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Supporting Education in Africa: Opportunities and Challenges for an Impact Investor

Francesca Marchetta, Tom Dilly

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FEASIBILITY STUDY 2019

REPORT

Supporting Education in Africa: Opportunities & Challenges for an Impact Investor

FRANCESCA MARCHETTA is Assistant Professor at the CERDI-Université Clermont Auvergne. Her main area of research interest is human development, with special focus on economic migration, education, labor market and gender issues.

TOM DILLY, Project officer in Education, at Investisseurs & Partenaires

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The views expressed in the Report are those of the authors and do not necessarily reflect those of FERDI, Investisseurs & Partenaires or the Monegasque Cooperation. The authors remain directly responsible for any errors or omissions.

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Introduction

Access, quality, and equity of education systems in developing countries, particularly in Africa, remain problematic, despite the renewed commitment of the United Nations in 2015 with the Sustainable Development Goals (SDGs) Goal No 4 "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all", and Goal No 5 "Achieve gender equality and empower all women and girls". Despite continent-wide progress over the past 10 years, the situation of the African education sector remains alarming in terms of access to education, especially for girls and rural populations, and in terms of the quality of learning, from pre-school to higher education. Since governments have only limited resources to deal with these different problems, the private sector is playing an increasingly important role. The mobilization of the private sector in the education challenges opens the way for impact investors to support this dynamic and assist private providers in establishing responsible and sustainable models of private education in Africa. Nevertheless, it seems that impact investors are not very active in this sector, and to our knowledge, there is no impact fund dedicated to the education sector with a pan-African scope.

Investisseurs & Partenaires (I&P), an impact investment group dedicated to African Small and Medium Sized Businesses, is planning to launch an impact fund dedicated to the education and training sector on the African continent. The government of Monaco has decided to fund the launch phase of this new fund, including the present feasibility study. The Foundation for International Development Studies and Research (FERDI) joined the project to coordinate and supervise the production of this feasibility study.

This document presents the results of the feasibility study that began in September 2018 and ended in May 2019. The main purpose of this study is to identify the opportunities and the challenges to creating an impact vehicle dedicated to education in the African context, taking into account the prerogatives of the public sector, one of whose missions is to implement universal education. This study aims to help I&P to define the investment strategy (types of businesses, instruments, risk profile, geographic scope, etc) and the impact strategy (goals, indicators, education cycles, etc) and to identify the key opportunities and risks in implementation.

The study consists of 5 parts. Part 1 examines the existing literature in order to present the debate on private sector participation in education and to identify "good practices" in education that could eventually be developed and fostered by the private sector. Part 2 assesses the educational challenges and needs in Africa through an in-depth analysis of the education systems of 5 countries: Burkina Faso, Ivory Coast, Ghana, Madagascar, and Morocco. Part 3 presents key findings regarding the dynamics of private education providers in the different education levels, and proposes a segmentation of education businesses, to help in identifying different strategies for investing in the education sector. It also analyses the economic models of a sample of carefully

chosen private businesses in the education sector. Part 4 gives a comprehensive overview of the private investors funding education businesses in Africa, and provides information about their motivations and their mode of operation. Part 5 concludes, and provides key recommendations on how private sector initiatives can contribute to address the needs and challenges of education in Africa, and how impact investors can improve their economic performance and impact.

The Global Impact Interest Network defines impact investments as "investments made with the intention to generate positive, measurable social and environmental impact alongside a financial return."[1] But what does impact investment in education mean? What kind of impact is I&P looking for?

A possible way to answer is to look at impact through 4 dimensions of educational impact: access, equity, quality, and relevance. Improving access means increasing the number of children who enrol, or in other words, to increase the time children spend at school. According to Glewwe and Muralidharan (2015), access to education can be improved by building new schools, by increasing the number [2]of days (or hours per day) that schools are open, by removing barriers to enrol in existing schools. Improving access is extremely important when it concerns vulnerable populations, and it is thus related to equity. Improving equity means increasing access to education for the more in-need populations, including individuals from low-income households, ethnic minorities, disabled people, individuals with chronic health problems, people living in remote locations, but also girls, who still have lower enrollment rates, especially in post-primary education, in many African countries. As shown by the Word Development Report on education published in 2018 by the World Bank, "schooling is not the same as learning": many children are enrolled in schools but with poor educational outcomes. Learning, measured as the percentage of students who score above a minimum proficiency level, is often low in many African countries (World Bank, 2018). This can be explained by the poor quality of education. Improving education quality entails increasing the number of children/young people who perform well in the learning assessment tests. Another aspect closely related to quality is the relevance of learning. Many training programs provide skills which are not relevant for the labour market. A good fit between the skills learned at school and the ones required from the labour market is an important characteristic for ensuring the external efficiency of education institutions. Improving relevance for the labour market implies improving employability in the labour market.

To understand what impact investing may look like in education, we start from I&P's track-record in the sector. I&P's past investments in education were: **- (i) investments with expected but modest profitability; (ii) investments with an impact on (at least one) of the following aspects:**

[1] https://thegiin.org/impact-investing/

[2] For the meaning of equity we refer to McCowan (2007, p.3), who writes as follows: "The meaning of equity is close to that of fairness, and a fair distribution of a good is not necessarily an equal one. Equity is unlikely to mean equality of treatment, since, for example, it would clearly be unfair to make visually impaired students undergo the same entrance examination as those with sight. [...] Equity is closest in meaning, therefore, to equality of opportunity and, like the latter, can be interpreted in a number of different ways". In other words, for us equity means giving everyone what they need, not just treating everyone the same.

(equitable) access to education, quality of education, and relevance of learning. Another dimension that has emerged in the discussion about what impact investing should do in education is the necessity to support education projects which are complementary to, and useful to, local education systems; **(iii) legitimacy is thus the last component of impact investment in education.** These 3 conditions together seem necessary to approach the sector as an impact investor with internal validity (economic performance and impact) and external validity (legitimacy to education stakeholders).

With this in mind, **in the first part of our study, we explore the economic literature in order to identify policies or interventions which have been shown to be effective in improving the 4 education outcomes defined above.** We refer to them as "good practices". The ultimate goal is to highlight effective interventions for which a private sector role could be considered. The literature review, presented in part 1, is based on the analysis of a number of studies which have been conducted in recent years with the aim of identifying best practices in the education sectors. The studies often use experimental and quasi-experimental methods. We identified 6 main themes, for each of which we devote a section: (i) innovating teaching and strengthening learning, (ii) early childhood development (ECD), (iii) resources and credit constraints, (iv) information programs and management strengthen programs, (v) vocational education and training, (vi) higher education.

