limited by the evaluation design. However, it is correct to presume that the indications emerging from the quantitative findings could be applied to other LGAs that present similar characteristics to the four LGAs targeted by our sampling strategy. In other words, contextual factors that define the two treatment and control LGAs as well as the school and pupil populations belonging to those LGAs can be potentially identified in other Lagos LGAs for which our findings would therefore be relevant. Whilst the treatment LGAs (Ojo and Alimosho) were selected in line with the implementation design of GAPs, the two control LGAs (Shomolu and Ajeromi-Ifelodun) were selected to match treatment LGAs to control LGAs with similar socioeconomic characteristics. If amongst the 20 LGAs of Lagos there are others with comparable social and economic indicators, it would be valid to extrapolate our results to their contexts[3].

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More on the role of the evaluation design
Evaluation design, methods and data collection: Chapter 2
Limitations of the approach and data collection: Section 2.3
Quantitative methods, sample and data collection: Section 2.2.3

Findings

Key findings

Learning outcomes

- Approximately half of the children in our sample are achieving within the range of proficiency expected by the curriculum for Primary 3 (P3) in English literacy, and about one in 17 are doing so in numeracy. Poorer pupils are found to perform significantly worse in both numeracy and literacy tests, even when taking into account relevant school and teacher characteristics. Students in low-cost and medium-cost schools perform worse than students in high-cost schools.4 Students in approved schools also tend to have better results in literacy tests.

Rules and standards for private schools

- Although head teachers note difficulties with obtaining official recognition about 90% of head teachers agree that recognition, once obtained, adds value to the school's image, and to teaching and learning. Head teachers' views on taxation and assessment are more varied.
- Parents' views on recognition are mixed, with some perceiving it as valuable and others not giving it any weight in school choice decisions.

Access to information on best practice and school quality for parents and schools

- Our findings suggest that quality concerns are important for school choice, and that the importance of quality does not vary with parents' income. Poor parents report high satisfaction with learning outcomes in the schools their children attend.
- Parents rely on information gathered from informal sources, rather than the media to guide their choice of schools. However DEEPENs work through mass media aims to equip parents with more generic information to guide them on the school practises to look out for during visits to potential schools, and to engage schools in assessing whether or not their child is learning. Although current media partners typically target a more urban middle class audience, DEEPEN is aware of the need for more targeted media and is actively pursuing partnerships with media houses that already reach poor communities, through indigenous language broadcasts.

Improving the cash flow and revenue of private schools

- The demand among parents for educational saving schemes and mobile payment schemes may be lower than anticipated by DEEPEN.
- Financial management appears to be more important than access to traditional bank accounts for schools' financial health.
- There is an unmet demand for services that actively target low-cost private schools, as well as interest among service providers in this market

Stimulating the market for school improvement services for private schools

- Whilst the determinants of learning outcomes are difficult to pin down, our evidence is silent regarding the merits of DEEPEN's focus on child-centred learning, information and communication technology (ICT), and learning beyond the walls of the classroom. On the other hand, the interaction between teacher motivation and qualifications teacher motivation emerges as a key determinant of learning.
- Schools' investment in teacher training is substantially lower than investment in improving management. Whilst there is interest in school improvement services on the part of service providers, more focus is needed on making the services relevant to the low-cost schools market.

[4] We follow Tooley (2013) and define low-cost schools as those charging parents 25,000 Naira or less (including fees and other school costs, but not transport, books or extra tuition). Medium-cost schools charge between 25,000 and 50,000 Naira.

Levels of learning outcomes, school quality, and variation by school type

Learning outcomes for children in our (not representative of Lagos) sample are higher than the programme assumed at inception but there remains significant room for improvement. In particular, a large proportion of children are not achieving at the expected curriculum level for numeracy, and household poverty and the lack of education of the household head are important limitations for good learning outcomes in both numeracy and literacy. As the qualitative findings strongly suggest that parents want the best for their children when it comes to school and education, it is reasonable to conclude that their poor socio-economic conditions act as an impediment to their ability to choose the best for their children.

From a quantitative perspective, the relationship between school quality and learning outcomes emerges as very strongly related to the school fee level, with pupils in low-cost schools performing considerably worse in both literacy and numeracy than pupils in high-cost schools. However, when looking into specific school level characteristics, only a small number of factors are found to significantly correlate with learning. These school-level factors include good school infrastructure as well as teacher characteristics and pedagogical practices, such as type of teaching activity performed by the teacher and teacher's level of qualification. The qualitative analysis provides further insights into parental and teacher perceptions of the determinants of learning achievement. The analysis found that apart from pedagogy, parents and teachers believe that other determinants can explain learning achievements. These include, for instance, teaching an advanced curriculum and the provision by the school of after school lessons. The qualitative fieldwork identified that four private schools out of eight were teaching an advanced curriculum which was a year above the current year and only one school was teaching the relevant curriculum. The fact that our assessment of pupil learning found that about half of the pupils were performing at the level expected by the curriculum in English literacy and only 6% of pupils were performing at the level expected by the curriculum in numeracy, decisions to teach at a level above the expected level raise serious concerns regarding the appropriate targeting of teaching. There is significant international evidence to suggest that teaching at a standard above the performance of pupils has a negative effect on learning outcomes.

More on learning outcomes, school quality, and variation by school type

- Baseline results – learning outcomes: Section 3.1.1

Learning outcomes in Lagos private and public schools

On average, in low-cost private schools, pupils tested on Primary 2 competencies at the beginning of Primary 3 answer approximately 13% more questions correctly in numeracy tests, and 17.5% more in literacy tests, than students tested at the end of Primary 2 in public schools. The interpretation of these results, however, must be very cautious, as we are not able to control for household wealth due to the absence of this information in Education Sector Support Programme in Nigeria (ESSPIN). Therefore, the learning gap might reflect the fact that different types of students self-select into private schools, rather than the fact that the latter are better at delivering learning outcomes. In addition, DEEPEN and ESSPIN students were tested at different times of the year and the different amount of teaching received may also help to explain the variation in literacy and numeracy scores[5].

[5]While a comparison of learning outcomes in public versus private schools was included in the scope of the baseline (as per the evaluation framework) this wasn't incorporated in the workplan and unavoidable external circumstances made a robust comparison impossible. Due to the Ebola crisis schools in Lagos were shut and the survey had to be postponed to November 2014. Hence the fieldwork could not take place in June as planned which would have made the ESSPIN and DEEPEN learning outcome results more comparable. A more focused comparative study is now being carried out in June 2016 as agreed between EDOREN, DEEPEN and DFID

The perceptions of pupil learning outcomes in public and private schools were investigated in the qualitative study. In particular, our respondents agreed that teachers in public schools tend to be more qualified, better paid, and have more access to regular training and professional development.

More on learning outcomes in Lagos private and public schools

- Baseline results – learning outcomes: Section 3.1.1

Assumptions underlying DEEPEN's workstreams

Workstream 1: Rules and standards

Our findings indicate that GAPS has the potential to be a credible tool to address both the need and demand for low-cost private schools to obtain government approval, given the limitations of the current process.

Within workstream 1, we examined parents' and head teachers' perceptions of registration, taxation, recognition, and assessment. Although parents do not mention registration status as one of the top reasons for school choice, when probed some parents said that it provided important evidence of government validation of the schools' activities, and that registering with the government ensured that their children could continue on to study at government secondary schools without issues.

Head teachers' perceptions' about governance systems and recognition, official (and informal) taxation and assessment display considerable variation. Head teachers do not seem to have favourable views of the process of recognition (consistent with DEEPEN's assumptions), but have (much) more favourable views of assessment, including regarding the credibility of the exams process. Official recognition is considered too hard to obtain because low-cost private schools cannot afford to invest in the school improvements (such as infrastructure, staffing numbers, and student numbers) necessary to meet government requirements, however about 90% of head teachers agree that recognition, once obtained, adds value to a school's image, and to teaching and learning.

More on Workstream 1: Rules and standards

Workstream 1: Rules and standards – Section 3.1.2

Workstream 2: Information on best practice and school quality

Our findings show thatquality is found to be an important factor for parents in their choice of school, regardless of their socioeconomic background. However, this seems to be based on perceptions and information regarding quality that are often insufficient or inaccurate hindering their ability to make informed and sound decisions. DEEPEN's interventions should continue targeting sources of information that can are easily accessed by parents of children in low-cost schools.

For workstream 2, starting with parental information and school choice, key questions include whether parents are aware of, and satisfied with, learning, and with the quality and practices of the school that their child attends. It is also of interest to understand how parents obtain and process information, and how their perceptions, in turn, shape school choice. Our findings suggest that quality concerns are important for school choice, and that the importance of quality does not vary with parents' income. We also find that modern media such as radio and television, across the spectrum, which DEEPEN seeks to promote as an information channel to enhance general parental educational knowledge, have played a very limited role in informing parental school choice decisions so far. Information on specific schools is mostly and typically obtained through informal channels, such as such as reputation within the community, word of mouth, their observations and perceptions of school and pupil appearance and performance, and school visits. There

was no qualitative evidence of parents obtaining more general information on education quality from the media.

More on Workstream 2: Information on best practice and school quality

Workstream 2: Information – Section 3.1.3

Workstream 3: Improved cash flow and revenue for schools

We find evidence that the lack of finances is the main barrier to school improvement and DEEPENs work with FSPs to create targeted products for low-cost schools meets high demand for such services. We also find that the lack of funds is the main barrier that parents face in terms of paying private school fees, rather than the means of payment. However, mobile money schemes would potentially address the latter challenge by providing parents with a more convenient platform for multiple instalments that could also improve schools book keeping.

DEEPEN's third workstream focuses on improved cash flow and revenue for schools through products aimed at both parents and school management. For schools, the findings of both the quantitative and the qualitative analyses support the view that there is an unmet demand for financial services. However, the balance of the findings suggest that financial management emerges as somewhat more important than access to traditional bank loans or ownership of traditional bank accounts. For parents, the case for a strong demand for mobile payment and educational saving schemes is less strong. Indeed, the qualitative findings also suggest that parents had little interest in using mobile money to pay fees. Their main concern was with finding the funds to pay the fees in the first place, rather than *how* to pay. On the supply side, the limited evidence that we were able to gather suggests that there is a keen interest from financial service providers in regard to catering to the low-cost private school market.

Surprisingly, we also found that arrears are more prevalent among better-off households. This implies that DEEPEN may need to revisit the hypothesis that poverty is responsible for fee payment shortfalls (and for the constraints such shortfalls impose on schools). In turn, this suggests that DEEPEN may need to rethink attempts to alleviate such constraints by targeting financial services mainly to poor households.

More on Workstream 3: Financial access for parents and schools

- Workstream 3: Finance – Section 3.1.4

Workstream 4: The market for school improvement services

We find evidence that pedagogy and learning conditions in low-cost private schools are largely inadequate. However there is limited evidence to support DEEPEN's assumptions around willingness of schools to invest in school improvement services other than visible infrastructure, and similarly limited evidence around FSPs willingness to target school improvement services towards the lower end of the market.

With respect to the market for school improvement services, we found that learning conditions and teaching practices in low-cost private schools are largely inadequate. However, there is little evidence from the baseline to support the initial DEEPEN assumption that they are significant drivers of learning outcomes. We did find, though, that the interaction between teacher motivation and qualifications is important in explaining literacy learning outcomes.

Investment in management is much higher than investment in teacher training, for which the demand from schools appears to be weaker. In general, schools prioritise investments in infrastructure above the professional school improvement services advocated by DEEPEN, as these have results that are more easily visible to parents. On the supply side, most teacher training service providers have traditionally focused on the higher end of the fee-paying private school market, and training was not very effective, with limited

learning and follow-up. There is, therefore, a role for DEEPEN in regard to making these services more appropriate for low-cost schools, though we do not have enough evidence to comment convincingly on whether the school improvement services market is viable.

More on Workstream 4: The market for school improvement services
Workstream 4: School improvement services – Section 3.1.5

DEEPEN's relevance and efficiency

Under the provisions of the 2004 Universal Basic Education Act every child is entitled to free basic education (early childhood, primary and secondary) so supporting the development of private sector education would not be completely consistent with broader Nigerian education policies. However, given that i) nearly three quarters of students in Lagos are in private schools, including students from poor households, and this proportion and number is growing ii) there are already over ten times as many private schools as public schools in Lagos, and iii) learning levels from private schools we sampled are typically below curricula expectations (though not obviously worse than public schools), there is a strong rationale for focusing on the private sector in Lagos. Thus, a private sector / M4P / DEEPEN approach is clearly *relevant*, but not necessarily entirely coherent with existing policy.

The ex-ante review (Bano *et al*., 2015) concluded that DEEPEN could consider making adjustments to its interventions to achieve more impact without violating the M4P framework. The adjustments would be in relation to two core M4P expectations: (1) focus on the poor; and (2) a consideration for equity. This is in part because there is a risk that low cost/low quality schools may increase both cost and quality, disadvantaging students from households that cannot afford to pay. The correlation in the baseline survey of better learning outcomes with higher school cost and greater household wealth lends weight to these tentative conclusions, but there is no evidence in the baseline to suggest that these risks are being realised.

Both 2014 and 2015 annual reviews conclude that the programme represents value for money (VFM). Given that overall performance in respect of planned activities is on track and the programme theory of change is still sound the conclusion is that overall VFM is still positive. However, monitoring / evaluation data on outputs and outcomes are needed for a more robust assessment of efficiency, effectiveness and equity in 2016. Programme performance in respect of economy indicators has been good.

More on DEEPEN's relevance and efficiency
Does DEEPEN address the most pertinent challenges facing primary aged children in Lagos? Section 3.2
Coherence with policy environment in Nigeria and Lagos: Section 3.3
Efficiency: does DEEPEN offer VFM? Section 3.4

Recommendations

This executive summary has provided a synthesised description of the main findings that emerge from the baseline data analysis. The key policy and research recommendations that emerge from the analysis are as follows:

- In designing the interventions in its rules and standards workstream, DEEPEN should take into account the heterogeneity among school types and should achieve a balance between effective regulation and maintaining the low-cost nature of schools.

- Capacity building in the area of private school regulations for governments will also be crucial for the success of the rules and standards workstream.

- DEEPEN's assumption that reliable information on school quality will be crucial in shaping parents' decisions is largely validated by our findings, but the programme might want to consider more carefully how to leverage informal sources of information such as community leaders and to choose media partners and programmes that are more appropriate to its target population.
- Our findings strongly support DEEPEN's focus on improving financial management, even more so than access to traditional bank loans. Additional focus on how to target financial management courses to the lowest cost schools is necessary, and has been included by DEEPEN in their work.
- DEEPEN might find it worthwhile to engage with the reasons for low demand for mobile payment and educational saving schemes, and consider re-tailoring these products to appeal to parents who are mostly paid in cash and might find trips to the bank costly (these two are issues for educational saving schemes), and cannot afford regular payments (this applies to mobile money payments). DEEPEN has already considered some of these issues and the mobile systems being piloted don't require parents to visit the bank.
- Allowing for some delays in take-up, DEEPENs planned mobile money and savings schemes could potentially appeal to parents of children in low-cost private schools, particularly where they are paid in cash, find trips to the bank cumbersome, and are unable to make regular fee payments.
- It is difficult to explore the determinants of learning outcomes, and we will be able to say more about the role of learning conditions and teaching practices in the following stages of the evaluation. This is also relevant to the child-centred teaching practices which will be researched in more depth at the endline stage when some impact of such practices would be observed on children's learning outcomes. There is a role for DEEPEN to make school improvement services (especially training) more appropriate for low-cost schools, though we do not at present have enough evidence to comment convincingly on whether the school improvement services market is viable.
- DEEPEN could continue to explore whether subsidies to the poorest students or low-cost private schools could help reduce the risk that students from poor households are disadvantaged as the market develops, and (long-term) overcome market failures in education without introducing market distortions. These subsidies would need careful design to ensure they are fiscally and operationally feasible; and in the current political climate DEEPEN's role would best be limited to small-scale piloting and research.
- Information regarding school- and household-level factors is crucial in order to understand the dynamics affecting pupils' learning performance and must be gathered at midline and endline.
- Focusing monitoring and research on the low-cost schools would help track DEEPEN's impact on more disadvantaged groups.

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List of abbreviations

AFED	Association of Formidable Educational Development
APC	All Progressives Congress
CAPI	Computer-assisted personal interviewing
CSOs	Civil society organisations
DAC	Development Assistance Committee (OECD)
DEEPEN	Developing Effective Private Education Nigeria, formerly LoCoPE
DFID	Department for International Development (UK)
Diff-in-diff	Difference-in-differences
ENABLE2	Enhancing Nigerian Advocacy for a Better Business Environment 2
EFinA	Enhancing Financial Innovation & Access
EDOREN	Education Operational Research and Evaluation Nigeria
ESSPIN	Education Sector Support Programme in Nigeria
FGDs	Focus group discussions
FSPs	Financial service providers
GBP	British Pounds Stirling
GAPS	Graded Assessment of Private Schools
GEMS	Growth and Employment in States
HEART	Health and Education Advice and Resource Team
HWI	Household Wealth Index
ICT	Information and communication technology
Infotrak	Infotrak Research and Consulting
IRT	Item response theory
KIIs	Key informant interviews
LGA	Local Government Area
LSG	Lagos State Government
M4P	Making markets work for the poor
MFB	Micro-finance bank
MLA	Monitoring Learning Achievement

MoE	Ministry of Education
MRM	Monitoring and results measurement
NGN	Nigerian Naira
NGOs	Non-governmental organisations
NPPS	National Association of Proprietors of Private Schools
OECD	Organisation for Economic Co-operation and Development
OPM	Oxford Policy Management
P	Primary grade
POS	Point of sale
PPS	Probability proportional to size
PPT	PowerPoint
PSA	Private school association
PTA	Parent–teacher association
RCT	Randomised control trial
RDD	Regression discontinuity design
S	School
SBMC	School-based management committee
SE	Standard Error
SEQAS	Specialist Evaluation and Quality Assurance Service
SISP	School improvement service provider
ToR	Terms of reference
UNICEF	United Nations Children's Fund
VFM	Value for money

1 Introduction to the DEEPEN evaluation

This section sets out the planning and context of the DEEPEN evaluation. We explain what DEEPEN is, and explore why it is being evaluated. We discuss who is conducting the evaluation, who it is intended for, and what its scope is. We also detail the wider policy, institutional and aid context for DEEPEN.

1.1 Introduction to the baseline report

This document sets out the baseline report for the evaluation of the DEEPEN project, which is being conducted by EDOREN in Lagos from 2013 to 2018. There are two components to DEEPEN. The first is a largely technical assistance project implemented by Cambridge Education, an international consultancy firm, which attempts, by 'galvanising the market for education' in Lagos, to improve learning outcomes for poor children. The second is an 'Innovation Fund', with objectives and activities yet to be decided. This report is concerned purely with the first component and therefore, hereafter, 'DEEPEN' refers to this first component.

This report answers the evaluation questions set out in the DEEPEN evaluation framework (EDOREN 2015a). It draws extensively on a quantitative baseline report (EDOREN 2015b) which provides more detail for the interested reader. Key findings are summarised in the executive summary and at the start of sections; interested readers will find more detail in the body of the report. Though it builds on earlier consultation, this draft report is designed for comment from a technical audience (including DEEPEN, DFID and SEQAS); shorter and more accessible briefs on key topics will be produced once it is finalised (building on the policy brief already produced).

As far as we know, DEEPEN is ''the first programme to adopt a Making Markets work for the Poor (M4P) approach to education, and the first programme to employ a *market systems approach* to improve children's education in Lagos (DEEPEN 2014a: ii). This means that, unlike many interventions aimed at improving education outcomes through private education, DEEPEN does not use vouchers or scholarships or provide report cards to parents (e.g. Andrabi *et al.* 2013) as free-standing interventions, but seeks improvements in four broad areas, as defined by four activity streams: i) rules and standards for private schools; ii) information on best practice and school quality for parents and schools; iii) access to finance for private schools and parents; and iv) school improvement services for private schools. DEEPEN is described in more detail in
Section 1.2

Given the programme's learning aspirations, a robust and rigorous evaluation of DEEPEN, or of some of its key constituents, is critical for: i) providing formative information to help DEEPEN improve performance midstream; ii) ensuring that DEEPEN's funders, designers and implementers are held accountable for their performance; and, most importantly, iii) learning whether the whole or specific elements of the market systems approach to education actually improve education outcomes for poor children, under what conditions, and at what cost. The evaluation should not only tell us whether DEEPEN has achieved its objectives, but also whether all or part of DEEPEN's model may be worth replicating in other contexts. This means that the evaluation should both assess DEEPEN's different components individually and attempt to permit some generalisation, based on theory and relevant social science evidence, to other contexts outside Lagos and Nigeria, notwithstanding the challenges posed by assessing such portability (see Cartwright and Hardie 2012; Woolcock 2013). The rationale of the evaluation and its intended audience and governance arrangements are provided in Section 1.2.1.

The scope of the evaluation and its policy, institutional and aid context are outlined in Sections 1.4 and 1.5, respectively.

1.1.1 Objectives of the baseline analysis

The overall objectives of the DEEPEN baseline analysis are:

- to provide an assessment of the current status of, and therefore to establish the relevant baseline levels of, pupil learning achievements, teaching practices, parents' information levels, access to financial services, school improvement services and the market for private schooling at the start of DEEPEN activities[6], and particularly or in the very early stages of the quasi-experimental roll-out of GAPS;
- to provide baseline results to test the numerous assumptions that underlie DEEPEN's theory of change for each activity stream, and thus help inform potential adjustments to DEEPEN's design and implementation;
- to answer questions about DEEPEN's relevance, including the programme's assumptions regarding how the regulatory and financial environment, parental awareness and attitudes, school characteristics and teaching practices affect children's learning in private schools in Lagos; and
- to provide an assessment of the market for private schooling, to generate learning for the programme and the wider community about private schooling in parts of Lagos.

1.1.2 Structure of the report

Table 1: Report structure

Section	Contents
Introduction	
1.2	Description of the DEEPEN programme's background and objectives
1.3	Reasons for evaluating DEEPEN (it is an innovative experimental programme, which presents an opportunity to learn a significant amount about what works) and the evaluation's key audiences (DFID, DEEPEN, the Government of Lagos and others interested in low cost private schooling around the world)
1.4	Scope and coverage of the evaluation
1.5	Policy, institutional and aid context for the evaluation – the development of the market for education in Lagos, the evolution of the government's position on this market, and DFID's position on low cost private schooling
Evaluation design, methods and data collection	
2.1	The evaluation's conceptual framework (the M4P approach), the evaluation design (an experimental mixed methods design including an randomised control trial (RCT) of DEEPEN's GAPS component that aims to *attribute* change in learning outcomes to GAPS, and to assess the *contribution*of other components of DEEPEN to learning outcomes changes, all anchored in a detailed description of DEEPEN's theory of change), and the evaluation questions
2.2	Evaluation methods and data collection – a description of the mixed methods approach, RCT, quantitative and qualitative data collection and analysis, and secondary data analysis, including research ethics. This section also discusses the management of data collection, and the analytical process
2.3	Limitations of the evaluation, including detail on both qualitative and quantitative data collection
Findings	

[6] At the time of writing this report, DEEPEN's activities were already well underway and that while these findings will shape implementation, the timing of the baseline and the start of activities has happened concurrently.

3.1	Relevance: exploring the validity of the assumptions about primary education in Lagos embedded in DEEPEN's design. This presents baseline data on learning outcomes, rules and standards, information, finance and school improvement services
3.2	Relevance: does DEEPEN address the most pertinent challenges facing primary age children in Lagos today?
3.3	Relevance: is DEEPEN's approach (as a programme that focuses on private schools using an M4P approach) coherent with the changing policy environment in Nigeria and Lagos?
3.4	Efficiency: has DEEPEN been implemented, so far, in an efficient way (drawing largely on annual review findings)?
Conclusion	
4.1	DEEPEN's relevance
4.2	Policy recommendations
4.3	Recommendations for the evaluation and for research

1.2 What is DEEPEN? Making education markets in Lagos work for the poor

1.2.1 Background

DEEPEN's Making Markets work for the Poor (M4P) approach deliberately eschews 'conventional' approaches to education in the private sector, such as vouchers or school support programmes. This is due to the perceived operational, financial and political feasibility of taking a systemic approach to market improvement, and the attractiveness of sustainability that this approach would bring if it improved learning outcomes without requiring a long-term public subsidy or substantial intervention in the market. The rationale for selecting this approach is set out in the business case and scoping study, and these are discussed further in sections 1.5 on the context, 2.1.1 on the M4P framework and 3.2 on DEEPEN's and M4P's coherence with the context.

1.2.1.1DEEPEN objectives

DEEPEN was designed from January to July 2013, and implementation began in September 2013. It will run until 30 August 2018. The clearest statement of initially planned activities comes from the DEEPEN Set-Up Report, finalised in February 2014 (DEEPEN 2014a). The following description draws heavily on this document, together with the 'Monitoring and Results Measurement' manual and logical framework.

DEEPEN's expected result, as set out in the business case (DFID 2013: 2) is to 'facilitate change and support innovation in the private education system in Lagos to improve the quality of education delivered by private schools, particularly schools which serve poor children'. Specifically, 'almost 1.5 million girls and boys will benefit from improved learning outcomes…girls will benefit as much as boys and 30% of children with improved learning outcomes will be from households below the poverty line…at an estimated cost per child of GBP12.50.' The learning improvement is expected to be 'a 6% increase in average scores on literacy and numeracy tests by 2020' (DFID 2013: 6).

DEEPEN's outcome will be 'better learning conditions and teaching practices in private schools, especially among schools serving poor children, as a result of more investment, better management, better pedagogy and innovation' (DFID 2013: 7). The business case envisioned this change taking place in both primary and junior secondary schools, but this has subsequently been limited to just primary schools. Discussions are ongoing as to whether junior secondary schools should also be included.

1.2.1.2DEEPEN activities

DEEPEN consists of four key activity streams, which are intended to function as follows:

The **rules and standards activity stream**aims to improve rules and standards affecting schools, chiefly through the roll-out of GAPS, which would mark and rank schools based on pre-specified criteria for management and governance, and for the quality of the teaching and learning environment. A key ingredient in the theory of change is that children's learning outcomes will improve when schools are incentivised – by the opportunity to climb the GAPS ladder – to invest more time and resources in strengthening management, the learning environment and pedagogical practices.

The **information activity stream** aims to improve information about schools and parents, through an increase in the regularity and quality of educational information reported by different media outlets about education, and by complementary analytical studies to raise awareness among, and inform, policy-makers. The underlying idea is that learning outcomes will improve when schools invest more time and resources in improving pedagogy, which will result from: 1) increased demand by parents for better standards, reflecting their greater knowledge because of better reporting; 2) more awareness about good school practices among head teachers themselves; and 3) an improved policy and legislative environment, driven by increased advocacy from parents and policy-makers and better information for policy-makers.

The **finance interventions** are based on the assumption that limited access to loans and uncertain cash flow restrict the ability of schools to grow and improve performance. Therefore the interventions could yield significant benefits for those schools that are able to take advantage of these services. By engaging with financial providers to develop mobile payment and saving schemes for parents, as well as affordable loans for schools, DEEPEN aims to alleviate financial constraints and to stimulate school growth, enabling schools to invest in improving learning outcomes.

Finally as part of the **service improvement intervention**, DEEPEN aims to work with schools, associations, and services providers to develop greater awareness and understanding of, and capacity to improve, pedagogy. It is hypothesised that this will translate into better learning environments and pedagogy by stimulating schools' demand for, and service providers' provision of, training, pedagogical innovation and other school improvement services.

In addition to the four core interventions, **results measurement, research and learning** are key elements of the programme. DEEPEN aims to conduct rigorous and robust monitoring and results measurement to assess and evaluate its impact and generate new evidence.

The theory of change disaggregates the results chain into each of the four DEEPEN activity streams ('activities') while highlighting each step on the ladder to DEEPEN's intended impact: 'Children, including those from poor and very poor families, learn more and test scores improve'. The final step before impact is that schools invest time and resources in improving their pedagogy. From each activity stream the results or causal chain work through market outputs, via market outcomes and the types of school-level changes and responses that are conducive to learning outcome improvements. More information on DEEPEN and its theory of change is available in section 2.1.1 and Annex H.

1.3 Why evaluate DEEPEN?

1.3.1 Rationale and purpose of the evaluation

Evaluating DEEPEN is important because it is novel. DEEPEN breaks new ground in the application of a market systems approach to education (Gibson *et al.* 2011; DEEPEN 2014a). It is, moreover, unclear whether an M4P approach overall, or the specific interventions proposed under DEEPEN, will have positive

impacts on the education outcomes of children for the poorest households (see, e.g., Bano and Bennell 2013; Bano *et al.* 2015). This uncertainty about impact implies that evaluation is crucial for three reasons.

First, an evaluation can contribute to DEEPEN's performance by providing information during the project on what is working and what is not, and why. This can help DEEPEN to adjust interventions or approaches during implementation. As DEEPEN is an innovative learning project, this formative evaluation function is likely to be very useful. DEEPEN has a range of monitoring and results management (MRM) activities that play this role outside of an evaluation, so this does not need to be a principal focus of the evaluation. Nevertheless, findings from evaluation activities conducted during the project should feed back into project design and implementation, without compromising the validity of the evaluation overall.

Second, and more importantly, an evaluation will introduce accountability through DEEPEN's funding and implementing structure. DFID, as funders, need an evaluation of the performance of the project by independent evaluators in order to provide assurance that they have received VFM for their spending. This assessment must go beyond the scope of regular annual reviews that focus on inputs, activities, and outputs, to evaluate rigorously, and to the extent possible, whether the project has achieved its desired outcome and impact. The evaluation must therefore be designed in a manner that enables attribution of desired (or unexpected) change to DEEPEN. This will allow DFID to report back to taxpayers on the results of its expenditures, and for staff in the DFID hierarchy to report on their own performance. The government of Nigeria, as an implementing partner of DEEPEN, will be interested in a rigorous evaluation for the same reasons. Finally, a rigorous and differentiated evaluation will also allow the implementer, Cambridge Education, to report back to DFID on its performance and to understand performance in different parts of the project. In order best to support the annual review process, data tables will be made available to the reviewers.

Finally, and most importantly, an evaluation will provide lessons for those seeking to improve education outcomes in private schools in other contexts. The number of children in private school around the world is substantial and growing (though it is not known precisely, given a range of data challenges), particularly in large urban centres. In many cities governments are struggling to address the educational challenges of rapidly growing populations through publicly delivered education (Lahore and Karachi are mentioned in the business case). We will not comment here on the debate about whether education should, in the end, be publicly or privately delivered, or both. However, it does seem reasonable that, given large populations, and the limitations, at least in the short term, of public sector capacity to provide adequate education for all, the role of the private sector in educational provision is systematically and carefully explored. DEEPEN, as the first approach to improving educational outcomes through the M4P approach, is therefore an extremely important project from which to learn.

1.3.2 Who is the DEEPEN evaluation for?

Since learning from DEEPEN for other contexts is the most important objective of the evaluation:

- The stakeholders for the evaluation include those outside Nigeria who are attempting to deal with education in those contexts. The evaluation's approach to stakeholder engagement and communication ensures a focus on these stakeholders.
- The evaluation is designed such that it can help stakeholders from other contexts to understand whether what works (or does not work) in Lagos would work (or not) elsewhere (see Cartwright and Hardie 2012; Woolcock 2013). This implies the careful assessment of the features of the context that contribute to DEEPEN's success or otherwise in Lagos, and not just the rigorous attribution of impact to DEEPEN.

The key users of the evaluation are expected to be:

- DFID Nigeria;
- organisations (primarily DFID) that are seeking to improve education outcomes through the private sector and M4P approaches elsewhere in the world;
- the governments of Lagos and Nigeria;
- DEEPEN;
- international researchers on education; and
- Nigerian education policy-makers and researchers.

To ensure these users access and use evaluation material, EDOREN developed a communication plan that has been agreed and is being jointly implemented by DEEPEN and DFID. This plan, given in Annex J, is designed to meet the communication needs of the key audiences that have been identified above, presenting information in the most appropriate format to each key audience.

Key users (particularly DFID Nigeria and DEEPEN) have been involved at different stages of the evaluation process, including (to date) the design of the evaluation framework, the baseline data collection, and the agreed communication plan. This improves the usefulness of the evaluation by helping to ensure that: (1) there is a common understanding of the problem being addressed by the intervention; (2) the right questions are asked; (3) the questions are appropriately phrased; and (4) the methods are agreed and understood. DEEPEN's evaluation uses an interactive and consultative participatory methodology to engage stakeholders at various stages of the evaluation process.

1.4 What is the scope and coverage of the evaluation?

The evaluation is based on the criteria for the evaluation of development assistance developed by the Organisation for Economic Co-operation and Development's (OECD's) Development Assistance Committee (DAC), in line with evaluation guidelines set out by DFID (see the evaluation framework). The DAC evaluation criteria are:

- **Relevance**: the extent to which DEEPEN is suited to the priorities and policies of poor households and children in Lagos, the Lagos State and Nigerian federal governments, and DFID – answered principally in a report in 2015;
- **Effectiveness**: the measure to which DEEPEN attains its objectives as set out in the logical framework, and why – answered formatively in 2017 to help guide roll-out, and finally in 2018;
- **Efficiency**: the extent to which DEEPEN offers VFM in terms of the relationship between inputs and outputs and outcomes – answered in 2018;
- **Impact**: the positive and negative changes produced by DEEPEN, both direct and indirect, intended and unintended, with specific attention to learning outcomes for poor children – answered in 2018; and
- **Sustainability**: the extent to which DEEPEN's impact will continue when DFID's funding is withdrawn – answered principally in 2018.

The evaluation is anchored in and developed around a set of theories of change and a mixed methods approach which combines quantitative and qualitative data and a variety of research methods, including quasi-experimental evaluation designs, to identify the impact of specific DEEPEN interventions. The detailed indicator framework for the evaluation, taken from the evaluation framework, is given in Annex A.

The evaluation of DEEPEN mixes an attempt to conduct an RCT on a particular component of DEEPEN (the GAPS) in two LGAs in Lagos with a wider set of contribution analyses of the other components spread across the city. GAPS was selected for rigorous evaluation partly because DEEPEN is a complex and multi-faceted programme, with different interventions operating in different places at different times. This limits

the opportunity for rigorous evaluation of these interventions, and means that not all of them can be evaluated using the same evaluation instruments. As a result, and given the relationship with the existing evidence base, the evaluation plan focused most resources on interventions that were thought to be key by the DEEPEN team and other stakeholders. Importantly, it is beyond the scope of the evaluation to rigorously compare learning outcomes in private and public schools in Lagos. Even though we include some comparative analysis in this report, it is mostly illustrative and exploratory and cannot inform policy recommendations.

The evaluation is led by EDOREN, a project run by Oxford Policy Management (OPM), a public policy research and consulting firm, and funded by UKAID. The evaluation draws on data collected by Infotrak Research and Consulting (Infotrak), a market research firm contracted by DEEPEN. The principles underlying this cooperation are outlined in a signed memorandum of understanding between DEEPEN and EDOREN.

The evaluation is governed by DFID. Specifically, this entails that the evaluation team reports to the DFID Nigeria education team on progress towards evaluation objectives. This takes place through regular (quarterly) EDOREN written reports to DFID, and six weekly verbal project management updates. In addition, an evaluation Steering Committee has been constituted, composed of DFID Nigeria education and results staff, DEEPEN and EDOREN staff. This committee meets regularly to discuss evaluation progress, and is responsible for peer review and quality assurance (in addition to EDOREN's internal quality assurance processes), and has agreed, and will jointly deliver, the evaluation communication plan. The Steering Committee is considering whether to add a representative from the Government of Lagos.

The evaluation of DEEPEN is currently taking place from 2014 to 2018. This evaluation timeframe is governed by the timeframe for DEEPEN (2013–18) and EDOREN (2013–17) and there are currently discussions about the most appropriate options for the timing of final rounds of survey, given delays to roll-out of GAPS, further elaborated on below. The initial plan included baselines in 2014–15[7], midlines in 2016, and qualitative work throughout. These were intended to produce integrated evaluation reports in December 2015, July 2017, and July 2018. Initial data were made available to DEEPEN's annual reviewers in June 2015. The first of the integrated evaluation reports is the present report: a theory-based review of DEEPEN (and thus an initial assessment of its relevance).

However, there are two uncertainties around the planned timeline. First, given funding limitations for fieldwork managed by the DEEPEN programme, it is possible that the midline data collection and report in July 2017 will be dropped. This will introduce some limitations to the evaluation but not invalidate its overall purpose. Second, and as set out in the evaluation framework, given that EDOREN's contract ends in March 2017, there are currently outstanding questions about who will conduct the final round of surveys, analysis, and final report. It is current expected that this will be OPM, via an extended EDOREN project. One option for this (to be confirmed by DFID) is to provide EDOREN with a contract extension or to tender a new contract for EDOREN.

1.5 Policy, institutional and aid context for the evaluation

Lagos State policy deems basic education to be both free and compulsory for primary, junior and senior secondary schools[8], and human capital is at the core of the Lagos State Development Plan. Enrolment rates are close to 100% at primary level, according to the 2010/2011 Nigeria Demographic and Health Survey Education Data Survey. However, as the 2014 DEEPEN Annual Review points out (DFID 2014), "the Lagos State Government has not provided enough schools for Lagos' rapidly expanding population, and this, coupled with the failure to ensure that its schools provide a decent quality of education, has prompted the

[7] Baselines were initially planned to finish by December 2014, but following school closures were delayed and completed in February 2015. This has delayed the baseline report to August 2015.
[8] See http://www.lagosstate.gov.ng/entities.php?k=215,accessed December 2015.

steady and rapid development of private schools." DEEPEN's evaluation framework (EDOREN 2015a) provides detailed background on the context in which DEEPEN was designed, suggesting that:

- Around 70% of children enrolled in school in Lagos are in private schools (Tooley and Yngstrom 2014), and it is probable that both the proportion and the absolute number of children in private schools will rise.
- There were well over 12,000 private schools and 1,200 government schools in Lagos in 2011 (EDOREN 2015a). Around 1,000 private schools being set up each year (Harma 2011), and there is a far slower rate of growth in the number of government schools. Gibson*et al.* (2011) suggest that very few private schools go out of business, though this is based on anecdotal evidence and it is unclear why those private schools that close down do so.
- Private schools, and particularly lower cost private schools, contain children from households below the poverty line: private schools are not just for the elite, and there is a very wide range of fees, and quite possibly quality (confirmed by this baseline report), although parents typically perceive private schools to be of better quality than government schools.

As the 2014 Annual Review points out, this means that "the problem for girls and boys is quality, not access…Lagos now has one of the world's largest private education markets…credible efforts to improve the human capital of Lagos clearly need to improve private education," (2014: 3). However, at present the market for private education in Lagos is "informal and weak…poorly organised and poorly supported, and has historically been undermined by government rules and regulations," and characterised by market failures. The most significant market failures, according to the business case (DFID 2013) were:

- "poor and uneven information for parents about school quality;
- 'soft' competition among schools due to a growing population that allows poor schools to survive;
- missing support functions including access to finance and professional services, such as teacher training; and
- a non-supportive regulatory regime that forces the majority of schools to operate 'beneath the radar' of Government."

The key government institution concerned with private schools in Lagos is Lagos State Government (LSG) Ministry of Education (MoE) Department of Private Education and Special Programmes. The approach of the LSG to private schools has moved from hostility to acceptance to (possibly) supportiveness. Up to around 2010, as the DEEPEN Business Case and Annual Review, the LSG has focused on the development and management of public schools. The MoE had until then largely seen its responsibility with respect to private schools as being limited to setting (very high) standards for the approval of private schools, and had taken a rather hostile stance towards them, culminating in 2008-09 in an attempt to close all private schools (Gibson *et al* 2011). By 2010, parts of the MoE had unofficially started to accept co-existence, consistent with the overall expectation of the LSG to deliver effective services, growth and leadership within Nigeria. By 2015, as the DFID Annual Review points out, the MoE has moved to a position "of acceptance and [is] now starting to look for ways to enable private schools to make use of government materials and systems." This is not just talk: the LSG MoE Medium Term Sector Strategy (2013-2015) is clear on the LSG's mission of providing citizens with good quality education in partnership with the private sector," (page 23).[9] These changes appear to have survived the change in political leadership in Lagos as the previous All Progressives Congress (APC) Governor Fashola was replaced in May by his APC counterpart Governor Ambode, following two terms for Mr Fashola as governor. Three broad trends have shaped this development.

[9] http://www.lagosstate.gov.ng/MEPBBC/EDUCATION%202013%20-2015%20MTSS.pdf, accessed December 2015.

First, as pointed out by the scoping report (Gibson *et al*2011), the political economy of Lagos State has shifted away from patronage politics towards an implicit social contract between the emerging middle class and a responsive political leadership (epitomised by former Governor Fashola) based on the provision of effective services (particularly security, roads, and less congestion) and the perception that Lagos is a leader in Nigeria in return for larger tax revenue. This is not a complete change and traditional politics still play a major role, but this shift offers opportunities for engagement in education as a means to economic growth. In particular, the LSG has increasing reason to improve private schools where many middle class households (including government servants) send their children. For their part, parents have increasingly demonstrated their reliance on private schools, including in resisting the 2008/09 attempts to close them.

Second, development partners including DFID have placed greater emphasis on the role that private schools can play in achieving quality education for all. This has included funding research on private schools, where there is in general a weak evidence base (see Day Ashley *et al* 2014), but also programmatic support particularly where many children are in private schools and/or government provision is very weak. The 2013 DFID Education Position paper noted, in a specific section on Low-fee Private Schools (page 14), that: "the UK strives to get the best possible outcomes for poor people and takes a pragmatic stance on how services should be delivered." This section refers specifically to Lagos and the planned DEEPEN programme. In the UK at least, support for low-fee private schools reflects a slight change in emphasis, consistent with the growing role for the private sector in education in the UK in the past few years.

The third trend is increasing evidence on the number and proportion of children in private schools in Lagos, and the impossibility therefore of trying to improve human capital without addressing them. Much of this evidence was brought to light in collaboration between the LSG and DFID, including working with the DFID Education Sector Support Programme in Nigeria (ESSPIN). In the course of this collaboration, the evidence presented above became clearer, and with it the importance of private schools in educating children in Lagos. DEEPEN has also been instrumental in providing new evidence (including from the baseline surveys for this evaluation) and engaging with the LSG and in particularly the MOE to support a shift towards a more supportive attitude to private schools.

Evidence for the role of private schooling in broader educational development also comes from elsewhere. Empirical evidence regarding the effectiveness of private schooling in respect of learning outcomes in developing countries is derived both from experimental approaches as well as non-experimental studies, and has yielded mixed results (e.g. Muralidharan and Kremer 2006; Desai *et al.* 2009; Ohba 2012). When studies do support the assumption that children at private schools have higher learning outcomes than their government counterparts, the differences are often small, and '…always decline (s) when unobservable and selection effects are controlled for, varies between countries, within them (between urban and rural areas), and between learning outcomes (e.g. numeracy, literacy) within schools' (Day Ashley *et al.* 2014; p. 18).

The current policy, aid and institutional environment for private schools in Lagos is therefore much more supportive for a programme like DEEPEN than it might have been in 2008. In addition, the change in government in Lagos in March 2015 led to the appointment of a new Director General for the Department of Quality Assurance, and DEEPEN have been developing an effective relationship with her, though at the timing of writing the final institutional arrangements for private education under the new government remain unclear. As the 2015 Annual Review points out, the LSG has now taken ownership of GAPS

programme and its roll out, and the GAPS form is now on the LSG website.[10] It has also been liaising with DEEPEN on potential adjustments to the GAPS that it would like for its own concerns, which on the one hand is a positive sign of ownership and on the other a concern for the evaluation timing (as discussed below). The roll-out of the other DEEPEN component through Bridge (which is not covered under this evaluation) has progressed more slowly but is also starting to move effectively.[11]

While government ownership of GAPS is positive it has halted roll out of the GAPS intervention raising concerns for the evaluation design as set out in the DEEPEN evaluation framework. At present there has only been a partial roll out of GAPS in Ojo LGA; the roll out by this time should have been completed in both Ojo and Alimosho LGAs. Questions have also been raised by government on the appropriateness of Alimosho as a treatment LGA given its large size. If the government decides to roll out GAPS in another LGA this will be problematic for the evaluation as the largest number of schools in the baseline sample are from Alimosho. The quantitative evaluation design is based on the GAPS intervention and the delay in roll out raises concerns around attribution of impact. DEEPEN, DFID and EDOREN have discussed the possibility of GAPS not rolling out by January 2016, in which case EDOREN will have to work on potential adjustments to the envisaged evaluation design.

[10] http://www.lasgmoed.com/wp-content/uploads/2014/02/Lagos-Private-Schools-Grading-Form-roll-out-190914-for-upload.pdf, accessed January 2016.

[11] Discussions are currently underway between DFID, Bridge and EDOREN on the feasibility of an evaluation or operational research study. The details around the timeline, budget and study/ evaluation design are to be determined in early 2016.

2 Evaluation design, methods and data collection

This section sets out the design and methods for the DEEPEN evaluation, and how data collection for the baseline was planned and carried out. We note how qualitative and quantitative methods and data collection were related to each other, and provide detail on each type of method and data collection exercise. We discuss how diversity was accounted for, and detail limitations to the design and data collection. More detailed information on sampling and analytical approach is provided in the annexes.

2.1 Conceptual framework, evaluation questions and design

2.1.1 DEEPEN M4P conceptual framework

DEEPEN is the first programme in the education sector that uses the M4P approach. The M4P approach, as portrayed by Gibson *et al.* (2011: 6–7), involves:

- A 'market system' *analytical framework*, which combines three 'functions' and a set of 'players'. The functions are: i) the central exchange between parents and children demanding education, and schools supplying it; ii) the rules shaping behaviour, including formal guidelines and regulations from Lagos State government and informal incentives and attitudes, including the political economy of education in Lagos State, behavioural norms in schools, and parents' expectations of education; and iii) supporting functions, such as information and finance for parents and schools, as well as support services related to school management, pedagogy, teacher training and advocacy. The players include approved and unapproved private schools, government schools, associations, school owners, teachers, mass media, textbook companies, management development providers, researchers and various parts of government.
- A set of *principles* around the intervention, which include: i) addressing causes not symptoms; ii) focusing on underlying constraints to achieving larger and longer-lasting impact; iii) treating sustainability as central; and iv) facilitating change amongst players. These principles emphasise the importance of examining the sustainability of DEEPEN in the evaluation.