We also present in the first part of the study some arguments that can help in the understanding of the politically sensible debate about private sector participation in education. Private schools are often said to offer some benefits with respect to public schools, for example in terms of proximity, innovation, lower teacher absenteeism, alignment with parent preferences (World Bank, 2018). Moreover, the competition between private and public schools might boost the quality of both. However, the private school option is usually accessible to only middle- or high-income families. Private school expansion might also lead in the long term to a double track system and thus undermine the quality and attractiveness of the public service. All these arguments need to be carefully considered before investing in private education. We also present the different forms and mechanisms of interaction between the state and the private sector in education (i.e. public/private partnerships, independence, contract schools, etc), and discuss their implications for the quality of the education system.

In parallel to the desk review for Part 1 of the study, we conducted field missions in 5 African countries, in order to clarify the main needs and challenges of the African education sector. The countries were chosen to represent the different situations that prevail in African countries. We selected Cote d'Ivoire, a large economy of French-speaking West Africa, Ghana, an English-speaking country, Burkina Faso a Sahel country, Morocco, a North African country, and Madagascar a French-speaking fragile country in the Indian Ocean. Countries where I&P has already made investments, and priority intervention countries for the Principality of Monaco were chosen, as well as French-speaking countries, for which less information is usually available about private investment in education than for English-speaking countries.

During our field missions, we did more than 100 interviews with a broad set of education stakeholders. We did many interviews with public sector actors, including Ministers, General Secretaries of Education ministries and other high-level officials. We also met representatives of international organizations engaged in education, international and local NGOs working in the field, and teacher union representatives. These meetings allowed us to identify the main strategies of governments and international players and to get access to the most recent data and documents. We also examined the local contexts of education regulation, in particular the regulation of education institutions (e.g. accreditation issues, quality control procedures) and the regulation of education investments (e.g. registration, control, status of foreign investors).

We interviewed a wide range of private education institutions, because we were interested in understanding the role of the private sector in each education level (i.e. percentage of total population enrolled, dynamics, key challenges of participation, partnership with the public sector if any, etc). We also met several businesses involved in ancillary education services (e.g. education technology, in-service teacher training, publishing, supplementary education), in order to determine the existing status of this market and to identify the main constraints and opportunities in each of the sample countries. Needless to say, all these interviews were combined with an in-depth document analysis. The results of the 5 country field visits are presented in Part 2 of the study, where we devote one section to each country we analysed.

General remarks and considerations, from the 5 country in-depth analyses, are presented in Part 3: the first section of which illustrates the opportunities and challenges of private provision in the different education levels (illustrated by sample country examples); the second section builds a new typology for education businesses, through 4 types of private schools. We observed that institutions mainly differ by (i) the amount of tuition fees they charge, (ii) the use of innovation (both amount and type of innovation), (iii) their growth strategy. These 3 main criteria allowed us to distinguish between "premium schools", "dynamic schools", "neighbourhood schools" and "standardized schools". We also take into account additional segmentation criteria, including the exposure to public resources, the infrastructure management strategy, and the certification policy, in order to further differentiate institutions belonging to the same category. In our view, this typology provides an original segmentation of education businesses, which helps the study to suggest different investment strategies for each sector. We thus give specific indications on methods and models of interventions for each education business category, and by level of education when possible. At the end of Part 3, we use the proposed typology to select 4 different private education providers in order to do a detailed analysis of their economic models and impact potential, and we do the same for 2 ancillary services: a business in the ed-tech sector, and an organization which offers in-service teacher training.

In Part 4 of the study, a comprehensive mapping of investments made in African private education from 2012 to 2018 is presented. We have used existing data and reports (e.g. Caerus 2017), which provide quality information on track records and trends in the African education investment market, mainly focused on English-speaking Africa. In our work, we made an effort to

find as much as information as possible on French-speaking Africa, to make up for the lack of data sources for this region.

Part 5 of the study concludes, and includes a series of recommendations to help I&P in defining the parameters of the investment and impact strategies for their future education impact fund. The objective of Part 5 is to provide both theoretical and practical justification for the positioning of the impact vehicle in certain countries and sub-sectors. Considerations are also made about the constraints and opportunities related to different types of investiments and impact perspectives.

Part 1.

Supporting education: insights from the academic literature

with the collaboration of Audrey-Anne de Ubeda

Private Sector participation in education: the state of the debate

1. Definitions and statistics

According to the definition provided by UNESCO, **private schools are "controlled and managed by any type of private entity, a non-government organisation, such as a church, a trade union or a private institution, associations or businesses"** (Mounmé and Saudemont, 2015, p. 8). While a school is considered as public if it is controlled and managed by the state or if the representatives of the state are in a majority on the board of directors of the establishment (Kitaev, 2007).

D'Agleipierre (2013) observes that neither public nor private institutions can be seen as a homogeneous group since there is **a lot of heterogeneity in the two groups**. Figure 1.1. below presents a way to illustrate the different types of institutions according to two criteria: who is in charge of management (state or private), and what is the source of funding.

Figure 1.1. The different types of public and private partnerships in education

Source: adapted from D'Aiglepierre, 2013

As well as public schools (which may be totally free or require payment of a fee) and financially autonomous private schools, there are other possible types of schools, for which a form of public/private partnership is in place[3]. Subsidized private schools contract with the government which pays for provision of a certain number of places for specific students (usually the ones that cannot be accepted in public schools). Private managed public schools are typically in two forms: (i) management contract model - a private provider manages a public school (i.e. infrastructure is public and the staff is part of the public sector), (ii) operational contract model - similar to the previous one, except that the private manager "is responsible for all aspects of the operation of the service, including the employment of staff" (LaRocque, 2008, p. 2).

Around the world, the percentage of pupils attending a private school has increased steadily since the beginning of the century. In 2017, 17% of pupils were attending private primary schools and 26.5% were attending a private secondary school, compared to 10% and 18.4% respectively in 2002. In Middle Eeast & North Africa (MENA) and SubSaharan Africa (SSA), 14% of pupils were enrolled in a private primary school and 9% in a secondary private school in 2017. If we look at SSA only the percentages are higher – 14% and 20% respectively [4]. Nevertheless, it can be noted that SSA countries have a lower enrolment rate in private primary and secondary school than the world average. Enrolment in private schools is higher in East, West and Central Africa and lower in North and South Africa (D'Aiglepierre, 2013). Private schools in African countries are usually more concentrated in urban areas, and they are heterogeneous in terms of quality, with religious institutions often said to be the best[5] (D'Aiglepierre, 2013).

2. Determinants of the private share

James's cross-sectional study of 50 developed and developing countries, in 1993, identified **the main factors which determine the public/private mix of educational services in a country: (i) cultural, more specifically religious, heterogeneity, (ii) the existence of big public subsidies for private schools, (iii) public expenditure in education.** James (1993) shows that the more a state spends on public education, the lower is the share of private education providers in the country. She also argues that the particularly low expenditure on secondary education in developing countries can explain why this is the education level where private providers have developed most.

D'Aiglepierre (2011) uses data on 120 countries for the period 1997-2007 to analyse the differences in the public/private composition of education systems. His results confirm that religious

[3] There is not a clear definition of public/private partnership in education. We follow here Tilak (2016), who writes "under PPP, public sector agencies (central, state, or local) join with private sector entities (companies, foundations, non-governmental organisations, academic institutions or citizens) and enter into a 'business' relationship to attain a commonly shared goal that also achieves objectives of the individual partners." (p. 3)

[4] UNESCO data from: https://data.worldbank.org

[5] We do not discuss here the issue of the quality of private schools as compared to public schools. This issue, which is briefly mentioned in section 4 below, is still being debated in the literature and empirical evidence for African countries is very limited.

fragmentation is associated with the development of private schools, and that public spending per student is negatively correlated with it. Public spending on education is used by the author as a proxy for the quality of public education: the idea is that the more the state spends per pupil, the higher is public education quality, so the lower will be the demand for private education. D'Aiglepierre (2013) also shows how a legal system of socialist origin is more often associated with lower development of the private offer. This result suggests that country-specific historical factors have an important role in explaining why the private education sector develops more or less. Some countries may put in place legislative barriers to the spread of private schools while others may facilitate this process[6] (D'Aiglepierre, 2013).

Why should households spend on private education if it is more expensive than public education? D'Aiglepierre (2013) identifies two main reasons: (i) households do not have an alternative, because there is an excess demand for education in public schools, so the private ones are seen as substitutes; (ii) households ask for private education because they are not satisfied with the content or the quality of public schools, thus they ask for variety.

D'Aiglepierre (2011) observes that the number of children out of the public system is not systematically correlated with the development of more private education. He argues that private education does not seem to compensate for the failure of public education in terms of access to education and that private and public education seem to be substitutes rather than complementary.

It is important to argue here that both James (1993) and D'Aiglepierre (2011) focus on primary and secondary education. A different pattern may be seen for tertiary education, which is not part of compulsory education[7].

3. Advantages and risks related to the development of a strong private sector

Debates about the benefits and risk of developing private education are always sensitive. On the positive side, some authors argue that **private schools in developing countries have often grown because the state has failed to provide universal basic education** (e. g. Harma, 2015). In this view, private providers may help to reach the goal of increasing access to education. Today, this is particularly true for post-primary education in Africa. While enormous effort has been made in recent decades to increase access to primary education in almost all African countries, the enrolment rate in secondary schools is still low in many of them, and is highly correlated to per capita GDP. So, the public sector alone cannot manage to guarantee access to all potential secondary school age children. Similar arguments can be advanced for tertiary and pre-school education.

[6] For example, while governments have encouraged and accompanied (with regulation) the development of the community schools in Mali, the opposite occurred in Cameroon where they have been closed or integrated in the public system (Martin, 2003).

[7] For a discussion of the development of private tertiary education see section 7 below.

Some studies show that **parents prefer to send their children to private schools because they feel that the quality is better and the staff is more accountable** (Glewwe and Muralidharan, 2015). The development of private education may thus increase diversification in education supply and contribute to increasing quality through competition. The idea that competition in education brings higher quality dates back to Friedman (1962), who argued that parents' choices would encourage good quality schools to succeed, and bad quality schools to close down. This framework considers education as a consumption good, the education market as a competitive one, and parents as clients who search for the best quality possible[8]. In such a competitive framework, all schools (whether public or private) must improve their quality (Harma, 2015). Lubienski (2006) examines the education sector in several countries and asks if these competitive incentives exist [9]. He concludes that schools do not behave as expected: rather they seem to act as if in a monopolistic competition, where all offer the same kind of service, which is based on traditional teaching practices, at similar prices. Moreover, Lubienski (2006) argues that public policies are more effective than competition in providing diversification and innovation in education.

The main issue raised by those who are worried about the spread of private schools is about equity of access. According to Toolay and Longfield (2016**), private schools tend to serve middle- and high-income populations as well as low-income communities in some contexts, but they typically fail to include the most marginalized and poorest households[10].** Their development could thus induce an economic stratification of the education system, with poor children going to public schools and middle- and upper-class children going to private schools (Glewwe and Muralidharan, 2015). Private education supporters reply to the issue of equity in access with the idea of spreading the voucher model in which public funds allow all pupils, especially those from low-income households, to attend private schools (Glewwe and Muralidharan, 2015).

Another concern about private schools is that put forward, by among others, Epple and Romano (1998), who elaborate a cream-skimming model, in which **private schools attract the wealthiest and the best students (in terms of cognitive abilities), while public schools are residuals, thus taking the poorest and less able ones.** Introducing vouchers into that system results in high-ability poor students being enrolled in private schools, with an individual gain, but it induces a negative overall effect on public school student achievement because of the worsening composition of their peer group. Some empirical evidence of a cream-skimming effect is available for Chile, where Hsieh and Urquiola (2003) show that the voucher program induced the best pupils to move from public to private schools.

[8] Also, parents must be able to identify a low-quality school.

[9] Chile, New Zealand, UK and US.

[10] Harma (2015) reports findings from field studies in Ghana, India, Nigeria, Pakistan and Kenya. In all contexts, poorest and more marginalised children are excluded from private schools, even from low-cost private schools. Debate continues about the so-called low-cost private schools, in particular about their quality and their ability to reach the poorest. We briefly present this debate in box 2 in the section about the Ghana case study.

Valid arguments exist both for and against the development of a private education sector in African countries. While the support of private providers seems to be essential for many countries to implement the universalization of basic education and to widen access to upper secondary and tertiary education, governments need to be aware of the potential risks engendered by the existence of private education providers, and need to understand what policies can be undertaken to reduce those negative effects.

Good Practices in Education: a literature review

1. Introduction

This section is about what we define in our study as the "good practices" in education, with the ultimate goal of identifying effective intervention areas where a role of the private sector, and in particular a role of an impact investor, could be considered.

In recent years, several studies have been done with the objective of evaluating policies and interventions aimed at improving education outcomes. Demand-side and supply-side interventions have been evaluated, often using experimental or quasi-experimental methods (i.e. randomized controlled trials, difference in differences regressions, discontinuity designs). These are generally considered to be high quality studies because they do not suffer from omitted variable bias (Glewwe and Muralidharan 2015).