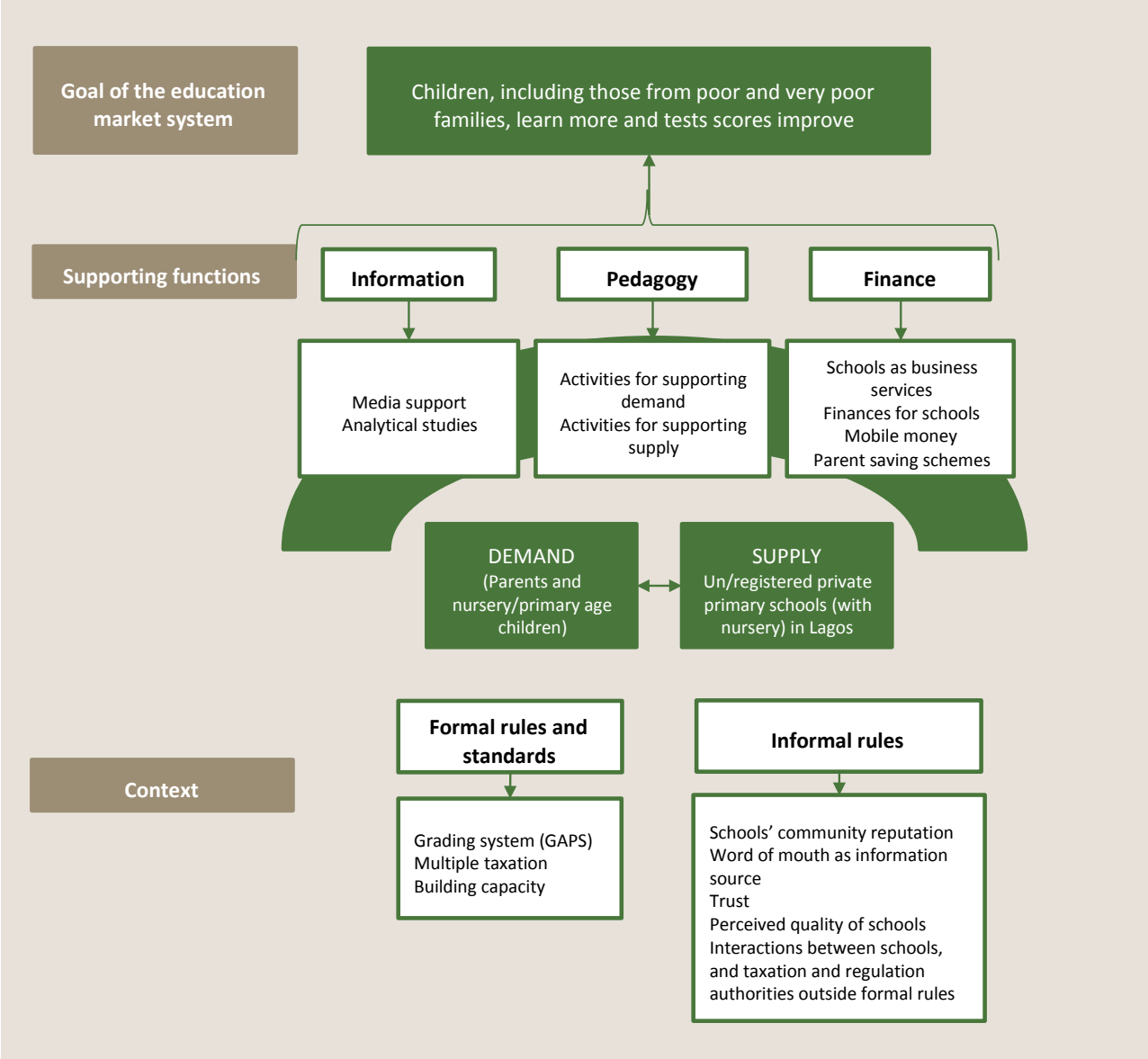
DEEPEN aims to facilitate change in four key areas identified in line with the constraints to quality education in Lagos private schools (see Annex B).

For the purposes of DEEPEN, **M4P is defined as an approach to developing education market systems so that they function more effectively, sustainably and beneficially for poor parents and children, building their capacities and offering them the opportunity to enhance their lives.** Therefore, the main envisaged goal of DEEPEN is that more children, including those from poor and very poor families, learn more and improve their learning outcomes. It is expected that improved learning outcomes will provide these children with equal opportunities similar to those of their wealthier counterparts who may be accessing more elite institutions or who benefit from being from more privileged backgrounds. Although the M4P concept has a wider focus on children's capacities to succeed in their lives, the DEEPEN programme solely focuses on their cognitive development, i.e. as measured through test scores.

Figure 1 outlines the revised bespoke version of the M4P module adapted to fit the DEEPEN interventions and local conditions of Lagos. The M4P conceptual framework fits the DEEPEN programme and reflects its complex structural and conceptual dimensions. The pedagogy, information and finance workstreams represent the supporting functions of the DEEPEN's market system that enable exchange to happen. The rules and standards are part of formal rules and regulations of the Lagos State Government which are intended to shape the behaviour of service providers and users. The informal rules are a broader category, dealing with parents' perceptions of quality schools, trusted sources of information and schools'

reputations in regard to parents choosing schools. The proposed conceptual framework will inform the discussion of the DEEPEN evaluation findings in Chapter 3.

Figure 1: DEEPEN M4P conceptual framework



This conceptual framework also presents a revised and full list of players in the private education market in Lagos.[12]The additional part added to the conceptual framework is **context**, as contextual factors prove to be important for DEEPEN activities. By context the report means the local socio-economic and cultural conditions of certain areas where DEEPEN is likely to be rolled out. In particular, the local language will be an important factor for information activities as well as any training of teachers. The cultural context also includes the local system of networking and trust between schools and parents. In fact, trust plays a key role in the functioning of schools. Trust is also important when it comes to reliable sources of information,

[12] Players areparents and primary age children;private schools (approved), which are more likely to be registered and charge high fees; private schools (unapproved), which can be both registered and unregistered and are likely to charge low fees; Government schools, with great support from government on training teachers and engaging school with local communities; Association of Formidable Educational Development - AFED (unapproved lower income schools) and National Association of Proprietors of Private Schools -NAPPS (approved higher income schools) associations; school owners, i.e. proprietors, teachers, head teachers (head teachers sometimes own schools); national and local mass media (mainly radio); textbook publishing companies; training provision companies; local and central government (responsible for taxation and inspection); banks; cooperatives; religious groups; community; landlords of school buildings; programmes other than DEEPEN working in the private sector.

as parents' social networks and informal sources seem to affect their choice of schools. Informal discourse also creates schools' reputations. For example, state schools can suffer from the negative image of being places that teaches very poor, illiterate, badly behaved and untidy children.

For the purposes of the finance workstream, context matters, as the types of local businesses (i.e. parents' main sources of earnings) are likely to drive their capacity to use mobile money and saving schemes. For example, parents living in areas containing big markets are more likely to earn cash as petty traders and are unlikely to use bank accounts. There is also another aspect of context in relation to underlying processes or relationships between schools and local authorities with regard to the issues of taxation and inspection. These relationships are outside the regulations of the government's rules and standards. This conceptual framework represents the four DEEPEN workstreams within the private education system in Lagos and its main players. The framework also represents the main principles around the DEEPEN intervention, which is designed to address underlying constraints to achieving larger and longer-lasting impact and to facilitate change amongst players. These principles emphasise the importance of examining the sustainability of DEEPEN. The results in this regard are presented in Chapter 3.

2.1.2 DEEPEN evaluation design and questions

All four workstreams are aimed at addressing the underlying causes of the market failures. It is therefore challenging to isolate a single impact of the DEEPEN programme, as its interventions are designed to affect the system as a whole. This methodological challenge was addressed by applying the causal logic of contribution analysis and mixing quantitative and qualitative evaluation methods. The overall evaluation framework is a theory-based evaluation with rigorous evaluation of impact using an appropriate counterfactual through quasi-experimental approaches. this proposed evaluation framework is anchored in and developed around a 'theory or set of theories of change'–and a mixed methods approach which combines quantitative and qualitative data and a variety of research methods, including quasi-experimental evaluation designs, to identify the impact of specific DEEPEN interventions. While the attribution approach uses experimental methods to generate rigorous evidence on impact, the theory-based contribution analysis will assess DEEPEN by following its theory of change and gathering data on the key assumptions and context as well as expected outputs and outcomes.

Contribution analysis (Mayne, 2001) is a theory-based approach for exploring attribution (cause–effect) questions to assess the performance of government policies and public programmes, when attribution cannot be determined through experimentation. Unlike the quasi-experimental approach which attempts to *prove* causality, contribution analysis uses a process of logical argumentation to infer a 'plausible association' between the programme and a set of relevant outcomes by means of systematic inquiry (Mayne, 1999). It is based on multiple steps and involves constructing an overarching theory to make sense of the causality between interventions and change and gradually developing a causal story.

Key steps in contribution analysis are as follows (Mayne, 2012; p. 272):

- Step 1: Set out the cause–effect issue to be addressed
- Step 2: Develop the postulated theory of change and risks to it, including rival explanations
- Step 3: Gather the existing evidence on the theory of change
- Step 4: Assemble and assess the contribution claim, and challenges to it
- Step 5: Seek out additional evidence
- Step 6: Revise and strengthen the contribution story

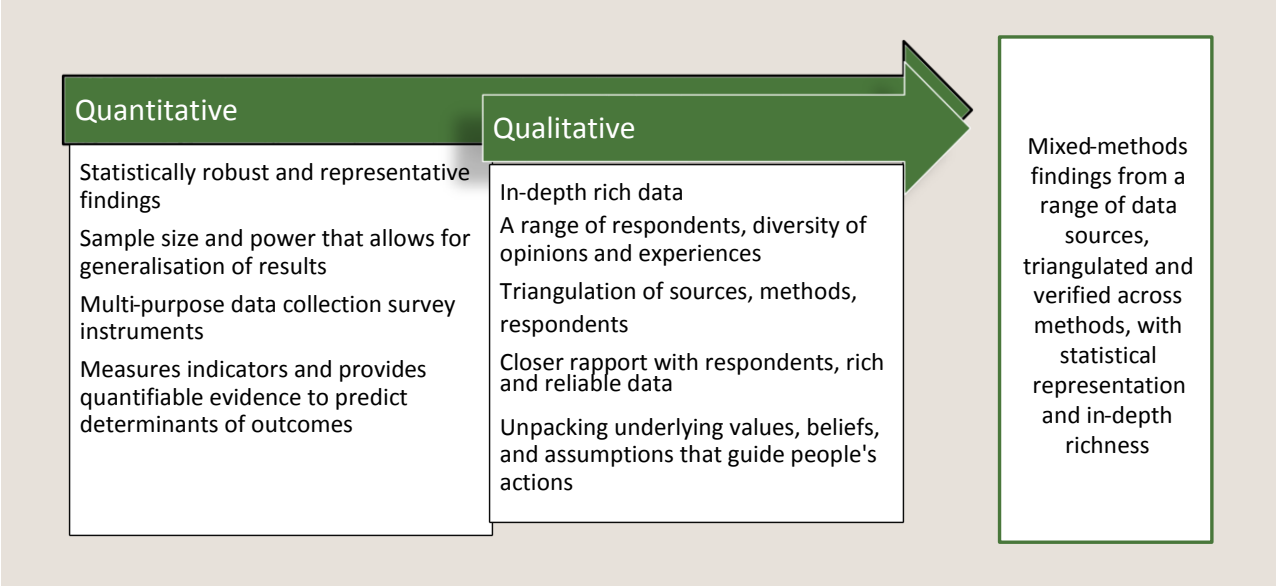
Since this represents the baseline of the DEEPEN evaluation, only Steps 1–3 and part of Step 4 outlined above can be successfully conducted at this stage, by employing a mix of quantitative and qualitative analysis. The baseline mixed-methods work sets the stage for the contribution analysis and impact

evaluation to be fully conducted at endline. On the one hand, quantitative data can provide benchmark values of learning outcomes and other indicators of interest, whilst also investigating descriptive associations and correlations across a range of relevant factors. On the other hand, the main task for the qualitative team is to assess the theory of change, revise its risks and assumptions and explore the contextual and competing factors which may affect DEEPEN's contribution. At the same time though, both quantitative and qualitative investigations aim to answer some of the evaluation questions that can be addressed at the baseline stage, including questions regarding the relevance of DEEPEN's assumptions. See Annex B (Table 3) for summarises all the evaluation questions by workstream, which are addressed in this report by mixing the relevant quantitative and qualitative findings and insights.

Some questions specifically look at low-cost private schools. We follow Tooley (2013) and define low-cost schools as those charging parents 25,000 Naira or less (including fees and other school costs, but not transport, books or extra tuition). Medium-cost schools charge between 25,000 and 50,000 Naira, and highcost schools above 50,000 Naira. We use the term 'cost' to show that this is more than just an enrolment fee and is inclusive of all costs levied by the school. It does not mean, however, that this includes the entire cost of educating a student, as they also have to pay transport costs, books, and many households also pay for extra tuition.

The evaluation questions cannot be answered in full by a single evaluation method; this is the rationale behind using a mixed methods design combining quantitative and qualitative methods and data in this evaluation of DEEPEN. As shown in Figure 2 below, the two analytical components can complement each other to build on their strengths and to address some of their weaknesses:

Figure 2: Quantitative and qualitative analyses leading to mixed-methods findings



More specific details regarding mixing methods are discussed in the next section.

2.2 Evaluation methods and data collection

The DEEPEN evaluation framework (EDOREN 2015a) set out that rapid feedback of results would be provided to stakeholders[13] during the evaluation process. The aim of this would be to validate the message coming out from the field and to improve the quality of research (OPM 2013). Keeping this in mind –

i. There has been feedback and discussion with DEEPEN, DFID Nigeria and the Government of Lagos around the quantitative baseline results to ensure they are taken into account for current and future M4P interventions to improve education outcomes through the private sector. The quantitative baseline results were extensively discussed with DEEPEN and DFID Nigeria during a two day workshop in Abuja to understand (i) their implications for current interventions and (ii) further questions to be explored in the qualitative baseline . The learning outcomes results as established by the quantitative baseline were also presented to the Government of Lagos by EDOREN and DEEPEN.

ii. There has been feedback of the quantitative baseline results to DFID Nigeria; international organisations (primarily DFID) seeking to improve education outcomes through the private sector and M4P approaches elsewhere in the world; and international education policy-makers and researchers, to help them make more informed decisions about whether to invest in improving education outcomes in the private sector through similar approaches. The quantitative baseline findings were presented by EDOREN at the Development Studies Association (DSA) conference in Bath in September 2015. The qualitative baseline findings were shared with the DEEPEN team during the fieldwork process and further dissemination and sharing will be undertaken once the mixed methods report is finalised.

2.2.1 Research ethics

Since the quantitative team did not collect any primary data themselves, and did not engage in any ethical clearance, this section will focus on the ethical issues around the qualitative component. In particular, the quantitative data collection was carried out by Infotrak, the company contracted by DEEPEN to implement the baseline survey. We are confident that Infotrak fulfilled the ethical requirements associated with survey data collection, given its direct contract agreement and engagement with DEEPEN. The qualitative evaluation proposals were submitted to the OPM's Ethical Review Board and subsequently granted ethical clearance. Similar materials were also submitted to the National Research Ethics Committee under the Ministry of Health in Nigeria. All researchers on the qualitative team were selected based on their experience and were trained on ethical issues, including the issue of working with children as research informants. During the qualitative fieldwork a range of ethical procedures were carried out in relation to obtaining ongoing consent, addressing any power relations between evaluators and research participants, especially children, avoiding any harm to participants and ensuring confidentiality (Annex C).

2.2.2 Mixed methods

The proposed evaluation design for the study was a mixed-methods approach, which combines qualitative and quantitative research methods and data to answer the evaluation question. The rationale for mixing methods is multi-faceted, with the main justification being that *none of the methods can answer the evaluation questions on its own*. The additional rationale for mixing methods is to *triangulate* findings so that they are mutually corroborated (where possible), to achieve *completeness of findings* in order to bring

[13]Stakeholders include DFID, DEEPEN, Government of Lagos as well as local stakeholders (parents, teachers and school proprietors). Providing rapid feedback to local stakeholders during the qualitative fieldwork was originally planned but couldn't be organised due to logistical and time constraints as advised by the DEEPEN team

together a more comprehensive account of the area of enquiry, and for each method to *explain* the other method's findings and to produce in-depth analyses.

The mixed-methods design is based on four considerations, timing, emphasis, mixing and research questions. Each consideration is discussed below to show how the quantitative and qualitative evaluation components complement and inform each other.

2.2.2.1 Emphasis consideration:

The quantitative and qualitative components were given equal weight in answering the evaluation questions for the baseline study. The main objectives of both components are outlined in Table 2. Both components collected baseline data where quantitative data were relatively large-scale and had representative sets of data, whereas qualitative data were in-depth and therefore had a smaller data set. The two types of inquiries had different focuses: the quantitative component had an emphasis on learning outcomes data based on numeracy and literacy tests; the qualitative stream was interested in exploring the stakeholders' perceptions and reasoning that drives school choice: i.e. the supply and demand of the market. Both teams tested assumptions relating to the theory of change and the four DEEPEN workstreams: the quantitative team tested a few variables and the qualitative team took a closer look at the phenomenon from various perspectives. Consequently, both components, whilst focusing on different though inter-related aspects, had equal weight in generating the necessary findings.

Table 2: Objectives of quantitative and qualitative components of the DEEPEN baseline study

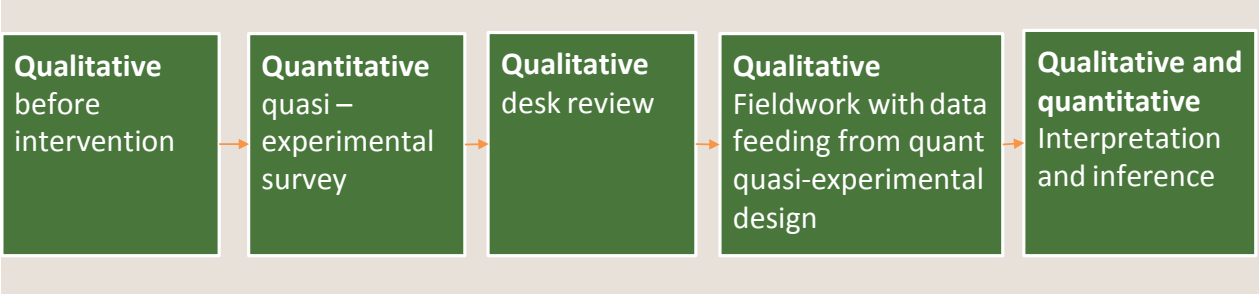
Quantitative component objectives	Qualitative component objectives
To establish the quantitative baseline level of pupil learning levels, teaching practices, parents' information levels, access to financial services and school improvement services before the start of DEEPEN activities, and particularly before (or in the very early stages of) the quasi-experimental roll-out of GAPS	To produce the qualitative baseline data in terms of teaching practices, parents' information levels, their perceptions of good quality schools and practices in relation to choosing schools for their children, parents' and schools' access to financial services, school improvement services
To provide baseline results to test the numerous assumptions that underlie DEEPEN's theory of change for each activity stream, and thus to help inform potential adjustments to DEEPEN's design and implementation, with a focus on the relevance of DEEPEN's assumptions	To provide baseline results to test the numerous assumptions that underlie DEEPEN's theory of change for each activity stream, and thus help inform potential adjustments to DEEPEN's design and implementation. This is a preparatory stage for the implementation of contribution analysis for the endline evaluation
To guide and complement the companion qualitative baseline research in September 2015 and the mixedmethods report in December 2015	To complement the companion quantitative baseline research and to guide the mixed-methods report in December 2015
To provide an assessment of the status of pupil learning levels, schools, teachers and the market for private schooling, to generate learning for the programme and the wider community about private schooling in parts of Lagos	To answer the evaluation questions as identified in the evaluation note and ToR

2.2.2.2 Timing considerations

Qualitative and quantitative approaches were implemented sequentially. The qualitative component started with the 1) document review and stakeholders' meetings; which was followed by 2) the quantitative survey with students, teachers and head teachers; followed by 3) the qualitative desk review; and was completed with 4) the qualitative fieldwork with a range of stakeholders (see Figure 3). The sequencing of methods (instead of conducting them in parallel) was crucial in order to achieve complementing analysis, to

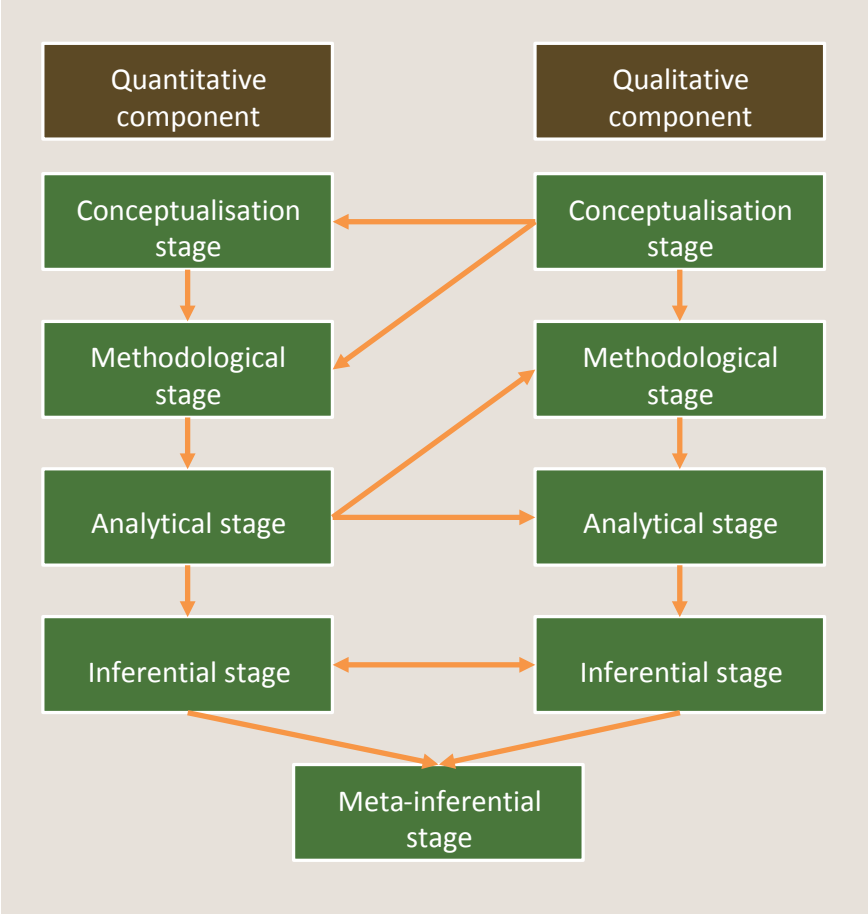
develop tools based on both quantitative and qualitative findings, and to triangulate primary and secondary, as well as qualitative and quantitative, data.

Figure 3: Sequencing of quantitative and qualitative components



2.2.2.3 Mixing consideration:

Figure 4: Mixing quantitative and qualitative methods and data[14]



The mixing of the methods and data took place throughout the study (see Figure 4).

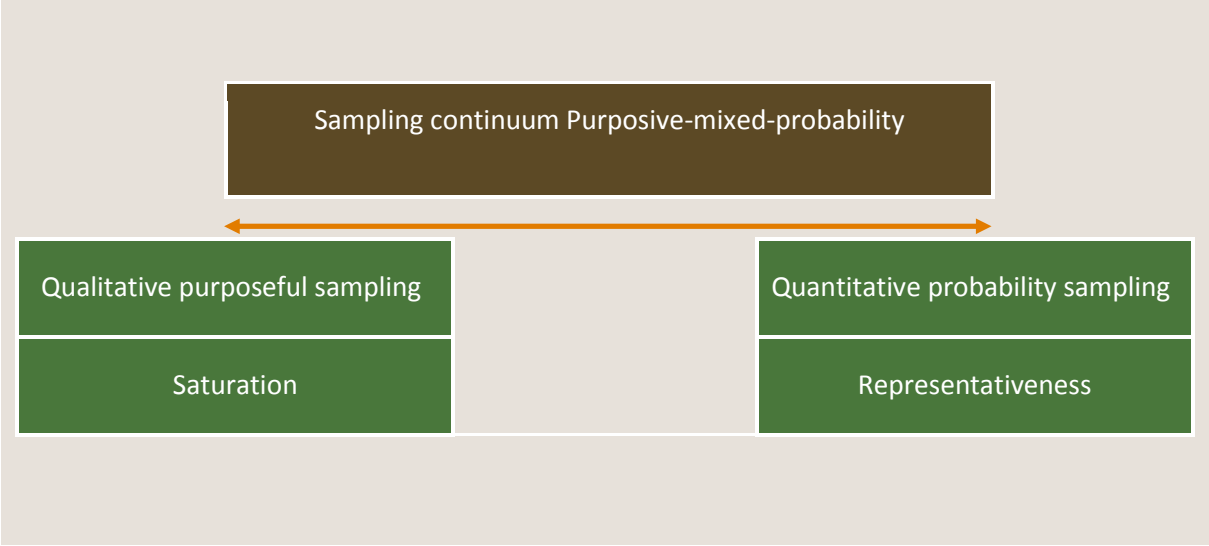
Conceptualisation stage – Both quantitative and qualitative data were mixed at the conceptualisation stage when the qualitative data were used to develop a study design and to develop tools to prioritise issues important to stakeholders that should be covered by the quantitative surveys.

[14] Tashakkori, A., and Teddlie, C. (Eds.). (2003)

Methodological stage – The main method used by the quantitative component was a survey consisting of five different instruments (i.e. head teacher, teacher, parent, pupil learning assessments and lesson observations) while the qualitative component used a desk review and fieldwork involving individual and group activities and observations at schools. The qualitative data helped to identify the relevant variables and develop tools for data collection. In turn, data from the quantitative survey helped to develop qualitative sampling and tools for the fieldwork.Prior to the qualitative fieldwork, the qualitative desk review was conducted to produce data based on secondary sources in order to explore the contextual factors specific to Lagos and DEEPEN, to identify the main actors and competing programmes and to assist in the formulation of qualitative data collection questions.

The methodological mixing also took place in sampling for both data collection methods.

Figure 5: Sampling for mixed methods evaluation



Sampling in mixed methods is a combination of the main two types of sampling procedures such as probability (primarily used in quantitative studies) and purposeful (primarily used on qualitative studies) sampling. This represents a continuum, with purposeful sampling techniques at one end, mixed-methods sampling strategies in the middle, and probability sampling techniques at the other end (see Figure 5). If probability sampling is used for the representativeness of the quantitative sample, qualitative sampling achieves saturation of information by working with diverse types of schools, on the assumption that this would provide sufficient data saturation. Since both components were given an equal emphasis, both sampling emphases were undertaken on their own merits. Combining the two orientations within the current mixed-methods study allowed the teams to generate complementary databases of evidence with both depth and breadth of findings regarding the objectives of the evaluation. Sampling specific to each method will be discussed in detail in the relevant sections below.

- Analytical stage – quantitative findings carefully identified data gaps for the qualitative follow-up to investigate in an attempt to produce more in-depth findings. Furthermore, quantitative findings were available for the analysis of qualitative findings.

- Inferential stage[15] – quantitative and qualitative findings and inferences were analysed through each other's lenses and discussed during several meetings and workshops. The qualitative report integrated the quantitative frameworks and findings as necessary.

- Meta-inferential stage[16] – Meta-level inferences were discussed and agreed by both teams and the relevant inferences were identified for the final mixed-methods report. The combination of quantitative and qualitative meta-inferences gives rise to joint policy recommendations for the DEEPEN programme implementation. The findings are statistically[17] and analytically generalisable. The mixing process was accompanied by quality assurance measures to ensure rigorous claims (peer review based on a quantitative-qualitative buddy system; multiple discussions and agreements; and peer exanimation by external evaluators to ensure methodological and thematic quality).

2.2.2.4 Consideration of questions

Qualitative and quantitative methods have answered either the same questions but from different perspectives or different questions based on the methodological appropriateness of the method. The allocation of questions to the relevant component was guided by the nature of the data required for those questions: statistically representative numeric data were produced by the quantitative component; in-depth personal opinions, observations and subjective reasoning were generated by the qualitative component. The final claims were then triangulated as necessary and whenever possible.

In summary, the DEEPEN evaluation study is based on a mixed-methods design where quantitative and qualitative data were collected sequentially without an emphasis being given to a particular component. Mixing both methods and data was carried out systematically at every stage of the evaluation process. Both teams were guided by the pragmatic perspective of the 'what works' position, which attaches high importance to research questions and values both objective and subjective knowledge.

2.2.3 Quantitative methods, sample and data collection

2.2.3.1 What is the method for baseline analysis and estimation model at endline?

Quantitative information collected at baseline is used in the context of the mixed-methods evaluation approach to provide comprehensive answers to some of the evaluation questions that can be addressed at this stage. Quantitative data are particularly useful to provide benchmark values of learning outcomes, as well as pupils' and schools' characteristics, that will inform the programme impact estimation in the next phases of the evaluation. In addition, apart from integrating the qualitative information in this mixedmethods analysis, quantitative baseline data can help answer some of the evaluation questions that focus on the relevance[18] of DEEPEN's approach. As is thoroughly explained in our quantitative report,[19] descriptive statistics as well as correlation analysis have been employed to investigate the levels of learning

[15] Inferences are drawn after each phase of the study, i.e. quantitative and qualitative.
[16] Meta-inferences are drawn at the end of the study and are included in the larger interpretation being made in the concluding report.
[17] Statistical generalisation – making generalisations or inferences based on data extracted from a statistical sample that is representative of the population from which the sample was drawn; analytical generalisation – applied to wider theory on the basis of how selected cases 'fit' with general constructs (Onwuegbuzie and Leech (2005)).
[18] This focuses on DEEPEN's assumptions regarding how the regulatory and financial environment, parental awareness and attitudes, and school attributes and pedagogical and other practices affect pupils' learning in private schools.
[19] The quantitative baseline analysis and related conceptual framework and methodology are illustrated in detail in the EDOREN DEEPEN Quantitative Baseline Report, which was submitted to DFID in November 2015.

outcomes across different groups of pupils and schools. This included, for instance, a comparison of the learning performance and achievement across boys and girls, and across relatively poorer and richer pupils, as well as across pupils attending more or less expensive private schools. Descriptive statistics provide summary information on the average values of these indicators and can be used to investigate associations between learning outcomes and analytical categories of interest. Whilst in our quantitative report these descriptive findings are presented in several graphs and tabulations, this mixed-methods report only contains some of the key graphs that can help explain the overall narrative. The baseline quantitative analysis also includes more sophisticated regression specifications, including a school-level fixed-effects model, which look into any existing correlation between learning outcomes and specific pupil and school-level factors. This analysis allows us to determine the magnitude and significance of these correlations, thus shedding further light on the associations identified by the descriptive statistics. The main insights that emerge from this quantitative analysis are discussed in each of the relevant sections of this report, though the regression results and tables are not included here and can be found in the quantitative baseline report.

However, these baseline analyses are not capable of producing, nor are they intended to produce, causal inferences, and the estimation of the impact of the GAPS programme will be carried out when post-treatment data are collected at endline. In particular, the new system defined by GAPS is supposed to help improve rules and standards for private schools. The differential roll-out of GAPS across LGAs will allow us to undertake a comparison between our treatment and control groups. The former currently comprises schools sampled in two LGAs (Alimosho and Ojo) where GAPS is expected to be rolled-out, whilst the latter comprises schools in two different LGAs (Shomulu and Ajeromi-Ifelodun) where the GAPS roll-out is scheduled to happen after a time lag of at least two years, which means that it will not take place during the evaluation period. As an RCT could not be implemented due to non-random design of the programme targeting of beneficiary schools, the impact estimation will be based on a quasi-experimental difference-in-differences (diff-in-diff) approach. This method aims to compare the effect of GAPS on learning outcomes as measured at endline in treatment areas, with the learning outcomes measured in control areas. The diff-in-diff approach will help deal with any differences between treatment and control groups at baseline, which could confound the effects attributable to GAPS at endline, and will produce robust estimates of impact assuming that in the absence of the intervention the evaluation of learning outcomes would have been identical for the two groups.[20] In addition, descriptive and correlations analyses will also be performed at endline to investigate the changing influence over time of the pupil and school-level factors that are found to affect learning at baseline. Quantitative baseline data are therefore of crucial importance for both the mixedmethods analysis presented in this report, and for the success of the overall impact evaluation. See Annex D for further details on sampling frame, target population, sample size and data collection. .

2.2.3.2 Learning assessments measurement and analysis – a quick overview

To measure learning achievements, numeracy and literacy test instruments identical to those used by the evaluation of ESSPIN were implemented.[21] These test instruments have been developed and carefully aligned with national curriculum benchmarks in English literacy and numeracy. The baseline survey tested boys and girls in the early stages of P3 in English literacy and numeracy at Primary 1 (P1) and Primary 2 (P2) curriculum levels.[22] Rather than relying on simple raw scores, our quantitative interpretation of numeracy and literacy test results and knowledge and skill formation makes use of item response theory (IRT). IRT differs from raw score methodology most notably by placing student performance score and item difficulty

[20] This is the parallel trend assumption, which entails that treatment and control groups are not differentially affected by any intervention or shock, bar the programme itself that could influence impact indicators of interest.

[21] ESSPIN focused on government schools in Lagos and elsewhere in Nigeria. The same instruments are used for the evaluation of Teacher Development Programme and for the upcoming evaluation of the Girls' Education Project Phase Three programme. [22] The original plan, to ensure the best possible comparison with children in government schools, had been to test pupils at the end of P2. Due to delays, this was not feasible. The start of the new school year was delayed by the Ebola scare and the first P3 tests, implemented on 10 November 2014, were administered exactly one month into the new school year. We take up the implications of this for comparability in Section 4.3 below.

on the same scaled metric. The higher a pupil's metric score, the more likely the pupil is to be able to answer the more difficult test items. As noted by Das and Zajonc (2010), IRT is routinely used in education research and in most largescale testing situations and has the very considerable advantage of allowing different stages in a child's development to be carefully discerned.

IRT was used to determine whether students were achieving 'within a proficiency range'. This term means that pupils in a particular band are *more likely than not* to be able to demonstrate the skills linked to a particular primary level within the Nigerian curriculum. In our case, this was represented by the P3 proficiency level. Those achieving at the top end of the proficiency band are close to mastering the skills demanded by the primary level and those at the bottom end of the proficiency band are only just starting to demonstrate skills that can be linked with the primary level. Specifically, in our baseline study pupils were tested in the early stages of the P3 academic year (from November 2014 to February 2015) and were therefore expected to have mastered the P2 curriculum. Hence, the pupils in our sample should be performing within the P3 proficiency range in both literacy and numeracy.

2.2.4 Qualitative methods, sample and data collection

Qualitative methods were designed in a way that allowed the effective meeting of the specified objectives (Table 2). The data collection consisted of two main methods: a desk review, and fieldwork to gather secondary and primary data from a wide range of sources.

2.2.4.1 Qualitative desk review (secondary data)

The main task of the desk review was to review the DEEPEN theory of change, to pull together its assumptions and risks, and to identify whether the DEEPEN workstreams and activities are likely to contribute to the final impact[23] given other competing policies and programmes are ruled out. The desk review was based on secondary data analysis and made use of a range of programme documents produced by DEEPEN, other projects/programmes, as well as by the Nigerian government documents. The secondary data were verified and complemented by the primary data collected during the fieldwork (and vice versa). The findings of the desk review also informed the development of data collection tools for the qualitative fieldwork.

2.2.4.2 Qualitative fieldwork (primary data)

The main task of the qualitative fieldwork was to collect data around the DEEPEN theory of change as part of implementing steps 1-4 of the contribution analysis (theory of change risks and assumptions, contextual factors and competing programmes/policies); to fill the data gaps of the quantitative evaluation component; and to answer the evaluation questions. In doing so, the fieldwork collected data at three levels: 1) DEEPEN programme; 2) state/national level (government, education experts, school improvement institutions, media and financial institutions); and 3) school level (head teachers, teachers, parents, children, and community members). The main data collection tools were focus group discussions (FGDs), semi-structured interviews, key informant interviews (KIIs), lesson observations, school checklists, and community member interviews – see Table 3. The fieldwork was conducted by four teams, which together were composed of four lead evaluators, eight local researchers and four transcribers (each team contained male and female researchers).

[23] The objectives of the desk review were:

- to explicitly and analytically link the programme assumptions and risks of DEEPEN against its overall theory of change. These are identified in the evaluation framework document but are not sufficiently analysed against the theory of change, its causal chains and expected results;
- to identify influencing factors and rival explanations and link them analytically to the theory of change. This will demonstrate the causal chains and results that are more likely to be achieved by DEEPEN and will eliminate those that are contributed by rival explanations;
- to analyse specific mechanisms linking activities to outputs, outcomes and impact around the causal chains/packages to which DEEPEN is most likely to contribute; and
- to generate a brief contextual picture about the Nigerian private school sector and education system in general and Lagos in particular, e.g. quality regulations, school inspections, teacher development and incentives, etc.

Table 3: Qualitative data collection methods and tools

Qualitative component	Methods		
	Desk Review	Fieldwork	Fieldwork tools
Primary source		X	FGDs, KIIs, interviews, observations
Secondary source	X		Document review
Private schools		X	FGDs, Interviews, Observations
State schools		X	FGDs, Interviews, Observations
Teachers		X	FGD
HT and/or proprietors		X	Interview
Parent		X	FGD
Children		X	FGD
Media		X	KII
Banks		X	KII
Associations of private schools		X	KII
DEEPEN 4 work streams staff		X	KII
Government		X	KII
Lesson observation		X	Observation
School checklist		X	Observation
Community members		X	Interview

2.2.4.3 Selection and sequencing of data collection tools

The selection of data collection tools, and their order, was carefully considered. They were developed based on the qualitative desk review and the quantitative findings. Using a variety of methods and tools was the most effective way to address their weakness and to build on their strengths. The team combined individual with group activities (e.g. interviews and FGDs), as well as observations (without active questioning).

FGDs were conducted with multiple homogeneous but contrasting groups of respondents to produce information that can illuminate the distinctive perspectives, experiences and views of different stakeholders. FGDs were particularly strong in developing collective and in-depth discussions of, and agreement regarding, the issue under scrutiny. They enabled the team to build a rapport and to capture a relatively large number of respondents in a short period of time. However, some respondents required more time to extract more detailed information from them. These respondents were invited to participate in semi-structured interviews; they included representatives of financial, media and educational authorities as well as the DEEPEN programme staff. These interviews were the most relevant tool for obtaining detailed information about the current status of the programme, policy and practice in Lagos. All our activities were conducted when it was feasible and convenient for our respondents.

In addition to FGDs and interviews, structured and non-participant observations were key in producing setting-specific data about the natural behaviour of respondents in their original settings. Observations generated neutral evidence – as opposed to the data collected from the respondents' verbal accounts. The team observed each school, one or two lessons at each school, and the local community over the two days.

The combination of all three methods generated more reliable and in-depth data. The sequencing of the varied instruments did not pose any methodological challenges and the order of their implementation depended on the logistics of the fieldwork, i.e. schools' daily schedules and the availability of stakeholders.

2.2.4.4 Triangulation

The qualitative team conducted a variety of triangulation techniques, which helped to validate the data through cross verification and tested the consistency of findings obtained through different instruments and group analysis. The types of triangulation included:

- triangulation of methods as interviews, group discussions, observations and review of documents
- triangulation of sources of data collection as a desk review and a qualitative fieldwork
- triangulation of respondents to validate findings between parents and teachers, children and teachers, teachers and head teachers, parents and wider community members
- triangulation of researchers while collecting and analysing data and agreeing findings to avoid a single researcher bias
- independent quality assurance

2.2.4.5 Rigour

Our approach to data collection and analysis has followed structured strategies for qualitative research in order to ensure it is rigorous. This enhances the quality of qualitative evidence and also promotes the applicability of the findings to other contexts (Patton 2002).

The OPM qualitative team recognises how crucial it is to be reflexive and aware of our personal biases and stereotypes, which can have an effect on the way we interpret the truth and construct and make sense of respondents' narratives. The following measures were implemented to ensure rigour during the fieldwork:

- All evaluators were trained (for one week) to conduct qualitative data collection tools, with a great emphasis placed on *ethics*. The training had a special focus on thinking and researching qualitatively, and *being reflexive*. The issue of *reflexivity* was discussed throughout the evaluation process and especially at the data collection and analysis stages.
- All collected data were analysed in an iterative and reflexive way from the very beginning of the fieldwork. We conducted *daily analysis* within each team as well as across all of the four team leaders. Upon completing fieldwork for schools of a similar type all four teams gathered together to do crossschool analysis. Consequently, all our field analyses were produced by a *minimum of three and a maximum of 16 researchers*.
- *Multiple peer examinations and reviews* of each deliverable at each stage were conducted, from both methodological and thematic perspectives.

More specific strategies are discussed below, in the data collection and analysis sections.

2.2.4.6 Sampling

A purposeful sampling approach with maximum variation was used for the qualitative evaluation, to ensure that the collected data would answer the evaluation questions and enable the qualitative component to fulfil its tasks. The logic of the purposeful sample and its size was driven by the purpose of the qualitative component, i.e. the 'context of research' within which the sampling was carried out (Patton 2015). In the context of the current study a large sample was not possible due to the lack of resources but the chosen sample size was sufficiently reasonable for the objectives of the qualitative component. See Annex D for more details on purposeful sampling of LGAs, schools, conducting the fieldwork and accessing respondents.

2.2.4.7 Analysis

Our approach to data analysis was a combination of framework and thematic analysis. Framework analysis[22] (Gale *et al.* 2013) provided the framework for capturing primary data by cases and issues. It was used for the analysis in the field, which enabled us to reduce raw data to conceptual meanings relating to the theory of change and DEEPEN workstreams. This level of analysis was conducted in the fieldwork by 12 evaluators, while the final analysis was verified by 16 evaluators. Thematic analysis guided our theme construction at the second level of data analysis in the office. We used NVIVO software for thematic analysis in order to analyse respondents' views and the meanings they attached to their experiences of private schooling. Our approach to theme construction was both deductive as well as inductive. Themes were descriptive, i.e. identified within the explicit or surface meanings of the data (semantic). At the same time, latent analysis was also conducted to understand the underlying meaning, reasoning and processes that would explain such data. Thematic analysis provided more interpretive complexity and moved the analysis to a higher level of the 'analytical ladder' from the descriptive framework analysis framework to conceptual categories of thematic analysis. This level of analysis was conducted by two evaluators (with a new member joining the analysis to mitigate any field effect of becoming '…co-opted, going native…' (Miles and Huberman 1984; p. 233) among the fieldwork team) and was peer reviewed by three evaluators. All data were anonymised and kept confidential. All files with raw and analysed data will be stored until the next round of the qualitative evaluation. Access to these data is restricted to the evaluation team.

The following strategies were implemented to ensure rigour in data analysis:

[22] Framework analysis is used to order and manage data to facilitate interpretation. Its defining feature is the matrix output: rows (cases), columns (codes) and 'cells' of summarised data, providing a structure into which the researcher can systematically reduce the data, in order to analyse it by case and by code.

- Joint peer analysis between OPM and local researchers in the field to discuss and reduce raw data using framework analysis.
- *Immediate analysis in the field with fresh recollections and memories of activities* to brainstorm and discuss the data, agree on emerging findings and discuss any outlier cases and their meanings in relation to the main body of data.
- *Disciplined subjectivity, to monitor the researcher's own influence* on developing thematic constructions and interpreting the data through peer reviewing of data analysis, including *stepwise replication technique* in which researchers worked separately on the data and cross-checked the results.
- *Ensuring structural coherence and consistency between data and interpretations* to ensure a coherent structure with regard to the storyline and to ensure that there are no unexplained inconsistencies between the data and their interpretations.
- Transparency of qualitative data analysis for *producing an audit trail*, in order to demonstrate the process of decision-making in data analysis.
    - *NVIVO code book*, to show how data were interpreted, reduced and how the main themes/claims emerged as a result (Annex E).
    - *Debriefing notes, school analysis notes and theory of change analysis table*, to demonstrate the line of argumentation and reasoning applied in deciding the main claims (Annex F contains some examples but more notes on each school are available upon request).

2.2.4.8 Transferability of qualitative findings

Needless to say, qualitative research does not aim to achieve statistical representation. The generalisability of qualitative findings is achieved in two ways, i.e. through analytical generalisation (Onwuegbuzie and Leech 2005) and the reader's capacity to see the generic applications of the research in question themselves (transferability). For the purposes of analytical generalisation, empirical evidence from the wider literature is combined with the discussion of the qualitative findings. The reader is the best judge of whether or not these findings presented in this report are transferable to his/her context (Lincoln and Guba 1985). In order to make possible the transferability of findings, we provide detailed descriptive information about the schools, which should enable the reader to judge the applicability of the findings to his/her own settings and the level of inference that can be drawn. Furthermore, transferability of the qualitative findings is ensured by the methodological rigour, and by minimising a single researcher bias. These rigour strategies included different types of triangulation during data collection and analysis and had a special focus on personal and group reflexivity, which enhanced the quality of the qualitative findings. These strategies will be further improved and applied in the next round of qualitative evaluation.

2.2.5 Diversity

The DEEPEN evaluation methodology was designed in such a way that both quantitative and qualitative components enabled the collection and analysis of disaggregated data to show differences between groups of beneficiaries and stakeholders. This is a key condition for the evaluation of the DEEPEN programme, since the programme involves the functioning of the education market, which cannot be investigated without involving a wide range of stakeholders who represent both supply and demand.

The quantitative survey had a representative dataset of four LGAs, with respondents across 320 private schools (including head teachers, teachers and parents), and involved testing children to determine their achievement levels at the start of P3. The qualitative team collected in-depth data for eight private and four public schools in two LGAs, and involved a sample of the national stakeholders engaged in the private education market, with a total of 430 research participants, including children. The qualitative data

collection made use of participatory techniques to reflect the views of different stakeholders (especially young respondents) and diverse interests. The diversity did not generate any conflict of views and interests but explored the phenomenon from varying perspectives and experiences. Both teams aimed to capture diversity between:

- low-, medium- and high-cost private schools;
- parents and children from different socio-economic (worse and better off), religious (Christian and Muslim[23]) and demographic (age, gender[24]) backgrounds;
- policy-makers, practitioners and service providers;
- public and private service providers (schools, school improvement institutions, banks, media); and
- four LGAs with varying demographics and socio-economic characteristics (Alimosho, with the highest population and higher income poverty rates than Ojo).

The case selection identified outlier cases within the sample of low-, medium- and high-cost schools that were inconsistent with the evaluation hypotheses (e.g. low-cost schools with high learning outcomes and high-cost schools with low learning outcomes). This sampling was carried out on purpose, in order to understand the diversity of the private school market and to test if DEEPEN's assumptions hold for a variety of schools. Another outlier factor was a limited sample of Muslim parents in FGDs whose children happened to attend Christian schools. However, the school choice practices of these parents were not different from those of non-Muslim parents and so they were not analysed as outliers.

All the respondents of the quantitative and qualitative data collection and analysis had an equal right to participate in the evaluation and to share their views. No one was discriminated against or excluded on the basis of their background. All data were treated as evidence and relevant analyses were conducted. Diversity was the key methodological as well as ethical criterion applied when designing this study and was ensured throughout the entire process. Bias has been addressed where it was most likely to occur. However, despite best efforts some bias may be unavoidable with regard to the self-selection of parents in one of the schools willing to provide extensive data when they were approached by the research team. To ensure that parents made an informed choice, the team made it clear what the study was about, why it was important and what was involved for parents should they decide to talk to the team. There may be a range of reasons why parents volunteered to be part of this study, including having particularly strong opinions about the subject of the research or simply wanting to help out the team. In this case, there is likely to be a degree of self-selection bias in the characteristics of parents who particularly wanted to give their opinion. However, as discussed in the section on sampling in Annex D, it did not create any major methodological constraint or lack of analytical clarity for the team in exploring the issues of parental school choice.

2.3 Limitations and potential risks to evaluation approach and data collection

This section will present and discuss potential risks and the limitations of the quantitative and qualitative components of the DEEPEN evaluation that had the greatest potential impact on the quality of our findings and our ability to effectively answer the evaluation questions. We argue that although each method has its own limitations, these limitations have been largely addressed by using mixed methods. Finally, the section will discuss how the limitations can be overcome through future rounds of the evaluation.

2.3.1 Quantitative component: implementation, contamination and sample balance

[23] Religion was not identified as an important factor by the initial DEEPEN evaluation framework, so it was not specifically investigated.