In this part of the study, we try to identify, with the help of the literature, the characteristics of well-designed interventions that proved to be effective in improving access, quality, equity, or relevance of education. We focus on 6 main topics that we believe are important for our study: (i) innovating teaching and strengthening learning, (ii) early childhood development (ECD), (iii) resources and credit constraints, (iv) i.e. information programs and management strengthen programs, (v) vocational education and training; (vi) higher education. There is a section for each topic.

These topics have been selected, either because they are important for learning outcomes or for expanding access to education (e.g. the initiatives promoting innovative teaching or credit constraint alleviation systems) or because they are of particular interest for an impact investor (e.g. the interventions in the field of higher and vocational education[11]).

Since there is a strong positive correlation between education and employment, all interventions mentioned in this review have a role in combating youth unemployment. Some have a preventive role (e.g. early childhood development), while some others rather have a remedial role (e.g. vocational training) as well shown by Kramarz and Viarengo (2015).

In all sections below, we provide arguments to justify the relevance of the topic, we illustrate related policies and interventions which can be put in place, and present evidence on their impact (where it exists).

[11] We do not review here the papers which analyse the differences in student test scores according to the quality of traditional educational inputs, such as infrastructure or books. Most of this literature has found little to no impact for these aspects (Glewwe and Muralidharan, 2015).

2. Innovating teaching and strengthening effective learning at school

There is agreement in the recent literature on education economics about the need to focus on teaching in order to boost learning (see among others Glewwe and Muralidharan, 2015; Conn, 2017; Evans and Popova, 2015; World Bank, 2018). While access to education has increased dramatically around the world in recent decades, much of education is still of low quality. Low learning outcomes have been reported in Latin America, Africa, and elsewhere. According to World Bank (2018), in Kenya, Tanzania and Uganda, when grade 3 students were asked to read a sentence such as 'The name of the dog is Puppy', three-quarters did not understand what it said. Similarly, three-quarters of 3rd-grade students in rural India could not solve a two-digit subtraction.

Evidence suggests that schooling is not learning. 'Additional years of schooling have little impact on economic growth in the absence of learning, which is a function of education quality' (Evans and Popova, 2015, pg. 2, quoting Hanushek and Woessman, 2007). Enrolling in school does not guarantee that children acquire the human capital that their schooling should provide nor reach the goals set out in the official curriculum (Glewwe and Muralidharan, 2015). Hanushek and Woessmann (2015) show that students in most developing countries learn much less than students learn in OECD countries (at the same age and in the same grade). This is why SDG 4 includes targets to ensure that children are not only in the classroom but also learning (UNESCO, 2018), and encourages the development of indicators to measure learning outcomes (such as ASER in India or Uwezo in East Africa). The 'technology of instruction' (Glewwe and Muralidharan, 2015) is a critical determinant of learning outcomes, but it has remained unchanged for decades.

This section presents research outputs concerning initiatives aimed at innovating teaching and strengthening effective learning at school. A crucial challenge for empirical research on this subject is that of credible causal identification (Glewwe and Muralidharan, 2015). Several reviews (both meta-analyses and narrative reviews) of hundreds of studies about improvement in student learning, based both on published journal articles, reports and unpublished working papers, have been carried out. These reviews give inconsistent results and different interpretations of the research literature, but each conclusion is supported by evidence from papers establishing a counterfactual. As Evans and Popova (2015) point out in their survey of surveys, each review recommends different categories of intervention, and identifying what works and what does not is not a simple task. Given the myriad of existing studies, characterizing narrow intervention types may be more useful than focusing on the effectiveness of a given category. Saying that computer intervention is the most effective may be less useful and less accurate than saying that computer-assisted learning programs which are tailored to each student's level of knowledge, tied to the curriculum, and that provide teachers with training on how to integrate the technology into their instruction are most effective (Evans and Popova 2015). Despite differing conclusions, all the reviews appear to agree on at least 4 types of intervention deemed to be the most effective: (i) interventions aimed at adapting teaching to students' learning; (ii) interventions using

technologies to facilitate students' learning at their own pace; (iii) interventions aimed at improving teachers' skills and motivation and (iv) interventions which adapt curricula to learners.

2.1. Teaching at the right level and remedial classes

As highlighted by Glewwe and Muralidharan (2015), teaching effectively may be particularly challenging in many developing country contexts because of the higher variation, relative to developed countries, in the initial preparation of children when they enter school. This has proven to be true especially in recent decades with the massive increase in access to primary school and the millions of first-generation students entering the school system. How to teach a classroom where students have very different skill levels? How to meet individual learning needs of heterogeneous children populations?

Many private supplementary (one-on-one or small-group) tutoring programs appeared in the 2000s especially in Asia and have spread globally since then (Bray 2009; Mori and Baker 2010; Bray and Lykins 2012). Also called "shadow education", these tutoring programs in academic subjects are provided for a fee and take place outside normal school hours. Jukus in Japan and Hagwons in South Korea are the best-known and have been a major point of public controversy since the 1960s (Roesgaard 2006; Seth 2002). Although this kind of program can promote personal academic development and contribute to human capital, they may also increase social inequalities and create inefficiencies in education systems. Parents sometimes invest in tutoring classes, even for top students, to increase their chances of succeeding in very competitive educational environments. Based on the success of these programs (Nath 2008; Hamid et al 2009; Liu 2012), NGOs have started delivering tutoring classes, often for free, and sometimes their method has been institutionalized. Remedial education offers the possibility to focus on students who are lagging behind, and offer teaching at the appropriate level, aligned with their skill level. It can be implemented as a stand-alone program, either in school hours or outside school hours, as part of a more comprehensive education program, or even be a component of a country's curriculum guidelines.

Numerous Randomised Control Trials (RCTs) have shown that addressing student's learning gaps can lead to significant learning gains and be much more effective than following a standardized curriculum. The Indian NGO Pratham created an evidence-based educational approach called Teaching at the Right Level (TaRL). TaRL helps children to develop basic reading and mathematics skills. The approach works by dividing children (generally in Grades 3 to 5) into groups based on learning needs rather than age or grade, dedicating time to basic skills rather than focusing solely on the curriculum, and regularly assessing student performance rather than relying only on end-of-year examinations.

An experimental evaluation of Pratham's remedial instruction program in Mumbai and Vadodara carried out by Barnerjee et al (2007) shows that when taught at a level corresponding to their proficiency, students improve their tests scores. Similarly, Banerjee et al (2010) show that remedial

instruction programs implemented by young volunteers (who were provided with a short training), held in after school reading camps for a few months are effective at improving learning outcomes. Multiple RCTs conducted in India on TaRL show similar results (see Banerjee et al 2016; Lakshminarayana et al 2013).