[24] Quantitative data analysis did not find any gender differences in learning outcomes in relation to the DEEPEN programme assumptions

Limitations in the ability of quantitative data analysis to provide an in-depth understanding of the indications that emerge from its descriptive and regression results can be partially addressed and compensated for by the use of qualitative information. This fact underpins the mixed-methods approach employed in our evaluation, with qualitative insights integrating and furthering the interpretation of the associations and correlations identified with our quantitative analysis. For instance, quantitative findings highlight the importance of parents' school choice for children's learning outcomes (together with relevant household and parental characteristics), whilst qualitative case studies place the focus on parents' decision-making processes and perceptions that are behind their choices. At the same time, qualitative research provides concrete examples of how some high-cost and low-cost schools operate and compare to each other, whilst shedding more light on pupils', as well as their families', personal stories and economic and cultural backgrounds. There are, however, other methodological challenges that pertain specifically to our quantitative impact estimation method and that cannot be overcome by the mixed-methods approach. In particular, there are risks related to the evolving characteristics of treatment and controls schools over the course of the evaluation as well as risks associated with the timing and mechanisms through which the programme will be implemented. These risks and limitations are illustrated below, as they could constrained the ability of our estimation model to generate a robust comparison between treatments and controls.

The quantitative evaluation is based on a counterfactual analysis that compares a treatment group of schools (affected by GAPS) with a control group (not affected by GAPS) so as to attribute any significant difference over time in learning outcomes to GAPS. For this diff-in-diff quasi-experimental design to produce robust estimates of impact, it is crucial that the so-called parallel trends assumption is upheld. The latter entails that treatment and control groups are not differentially affected by any shock or intervention over the course of the evaluation that could affect impact indicators of interest (i.e. learning outcomes) and therefore confound the effect of the programme under evaluation (i.e. GAPS). These shocks or interventions represent a clear risk as they would act as confounders to our estimates of impact, which would be challenging to deal with at endline. A potential solution would entail controlling for exogenous shocks in the analysis, but this is normally compromised by a limited ability to capture shocks with observable data that can then be added to the estimation models in the form of variables. It is therefore critical that the two control LGAs (Shomulu and Ajeromi-Ifelodun) are not 'contaminated' by other education-related interventions. At the same time, a clear risk that can affect the robustness of our impact estimation is the timing of the GAPS roll-out and take-up of the programme amongst private schools in the two treatment LGAs (Alimosho and Ojo). In this respect, we are aware of the fact that, on the one hand, data from Ojo suggests that the take-up has been less widespread that anticipated and, on the other hand, the roll-out in Alimosho has been severely delayed. This might have implications for the timeline of our midline and endline evaluations and could lead to different intensities of treatment in the two LGAs, which would have to be taken into account in the estimation of GAPS impact.

Finally, the comparison at baseline of schools, pupils and households in treatment and control LGAs shows that there are some significant differences in poverty and education levels, as well as in the property market for schools. The population in treatment LGAs is less poor and more educated and the learning outcomes are higher on average than in control LGAs. Schools are more likely to operate from leased premises in treatment LGAs than in control LGAs and their leases tend to be more long-term. Although this seems to represent a limitation in the comparability of treatment and control groups, the diff-in-diff approach is specifically designed to remove this divergence at baseline to obtain impact estimates that are not biased by pre-existing differences between the two groups. Moreover, the inclusion of covariates at the school and pupil level in our estimation model could further assist in controlling for these imbalances. However, the existence of these differences raises questions about the parallel trend assumption discussed above, as treatments and controls seem to have developed along diverging paths up to baseline. Evidence of any confounding shocks or intervention will be gathered from secondary sources during the course of the evaluation and any necessary adjustments in our estimation strategy will be considered accordingly.

2.3.2 Qualitative component: sampling, sampling size and personal biases

The qualitative component of the DEEPEN evaluation, as discussed earlier, involved 12 schools in Lagos. The decision regarding the sample size was informed by the availability (or lack) of resources and therefore was out of the team's control. Such a relatively small number of units of analysis can be seen as a limitation in comparison to the large number of private schools in two treatment LGAs in Lagos. These limitations of the sampling and sampling size of the qualitative evaluation component, as well as the related restriction of statistical representation, have been mitigated by using a mixed-methods approach, i.e. the quantitative evaluation. In order words, quantitative and qualitative methods were mixed in order to utilise their strengths and to compensate for their weaknesses[25] (Tashakkori and Teddlie 1998). Although the decision regarding the sample size was constrained by resource limitations and the sample size was small, the type of schools that were eventually selected allowed us to answer the evaluation questions. The sampling approach and our fieldwork methodology generated in-depth contextual data around each unit of analysis and answered the questions pending from the quantitative component. This was possible thanks to a relatively small size, longer time spent at each school and exploration of the issue using various sources.

We suggest that the next round of evaluation should have a larger sample size and more resources, in order for the team to spend more time in the field and to cover more schools. This will be more important at this time since the intervention would have been implemented by then and more data would need to be collected at that stage.We recognise that personal bias can pose a risk to the validity and reliability of findings, and consequently affect the final conclusions. In order to minimise our personal bias we implemented a range of strategies (as discussed in section 2.2.4.4 and 2.2.4.5) during the evaluation design, data collection and analysis stages. These strategies correspond to the principle of rigour or trustworthiness developed by Lincoln and Guba (1985) and are affective measures to address the underlying issues of non-rigorous and subjective evidence through systematic and transparent processes and constant reflexivity.

[25] Some of the main strengths of qualitative research lie in exploring the phenomenon from the point of view of the subject of study in the natural context. The major weaknesses linked to this strength are that the findings cannot be statistically generalised, due to a small sample size, and the fact that the researcher could be influenced by some kind of predisposition when conducting the study. In contrast, quantitative research uses random sampling, which increases the chances of generalisation, but it is not able to explore the issues in-depth.

3 Findings from the DEEPEN baseline

This section details the findings from the DEEPEN mixed-methods baseline. It answers the evaluation questions proposed for the baseline, which were set out above. The baseline report is centred around relevance: the extent to which DEEPEN is suited to the priorities and policies of poor households and children in Lagos, the Lagos state and Nigerian federal governments, and DFID. It explores: i) DEEPEN's assumptions about primary education in Lagos; ii) whether DEEPEN's approach and design addresses the most pertinent educational challenges for primary aged children in Lagos; and iii) whether DEEPEN's approach is coherent with the broader policy environment in Nigeria and Lagos. We also discuss initial findings regarding efficiency from the annual reviews to date. Further detail on the quantitative data can be found in the companion quantitative research report (EDOREN 2015b).

3.1 Are DEEPEN's assumptions about primary education in Lagos correct?

The evaluation framework asks thirteen questions related to DEEPEN's assumptions:

Summary answers to evaluation questions	
Learning outcomes	
Q1: To what extent are learning outcomes and school quality in (low-cost) private schools low and perceived as low by parents?	*Learning outcomes do not appear to be low on average but there appears to be room for improvement. School quality varies across different types of schools but tends to be perceived as adequate by parents. This is often due to lack of awareness and information.* The average levels of learning outcomes measured in the baseline survey are higher than the programme assumed at inception. However, a greater number of children are not achieving at the expected P3 level for numeracy than are doing so for literacy, and household and school characteristics are found to have an impact on learning achievement. There is therefore room for improvement, especially in low and medium cost schools. As qualitative evidence show parents are, for the most part, satisfied with school quality and its expected effect on learning outcomes. This is often due to a lack of objective and comparative information, unclear objectives for learning outcomes, or pride and defensiveness in regard to their choice of school.
Q2: Are learning outcomes from (low-cost) private schools better or worse than government schools in Lagos, and perceived as such by parents?	*The different designs of the private (DEEPEN) and public (ESSPIN) school studies do not allow us to undertake a robust comparison of learning outcomes between the two types of schools. Qualitative insights indicate that perceptions of public schools tend to be negative because of the shameful reputation of such schools in regard to their serving very poor people* From a quantitative point of view, the conceptual framework and design of the baseline analysis does not allow for a robust comparison between private and public schools[26]. The issue of

[26] While a comparison of learning outcomes in public versus private schools was included in the scope of the baseline (as per the evaluation framework) this wasn't incorporated in the workplan and unavoidable external circumstances made a robust comparison impossible. Due to the Ebola crisis schools in Lagos were shut and the survey had to be postponed to November 2014. Hence the fieldwork could not take place in June as

	different test-timing in the two types of school and the lack of socioeconomic data for pupils in public schools means that we are unable to conclude whether private schools are better at delivering learning outcomes. From a qualitative point of view, teachers' and parents' perceptions of state schools are largely negative, such schools being associated with very poor children. The decision to enrol a child in a private school is mainly about pride, reputation and quality. Interestingly, private school teachers would like to work at state schools and parents' perceptions regarding whether children learn more or less at state or private schools is mixed.
Q3: Does school quality correlate with the cost of the school?	*Quantitative evidence strongly suggests that better learning outcomes are positively correlated to attending more expensive schools. Qualitative insights show that this is not always the case and schools' quality does not only depend on their fee level.* On the one hand, pupils attending low-fee schools, as measured by fee levels, are found to perform consistently worse than pupils in more expensive, high-cost schools. Hence, school choice emerges as an important factor to achieving good learning outcomes, together with other socioeconomic factors at the household level. On the other hand, however, qualitative case studies clearly show that some poor schools manage to perform better than higher-fee schools, and conversely some higher-fee schools perform poorly. Although a large range of school-level factors are found to affect school quality, contextual factors are also shown to play a key role.
Rules and standards	
Q1: Do (low-cost) private schools care about rules and standards, and parents' opinions about these, when making investment decisions?	*Schools tend to consider rules and standards and parents' opinions as important for the school reputation and teaching level. There does not seem to be a direct impact on their investments though.* Almost all head teachers surveyed and interviewed on how rules and standards affect their school agree that obtaining government recognition adds value to the school's image, and to teaching and learning. Private schools strongly consider rules and standards and parents' opinions in making investment decisions, although the extent of consideration varies. Schools tend to make fairly independent decisions on which investments need to be factored into their budgets with regard to registration and taxation. According to teachers and head teachers, though, many parents, especially those who are less literate, do not in fact know whether their school is approved or not and do not seek out such information.

planned which would have made the ESSPIN and DEEPEN learning outcome results more comparable. A more focused comparative study is now being carried out in June 2016 as agreed between EDOREN, DEEPEN and DFID

Q2: Does the regulatory regime prevent (low-cost) private schools from investing in and improving quality?	*Yes, low and medium cost schools with limited financial resources are prevented by the regulatory regime (especially government registration) from making necessary and strategic investments.* The regulatory regimes prevent low- and medium-cost schools from investing in, and improving, quality through several obligatory investments. Many low-cost private schools want to invest in school improvements which will attract more students to their schools. Lack of registration is one of the main difficulties that low-cost

	private schools face in getting bank loans for school investments, though schools cannot be approved until they can invest in the improvements required to meet the registration criteria. The registration process may thus prohibit schools that are already cash constrained from making investments which management perceives will improve school quality.
Information	
Q1: Do parents lack information about school quality and/or find it difficult to interpret such information in order to make a decision about school choice?	*Although most parents are found to be keen on gathering information about schools, they tend to use information from unreliable sources and this affect their ability to make sound and informed decisions.* The results of the quantitative baseline survey indicate that 75.9% of parents report having actively acquired information about a school before a child joins, and poor parents may be less likely to gather school-related information. According to the qualitative study, parents have a wealth of informal information that drives their school choice, and are able to measure quality by visible, tangible difference, yet they lack reliable information about what contributes to learning outcomes. This reliance on informal sources of information may indeed result in a gap between their perceptions and reality.
Q2: Do parents make choices between private schools based on quality?	*Quality is an important factor for parents in their choice of school, regardless of their socioeconomic background. However, this seems to be based on perceptions and information regarding quality that are often insufficient or inaccurate.* Parents make choices between private schools based on the factors which they perceive are determinants of quality. Our quantitative and qualitative findings suggest that quality considerations are very important for school transfer decisions, , which is an indicator of parents' choices between private schools, and they suggest that even parents of children in low-cost schools will shop around other low-cost schools for better quality. However, parents lack reliable information to inform their choicess and might lack understanding of the information that might be available, and these choices are further constrained by

	both affordability and proximity.
Finance	
Q1: Is there a viable market for financial services providers providing financial services to low-cost schools and low-income parents?	*Although qualitative findings suggest that financial providers would be keen to provide services to low-cost schools, the latter are financially constrained in their ability to access financial services, whilst parents are found to lack information on this.* On the demand side, the baseline survey indicates that only a minority of parents are aware of mobile payment schemes and educational saving schemes, suggesting that awareness is indeed low. Qualitative research suggests that access to finance is a constraint and schools are sometimes trapped financially: they cannot access bank loans unless they have an account set up with the bank where fees are deposited. On the supply side, financial services are currently limited. Although the quantitative survey did not have the required scope to investigate this dimension, the findings from the qualitative study suggest that there would be interest from financial providers to engage with low-cost private schools and provide them with bespoke financial services.
School improvement services	

Q1: To what extent are the learning conditions in (low-cost) private schools inadequate?	*There is clear quantitative as well as qualitative evidence of the fact that infrastructure and learning conditions are generally worse in low –cost schools when compared to more expensive schools. This also seems to include classroom practices and learning material, which are poor in low-cost schools.* For every dimension of infrastructure, conditions are poorer in lowcost schools, than in medium-cost and high-cost schools. Low-cost schools lack some of the basic facilities necessary for learning: only a minority have separate toilets for boys and girls; and not all have electricity, a blackboard, or chairs for each student. Qualitative case studies using lesson observations and school checklists confirm that learning conditions are particularly inadequate in low-cost schools, where classroom materials, if available, are substandard. Classroom practices, or the use of the materials, are also inadequateQualitative insights also suggest that pedagogy is not child-centred with the majority of teachers giving instructions from the blackboard and is inadequate across low- and medium-cost schools. Quantitative findings also indicate that low-cost schools are less likely to engage in many of the activities that DEEPEN would consider indicative of adequate teaching.
Q2: Is poor learning in (low-cost) private schools driven by pedagogy and classroom conditions or by other factors (curriculum, materials, fellow students, etc.)?	*The relationship between good teaching practices and learning outcomes does not emerge as significant in quantitative terms or particularly central from a qualitative perspective either. Issues with the reliability of survey data on this and the generally low quality of pedagogical activities captured by the qualitative study suggest that this relationship should be investigated in further detail in the next round of the evaluation.* We did not find any quantitative evidence that child-centred learning or learning beyond the walls of the classroom has a significant relationship with learning outcomes. This finding is the product of a cross-sectional analysis that does not claim to represent a causal inference. Data was collected at baseline on teaching activities that can be associated with child-centred learning but we found no relationship between the resulting indicators of teaching quality that we constructed and learning outcomes. Quantitative data from lesson observation did not provide any further insight into child-centred learning. This lack of evidence at baseline may be reversed at endline, when a more robust estimation methodology will be applied to investigate causal impacts. Qualitative findings are mixed – although pedagogical methods are inadequate across the board, some schools do have high learning outcomes. Furthermore, in low-cost schools, children tend to have less financial resources to pay for extra lessons, unlike children in high-cost schools. Poor learning outcomes are certainly *not* improved by poor classroom practices,

	and perhaps other factors, such as limited teacher support, lack of tests may perpetuate poor learning.
Q3: To what extent are investment, management, and innovation in (low-cost) private schools inadequate?	*Investment levels, innovation and management quality are found to be generally poor across different types of school. However, low-fee schools appear to be particularly constrained in their ability to invest in teacher training and set up sound management systems.* Across school types, investment in teacher training is low, but there is a clear disparity between high-cost and low-cost schools, with the latter investing less than half the amount invested by high-cost schools in teacher training and improving management. During qualitative research, low-costs schools say that they cannot afford to invest in teacher training. However, this could be as much due to unwillingness to pay because they do not prioritise this training or do not see the benefits due to high teacher turnover, as it is due to affordability. School management prioritises infrastructure investment and often engages parents to further support this, as is common with many high and low cost private schools in the state.
Q4: Do (low-cost) private schools want to invest in professional school development services to improve the quality of the education they provide (while remaining low-cost)?	*Although head teachers would be willing to invest more in profession development activities, these are not prioritised by the school management since development services are not directly observable by pupils' parents and thus do not have a significant impact on their school choice.* About half of head teachers interviewed in our baseline survey are aware of school improvement services, but a much smaller proportion use these services. According to the qualitative study, schools do want to invest in professional school development services, but this is not a priority. School buildings, materials, and uniforms are prioritised by both school management and parents, whereas training is potentially only considered if extra money is available. Proprietors understand that parents consider these former factors in school choice decisions, and they are therefore more likely to attract students and increase profit; as opposed to teacher training, which parents cannot observe easily, and where there is also a possibility that teachers may leave to other schools.

	There seems to be strong demand for school infrastructural improvements, but not for teacher development services. Service providers tend to focus on the more expensive schools though, as they are the ones which can afford their services.
Q5: Is there a viable market for school improvement providers providing school improvement services to low-cost schools?	Our key findings in this section emphasised that there is a strong demand for school improvement services, particularly with respect to infrastructure improvements and management. The evidence for significant demand for teacher training services is weaker. On the supply side, most service providers have traditionally focused on the higher end of the fee-paying private school market, and training was not very effective, with limited learning and follow-up.

3.1.1 Baseline results: learning outcomes

The measurement of learning outcomes in the DEEPEN baseline is based on numeracy and English literacy test instruments aligned with the national curriculum. The assessments were administered to boys and girls in the early stages of P3, with items from the P1 and the P2 numeracy and English literacy curriculum. In this section we present the comprehensive results that emerge from our mixed-methods analysis, which focuses on understanding learning outcomes and their determinants at baseline. The quantitative analysis of these outcomes employs descriptive and regression analyses to understand the significance of any observable correlation between children's learning and household- as well as school-level factors. The qualitative analysis further complements the analysis of the determinants and predictors of learning outcomes and school quality by exploring how these factors work to improve and limit learning within the programme context. Qualitative comparative case studies also attempts to identify common patterns of key factors that are likely to affect school performance. The qualitative analysis further aims to provide insights into how parents make decisions regarding school choice, how they perceive school quality and how they assess the extent to which their children are learning.

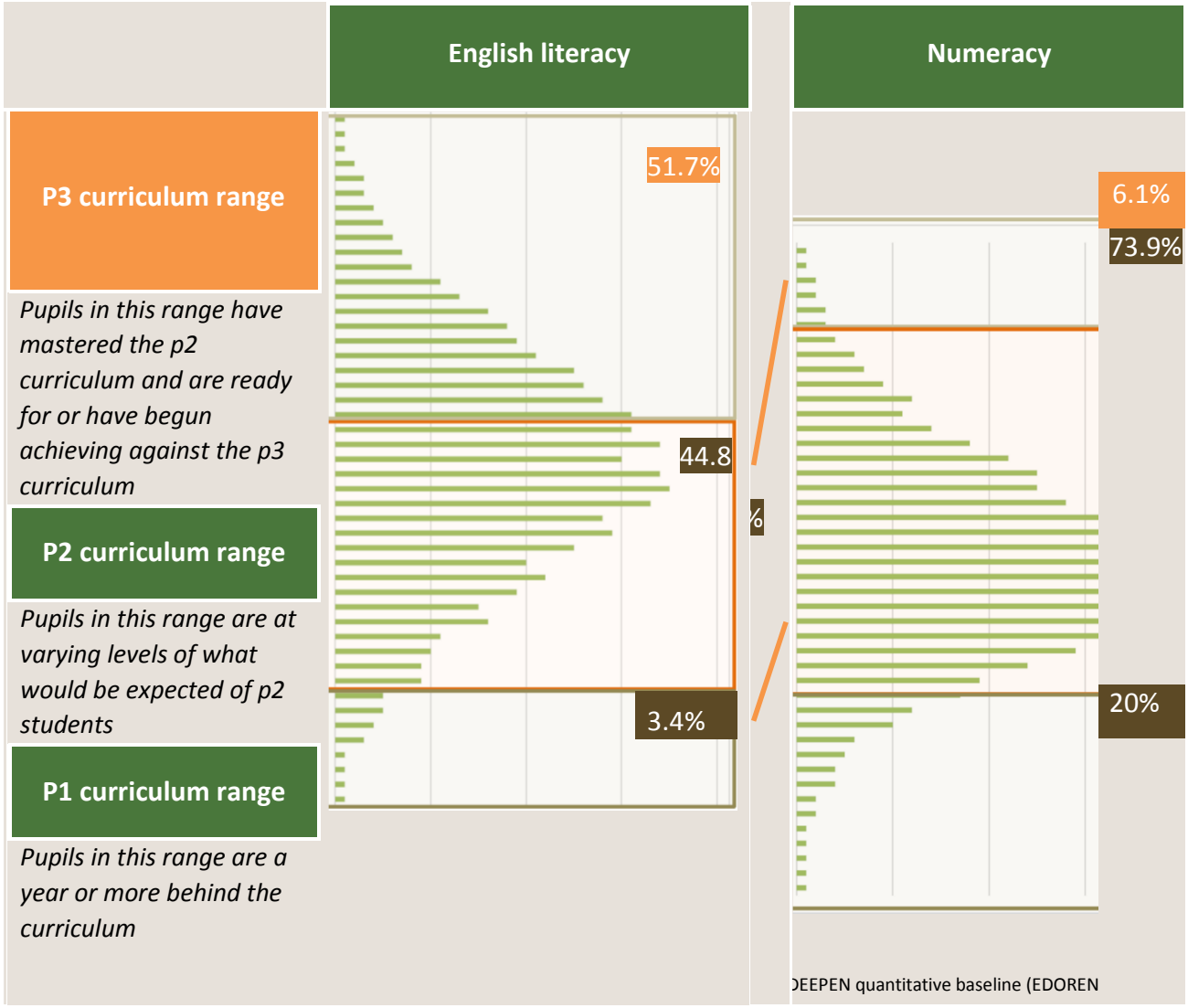
3.1.1.1 Learning outcomes, school quality and parents' perceptions

To what extent are learning outcomes and school quality in (low-cost) private schools low and perceived as low by parents?

The assessment of learning outcomes shows that amongst the children in our sample,[27] about half of the pupils in the early stages of P3 were achieving at or above a level that falls within the proficiency range expected of pupils in P3 in literacy, whilst only approximately 6% of P3 pupils in the early stages of P3 were achieving at the level expected by the curriculum in numeracy. This is set out in Figure 6, which shows the comparatively good performance in literacy and the distribution of students by where they fall against curriculum expectations. Students below the first orange line (i.e. in the P2 range and below) are falling behind the curriculum.

[27] This refers to the sample drawn for the quantitative analysis. This was a sample of 2,444 children, which is not representative of the whole of Lagos, but only of the four LGAs from which the schools they attend were sampled. For the qualitative analysis, in total we conducted 12 group discussions with 75–80 children at eight private and four state schools in two LGAs.

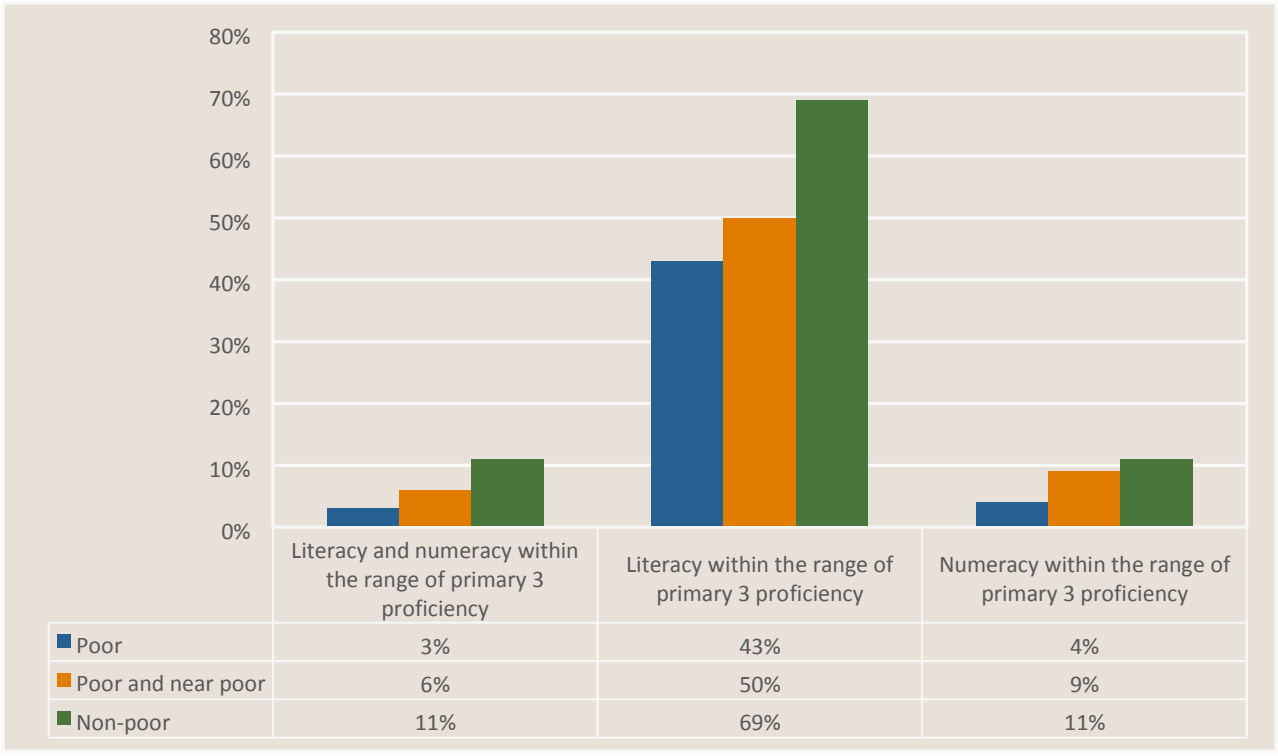
Figure 6: Distribution of English literacy and numeracy achievement across the learning trajectory



There are no significant gender-specific differences in learning levels within the sample. Although the average levels of learning outcomes measured in the DEEPEN baseline are higher than the programme anticipated at inception for literacy outcomes, it is important to note that a vast majority of children are not achieving at the expected level for numeracy and important household and school characteristics are found to have an impact on learning achievement. There is therefore room for improvement. In particular, as shown in Figure 7 below, our descriptive analysis indicates that students belonging to families that are

below the poverty line[28] perform worse than their better-off counterparts in both literacy and numeracy tests.

Figure 7: Achievement within the range of P3 proficiency, by poverty status



As the qualitative findings strongly suggest that parents want the best for their children when it comes to education, it is reasonable to conclude that their poor socio-economic conditions acts as an impediment to their ability to choose the best for their children. This is supported by evidence from India suggesting that the family's resources significantly constrain the school choice decision (Galab *et al*. 2013) and can even drive parents into debt traps (Singh and Bangay 2014). This also relates to the lack of education of the household head, which is shown in our quantitative analysis to be an important limitation for good learning outcomes in both numeracy and literacy. In particular, pupils belonging to families with non-educated household heads are found to perform worse in literacy and numeracy than pupils with educated household heads. Interestingly, this seems to be confirmed by qualitative insights into parents' limited

[28] The poverty classification used in our analysis (DEEPEN poor, DEEPEN near poor and DEEPEN non-poor) was derived from the Household Wealth Index (HWI). The latter was constructed using a polychoric principal component analysis applied to a specific set of questions related to household assets and human capital. The methodology employed for building the HWI is explained in detail in the quantitative baseline report.

ability to judge teaching quality and pedagogy. In particular, whilst parents value the quality of teachers and teaching as crucial to achieving good learning outcomes, their perception of quality is often not correct and is overestimated. This is partially due to misinformation and failure to assess what school quality (and good pedagogy) should entail but it is also due to an element of pride in regard their school choice. Consistent with other literature (Chase and Walker 2012; Lister 2004), this study finds that although some of our respondents appeared to be income poor, they were not inclined, due to pride, to openly reveal how they might struggle to provide their children with the best they could. Especially in the context of market competition, where consumerism is '…increasingly seen as the mark of success' (Chase and Walker 2012), it is highly likely that self-consciousness regarding how they are assessed by others, and a feeling of pride or shame, is playing a role. Parents' perceptions are often based on information obtained from informal networks of family and friends, or by visiting and observing prospective schools. They are constrained by the lack of objective and comparable data on the quality of private schools. The situation is even more complicated due to the large range of determinants of parents' school choices: they not only consider school availability, accessibility, affordability and their own perceived school quality, they also have to choose schools from complex sets of options (James and Woodhead 2014).

From a quantitative perspective, the relationship between school quality and learning outcomes emerges as very strongly related to the school fee level, with pupils in low-cost schools performing considerably worse than pupils in high-cost schools in both literacy and numeracy. However, when looking into specific schoollevel characteristics, only a small number of factors are found to significantly correlate with learning[29]. Interestingly, literacy appears to be more correlated with school-level factors than numeracy. These schoollevel factors include good school infrastructures well as teacher and teaching characteristics defining pedagogy, such as type of teaching activity performed by the teacher and the teacher's level of qualification. Specifically, attending schools with top infrastructure[30] and having qualified and motivated teachers[31] is found to be positively correlated with achieving higher literacy scores, whilst a larger proportion of teaching activities in the class significantly and positively correlates with achieving good learning outcomes (i.e. within the P3 proficiency range) in both numeracy and literacy. This finding highlights that, on the one hand, learning can be differently influenced by school-level factors depending on the subject; whilst, on the other hand, identifying the exact school-level factors that do affect learning can be challenging. As part of the quantitative analysis we also employed a fixed-effects model at the school level, which allowed us to control for all school characteristics at once whilst focusing on the remaining pupil and household level factors. As explained in more detail in the DEEEPEN quantitative report, the fixed-effects model results seem to reinforce the idea that school level factors and school choice more generally play an important role in determining learning outcome level. However, when accounting for household and parental characteristics, socioeconomic status and level of education in the household still emerge as significantly correlated with learning outcomes and literacy in particular. Drivers of pupils' performance are therefore not limited to the school context only.

The qualitative analysis provides further insights into parental and teacher perceptions of the determinants of learning achievement. The analysis found that parents and teachers believe that other determinants, apart from pedagogy, can explain learning achievements. These include, for instance, teaching an advanced curriculum and the provision by the school of after school lessons (private tuition). The qualitative fieldwork identified that four private schools out of eight were teaching an advanced curriculum that was a year above the current year and only one school was teaching the relevant curriculum.[32] However, given the fact that our assessment of pupil learning found that about half of the pupils were performing at the level

[29] The magnitude of the factors we discuss as significantly correlated with learning ranges from approximately 2% to 8% of the maximum possible scale score: 500.

[30] Having top school infrastructure is associated with the presence of computers in the school.

[31] The importance of pedagogy and teacher motivation is further analysed in Section 3.1.5.

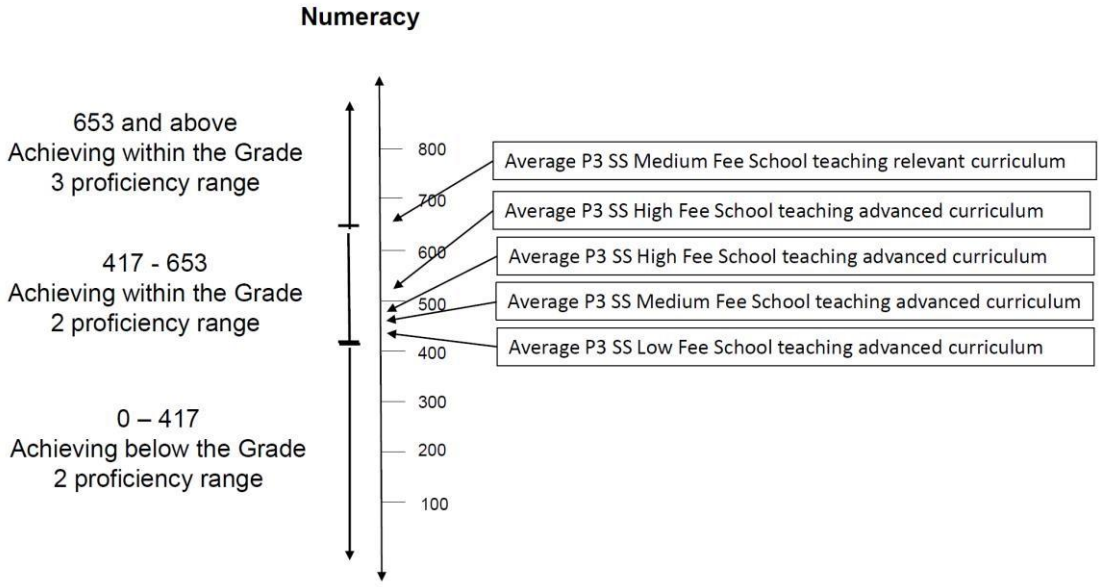
[32] According to one of the head teachers the majority of private schools teach their children an advanced curriculum. This is because there are five years in the state primary schools and six years in the private primary schools. That is why private schools teach their students a year ahead: in order to match the state school system and enable their students to move to the state secondary school.

expected by the curriculum in English literacy and only 6% of pupils were performing at the level expected by the curriculum in numeracy, decisions to teach at a level above the expected level raise serious concerns regarding the appropriate targeting of teaching. There is a very strong tradition in educational research acknowledging that a student learns best when teaching is targeted to what s/he is ready to learn. Psychologist Lev Vygotsky proposed this 90 years ago (known as the 'zone of proximal development' Vygotsky 1997). This concept has been mainstreamed into educational theory and practice since the 1970s and it is widely recognised that teachers should target teaching based on reliable evidence of what students know and are ready to learn (Griffin 2014; Masters 2013 p 15; Anderson and Scamporlino 2013; Centre for Education Statistics and Evaluation 2015).

In order to assess the extent to which this small sample of schools are likely to be targeting teaching to what students within the school are ready to learn, OPM compared the average student performance in each of the schools, against the curriculum.

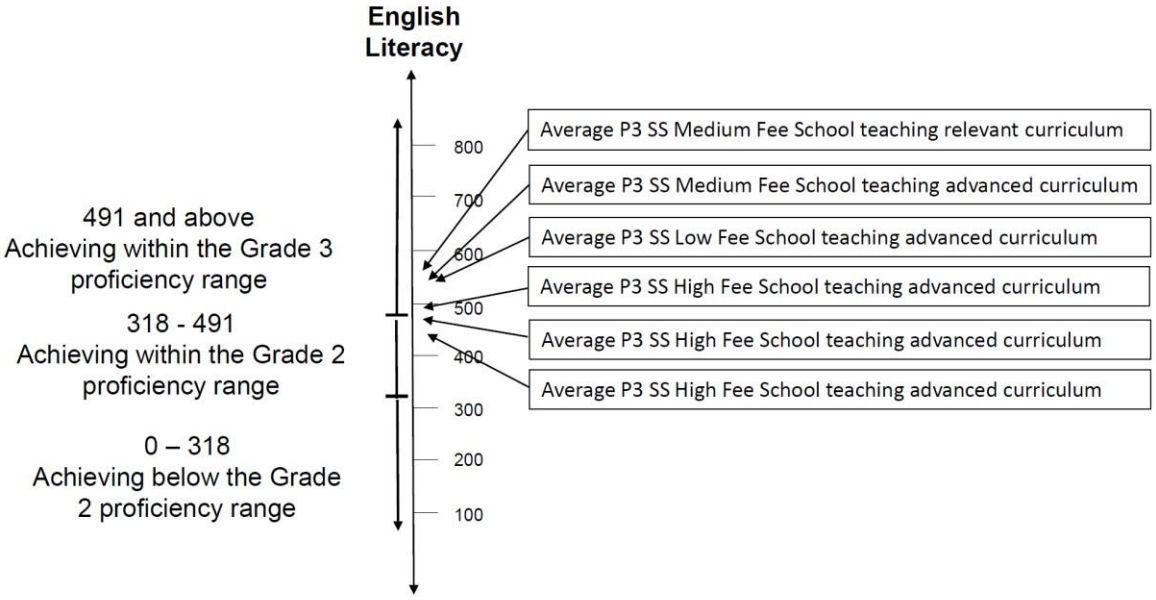
As can be seen in Figure 8, the one school teaching the relevant curriculum was the only school in which the average P3 pupil was ready to learn the P3 numeracy curriculum. In all four of the schools teaching an 'advanced curriculum', the average P3 pupil was not even yet ready for even the P3 curriculum in numeracy. As can be seen below, the pupils being taught an advanced curriculum (higher than P3) are ready to learn early P2 concepts.

Figure 8 Numeracy Performance Bands and Pupil performance in a sample of schools



As can be seen in Figure 9, the only school teaching the relevant curriculum is targeting the pupil's ability levels well, as the pupil's performance falls within the P3 proficiency range. The pupils in three of the schools teaching an advanced curriculum are only ready to learn the P3 curriculum and should not be exposed to a higher curriculum level (unless there is evidence a specific pupil is performing above this level). The remaining two schools which report using an advanced curriculum are targeting the teaching to levels more than one full academic year above that which the average pupil in P3 is ready to learn.

Figure 9 Literacy Performance Bands and Pupil performance in a sample of schools



This evidence suggests that the proliferation of private schools in Lagos offering an advanced curriculum brings significant risks to increasing the performance of pupils in private school. Based on decades of accepted educational research and practice, it is reasonable to conclude that pupil learning in such situations is being unnecessarily impeded.

Almost all private schools provided extra lessons and some of them were obligatory and included in the school fee. However, the quality of those lessons and their added value to the pupils' performance requires further assessment. Private school provision is argued to have a positive effect on study hours carried out by students when they are younger. This is also the stage at which parental influence is most important (Alarcón and Martínez 2015). This means that parents' engagement in their children's academic performance is key even when they are more likely to have extra lessons at private school. Although our qualitative study explored this issue through FGDs with parents and children, we only found a general trend that parents' engagement with their children studies seem to be high across all schools. However, more research is needed into parents' allocations of time spent on their children's education.

Within the qualitative component of the evaluation we gathered parents' perceptions regarding how a good school can be defined. Parents perceived a good school as one which has **'**good and qualified teachers, a conducive environment, adequate facilities, a good reputation and high standards; and is well organised and managed, secure, affordable, close to home, and provides moral instruction and discipline'. Parents seem to make decisions on school choice based on these perceptions of school quality, which include both 'soft' qualities (e.g. uniforms, degree of discipline) and 'hard' qualities (e.g. teachers' qualifications) (Azim Premji Foundation 2013). It is important to point out that most parents are satisfied with school quality and their expected effect on learning outcomes. However, as discussed above, this satisfaction can often be the product of a lack of reliable information, using untested proxies to assess if their children are learning, or pride and defensiveness in respect of their choice of school.

One of DEEPEN's key assumptions is that parents are able to pressure schools to deliver better quality, based on evidence that parents in fact prefer private education for this very reason (DEEPEN Set up Report). However, parents do not mention this ability to demand better services based on paying fees as one of their reasons for choosing private schools, unlike parents in Peru (Bárbara Sparrow Alcázar and Marcela Ponce de León Marquina 2015).

3.1.1.2 Comparison between private and public schools

Are learning outcomes from (low-cost) private schools better or worse than government schools in Lagos, and perceived as such by parents?

Attempting to compare the learning outcomes of pupils in public and private schools is a complex task. Learning outcomes are the result of multiple factors, including societal factors, the schooling system, individual school factors, classroom factors and household factors, including the socio-economic backgrounds of families and communities. Schools are only one part of the possible contributing factors to learning outcomes and the interpretation of comparisons between public and private schools must be undertaken cautiously. The available data for a comparison of public and private schools in Lagos has several limitations. The first is that data available from the ESSPIN Composite Surveys conducted in Lagos tested pupils at or near the end of Grade Two in government schools, whilst the DEEPEN evaluation assessed pupils at or near the beginning of Grade Three in private schools. In addition, the data on public schools was collected as part of a different evaluation, so there is not sufficient comparability in the evaluation design and instruments used. For example, there are no available data on the socio-economic status of pupils from the ESSPIN dataset, meaning it is possible that pupils with access to greater social, educational and economic resources are over-represented in private schools. Also, the LGA data for ESSPIN was collected so as to be representative of Lagos as a whole. Even though we have restricted the analysis to the 4 LGAs that DEEPEN covered, the ESSPIN data is not representative of those LGAs in the same way that the DEEPEN data is.

With these difficulties in mind, the pupils in the DEEPEN evaluation and pupils participating in the ESSPIN Composite Survey were administered the same assessment instrument and, on average, pupils in private schools answered approximately 13% more questions correctly in numeracy tests and 17.5% more question correctly in literacy tests, as compared to their counterparts in state schools. However, given the issue of test-timing and the fact that the socio-economic status of pupils is one of the most pervasive determinants of learning outcomes, we are unable to conclude that private schools are better at delivering learning outcomes. We could not identify other literature which compares the socio-economic status of private and public school students in a context sufficiently similar to ours, to further inform this comparison.

The perceptions of pupil learning outcomes in public and private schools were investigated in the qualitative study. In particular, our respondents agreed on the fact that teachers in public schools tend to be more qualified (which is in line with other studies, e.g. Ohba, 2012, in Kenya and Kremer and Muralidharan, 2008, in India) and teaching materials are also more readily available than in private schools because they are provided directly by the Ministry of Education (MoE). Public school teachers must have the minimum teaching qualification and they are also better paid than their counterparts in state schools. They have job security, pensions, and access to regular training and professional development. Conversely, teachers in the sampled private schools were paid less than their counterparts, especially low-cost school teachers, and did not have any job security, or even job contracts. Unsurprisingly, teachers in private schools indicated that they would prefer positions in public schools if they had the opportunity to move. A study from Pakistan (Aslam and Kingdon 2011) suggests that private schools often hire younger, unmarried and female teachers who can be paid less and therefore help these schools to keep their expenses low. This indicates a need for economic analysis of private schools to explore financial decisions made by schools, and specifically how the economics of running a private school affect teachers and children.

In our qualitative fieldwork visits to public schools we looked into the quality of teaching by undertaking some lesson observations. The four lessons observed in four public schools were rated either 'C'[33] or 'D':

[33] C = teacher uses whole class instruction as well as choosing individual children to answer questions or complete tasks; D = teacher uses a mixture of class- and group-based instruction, including responding to individual children's questions/comments (other ratings of teaching style in the observed lesson included A= teacher controls class from front of classroom and does not interact with children at all or minimally; B = teacher mainly uses whole class instruction and children mainly reply to

teachers followed a lesson plan, clarified a lesson's objectives for the children, used group and/or individual activities, marked all children's work and gave them homework. This is also given the fact that classroom sizes were bigger at public schools than in private schools. The rating of lessons observed at eight private schools was mixed: students were unattended, some were asleep, and children were either repeating after the teacher and/or writing notes down from the blackboard. This contradicts the strong evidence of Day Ashley *et al.* (2014), who explored the impact and role of private schools in developing countries and found that teaching is better in private schools than in state schools in terms of teaching activity. However, improvements in state teaching practises can likely be attributed to the recent major state education reforms supported by ESSPIN[34] – a DFID funded school improvement programme which has been rolled out to all Lagos schools, and which was visibly active in our sample of public schools. According to the programme, public schools are directly supported by the government, through School Support Officers and School Improvement Teams from the LGA and State Universal Basic Education Board, respectively, and are regularly inspected by government officials. They also have support and access to training and development from donor programmes such as ESSPIN.

Why do parents from poor backgrounds choose private schools, especially given their financial constraints and the costs associated with private schools' fees? First, supported by other studies (e.g. Bárbara Sparrow Alcázar and Marcela Ponce de León Marquina 2015), there is a general perception that the quality of public schools is poor and declining. Moreover, children in public schools are believed to be the poorest of the poor, whose parents have no choice because they cannot afford to pay the fees of even the lowest fee private schools. Most parents would rather struggle to pay fees than send their children to public schools because of the shameful reputation of such schools in regard to their serving very poor people and their being associated with problematic youths (Sparrow Alcázar and Ponce de León Marquina 2015). Second, the number of public schools is insufficient to cater to the demand in Lagos State. According to government officials, there are 18,000 private and 1,607 public schools in Lagos. The limited number of schools also means that public schools are in high demand and are overcrowded, with large student populations and limited teacher numbers. This latter reason was often mentioned by the parents and community members who were interviewed. Third, public school teachers have a reputation among private school parents for poor attendance records and these findings are not dissimilar to those found in other contexts such as Pakistan, India and Nigeria (Andrabi *et al*. 2008; Tooley *et al.* 2011). The greater teacher effort (proxied by higher attendance) in private schools than in public schools can be explained by the increased accountability of teachers to employers in private schools (Day Ashley *et al.* 2014). Fourth, public school children are generally seen to be poorly dressed. Parents are particularly concerned with children's appearance and so would not choose public schools for this reason. Finally, and most importantly, parents believe that their children will generally perform better in private schools, and cite stories of improvement when children have been switched from the public to the private education sectors. Similar to parents' perceptions of private schools, their understanding of state schools is also circumscribed by a lack of reliable information. Such perceptions are often informed by parents' informal social networks, which play a significant role in parental choice (Day Ashley *et al.* 2014).

3.1.1.3School cost and school quality

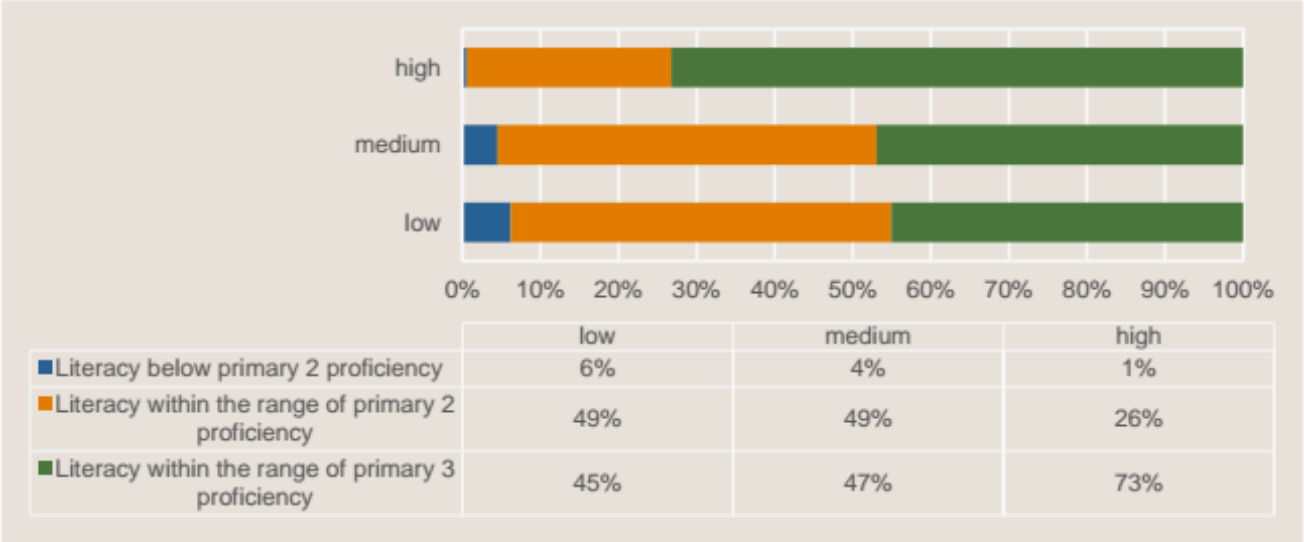
Does school quality correlate with the cost of the school?

instructions/questions in unison; E = children mainly work individually and/or in small groups and teacher moves around the room to assist and respond to questions).

[34] The Education Sector Support Programme in Nigeria (ESSPIN) was set up in 2008 by the UK Department for International Development (DFID), aimed at improving governance in education and the quality of service delivery. ESSPIN works with state governments to deliver a package of school improvement services which include improving teacher competence through training on subject knowledge and pedagogy, as well as providing structured materials (lesson plans) to enable teachers deliver better quality instruction.

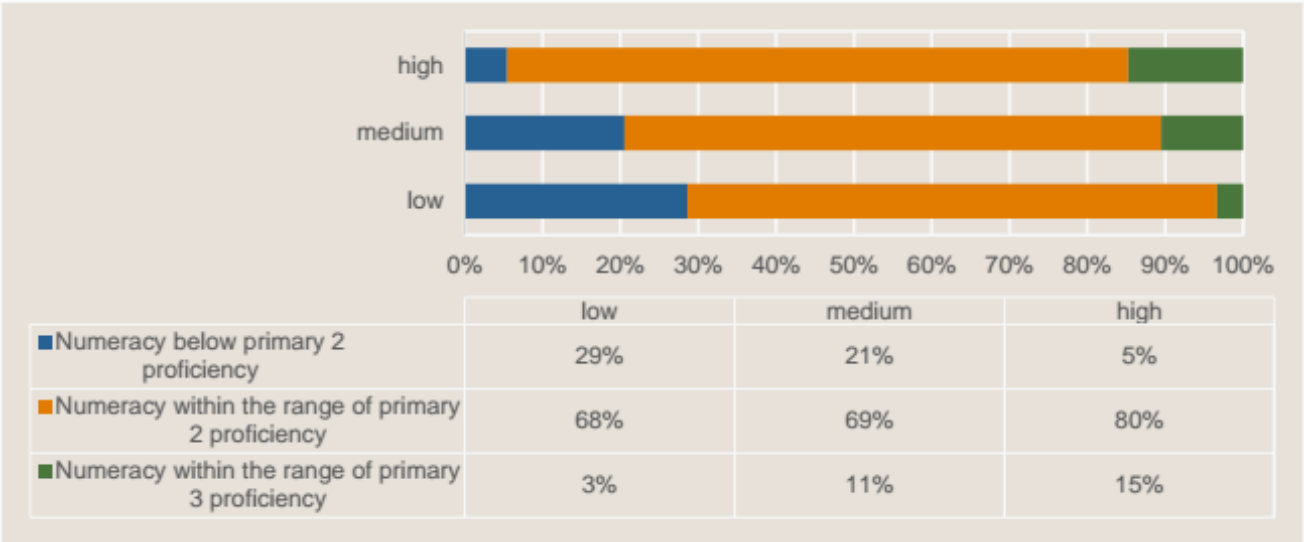
The qualitative analysis finds that the proxies used by parents to assess school quality are largely inaccurate and providing accurate information to parents is key in promoting more informed choice. A key finding of our evaluation is that school choice is very important for learning outcomes, though socio-economic background and parental characteristics also play a key role. As mentioned before, pupils attending low-cost schools, as measured by fee levels, are found to perform consistently worse than pupils in more expensive, high-cost schools. This difference is particularly accentuated between low-cost and high-cost schools, whilst the gap in learning between low- and medium-cost level schools seems to be less significant. As shown in Figure 10 and Figure 11 below, the distribution of pupils achieving within the range of P3 proficiency is larger in high-cost school than in the lower cost private schools for both numeracy and literacy scores, with the latter especially showing a disproportionate concentration of P3 achievers in high-cost schools. This is clearly shown in the graph below, which defines the distribution of learning achievement and school fee level.

Figure 10: Distribution of literacy levels, by school type



	low	medium	high
Literacy below primary 2 proficiency	6%	4%	1%
Literacy within the range of primary 2 proficiency	49%	49%	26%
Literacy within the range of primary 3 proficiency	45%	47%	73%

Figure 11: Distribution of numeracy levels, by school type



	low	medium	high
Numeracy below primary 2 proficiency	29%	21%	5%
Numeracy within the range of primary 2 proficiency	68%	69%	80%
Numeracy within the range of primary 3 proficiency	3%	11%	15%

The correlation between school type and learning outcomes also emerges from our regression analysis as very (statistically) significant. It is important to note that these quantitative findings on the relationship between fee-levels and pupils' performance were obtained whilst controlling for potential confounding factors, including for instance household socioeconomic status. The correlation between school feel level and outcomes is therefore still valid and significant when taking into account the concurrent effect of

household wealth status. However, this does not imply that all low-cost schools perform poorly or that all high-cost schools perform well. The qualitative study sought to compare the perceptions of parents regarding the determinants of school quality and good learning outcomes as well as the patterns of determinants across the different types of schools through comparative case study analysis. The main determinants perceived as key for school quality include teachers, pedagogy, facilities and government recognition, which provides schools with a formal registration status. Although parents do not mention registration status as one of the top factors influencing their choice of schools, when probed some said it is important as evidence of government validation, which ensures in turn that their children can continue to government secondary schools after P6. Interestingly, we find a significant correlation between some of these factors associated with school quality and learning outcomes. As mentioned above, our quantitative analysis shows that literacy is positively influenced by more organised teaching activities and a higher level of teacher education as well as the level of school infrastructure. The latter seems to be strongly associated with fee level and cost since the great majority of high-cost schools included in our quantitative sample have top-quality infrastructure, compared to only a small minority of low-cost schools. However, our qualitative research suggests that some of the key challenges to school quality, including poor infrastructure exemplified by inadequate toilet facilities and crumbling walls, are common amongst both low-cost and high-cost private schools.

It might be assumed that school budget constraints influence access to resources, which could help increase quality, as defined by the factors discussed above; in this respect, higher fee schools would clearly seem to be better placed than the rest in regard to achieving quality and, accordingly, higher learning. Our qualitative study finds that some of the factors explaining the better performance of students studying in high-cost schools could relate to the availability of financial resources, which allow them to recruit better qualified teachers and to reduce their turnover. High-cost schools are also more likely to be approved and therefore have access to bank loans and have more choice regarding their expenditure, which can be used for infrastructural investment and uniforms for children and teachers. The latter type of investment tends to be an important factor in relation to attracting parents, which means that high-cost schools would have more students and a higher cash flow.

However, our qualitative findings have explored high-cost schools with very poor determinants of school quality and low-cost schools that are doing better than expected. It is often contextual factors that seem to play a critical role in enabling schools to achieve high learning outcomes. These contextual factors include rental fees, partnerships with associations of private schools, parents and school relationships/communications etc. The neighbourhood characteristics (e.g. the nature of parents' work), but also the characteristics of the households (e.g. a number of siblings, parents' time and quality investment in children's studies) to which pupils attending those schools belong, seem to also affect school choice, parental ability to pay fees and ultimately the learning outcomes. This consideration is common to both the qualitative and quantitative analysis, with the latter employing a range of different estimation models that confirm the importance of school- and community-level factors for achieving good learning outcomes.

Annex G presents some of the characteristics observed during our visits to schools that seem to perform better in terms of learning outcomes. These include, amongst others, teacher qualifications, investment in their training, adequate salaries and a school's internal coaching and mentoring system. The commitment and managerial skills of the proprietor/head teacher are key for the successful implementation of these initiatives (besides any financial constraints). Private schools are both educational and business models: thus it is the proprietors of schools who ultimately decide what to invest their money in. Low-cost schools would serve the poor better if proprietors were able to recognise and prepare for future events, seek to maximise profit but also search for innovative methods (Dixon and Tooley 2005). DEEPEN should continue to help build the entrepreneurial capacities and management skills of head teachers/proprietors. To conclude, in the box below we present an interesting case study of a low-cost school with high learning outcomes to demonstrate how the nature of a school's management is important.

Case study: S2 - A low-cost school with high learning outcomes[35]

School 2 (S2) is a low-cost private school. It charges NGN 6,000[38]per term per child. S2 is also characterised by high learning outcomes, based exclusively on the results of learning assessments in literacy and numeracy for primary 3 pupils during the DEEPEN Quantitative baseline The school is set in a remote almost rural area, quite far from the main city centre. There was no market close by, and the area, low lying area with significant water logging and a sizeable 'bush' in the immediate surroundings. The residents come from a variety of backgrounds, with a mix of very wealthy and very poor houses. It was relatively quiet and peaceful during the day but it is apparently violent in the evenings, with robberies and clashes amongst youth.

The school has been trying hard to move up the spectrum in quality and price. According to the head teacher, they try to assess other private and state schools in their area in order to learn from their success. They have expanded to include a secondary school and have been building a second floor and a bigger building. They are in the process of getting government approval and they have completed the first stage which is the registration of the school as a legal business entity are struggling with the other government requirements for approval. The school was looking for means of finance but had not yet been able to get loans, e.g. they have looked at the bank, at micro-finance institutions and associations. This is not something that low-cost schools usually do. The school pays membership fees to the association (AFED), i.e. around NGN 2000 per term. This provides benefits, because AFED helps them to register their children with secondary schools to sit P6 exams. This is quite atypical of the low-cost schools sampled. They seem to be lenient with parents who are unable to pay and they allow for payment by instalments as well as non-payment and scholarships in some cases. The proprietor personally visits each family that is struggling with payments and discusses specific arrangements to help them pay and keep their child at school. Although other private schools do seem to be lenient with parents who struggle to pay fees, such a personal approach seems to be outstanding. This was seen as important for the school management, as it allowed all children to continue their studies but also helped the school to sustain the student population.

Teachers at S2 were low paid: the minimum payment per month was NGN 10,000. None of them had any formal contracts. They seemed to make additional income from providing optional after school lessons to students struggling with their studies. However, the head teacher monitors the prices and provision of extra lessons to avoid any overburdening of parents with extra expenses. Lessons are only provided when needed for students with very low performance and at a price not higher than that set by the school. This was the only private school in our sample which did not provide extra lessons to all children. Teachers have attended some training, which was paid by the school, but would like to have more of this training. The head teacher personally monitors and coaches teachers and provides support to new teachers. This was the only school among eight private schools which had its own teacher support practice and the only low-cost school which paid for teachers' training. Despite this, teachers were likely to move from the school if they had a better paid employment.

There was good information flow between the parents, teachers and the head teacher. According to parents, teachers and head teachers, the school had regular parent–teacher association (PTA) meetings. According to the head teacher, their school was considerate of parents' complaints, which were addressed accordingly. Parents spoke primarily in Yoruba and were from relatively low income households. They had strong views on getting their children a quality education and many had taken their children out of the public schooling system. Registration was not so important for them since they were more focused on developing a foundation for their children. The children were very positive about their teachers and insisted that they enjoyed learning and coming to school. It was the only school among eight that tested its students every week. The school did not teach children an advanced curriculum.

3.1.2 Workstream 1: Rules and standards

DEEPEN's activities in the rules and standards workstream are aimed at addressing two key obstacles facing low-cost private schools – the lack of formal recognition and approval, and the burden created by illegal and multiple taxation. All private schools in Lagos State are required to register with and obtain approval from the federal government[39] for their operations. However, many low-cost private schools in Lagos operate unofficially because they are unable to meet the current government guidelines for registration

[35] Schools achieving below the median score (as measured by our learning assessment tool) in Ojo and Alimosho for both literacy and numeracy were classes as "low achievement", and those that score above the median score in Ojo and Alimosho for both literacy and numeracy – as "high achievement".

and approval. As such, they may be subject to threats of closure from the government, as well as illegal and multiple payment requests (DEEPEN 2014).

DEEPEN is working with the Lagos state government to improve the approval process through GAPS. GAPS is a major DEEPEN intervention, in collaboration with the Government of Lagos State, which assesses schools based on a series of questions relating to management and governance, the quality of the learning environment, and the quality of the teaching environment. Schools initially conduct a self-assessment using the GAPS form, and then these results are validated by government and civil society officials. The results of these assessments are to be made available to schools, and government will also send these results directly to parents and media, and put this on the Lagos state government website (DEEPEN 2014). DEEPEN will also commission several research studies aimed at increasing evidence for, and awareness of, tax issues (*ibid*.).

This section examines the rules and standards relating to private education, parents' perceptions of these, and how these influence schools' investment decisions. We find that schools consider rules and standards when investing in school improvements, but that the lack of formal recognition also limits schools' abilities to access finances for these investments.

3.1.2.1 Theory of change

GAPS is expected to benefit a range of stakeholders by:

- providing **schools** with greater recognition, protection from closure and access to finance; and guidance to improve quality;
- giving **parents** detailed and accurate information about school quality that will allow them to compare local schools and assess VFM;
- providing **government** with more information in order to improve regulation and provide an enabling environment for private schools; and
- providing other stakeholders, such as **financial service providers (FSPs**), with improved data on the private education sector for possible business opportunities (DEEPEN 2014).

The rules and standards theory of change relies on several assumptions: that the government is interested in improving the regulation of both approved d *and un* approved *private* schools, and that it will adopt GAPS as a key tool in this process; and that the public (parents, schools, and corporate organisations – particularly FSPs) will accept GAPS as a credible tool for assessing the quality of private schools, and the profitability of potential investments. DEEPEN also assumes that data from multiple taxation research will enable schools and their associations to advocate for a better tax regime.

These assumptions and mechanisms of, as well as potential risks to, the theory of change, are discussed further in the context of the evaluation questions in Annex H.

[38] According to the Nigerian Central Bank's exchange rate, NGN 6,000 is British Pounds Sterling (GBP) 20.

[39] The process of approval is managed by the Department of Private Education and Special Programmes in the Lagos State Ministry of Education, which has also published guidelines for the establishment and operation of private schools in Lagos (DEEPEN desk review, 2015)

Theory of change conclusion

Our findings in regard to the theory of change assumptions are focused on whether parents, schools, and FSPs are likely to accept GAPS as a credible tool for assessing the quality of private schools and the profitability of potential investments. We have investigated this by obtaining data on head teachers' views of assessment, taxation, and recognition, as well as parents' perceptions of GAPS and the value of school registration and recognition.

We find that whereas head teachers have mostly positive views of assessment, this does not also apply to recognition and taxation. Also, many private schools cannot meet the requirements for the current registration process due to a lack of access to the finance required to invest in school improvement. Low-cost schools in particular struggle because of the poor initial state of infrastructure, small student populations, and limited access to loans; and they may not be able to show improvements in the short-term. GAPS would address this challenge by providing an alternative to the current bilateral registration status, which provides an objective and holistic assessment of school quality, as well as the guidelines and incentive for schools to improve. We also note that schools will not sign on to GAPS unless there is an added benefit – access to finance, government recognition, or the ability to attract more students. On the other hand, FSPs will not factor GAPS into lending decisions unless it is adopted officially by government. In the same vein, parents will not consider GAPS as a proxy for school quality, and thus a factor in school choice, unless there is wide take-up among low-cost private schools which they can afford. In general, parents' views regarding the value of registration and recognition were mixed and inconclusive.

Therefore the success and take-up of GAPS hinges on its credibility, which is in turn dependent on government approval. Low-cost schools may also need their own GAPS checklist, which takes into account their specific context. Finally, a holistic approach is required for regulation. For instance, improved wages and job security for private school teachers would greatly reduce turnover, and allow the benefits of other school improvement activities to take effect.

Some schools have benefitted from PSAs through loans, information, training seminars and registration for external exams, but there is room for improvement in the capacity of associations to represent and advocate for private schools with government, as well as the private sector service providers. **Associations could work to improve rules and standards if they were to improve their capacity, vision, business and leadership skills.**

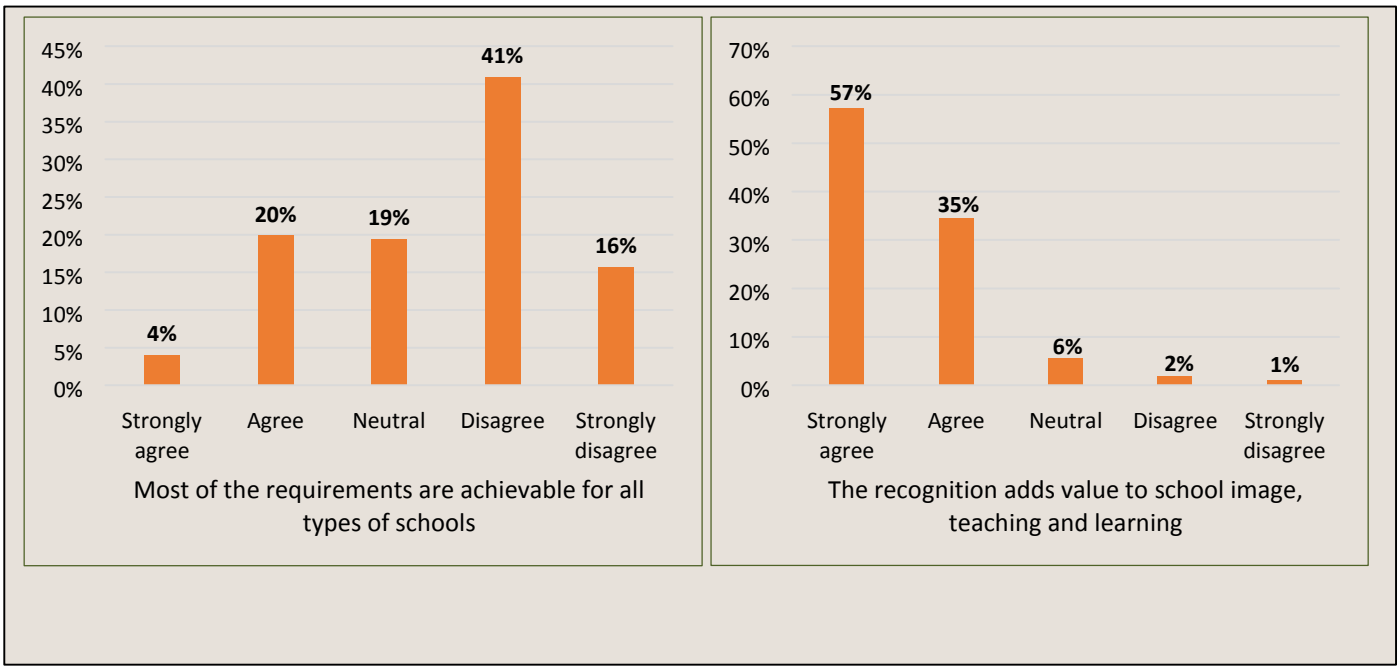
3.1.2.2 Evaluation questions

Do (low-cost) private schools care about rules and standards and parents' opinions about these when making investment decisions?

Government regulation of private schools in Lagos covers registration and approval, inspection, taxation, curriculum and assessment. Private schools should be approved and approved by the federal government before commencing operations, and approved schools can then be inspected and taxed. All private schools are expected to follow the approved Nigerian curriculum, although according to the government, private schools can teach either British, American or Nigerian curricula. All the private schools visited during the fieldwork followed the approved Nigerian curriculum.

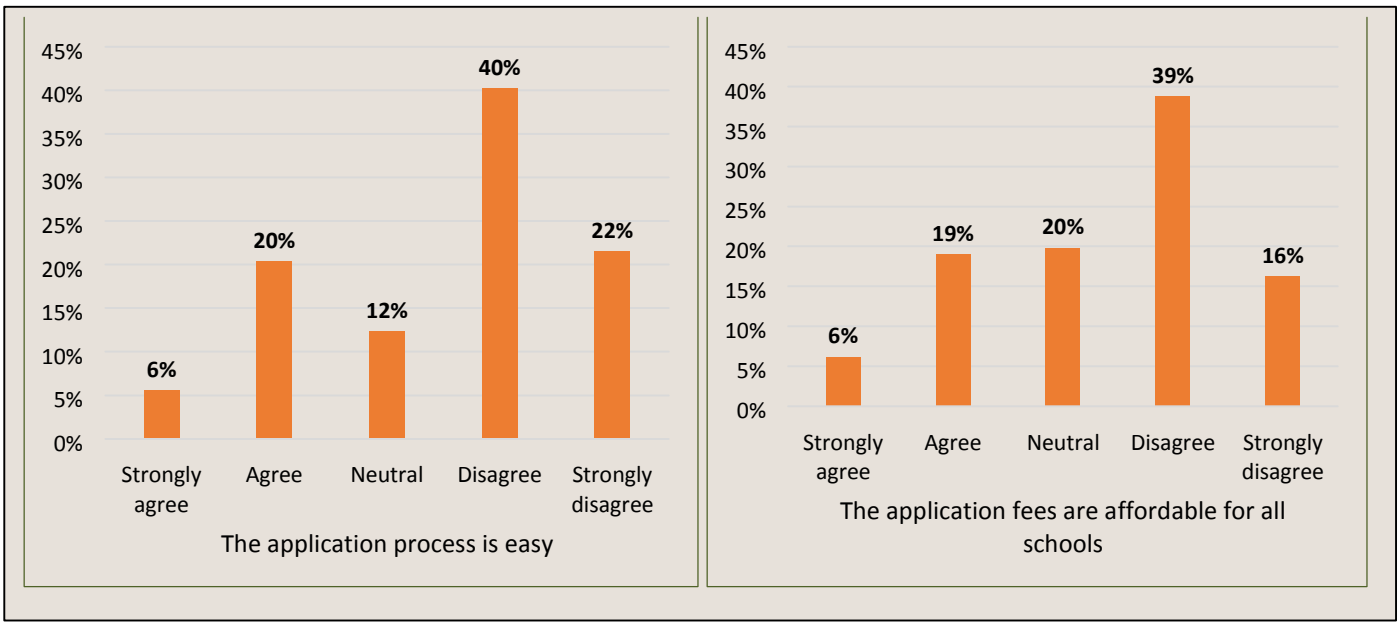
Although parents do not mention registration status as one of the top reasons for school choice during the qualitative interviews, when probed some parents said that it provided important evidence of government validation of the schools' activities, and that registering with the government ensured that their children could continue to study at government secondary schools without issues. Other parents did not care about registration as long as the school could provide a quality education to their children. According to teachers and head teachers, many parents, especially those who are less literate, do not in fact know whether their school is approved or not, and do not seek out such information. Data on registration status may not be publicly available or accessible to parents, who have to rely on schools for this information. Some schools make false claims about their registration status based on the approval of a separate branch of the school owned by the same proprietor– such as the secondary school, or another primary school in a different location.

The quantitative study measured the proportion of private schools that have a more positive view of the rules and standards that affect them (cumulative). The relevant questions or statements administered to head teachers relate to rules and standards, and fall under three broad headings or sub-themes: the process of obtaining government 'recognition', 'taxation' (formal and informal) and 'assessment'. For each statement, head teacher responses were recorded using a Likert scale, with values from 1 to 5 representing strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. The distribution of some



of these responses is presented in Figure 12 below.

Figure 12: Head teacher perceptions of recognition

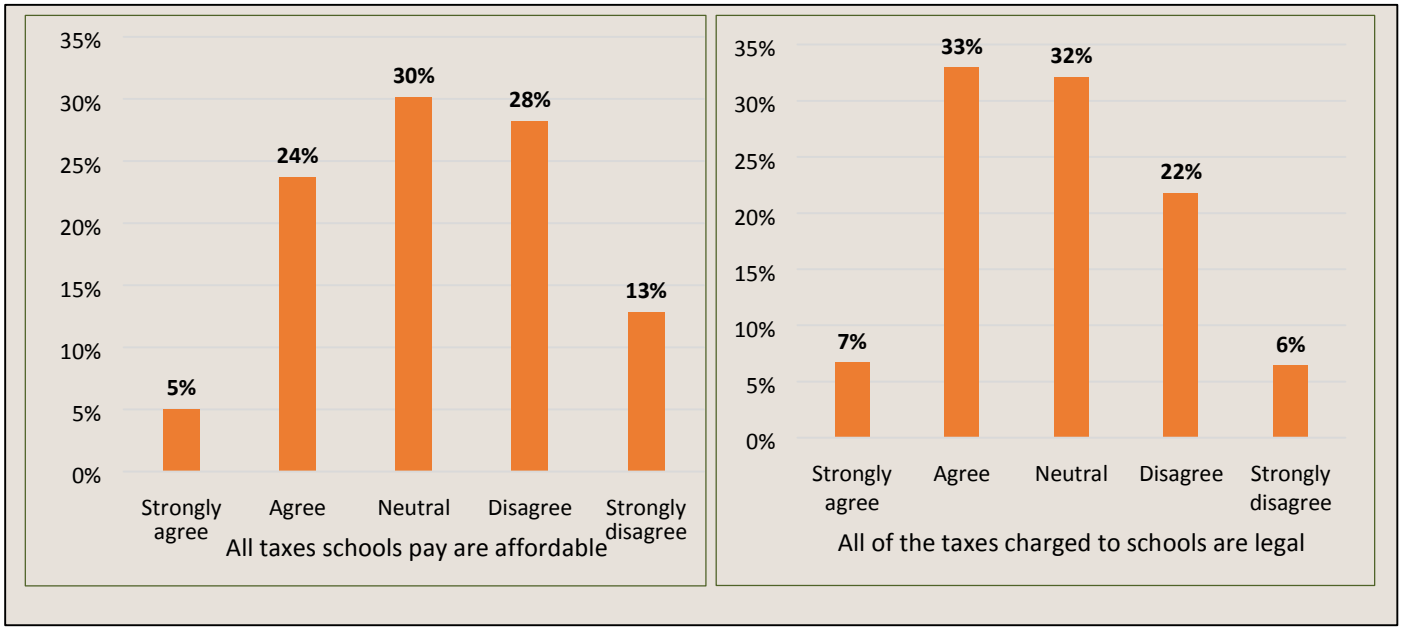


There is a notable contrast between head teacher discontent regarding assessment and regarding the two other sub-themes. While over 70% of head teachers agreed or strongly agreed with the assessment statements, there was strong disapproval for taxation and recognition, with the approval percentages mostly in the 27.2–32.5% and 35–43% ranges, and, thus, much lower.

Head teachers almost uniformly (90%) agree that obtaining government recognition adds value to the school's image, and to teaching and learning. In fact, 56.4% of head teacher respondents strongly agree

with this statement. The distribution of some of the responses relating to taxation is presented in Figure 13 below.

Figure 13: Head teacher perceptions of taxation



Government approval can improve the reputation and status of the school in the community, and may attract more students. The official registration process is long, and includes requirements relating to land and buildings, infrastructure, and staffing and enrolment numbers. Many low-cost private schools cannot afford to invest in the required facilities, and often take several years to complete the registration process, while continuing to operate.

Most of the private schools visited for the qualitative study were not approved.[36] However, all of these schools had begun the process of registration, and several head teachers expressed the desire to invest in the school in order to meet the approval requirements. The qualitative study also finds that schools prioritise infrastructure improvements, such as land, buildings, equipment and facilities, when making investment decisions. This could be because of registration requirements, and also because parents prioritise more visible characteristics when choosing schools, and so higher quality infrastructure is likely to attract more students.

Information on the type and level of taxes paid by private schools is insufficient. Although private schools which are not approved should not be liable to pay tax to the MoE, during KIIs MoE personnel indicated that schools may have to pay some tax to the LGAs in order to operate in their locality. Proprietors and head teachers were very reluctant to discuss issues relating to taxation so the research team was unable to obtain further information on the tax burden.

Does the regulatory regime prevent (low-cost) private schools from investing in, and improving, quality?

There seems to be a combination of regulations 'on paper' and regulations that exist 'in practice' (Dixon and Tooley 2005), which affects private schools' entrepreneurial capacities to invest and to improve, to varying degrees. On paper, private schools are regulated by the federal government in terms of registration and approval, school infrastructure requirements, teacher qualifications, syllabus and curriculum adherence, assessment etc. All private schools should be approved by the state government, and should use the

[36] All private schools are required to register with the government in order to operate. The process begins with corporate registration of the school as a business entity, and then approval from the Lagos state MoE, based on a list of criteria relating to school size, infrastructure, etc. (DEEPEN desk review 2015).

approved Nigerian curriculum. Teachers are expected to have attained the minimum teaching qualification known as the National Certificate of Education. However school fees, and teacher training, support and remuneration are not actively regulated. Schools which are not approved should not be taxed, but low-cost private schools may be paying some taxes to the LGA.

As the qualitative study shows, in practice, many of these regulations are not strictly enforced, and many low-cost private schools could not afford to meet the requirements. These schools begin operations unofficially, raising funds through fees, which can then be invested in school improvements, while going through the approval process, which can take years to complete. The current registration, on paper, puts a lot of emphasis on school infrastructure, which explains the predominant investment priority of private schools. In this sense, it promotes infrastructure investment but may prevent investments in improvements in the quality of teaching, for instance. Schools which are not approved will also enrol pupils for external exams in other approved private schools. Schools also employ high-school graduates or non-teaching staff in teaching positions. Teachers are poorly motivated and turnover is high because of very low salaries (which are often below the minimum wage), the absence of employment contracts and the lack of training and professional development.

The government is aware of the existence of many unapproved schools and schools are allowed to operate for some time while they seek to confirm their registration status, during which time they are inspected and taxed by local authorities. However, schools may face off-the-book demands for payments from government officials to prevent closure, which affects their cash flow and ultimately their ability to invest. As a result of these issues with registration, government approval plays a limited role in providing parents with information about school quality to guide school choice decisions. This could potentially impact on the profitability of approved schools that will be in competition with schools which are not yet approved.

Many low-cost private schools indicated during the qualitative interviews their desire to invest in school improvements that are likely to attract more students to their schools, and to increase the quality of education provided. Illegal operations may prevent schools from accessing finance. Lack of government approval is one of the main difficulties that low-cost private schools face in getting bank loans for school investments. Schools cannot be approved until they can invest in the improvements required to meet the approvalcriteria, but they cannot obtain bank loans unless they are first legally registered, and in some cases government approved. Illegal taxation of unapproved schools further depletes resources, which could otherwise have been spent on school improvements. Furthermore, the emphasis on infrastructural requirements in the approval process and the poor regulation of private school teachers may reduce the incentive for schools to invest in the quality of teaching.

On paper, the regulatory regime does not appear to support the entry of low-cost private schools, but in practice many unapproved schools are able to operate because the rules are not strictly enforced. However, our qualitative findings suggest that the regulatory regime may prevent schools from investing in improvements and school quality. It is likely that not all private schools benefit from rules and regulations and that low-cost schools could be hit the hardest. The situation with regard to rules and standards is further complicated by the fact that private schools are extremely heterogeneous and it would be hard to develop regulations that are ‘fit for all purposes’. This creates a challenge to the government in terms of having the relevant capacity and understanding basic information about the size and nature of the private sector in order to be able to effectively intervene and to get the implementation of policies right.

3.1.3 Workstream 2: Information

All key players in the private school market need accurate information in order to improve the quality of private education. Parents need information on school quality to guide school choice, to monitor and assess children’s progress and learning, and ultimately to demand higher quality from schools. Schools need information and guidance on pedagogy and school management in order to improve quality. Governments

need information on schools for proper regulation of, and policy-making for, the private education sector. Finally, service providers (financial and school improvement) need information on school quality to assess the profitability of potential investments.

To address these gaps, DEEPEN is working with selected media houses to improve coverage of education issues and increase the role of the media in advocacy for education, and to develop sustainable business models for education reporting. Given the size and diversity of the Lagos market, the media would not be expected to report on the performance or quality of individual schools. Rather, DEEPEN work with mass media is aimed at providing parents with more relevant and generic information to assist them in choosing schools, and engaging with their schools on children's performance. Improved coverage of education could include guiding parents on good teaching and learning practises to look out for when visiting a school, or ways of assessing their children's learning. DEEPEN also plans to commission several analytical studies as considered appropriate for particular reasons (e.g. fiscal savings research) to generate credible evidence for more informed decision-making and government regulation, and to build local research capacity.

This section examines parents' perceptions of learning outcomes, school quality, and how they obtain information for school choice. We find that parents generally perceive the learning outcomes and school quality of private schools to be high, and better than those of public schools. However, as discussed above this can be the product of a lack of reliable information. Parents also gather information on schools prior to enrolling their children, make choices between private schools based on their perceptions of relative quality.

3.1.3.1 Theory of change

DEEPEN expects that media support will lead to improved quality and frequency of media coverage of private education, and also improved information being provided to parents, media and policy-makers. Parents are then expected to increase demand for improved standards in private schools, and schools should respond by investing time and resources in improving pedagogy as well as the quality of education in private schools. Ultimately, this will result in children learning more, and improvements in test scores (DEEPEN 2014).

The theory of change assumes that parents understand and are interested in education quality, and can exert influence over school leadership, but lack reliable information about schools of interest. Another key assumption is that private education is of interest, and potentially profitable, to media organisations. The theory of change also assumes that parents can and will access information on school quality through the media generally but not specifically about individual schools.

These assumptions and mechanisms of, as well as potential risks to, the theory of change, are discussed further in the context of the evaluation questions in Annex H.

Theory of change conclusion

We find significant inconsistencies between our findings and the assumptions of the theory of change, particularly at the activity level:

- Although there is interest from the media in improving the frequency of, and level of, coverage of education, the media stations we interviewed have not been able to find sponsorship for the programme. Although it is too early to decide whether these findings negates assumptions about the profitability and sustainability of the model, they do bring it into question somewhat.
- Although the media is otherwise seen as a credible source of general news and information, parents do not rely on media for information about school choice, (whether on generic quality indicators or for information on specific school) but instead on other less formal sources of information. Current media coverage of education, and private education specifically is limited. Furthermore, parents were sceptical that about potential media coverage, expecting it to be biased and unverifiable.
- The radio stations that DEEPEN is currently working with do not target the intended market – they broadcast in English and favour the urban elite. DEEPEN, however, already has plans to address this by engaging with new media partners.

There is still potential for impact if some activities are reviewed. For instance DEEPEN can target media organisations which are more popular among the poor and which broadcast in indigenous languages. Also, improved government regulation of the sector will provide the media with a reliable information source which would improve credibility with parents. DEEPEN should also consider alternative information channels such as community based organisations as a means of improving understanding and awareness of quality and standards in private schools.

Finally, schools are aware of the competition and try to keep parents happy in various ways so that they do not change schools. Given parents' interest in quality, and the current level of engagement with schools, we can safely assume that with greater understanding of school standards, parents will demand better quality from schools.

3.1.3.2 Evaluation questions

The evaluation framework asks four questions relating to DEEPEN's assumptions relating to the information work stream. Two of the evaluation questions related to this workstream are addressed in the learning outcome section, as they are more relevant in that context. To answer the two remaining questions, we consider evidence from both the quantitative and qualitative strands of the evaluation.

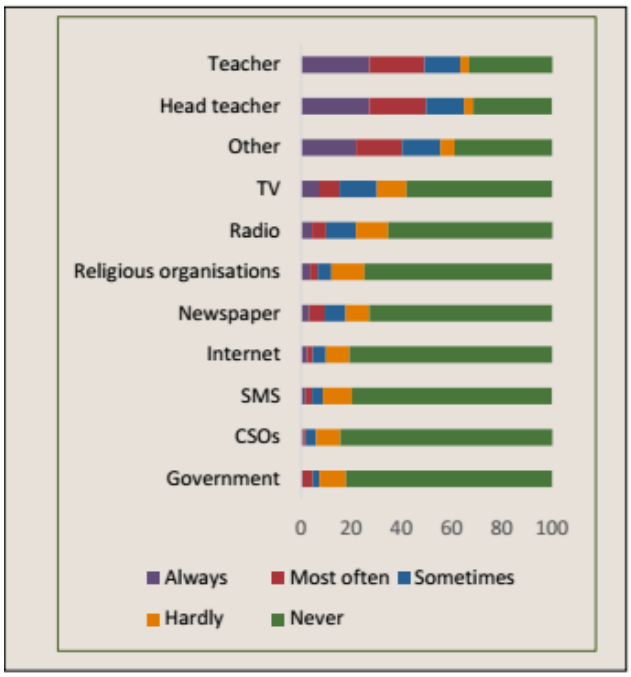
Sources of information

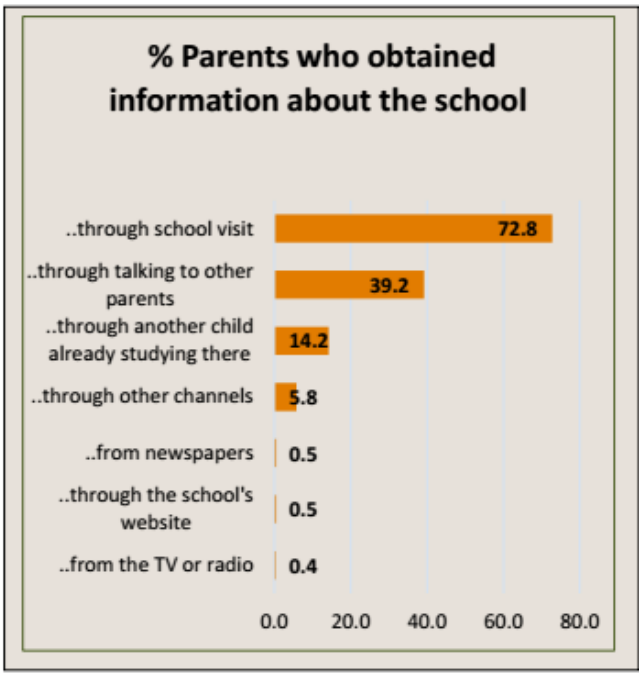
Do parents lack information about school quality and/or find it difficult to interpret such information to make a decision about school choice?

The results of the quantitative baseline survey indicate that 75.9% of parents report having actively acquired information about a school before a child joins. As Figure 14 below shows, the main sources of information on school quality and best school practices are the teacher and head teacher, who are typically consulted during school visits. Other informal sources include relatives, discussions with parents of current students about their performance, interaction with and observation of the students themselves, and the reputation of school within the community.

Figure 14: Frequency of use of information sources relating to best school practices and sources of information for parents

Figure 14: Frequency of use of information sources relating to best school practices and sources of information for parents





This use of informal sources is in stark contrast to the very limited use of mass media – TV, radio and newspapers – and the Internet.. Furthermore, evidence from the FGDs also suggests that parents might not trust information from the media unless they can verify it independently.

– Parent, high-cost private school, low-achieving

Our findings are suggestive of a fairly narrow network-based (and trust-based) platform for gathering information about school quality. There are two parts to this, information relating to specific schools which are less likely to be covered in the media except through adverts, and more general information to inform parents' assessment of relative school quality and track learning of their children. As discussed above, DEEPEN's focus is on the latter.

Although the media is otherwise seen as a credible source of general news and information in Nigeria, qualitative evidence show that parents do not rely on media for information about school choice, but instead on other less formal sources of information. The first reason for this could be the limited media coverage of education, and private education. Most schools who can afford to advertise on TV or radio charge fees which are out of the reach of parents in the sampled low-cost private schools. Some parents expressed scepticism about potential media coverage, saying that it would be biased towards more expensive schools, and that there would be no independent means of verifying any quality claims, thus they could not trust this information.

However, there is still potential for results through media interventions. First media coverage of generic education and private education issues should be increased and improved, which DEEPEN has already begun through its work with media organisations. Second, this improved coverage should be better targeted towards the poor. For instance, radio programmes that broadcast in indigenous languages like Yoruba or pidgin are more popular with lower income households and so parents of children in low-cost private schools are more likely to listen to them. DEEPEN is aware of this and is pursuing partnerships with media organisations that broadcast in indigenous languages and are more popular with poorer households. Third, parents' concerns about credibility of potential media coverage can be addressed by increased government involvement. For instance, states can publicise information on the approval status of private schools through the media, which provides parents with a more official indication of the relative quality of private school options. Government officials could also provide expert interviews on media programmes to address topical issues.

Based on the qualitative interviews with a range of schools and service providers, we also suggest that DEEPEN should consider the use of civil society, faith-based and community organisations, as well as PSAs, as a means of improving public understanding and awareness of quality and standards in private schools. Community organisations are likely to be seen as reliable sources of information about schools for parents who already largely rely on informal sources based on their personal contacts with neighbours, friends, etc. Depending on each local context, these organisations can vary. PSAs do not seem to be actively acting on behalf of the schools in the market arena and could do much more in order to increase the profile and services of private schools when it comes to bargaining with the services providers (financial institutions, printing houses, teacher training centres, etc.) for better costs.

Parents' information on school quality

Although quality-related reasons, such as learning outcomes (see Section 2), are cited as the most important factors for school choice, we find that the information that parents gather prior to enrolling their child in a school is not always connected to traditional indicators of quality. For example, exams and learning outcomes are prioritised in parental inquiries only in 50% of up-front school visits. The other most common concerns relate to school fees and infrastructure, which are more weakly correlated with school quality. This indicates that parents might be more likely to view fees and facilities as indicators of good schooling practices

The qualitative study also suggests that parents quality concerns are not limited to academic results. Parents also consider schools on the basis of such as spoken English, ability to read and write, and the appearance of students, relationship with school management, and the quality of the school environment and infrastructure, because of the lack of credible data on learning outcomes in private schools ex-ante. The quantitative study found that parental awareness appears to change once a child has started attending school. On average 82.7% of parents report that they are aware of their child's exam results, 91% of parents self-report that they usually or always check their children's academic records, and 79% usually or always evaluate their children's progress. Even though only 42.2% receive feedback on the children's performance from the school regularly (i.e. once a term or more often), 84.4% of those who do report that they act on that feedback. Evidence from FGDs with parents and children also points to parents monitoring performance regularly through report cards.

This reliance on informal sources of information may result in a gap between their perceptions and reality. For instance, although parents said in FGDs that qualified teachers and school approval were important characteristics of a good school, they were not always aware that their children's schools were not approved, and that they employed some unqualified teachers. Where they had this information, there was a tendency to downplay these school choice factors as unimportant. For example, some parents emphasised that registration was not important as long as children were learning or could take exams, or

that the structure of the school building did not matter for school quality, or that teacher qualifications were not as important as competence and experience.

This section supports the ToC assumption about parental demand for general information on quality schooling, the potential for media outlets to meet this demand and capture a huge audience, and advertisers to want to tap in to this market.

Do parents make choices between private schools based on quality?

According to the qualitative evidence, the general public perception is that the quality of public schools is low and declining, and that such schools are for the poorest of the poor. Most parents would rather struggle to pay private school fees than send their children to public schools due to their perception of their low quality, as well as the poor reputation associated with public schools. Furthermore, there were limited public schools in the two LGAs sampled for the study, and a few parents listed distance and convenience as the main reason why they did not consider public schools as an option. This is in line with findings of Tooley and Yngstrom (2014) for Lagos, where proximity appears to be a key determinant of school choice. For these reasons, school choice decisions for the poor are often limited to low-cost private schools in the locality.

Factors affecting school transfers

We use reasons for school transfer, as measured by the quantitative survey, as an indicator of how parents choose amongst schools. The study found that **a** significant proportion of parents (30%) in the sample have transferred a child to a different school (public and private). Quality considerations are reported to be more important for transfers between private schools than for government to private or private to government transfers. We have also investigated the frequency of quality-related transfers (i.e. transfers due to general unhappiness with school quality, the child's poor performance, or disappointment with the school's exam results). Only 0.04% of parents reported switching from private to government schools for quality-related reasons, and only 0.8% have changed from a government to a private school because of such concerns. By contrast, 10.5% (i.e. about a third of the parents who have switched their children's schools) swapped one private school for another for quality-related reasons.

Table 4 shows that quality concerns with respect to transfers across private schools are more important across all three wealth levels as defined in this research. For the poorest group and for parents with children attending low-cost schools, quality dominates over other considerations in initial school choice and subsequent decisions to transfer..

Table 4: Parental considerations in school transfers, disaggregated by wealth status and school type

	Low-cost school	Medium-cost school	High-cost school	Overall
% parents naming quality-related reasons for changing from one private school to another	40.5	21.4	33.4	**28.7**
Standard Error (SE)	8.5	5.5	7.5	**4.7**
number of observations	109	151	44	**304**
% parents naming convenience-related reasons for changing from one private school to another	4.3	5.1	0.5	**4.4**
SE	2.0	1.8	0.3	**1.2**

Number of observations	109	151	44	**304**
	DEEPEN poor	**DEEPEN near poor**	**DEEPEN non-poor**	**Overall**
% parents naming quality-related reasons for changing from one private school to another	39.4	12.7	27.5	**4.4**
SE	7.2	5.3	7.9	**1.2**
% parents naming convenience-related reasons for changing from one private school to another	4.9	3.6	4.3	**39.6**
SE	1.7	1.9	2.7	**7.5**
Number of observations	167	76	47	**304**

Source: DEEPEN quantitative baseline survey (November 2014 – February 2015), parent instrument.

Our findings suggest that quality considerations are very important for school transfer decisions, and that even parents of children in low-cost schools will shop around other low-cost schools for better quality.

3.1.4 Workstream 3: Finance

A key assumption underpinning DEEPEN's approach is that access to finance is a major obstacle for low-cost private schools in regard to improving the quality of the education they provide, and for low income families in accessing these schools. Poor access to finance prevents parents from making timely fee payments, and schools from accessing loans, which lowers schools' investment in improving the quality of education and negatively affects learning outcomes. DEEPEN intends to stimulate the market for four types of financial services that specifically target these constraints. This section presents the main findings of our mixedmethods examination of the underlying assumptions of these interventions and seeks to establish whether a viable market for these financial services exists. In particular, we look at both the demand side and the supply side of financial service provision by making use of the quantitative and qualitative information gathered in the course of our baseline study.

For schools, the findings of both the quantitative and the qualitative analyses support the view that there is an unmet demand for financial services. However, the balance of the findings suggest that financial management (e.g. head teacher's ability to collect school fees on time) emerges as somewhat more important than access to traditional bank loans or ownership of traditional bank accounts. **For parents**, the case for a strong demand for mobile payment and educational saving schemes is less strong. On the supply side, the limited evidence that we were able to gather suggests that there is a keen interest from FSPs in regard to catering to the low-cost private school market.

3.1.4.1 Theory of change

One of the premises for the DEEPEN intervention has been that most private schools are small businesses with poor cash flow and limited access to loans, which restricts their growth and expansion, and limits their ability to improve performance. This, in turn, has negative consequences for learning outcomes in the schools. DEEPEN has developed four interventions to address these constraints. The first two target parents, as consumers of education, through their children, while the last two directly address the financials needs of schools:

- Saving schemes for parents and mobile money payments – DEEPEN will engage FSPs, by providing them with information about parental demand for finance. DEEPEN aims to work with the financial market

and mobile money operators to develop a system that allows parents to pay fees through their mobile phones, and also save for children's education in this way.

- Schools as business services – DEEPEN will support service providers to develop and market training courses for private schools to improve their planning and handle their finances more effectively (business development and financial management for schools). Mobile money can also help achieve the goal of better financial management in schools through improving financial records and history.
- Finance for schools – DEEPEN will work with FSPs to increase the availability of loans and financial products to schools, by providing banks with information on schools' demand for, and current use of, finance (DEEPEN 2014).

The primary goal of the interventions targeted at **parents** (i.e. saving schemes and mobile money) is to increase the capacity, flexibility, and convenience of paying fees on time by reducing the effect of erratic incomes and financial shock. This lowers the risks of children discontinuing their education due to financial constraints, and in this way can improve learning outcomes. Better financial services for parents should also result in more predictable and timely payment of fees, which improves **schools'** planning, financial management and investments. The latter are also the primary goals of the interventions aimed at schools (training and loan availability). Improved cash flow and financial management and increased investment arising from the interventions aimed at parents and schools can lead to improved learning conditions, which in turn directly influences learning outcomes.

The key assumption underlying DEEPEN's intervention targeted at **parents**is that they would take up such innovative schemes, when provided information about them. There also need to be reliable and effective services/schemes in place that actually work to support these innovations. For **schools,** DEEPEN assumes that current investment levels are insufficient and that this is directly linked to cash flow and financial management issues.