Some more examples of interesting teacher-led adaptive instruction other than TaRLs exist. Piper and Korda (2011) evaluate the Early Grade Reading Assessment (EGRA) program in Liberia, an intervention-based reading instruction program focused on changing teacher pedagogy. Teachers were provided with school-based teaching support, resource materials, and books. Parents and communities were informed of student performance. Using differences-in-differences analyses, Piper and Korda show that student achievement increased for every section of the EGRA. Moreover, Duflo et al (2011) evaluate a program which assigned students to classes based on initial achievement in Kenya, so that teachers can focus instruction at the level of the students' learning. Tracking allows teachers to better tailor their instruction level. According to Duflo, students who are lagging behind are the most likely to benefit from tracking.

To sum up, teaching reforms which match teaching to student's learning seem to be very effective in boosting learning, compared to other interventions (Kremer et al 2013). Conn (2017), in her meta-analysis of rigorous impact evaluations focusing only on studies in Sub-Saharan Africa, finds that teaching interventions are more effective than all other types of interventions combined. She finds that teaching which employs adaptive instruction plus teacher coaching techniques are particularly effective and have significant positive effects on student literacy scores (the pooled effect size associated with adaptive instruction is equal to 0.42 standard deviations, while that of programs with non-adaptive instruction is only 0.12 standard deviations). However, as discussed below (see Teacher training section), while this approach is extremely effective when implemented with community volunteers outside of school, it might be more difficult to scale-up a program that could be implemented within public schools.

2.2. Using technology to facilitate students' learning at their own pace

Some programs have experimented with Computer-Assisted Learning (CAL) and show mixed results in accelerating skill acquisition. Among the many remedial education and TaRL initiatives launched recently, Conn (2017) finds that CAL programs, which adapt to students' learning levels, have the biggest impact on student performance. These computer programs include exercises focusing on basic skills required by the official curricula. For example, Banerjee et al (2007) find that mathematics scores increased by 0.47 standard deviations in India after two years of implementation of an extremely cost-effective CAL program which uses a mathematics software to allow children in grade 4 to learn at their own pace. The program consisted of 2 hours (during class time and after school) of shared computer time per week. McEwan (2015) also agrees that this kind of program has a greater impact than any other kinds of intervention, and McEwan (2013) finds that interventions involving computers or instructional technology, carried out in conjunction with teacher training have the largest effects in terms of students' learning. However, in a recent

evidence-based review, Escueta et al (2017) find that providing students with access to technology yields mixed results, and that giving a child a computer may have limited impact on learning outcomes, but improves computer proficiency and other cognitive outcomes. Cristia et al (2012) evaluated Peru's one Laptop per child program and concluded that it was ineffective in improving academic achievement or cognitive skills.

These results can be reconciled by acknowledging that CAL programs are effective only if they are well implemented and if they change students' daily learning experience at school. Technology distribution needs to be supervised by parents or teachers or accompanied by student training. In the same way, computers cannot replace home study (Malamud and Pop Eleches 2011) or instruction during school hours (He et al 2008). Linden (2008) compares two versions of a CAL program launched in India (a in-school version and an out-of-school time version) and shows that these programs are most effective when they are a complement to classroom instruction and not a substitute.

2.3. Improving teachers' skills and motivation

Glewwe et al (2014) highlight the **impact of teacher subject knowledge as well as teacher presence on student learning. According to most reviews of studies, teacher training is the category of intervention which produces the second largest effect on learning after the interventions which match teaching to students' learning.** Teacher training interventions seem to be effective in enhancing students' learning only if they provide direct guidance on how and what to teach, if they are implemented through a structured program, and if they are tailored to the skill levels of teachers (Murnane and Ganimian 2014). An example of a program that was effective in improving child literacy is the one evaluated by He et al (2009) in India, in which storybooks, flashcards, and a children's library were provided to the schools, and teachers received instructions specifying the activities in which these should be used and when.

The literature shows that repeated teacher training is more effective than one-time in-service training. Conn (2017) finds, for instance, that long-term teacher mentoring or in-school teacher coaching produces a 0.25 standard deviations effect on student learning. In the same vein, Sailors et al (2010) evaluate the Read, Educate and Develop (READ) program in South Africa, which provides demonstration lessons by mentors, monthly coaching, and monitoring visits followed by one-on-one reflection session, as well as after-school workshops for both teachers and school administrators. They find significant impacts on reading skills.

Teacher's motivation and efforts also appear to be determining factors in students' learning, provided that teachers have basic skills. A number of interventions have tried to increase teacher effort by offering incentives to teachers or hiring teachers on renewable contracts. Some interventions have offered cash rewards to teachers based on the number of days they attended school. Duflo et al (2012) show that a teacher incentive program in the rural villages of Rajasthan, India, reduced absenteeism by more than 20%, and improved student test scores by 0.17 standard

deviations. Some interventions offered teachers cash depending on their students' tests scores, which seems to increase student achievements (Muralidharan and Sundararaman 2011).

The literature also offers insights into teacher management and retention for both public and private institutions. To increase teacher effort, some countries are trying to reduce the number of permanent-contract public school teachers and are hiring additional teachers on fixed-term contracts. The difficulty of providing quality education is compounded by teacher absenteeism and lack of accountability to local officials due to their protected status as civil servants and state government employees (Banerjee et al 2007). Researchers evaluated programs involving the hiring of contract teachers, usually locally by NGOs or local authorities on a contract basis. They suggest that this structure creates greater accountability of the contract teachers since the hiring, firing, and renewal decisions are not bound by civil service rules. However, it creates employment insecurity. Evans and Popova's meta-analysis also shows that accountability-boosting interventions, including teacher performance incentives and contract teachers, are effective in student learning. McEwan (2015) estimates that student and teacher performance incentives have a meaningful effect on learning, as does employing contract or volunteer teachers. This means that programs using local contract teachers rather than volunteers have the best chance of improving learning outcomes. Similarly, Duflo et al (2011 and 2012) show that supplementing civil-service teachers with locally hired teachers on short-term contracts in Kenya led to improvements in test scores.

Finally, it may be difficult to obtain the same positive results as Pratham's TaRL in public school programs. Barnerjee et al (2016) designed large-scale experiments in India to test two new scale-up models, to develop a model that could be implemented within the government school system. They find that the Pratham pedagogy can be implemented by village-level volunteers without formal teacher training and by existing government teachers after they received a short training on how to implement the method. However, when the program is implemented in government schools and during the normal school year, teachers tend to revert back to the traditional curriculum and school organization. Changing permanently their work methodology and implementing new curricula during school hours may be a challenge since teachers are reluctant to change their own teaching methods and are focused on completing the syllabus prescribed in the textbook[12].