These assumptions and mechanisms of, as well as potential risks to, the theory of change, are discussed further in the context of the evaluation questions in Annex H.

Theory of change conclusion

Access to finance is one of the main challenges faced by low-cost private schools. Parents struggle to pay fees on time and in full, which negatively affects cash flow, and schools cannot access loans, which they need for investments.

DEEPEN's support to mobile money and saving schemes aims to address the first issue – the ability of parents to pay fees. It also partially aims to aid financial management by improving financial records and history. Our evidence suggests that current awareness of these schemes among parents is very limited. Where parents are aware of the schemes, take-up is still negligible, as parents have alternative community based savings or loan mechanisms which they rely on to pay fees. Although there is currently limited trust and awareness of external savings or loans schemes, it may be possible to increase awareness and take-up by careful design to meet needs of poor parents specifically.

We find that schools have little leverage over parents in terms of fee payments – students are rarely asked to dropout on account of not paying fees, and schools may even have to provide lenient terms retain student population – therefore they are unlikely to improve cash flow through increased fee payments.

We find that most schools are interested in obtaining more access to finance and in fact want to invest in certain kinds of improvements – primarily in infrastructure – but less so in teacher training. They may prioritise the former because it is observable and so parents are more influenced by this in school choice decisions. One of the crucial findings of our analysis is, however, that financial management might be more important for good cash flow and financial performance than access to a bank account. This validates some of the assumptions underpinning DEEPEN's focus on financial management.

3.1.4.2 Evaluation questions

The relevance of the DEEPEN finance activity workstream is investigated directly by one of the questions in the evaluation framework:

Is there a viable market for FSPs providing financial services to low-cost schools and low income parents?

We unpack this question and consider both the ***demand side***and the ***supply side*** of DEEPEN's key activities outlined above to assess the overall viability of the market for FSPs.

Demand for financial services among low-cost schools and low income parents

Mobile money payments and education-specific saving schemes

As discussed, two of the four main DEEPEN finance interventions target parents. One of DEEPEN's assumptions in this respect is that there are inadequate products sufficiently tailored to meet poor parents' needs and parents do not have enough information to enable them to benefit from mobile money payments and education-specific saving schemes. The baseline survey provides mixed evidence about the merit of this assumption. Just under 30% of parents are aware of mobile payment schemes and educational saving schemes, suggesting that awareness is indeed low.[37] However, among those aware of such schemes, only a tiny fraction (2%) use mobile schemes for school fee payment; for saving schemes the number is higher, at 21%.

The qualitative research suggests that existing saving schemes may not be targeted at the poor, and would require bank visits, and regular payments, which parents may not be able to afford. The research provides even richer detail on some of the reasons for the low take-up of mobile money. In general, the qualitative findings suggest that parents had little interest in using mobile money to pay fees. Their main concern was with finding the funds to pay the fees in the first place, rather than *how* to pay. This is also relevant to the finding that income constrains school choice.

> *'Mobile money or whatever does not really matter. What matters is the income, how to pay it is not the issue. .. Mobile money only works when you have money…'*
>
> - **– S3 parent**

This could be for several reasons, including technological scepticism, low literacy levels, and limited awareness of mobile money systems. Some parents expressed concern about their ability to understand and use the system effectively, while others did not trust mobile money as a reliable means of transferring money, and indicated a preference to pay fees in person and with cash.

Around 57% of Nigerian adults do not have access to formal financial services, but 64% of the population owns a mobile phone, and 84% have access to a phone. Despite this large potential market, and some enabling government regulations[38] and guidelines which support mobile money services, only 0.1% of Nigerian adults use mobile money. Studies of user experience in Nigeria revealed that although low income Nigerians perceive mobile money as a convenient and easier way to save, they also note drawbacks, including unexpected withdrawal charges and restrictions, the unreliability of mobile networks, and cumbersome menu interfaces. Furthermore, there is still some distrust about the mobile

[37] For more detail on this, please see Section 4.3.6 of the Baseline Quantitative Report (EDOREN, 2015)

[38] In 2009 the Central Bank of Nigeria approved guidelines for mobile money services in Nigeria, and over two-dozen operators have been licensed. Furthermore, the Central Bank cashless policy, which was piloted in Lagos State in 2010, sought to reduce the use of physical cash in paying for goods and services, and to encourage electronic payments. http://cfi-blog.org/2015/08/13/the-hold-upwith-mobile-money-in-nigeria/; http://www.fcmb.com/9-about-us/3-cbn-policy-on-the-cashless-lagos-initiative;http://www.cenbank.org/cashless/.

money companies and systems[39] (Enhancing Financial Innovation & Access (EFinA) 2014). Poor people are particularly excluded from access, in many ways (*ibid.*). They rely on family and friends for financial information, and may miss out on media advertisements that are not in the local language, or that target a middle class clientele. Numeracy and literacy, especially in English, is also a barrier, as many mobile money companies do not yet provide indigenous language options for transactions. This forces reliance on local agents as intermediaries, and it may be difficult to access an agent, or other kinds of financial services – particularly in more rural areas. Poor people may also be discouraged if registration and transactional processes are long and overly complicated.

Some of our quantitative findings, to be further explored at endline, also suggest that poor households are less likely to run into fee arrears as compared to the non-poor.. We also found a negative correlation between access to a bank account and non-bank saving schemes and the probability of never running into arrears. As this analysis is based on what parents themselves report, it might not be fully accurate and be driven by parental pride. It could well be, however, that poor parents, in spite of the constraints they are facing, are more conscientious private school customers. It has been argued that poor people adapt to poverty and use coping strategies effectively and manage their finances with great care, resourcefulness and skill (Lister 2004) though poor parents still go into arrears as shown by qualitative findings from low fee schools which have problems with payments of school fees among their clients

Bank accounts and bank loans for schools

Results from the quantitative report suggest that a large proportion of high-cost schools and a substantially smaller proportion of low-cost schools have bank accounts (see Table 5 below). Larger schools, approved schools, and those that have been in the market for longer are more likely to have bank accounts regardless of the LGA in which they operate.

Table 5: The likelihood of having a bank account by school type

	Overall	Low-cost	Medium-cost	High-cost
Percentage with a bank account	63.0% (0.048)	39.4% (0.091)	73.0% (0.047)	90.64%[40]
Number of schools	351	129	163	59

Source: DEEPEN quantitative baseline survey (November 2014 – February 2015), head teacher instrument. Note: standard errors reported in brackets. Standard error for high-cost schools cannot be computed because there is no variability within the stratum which contains a single unit.

Our qualitative research suggests that access to finance is a constraint: proprietors in low-cost schools reported that they would have an interest in investing in school improvements, such as better infrastructure, materials, and increasing teachers' salaries, if they had sufficient funding. However, many low-cost private schools are unable to access finance through conventional banking procedures and loan products. For instance, interviews with head teachers suggest that schools are sometimes trapped financially: they often cannot access bank loans unless they have an account set up with the bank where fees are deposited. But they cannot set up bank accounts if they are not approved, and many are not approved because they do not have the funds required to invest in school improvement and infrastructure in order to meet the required standards. Furthermore, schools cannot afford to provide collateral for loan,

[39] Several studies have been conducted by the Grameen Foundation in partnership with the MasterCard Centre for Inclusive Growth, and EFinA, etc. http://www.grameenfoundation.org/sites/grameenfoundation.org/files/resources/Nigeria%20Landscape%20Report%20FINAL%20Dec%2013%202014.pdf.

[40] In the data based on the head teacher instrument, standard errors for high-fee schools are missing because there is only a single high-fee school in one of the four LGAs (Ajeromi-Ifelodun).

interest rates are high, and repayment terms are unfavourable. Head teachers say that paying off a loan would leave little funds for running costs of the school.

Furthermore, our findings highlight that conventional banking and loan products may be ineffective for lowcost private schools. Many parents would rather pay fees in cash at the school, either because this allows them to pay in uneven instalments, or because they find using banks inconvenient., According to one proprietor,

> *'Since our money is being paid to the bank, all the money the children will be paying will go for the loan until the loan is being paid off. Which we now thought of it, that if all the money goes for the loan, then how are we going to pay the teachers? Even we ourselves, how are we going to feed ourselves?'*
>
> **– Proprietor, medium-cost, high performing school**

Head teachers also mentioned that interest rates on school loans need to be low, otherwise they would not be able to repay them. Some of the head teachers of low-cost schools have tried to join associations of private schools and their cooperatives, in order to borrow money, but they could not pay the membership fees and did not have deposits. These findings suggest that even though DEEPEN's interventions to increase the availability of loans appear to be addressing a real need for financial access among schools, financial services should be tailored to the specific needs of low-cost schools.

Financial management

The quantitative findings bring into sharp focus the importance of financial management. School fee collection shortfalls represent a very serious financial constraint across the spectrum of schools covered by the baseline. For the previous year, the average fee collection (of the amount due) in high-cost schools was a little below the average in low-cost schools, with medium-cost schools doing slightly better. Even so, in excess of 30% of due fees had not been collected at the time of the interviews. The percentage of high performers (i.e. head teachers who have collected 80% or more of the fees due over the last year) is comparable across the three school types – only about 45% of high-cost and 39.7% of low-cost schools reported to have collected more than 80% of last year's fees. Given the reliance of schools on fee collection to cover operational costs, discussed above, it is clear that these levels of fee collection place significant financial constraints on schools.

Careful examination of the determinants of high fee collection performance produced strikingly consistent results. Specifically, quantitative analysis suggests that head teacher characteristics (such as having previously worked in an occupation other than teaching and having a bachelor's degree) play an important role in determining financial indicators such as the percentages of school fees collected and the extent to which the school is in a better financial position compared to the previous year. This signifies that good financial performance is to a large extent related to the financial management capabilities of the head teacher. The qualitative research strand also found that low-cost high achieving schools had head teachers or proprietors who managed money efficiently, and who invested in infrastructure and teacher training, keeping both parents and teachers satisfied. This suggests that DEEPEN's intention to develop and market training courses for private schools to improve their planning and handle their finances more effectively has significant potential to ease the challenges relating to successful financial management experienced by head teachers without a bachelor's degree or professional experience outside teaching.

However, more generally, we find that low-cost schools struggle to maintain student numbers and resulting cash flow and are constantly looking for ways to attract and retain students. One common way of doing this is by providing parents with flexible fee payment plans – by instalments, and even in arrears in some cases. Schools have little leverage with parents in terms of fee payments, in fact it is the other way around, where parents have leverage over schools and can move their children to schools with more flexible payment

terms. It is therefore unlikely that school management will be able to increase cash flow through more timely payments.

Another implicit assumption of the ToC is that inability of parents to pay fees would result in children discontinuing their education, and not achieving the ultimate aim of improved learning outcomes. Instead we find from the qualitative study that most schools did not eject students for late/non-payments, they may be sent home as a warning but most times parents are given leeway to pay in instalments through the term, and there were several cases mentioned of arrears.

It is worth noting that, contrary to some of DEEPEN's assumptions with respect to financial performance, low-cost schools do not appear to struggle more with fee collection services, and the proportion of pupils from poor households that attend a particular type of school does not seem to affect its fee collection performance. Indeed, our findings cannot dismiss the possibility that better off households are more likely to wilfully default on their fee payments to smooth their consumption more often than households that are worse off..

Supply of financial services

The baseline findings on the supply of financial services are limited. The quantitative survey did not have the required scope to investigate this dimension, but the findings from the qualitative survey suggest that there is interest from financial providers in regard to engaging with low-cost private schools and providing them with bespoke financial services. Specifically, we found that DEEPEN is partnering with several FSPs in Lagos, who say that the education sector is a potential key market for their products. FSPs are working to develop tools that are more suited to the low-cost private school market, including:

- Temporary advances or term loans – gap funding given to schools between terms, to be repaid from fees or sale of books and uniforms. This is for relatively small amounts (< NGN 5 million) and for short periods (up to three months).
- Provide electronic point of sale (POS) machines and e-invoicing systems to schools to improve fee collection.
- Tuition loans. Parents would need to have a savings account with the bank (where the school also has an account), and would then be able to borrow money for fees against this account. These fees would be paid directly into the school's bank account.
- Child life education insurance to guarantee fees in the event of the parent's death.

These findings from the qualitative research provide some evidence for the existence of a viable market for financial services targeted to low-cost schools and low-income households, on the supply side. There are, however, important gaps. We cannot assess, for example, whether FSPs would be willing to extend these services to schools that are notapproved.

3.1.5 Workstream 4: School improvement services

The school improvement services workstream aims to create better incentives and capacity for schools to invest in financial management, business development, school management, and education development. The aim of these investments is to improve learning conditions and classroom practices, and ultimately to create better learning outcomes. In this section, we explain the activities and theory of change underpinning this workstream to answer some of the evaluation questions related to it.

We find that whilst learning conditions and teaching practices in low-cost private schools are largely inadequate, there is little evidence to support the initial DEEPEN assumption that they are significant

drivers of learning outcomes. In general, schools prioritise investments in infrastructure above the professional school improvement services advocated by DEEPEN, as these have results that are more easily visible to parents and will impact on enrolment. On the supply side, most service providers have traditionally focused on the higher end of the fee-paying private school market, and training was not very effective, with limited learning and follow-up. There is, therefore, a role for DEEPEN to make these services more appropriate for low-cost schools, though we do not have enough evidence to comment convincingly on whether the school improvement services market is viable.

3.1.5.1Theory of change

The school improvement services workstream aims to create better incentives and capacity for schools to invest in better learning conditions, management, and pedagogy, which would then drive higher learning outcomes. School improvement services target a broad range of school functions:

- Financial management – cash flow practices, fee collection, access to finance, tax payments.
- Business development – business plans, advertising and enrolment, growth and sustainability strategies. School management – academic leadership, parent–teacher bodies, human resources, school systems and structures.
- Education development – teacher training, pedagogy, learning aids and cluster mentoring.

On the demand side, DEEPEN plans to provide support to schools in relation to their business development activities. First, DEEPEN is working to improve the information available to the public about education quality, which should help parents to reliably monitor their children's learning and increase their demand for better quality from schools. This should in turn stimulate competition among private schools, which should lead to investments in the school improvement practices outlined above. DEEPEN is also working with FSPs to improve schools' access to finance and cash flow, which should lead to increased profit and ultimately investments in financial management and business development services.

On the supply side, DEEPEN will conduct a detailed assessment of the various providers and services currently available (including commercial banks, micro-finance banks (MFBs), FSPs, private school associations (PSAs), education publishers, civil society organisations (CSOs), non-governmental organisations (NGOs), etc.) and will work with existing and potential providers to develop pilot programmes to increase educational quality. These programmes would build capacity among service providers, and also demonstrate the potential business and profit opportunities from serving low-cost private schools.

In the following sections we focus on school management and education development, as financial management and growth and sustainability strategies were discussed in the finance section. These interventions rely on the assumption that parents are able to access and understand information about improved pedagogy and school practices, and that school proprietors will understand the need to improve pedagogy (and that such a need exists), and can be convinced to invest in their teachers' development. These interventions also assume that service providers will enter the market at all price points and are able to support the low-cost schools.

These assumptions and mechanisms of, as well as potential risks to, the theory of change, are discussed further in the context of the evaluation questions in Annex H.

Theory of change conclusion

The evidence in this section suggests that pedagogy and learning conditions in low-cost private schools are largely inadequate. For every dimension of infrastructure, conditions are poorer than in medium-cost and high-cost schools. Low-cost schools are also less likely to engage in many of the activities that DEEPEN would consider indicative of adequate teaching – they are less likely to encourage group work, students helping each other, and independent use of learning materials. They are substantially less likely to use ICT in their activities. Importantly, however, we also do

not find any convincing evidence that these activities are significantly correlated with good learning outcomes, which also reflects the difficulty of correlating specific teaching practices with learning outcomes. What we find to be particularly important for literacy outcomes, on the other hand, is the interaction between teacher motivation and qualifications.

We find evidence of some understanding among schools of the need to invest in school improvement services. Across school types, investment in teacher training is low, but there is a clear disparity between high-cost and low-cost schools, with the latter investing less than half the amount invested by high-cost schools in teacher training. There is also a striking difference between high-cost and low-cost schools in investment in improving management which, as discussed in the finance section, is crucial for a school's good operation and capacity to make further investments. Our findings suggest that head teachers are more likely to invest in visible improvements, such as those related to infrastructure, as these are more likely than teacher training to improve a school's standing for parents. This suggests a lack of understanding by parents of the connection between teacher training and good learning outcomes. In light of the findings from the information work stream, given parents' focus on quality, this lack of understanding does not appear to be insurmountable, but there is a role for DEEPEN in making clearer for parents the connection between teacher training and motivation and learning outcomes.

We find limited evidence to support DEEPEN's assumptions around FSPs providers' willingness to target school improvement services towards the lower end of the school market. Our discussions with FSPs reveal that, traditionally, these providers have focused on providing teacher training services, and these have been aimed at the higher end of the market. Service providers agreed that there were possibilities of reducing costs in order to target low-cost schools, although this would take time and a change in approach.

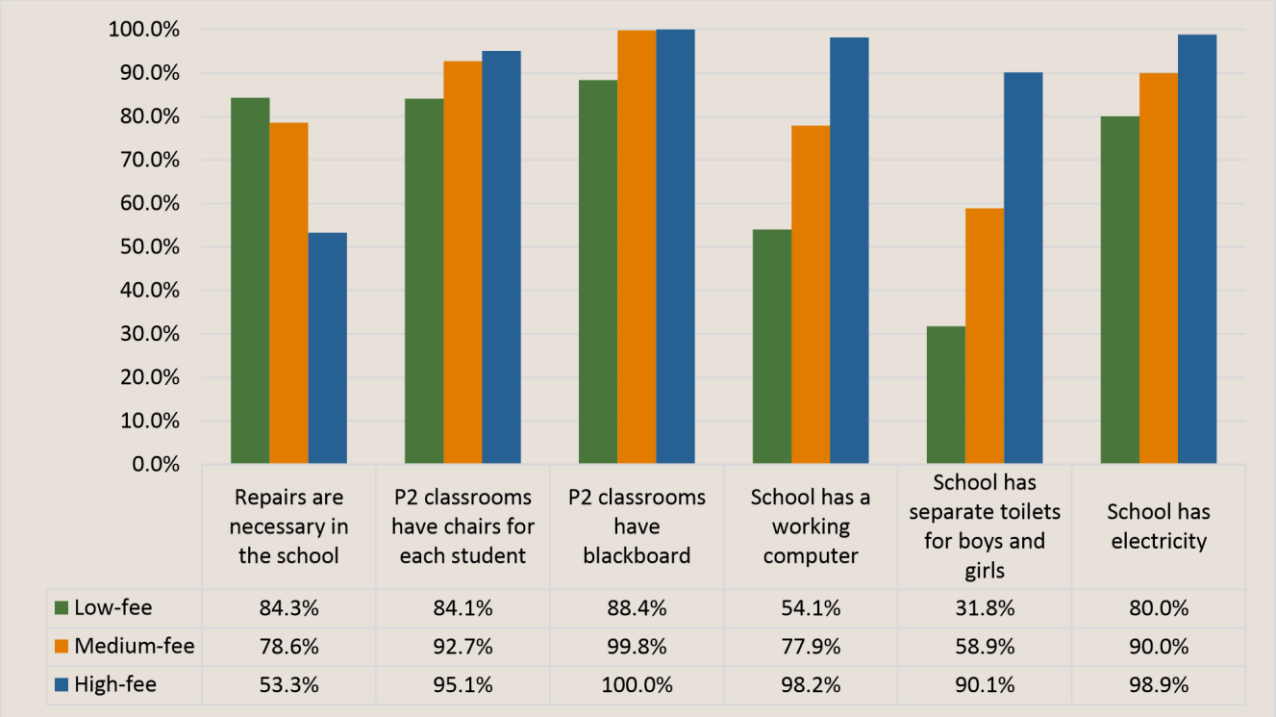
3.1.5.2Evaluation questions

The evaluation framework asks five questions relating to DEEPEN's assumptions around the school improvement workstream. To answer these, we mix evidence from both the quantitative and qualitative strands of the evaluation.

To what extent are the learning conditions and practices in (low-cost) private schools inadequate?

Adequate learning conditions entail the presence of appropriate infrastructure (e.g. chairs, tables, blackboards, separate toilets for boys and girls) in the schools. The quantitative survey has allowed us to shed a light on a wide range of infrastructure variables, as presented in Figure 15. There is abundant evidence to suggest that learning conditions are not adequate in low-cost private schools. For every dimension of infrastructure, conditions are poorer in such schools than in medium-cost and high-cost schools. Low-cost schools also lack some of the basic facilities necessary for learning: only a minority have separate toilets for boys and girls; and not all have electricity, a blackboard, or chairs for each student.

Figure 15: Learning conditions, by school type



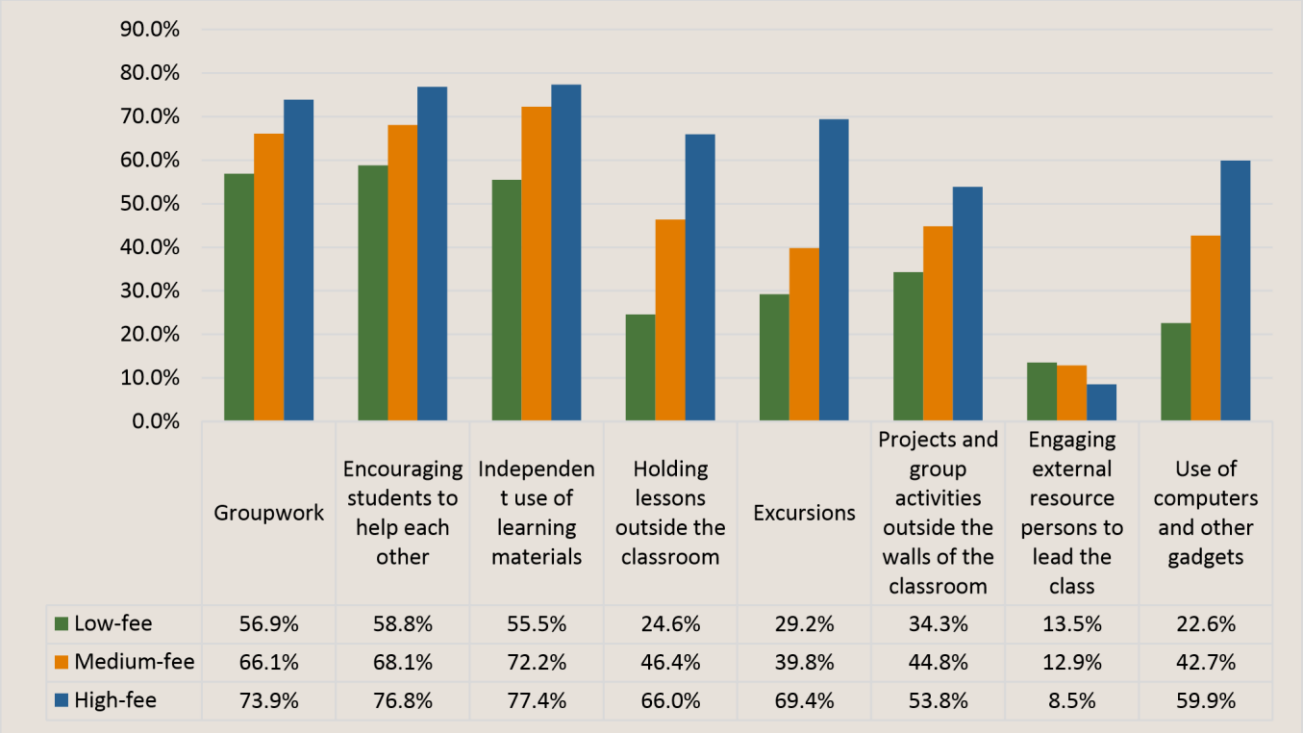
	Repairs are necessary in the school	P2 classrooms have chairs for each student	P2 classrooms have blackboard	School has a working computer	School has separate toilets for boys and girls	School has electricity
Low-fee	84.3%	84.1%	88.4%	54.1%	31.8%	80.0%
Medium-fee	78.6%	92.7%	99.8%	77.9%	58.9%	90.0%
High-fee	53.3%	95.1%	100.0%	98.2%	90.1%	98.9%

Our observations of school infrastructure during the qualitative research adds some nuance to these statistics. We observed, for instance, that some school yards did not have sufficient playground equipment and had dirt floors, which meant they became muddy and unusable during the rainy season. As a consequence, children are often forced to stay indoors all day, including during break time. Similarly, many schools are converted from residential buildings and so are not fit for purpose. They may be overcrowded, or have poor ventilation and lighting in classrooms. Higher fee schools were more likely to have better infrastructure than the low-cost schools.

DEEPEN defines adequate teaching practices as frequent use of ICT, learning outside the walls of the classroom, and child-centred learning (DEEPEN 2014).[41] In the teacher questionnaire we asked about the extent to which teachers have engaged in activities which would exemplify these types of pedagogical practices. Child-centred learning is exemplified by frequent group work, encouraging students to help each other, and encouraging children to use learning materials independently and at their own pace. Learning outside the walls of the classroom includes frequent excursions, projects and group activities outside the walls of the classroom, and engaging external resource persons to lead classes. ICT use was explored by asking questions about the frequency of use of computers and other gadgets. The figure below reports on the percentage of schools where teachers used these methods frequently (defined as anywhere from once a week or more to once a month or more).

[41] DEEPEN (2014) Setup Report.

Figure 16: Teaching practices, by school type



	Groupwork	Encouraging students to help each other	Independent use of learning materials	Holding lessons outside the classroom	Excursions	Projects and group activities outside the walls of the classroom	Engaging external resource persons to lead the class	Use of computers and other gadgets
Low-fee	56.9%	58.8%	55.5%	24.6%	29.2%	34.3%	13.5%	22.6%
Medium-fee	66.1%	68.1%	72.2%	46.4%	39.8%	44.8%	12.9%	42.7%
High-fee	73.9%	76.8%	77.4%	66.0%	69.4%	53.8%	8.5%	59.9%

It is apparent from Figure 16 that low-cost schools are less likely to engage in many of the activities that DEEPEN would consider indicative of adequate teaching – they are less likely to encourage group work, students helping each other, and independent use of learning materials. They are substantially less likely to use ICT in their activities. The lesson observation from the qualitative fieldwork did not find any evidence of child-centred learning across the three low-cost schools and the two medium-cost schools in which lessons were observed. All of the teachers stood at the front of the board and minimally engaged with students from the front of the classroom or else not at all. In some classes, children were completely distracted, often eating, doing homework from another class, or entering and leaving the classroom without requesting the teacher's permission. The qualitative team observed ICT equipment (mainly computers) in several schools, but these did not appear to be in active use, and ICT was not mentioned by children during FGDs as a favourite subject. The team also found that parents are particularly interested in the use of computers and excursions by schools in teaching practices, and list these as factors that influence their school choice.

A student–teacher ratio can either be considered a barrier to unlocking effective and meaningful student–teacher interactions or otherwise as presenting an opportunity for engagement. On average, low-cost schools had a 12:1 pupil–teacher ratio and a 7:1 pupil–classroom ratio. Therefore, in theory, a smaller classroom size would enable a teacher to better manage her or his classroom and ensure students are following and comprehending the lesson. In practice, teachers rarely engaged with students on a one-to-one basis and students themselves were highly distracted in some classes. For example, in one class with an 8:1 ratio, half of the students had their heads on the desk. This calls into question the role of classroom size as a critical factor and learning condition, which limits or enables student and teacher performance in the classroom. The absence of a correlation between classroom size and learning outcomes in the quantitative analysis further reinforces this finding.

Is poor learning in (low-cost) private schools driven by pedagogy and classroom conditions or by other factors (curriculum, materials, fellow students, etc.)?

The quantitative data has allowed us to explore the extent to which some of the pedagogical practices advocated by DEEPEN drive learning outcomes. . We did not find evidence that child-centred learning, use

of ICT, or learning beyond the walls of the classroom has a significant effect on learning outcomes. Children educated in environments where these pedagogical practices were never implemented are not found to perform any worse than those in schools that used these practices, however seldom (see Annex I). We have also explored alternative indicators of good quality teaching, by constructing indicators of teaching quality based on whether the teacher employs group work, encourages pupils to help each other, and uses computers and other gadgets during the lesson. The results, reported in the quantitative report, show no significant relationship in quantitative terms between these practices and learning outcomes.

We do, however, find that teacher motivation in conjunction with highly qualified (i.e. university bachelor's degree or higher) teachers is a significant driver of good learning outcomes. Specifically, the percentage of teachers with a higher degree in a school does not matter when accounting for their average motivation levels. Neither does motivation matter in the absence of a degree. Instead, motivation reinforces the contribution of qualifications, and together they are associated with better outcomes in literacy tests. The same mechanism does not appear to be at work for numeracy outcomes. Given the importance of teacher motivation, it would be advisable for DEEPEN to take this into account more directly in the way it structures its school improvement services: it is what teachers believe and do in the classroom that has the maximum impact on students' learning outcomes (Singh and Sarkar 2012). It matters how teachers working with disadvantaged children treat them/what their attitudes to them are, so low-cost schools in particular should pay attention to this.

The qualitative study also explores issues of teacher motivation. While many teachers admitted that the profession was not their first choice, they expressed finding joy and fulfilment from working with children to impart knowledge and watching them improve over time. A common sentiment was that they were not in it for the money, and some expressed hopes of religious or moral reward. Further probing revealed that many teachers in fact were demotivated by poor employment packages (below minimum wage pay in many cases, no pensions, limited professional development and opportunities for progression). Furthermore, most teachers would leave their current schools if given any opportunity with better salaries, whether in other schools (public or private), or in other sectors.

We have also explored the importance of infrastructure characteristics for learning outcomes. Having top quality infrastructure (i.e. a school having enough chairs for every pupil, separate toilets for girls and boys, electricity and computers) plays a significant positive role in relation literacy learning outcomes, but has no effect on numeracy. It is important to note that 78% of high-cost schools have top-quality infrastructure, compared to 37% of the rest. These results are driven in large part by the fact that high-cost schools are more likely to have computers.

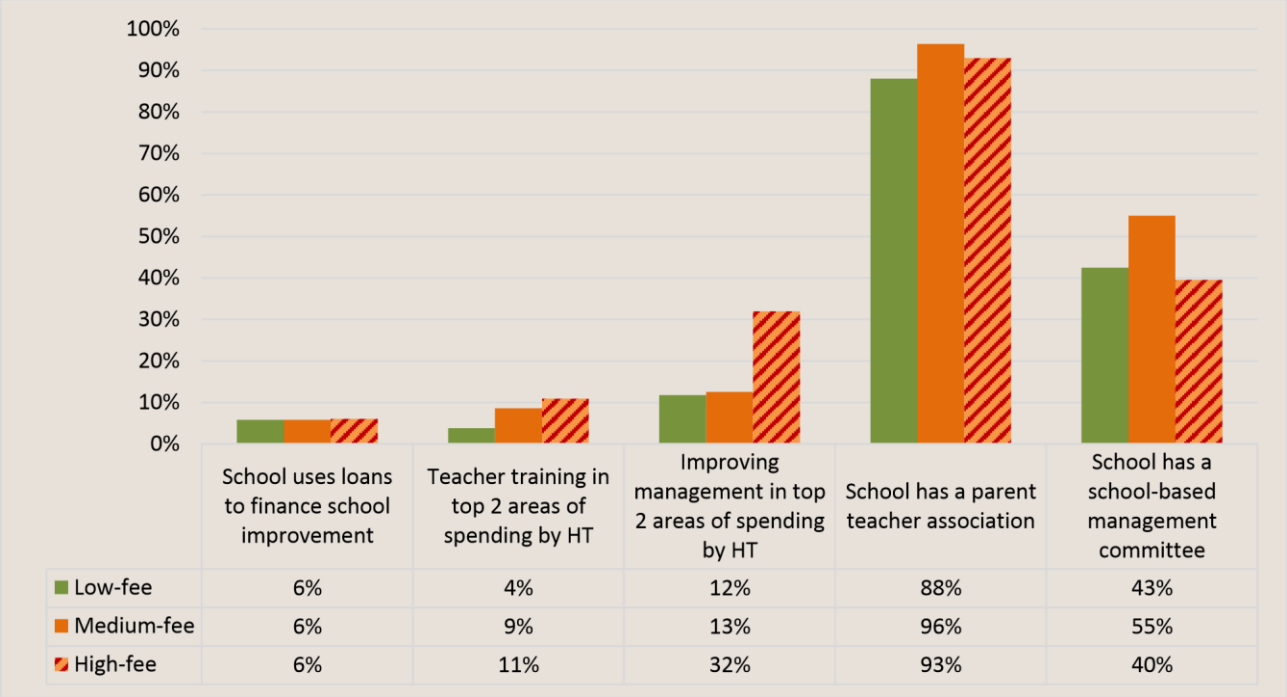
On balance, we do not find any highly persuasive evidence that learning conditions and pedagogy, as captured by our instruments, are important drivers of learning outcomes. Instead, teacher motivation, as well as the factors described in the first section of this report, appear to be more significant. We cannot conclude, based on this, that learning conditions and pedagogy are not important, however. Capturing their effect is a complex endeavour which requires further investigation and development. The endline stage of the evaluation will provide more information on this, with more data and a more robust approach to controlling for time-invariant factors.

To what extent is investment, management and innovation in (low-cost) private schools inadequate?

Figure 17 provides a snapshot of current investment in school improvement services, by school type. Across school types, investment in teacher training is low, but there is a clear disparity between high-cost and lowcost schools, with the latter investing less than half the amount invested by high-cost schools in teacher training. There is also a striking difference between high-cost and low-cost schools in regard to investment in improving management, which, as discussed in the finance section, is crucial for the school's good operation and capacity to make further investments. Across the board, we find that schools are unlikely to

use loans to finance school improvement, though the qualitative research suggests that some loans are used to finance construction. This is unsurprising in light of the hurdles to obtaining a loan explained in the finance section.

Figure 17: Investment in school improvement services, by school type



	School uses loans to finance school improvement	Teacher training in top 2 areas of spending by HT	Improving management in top 2 areas of spending by HT	School has a parent teacher association	School has a school-based management committee
Low-fee	6%	4%	12%	88%	43%
Medium-fee	6%	9%	13%	96%	55%
High-fee	6%	11%	32%	93%	40%

On the other hand, in aspects of school management, such as the presence of a PTA and that of a school based management committee, the differences between low-cost and other types of schools are less pronounced. Across school types, on average less than half have school-based management committees, whereas whereas PTAs are present in the majority of cases.

Investment and management are fairly significantly emphasised by head teachers in the qualitative findings. As parents' demands for better physical facilities increase, head teachers are faced with the pressure of deciding how to use the limited resources available for school improvements. Head teachers in low-cost private schools, for the most part, decide to prioritise infrastructural improvements for school investments. However, this is not to say that investment and management are adequate. Rather, there are trade-offs between *how* investments are used and *how* management decisions are made.

Do (low-cost) private schools want to invest in professional school improvement services to improve the quality of the education they provide (while remaining low-cost)?

In general, about half of head teachers interviewed in our baseline survey were aware of school improvement services. From the answer to the previous question, it is clear that a much smaller proportion use these services. In the qualitative fieldwork, service providers said that private schools focus on more visible school improvements when considering potential investments – such as classroom decoration – and so they develop programmes to cater to this demand. Some proprietors noted that they cannot afford to pay for external training, but even with increased access to finance schools are likely to focus first on infrastructure improvements which may change if there less of a focus on school infrastructure for government recognition. This is because proprietors understand that parents consider this in school choice decisions and this is therefore more likely to attract students, and increase profit; as opposed to teacher training, which parents cannot observe easily, and where there is a possibility that teachers may leave for other schools.

Nevertheless, the qualitative findings suggest that there is general awareness of the importance of teacher quality for school performance. Some proprietors mention the need for innovative teaching methods that will help children learn better. Others schools recognise the need for teacher development and organise internal training sessions for teachers. There is, nevertheless, a clear disincentive for investment in teacher training, due to evidence of high teacher turnover. Where training is available, it is not certain that all teachers would benefit from it. Parents do not seem to be engaged in schools' decision-making in regard to investment in teacher training. Most of the service providers that DEEPEN is working with focus on providing teacher training, with some variations in the business model, delivery style and focus markets. They believe that schools are interested in such training, but are not willing to pay for it. There are two main possible reasons for this – lack of finances, a fear that teachers will leave the school after receiving training, or a fear that teachers' pay might need to increase.

Is there a viable market for school improvement providers providing school improvement services to low cost schools?

Our key findings in this section emphasized that there is a strong demand for school improvement services, particularly with respect to infrastructure improvements and management. The evidence regarding significant demand for teacher training services is weaker. On the supply side, most service providers have traditionally focused on the higher end of the fee-paying private school market, and training was not very effective, with limited learning and follow-up. DEEPEN is now providing financial and technical support content and teaching methods to selected service providers through a pilot. School improvement service providers (SISPs) who were interviewed agreed that there were possibilities of reducing costs in order to target low-cost schools, although this would take time and a change in approach. Possible approaches include splitting costs between teacher and school, which solves the problem of teachers leaving soon after, using low-cost venues, such as community halls, churches or mosques, clustering schools by LGA for group training, etc. Finally, an interesting finding is that some of the service providers we have spoken to believe that DEEPEN has introduced them to a new market they were unaware of, and that they see DEEPEN as a platform for coming together to share ideas, and providing financial support.

3.2 Does DEEPEN address the most pertinent challenges facing primary aged children in Lagos?

The evaluation framework asks five questions related to pertinence, which should all be answered now and again at end line in 2018. These questions will be answered in this section, drawing on the findings presented in Section 3.1 above, the ex-ante review of DEEPEN (Bano *et al*. 2015) and DEEPEN's annual reviews in 2014 and 2015.

Given other education initiatives in Lagos, is a focus on private sector quality the most appropriate approach?

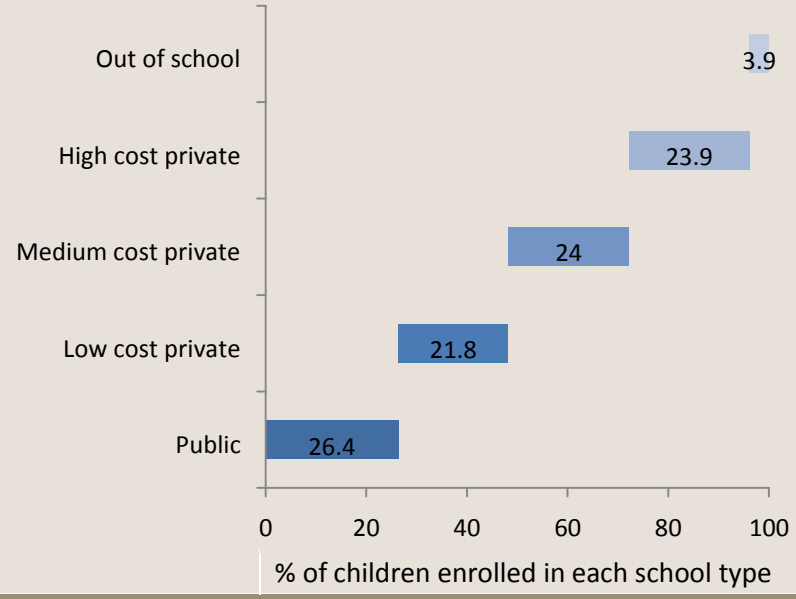
Broadly, the conclusions of both annual reviews, the ex ante review, the findings presented in this report in section 3.1 and the context outlined in section 1.5 suggest that the answer is yes: private school quality in Lagos is an appropriate focus for DEEPEN.

This positive conclusion is supported by three types of evidence; first the size and nature of the private school sector in Lagos, second the openness of the Lagos State Government to working on private sector quality, and third, the focus of other education initiatives in Lagos.

- Most children in Lagos attend private schools, and many of these children are from poor households (see section 1.5 and the table below), although there is some doubt about the validity of the poverty data (Bano *et al* 2015). The learning outcome results presented above suggest that

most children attending private schools in the evaluation LGAs are not achieving the level in both literacy and numeracy prescribed by the curriculum (see section 3.1.1), and that children in low-cost private schools and from poorer households perform worse than children in high-cost private schools and from richer households. The baseline results suggest that school choice does matter for learning outcomes: so focusing on school quality is important. Comparative evidence on learning outcomes in the public and private sector may be available following a study in June 2016, and this would allow a stronger conclusion about the appropriateness insofar as relative quality is concerned. However, whatever the findings of this study, the very large size of private education sector and its poor outcomes compared with the curriculum in Lagos suggests that a focus on private sector quality is likely to be appropriate[42]. Furthermore, DEEPEN's evaluation and research offers DFID the opportunity to better understand why private school outcomes are relatively better than public school outcomes, and share any lessons for improvement between both private and public sectors (DFID 2013:14).

Table 6 School types and poverty status

Distribution of all children across school types	% below poverty line households in each school type…
	4% 11% 23% 27% 35% Private schools constitute 70% of enrolment and contain 61.5% of children from households below the poverty line.
Source: Tooley (2013: 19), cited in DEEPEN evaluation framework..	

- The second criterion for appropriateness is the support of the Lagos State Government for a focus on private school quality, sufficient to allow DEEPEN to achieve its objectives. As discussed in section 3.1.2 this appears currently to be present, but part of the reason for this is that DEEPEN has successfully developed this supportive attitude (see DFID 2015 for evidence of this), particularly in terms of the

[42] DFID's 2013 Education Position Paper notes that the UK takes a "pragmatic stance on how services should be delivered," and that DFID works with the private sector where "the public sector is not sufficiently present…or state provision is so weak that the private sector has stepped in to fill the gap." Based on this criterion, Lagos qualifies for support, particularly as outcomes from the private sector remain unacceptably low. (DFID 2013: 14).

A focus on the private sector is also aligned to DFID Nigeria's Operational Plan (2011-2015), which hoped to leverage the Nigerian private sector in pursuit of results, including in the delivery of education. In line with the Millennium Development Goals, the education results in the Operational Plan focus on access and not quality. Given that enrolment in Lagos is already very high, DEEPEN focuses on quality. DEEPEN is unlikely to contribute to 2011-2015 Operational Plan education results unless subsequent operational plans (2016-2020) incorporate learning outcomes as an education result, in line with the Sustainable Development Goals).
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67410/nigeria-2011.pdf, page 3. Accessed December 2015

LSG's ownership of the GAPS process[43]. DEEPEN's success in this area is clearly strong evidence that at the time of design, the scoping mission and business case were correct to conclude that the LSG could be amenable to a project with this sort of focus. However, as the 2015 Annual Review notes, this positive change in attitude is reversible, so this conclusion will need to be checked again at endline, not just for GAPS but for all areas of DEEPEN's intervention.

- The third criterion is balance with other initiatives in Lagos. No other projects supported by development partners work directly with the private school sector. DFID support has focused on Lagos as part of the State-Level Programmes, including in education (ESSPIN), health, governance, accountability, and growth and employment (also funded by the World Bank). The World Bank has focused on infrastructure, urban development and governance. GEMS (Growth and Employment in States) adopts in part a making markets work for the poor approach and works in Lagos, but does not focus on the education sector (instead on wholesale and retail). At the same time, there are several other smaller initiatives in the private education sector in Lagos (for example through the private schools associations), with which DEEPEN appears well coordinated. So at this point it is reasonable to conclude that DEEPEN's focus is appropriate given other initiatives.

Is the M4P approach the most suitable approach for generating improved learning outcomes through private sector education?

A focus on quality and learning outcomes in the private sector still leaves a range of potential approaches to deliver improvement. Unconventionally, DEEPEN has used an M4P approach, the first time this has been used in education. This section considers whether this was an appropriate choice, drawing principally on the ex ante review (Bano *et al* 2015), which discussed this precise question. The next section considers whether DEEPEN's approach was sufficiently well informed by existing experience with M4P, also discussed in the ex ante review.

We argue that M4P was perhaps the most suitable single approach in Lagos, for reasons of short-term feasibility, long-term cost, and learning. However, in the long-term, managing Lagos' education sector using only an M4P approach runs a risk of increasing educational inequality unless the poorest students or schools are supported. We argue that DEEPEN could help the Government explore how this support might be provided.

Bano *et al* point out that the M4P approach offers greater potential for innovation and learning than conventional approaches that have already been trialled in other contexts; this was affirmed in the 2015 DEEPEN Annual Review. DEEPEN has the potential to contribute to advancing academic and policy debates in this subject area if there is a specific focus on understanding the low-end segment of the market (Bano *et al*. 2015). They list sixteen hypotheses from the systematic review of low-cost private schools (Day Ashley *et al* 2014) that DEEPEN could potentially test – and as the first M4P programme the opportunities for this are significant.

Some of the benefits of this potential for learning and innovation are already apparent. This baseline report (and companion quantitative volume) offer, we hope, advances in research on private schooling that represent some initial benefits of DEEPEN's innovativeness and contribution to learning. For instance, the findings from the economic contribution analysis conducted by DEEPEN seem to support findings from other developing countries that private schools can achieve the same or better learning outcomes as public

[43] In spite of DEEPEN's success in creating government ownership of GAPS, there have been significant delays in government rollout, due to changes in administration following the 2015 elections, as well as limited financing available to government. These delays have implications for the timing of the mid-line, etc.

schools as much lower cost (Day Ashley et al 2014 cited in DFID 2015).[44] In addition, DEEPEN's experience should add to the literature on information and education (DFID, 2015).

Bano *et al* note that the literature on private schooling is contentious. In particular, it is not clear that children from the poorest households can afford private schools that are of higher quality than public schools, and where they do, this takes up a very large proportion of their income. As a result, 'conventional' approaches to improving learning outcomes through private schooling have focused on i) improving the access of poor households to quality private schools (e.g. vouchers) or ii) improving the quality of low cost private schools (e.g. teacher training).

However, the scoping study, business case and other DEEPEN documentation has argued that neither of these approaches is feasible in Lagos given i) the large size of the private sector, ii) the high poverty headcounts, and iii) the limited fiscal space, organisational capacity and political appetite to spend of the Lagos State Government. These factors strengthen the case for an M4P intervention, which if successful does not require significant financial commitments from the public purse or organisational resources, and therefore avoid these problems altogether. Short-term, these arguments may be valid, but as the DEEPEN evaluation framework Bano *et al* point out, there are two reasons to contest them over a longer time period.

First, as set out in the evaluation framework, there is a risk that efforts to improve the quality of education in private schools may not affect or even worsen the quality of education available to the poorest students. This is because some schools that serve children from poor households may improve in terms of quality and, unless they can make substantial savings through better financial management, may charge higher fees to do so, thereby excluding some children from the poorest households. Charging higher fees may also be a signal of quality in a context where information on school quality remains fuzzy. Other schools, however, may be unable to improve and may thereby both provide low quality education and serve the poorest households. It is not clear how many households and schools this would apply to. Yngstrom (2015: 4) expresses concern that DEEPEN's theory of change will break down for around 56,000 to 71,000 children, but for slightly different reasons.

Worries about the risks of DEEPEN for the poorest households was echoed in the 2015 Annual Review and in DEEPEN's assessment of its theory of change.[45] The Annual Review concluded that while significant progress had been made in the school improvement workstream, "the business model for low cost services, while sensible, is still unproven – representing a high level of risk." DEEPEN's internal review noted on page 5 that "the DEPEN programme may not achieve its objectives for households living in some of the most vulnerable areas of the city [estimated at between 56,000 and 71,000 children]." The baseline does not provide much additional evidence on whether these risks will materialise, but it is clear that there are strong correlations between poverty and low learning and attending low-cost school and low learning. This makes clear that the risk exists.

Second, Bano *et al* point out that the per student charges levied by most private schools in Lagos are probably lower than the amount that the government spends on a student's public education. It may thus be cheaper to fund a conventional approach to the private sector (such as a voucher scheme) than to provide education publicly. Moreover, international evidence suggests that private schools may offer similar or better quality education at slightly lower costs, and the baseline evidence does not disprove this view. This weakens the argument that public subsidy (in the form of vouchers) is unaffordable, although there would remain significant political and operational difficulties in re-directing funding and reorganising the MoE to manage vouchers in a way that is efficient and reduces fiduciary risk. Indeed, DEEPEN have

[44] Day Ashley et al (2014), The role and impact of private schools in developing countries, DFID Education Rigorous Literature Review https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/439702/private-schools-full-report.pdf

[45] Yngstrom 2015.

done extensive work detailing the (high) costs of different voucher schemes and the challenging political and operational environment within which they would have to operate.

While the 2015 DEEPEN Annual Review (DFID 2015) concludes that DEEPEN's theory of change remains logical and relevant, and DEEPEN's assessment of vouchers notwithstanding, Bano *et al*'s conclusions on the appropriateness of the model are pertinent (2015: 19):

> *"The design of DEEPEN is currently entirely focused on innovating through market mechanisms without trialling any subsidy-related intervention. This might appear challenging and exciting but this approach runs the risk of not really reaching the poor; instead, the benefits of such interventions might be best captured by the medium-fee schools."*

The use of a subsidy-related intervention in education while ensuring adherence to M4P principles is not inconsistent. As Bano *et al* put it:

> *"Whilst the M4P approach demands caution around the provision of subsidy due to concerns around sustainability and market distortion, it is important to note that the education sector is fundamentally different to commercial sectors in which M4P programmes have been more common. Consistent with the new institutional economics approach on which M4P draws, there is strong economic rationale on both efficiency and equity grounds for the continued long-term public financing of education regardless of the source of actual provision. Due to positive externalities from education and myopic preferences, individuals are likely to under-invest in education as some of the benefits accrue to others, and in the future."*

This is a peculiarity of the education sector, and follows the idea in economics that education is a merit good: it creates positive externalities and people often do not realise its full value (they are myopic). The baseline findings provide some support for this idea: while parents did value education, they had usually not been able sufficiently to recognise when high quality was being provided. It was easier for some of the other M4P programmes in other sectors (including GEMS) to adhere to the eight M4P expectations without the need for subsidies because their sectors were not so susceptible to externalities or myopia.

Based on the ex ante review and the quantitative baseline DEEPEN has recognised that it needs to focus its interventions on the poor. After discussions with DFID and analysis of its theory of change, DEEPEN is both exploring the possibility of piloting vouchers and attempting where possible to focus existing interventions on poor households and areas. This would be an interesting and important focus of research and evaluation on DEEPEN's innovative approach.

Has DEEPEN drawn sufficiently on other M4P and education programmes to design the best intervention set possible?

The review conducted by Bano *et al*. (2015) explored the eight core expectations of the M4P framework and 15 M4P programmes from other contexts and sectors, and set them against DEEPEN's approach. Overall, DEEPEN could have drawn more on the experience of other M4P programmes in focusing on the poorest and on equity. With regard to other education programmes, DEEPEN is adversely affected by being highly innovative, but there are probably lessons from similar intervention sets in other countries (such as Pakistan) from which DEEPEN could have drawn further.

The eight core expectations for M4P design are: a focus on the poor; reliance on the market mechanism; large scale of interventions; monitoring and evaluation focused at the system level; sustainability of impact; consideration of equity issues; adaptive and responsive programme design; and management of

unintended consequences. DEEPEN's design is broadly consistent with six of the eight core expectations, but needs adjusting to maintain a focus on the poor and to ensure a consideration of equity issues.

The review of other M4P programmes generated some further conclusions on whether DEEPEN has drawn sufficiently on other programmes:

- DEEPEN is less clearly focused on targeting the poor than the majority of programmes reviewed, because other programmes are either more geographically targeted or design particular interventions around the poorest, while DEEPEN maintain work at the systems level. This suggests that DEEPEN could (re-)consider this focus on the basis of other programmes; and indeed, DEEPEN are giving this serious thought.
- There are examples of other M4P programmes using direct subsidies strategically and for the short term in order to reach the poorest segment of the market. Again, this generates experiences from which DEEPEN could learn in developing its pilots of subsidies.
- The markets for media and micro-finance, which DEEPEN aims to engage, are complex markets in their own right, and other M4P programmes offer useful lessons here.
- The five M4P programmes in Nigeria do not suggest any specific challenges related to the political economy of Nigeria.
- To be successful any M4P programme needs to develop gradually, have realistic expectations and be adaptive and responsive to ongoing activities

The ex-ante review, the annual reviews 2014 and 2015, and the baseline evaluation teams noted that the DEEPEN team is showing an increasing level of sensitivity to these issues as it moves forward. There is particular recognition that DEEPEN has to be a responsive and adaptive programme, which is reflected in their change in approach as a result of the 2015 DEEPEN quantitative baseline findings and the 2015 DEEPEN annual review. The 2015 Annual Review found that the response to some of their recommendations in 2014 had been slow and this has been taken on board by DEEPEN, especially with regard to the need to increase its focus on monitoring. In response to the quantitative baseline findings, which indicated that learning outcomes are lowest amongst poorest households, there have been discussions about how DEEPEN's interventions can be tailored to better target the poor.

With regard to other education interventions, the design of the DEEPEN programme is aligned closely with the suggestion of a recent World Bank working paper based on over a decade of research on the growth of private schools in Pakistan – that policy should take a pragmatic approach focused on addressing constraints to the market including access to information about school quality, access to finance, and access to skilled teachers (Andrabi et al 2015 cited in DFID2015).[46] However, as pointed out in the evaluation framework, DEEPEN initially did not go far enough in learning from this experience. For example, DEEPEN could go further in sharing information about school quality with parents directly – this was found to have a sizeable impact on the education market in Pakistan – and DEEPEN are looking at this through the GAPS Report Card Plus approach.

Are there complements to the M4P approach that would increase impact?

As discussed above, the available evidence suggests that medium to long-term, a form of subsidy for private education for poor students and/or low-cost schools may improve impact on the poorest and reduce the risk of poorer students being unable to afford quality education. DEEPEN could pilot and test vouchers and

[46] Andrabi et al (2015), Delivering Education A Pragmatic Framework for Improving Education in Low-Income Countries, World Bank Working Paper http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/06/02/090224b082ee757c/2_0/Rendered/PDF/Delivering0edu0low0income0countries.pdf

subsidising the teacher and head master training programmes, based on their ongoing assessment of different models.

Would other activities be likely to be more relevant to DEEPEN's objectives of improving school quality and learning outcomes for children from poor households?

This question is covered in the sections above where the possibility of piloting additional activities is discussed.

Given the evidence about DEEPEN's assumptions in (i) above, is DEEPEN's approach valid?

Given the evidence above the overall DEEPEN M4P approach is valid, but would benefit from some adjustments to ensure that the programme benefits the poorest. Furthermore, there are some assumptions underpinning its work streams that evidence from the baseline does not fully support and could benefit from further research and refinement. This is further elaborated in section 4.1 below.

3.3 Coherence with policy environment in Nigeria and Lagos

The evaluation framework asks three questions related to coherence:

i. ***Is an approach to education that strengthens the quality of private (as opposed to public) sector education consistent with the education policies and strategies in Lagos and Nigeria, and DFID?***
ii. ***Is an M4P approach consistent with the education policies and strategies in Lagos and Nigeria, as well as DFID?***
iii. ***Is DEEPEN's specific approach consistent with the education policies and strategies in Lagos and Nigeria, as well as DFID?***

The evaluation framework stated that we would discuss these questions by looking at the wider policy environment, the qualitative baseline and by drawing on the 2014 and 2015 DEEPEN annual reviews. These questions were, however, removed from the scope of the qualitative baseline in line with comments from DFID and DEEPEN. The annual review team also did not pose these questions during the 2014 and 2015 reviews. For this reason there is limited scope to answer these questions in this report. These questions have also been discussed in greater detail above in sections 1.5 and 3.2. In brief, the answer to these questions is yes.

As stated above, Lagos has one of the world's largest private education markets, and while the state deems education to be free and compulsory it has not been able to meet the demand for quality education from Lagos's rapidly expanding population. Under the provisions of the 2004 Universal Basic Education Act every child is entitled to free basic education (early childhood, primary and secondary) so supporting the development of private sector education would not be completely consistent with broader Nigerian education policies. However, given that the government has not been able to set up public schools at the required rate supporting the burgeoning private sector will support the overall goal of universal access of children to quality education, albeit not free. Thus a private sector / M4P / DEEPEN approach is clearly *relevant*, but not necessarily entirely coherent with existing policy.

DEEPEN's current approach aims to address the challenges faced by private schools attended by the Lagos poor and to provide a degree of legitimacy to the private sector. It works at nudging the Lagos state government to provide a more supportive regulatory environment for private schools. This is in line with the Lagos government's recognition of the existing role of private schools in the state and welcoming of donor support to sector, which indicated a move away from its previous attitude towards private schools. A private sector M4P approach also chimes with emerging DFID priorities, after the 2010 UK election, to

promote private sector development, and a focus on quality is likely to align with the next DFID Nigeria Operational Plan.

3.4 Efficiency: does DEEPEN offer VFM?

The evaluation framework sets out that the baseline report would answer questions on efficiency every year, drawing on annual reviews of DEEPEN for DFID. Limited information is available on the detail of the evaluation questions, so this section provides an initial overview of findings related to VFM from the annual reviews.

Both the 2014 and 2015 DEEPEN annual reviews conclude that the programme does still represent VFM. Given that overall performance on planned activities is on track and the programme theory of change is still sound the conclusion is that, overall, VFM is still positive. However, monitoring / evaluation data on outputs and outcomes are needed for a more robust assessment of efficiency, effectiveness and equity in 2016. Programme performance on economy indicators has been good.

Table 7: Evaluation questions on VFM and key findings

Evaluation questions on VFM	Key findings
Does DEEPEN offer VFM, as anticipated in the business case? This should include a comparison with section D of the business case (costs and benefits of options), and with the objective of costs of £12.5 per child supported.	This analysis could not be carried out in 2014–15 due to the lack of data available. No data on performance indicators are due to be available until 2016.
What has been the cost of each major activity and intervention area?	The vast majority of spending has been on staff (who are to some extent spread across the four DEEPEN intervention areas) and management/overhead costs. There has been relatively little spending on specific activities so far. Approximately 69% of spending in 2014–15 was concentrated on technical staff, long- and short-term consultants and project management. This is in line with the business case, which identified the cost of technical assistance as the key driver of programme costs.
What are the costs in terms of schools supported and learners supported?	The annual review team determined that since there is very little direct support of schools and learners, it did not make sense to calculate this number. The theory of change is that by working with a small number of schools, a new product/business model will be created that the market will scale to a much bigger number. It was not deemed suitable to calculate unit costs for the pilot stage, and there are as yet no data on any successful scaled-up results.
Have these costs per school and per learner changed over time?	As above.
Were DEEPEN's results achieved on time? If not, why?	Overall performance on planned activities in on track and both annual reviews have awarded the programme a score of A. However, since there were no output milestone indicators in 2015 and since there are limited monitoring data it is necessary to caveat these scores. The finance and information workstreams, as well as research and learning, received individual scores of B, and recommendations that further progress be made.

Has DEEPEN successfully developed and implemented strategies, including internal learning, to achieve greater VFM in terms of efficiency, economy, and effectiveness?	DEEPEN has developed a robust VFM strategy, though the extent to which it has been implemented remains unclear due to a lack of evidence on it being used as a management tool or being monitored. The fact that the efficiency and effectiveness indicators are based on measurements from the 2016 and 2018 surveys is highlighted as a key weakness of the strategy in the 2015 review.
Did DEEPEN's organisational setup and management enhance delivery of results?	This was not looked into during the annual reviews.

4 Conclusions and recommendations

This section presents conclusions, on the basis of the baseline findings above, and offers some recommendations both for policy and for further research and evaluation in regard to DEEPEN.

4.1 DEEPEN's relevance

The evidence presented here is broadly supportive of DEEPEN's approach but raises some key strategic and operational questions for DEEPEN, DFID and the Lagos State Government. The sheer size of the private education sector in Lagos makes it a highly relevant programme; the poor learning outcomes relative to the curriculum underpin the focus on quality; and the political, operational and financial constraints in both government and the market, combined with the possibility of learning from DEEPEN, make M4P a broadly sensible approach to take. The two Annual Reviews conducted so far have awarded DEEPEN 'A' scores, suggesting that it is broadly on track in terms of implementation. Particularly impressive has been the progress DEEPEN has made with the overall stance of the LSG and MoE towards private education.

However, some of the evidence and research discussed in this report raises challenges for DEEPEN, DFID, and the LSG, and interesting points for the wider education research and policy community.

- Learning outcomes in private schools are higher than DEEPEN assumed at the outset, particularly for literacy. However, they are still below the expectations of the curriculum for most students. It is not yet clear exactly how the quality of private and public schools compare. This implies that DEEPEN's focus on improving private sector learning outcomes is justified. Nonetheless, both parents and teachers have negative perceptions of state schools, so the LSG may be able to argue for supporting private schools on the grounds that this is more likely to lead to human capital development, provided they are accessible.
- Students in low-cost schools perform less well than students in high-cost schools. This supports a rationale, suggested by the theory-based review and being explored by DEEPEN, for focusing interventions on low-cost schools and the relatively poor students that attend them. It is not at this point, however, immediately clear what sort of interventions would be appropriate, since the baseline qualitative evidence suggests that low-cost schools currently perform better than high-cost on some measures, but this could include exploring on a small-scale whether vouchers could have a positive impact on the learning of the poorest students, and continuing to develop a set of criteria for how this might be made to work if implemented by the Government of Lagos.

We discuss the workstream conclusions in the sections below.

4.2 Policy recommendations

We organise our policy recommendations by the DEEPEN workstreams:

Workstream 1: Rules and standards

Our findings suggest that the regulatory regime may prevent schools from investing in improvements in school quality. It is likely that not all private schools benefit from rules and standards and that low-cost schools could be hit the hardest. This is something that all the interventions under workstream 1 are working to resolve with emphasis on low fee schools. The situation with rules and standards is further complicated by the fact that private schools are extremely heterogeneous and it would be hard to develop regulations that are 'fit for all purposes'. This creates challenges for the government in terms of having the relevant capacity, and an understanding of basic information about the size and nature of the private sector, in order to be able to effectively intervene and get the implementation of policies right.

Main policy recommendations:

- In designing the interventions in its rules and standards stream, DEEPEN should take into account the heterogeneity among school types and should achieve a balance between effective regulation and maintaining the low cost nature of schools.
- Capacity building in the area of private school regulations for governments will also be crucial for the success of this workstream.

Workstream 2: Information

We find that parents generally perceive the learning outcomes and school quality of private schools to be high, and better than those of public schools. Parents also gather information about schools prior to enrolling their children, and although this information is not always linked to reliable indicators of quality, parents make decisions between private schools based on their perceptions of relative quality. Finally, we find that informal sources of information are more important than formal channels.

Main policy recommendations:

- DEEPEN's assumption that reliable information on school quality will be crucial in shaping parents' decisions is largely validated by our findings, but the programme might want to consider more carefully how to leverage informal sources of information and to target its media programmes better in order to reach its target population.

Workstream 3: Finance

For schools, the findings of both the quantitative and the qualitative analyses support the view that there is an unmet demand for financial services. However, the balance of the findings suggest that financial management emerges as somewhat more important than access to to *traditional* bank loans or ownership of traditional bank accounts. **For parents**, the case for a strong demand for mobile payment and educational saving schemes is less strong. On the supply side, the limited evidence that we were able to gather suggests that there is a keen interest from FSPs in regard to catering to the low-cost private school market.

Main policy recommendations:

- Our findings strongly support DEEPEN's focus on improving financial management, even more so than access to traditional bank loans. Additional focus on how to target financial management courses to the lowest cost schools is necessary.
- DEEPEN might find it worthwhile to engage with the reasons for low demand for mobile payment and educational saving schemes, and consider re-tailoring these products to appeal to parents who are

mostly paid in cash, might find trips to the bank costly, and cannot afford regular payments. Some of these issues we believe are already being addressed by DEEPEN.

Workstream 4: School improvement services

We find that whilst learning conditions and teaching practices in low-cost private schools are largely inadequate, there is little evidence to support the initial DEEPEN assumption that they are significant drivers of learning outcomes. Investment in management is much higher than investment in teacher training, for which the demand from schools appears to be weaker. In general, schools prioritise investments in infrastructure above the professional school improvement services advocated by DEEPEN, as these have results that are more easily visible to parents. On the supply side, most service providers have traditionally focused on the higher end of the fee-paying private school market, and training was not very effective, with limited learning and follow-up.

Main policy recommendations:

- It is difficult to explore the determinants of learning outcomes, and we will be able to say more about the role of learning conditions and teaching practices in the following stages of the evaluation. Current findings suggest DEEPEN should retain some scepticism about whether the practices it advocates (childcentred learning, etc.) actually drive learning outcomes.
- There is a role for DEEPEN to make school improvement services (especially training) more appropriate for low-cost schools, though we do not have enough evidence to comment convincingly on whether the school improvement services market is viable.

4.3 Recommendations for evaluation and research

Quantitative and qualitative findings have been mixed in this report in an attempt to obtain a comprehensive and in-depth understanding of school, teacher and pupil characteristics that affect the functioning and quality of private education in our sample of Lagos LGAs, and that have a direct or indirect effect on children's learning outcomes. The specific limitations of the quantitative and qualitative analyses have been described in detail in the report, including those that could or could not be overcome by mixing the two analytical methods. The limitations are widespread, but given the subject matter, the complexity of the intervention, and the purpose of the evaluation, they do not negate the likelihood of useful and actionable conclusions being drawn from the evaluation, as set out in our policy recommendations. Even so, it is important to acknowledge that a wider and more comprehensive (in scope and time period covered) evidence base is necessary in order to successfully question programme and policy development in the area of private education in Lagos. Even so, learning from this baseline experience, we believe that it is useful to now make some key research recommendations regarding how the mixed-methods approach and analysis can be improved.

From a quantitative perspective, it became apparent that information regarding school- and household-level factors is crucial in order to understand the dynamics affecting pupils' learning performance. Although our descriptive and correlation analyses have managed to account for some of these factors, more relevant and detailed data would help to better disentangle the individual and inter-related influence of specific school and household characteristics. The construction of robust teaching practices or school infrastructure quality indices would benefit from more and better data that could be collected on these aspects at midline and endline. At the same time, this set of quantitative explanatory factors would provide guidance to the qualitative research, which could in turn gather more nuanced insights and produce case studies on the same issues. This process would be in line with what was developed for the baseline analysis, but with a more bespoke definition of quantitative and qualitative indicators that are now known to be of interest for our research. More comprehensive and detailed results on these aspects would also assist us in better

assessing the relevance and effectiveness of DEEPEN's interventions in low-cost schools attended by poorer children.

The same recommendations can indeed be applied to the collection and analysis of household, and especially parental, information. Although our baseline analysis clearly indicates that the poverty as well as education levels of pupils' families have a strong bearing on their learning achievement, our ability to dig deeper into the determinants and characteristics of these socio-economic and cultural dimensions was limited. In this respect, qualitative research will further the investigation of pupils' and parents' backgrounds, with the aim of understanding the decision-making process informing their school choice. As discussed in this report, school choice emerges as an important factor affecting learning and pupil's background is found to be a key factor influencing this choice. At the same time, household wealth status and parental characteristics are shown to be of relevance for pupils' performance levels. Therefore, more tailored and exhaustive quantitative data on household and parental characteristics will also be of great help in this case, to both guide the qualitative investigation and achieve informative and robust mixed-methods findings.

Another area where enhanced quantitative and qualitative research would greatly benefit our mixed methods evaluation of DEEPEN (and GAPS in particular for the quantitative impact evaluation) is the investigation of community level factors in which schools operate and pupil households are based. In particular, our quantitative analysis shows that when filtering out all observable and unobservable school characteristics, the correlation between any other explanatory factor and learning is substantially reduced. This suggests that the characteristics of the neighbourhoods where the schools are located, and where most of the pupils attending those schools live, also play a role in influencing learning and school quality. Qualitative information seems to confirm this, by indicating that a large range of contextual factors are crucial to both schools' and pupils' performance. Therefore, furthering the quantitative and qualitative research investigation into community-level factors is likely to improve our understanding of the dynamics that influence learning and school quality, and should form part of the next stages of our mixed-methods evaluation.

In addition, the qualitative component in particular seemed to also uncover some issues with regard to 'private school economics', including, for instance, general costs of running private schools, making profits, keeping the costs downs, keeping accounting books and the level of transparency of accounts. We found that this is a key area where school proprietors need capacity building in entrepreneurial skills in order to work efficiently and to serve poor people well. The sustainability of some low-cost schools is also questionable. Overall, the classification of schools that was used for this study does not provide an exhaustive picture of existing private schools and their diversity.

If DEEPEN decides to work with low-cost schools among other schools, then we believe that more investigation is needed into their varieties, so as to better understand how they function. Without having reliable information about and evidence of the existing types of schools, any implementation of rules and regulations could face challenges.

The current baseline study was largely conducted around education components and spoke the language of learning outcomes. However, more 'financial' analysis and discussion of the key market principles would better inform the final evaluation and related recommendations.

From the contribution analysis perspective, the six steps of contribution analysis must all be conducted again at the endline stage. If there is a midline study, then other explorative work in regard to the theory of change, similar to the current work, would be helpful. Implementing contribution analysis at the midline stage would fit well with answering the questions of the OECD-DAC criterion of effectiveness (while the efficiency criterion should be dealt with in addition to contribution analysis data collection). Another desk review to catch up with any changes to the programme implementation and design would be a good start.

It is recommended that DEEPEN programme staff would record any changes to the intervention very carefully, including any contextual factors in Lagos: e.g. any competing programmes, events, policies, activities, as well as any socioeconomic changes in people's lives. It is recommended that the qualitative fieldwork continue with the same case study schools but with the recommendation to extend the list and to work with several more schools since by the endline the intervention will have been implemented and observable effects will be expected. Extending the number of national and local stakeholders for data collection would also be useful, in order to have a better picture of the intervention and to reflect any changes in programme implementation.

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Annex A DEEPEN indicator areas

DEEPEN indicator areas, as outlined in the DEEPEN evaluation framework, are based on the evaluation questions. We distinguish, in the following text, between school-level change, student performance and parental behavioural change. To ensure comparability we also build in the ESSPIN school quality variables.

A.1 Market-level indicators

1. Subject to an ability to define a market for education (i.e. schools between which parents are likely to choose):

i. Market concentration of private and government schools, measured by the Herfindahl index

A.2 School-level indicators

ii. Participation in DEEPEN interventions

iii. Size (pupils, teachers, grades taught, drop-outs, progression, by gender) iv.Organisation (teacher management, PTA, etc.)

v. Score on GAPS indicators

vi. Finance (prices, arrears, credit, investment, profit and tax payments)

vii. Learning outcomes at school level (Monitoring Learning Achievement (MLA) results, P6 results)

viii. Membership of associations

ix. Legal status

x. Teacher quality (formal and informal qualifications)

xi. Infrastructure (rooms, books, etc.)

xii. Language of instruction

xiii. GPS location

A.3 Pupil-level indicators (linked to household and schools)

xiv. Demography (age, sex, ethnic group, language)

xv. MLA scores in literacy and numeracy – raw scores, scale scores and performance against benchmarks

A.4 Household-level indicators (linked to students and schools)

xvi. Demography

xvii. Poverty status (wealth index)

xviii. Education levels

xix. Occupation

xx. Language

xxi. School choice parameters (including GAPS, school quality measures, interaction with schools and school changes)

xxii. Current school experience

xxiii. Finance (mobile money, school savings, etc.)

xxiv. Perception of DEEPEN interventions

xxv. Distance from schools (GPS)

xxvi. Time and cost to travel to school

xxvii. School support

Annex B DEEPEN programme activities and evaluation questions

Table 8: Market constraints and DEEPEN interventions

Market constraints	DEEPEN workstreams	DEEPEN interventions
A heavy-handed and non-supportive regulatory regime that forces the majority of schools to operate 'beneath the radar' of the government. Soft competition among schools due to a growing population that allows poor schools to survive	Rules and standards	• GAPS • Multiple taxation • Building capacity
Poor and uneven information for parents about school quality	Information	Support to media Analytical studies
Parents and schools do not have access to financial services and products to meet their needs. This issue is particularly acute for unapproved low-cost private schools, which face additional barriers to accessing financial services because they may not be able to operate bank accounts.	Finance	• Saving schemes for parents • Mobile money payments • Schools as business services • Finance for schools
Missing support functions, including access to finance and professional services such as teacher training	School improvement (pedagogy)	• Supporting demand: school financial management, business development, and school management and education development • Supporting supply: an assessment of providers and services currently available to develop and market several pilot programme to increase educational quality

Note: For a full description, see DEEPEN Evaluation Framework and Plan, 2015.

Table 9: Evaluation questions based on DEEPEN's areas of interest

DEEPEN's workstream		Evaluation questions (specified in DEEPEN evaluation framework)
Learning outcomes	1	To what extent are learning outcomes and school quality in (low-cost) private schools low and perceived as low by parents?
	2	Are learning outcomes from (low-cost) private schools better or worse than government schools in Lagos, and perceived as such by parents?
	3	Does school quality correlate with the cost of the school?
Workstream 1: Rules and standards	4	Do (low-cost) private schools care about rules and standards, and parents' opinions about these, when making investment decisions?
	5	Does the regulatory regime prevent (low-cost) private schools from investing and improving quality?
Workstream 2: Access to information	6	Do parents lack information about school quality and/or find it difficult to interpret such information to make a decision about school choice?
	7	Do parents make a choice between private schools based on quality?
Workstream 3: Finance	8	Do (low-cost) private schools want to invest in professional school improvement services to improve the quality of the education they provide (while remaining low-cost)?

	9	Is there a viable market for financial service providers that provide financial services to low-cost schools and low-income parents?
	10	Is there a viable market for school improvement providers that provide school improvement services to low-cost schools?
Workstream 4: School improvement	11	To what extent are the learning conditions and practices in (low-cost) private schools inadequate?
	12	Is poor learning in (low-cost) private schools driven by pedagogy and classroom conditions or by other factors (curriculum, materials, fellow students, etc.)?
	13	To what extent is investment, management and innovation in (low-cost) private schools inadequate?

Annex C Ethics considerations and procedures

C.1 Children as respondents

The data collection engaged a range of research participants. There were no vulnerable respondents with mental incapacity or mental illness or those unable to make decisions. Children were part of group discussions and were asked for their verbal consent prior to the activity (and during the activity), in addition to the consent of their teachers and head teachers. Children's activities were all conducted at school premises and head teachers were shown the protocols with questions and tasks. All tools used with children were age specific and involved drawing and asking general questions about children's activities at school and about after school activities. Children were in groups at all times and none of the researchers ever spent time with an individual child on his/her own.

C.2 Consent

Consent was an ongoing process: adults and children were provided with an ongoing opportunity to withdraw from the study at any time without prejudice. Various means of consenting were available for adults and children: i.e. verbal and written, prior and during the activities. In addition, two-layer consenting was undertaken (i.e. head teachers consented on behalf of schools for every single activity and any form of data capturing; at the same time every individual respondent gave his/her own consent). In addition, consenting was a reiterative exercise: information was sent out to the schools several days before the fieldwork and then repeated again face-to-face on the day of data collection. The key condition was to give all participants sufficient time and space to make a fully informed and free decision to participate (or not). For this purpose, information sheets were developed for parents and children, as well as teachers and head teachers. Documents were written in English and talked through in local languages.

C.3 Power relations

All participants were treated as equal and were not excluded on the ground of any impairment. Children were treated as individuals in their own right. Research activities with them were accompanied by relevant warming up/ice-breaking exercises, such as songs, short games, etc. to equalise power imbalances. With adults, activities started with an opening casual conversation. Furthermore, questions were chosen in such a way as to equalise power relations between the researcher and research participants by ensuring that research participants were able to talk about an issue in their own language and their desired order, and at their own pace. All participants were free to stop their participation if they wished to.

C.4 Anonymity/confidentiality, data storage and disposal

The privacy of individuals was respected. Participants were made aware that they should not talk about anything they did not want to talk about. No names or personal details ascribable to a specific person were used in any report. A careful anonymisation exercise was conducted by the qualitative research team. All data are stored on computers with access restricted to the research team only. No raw data were shared with third parties and only processed data using codes and themes was shared with the readers.

Researchers assure that they did the best of their ability that participants are not able to be identified in this report and that schools are not recognisable. However, the team allows a small possibility that the characteristics of the school on page 44 could be readily identified to someone with a reasonable level of knowledge of the area to which it refers. However, the team is sure that it is almost impossible to identify that very school that the team visited due to a large number of private schools and localities in Lagos which share similar characteristics to those described on page 44.

C.5 No harm to participants

There were no potential risks to participants, or actual ill-effects, as a result of the study – for instance due to invasive procedures, distress or deception. There were no potentially sensitive topics covered by the study which could harm the research participants or upset them emotionally and/or physically. There were no questions that may have been embarrassing, insensitive, worrying or upsetting. The team took into account any cultural considerations in approaching and treating research participants, and formulated interview questions so as to create an environment that was safe and sensitive to the local specificities. All tools were tested in the field, checked and verified by local researchers.

Annex D Sampling and Data collection (quantitative and qualitative components)

D.1 Quantitative evaluation

Sampling frame, target population and sample sizes

For the quantitative baseline survey, a representative sample of schools was drawn up from a multiple sampling frame, which included, on the one hand, the 2010 census frame for the group of schools that were already in operation when the census was undertaken and, on the other hand, a new list of schools that covered all the schools that began operating during the four years after the census. For the school listing, all the private schools within a selected area were contacted and asked for some basic information, including when the school began operating. Wards were used as sub-units and were randomly selected in treatment and control LGAs. Four wards for the treatment LGAs and two wards for the control LGAs (listing in Ajeromi/Ifelodun was not required as the World Bank had recently organised a census of schools there) were selected by simple random sampling. Schools were then sampled on the basis of a probability proportional to size (PPS) approach,[47] which used the total number of primary pupils in the school as a measure of size. From the 358 schools sampled with PPS, four teachers and eight primary students were selected in each sampled private primary school by random systematic sampling from the list of eligible teachers and eligible pupils respectively. These samples are representative of the four LGAs from which they were drawn and are not representative of the city of Lagos as a whole. The external validity of the indications emerging from the baseline analysis and eventually the impact estimations at endline is therefore limited by the evaluation and sampling designs. In particular, causal inferences regarding the impact of the GAPS programme can be made robustly at the domain level, which combines Alimosho and LGAs as one treatment group and Shomolu and Ajeromi-Ifelodun LGAs as one control group.

The sample size was calculated by taking into account potential sampling and non-sampling errors, with the aim of achieving adequate precision for the indicators measured at the teacher and pupil level. In technical terms, an adequate sample size is needed to provide our quantitative estimation model with sufficient power to determine whether any detected differences in indicators of interest between treatment and control groups are statistically significant and can be robustly attributed to the GAPS programme at the endline stage of the evaluation. In particular, the power calculations that informed our sampling strategy and choice of sample size are based on a measure of the smallest treatment effect (minimum detectable effect, MDE) that can be confidently detected in our diff-in-diff design setting.[48] The results of our power calculations indicate that our quantitative impact estimation model will be able to detect a difference in proportional terms between treatment and control indicators at the school-, teacher- and pupil-level that is smaller than 10%. For instance, our calculations indicate that the MDE in a comparison using all pupil observations (2,444 pupils) in schools receiving the GAPS intervention (255 treatment schools) and schools not receiving the intervention (103 control schools) will be at least 5.8%. This is a conservative estimate based on the highest variance estimate for a proportional variable and the exact measure of detectable impact will vary depending on the indicators and learning tests. However, our power calculations make us confident that if attrition in the panel of observations (e.g. pupils interviewed at baseline dropping out from the sample at endline) is not unexpectedly high, our sample size and MDEs are sufficiently robust to detect the anticipated level of change in learning outcomes due to the GAPS programme. Even though the learning outcome values obtained at baseline were on average higher than expected, the proportion of pupils that

[47] PPS sampling is a sample selection method in which the probability of selection for a sampling unit is directly proportional to a measure of size X (number of pupils, in our case) which is known for all sampling units and is thought to be representative of the unit relevant size.

[48] Technically, the MDE is the smallest true treatment effect that has a specified level of statistical power (i.e. 80%) for a particular level of statistical significance (i.e. 5%), given a specific statistical test (i.e. the diff-in-diff approach).

achieve at expected levels (especially in numeracy) may still change in line with levels initially anticipated since the baseline recommendations are also intended to redirect the programme efforts in this sense. At the same time, the power of the estimation model is not affected by a change in the baseline values of learning outcome indicators since the calculation was performed conservatively, as discussed above. A more detailed illustration of the power calculation methodology and estimates is contained in the quantitative baseline report,[49] which provides examples of MDEs for indicators of interest. The exact number of schools, pupils and teachers that were sampled and surveyed is reported in the next section, with the data collection process and the quality of the data.

Data collection, testing and validation of instruments, and quality assurance

General context

Here we discuss key aspects of the DEEPEN baseline survey process that are relevant from a data quality perspective. The objective is to learn from this experience in order to further improve the process at the time of the follow-up survey. The intention is therefore not to produce a comprehensive data quality review, which would cover further dimensions of data quality starting from pre-requisites of the survey to accessibility to micro and meta-data, and which would look at data quality both from a process and an output perspective according to a set of previously defined indicators. Instead, the focus is placed on a subset of the stages of the DEEPEN baseline survey, in particular the instrument design, training of enumerators, the data collection, and the data processing phases. The comments are based on a review of monitoring reports and notes produced by EDOREN over the course of the survey as well as documents and protocols prepared by the survey company Infotrak.

Data was collected by Infotrak – a data collection company – with DEEPEN managing the process. Literacy and numeracy tests were administered to 2,444[54] pupils and survey questionnaires were administered to 1,251 parents, 1,266 teachers and 358 head teachers in 358 primary private schools (255 in treatment schools, 103 in control schools). In addition, one lesson was observed in 352 out of the 358 schools.[50]

The quantitative baseline survey consists of five different instruments that were administered in the treatment and control LGAs using computer-assisted personal interviewing (CAPI). These included:

- head teacher interviews and school record checks (one per school in 358 schools sampled using PPS);
- teacher interviews (four randomly sampled per school, purposefully, including a P3 teacher);
- parent interviews (four randomly selected parents of the eight pupils assessed);
- pupil learning assessments for literacy and numeracy (eight randomly sampled students from P3).

The survey has been conducted under a tight timeline and had to adjust to several external events - the incidence of Ebola in Nigeria and measures taken in response as well as the timing of the Nigerian elections represented challenges to the survey implementation. Data collection paused during the Christmas break and continued in January after a refresher training of interviewers.

[49] See EDOREN DEEPEN Quantitative Baseline Report, Annex C.3 on 'Sample size and power calculations (level of precision)'. [54] The number of pupils differs from what would have been obtained from randomly sampling eight students in each of 358 schools because some schools had fewer students in P3 than anticipated.

[50] See EDOREN DEEPEN Quantitative Baseline Report, Section 3.1 on 'Sampling and data collection'

Roles and responsibilities of DEEPEN, Infotrak and EDOREN

The DEEPEN programme, Infotrak and EDOREN had each technical and quality assurance roles in the implementation of the survey. DEEPEN had the overall oversight of the survey; developed initial instruments; contributed to the interviewer training in sessions about the aim of the project and instruments; and provided QA during fieldwork. All aspects of the fieldwork, including the listing operation in selected wards were responsibility of Infotrak, contracted by Cambridge Education through the DEEPEN programme. Infotrak was also responsible for cleaning and processing the data and preparing analysis files; and producing analysis against DEEPEN logframe indicators. EDOREN supported the survey by developing the sample design approach; providing inputs into revisions of the survey instruments; contributing to the interviewer training; providing quality monitoring during the training and pilot phase as well as the data collection phase; and analysing the data to produce a baseline report. Some of the responsibilities shifted over the course of the survey. For instance, EDOREN became more involved in data cleaning processes and additional analysis.

Instruments and revisions during pre-test, pilot and fieldwork

The initial instruments were developed by DEEPEN, revised in collaboration with EDOREN and programmed in CAPI (ODK) by Infotrak. There was a short pre-test phase to refine the instruments further. In addition, a 4-day pilot took place in 20 schools following the interviewer training. The instruments were further adjusted after the pilot and interviewers were made aware of the changes in the last days of the training. Some questions that proved to be difficult during the fieldwork, in particular related to measures of household wealth, had already been identified as problematic during the pilot and might have benefited from adjustments in terms of the administration of the question, for instance by using image cards when interviewing children. The pilot also highlighted the importance of unique identifiers that allow to easily merge all data pertaining to a school, and sampled schools to the school frame. Identifiers remained problematic throughout the rest of the survey, and a straightforward generation of identifiers in the CAPI software that can also be linked back to the baseline should be a priority for follow-up rounds of the survey.

Some further changes were made after the start of fieldwork and without prior consultation with the EDOREN team: the order of MLA numeracy and literacy tests were switched and a household size cap of 6 members was introduced. Restrictions which did not exist in the paper questionnaire were placed in the CAPI file for the finance and registration variables. Any changes to an instrument after start of fieldwork puts the comparability of results at risk. The same is the case if even minor changes to the way of administering an instrument are introduced. The consequences can be costly, as information might have to be collected a second time.

Enumerators training

The training generally covered the relevant aspects of the fieldwork in adequate depth and with a good amount of practical sessions. Enumerators had to show their understanding of the protocols and questionnaires in tests before being recruited and a refresher training was organised after the break in the fieldwork, both are good practice to ensure that enumerators are adequately trained. The EDOREN monitoring team noted a couple of usual training elements for which it was not clear whether these had been covered during the first phase of the training, in particular guidance relating to documentation of unforeseen events and actions to take if selected units refused to participate. Refusal was a major issue both during the pilot and the main fieldwork, and instructions were further clarified after the pilot.

Fieldwork

Overall, the monitoring showed that enumerators performed well, had a good understanding of the survey aims and there were no problems in terms of logistics and availability/performance of equipment. While interview durations were long during the pilot and at the beginning of fieldwork, this had stabilised by the

time of monitoring visits conducted in December 2014 and January 2015. One area where further training, and possibly including an education metrics specialist in the training, would have been important to ensure consistent and reliable responses are the numeracy and literacy tests. Monitoring showed that enumerators did not always administer the test in the exact same way. In some instances clues were provided by the way the questions were worded or the buckets used in tests were arranged. A similar issue was observed for the case of questions using a Likert scale as response modality. Enumerators and other survey personnel have to be aware that even small changes in administration of instruments can lead to different results. It also appears that some questions had a high percentage of "don't knows" as response. Interviewers should be trained how to effectively probe to limit the number of don't knows where possible.

A major challenge was the rather high percentage of non-interviews at school level which required resampling of schools. Non-interview was primarily due to refusals to participate, and to a lesser extent to schools having closed down between sampling and the start of fieldwork. Moreover, there were also some schools that had no primary 3 class and were therefore not eligible in terms of the MLA. The team had processes in place that aimed to reduce refusal rates, such as letters from DEEPEN and the government and sufficient advance notice prior to the interview date. It would be helpful to analyse the refusals in more detail to understand what the reasons were, and if there was any pattern in terms of the school characteristics (from census, listing data) and fieldwork characteristics (teams, timing etc.). This might provide insights about how to further reduce non-response in future rounds. The analysis is also important to understand any DEEPEN Draft Quantitative Baseline Report EDOREN – Education Data, Research and Evaluation in Nigeria 115 selectivity in the current results. This supposes that reasons for refusal have been documented and are accessible for analysis. For now, a first quick analysis of comments provided by Infotrak indicated that larger schools and newer schools in treatment areas were more likely to refuse (see Tables below).

Data processing and preparation for analysis; organisation of checks

The use of CAPI has the benefit of nearly real-time access to data and the opportunity to continuously check and clean data and react to problems as fieldwork teams are close by. While data were submitted on a daily basis and supervisors checked whether the correct number was uploaded, it seems that data checks and cleaning only started in January, towards the end or after the completion of fieldwork. In future rounds, data processing should be re-organised to run in parallel with the fieldwork. Too much trust might have been placed in CAPI to ensure minimal errors compared to a paper questionnaire. However, even well-coded CAPI surveys will always have questions that allow for inconsistent responses. It is common that not all mistakes in the skip patterns programmed and valid values and ranges are spotted before the fieldwork. Clearly defined and timely data checking procedures are therefore paramount.

Moreover, it is crucial that all edits to the raw data are captured in well-documented syntax files and that a statistical software is used that allows to retrace and reproduce all changes to the data, starting from the raw dataset, at any time. This was stressed in instructions provided by EDOREN to the Infotrak team in January 2015. Edits to data should be, wherever possible, rule-based rather than based on case-by-case decisions. International standard practice should be followed for the treatment of missing values, distinguishing between a "missing" value because the question is not applicable (e.g. universe of the question, skips, etc.), i.e. the missing value is correct, and non-response, ideally again with different codes for refusal, don't know and incorrect skips. In general, corrections in the form of imputations should be implemented conservatively, especially when editing is done ex-post with no possibility of back-checks.

The data processing protocol shared by Infotrak in January 2015 mentions under "Correction of data errors" for the case of "Dependent variables" that "[if] there are minimal errors the values are generally recoded as missing" and for "independent variables" to "[s]et the error values to the data set mean or group mean". It is not clear what is meant by dependent and independent variables in this context, but both approaches are incorrect cleaning procedures and should not be used. The issue of non-unique identifiers mentioned above in the section about instrument design had to be resolved at the data cleaning stage to enable

weighting by linking back to the frame and correct merging of files. Identifying matches without a unique numerical code for all units of observation is very time-consuming. It should be ensured that identifiers consistent with the baseline and the frame are used in the follow-up survey round.

Main issues and recommendations for the next survey round

The main issues that emerged and that need to be addressed in subsequent rounds are the following:

- Instruments and ways of administrating them have to be kept consistent throughout the fieldwork; in this case this extends to the follow-up.
- Ensure that all units have a unique identifier.
- The integration of fieldwork and data processing has to be improved and clearly defined protocols should be followed. Despite the use of CAPI, the data still need checking for invalid values, ranges, correct coding of missings and don't knows, routing patterns, inconsistencies, correct understanding of questions, lumping of don't knows etc. Checks and cleaning that run in parallel also allows to perform first analyses on the data while the fieldwork is still ongoing, and thus makes it possible to reduce the overall time to the finalisation of analysis.
- Data should be processed in a replicable way and all steps recorded in syntax files.
- Detailed documentation and the production of metadata throughout the survey process is an important aspect of data quality. It is also paramount in survey processes that involve large teams and multiple partners to allow for efficient and clear communication.
- In general, roles and responsibilities of all partners involved in the survey have to be clear at all times. Reporting mechanisms should be organised in such a way that any decisions about changes to the instruments, instructions, survey protocols and procedures and information about issues and progress are shared with everyone concerned.

Qualitative evaluation

Sampling LGAs and schools

The sampling strategy for schools was chosen based on several variables: 1) the choice of LGAs in which the quantitative sample was based (Ojo and Alimosho); 2) cost levels (high vs low);[51] 3) private and state ownership; 4) achievements of learning outcomes (high vs low[52]); 5) the proportion of poor students[58] (high vs low); and 6) location (GPS coordinates). The qualitative fieldwork sampled two DEEPEN LGAs, Ojo and Alimosho in Lagos, where the quantitative sample was based, in order to be in line with the quantitative data and to follow up the data findings with typical and extreme schools. GAP was supposed to be enrolled in both LGAs but it only started in Ojo at the time of the qualitative fieldwork. According to the quantitative findings, Alimosho has a much higher incidence of poor children in low-cost schools (61 %) – the type of schools that DEEPEN targets and works on – than Ojo (about 50 %). Another option considered for sampling was Ajeromi, which has the highest concentration of low-cost schools. This option would have made sense, in that – according to the quantitative report – children in high-cost schools were doing better than those in

[51] We have separated schools into low-cost (below Nigerian Naira (NGN) 25,000, medium-cost (between NGN 25,000 and NGN 50,000), and high-cost (NGN 50,000 or more) according to the cost thresholds in Tooley (2013).

[52] Schools achieving below the median score in Ojo and Alimosho for both literacy and numeracy were classified as 'low achievement', and those that score above the median score in Ojo and Alimosho for both literacy and numeracy were classified as 'high achievement'.

low-cost schools. However, the quantitative and qualitative teams decided against swapping the LGAs for the qualitative fieldwork, since Alimosho was still considered as a treatment LGA.

The 12 schools were selected purposefully as case studies, eight of which were private schools, with the remainder being state schools. The original sampling strategy was to select low- and high-cost schools with varying degrees of achievements. However, three of the original schools sampled had to be replaced as they refused to participate in the evaluation. In the final sample the medium-cost category was used to replace the schools that were unavailable in the high and low categories. In Ojo, there were limited high-cost schools that were high achieving and therefore a medium-cost school was chosen. Similarly, in Alimosho there were no low-cost schools that fit the required criteria of having a high proportion of poor students, and the required variation in high achievement levels, so medium-cost schools were selected to provide a comparison. The final sample thus included three low-cost schools, three medium-cost schools, two highcost schools and four state schools, as shown below. While it was not ideal to replace the sample the limitations of this should be minimal as the quantitative baseline analysis showed that majority of the Lagos poor are concentrated in low and medium fee schools and there is relatively little variation in performance between these 2 categories of schools.

However, this did not prevent the team from exploring particular phenomena and trying to document diversity and to understand the variations in experiences and views.

Table 10: Final qualitative fieldwork sampling of schools

Ojo	Low-cost, low achieving	Low-cost, high achieving	Low-cost, high achieving	Mediumcost, high achieving	Public nearby school	Public nearby school
Alimosho	Medium-cost, low achieving	Medium-cost, high achieving	High-cost, low achieving	High-cost, high achieving	Public nearby school	Public nearby school

The selection of the cases maximises the range of variations on the dimensions of interest. It allowed the team to explore the common patterns that emerge from considerable variations, capturing core experiences and shared aspects. As a result the team were able to gain greater insights into any particular phenomenon, by looking at it from the perspectives of different people in different settings and by identifying common themes that cut across variations. This included being able to:

- explore the socio-economic characteristics of children attending public and private schools;
- compare public and private schools in similar locations that are achieving different results;
- compare between and within low-/medium- and high-cost schools in similar locations with similar concentrations of poor students that are achieving different results (low and high achieving); and
- identify reasons for differences in learning outcomes between schools (high- versus medium-/low-cost schools and public versus private schools).

Sampling teachers, parents and students

In each of the 12 schools, all available teachers on the day who taught children in P3 and/or P4 were selected for group discussions. In each school, six to eight children[53] in P3 and/or P4 were selected for group interviews by teams when possible and by the head teachers when it was inconvenient. Although

[53] The number of children varied depending on the size of the school and the number of children available at each school. In small schools, all P3 and/or P4 children were selected, while in big schools the team was allowed to select children randomly. However, if the head teachers were hostile to such an arrangement, then children were selected by the head teachers. In order to avoid any bias selection, it was explained to head teachers that the aim of the FGDs had nothing to do with testing learning outcomes. Every FGD had an equal number of girls and boys. They were all selected from the same tutor group, so that children would feel at ease during the group activity.

there are potential limitations associated with sampling of children by head teachers (head teachers could have tried to choose the best children in terms of learning outcomes), it did not lead to a major methodological and conceptual risk given the fact that the qualitative data collection tool with children was designed to mitigate such situations (it was largely based on drawing and general questions) when children's learning outcomes did not matter for the quality of data collected. Parents were invited for a discussion by the head teachers when possible. If that was not possible, parents were approached by the team while dropping their children off at school and asked if they were able to talk. Whilst self-selection sampling does not benefit from the theoretical drivers of purposive samplingi.e. these parents did not have children in P3-4, such sampling still allowed the team to explore the issues of parental school choice for which the age of children was not a constraint.