2.4. Adapting curricula to learners

Several papers point out that curricula and textbooks have often been designed a long time previous to use, by and for highly educated elites, and do not suit the current state of education systems in Africa. Textbooks and curricula may reflect a period of time when there was no expectation of universal primary education and thus have not been adapted to the entry into

[12] Similar results were found by Kiessel and Duflo (2015) who evaluated the Teacher Community Assistant Initiative (TCAI) in Ghana. Under this initiative, the provision of targeted after-school lessons by community assistants caused larger increases (6.2%) in learning than the training provided by civil-service teachers (4%).

the school system of millions of first-generation learners in developing countries. Glewwe and Muralidharan (2015) underline that "since teachers continue to follow the textbook as the default mode of instruction (…) it is not surprising that they are effectively "teaching to the top" of the distribution and that a large number of children are in the class but not learning because the lessons are too advanced for them" (p.52). Esther Duflo also put the stress on the "tyranny of the curriculum" during a recent conference at the Paris School of Economics[13]. In India, as in most countries, curriculum completion is prescribed by the law, it has to be completed no matter what children can effectively do. Teachers, therefore, tend to focus on well-prepared pupils able to complete it.

The distribution of textbooks does not necessarily improve learning. Two studies from SubSaharan Africa have examined the impact of textbook distribution on student learning outcomes. Glewwe et al (2009) examine a textbook distribution program in Kenya, and Sabarwal et al (2014) study a similar program in Sierra Leone. While in both cases textbooks do not seem to increase student time in school, they also do not seem to increase student learning, which is more surprising. In reality, in Sierra Leone, most of the textbooks never reached the classrooms and were kept in storage by school administrators who were unsure whether more books would be provided in the future - this explains why the study finds no effect. In Kenya, Glewwe et al (2009) found that the textbooks provided by the government were too difficult to read for most students (except for the top 20%). These results suggest that textbooks could have a positive impact on learning outcomes if they were at the appropriate level, which would mean reviewing and revising the curriculum.

Programs which provide active learning through a relevant curriculum also seem to achieve better results. Programs using problem-solving and general reasoning skills seem to be more efficient than a curriculum which only encourages memorization and a passive approach to learning (Kellaghan et al 2009; Harlen 2007). For example, the Reflect program in Bangladesh or Pakistan (Duffy et al 2008) uses real texts from the local environment and focuses on learner's own literacy objectives, motivation, and skills. Also the Foundation for the Application and Teaching of the Sciences program in Colombia integrates the needs of rural life and livelihoods into the secondary school curriculum (Wagner 2014). The Escuela Nueva program, launched in Colombia in 1975 and expanded to many countries in Latin America, provides teachers with training on how to develop curriculum based on these local rural needs. Studies show that this program led to a significant increase in third-grade mathematics and Spanish scores compared to traditional programs. Programs focusing on local needs have been developed in Mali, Chad, Burkina Faso and Senegal (Diagne and Sall 2009; Lind 2008; McEwan and Benveniste 2001).

[13] Esther Duflo and Elizabeth Spelke "How to educate the world" Paris School of Economics, June 26, 2018: https://www.parisschoolofeconomics.eu/IMG/pdf/how-to-educate-the-world-presentation.pdf

3. Early Childhood Development

"The early child period is considered to be the most important developmental phase throughout the lifespan. Healthy early child development (ECD)—which includes the physical, social/emotional, and language/cognitive domains of development, each equally important—strongly influences well-being, obesity/stunting, mental health, heart disease, competence in literacy and numeracy, criminality, and economic participation throughout life. What happens to the child in the early years is critical for the child's developmental trajectory and life course"[14].

Early Childhood Development (ECD) interventions are proved to have positive and strong effects for cognitive development and long-term skill acquisition of children, with a very high benefit-cost ratio. In low- and middle-income countries, nearly 250 million children younger than 5 years are at risk of not meeting their developmental potential because of poverty. Sub-Saharan Africa has the highest prevalence of children at risk: 66% of children were found to be at risk of not reaching their developmental potential because of poverty and stunting in 2010 (Black et al 2017). In order to address this situation, improve human capital investment, and meet Sustainable Development Goals, multilateral agencies, policy makers, and non-governmental organization have set up a number of Early Childhood Development (ECD) programs (for children from 0 to 6 years old). Research in neuroscience, psychology, and economics prove that nutrition and cognitive stimulation early in life are critical for long-term skill development[15] and have positive effects on adult wage earning and competence (Shonkoff and Phillips 2000). ECD programs have been shown to be effective in improving school readiness and education outcomes, improving mental and physical health and reducing high-risk behaviour in the short term (Martinez et al 2013). In the long term, ECD investments yield productive and socially well-adjusted adults who contribute to their country's economic growth and help break the intergenerational cycle of poverty. Furthermore, Heckman (2008a) shows that the longer society waits to intervene in the cycle of a disadvantaged child, the more costly it is to remediate the disadvantage. This kind of intervention has a high benefit-cost ratio and a higher rate of return for each dollar invested than interventions on older children and adults (Heckman 2008b). Falling to invest in early childhood development is costly and difficult to compensate for later in life.

In home-based activities, ECD programs typically advise parents on how to raise their children and increase the level and quality of interaction with them. Inadequate cultural practices which limit communication between parents and children, and home environments with few books and toys, may contribute to inadequate physical and cognitive growth, particularly in the early periods of physical and brain development. Parents have to be aware that low-cost activities, such as storytelling, singing, and playing with household objects, expose young children

[14] Source: World Health Organization, https://www.who.int/social_determinants/themes/earlychilddevelopment/en/

[15] The earliest years of the child's life are crucial for providing children the opportunity to reach their full potential in life. Shonkoff and Philips (2000) show that in this period synapses develop rapidly to form the basis of cognitive and emotional functioning for the rest of life.

to experiences that promote early development. It is thus critical for parents to verbally interact with children from the earliest years of life because the capacity of a child to absorb language and to differentiate between sounds peaks at around nine months of age, well before the child can actually talk (Council for Early Child Development, 2010).

ECD programs can also include the construction or the improvement of day-care centres, where caregivers help children to develop and improve their motor, cognitive, language, socio-emotional, and self-regulation skills[16]. Enrolment in day-care centres has increased substantially since 2000, especially in Latin America.

ECD programs may also be centred on health and nutrition issues (e.g. improving food intake for pregnant woman or infants, or interventions to eliminate iodine deficiency) or may take the form of social protection programs that are designed to reduce poverty and to provide opportunities to improve child development by reducing exposure to violence and maltreatment. To reach this goal, interventions are usually focused on parent education in order to change attitudes and norms that encourage violence. Child protection laws are necessary to accompany those programs (Martinez et al 2013).