All other stakeholders were identified by the DEEPEN programme staff. The sample of schools, with around 430 respondents in total from all the levels of inquiry, generated in-depth data in relation each unit of analysis, i.e. school. The latter was possible due to the relatively smaller sample size, which allowed the qualitative team to spend a longer time at each school and to get to know each school in a greater detail than would have been possible if we had had a bigger dataset.

The chosen sampling contributes to filling the gap in the wider literature, which lacks data on the extent and diversity of private schools—especially in African countries, and even more so in conflict-affected or fragile states (Day Ashley *et al.* 2014). Moreover, the cases selected, the observational/analytical capabilities of the evaluators and the rigorous methodological approach used have enhanced the validity, meaningfulness, insights and transferability of the qualitative data. The data collected allow the team to speak with confidence about the schools sampled, and also potentially to infer some interesting generalisations about similar contexts. Thus, the team is responsible for producing good quality data and providing a detailed description of the contexts but the responsibility for generalisation and transferability[54] lies with the reader, on the basis of the readers' capacity to see for themselves the generic applications of the research in question (Lincoln and Guba 1985).

Fieldwork

Fieldwork team and process

The fieldwork started with a week-long training session for local researchers and the testing of all the qualitative data collection tools, as well as adjusting them to the local institutional and cultural characteristics. There were 16 local evaluators: four of them were trained as transcribers and 12 were trained and selected as evaluators as part of the fieldwork. The selection of the local evaluators was made based on their personal and professional skills, their research skills, their previous engagement with qualitative research, their ability to work with children, their computer literacy and their willingness to work with primary data collection and analysis. All local researchers were initially selected by EDOREN and they all have credible records. They have all either worked with schools and children, or have a research background, or both. The four international evaluators were chosen based on their previous qualitative research experience and skills, their knowledge of private sector development, their evaluation expertise, and their familiarity with the overall DEEPEN evaluation process and the local context of Lagos.

[54] Trustworthiness is a concept introduced by Lincoln and Guba (1985) in order to evaluate the rigour (or quality) of qualitative research which consists of four principles. There is a range of strategies to achieve each principle which guided the qualitative component of this evaluation. Transferability is one of the four principles of rigour in qualitative research defined as 'trustworthiness', alongside other principles, such as credibility, dependability and confirmability (Lincoln and Guba 1985). It is equivalent to the quantitative criterion of external validity and is achieved when research provides sufficient detail regarding the context of the fieldwork for a reader to be able to decide whether the prevailing environment is similar to another situation with which he or she is familiar and whether the findings can justifiably be applied to the other setting.

Sixteen evaluators made up four teams, with three evaluators and a transcriber in each team: one international and three local. Each team visited a low-/medium-cost, a high-cost and a public school, i.e. each team visited three schools and spent two days in each school. The spectrum of schools allowed each team to make comparisons across types of schools, which were then complemented by within-school analysis during the debriefing, i.e. within all low-cost schools or all high-cost schools. All data collection tools were developed based on the preliminary research and were designed to relate to all target groups of the study. All the evaluators (except the project manager) went into the field 'blind' – not knowing in advance about the performance of their respective schools. The idea was to go to each school without a prior bias and to explore the setting free from a pre-determined attitude. Each team was responsible for specific schools and team membership remained the same in order to allow consistency of descriptions and analysis so as to form a full case study for each school. All teams were responsible for producing a centralised list of deliverables to submit by the end of each day, by the end of each school visit, and by the end of the fieldwork. All deliverables followed a standardised format of data capturing and analysis, which was subject to multiple layers of group analysis. The recorded data (on audio recorders) were immediately passed to the teams' relevant transcribers, who worked together at the central office. They had their own debriefings with the programme assistant to enable them to produce good quality transcriptions.

4.3.1.1.1Gaining access to the evaluation sites

Once schools were selected the relevant schools were contacted by EDOREN and DEEPEN to obtain permission to visit to conduct the fieldwork. Three of the 12 schools opted out from the evaluation, and were replaced by schools in the same category chosen randomly. The four fieldwork teams had a fieldwork plan that identified the order of schools to visit, contact numbers and a schedule of events for each day spent at each school. The first point of contact for the teams at schools were the head teachers, who were approached for their overall consent on behalf of their respective schools. They were given printed consent and information sheets to allow them to familiarise themselves with the evaluation at their own time and in their own space. Each information sheet had a contact number for making complaints if needed. A few schools had both a head teacher and a proprietor but proprietors were often unavailable for interview. All the data collection activities were scheduled by the head teachers. All P3 and P4 teachers were selected for FGDs. Children were selected by the team where possible or by the head teachers, and if they agreed to participate were interviewed between lessons or sometimes during the lessons, subject to the head teachers' decisions. The lessons that were observed were selected by the head teachers. Every data collection tool was conducted by two evaluators (except when two lessons were observed at the same time or when community interviews were conducted at the same time). All answers were recorded in standard note-taking forms and recorded using a tape recorder, subject to the consent of each head teacher and the main respondents. All the tools were administered by local researchers and conducted in the local languages. All drawings and group notes were collected if the team was permitted to take them away. They were labelled accordingly and stored in the office.

In addition to the data collection inside schools, each team conducted community observations and interviews with community members. The idea was to explore the local context and to understand the local background where the school was located. Community interviews also helped to provide information about local schools from parents whose children went to the sampled school or other schools. They were a very effective tool for getting to know the locality and helping us to understand the local life, local values with regard to schooling, the perceptions of state and private divisions, and means of income. Evaluators did not take any notes when they carried out these interviews, and they asked members for their consent before talking to them. Notes were discussed jointly by the team members and then taken immediately after the activity.

Annex E Node tree for NVIVO analysis, with frequency

Parent node	Child node	Grandchild node
Finance	School access to finance (69)[55]	
	School profitability (16)	
	Fees (45)	Parents and fees (133) Affordability (93)
	Investments (55)	
	Mobile money (21)	
Government regulation	School registration (89) Taxation (6)	GAPS (48)
	Curriculum (30)	
	Inspection (11)	
	PSAs (11)	
School leadership and management	Teacher relationships and management (39)	
	School–parent relations (50)	PTA (87)
		Communications (67)
		Access to school (28)
	Experience (52)	
	Motivation (27)	
	Managing school finances (44)	
	School ownership (12) Enrolment and retention (26)	
Pedagogy	Child–teacher relations (23)	Pupil discipline (24)
	Teaching practices (60) Teacher attendance (5)	Teaching aids (15)
	Extra lessons (75)	
	Homework (51) Children and learning (55)	After-school activities (50)
School infrastructure	School yard (11)	
	Toilets (12)	

[55] Parenthesised numbers refer to the number of coded references in the qualitative dataset per node.

	Water (3)	
	Classroom size (25) Noise (4)	
	Canteen (3)	
	Land and buildings (46)	
School materials	Board and chalk (12)	
	Textbooks (18)	
	Learning aids (21)	
School environment	Area or community (41)	
Parents	Parent engagement (85)	
	Parent background (32)	
Teachers	Teacher support (57)	
	Teacher qualifications (68)	
	Teacher motivation (61)	Remuneration (78)
		Turnover rate (29) Career aspirations (71)
School choice	Proximity (28)	
	Religion (34)	
	Fees (61)	
	Competition (72)	
	Infrastructure (56) Environment (129)	
	Reputation (23)	
	Sources of information (131)	
	Student appearance (37)	
	Student performance (101)	
	Teachers (211)	
	Materials (39)	
	Registration (13)	
	Gender (4)	
	Language (9)	
	School management (4)	
School quality	Public schools (96) Private schools (110)	
	Private–public transfers (24)	

Annex F Qualitative analyses tables [56]

F.1 An example of debriefing notes drafted jointly by all four teams when a round of school visits was completed

DEEPEN workstream	S2 Fees NGN 5,000 – NGN 6,000		S7 Fees NGN 10,000		S1 Fees NGN 5,000		S3 Fees NGN 4,000 – NGN 6,000	
	Current situation	DEEPEN intervention	Current situation	DEEPEN intervention	Current situation	DEEPEN intervention	Current situation	DEEPEN intervention
Information	-Only one means of passing information (verbally) -This is a result of inadequate finance	Media, fliers, banners and posters will be effective	-Some know about loans but it us not useful to them -Access to loans from the proprietor (through microfinance banks)	More sensitisation on the use of mobile money	-Low-cost school -No access to financial services -Low interest in financial services - Income/investment inconsistency - No knowledge of mobile money	-Availability of financial services to both school and parents, i.e. low interest loans - Awareness of banking and mobile money - Awareness of saving schemes -Use of ICT	-School has no access to loans -Mobile money will not work since parents themselves struggle to gather fees	Encourage them through the use of GAPS
Finance	-Only one source of finance – school fees	-Other possible means of income such as a loan (from bank or	-No scientific information from the school	-Use of media is not necessary because it	-Lack of teaching materials	-More investment/innovation in teaching aids	-Media campaign and jingles about	DEEPEN can encourage more media houses to have

[56] Annex F presents examples of qualitative data analysis and evidence tables generated jointly by all teams. In addition, there are summary tables for every school; for cross schools analysis, within schools analysis and joint discussion within theory of change.

DEEPEN workstream	S2 Fees NGN 5,000 – NGN 6,000		S7 Fees NGN 10,000		S1 Fees NGN 5,000		S3 Fees NGN 4,000 – NGN 6,000	
	Current situation	DEEPEN intervention	Current situation	DEEPEN intervention	Current situation	DEEPEN intervention	Current situation	DEEPEN intervention
	-No access to loans -They have functioning bank account, but parents pay directly because of instalment payments or arrears	cooperative) and donations -Encouraging saving schemes	-Parents only get information about school from neighbours and friends	depends mainly on hearsay	-Poor class control -Poor infrastructure -Teachers had passion for teaching as their main motivation	-Improved classroom structure	school are restricted -Most information about low-cost schools are through the 'goodwill' of the school and past records (three schools in one area)	programmes on education

Pedagogy	-The -teachers attend seminars but not training - Learning is not child-centred - Government curriculum	-Encourage teachers to attend/enforce training - Teachers should improve/upgrade their qualifications -Proper motivation of teachers	They say that children's learning outcomes are good	-Provision of effective training to the teacher by the proprietor/management and motivation	-About five schools in the area -Publicity is by fliers/ student rallies - Parents' recommendations -Consider TV/radio unreliable sources of information	-Availability of subsidised media space for low-cost school -Build trust in media content	-Passion for teaching is the only incentive that keeps teachers motivated -Low-cost private school does not equal low quality of teaching	Free training of teachers will motivate teachers more, especially if DEEPEN organises it
DEEPEN workstream	**S2 Fees NGN 5,000 – NGN 6,000**		**S7 Fees NGN 10,000**		**S1 Fees NGN 5,000**		**S3 Fees NGN 4,000 – NGN 6,000**	
	Current situation	**DEEPEN intervention**	**Current situation**	**DEEPEN intervention**	**Current situation**	**DEEPEN intervention**	**Current situation**	**DEEPEN intervention**

Rules and standards	They are not government approved	-Government approval is paramount -Schools without approval cannot spread information through the media since they are known to operate illegally	School is not approved but does not see any implications of that	If government can review the policy of registration of the school	-Not approved -Follow govt curriculum - Parents pay little attention to registration as against school quality	To pursue registration and GAPS as a value addition tool	-Most parents are less concerned about school standards and whether it is approved or not -Parents measure school standards through the learning outcomes of their child when compared to other children in their compound	DEEPEN should enlighten parents more about the advantages of government approved schools

F.2 School analysis tables by fee levels

Low-cost school table analysis: Entire team, DEEPEN office, 30 September 2015

School	Finance workstream	Information WS	Rules and standards workstream	Pedagogy workstream	Context	Summary: why they are performing as they are despite similar school fees (except one school)

S1	NGN 5,000 – fee per term, no bank loan, rented building, no Moblile Money Saving Groups, no payment to bank account, parents do not have bank accounts, instalment payments allowed, head teacher collects lesson fees; teacher salary below NGN 18,000, high turnover of children and teachers	Fliers, other parents, outreach activities (dancing with posters), holiday coaching, end of the year party; parents compare own children to others by asking questions, checking English, and send children to school accordingly	Not approved , at the last session. Last year there were 100 children, done name search, applied GAPS at school to improve structure, attended GAPS training	Only HD attended GAPS seminar; school does standard tests; no teacher support; Lesson observation: children sleeping in lesson, eight children in one class, no teaching aid, some textbooks for teachers, children with no textbooks, teacher had a teaching plan;	A shared building with church, a residential building next to it, classes are divided by partition, has a better toilet Children do not play, musical practice disturbs lessons Many residential buildings, rural, poor area with petty trading Parents do not speak English. Parents are not literate; one parent checks h/w	It is one of the worst performing schools among four. Why: although salary is ok, still high turnover of teachers and children, no support to teachers, children and teachers must be quite unhappy, parents are disengaged

S3	NGN 6,000 fee per term, no bank loan, NGN 8,000 teacher salary, rented building (NGN 170,000 per annum), no MM SG, no payment to bank account, instalment payments allowed, no extra lessons by current teachers, but used to pay old teachers in the past, paid membership of association, but no benefit; high turnover of teachers	Other parents, word of mouth, compare children to others by asking questions, checking English, and send children to school accordingly; people locally listen to local radio	Not approved , applied GAPS at school to improve structure, attended GAPS training, number of children is low (based on observation around 50–60)	Standard tests, no teacher support; Lesson observation: nine children in a class, no teaching aids, blank walls, no lesson plan just some rough scribbled notesscribbles, no group work, one way-process – all comes from teacher, teach one year up	Small, dark, poor, stony, cold, with small yard, classrooms are separate Children do not show adequately participate in lessons do not play, no breaks Very poor neighbourhood, a big market, parents are petty traders Parents speak English, parents literate, all check h/w	The worst Learning Outcomes. Why: teacher turnover, teachers are not motivated by salary, very poor buildings and environment, children do not seem happy, neither do teachers, no bank loans to improve, head teacher is not proactive to attract more children or to work with associations. Although parents are keen, they cannot do anything since school is weak. Children are not tested, no training and support to
						teachers. Small number of children does not allow high salaries and training

S2	NGN 6,500 fee per term, no bank loan, own building, lowest teacher salary is NGN 10,000, has bank account, no MM SG, no payment to school bank account, instalment payments allowed, extra lessons paid to teachers but cost monitored by head teacher, pay membership for association, which helps with exams, no turnover of teachers and children	Other parents, word of mouth, children as ambassadors of the school, which tries to reach high learning outcomes	Not approved d, done name search, GAPS useful to identify weaknesses and improve	Teachers go to seminars paid by school, teachers rotate, head teacher and proprietors also go to seminars; children tested every Friday, head teacher monitors teachers, new teachers are mentored for first two to three weeks, teachers support one another Lesson observation: 18 children in one class, some notes but no lesson plan, no aid, no asking questions from children, teacher in and out of the class (head teacher)	A nice building, has space in between the building, it has nice light except the building on the left, no electricity. Some new building being built, a new tiered floor on stairs and head teacher's office; church disturbs lessons; has ICT room Area is wealthy, the school is surrounded by poor and dirty areas. It is both wealthy and poor, quite unequal Parents do not speak English, parent not literate, parents engage with children's studies but do not check h/w Proprietors goes door to door to keep children at school, poor and low learning outcome children given chances to stay, they receive extra lessons	The highest LO. Why: parents are not particularly engaged with children, but school is very active. It provides better salaries for teachers, regular training, listens to teachers' and parents' complaints, head teacher supports teachers, especially new ones; more children pay more fees, so money is available for training and discounts. Children are tested weekly, are helped by association to sit P6 exams. Poor children and families are supported
S5	NGN 10,000-12,000 fee per term, own bank	Fliers, other parents, outreach activities	Over 100 children, approved under group	Teachers went recently to seminar to boost their	Small school yard, small classrooms, ceiling	Although the school charges the highest fee

	account, bank loan, its own building, no MM SG, some parents pay to school bank account, some parents have bank account, instalments allowed, payment goes to school; parents with more than two children get up to 50% discount for third child, teacher salary above NGN 18,000 above, no problem with turnover of teachers and children	(dancing with posters), holiday coaching, end of the year party, door to door visits; compare children to others by asking questions, checking English	of school (under umbrella of secondary school, which is r approved)	morale; school does standard tests of children; no teacher support Lesson observation: children active and enjoyed class, 20 children in one class, teaching plan, teaching aids, a few posters, teach one year up, i.e. P3, basic 4	needs work, poor light, a space between two buildings where children play; library, ICT room At the junction, close to public school More parents could speak English, parents more literate One to two parents who check children's h/w	among the four, it still does not do as well as theS2, why: it still has less children then Golden Bee and cannot perform as well as Golden Bee. Why: no teacher support, limited training, parents are not greatly involved

High-cost school table analysis: entire team, DEEPEN office, 30 September 2015

Respondents (S4, S6 and S8 schools)	Finance	Information	Rules and standards	Pedagogy	Comments
Parents	School fee – mixed reviews, some can pay at once and others not 'All fingers are not equal but I can afford it'. If can't pay they pay in instalments. Some people are aware of mobile money but they have not been using it for instalment payments and thought the current system was fine	Neighbours and school visits are important No use of media or fliers. One school organised a summer programme and students from that have now joined the school Community information is most important	Parents did care about registration but did not have accurate information. Except for S4 where they said they did not care at all about this.	Generally very happy with the learning and said fee level does not determine quality of learning	School choice – Good learning Qualified teachers was v imp Learning environment (classroom etc) Good morals S6 – not sure about parent backgrounds

Children			All schools have extra lessons. And actually most money was going to the school not the teachers.	Most children going to after school lessons. They mostly have parents or someone who helps them with H/W after the school, apart from a few. No real caning etc across the schools was observed but overall children said a bad teacher was one that did not cane. A good teacher one that teaches well	Children being taught one grade ahead in two of three schools Two schools have compulsory after school lessons and then optional S4 – children said parents were professionals / pastors/ businessmen most parents were traders / staff members' children
Teachers		Said the children's performance speaks for them		Teachers said the head teacher sends them to training (but think they were lying). School organises seminars for the teachers. S4 teachers said two had gone for training, but not the other ones. Usually school only sends for free seminars. Teachers more qualified than lowfee schools All teachers got there because they could not find other jobs. A lot of them want to have their own schools Extra lessons are run by the schools Teachers get a part of the money from the extra lessons and the school gets a proportion	Teaching was not particularly childcentred overall and children did not seem to understand the concepts. No use of teaching aids or group work Teachers did not seem motivated at all. Head teacher and Mngt don't involve them at all

Head teachers/proprietors	S4– had one loan, other schools – no loan. Proprietor doesn't like loans School targets people in the community	School reputation based on learning outcomes	Two of three schools registered and approved. One yet to be approved. Alimosho schools – no idea about GAPS but said that it could work if needed.	Teachers paid Mar – NGN 10,000 – 25,000 Low turnover of teachers	

Public vs primary schools analysis; entire team, DEEPEN office, 30 September 2015

DEEPEN workstream	Head teachers	Teachers	Parents	Children	Community
Rules and standards workstream	Always approved Admission is open throughout the year	Qualified and experienced teachers	Confident with government regulating the school Most parents do not want to admit that they cannot afford better options (private schools)	Children know the difference between public and private	Overpopulation Pupil appearance and bad influences are concerns
Finance workstream	State sponsored School-based management committee (SBMC) which consist of parents, respected community members, representatives of schools, women's representatives and other local key actors as working committees from parents	Thrift societies Cooperatives Access to loans More classrooms Teachers paid better than private school teachers	Parents support schools with voluntary donations Parents rely on government to provide free education, but there are extra costs of schooling – books, uniforms,	low Students are from income families	Key community leaders support school under SBMCs
Information workstream	Word of mouth and reputation The only school in the community		Word of mouth Announcements in key places in the community		Stronger presence in the community, strategic location, but negative reputation

School improvement workstream	Compulsory training for teachers	Enjoy free seminars, limit class sizes, parents to be more engaged in children's learning and monitor their homework. More school infrastructure	Parents want better lessons for students, and for government to employ more teachers and limit class size	Children need school buses There is a range of school clubs for children to join, which are run by school staff. These are extra curricula activities	

F.3 School analysis notes

Theory of change brainstorming among the entire team of 16 researchers, 30 September 2015, DEEPEN office

Types of School	Information	Pedagogy	Rules and Standards	Finance
Low cost/ medium-cost	**Would not work:** no time to listen, parents prefer one to one meetings, to see things for themselves, past records matter, reputation matters, word of mouth, English language is a barrier	Teachers wanted more attention. It will work, there is a lot of need **Would not work:** if head teachers are not active with associations, do not plan their money, resources, still possess poor business and management skills, do not prioritise teacher development, if there are less children at school, as head teacher would not have money available for investments such as training. Teachers would not pay for training from their own pockets	**Regulatory regime includes:** taxation, land ownership, remuneration of teachers (NGN18,000), asset ownership, teaching/pedagogy/qualifications of teachers. Poor schools are poor in all of these areas **Would not work:** registration and approval are very hard to implement especially for very low-cost, poor schools with inadequate infrastructure, a rented building, , with a small number of students, no access to loans, with a head teacher who is not proactive in using association to tackle school's problems **Association:** Association seems to be not as beneficial to schools as it could be. This could be because schools do not see the point of being a member and paying a fee. Association does not realise and does not have capacity to use its bargaining power to get the best deals for schools	**MM and SG would not work:** they do not allow instalment payments, no bank accounts among parents, no ICT skills, no money in the first place **Loans would not work:** no current bank account, no deposit, high interest fees, no building ownership, no registration, school is on its own with very little bargaining power. Low-cost schools find it harder to make additional revenues in addition to their school fees. Teachers, who are poorly paid, might not want to share fees from extra lessons. These schools are less likely to own a building and get rental profit Business skills improvement would not work: low-cost schools might not have human and other resources to improve their business profile and skills. They may not know their needs in this area

Types of School	Information	Pedagogy	Rules and Standards	Finance
			Would not work: if membership cost were expensive for low-cost schools. AFED could be seen less favourably in comparison to association of highcost schools GAPS:Low-cost schools are not to being poor. Even if a school gets graded with GAPS, it would not be able to improve itself within three years and would not be able to show any progress **Would not work:** high registration fee, high annual membership fee, poor infrastructure	
	Would work if: aired in local language, by local radio stations. DEEPEN needs to identify what station they listen to; it would be a complementary source, would not replace anything, as parents need more reliable source than media	**Would work if:** head teachers are proactive in undertaking the steps mentioned above, if associations are supportive and have capacity to support. Head teacher needs to be aware of needs of teachers who need support and to conduct regular assessments of teachers and children's performance. Parents' and teachers' voices must be heard. Schools require some form of registration, clear and transparent taxation Main stakeholders the team	**Regulatory regime would work if:** government pulls together its resources and undertakes a holistic approach to the issue. The approach should be tailored around the poor and low-cost schools. Teachers need adequate job security arrangements to encourage them to stay in the same school for a longer time **Associations would work if:** if associations improve their capacities, vision, management, business, leadership skills. Some good examples include: AFED helped Golden Bee with loan, AFED helped Warlight with seminars, meetings. For approved schools, AFED helped Golden Bee,	**MM and SG would work if:** more awareness, sensitisation, more knowledge, if they allow instalment payments **Loans would work if:** low interest rates, GAPS used to improve their standards (but no guarantee), if parents are informed about GAPS and come to schools to increase cash flow at school. Association can help with cooperative loans if membership fees are adjusted to lowcost schools **Business skills improvement would work if:** poor low-cost schools are helped with resources and capacity building. More transparent business management would attract more parents

Types of School	Information	Pedagogy	Rules and Standards	Finance
		heard about are AFED and textbook publishers	unapproved school, to register its children for P6 exams. **GAPS would work if:** government focuses specifically on poor low-cost schools and not assess all schools in the standardised way regardless of their fees. Low-cost schools need their own checklist, as in some contexts low-cost schools might never meet any criteria and not improve their grading after three years. Banks would need more than GAPS for secure bank loans, therefore schools would not be able to improve environment and obtain a registration. It is better for a neutral person to conduct GAPS	
High Costs	**Would not work:** no time to listen, parents prefer one to one meetings, to see things for themselves, past records matter, reputation matters, word of mouth, English language is a barrier.	**Would not work:** if head teachers are not active with associations, do not plan their money, resources, still possess poor business and management skills, do not prioritise teacher development, if there are less children at school, as head teacher would not have money available for investments, such as training. Teachers would not pay for training from their own pockets. Teachers wanted more attention. It will work,	**Regulatory regime includes:** taxation, land ownership, remuneration of teachers (NGN 18,000), asset ownership, teaching/pedagogy/ qualifications of teachers. *But high-cost schools are less likely to benefit from this than low-cost schools.* **Associations:** Associations seem to be not as beneficial to schools as they could be. Associations do not realise and do not have capacity to use their bargaining power to get the best deals for schools.	**MM and SG would not work:** Richer parents may need receipts for payments.

Types of School	Information	Pedagogy	Rules and Standards	Finance
		there is a lot of need	**GAPS:** High-cost schools are likely to be registered and approved, or be so under the 'group of the school'	
		Would work if: head teachers are proactive and undertake the steps mentioned above, if associations are supportive and have capacity to support. Head teacher needs to be aware of needs of teachers who need support and to conduct regular assessments of teachers and children's performance. Parents' and teachers' voices must be heard. Schools require some form of registration, clear and transparent taxation. Main stakeholders the team heard about are AFED, textbook publishers. We have not heard about the associations for high-cost schools .	**Regulatory regimes would work if:** government pulls together its resources and undertakes a holistic approach to the issue. Teachers could have improved job securities, compared to the current situation **GAPS would work if:** GAPS would be a value addition, not replacement **Associations would work if:** associations improve their capacities, vision, management, business, leadership skills	**MM and SG would work:** richer parents have more understanding of financial services, more open, have bank account **Loans would work:** schools can have additional revenues in addition to fees, such as from extra lessons, renting out their buildings. This would increase cash flow and serve as a deposit **Business skills improvement would work:** high-cost schools need more knowledge of their needs and weaknesses, and resources to address them.

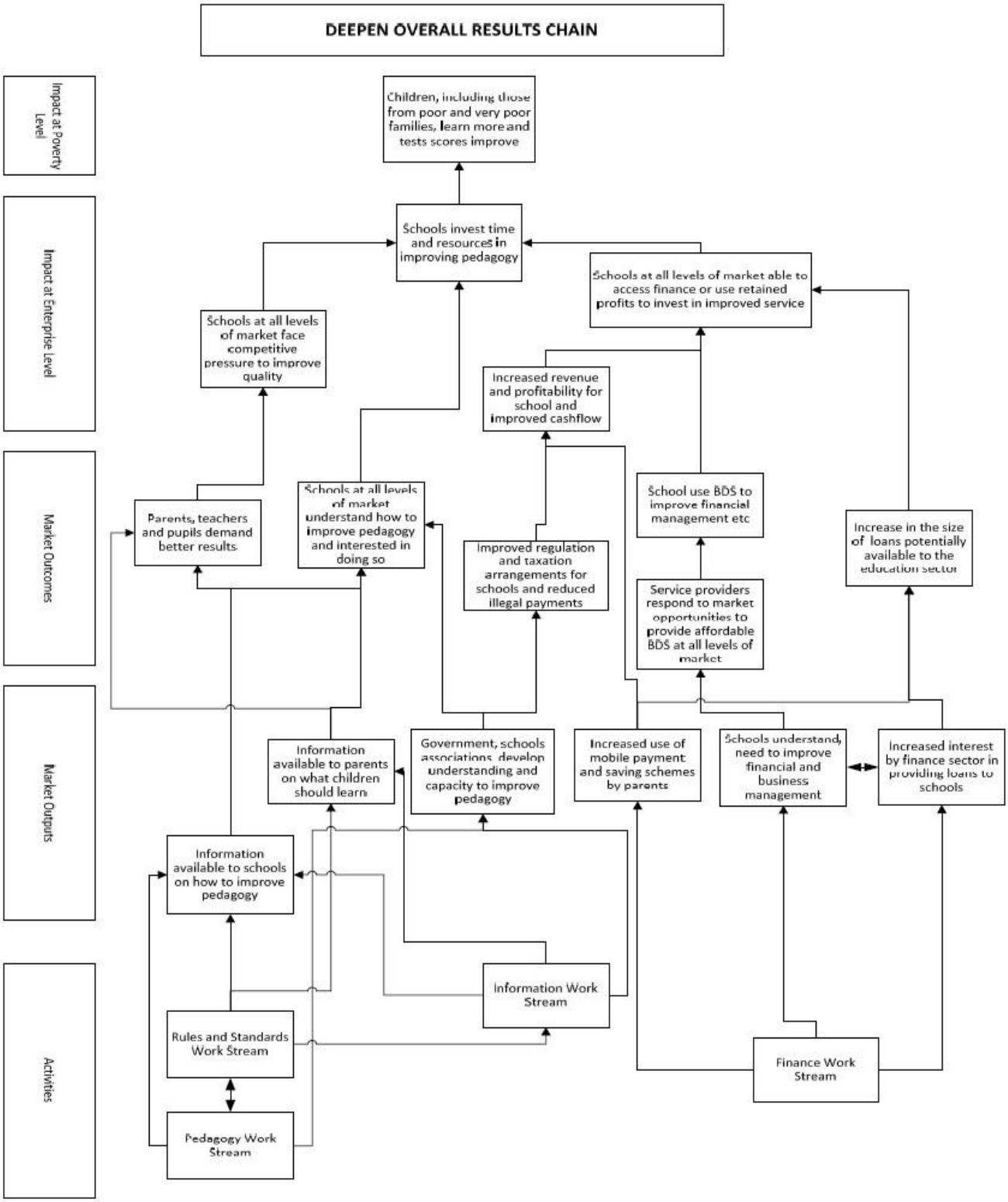
NOTE: All four work streams are interconnected, though they are presented as separate.

Annex G Key characteristics of high-cost and low-cost schools

	S1	S2	S5	S6	S3	S4	S7	S8
Learning outcomes	**High**				**Low**			
Fee classification	Low	Medium	Medium	High	Low	High	Low	High
Actual fees (NGN)	5,000	6,000	12,000	N/A	6,000	15,000	10,000	13,000
Bank a/c	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Loans	No	No. Applied to AFED but not yet successful	Yes	Not interested	No	Yes	Yes	No
Government approval	No	No	Yes	Yes	No	Yes	No	No
Land and buildings	Rented	Own building, improvements ongoing; ICT room	Rented building. ICT room, library	Multiple buildings	Rented. Very poor infrastructure	Rented. A good building	Rented. Concrete onestorey building converted from a residential house	Impressive two storey structure; lab, library
Member of association of private schools		Yes and benefits from it, as it helps with registering their children for state exams			Yes but no benefit	Yes		
Teacher Salaries (NGN)	8,000 9,000	Minimum salary 10,000 supplemented by after school lessons	18,000 (trying to increase to 20,000)	Unknown	8,000	10,000 – 25,000 Teachers paid on time and retention is high	Unknown	Unknown

Experienced and qualified teachers	Yes	Yes	Yes	Yes	A few experienced, but no one qualified	Head teacher has 13 years of experience. All teachers are qualified	Yes	No
Teacher support within school	No	Yes, especially new teachers are mentored	Try to send to seminar if possible and support their development		No	Only starting internally	No	Weekly debrief and assessment of teacher performance and shared learning
Teacher training	Seminar by DEEPEN on interactiv e teaching. Head teacher and teachers attended training	Yes, and they are rotated. Head teacher and proprietors also go to seminars	Recently sent them to raise morale	Yes but not DEEPEN	Cannot afford any	A few attended GAP training	Some	No
Assessments	Common exams	Weekly	Weekly	Unknown	Common exams	Common exams	Unknown	Weekly
Extra lessons	Yes	No, only as last resort	Yes	Yes	Yes but not started this year	Yes	Yes	Yes
Teacher turnover	High	Low	Low	Low	High	Low	Mixed	High
Student turnover	High	Low	Low	Unknown	High	Low	High	Unknown
Teaching a grade ahead	No	No	Yes	No	Yes	Yes	Unknown	Yes

Annex H DEEPEN theory of change discussions



Source: DEEPEN Set-up Report (DEEPEN, 2014).

DEEPEN's overall theory of change[57] is that:

- DEEPEN's activities increase stakeholders' understanding of key educational issues, raising their capacity, and highlighting incentives to change;
- at a system level, market players, such as government, media and financial services providers, adapt their behaviour to become more supportive of private education while increased parental pressure for effective competition provides an additional incentive for quality improvement;
- at a school level, principals, proprietors and teachers invest in their capacity to change their practices and create better conditions for learning; and
- children respond to the improved conditions and achieve better results and outcomes.

To achieve these results, DEEPEN focuses on four main intervention areas – **rules and standards, information, finance, and school improvement.** In this chapter, we discuss each workstream in turn, examining the key activities, and the evidence on the theory of change, based on existing research, and findings from the qualitative fieldwork. Finally, we discuss the overall theory of change in the context of the determinants of school performance, to understand how DEEPEN's activities can ultimately help to improve the learning outcomes of children in low-cost private schools.

H.1 Rules and standards

H.1.1Background and main activities

Most low-cost private schools in Lagos operate unofficially because they are unable to meet the current government guidelines for registration and approval. As such, they are often subject to informal threats of closure or illegal and multiple payment requests. The rules and standards workstream aims to improve the rules and standards affecting schools through two main activities:

GAPS is a major DEEPEN intervention, in collaboration with the Government of Lagos State, which assesses schools based on a series of questions relating to management and governance, the quality of the learning environment, and the quality of the teaching environment. Schools initially conduct a self-assessment using the GAPS form, and then these results are validated by government and civil society officials. Results of these assessments are to be made available to schools, and government will also send these results directly to parents, media, and put this on the Lagos state government website (DEEPEN 2014).

GAPS is expected to benefit a range of stakeholders:

- Providing **schools** with greater recognition, protection from closure and access to finance; and guidance to improve quality.
- Giving **parents** detailed and accurate information of school quality that will allow them to compare between local schools and assess VFM.
- Providing **government** with more information in order to improve regulation and provide an enabling environment for private schools.
- Providing other stakeholders, such as **FSPs**, with improved data on the private education sector for possible business opportunities (DEEPEN 2014).

GAPS has been now developed and piloted in 182 schools, out of the 330 invited to participate in the pilot. This raises a concern that GAPS may have stronger take-up among better schools, which would reduce its impact on children from poor households. In addition, since grades are self-awarded and validated

[57] DEEPEN 2015.

externally, the success of GAPS would depend on whether the process is seen by schools and parents as credible (DEEPEN 2014).

Multiple taxation and capacity building – Previous research shows that private schools currently face multiple taxes – legal, illegal (no official basis) and unofficial (claimed by the wrong authority or the wrong amount). DEEPEN believes that these taxes severely hamper the operation of private schools, and thus seeks to reduce this multiple tax burden. The current research and collaboration activities in this area are:

- a study of the financial contribution and economic impact of private education in Lagos, designed to inform government in relation to changing their policy around schools; and
- a capacity assessment, which has identified issues with finance, membership and communication. PSAs are approached by banks, and school improvement service providers (SISPs) but they do not have the capacity to decide what is best for members. DEEPEN is working with PSAs to build their capacity to work with government, conduct advocacy, increase membership and collect fees, and use media platforms to communicate (DEEPEN 2014).

Based on information from interviews with DEEPEN, other current activities include:

- Learning assessment – DEEPEN is conducting an analysis of exams organised by private schools and government. There is a state exam for P6 but it is only compulsory for children who want to go into public secondary schools. Private schools have internal exams, but are keen to have a common exam for P3.
- Working with Oxfam, who are working with communities to improve grassroots awareness of tax and governance justice. Oxfam targets small businesses, such as women's businesses and low-cost schools, discussing issues such as illegal taxation, ways to resolve any tax issues, and options to contact in cases of extortion or bullying.
- Collaborating with DFID Growth and Employment in States 3 (GEMS3) on tax sensitisation. DEEPEN is working with AFED schools to raise understanding of tax rights, what schools need to pay, and what they should not. The official approval of schools currently costs NGN 150,000, and approved schools are expected to pay an annual school tax of NGN 75,000. Unapproved schools are not expected to pay tax. However, all schools may also be expected to pay a television licence fee to the LGA.

H.1.2 Evidence on theory of change

DEEPEN's two main activities in the rules and standards workstream (GAPS and multiple taxation research) are aimed at addressing two key obstacles facing low-cost private schools: the lack of formal recognition and approval, and the burden created by illegal and multiple taxation. DEEPEN expects that GAPS will help schools understand how to improve, and create incentives for them to do so as parents begin to understand GAPS and demand better quality, which should result in better school management practices and increased learning outcomes. (DEEPEN 2014).

GAPS is the main activity in the rules and standards workstream, and a revised theory of change can be summarised as follows:

- *Activity* –GAPS is approved and adopted by government as part of the registration process.
- *Outputs* – Information is available to the public on school grades, and government and associations understand the grading system (see information workstream).
- O*utcomes* – Widespread stakeholder understanding of rules and standards, and improved government capacity to define and implement enabling rules and standards.

- *Rules and standards impact* – Competitive pressure at all levels of education market to deliver improved education services and better conditions.

- *Impact* – Schools invest more time and resources in improving pedagogy, so children learn more and test scores improve (DEEPEN, 2014).

This theory of change is discussed based on evidence from the desk review and school-level fieldwork and interviews with DEEPEN and other stakeholders.

H.1.2.1 Contextual factors

Regulation and registration of private schools

The Lagos state government has provided a website form[58] for easy registration of private schools. The process is expected to take three months if there are no delays. In reality it involves several stages and can take years for low-cost private schools to complete this process, often due to a lack of finances to invest in the required facilities. The first step is an application to the MoE to request a name search to avoid duplication of names. The second step is inspection of the school by MoE officers, and payment of NGN 25, 000 for a form if the premises are considered suitable for business. The final step is approval of the school by the MoE after further inspection. The criteria for approval of private schools include a specified number of classrooms, teachers, etc. Many un approved schools are forced to pay illegal fines and taxes to keep from being closed down while they complete the registration process. They may also have agreements with other approved private schools to allow their pupils to take external examinations which they cannot access (ESSPIN 2011; Gibson *et al*. 2011).

Some private schools that we visited said that they are visited by government inspectors, although this is on an *ad-hoc* basis, particularly in relation to the registration process, and this typically includes inspection of facilities and teachers' attendance registers, as well as classroom observation. Officially, government says that un approved schools should not be taxed, but many schools are in fact taxed by the LGAs. The research team was unable to get detailed information about the nature and types of tax that schools have to pay. This could be because they are sensitive about discussing such issues, or because tax is not a major challenge that they face.

Registration and school choice

In FGDs, parents do not mention registration status as one of the top factors influencing their choice of schools, but when probed some say it is important because it provides evidence of government validation, and ensures that their children can continue to government secondary schools after P6. In fact, there is a preference for children to attend government secondary schools, particularly model or federal government colleges. Others say they do not care about registration as long as the school provides quality education to their children. However, the latter group may simply be too proud to admit that they cannot afford the fees charged by approvedprivate schools, or they may not be aware that their children's school is approved– in some cases because schools make arrangements through associations or other private schools to register students for exams. Teachers and head teachers say that many parents, especially those who are less literate, do not in fact know whether their school is approved or not and do not seek out such information. Furthermore, some schools make false claims about their registration status based on registration of a separate branch of the school – such as the secondary school, or another primary school with a shared owner. One parent said that the government publishes a list of approved schools, but this information is not readily available, and parents have to rely on information provided by schools.

[58] http://www.lagosstate.gov.ng/schoolregistrationform.pdf.

H.1.2.2 Mechanisms

The rules and standards theory of change relies on several main mechanisms: that the government is interested in improving the regulation of both approved*and un*approved *private* schools, and will adopt GAPS as a key tool in this process; that the public (parents, schools, and corporate organisations, particularly FSPs) will accept GAPS as a credible tool for assessing the quality of private schools, and the profitability of potential investments; and that parents have information, are able to seek such information, or understand the information that is available to them about rules and standards. GAPS is more likely to be viewed as credible if it is officially approved and used by the government. Furthermore, many parents do care about registration status as long as the school is able to meet other expectations. Thus, the head teacher or proprietor has an important role in relation to being able to provide services to parents even though the school is not approved.

H.1.2.3 Assumptions and risks

The qualitative fieldwork provides evidence about some of the core assumptions and risks associated with these mechanisms.

- Assumption: The government approves and will fund the GAPS system

The government is not able to monitor the current status of registration. Some schools obtain registration for one branch and then extend it to the entire school – nursery, primary and secondary sections. The credibility of the current registration process is also weakened because the difference between registration and approval is not always clear.

GAPS currently operates in parallel with the Lagos government school approval process, and DEEPEN initially expected that GAPS would replace the current process. The Lagos State Government appears to now be in support of the programme, and there are plans to incorporate GAPS into the current formal registration process eventually. The government has also expressed renewed interest in, and commitment to, improving the quality of education in private schools – unlike the previous sentiment which only focused on public schools. There are plans to improve oversight – through monitoring and evaluation, and increased regulation of private schools – fees, teacher remuneration and contracting, multiple taxation, curriculum.

- Risk: However, there are still risks to implementation due to recent changes in government

There was initial reluctance about, and limited understanding of, the programme on the part of government, as the new administration initially wanted to restrict GAPS to only approved schools. However, there have been several revisions to align the GAPS checklist with ministry requirements, and the form is awaiting final approval. Furthermore, the previous government had agreed to roll-out in Ojo and Alimosho, but the new administration does not have a budget for this, so Ikeja is being considered as an alternative to Alimosho (which is the largest LGA in the state), and GAPS activities in Ojo were temporarily suspended.

- Assumption: Data from the multiple taxation research will enable schools and their representative associations to advocate for a better tax regime

Private schools pay taxes to the Lagos state government, but they are not sure how this is calculated. Schools may be required to produce tax receipts in order to purchase the curriculum from the state MoE. However, discussions with proprietors did not indicate that multiple taxation was a key challenge. This is probably because unapproved schools are less willing to disclose illegal payments. DEEPEN will need to explore ways of obtaining accurate data on this issue.

- Assumption: Private schools continue to support the programme

There is some stakeholder support for the programme. Schools who have used the GAPS form found it useful for understanding how to improve quality, and have an incentive to do so to get higher grades in subsequent assessments. Other schools appear willing to participate in the programme, and think it might be useful. *'Yes, it is useful, because it makes me to know actually where I am lacking behind and to be able to adjust.'*

– S1 head teacher

'GAPS. Yes it helped, it helped a lot. There are certain things that are not in place before they came, when they ask question and I gave them my honest reply and if they felt I was wrong I know there are things that are in place that the school is better, improves. I learnt a lot from the two men that came…. Before they came I did not have a movement register, we did not have a movement register, and they told me the implication and importance of the movement register and they were actually right. There were other things – they asked me to hang posters round the schools things that will stir up the children like learning aids in the classroom.'

– S3 proprietor

- Risk: However, there were mixed reactions from parents and teachers about the usefulness, and potential credibility, of GAPS

Some parents have fears that the assessment by schools will be inaccurate, and the verification by government will not be transparent, and will be prone to common corrupt practices.

'I will not trust that [GAPS] because a school can blow his trumpet. But when an outsider assesses, then you will now look into it and say the assessment is okay.'

– S1 parent

'Well, if they can fulfil all these promises, I think it will work. [Because] people will know more about the private school….'

– S1 teacher

- Risk: Very low-cost schools do not benefit from the programme

There is still a risk that the very low-cost schools, which are in terrible condition, will not benefit from this, because they are not able to improve standards and progress in their assessments.

H.1.3 Discussion

Many private schools cannot meet the requirements for the current registration process due to a lack of access to the finance required to invest in school improvement. Low-cost schools struggle particularly, because of the poor initial state of infrastructure, a small student population, and limited access to loans; and they may not be able to show improvements in the short-term. GAPS would address this challenge by providing an alternative to the current bilateral registration status, which provides an objective and holistic assessment of school quality, as well as the guidelines and incentive for schools to improve. There is some evidence that, overall, the various stakeholders are in support of the programme and would find it useful to address current needs. However, schools will not sign on to GAPS unless there is an added benefit – access to finance, government recognition, or the ability to attract more students. FSPs will not factor GAPS into lending decisions unless it is adopted officially by government. In the same vein, parents will not consider

GAPS as a proxy for school quality, and thus a factor in school choice, unless there is wide take-up among low-cost private schools which they can afford.

Therefore the success and take-up of GAPS hinges on its credibility, which is in turn dependent on government approval. Low-cost schools may also need their own GAPS checklist, which takes into account their specific context. Finally, a holistic approach is required for regulation. For instance, improved wages and job security for private school teachers would greatly reduce turnover, and allow the benefits of other school improvement activities to take effect.

Some schools have benefitted from PSAs through loans, information, training seminars and registration for external exams, but there is room for improvement in the capacity of associations to represent and advocate for private schools with government, as well as the private sector service providers. **Associations could work to improve rules and standards if they were to improve their capacity, vision, business and leadership skills.**

H.2 Information

H.2.1 Background and main activities

Accurate information is necessary for improving the quality of education. Schools need guidance on pedagogy and school management, and parents need information to be able to demand better quality from their children's schools. Parents also use information to guide school choice, and to monitor and assess children's progress and learning. A recent survey of household choice[59] found that most parents of children in private schools rely on informal sources of information for school choice – visiting prospective schools, and talking with family, friends and neighbours (DEEPEN 2014).

DEEPEN's preliminary research indicated that poor parents rely on television and radio as external sources of information to guide school choice. DEEPEN is working with mass media organisations to improve the quality and frequency of reporting on education issues, and to build trust in this information. This is related to the rules and standards workstream – GAPS will provide more information to the public on school quality. DEEPEN will also commission analytical studies on issues relating to private education, to build local capacity for research, and to improve the use of evidence in policy-making (DEEPEN 2014).

H.2.1.1 Media development for education

There is little dedicated media programming for education, local organisations and journalists have limited capacity, and demand from media houses for education content is low. To address these gaps, DEEPEN will:

- conduct surveys of current practices around education reporting, including analysis of commercial models, information sources and understanding how mass media reaches the poor. The results will be used to create a database of key education content and information sources; and
- work with selected media houses to improve coverage of education issues and increase the role of the media in advocacy for education, and to develop sustainable business models for education reporting.

Improved coverage of education issues is expected to lead to:

- improved information for **parents** to guide school choice, and to empower parents to demand higher quality education from schools;
- improved **schools'** understanding of how to improve quality;
- improved evidence-based decision-making and advocacy by **government;**

[59] Tooley and Dixon 2013, Yngstrom 2013.

- improved quality of coverage and profitability for **media** houses from increased sponsorships of education programmes; and
- increased revenues for **businesses** that sponsor education programmes that interest their customers or users (DEEPEN 2014).