The evidence about the overall impact of early childhood interventions exists, with most studies based on experiments in the USA. In order to evaluate ECD programs, researchers have focused on both the structural and process dimensions of quality. Berlinski and Schady (2015) define the structural dimension of quality as "the presence (or absence) of resources that can facilitate the interactions that should take place in a learning environment (aspects related to infrastructure, sanitation, educators, curriculum)'. One of the first evaluations was the Perry Preschool Program, which provided, from 1962 to 1967, a high-quality pre-school education to three- and four-year-old African-American children living in poverty who had been assessed to be at high risk of school failure. Children participating in the program showed higher cognitive test scores in the short term, but not in the long term. However, positive effects were observed in the long term with respect to other outcomes, like earnings, educational attainment, and crime rates (Behrman et al 2004). The Perry Preschool Program, inspired many other experiments, in particular, the Abecedarian Program, which was conducted in 1972 in northern California. Children in the experimental group received full-time high quality educational intervention in a childcare setting from infancy to age 5**.** These activities focused on social, emotional, and cognitive areas of development, but gave particular emphasis to language. The results of the experiment show that at age 4, children who received the Abecedarian intervention had cognitive scores that were 0.74 standard deviations higher than those in the control group. The effects of the program decreased over time, but children in the experimental group still outperformed the control group by 0.37 standard deviations on standardized test score at age 15 (Campbell et al 2002). Starting from these small

[16] With day-care centres, we refer to facilities devoted to pre-school children, aged 0 to 6. We thus include kindergarten.

pilot programs, the United States then started the process of universalizing pre-school education with programs like Head Start, which started in 1965 and is still in place[17].

Some evidence exists about the impact of ECD in developing countries, especially in Latin America, where there has been an impressive growth of childcare centres. After 36 years of civil strife, the government of Guatemala embarked on an ambitious construction program that increased the number of pre-schools from about 5,300 to 11,500 between 1998 and 2005. Bastos et al (2017) evaluated the medium-term impact of this large-scale expansion of pre-school education. They find a positive effect on school progression (expected grade for a given age) and they show larger effects for communities with higher levels of schooling among adults. They do not find differential effects of pre-schooly attendance by gender, percentage of the indigenous population, or chronic malnutrition.

In Argentina, Berlinski et al (2006) investigated the effect of the big expansion of universal pre-school education on subsequent school performance. Their results show that attending pre-school had a positive effect on subsequent third grade standardized Spanish and Mathematics test scores. They also found that the gains from pre-school education were bigger for the students living in more disadvantaged municipalities, because the home environment is more supportive of child development in richer households, where children benefit from better nutrition and more stimulation. The authors conclude that separating children aged 3 to 5 from their mothers seems to increase their cognitive abilities, only if they are placed in high quality centres, and especially for those from low-income families.

In 2007, the Colombian government began the Hogares Comunitarios program, which is a program of constructing large centres, each serving between 150 and 300 children, where children were grouped by age. Bernal et al (2014) evaluated this program, reporting poor results. While some progress was observed in the quality of the infrastructure, process quality, as measured by international scales[18] did not improve, and was sometimes lower, in the new centres than the traditional ones. One possible explanation is that policymakers paid more attention to the structural dimension rather than to the process dimensions of quality because it is easier to measure.

These results are in line with those of Murnane and Ganimian (2014) who argue that the process dimension of quality is more important than the structural dimension. Indeed, they review 115 well-designed impact evaluations of educational interventions in over 30 low- and middle-income countries and conclude that learning outcomes were not consistently improved by

[17] The idea behind Head Start is to provide preschool children from low-income households with a high quality program that is able to assure them emotional, social and health support. Several authors have evaluated the Head Start program, finding a strong initial impact on cognitive skills that reduces over time (Gibbs et al (2013), Bitler et al. (2014), Kline et Walters (2016)). However, Kline and Walters (2016) and Carneiro and Ginja (2014) argue that even that initial impact can have a long run impact on earnings.

[18] Process dimension quality is evaluated using the following international scales: FCCERS (the Family Child Care Environment Rating Scale), ITERS (the Infant and Toddlers Environment Rating Scale), and ECERS (the Early Childhood Environment Rating Scale).

better materials, classroom technology, flexible education funding grants, or smaller class sizes unless the day-to-day interactions of children and teachers are improved. Kremer et al (2013) confirm these results.

A few ECD programs have been evaluated in Sub-Saharan Africa and also show positive evidence in fostering children's cognitive and behavioural autonomy. Martinez et al (2013) evaluated an ECD program run in 2008 by the Mozambique government. It included a nutrition component, a preschool component, and a parent support component. The results show consistent improvements in cognitive and problem-solving abilities of children, improvements in fine-motor skills, and in socio-emotional and behavioural outcomes. Children are found to be better prepared for school and outperform their peers on these dimensions[19]. Bietenbeck et al (2017) study the effects of preschool attendance on children's school progression and cognitive skills in Kenya and Tanzania. Their investigation focuses on two main outcomes: the highest grade of school completed, and a cognitive test score, which summarizes a child's performance on the standardized literacy and numeracy tests. The results for the highest grade of school completed show that in both Kenya and Tanzania, children often enrol in preschool late and only proceed to primary school once they finished it. Once in school, they progress through grades faster and at ages 13-16 have completed about one and a half more months of schooling than their same-aged peers who did not attend preschool. The results for cognitive test scores similarly show that children who went to preschool outperform their peers in the long run[20].

To summarize, studies show that ECD is a priority area of intervention which has a high benefit-cost ratio and a higher rate of return than interventions on older children and adults (Heckman 2008b). Impact evaluations show that ECD can have long-term effects on cognitive skills overall, but special attention must be paid to the quality of the programs for the success of projects. Belinsky and Schady (2015) show, for example, that in Latin America, the general quality of day-care centre is very low and they are mainly used by higher educated families. These two factors combined imply that they do not seem to contribute a lot to child development.

Engle et al (2007) summarize the characteristics of an effective EDC interventions: (i) it includes more than one aspect (e.g. health, nutrition, social development), (ii) it focuses on disadvantaged children, (iii) it is sufficiently long-lasting and intense, (iv) it employs well-trained staff, (v) it mainly targets children under 3, (vi) it requires the staff's direct interaction with children, not only with parents.

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[19] Interestingly, the impact of the program on children's reported health is mixed. On the one hand, the authors observe a (non-significant) reduction in diarrhea and skin problems, which may be linked to the program's emphasis on hand washing and self-care. On the other hand, children who attend preschool are more likely to report being sick, and in particular to have had a cough, which may simply reflect the increased exposure to colds from being in close proximity to other children.

[20] In Kenya, children who attend preschool have a small advantage over their peers during the early ages, and this advantage grows to 0.1 SD for the two later age groups. In contrast, in Tanzania, children with pre-school education outperform their peers by 0.26 SD early on, but this difference decreases to 0.22 SD for the oldest age group of 13-16 year-old children.