H.2.1.2 Analytical studies

DEEPEN will address the existing gap in the literature on private education by commissioning a series of detailed studies that explore various topics, including the economic contribution of private schools in Lagos, the advantages and disadvantages of school chains, analysis of the tax regime, etc. This analysis is expected to lead to:

- the generation of credible evidence for decision-making and regulation by government and policymakers;
- improved capacity of research organisations to conduct rigorous research, and increased scope for business opportunities; and
- more informed polices, resulting in a more enabling regulatory environment for private schools (DEEPEN 2014).

H.2.2Evidence on the theory of change

DEEPEN expects that supporting media houses in relation to improving the quality and frequency of their coverage of education issues will result in improved understanding by parents and schools of good school practices. This is in turn expected to lead to greater use of more effective teaching methods, and higher parents' satisfaction, and eventually to improved learning outcomes for children from poor households attending private schools.

In summary, the information theory of change expects the following:

- *Activities* – DEEPEN supports the media in relation to improving its coverage of private education; and through analytical studies, DEEPEN generates evidence to inform policy-makers and stakeholders.
- *Outputs* – These activities lead to improvements in the quality and level of media coverage of private education, improved information being provided to parents on private education, increased advocacy by media and parents to policy-makers, who have improved information from media and analytical studies.
- *Outcomes* – Parents increase demand for improved standards in private schools, and there is an improved policy and legislative environment for private education.
- *Workstream impact* – Schools invest time and resources in improving pedagogy, which leads to improved quality of education in private schools.
- *Impact* – Children learn more, and test scores improve (DEEPEN 2014).

This theory of change is discussed based on evidence from the desk review and school-level fieldwork, and interviews with DEEPEN and other stakeholders.

H.2.2.1 Contextual factors

Parents, information and school choice

As discussed in Chapter 3, Parents make decisions on school choice based on perceptions of quality, for which they rely on information obtained from the school, family, friends and the community. While the media is seen as a reliable source of information more generally, parents do not currently rely on this (radio and TV) for information on schools, and low-cost private schools cannot afford to advertise on media. Prior to DEEPEN's interventions, media programmes with a focus on (private) education did not exist.

Rival programmes

Enhancing Nigerian Advocacy for a Better Business Environment 2(ENABLE 2)[60] works in Lagos with media houses to create and sustain investigative business content, in the hope of building pressure for reform, to keep government accountable, to give poor businessmen and businesswomen a voice and to encourage public–private dialogue. ENABLE 2 are currently partnering with Wazobia FM Lagos, a radio station that is popular with the poor as it broadcasts in pidgin. This media intervention does not focus on schools as businesses or on education topics specifically. There is currently no overlap with DEEPEN's media partners.

H.2.2.2 Mechanisms

The theory of change relies on two main mechanisms:

- Parent–school relations – Parents are interested in the quality of the schools their children attend and can exert influence over school leadership. They also require a trusted and reliable source of information about schools.
- Media and private education – Private education is of interest to, and is potentially profitable to, media organisations.

H.2.2.3 Assumptions and risks

- Assumption: Parents currently have a good understanding of education quality and how it affects their children's learning, but no reliable information about schools of interest

As discussed in the earlier chapters we find that many parents are in fact very interested in the quality of education. We find that proximity to home, teacher quality and school quality are among the top reasons for school choice. Ultimately, parents want their children to learn and to do well, and this is reflected in their choice of school, and how they assess their children's progress over time.

Parents generally believe that a good school should have a good reputation, a 'conducive environment for learning', adequate and qualified teachers, adequate infrastructure, and learning materials. Parents are also interested in non-academic aspects of schooling, such as a clean and tidy appearance, religious and moral values, discipline and good school leadership and management.

> *'I have entered the school and I have seen how they are being taught… so I see the way they teach here. The children are okay and they concentrate. I see the way they use cane to beat any child that tries to act wayward. In a government school, it is possible that you might not find something like this. I have been to a government school during working hours, teaching periods, those children are just roaming about. But this one, I see that the way they do, they concentrate on what they are teaching and their mind is on it. If you see the way my child does the home work...'*

[60] ENABLE is a 4.5-year DFID-funded programme, implemented by Adam Smith International and the Springfield Centre, which seeks to improve the quality and quantity of business advocacy and public-private dialogue in Nigeria, resulting in an improved legal, policy and regulatory environment for business. ENABLE rigorously applies the M4P approach. (file://opmlfs001/RedirectedDocuments/INnodu/Downloads/ENABLE_Update_Wazobia.pdf).

– S1 parent

Once children are enrolled, parents measure their performance and track their progress by comparing them with other children, or against their past performance. The criteria for these comparisons include spoken English, ability to read and write, understanding of homework, test or exam scores and general behaviour. *'As my daughter normally does her's [homework] at home, if she comes back from school, I didn't look for anyone to come and help her, it is the one that teach them in the class and she will follow the way and do the homework that is why I know that are teaching them well.'*

– S2 parent

'This my son now he is trying all there mates in our compound even there age mates and classmates they would bring their reading and my son will read very well. [He is] about ehn 9 years, can read very well and write very well. Even sef bring secondary school book he can read it but he is in primary three'.

– S3 parent

However, this understanding of education quality differs depending on the educational background of the parent. Parents' understanding is also limited by the lack of comparable learning assessments for private schools prior to grade 6, and by the nature of existing rules and standards (most private schools cannot meet the requirements for registration, and there is no scale to measure quality in the interim).

- Assumption: Parents can demand better quality from schools

If parents are indeed interested in the quality of the education that their children receive, and gain an improved understanding of this quality, DEEPEN expects that they will then put pressure on schools to improve standards by voting with their feet, which will stimulate competition and create incentives for schools to improve. To test this assumption, we examined the relationship between private schools and parents, and the level of parents' engagement in children's education.

We find that parents are relatively well engaged with their children's learning. They supervise homework and may give teachers feedback if required, and they arrange for private lessons or extra after-school lessons. They also receive report cards every term, which contain their children's results of school exams and assessments. Some schools organise open days, where parents can monitor their children's learning and get feedback from teachers. Others use communication notebooks to pass messages across to parents through the child.

Private schools also appear to have an open door policy with parents. PTA meetings are common, and parents are consulted on issues ranging from increases in fees, increases in teachers' salaries, school investments in infrastructure, and other schooling costs, such as excursions or changes in uniform. Although parents are updated on the general academic and extra-curricular activities of their children, schools are more likely to seek input from parents on financial decisions, especially where they require additional payments. For parents who are not able to attend PTAs, some schools send out letters, or may communicate directly with parents through phone calls or text messages. Furthermore, student populations are relatively small and so schools are able to follow up on cases of absenteeism or drop-outs by calling parents on the phone or visiting their homes.

Parents visit schools often, to drop off and pick up children, buy books or uniforms, or pay fees. Many are very familiar with their children's teachers and can contact the head teachers and teachers directly with any complaints or requests, either over the phone or in person at the school. For example, one proprietor says parents once requested more excursions (S1) and this suggestion was included in school activities. One

parent reported raising concerns with the school about a particular teacher after noticing incorrect work in his child's books, and this teacher was then corrected and reassigned to a lower grade.

Given that parents are already engaged with schools and children's learning and can influence schools' fee policies, there is great potential for parents to demand improved quality if other DEEPEN interventions work.

- Risk: Parents do not access information about school quality through the media

The theory of change claims that an improved level and quality of media reporting on private education will lead to improved information being provided to parents. This assumes that parents access information about school quality through the media. We find strong evidence to the contrary. Most parents rely on information from family, friends and neighbours, as well as personal observation, when choosing a school. When asked if they would consider the media as a potential source of information, some parents say that the media would not be credible unless they were able to verify it independently. Although not all parents have access to media, those who do also say that they prefer local language programmes produced by the local radio stations.

> *'Actually, it is not enough, because when you hear information, listen to people around either people that their children have being attending there, or people that are living near the school, it is very good, not only an advert on radio, because with that only you might not get the right thing you want.'*
>
> **– S4 parent**

Furthermore, low-cost private schools cannot afford to pay for radio or TV advertisements. Instead, they advertise in their communities through fliers, banners, branded school uniforms and materials, opening up school activities such as inter-house sports to the public, holiday lessons that are open to students from other schools, and student rallies in the neighbourhood.

- **Assumption:** Media houses and organisations will see the opportunities for increased profitability through the greater and more reliable coverage of educational content.
- **Assumption:** Current underreporting is due to poor funding and lack of capacity among journalists
- **Assumption:** Improved business models will overcome the tradition of brown envelope payments for media reporting
- **Assumption:** Businesses will be commercially interested in sponsoring educational programmes and content

We interviewed representatives of two radio stations that DEEPEN is working with in Lagos – CITY FM and TOP FM. Both agree that the media has a role in influencing public debate, that there is public interest in educational radio content, but that the sector is under-reported. DEEPEN is working with these stations to improve coverage – by building the capacity of journalists, providing information for shows, and facilitating access to subject experts from government, academia, etc. The inclusion of subject experts on the radio shows has been very successful, resulting in more public participation in the shows through phone calls.

- Risks: Current business model for media is not sustainable

Current interest from the media appears to be driven solely by the personal interest and passion of the presenters and management. Stations have not been able to find sponsorship for these shows, and this may require some high-level lobbying from DEEPEN. Furthermore, the shows will not be sustained if these interested parties leave the station, or if journalists who have been trained move on to other assignments.

H.2.3Discussion

We find significant inconsistencies in the theory of change, particularly at the activity level:

- Although there is interest from the media in regarding improving the frequency of, and quality of, the coverage of education, the media stations we interviewed have not been able to find sponsorship for the education programme, which calls into question the assumptions about the profitability and sustainability of the model.

- Although the media is generally seen as a credible source of news and information, we find that parents rely on informal sources of information for school choice, and not the media. Low-cost schools cannot afford to advertise on media either, and rely on informal or cheaper means of advertisement or branding.
- The radio stations that DEEPEN is currently working with do not target the intended market – they broadcast in English and favour the urban elite.
- The current model is not sustainable as journalists who have been trained may move on to other stations or roles, and current management may become disinterested if the programmes do not attract funding.

There is still potential for impact if some activities are reviewed. For instance, parents of children in low-cost private schools are more likely to listen to radio programmes that broadcast in indigenous languages like Yoruba or pidgin. DEEPEN should therefore target media organisations that broadcast in indigenous languages, and target the times of day when parents are likely to be listening to the radio or watching TV. Also, the concerns about the credibility of the media will likely be allayed by improved government regulation of the sector, and by the involvement of government representatives in media programmes.

DEEPEN should also consider the use of civil society, faith-based and community organisations, as well as PSAs as a means of improving the understanding and awareness of quality and standards in private schools. Schools could also be trained on the use and dissemination of information, including finding cheaper printing deals from companies.

Finally, schools are aware of the competition and try to keep parents happy in various ways, so that they do not change schools. Given parents' interest in quality, and their current level of engagement with schools, we can safely assume that with greater understanding of school standards, parents will demand better quality from schools, and schools will respond by making improvements (assuming they have access to finance).

H.3 Finance

H.3.1Background and main activities

Access to finance is a major obstacle for low-cost private schools. Most schools are small businesses with poor cash flow and limited access to loans, which restricts their growth and expansion, and limits their ability to improve performance. DEEPEN has developed four interventions to address these constraints. The first two target parents, as consumers of education, through their children, while the last two directly address the financials needs of schools.

- Saving schemes for parents – DEEPEN will engage FSPs by providing them with information about parental demand for finance, to encourage the provision of affordable savings products to help parents pay for their children's education. For **parents,** saving schemes are expected to increase their capacity to pay fees on time by reducing the effect of erratic incomes and financial shock. This should result in more predictable and timely payment of fees, which will improve **schools'** planning, financial management and investments. For **lenders,** saving schemes would also provide additional revenue streams, growth and profit through access to new lenders.

- Mobile money payments – DEEPEN aims to work with the financial market, and mobile money operators, to develop a system that allows parents to pay fees through their mobile phones. For **parents,** mobile money is expected to increase the flexibility and convenience of paying fees, despite fluctuating household incomes. This should also improve the cash flow of **schools,** and reduce the time and expense spent on fee collection. Finally, **for mobile money operators**, this should provide access to new customers and the ability to capture new revenue streams.
- Schools as business services – DEEPEN will support service providers in relation to developing and marketing training courses for private schools to improve their planning and to handle their finances more effectively (business development and financial management for schools). As a result, **schools** should be able to increase their cash flow and make investments in school improvement. They should also be able to improve documentation and record-keeping practices, which will facilitate better access to finance. In turn**, FSPs** will gain a larger client base and increased profit, and **parents and children** could also benefit from a more cost-effective service from schools.
- Finance for schools – DEEPEN will work with FSPs to increase the availability of loans and financial products to schools, by providing banks with information on schools' demand for, and current use of, finance (DEEPEN 2014).

H.3.2Evidence on the theory of change

The four finance interventions discussed above aim to address the financial constraints faced by parents and schools. Mobile money and saving schemes should improve parents' ability to pay fees regularly and on time, which will lead to improved cash flow for schools. This, combined with improved access to finance for schools and training on effective financial management, should increase schools' capacity to invest in physical infrastructure and improved services, which should ultimately result in higher learning outcomes.

In summary, the finance theory of change states as follows:

- *Activities* – DEEPEN supports pilots of mobile money fee payments and savings schemes for parents; and promotes financial services and loans for schools.
- *Outputs* – Increased use of mobile money and saving schemes by parents to pay fees, and finance providers are more ready to provide loans to schools.
- *Outcomes* – Parents are better able to pay school fees in a timely manner, which leads to improvements in the cash flow of the school and increased school revenue; and schools have increased access to formal

finance.

- *Workstream Impact* – Schools have increased capacity to invest in improved services and they invest time and resources in improving pedagogy.
- *Impact* – Children learn more and test scores improve.

(DEEPEN 2014).

This theory of change is discussed based on evidence from the desk review and school-level fieldwork, and interviews with DEEPEN and other stakeholders.

H.3.2.1 Contextual factors

Saving schemes and products

Several commercial banks[61] in Nigeria offer savings products that allow customers to save for their children's education, and obtain loans for school fees and other schooling-related costs. Interest rates and withdrawal restrictions vary by bank. These products are not specifically targeted towards the poor, or towards the parents of children attending low-cost private schools.

Mobile money in Nigeria

Around 57% of Nigerian adults do not have access to formal financial services, but 64% of the population owns a mobile phone, and 84% have access to a phone. Despite this large potential market, only 0.1% of Nigerian adults use mobile money. This is despite the enabling government regulations[62] and guidelines that support mobile money services. Studies of user experience in Nigeria revealed that although low income Nigerians perceive mobile money as a convenient and easier way to save, they also note drawbacks, including unexpected withdrawal charges and restrictions, the unreliability of mobile networks, and cumbersome menu interfaces. Furthermore, there is still some distrust regarding the mobile money companies and systems[6364] (EFinA, 2014).

Poor people are particularly excluded from access in many ways.[70] They rely on family and friends for financial information, and may miss out on media advertisements that are not in the local language, or that target a middle class clientele. Numeracy and literacy, especially in English, is a barrier for poor people, and many mobile money companies do not provide language options for transactions. This forces reliance on local agents as intermediaries, and it may be difficult to access an agent, or other kinds of financial services – particularly in more rural areas. Poor people may also be discouraged if registration and transactional processes are long and overly complicated.

Suggestions for boosting the mobile money market include targeted advertising for the specific audience, increasing the network of agents, designing appropriate products and improving the quality of services.

Poor financial management practices in schools

Many schools do not have designated accountants, and proprietors often manage school finances out of their personal bank accounts. Given the irregular nature of fee payments by instalment, there are potential issues with record-keeping, as well as the transparency of school finances.

Rival explanations

Associations and cooperatives

[61] https://sterlingbankng.com/oneeducation.php;http://www.gtbank.com/personalbanking/products/savings-andinvestments/smart-kids-save-account; http://www.stanbicibtcbank.com/Nigeria/Individual/Specialised-services/Students/SchoolFees-Loan.

[62] In 2009 the Central Bank of Nigeria approved guidelines for mobile money services in Nigeria, and over two dozen operators have been licensed. Furthermore, the Central Bank's cashless policy, which was piloted in Lagos State in 2010, sought to reduce the use of physical cash in paying for goods and services, and to encourage electronic payments. http://cfi-blog.org/2015/08/13/the-holdup-with-mobile-money-in-nigeria/; http://www.fcmb.com/9-about-us/3-cbn-policy-on-the-cashless-lagos-initiative;http://www.cenbank.org/cashless/.

[63] Several studies have been conducted, by the Grameen Foundation in partnership with MasterCard Centre for Inclusive Growth, and by EFinA, etc.
http://www.grameenfoundation.org/sites/grameenfoundation.org/files/resources/Nigeria%20Landscape%20Report%20FINAL%20Dec%2013%202014.pdf.

[64] EFinA, 'Maximising the Uptake of Digital Financial Services through Understanding Consumer Perspectives', 04 March 2014.

PSAs may also provide a source of financing for low-cost schools. Schools would be required to be members of the association, join the cooperative, and then make contributions for a designated period before they can access loans.

Other private sector development projects

M4P is an approach to developing market systems so that they function more effectively, sustainably and beneficially for poor people, building their capacities and offering them the opportunity to enhance their lives. Based on evidence of the success of M4P projects in other countries, and demand for private schooling in Lagos, DFID launched DEEPEN for the Lagos private education market. Although there are other private sector (including GEMS,ENABLE) and education donor projects in Nigeria, DEEPEN is the only project currently working with private schools in Lagos using the M4P approach.

- ENABLE is a 4.5-year DFID-funded programme, implemented by Adam Smith International and the Springfield Centre, which seeks to improve the quality and quantity of business advocacy and public–private dialogue in Nigeria, with the aim of resulting in an improved legal, policy and regulatory environment for business. ENABLE rigorously applies the M4P approach. There is some advocacy focusing on multiple taxation of businesses, which may have spill-over effects on schools and parents who are business owners – by increasing their incomes. Given that many parents of poor children in low-cost private schools fall into the category of artisans, small business owners, and petty traders, it is possible that ENABLE's interventions could influence their incomes positively, thus influencing school choice, and ability to pay fees on time. This media intervention does not focus on schools as businesses or on education topics specifically. There is currently no overlap with DEEPEN's media partners.
- GEMS is an employment project supported by Nigeria's Federal Ministry of Trade and Investment and funded by the World Bank and DFID. The project is aimed at job creation and increased non-oil growth in specific high potential value chain sectors. DFID is providing a grant of £90 million and the World Bank a concessionary loan of $160 million. GEMS will achieve an overall internal rate of return of 48%. Although the project is active in Lagos, it is not focused on the education sector. There may, however, be spill-over effects on parents (through employment and small and medium-sized enterprise creation) of children attending private schools, which could increase their income, and affect their choice of schools and ability to pay fees.
- EFinA is a financial sector development organisation that promotes financial inclusion in Nigeria. It is funded by DFID and the Bill and Melinda Gates Foundation. EFinA focuses on research, innovation, advocacy and capacity building. Although the project does not specifically target education, it does include mobile money interventions targeted at poorer segments, which could potentially include parents of children in low-cost private schools.

H.3.2.2 Mechanisms

The main mechanism for the finance intervention is that **schools are willing and able to invest any additional resources in school improvement.** This relies on several assumptions, which are discussed below.

H.3.2.3 Assumptions and risks

- Assumption: Finance represents a major obstacle for low-cost private schools.

Most schools fund their operating costs through student fees, supplemented by sales of books, uniforms and writing materials. However, access to finance for expansion and school improvement remains a challenge for many low-cost private schools in Lagos. Where bank loans are available, many schools do not

have the required collateral. Furthermore, schools often cannot access bank loans unless they have an account set up with the bank where fees are deposited. But they cannot set up bank accounts if they are not approved, and many are not approved because they do not have the funds required to invest in school improvement and infrastructure in order to meet required standards. If a school were to meet these criteria, regular deductions could then be made against these deposits to service the loan. However, given that schools are so dependent on fees, this would leave limited funds left for operating costs. According to one proprietor:

> *'Since our money is being paid to the bank, all the money the children will be paying will go for the loan until the loan is being paid so off. Which we now thought of it, that if all the money goes for the loan, then how are we going to pay the teachers? Even we ourselves, how are we going to feed ourselves?'*
>
> **– S2 proprietor**

Using conventional banking services could be tedious for parents, as well as schools. Even when schools have bank accounts, many parents would rather pay fees in cash at the school, for several reasons. Firstly, payments to the bank would be for the full amount of the fees, whereas most parents can only afford to pay by instalments. Secondly, in some cases parents are not literate and are uncomfortable visiting banks (filling out forms , etc). Finally, there is also the potential inconvenience of visiting a bank. PSAs could potentially provide a source of financing through cooperative loans, although none of the proprietors we interviewed had been successful in that regard. This option could be more appropriate for medium- and high-cost schools.

- Assumption: Limited access to loans and uncertain cash flow restricts the ability of schools to grow and to improve performance

Many parents have difficulty paying fees on time and in full. Even though most schools allow fees to be paid in instalments, some parents are not able to complete payments and may owe the school fees. This creates uncertainty in the school's cash flow, which, coupled with limited access to finance, prevents the school from making investments to improve performance.

- Assumption: Schools' commercial incentives to make money can be aligned with the objective of improving quality

Proprietors would like to invest in school improvement if they had sufficient funding, such as investing in better infrastructure, materials, and increasing teachers' salaries. These investments are expected to improve the quality of the school, which will attract more students, and result in higher profits. However, for schools that do not own their own land and buildings, there is always a possibility that the landlord will take over the building, which limits the scale of investments that proprietors are able to make.

- Assumption: The education sector is attractive enough, in terms of risk-adjusted returns, for FSPs to increase their lending

DEEPEN is partnering with several FSPs in Lagos, who say that the education sector is a potential key market for their products. FSPs are working to develop tools more suited to the low-cost private school market, including:

- temporary advances or term loans – gap funding given to schools between terms, to be repaid from fees or sales of books and uniforms. This is for relatively small amounts (< NGN 5 million) and for short periods (up to three months);
- providing electronic POS machines and e-invoicing systems to schools to improve fee collection;

- tuition loans. Parents would need to have a savings account with the bank (where the school also has an account), and would then be able to borrow money for fees against this account. These fees would be paid directly into the school's bank account; and
- child life education insurance to guarantee fees in the event of a parent's death.

These activities indicate that FSPs recognise the education sector as a potential market and are developing facilities that are more suited for low-cost private schools.

- Risk: These services do not benefit low-cost schools equally because they are less likely to have the collateral or freedom from property and government rents to grow

Few banks can currently lend to low-cost private schools due to several constraints, which have been discussed earlier. Low-cost schools often do not have the collateral required to secure loans, or the capacity to repay within the stipulated time. Most local banks require schools to have some form of approval (at least a registered name) before they can open an account. In terms of location, most banks are quite widely spread out across Lagos and are relatively accessible. In some cases, the extent of the loans available to a school is dependent on the school's registration status. Although there is acceptance of GAPS as a potential solution, banks will not recognise it unless it is approved and adopted officially by government. Currently, banks say that associations do not have the capacity to guarantee or recover loans and so cannot serve as a middle man for private schools.

- Risk: There is little appetite for mobile money among parents

In general, parents had little interest in using mobile money to pay fees. Their main concern was with finding the funds to pay the fees in the first place, rather than *how* to pay.

> *'Mobile money or whatever does not really matter. What matters is the income, how to pay is not the issue. .. Mobile money only works when you have money…'*
>
> **– S3 parent**

This perspective could arise for several reasons, including technological scepticism, low literacy levels, and limited awareness of mobile money systems. Some parents expressed concern about their ability to understand and use the system effectively, while others did not trust that mobile money would be a reliable means of transferring money, and would prefer to pay fees in person and with cash. Many may not even have bank accounts.

Mobile money is still in the early stages of adoption in Nigeria. DEEPEN is partnering with a commercial bank, STANBIC IBTC, which provides a mobile money platform. STANBIC has piloted the mobile money scheme in some schools, and notes that proprietors are critical in driving the initiative and building the trust of parents. STANBIC notes that the main constraint was the limited base of agents, which restricted parents' access to the service.

H.3.3Discussion

Access to finance is one of the main challenges faced by low-cost private schools. Parents struggle to pay fees on time and in full, which negatively affects cash flow, and schools cannot access loans which they need for investments. DEEPEN's support to mobile money and saving schemes aims to address the first issue – the ability of parents to pay fees. Existing saving schemes may not be targeted at the poor, and would require bank visits, and regular payments, which parents may not be able to afford. However, mobile money could potentially resolve the issue of uneven income streams of parents, by allowing them to pay in

small instalments without visiting the school. However, there could be a role for DEEPEN in creating awareness and understanding of the scheme on the part of parents as well as schools.

If schools are able to access finance, we then assume that they can manage these funds efficiently, and that they are interested in, and capable of, investing in improved school services. We find that most schools in fact want to invest in some kind of improvements – primarily in infrastructure, and less so in teacher salaries. They may prioritise the former because it is observable and so parents are more influenced by this in school choice decisions. DEEPEN is also working to support a range of school improvement interventions, which are discussed in the next section.

H.4 School improvement

H.4.1Background and main activities

All of DEEPEN's different activities are ultimately aimed at creating better incentives and capacity for schools to invest in higher learning outcomes – school improvement. School improvement services target a broad range of school functions:

- financial management – cash flow practices, fee collection, access to finance, tax payments;
- business development – business plans, advertising and enrolment, growth and sustainability strategies;
- school management – academic leadership, parent–teacher bodies, human resources, school systems and structures;
- education development – teacher training, pedagogy, learning aids and cluster mentoring.

(DEEPEN 2014).

Preliminary research during the design phase of the programme found that most low-cost private schools did not engage external SISPs, either because they were unaware of their services, they did not see the value, or they could not afford them. Although schools rate their teaching quality as high, there are clear gaps in pedagogy and head teachers often have limited leadership skills (DEEPEN 2014).

On the demand side, DEEPEN plans to provide support to schools in relation to their business development activities. First, DEEPEN is working to improve the information available to the public about education quality, which should help parents to reliably monitor their children's learning and improve their ability to demand better quality from schools. This should in turn stimulate competition among private schools, which should lead to investments in school improvement practices. DEEPEN is also working with FSPs to improve schools' access to finance and cash flow, which should lead to increased profit and ultimately investments in financial management and business development services (DEEPEN 2014). This is validated by interviews with various banks (see Section 1.3 for details).

On the supply side, DEEPEN will conduct a detailed assessment of the various providers and services currently available (including commercial banks, MFBs, FSPs, PSAs, education publishers, CSOs, NGOs, etc.), and work with existing and potential providers to develop pilot programmes to increase educational quality. These programmes will build capacity among service providers, and also demonstrate the potential business and profit opportunities from serving low-cost private schools (DEEPEN 2014).

H.4.2Evidence on the theory of change

The school improvement theory of change is summarised as follows:

- *Activities* – Based on a needs assessment of what schools want and need, DEEPEN will work with schools, associations and service providers to develop greater understanding, awareness and capacity to improve pedagogy.
- *Outputs* – As a result, schools are expected to understand, accept and value better teaching, and associations and service providers should have greater incentives and capacity to deliver effective school improvement services.
- *Outcomes* – Service providers are expected to respond to market opportunities by providing affordable services to schools.
- *Workstream impact* – In turn, schools will invest time and resources in improving pedagogy, and teachers will be effectively managed and supported.
- *Impact* – Ultimately, children should learn more and their test scores should improve.

(DEEPEN 2014).

This theory of change is discussed based on evidence from the desk review and school-level fieldwork, and interviews with DEEPEN and other stakeholders.

H.4.2.1 Contextual factors

Most low-cost private schools in Lagos cannot afford to pay for school improvement services. Proprietors often manage school funds out of their personal bank accounts, and may not have a designated accountant to focus on financial management. Advertising is informal, relying on reputation, word of mouth, branding of school uniforms and books, and some fliers and posters. School management is almost entirely driven by the personality and leadership style of the proprietor. Private school teachers in Lagos are poorly paid, have no job security, and are not eligible for pensions or welfare benefits, and they often receive little structured training or professional development from their employers. They are likely to seek better opportunities (higher fee schools) if they obtain higher qualifications or further training, which in turn reduces incentives for proprietors to invest in their professional development.

Rival projects

Other education projects in Lagos

- ESSPIN is a partnership between DFID and the Nigerian Government. The 8.5-year programme (2008 – 2017) supports federal and state governments – Enugu, Jigawa, Kaduna, Kano, Kwara and Lagos – in relation to developing effective planning, financing and delivery systems that will improve the quality of schools, teaching and learning. ESSPIN works in public schools in Lagos. ESSPIN only works in public schools. However, there may be some spill-over from the interventions to private schools – teachers who have received ESSPIN training, or instructional materials, such as lesson notes produced by ESSPIN, in collaboration with the MoE. However, this is unlikely to be widespread. Lesson notes are only printed for private schools, and although available online, private schools may not be aware of these. Also, there is not much movement by teachers from public or private schools.
- There are several education NGOs and charities that are working with primary schools and pupils (both private and public) in the Lagos area. Their activities range from providing scholarships, learning materials and teacher training, to educational technology and consulting. Detailed information is not available on the specific schools or communities where these charities' and not for profits' programmes are working, and which interventions are active.

H.4.2.2 Assumptions and risks

- Assumption: Service providers enter the market at all price points and are able to support low-cost schools

In the past, most service providers focused on the higher end of the fee-paying private school market, and training was not very effective, with limited learning and follow-up. DEEPEN is now providing financial and technical support – content and teaching methods to selected service providers through a pilot. Service providers who were interviewed agreed that there were possibilities for reducing costs in order to target low-cost schools, although this would take time and a change in approach. Possible approaches include splitting costs between teacher and school, which solves the problem of teachers leaving soon after, or using low-cost venues, such as community halls, churches or mosques, clustering schools by LGA for group trainings, etc. They also say that DEEPEN has introduced them to a new market they were unaware of and that they see DEEPEN as a platform for coming together to share ideas, and providing financial support.

- Assumption: Parents are able to access and understand information about improved pedagogy and school practices

See Sections 1.1 and 1.2 above.

- **Assumption: School proprietors will understand the need to improve pedagogy and can be convinced to invest in their teachers' development**

There is general awareness of the importance of teacher quality for school performance. Some proprietors mention the need for innovative teaching methods that will help children learn better. Other schools recognise the need for teacher development and organise internal training sessions for teachers. Where training is available, it is not certain that all teachers will benefit from it. Parents do not seem to be engaged in schools' decision-making around investment in teacher training.

Most of the service providers that DEEPEN is working with are focused on providing teacher training, with some variations in the business model, delivery style and focus markets. They believe that schools are interested in such training, but are not willing to pay for it. There are two main possible reasons for this – lack of finances, and a fear that teachers will leave the school after receiving training.

- **Assumption: All schools are able to access and use available services, and use them effectively for improving school management**

Service providers say that private schools focus on more visible school improvements when considering potential investments – such as classroom decoration, or providing Montessori training; and so they develop programmes to cater to this demand. Some proprietors say that they cannot afford to pay for external training, but even with increased access to finance schools are likely to focus first on infrastructure improvements. This is because proprietors understand that parents consider this in school choice decisions and this is therefore more likely to attract students, and increase profit; as opposed to teacher training, which parents cannot observe easily, and where there is a possibility that teachers may leave to other schools.

School leadership also have limited capacity for business development – increasing profits, managing resources efficiently, keeping parents, maintaining teachers through sustainable career development and fair remuneration, etc. Thus, there is a role for DEEPEN through supporting the provision of these services.

- **Assumption: Potential service providers have the incentives to respond to market opportunities**

The large number of private schools in Lagos provides a significant market opportunity for service providers, provided they can develop business models that allow them to provide affordable services for

low-cost schools. DEEPEN is supporting SISPs with subsidies and technical support to take professional support services and training to low-cost schools.

- **Risk: Low-cost schools raise fees in order to pay for these school improvement services, driving out low-income parents. Schools may also charge for extra classes, which puts even more pressure on parents, although quality may not be better.**

- **Risk: Service providers participating in the pilot use their improved capacity to develop training programmes only for high-cost schools with a greater capacity to pay. Associations do not help low-cost schools to access these training programmes more cheaply.**

- **Risk: Low-cost schools may not be aware of relevant service providers or able to shop around to choose the best, or be able to afford them.**

H.4.3Discussion

School improvement is at the core of DEEPEN's work, and relies on the inputs from other workstreams. The finance workstream should improve schools' access to finance, which should allow them to access more affordable school improvement services. Greater information provided to parents about school standards should lead to increased demand for schools to improve quality, which in turn will provide an incentive for schools to invest in school improvement. Improved employment conditions for teachers, including higher salaries and contracts, would improve job satisfaction and security and provide an incentive for teachers to stay on even after receiving training. This would also then motivate schools to invest in teacher training.

Service providers are working to provide affordable options for low-cost private schools, which should have improved access to finance from loans, and more regular fee payments. Finally, improved rules and standards through GAPS will provide schools with an incentive to invest in school improvements, as well as information about, and understanding of, what improvements are required.

H.5 Conclusion

The table below summarises the key factors required for DEEPEN to achieve the results set out in the theory of change. Where necessary, emphasis is placed on particular requirements for low-cost schools.

Rules and standards	Information	Finance	Pedagogy/school improvement

Government is truly interested in improving the regulation of the private education sector for unapprovedschools, approves GAPS and adopts it as part of the official registration process. This will improve the credibility of registration status as an indicator of school quality and progress by all stakeholders. GAPS checklist is adapted specifically for **low-cost private schools**, bearing in mind the potential delays in school improvement capability, especially for schools that operate on rented land and property. Government regulation becomes more holistic – particularly in regard to improving the employmen t conditions of teachers in private schools (minimum wages and qualifications, employment contracts and mandatory professional development). Capacity of PSAs is built to improve their support to schools – advocacy	Media interventions are redesigned to target parents of **children in low-cost schools**through indigenous language programmes on more popular radio stations. GAPS is approved and thus provides a reliable source of information for parents about school quality, which they can use to demand improvements from schools. Government representatives are included on media platforms to improve credibility. DEEPEN works to improve the business model for partnering with media organisations – contracts with journalists to ensure that new skills are retained, lobbying for corporate sponsorship, which should increase profitability and sustainability. DEEPEN extends activities to include community, civil society and faithbased organisations to improve information about, and understanding of, quality and standards in private schools.	Mobile money schemes are **targeted to the poor** – through a better network of agents in remote areas, by allowing parents to continue fee payments in instalments using mobile money, indigenous language operator options, and developing a platform that can be used with cheaper phone technology. Saving schemes are developed in partnership with community and microfinance banks, which are more accessible **to poor people,** and can provide better targeted and convenient services to encourage savings. Banks can use GAPS in place of registration, and they offer schools services on this basis, with favourable terms. Banks are easily accessible by schools, and provide appropriate customer services (in the local language and assist with the less educated) for parents of children in lowcost schools Increased access to finance allows schools to open bank accounts to manage school funds and to pay for services to improve financial management practices in schools. PSAs can provide loans to schools through cooperative societies, and develop capacity to advocate on behalf of schools to commercial banks for finance. This option might be more appropriate for mediumcost schools as it requires cooperative contributions, which low-cost schools may not be able to afford. Banks can develop products and models for low-cost schools (easier repayment terms, lower collateral requirements, taking into account irregular cash flow, etc) that are profitable in terms of risk-adjusted returns.	Schools truly face competitive pressure to improve and invest finances in school improvement. Schools have information about what and how to improve, and the incentives to do so (GAPS is adopted and credible). Schools have increased revenues and access to finance, which can be invested in school improvement. Schools can invest in teachers' professional development without fear of losing teachers. Service providers can provide targeted affordable programmes for low-cost schools.

for improved regulation, improving access to information, financial services and school improvement services.		

Annex IOrdinary least squares regression of learning practices and conditions and learning outcomes

	Literacy scale score	Numeracy scale score
Male	-3.234	-7.647
	(5.392)	(7.281)
Age (compared to relevant age)		
Under-age (below 8)	-2.829	-13.699
	(5.191)	(6.488)**
Over-age (above 9)	-7.178	14.700
	(10.461)	(10.297)
Language (compared to Yoruba)		
English main language	12.666	26.851
	(6.372)**	(7.830)***
Igbo main language	-10.560	19.252
	(11.257)	(14.247)
Other main language	6.350	23.559
	(8.097)	(10.598)**
HWI		
Below poverty line	-17.421	-32.865
	(6.707)***	(8.829)***
School characteristics		
Log of school size	3.516	7.116
	(2.941)	(3.603)**
Pupil–teacher ratio	0.488	1.185
	(0.448)	(0.778)
Pupil–classroom ratio	-0.808	-1.175
	(0.671)	(1.134)
Head teacher is female	12.401	2.643
	(5.736)**	(7.116)
Head teacher age	0.355	0.295
	(0.304)	(0.389)
Head teacher experience	-0.454	-0.450
	(0.381)	(0.485)
School type (compared to low-cost)		

Medium-cost	5.955	4.305
	(6.480)	(7.310)
High-cost	53.152	55.232
	(9.245)***	(12.323)***
Teacher characteristics		
Teacher is female	0.398	0.531
	(0.100)***	(0.151)***
Teacher has university bachelor's degree or higher	-8.721	18.312
	(12.410)	(14.480)
Teachers in the school never use ICT	-11.093	52.794
	(13.196)	(18.455)***
Teachers in the school never use child-centred learning	13.119	-27.790
	(15.792)	(20.270)
Teachers in the school never use learning beyond the walls of the classroom	2.042	0.745
	(17.298)	(18.081)
Time effects	9.361	-5.275
Test taken in December 2014	(6.274)	(8.651)
	19.914	2.119
Test taken in January 2015	(7.591)***	(10.694)
	27.592	-7.052
Test taken in February 2015	(10.356)***	(15.870)
LGA (compared to Ojo)		
Alimosho	-8.696	-9.050
	(5.560)	(7.152)
Shomolu	-23.401	27.440
	(13.437)*	(17.563)
Ajeromi-Ifelodun	-21.535	-19.048
	(8.878)**	(8.929)**
Constant	447.248	411.939
	(19.855)***	(23.261)***
R-squared	0.16	0.18
Number of observations	2,310	2,310

Note: Standard errors in brackets and significance level of correlation * at the 10%, ** at the 5% and *** at the 1% level

Annex J DEEPEN baseline communication plan

This plan has been agreed, and will be jointly implemented, with the DEEPEN team. It is the 15 December 2015 version but is an evolving document.

DEEPEN evaluation baseline communication plan			
Key users, strategies and formats for communication for DEEPEN evaluation baseline			
	National	**State**	**International**
Key evidenc users	DFID Nigeria education team Federal MoE	DEEPEN Lagos State MoE	DFID education team DFID private sector team
	UBEC		
Secondary evidence users	ESSPIN World Bank Nigeria Education	Private schools in Lagos School support businesses in Lagos	Other organisations working in private education
	USAID Nigeria Education	Media in Lagos	
	Nigerian education researchers		
Strategies for engaging users	Accessible written work: • National and local newspapers • Twitter • Blog posts • EDOREN newsletter • Email • Education-nigeria.org website • Designed, printed and delivered policy briefs • Accessible education		Accessible written wor • UK newspapers • Twitter • Blog posts • EDOREN newsletter • Email • HEART website, OPM website • Journal articles • Report (on website and emailed) • Books

	magazines • Journal articles • Report (on website and emailed) • Books	
	Verbal presentations: • One to one meetings to present PowerPoint (PPT) presentation • Education group PPT presentations (e.g. to DFID portfolio meeting or DEEPEN Steering Committee, or to local businesses and media) • National and local conference PPT presentations (e.g. Nigeria education conference) • National and local radio and TV interviews	Verbal presentation • One to one meetings to present (e.g. to DFID Londo • Conference PPT presentations (e.g. UKFIET, CSAE, DSA[65])

Key formats for presenting evidence	1. Research report on quantitative baseline 2. Full mixed-methods baseline report 3. 140-character tweet 4. 800-word newsletter article/blog post/magazine article/newspaper article/email 5. 3,000-word policy brief 6. 7,500 word academic journal article in top flight education/economics journal (e.g. *World Development*) 7. PPT slides in PDF

Communication activities for DEEPEN evaluation baseline

Output	Audience	Purpose	Engagement	Branding
Research report on quantitative baseline	Key and secondary users (donors, programmes and academics only)	To provide a detailed understanding of the complex quantitative data as a basis for the mixed-methods report	Email to key and secondary users; put online on EDOREN, DEEPEN, OPM, Cambridge Education sister programmes, Health and Education Advice and Resource Team (HEART) websites	UKAID, DEEPEN, EDOREN logos, clear titling, copyright EDOREN, DFID and DEEPEN

[65] UKFIET is the United Kingdom Forum for international education and training. CSAE refers to the Centre for Study of African economies. DSA is the Development Studies Association at University of Bath.

Full mixed-methods baseline report	Key and secondary users	To provide a detailed and accessible set of answers to the evaluation framework baseline questions as a basis for programmatic decision-making in Lagos and elsewhere	Email to key and secondary users; put online on EDOREN, DEEPEN, OPM, Cambridge Education sister programmes, HEART and DFID websites	UKAID, DEEPEN, EDOREN logos, clear titling, copyright EDOREN, DFID and DEEPEN
140-character tweets	Global and local education research and policy communities	To attract people to read the more detailed reports, policy briefs and newsletter articles	Individual researchers, EDOREN and DEEPEN Twitter accounts	'@EDOREN, @DFID, @DEEPEN research…'
800-word blog post	Global and local education research and policy communities	To summarise the key findings, and attract people to read the more detailed reports, policy briefs and newsletter articles	EDOREN blog and newsletter, DEEPEN website, HEART blog, OPM website, email to key and secondary users	'@EDOREN, @DFID, @DEEPEN research…'
3,000-word policy brief	Global and local education research and policy communities	To summarise key findings and influence research and policymaking	EDOREN blog and newsletter, DEEPEN website, HEART blog, OPM website, email to key and secondary users	UKAID, DEEPEN, EDOREN logos, clear titling, copyright EDOREN, DFID and DEEPEN
7,500-word academic journal article	Global education research communities	To make a major contribution to the debate on private education	Top five economics/economy of education journals (e.g. *International Journal of Educational Development*)	Acknowledgement of DEEPEN, EDOREN and DFID. Copyright authors

Presentation in PPT and PDF	Key and secondary users; global research community	To communicate key results from the baseline effectively to key and secondary users and the global research community	Presentations in Lagos direct to users, at DEEPEN conference, and at international conferences (DSA and CSAE)	UKAID, DEEPEN, EDOREN logos, clear titling and acknowledgement

Communication workplan for DEEPEN evaluation baseline

Activity	Person responsible	Date	Complete?	Notes
Draft baseline quantitative report for DFID and DEEPEN review	Shweta Bahri (SB)	Aug-15	Yes	

DFID and DEEPEN review report	Roz Gater (RG), Gboyega Ilusanya (GI)	Aug-31	No	Comments on research report
Prepare PPT slides	SB	Aug-31	No	
DEEPEN and DFID sign off on slides	SB	Sep-03	No	
Present at DSA conference	SB	Sep-07	No	Joint branded but authors' work
Finalise quantitative baseline report for DFID sign-off	SB	Sep-14	No	This should be a final copyrighted, branded, formatted version ready for disseminatio n, with a separate sheet on how comments were addressed
DFID sign off release of report	RG	Sep-17	No	Not a further review but sign-off
Email to key and secondary users; put online on EDOREN, DEEPEN, OPM, HEART websites	SB	Sep-18	No	
Tweet about release of report	All	Sep-19	No	
Draft full baseline for DFID and DEEPEN review	SB	Dec-20	No	

DFID and DEEPEN review report	RG, GI	Jan 15 - 2016	No	Comments on research report

Revised full baseline to incorporate DFID and DEEPEN comments for SEQAS review	SB	Jan 31 - 2016	No	This should be a copyrighted, formatted version with a separate sheet on how comments were addressed
SEQAS comments	RG	Feb 15 - 2016	No	
Draft 800-word blog post	SB	Feb 15 - 2016	No	
Draft 3,000-word policy brief	SB	Feb 15 - 2016	No	
Prepare PPT slides	SB	Feb 15 - 2016	No	
Draft 7,500-word journal article	Vegard Iversen (VI)	Feb 15 - 2016	No	
Finalise full baseline to incorporate SEQAS comments	SB	Feb 29 - 2016	No	This should be a final copyrighted, branded, formatted version ready for disseminatio n, with a separate sheet on how comments were addressed. If SEQAS is red, need to build in an additional two weeks for SEQAS reviewing again
DEEPEN and DFID sign off on slides	SB	Mar-16	No	

DFID sign off release of report, policy brief, and blog post	RG	Mar-16	No	Not a further review but sign-off. Journal article and slides do not receive sign-
				off but are shared with DFID
Email report, blog post and policy brief to key and secondary users; put online on EDOREN, DEEPEN, OPM, HEART websites	SB	Mar-16	No	
Tweet about release of report, blog post, and journal article	All	Mar-16	No	
Present at CSAE conference	SB	Mar-16	No	Joint branded but authors' work

Annex K Data Ownership

Data ownership is defined by DFID's contracts with OPM for EDOREN, and with Mott McDonald for DEEPEN.
It is EDOREN's understanding that the data collected is co-owned by Mott McDonald, OPM, and DFID. As stated in the DEEPEN evaluation framework, the clean, anonymised evaluation datasets and meta-data will be made publically available, probably on the World Bank databank, so that researchers can replicate and extend the evaluation analysis

Intellectual property rights on anything produced by EDOREN (such as evaluation reports, policy briefs etc.) are the property of OPM. However, OPM has granted DFID a worldwide, non-exclusive, irrevocable, royaltyfree license to use all this data and material.

Data safety and security

Primary data collected has been handled with the care OPM regularly applies in its handling of all data. In case of the quantitative survey, surveyors did not have access to the interviews once the data had been entered on CAPI. In the qualitative interviews, fully encrypted and secured OPM laptops were used to download and access the interview audio files. Only team members who are directly involved in the evaluation will have access to this data. OPM will store all original data and transcripts for three years, after which time they will be destroyed.

Anonymity

After data collection, all personal identifiers were removed from the primary data, and the names of respondents have not been mentioned in the final analysis. During the analysis, names and other identifying markers were removed before analysing the data. An anonymised dataset with appropriate labelling is being made available for the use of other researchers. This is in line with DFID's Open Access policy. We will discuss with DFID the merits of loading the data on to specialist websites for this purpose, including the World Bank Data Repository for easy access by stakeholders directly or indirectly affected or influenced by the project.

Annex L Terms of Reference for this assignment

The terms of reference for this assignment are set out in detail in the Evaluation Framework (EDOREN 2015 a). No short version of this lengthy document exists, therefore we could not annex the ToR for the evaluation here.

ABOUT THE REPORT

This is a draft baseline evaluation report on Developing Effective Private Education Nigeria (DEEPEN) conducted by Education Data, Research and Evaluation in Nigeria (EDOREN). It summarises results from quantitative and qualitative fieldwork and a review of secondary documents. It is accompanied by a more detailed quantitative research report, and will be the base for shorter policy and research summary notes.

DEEPEN is a five-year (2013–2018) UK Department for International Development (DFID) funded education programme, and is the first programme to employ a market systems approach to improving children's education (DEEPEN 2014a) in primary schools in Lagos. Building on the Making Markets Work for the Poor (M4P) approach, DEEPEN's approach had no obvious parallel in Nigeria or elsewhere (ibid.) at the time of design As well as being an innovative and experimental learning project, DEEPEN also incorporates significant research and evaluation activities.

EDOREN is a consortium of leading organisations in international development and education managed by Oxford Policy Management (OPM) and includes the Institute of Development Studies (IDS) at the University of Sussex. EDOREN is supported by UK Aid. Also visit our website, www.nigeria-education.org, to subscribe to reports, articles and other materials.

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