4. Alleviating resource and credit constraints

One of the main barriers to investment in human capital is the price of education. In many developing countries, children and their families have to pay fees to attend public schools[21]. More than 60 % of low-income countries charge secondary school tuition, compared to only 6% in high-income countries (Galiani et al 2013). Strengthening equity at school is often associated with policies that aim to reduce the cost of education for low-income families and/or marginalized social groups, which are more likely to be financially constrained and caught in intergenerational poverty traps. According to Banerjee et al (2013), "a reduction in the price of obtaining an education both raises the rate of return for each additional year of education and makes education more affordable for households facing credit or other constraints" (p. 13). This section analyses the effects of these different types of policies, which may take several forms: conditional or unconditional cash transfer programs, fee elimination or reduction, merit or not-based scholarships, credit-based interventions, vouchers, child sponsorship programs.

4.1. Cash transfer programs

Conditional cash transfers

The debate over whether cash transfer programs aimed at increasing school enrollment, attendance and test score should include conditions has been at the forefront of recent policy discussions. Most of the cash transfers programs which have been implemented in recent decades are in the form of Conditional Cash Transfers (CCT). The first large-scale CCT program, *Progresa*, was launched in 1997 in Mexico and provided monthly education scholarships to poor families (monthly cash payments to the mothers of children in grades 3-9, selected in rural localities). The payment was conditional on the children going to school at least 85% of the time and not repeating a grade more than twice. The amount of the payment depended on the grade and gender (larger for higher grades and for girls). Several studies have evaluated the Mexican program. Schultz (2004) finds a significant positive impact on enrollment rates, about +10% on average (+15% for girls). He estimates that *Progresa* increased schooling by 0.66 years. Attanasio et al (2011) confirm this positive effect and show that the program impact increases with age. Based on a counterfactual policy experiment, Todd and Wolpin (2006) conclude that increasing the payment for higher grade levels would significantly increase the proportion of children who complete at least 9 years of education. Other studies confirm these results (see among others Behrman et al 2005; Bobonis and Finan 2009).

After *Progresa*, CCT programs appeared in Latin America and elsewhere in the late 1990s and early 2000s. More than 30 countries have since launched this kind of programs. Multiple studies and randomized trials on the impacts of CCT on schooling have been carried out, in Brazil - *Bolsa Escola,* the largest program, with over 12 million families, (Glewwe and Kassouf 2012), in Colombia -

[21] In most cases, the payment of school fees is more common in secondary schools than in primary schools.

Familias en Accion program (Attanasio et al 2010), in Ecuador - *Bono de Desarollo Humano* program (Schady et al 2006), in Cambodia (Filmer and Schady 2009) in Pakistan (Female Secondary School Stipend, Chadhury et al 2006), in Tanzania (Evans 2014), and in Morrocco (Benhassine et al., 2014). All of them find **positive effects of CCT programs on school enrollment and attendance but the impact on students' performance and test scores are less conclusive.** Doubts remain about the ability of these programs to lead to a long-term increase in learning outcomes.

It is also interesting to note that the increase **in the length of schooling does not depend on the amount of cash transferred to the family** (Baird et al 2011) and that small changes in the CCT program design can boost its effectiveness, for example the timing of payments or incentives for student achievement (Barrera-Osorio et al 2008).

Unconditional cash transfers

Unconditional Cash Transfer (UCT) programs do not depend on students' or families' behaviour. These initiatives **aim at strengthening equity at school simply by reducing the cost of schooling.** The rationale of UCT can be thus compared to other policies aimed at alleviating financial constraints such as the reduction or elimination of school fees, child sponsorship and not merit-based scholarships, which are discussed in the next section.

In a recent study, Kilburn et al (2017) analyze the impact of a UCT program launched by the government of Malawi in 2006 called the Social Cash Transfer Program (SCTP)[22]. SCTP provides significant cash payments to poor households. The authors use household surveys to see if the cash transfer program has an impact on child education, finding a positive impact, that is explained by the additional investment in child education made by parents. Education expenditures rose by 13%. These results suggest that these programs can improve schooling outcomes within a short time, even without an explicit condition. In the same vein, de Groot et al (2015) use a quasi-experimental evaluation to estimate the impact of LEAP, the Ghanaian government's unconditional cash transfer program on school outcomes, finding a big impact on school participation.

Baird et al (2013) compare the effectiveness of CCT and UCT programs in a systematic review. They find **that both types of programs improve school enrollment and attendance compared to no cash transfer program** (see also Fiszbein and Schady 2009). They also show that **CCT programs always have larger effects than UCT programs and that these effects depend on the intensity of the conditionality**. Baird et al (2011) evaluate a program targeted at adolescent girls in Malawi featuring two distinct interventions (UCT and CCT) and confirm that CCTt has a bigger effect on dropout rates and tests scores than the UCT. Moreover, the impact seems to persist after the end of the cash payments. Benhassine et al (2014) find interesting results of the Moroccan *Tayssir* Program, in which a small cash payment given to all households living in poor rural communities

[22] While Malawi provides free primary education, obligatory expenses such as uniforms or school supplies need to be bought by families and secondary school remains prohibitive for low-income and ultra-poor families.

without any condition but with the payment being explicitly labelled as supporting education, has almost the same effects in terms of attendance of a payment which is conditional on attendance.

Other ways to transfer cash: school fee elimination, non-merit scholarships and child sponsorship programs

Several developing countries have gradually eliminated school fees, even in secondary school. This policy is aimed at reducing the households' credit constraint. Barrera-Osorio et al (2007) evaluate the *Gratuidad* fee reduction program launched in 2004 by the municipal government of Bogota in Colombia, where municipalities are in charge of regulating the fees charged by public schools. The program uses the proxy-mean SISBEN index to identify the most vulnerable households and provides varying levels of fee reduction to children in the bottom 2 of 6 SISBEN categories. The authors use a regression discontinuity design which exploits the discrete changes in school fee reduction around the cutoff scores for these two categories and find a significant positive impact of enrolment in primary and high school grades, especially for at-risk students. Even though the *Gratuidad* program has a positive impact, Barrera-Osorio (2007) warns against possible negative effects of this kind of policy. In countries such as Kenya or Malawi, massive increases in enrollment induced by similar programs have proved to be difficult to sustain over time. It might have "strained school systems and reduced educational quality" (Barrera-Osorio 2007, p.2).

Borkum (2012) examines a targeted fee-elimination program in South Africa launched in 2007. The program was targeted at the two poorest quintiles of schools based on a community poverty score; these 2 quintiles represent 40% of public school students. Borkum (2012) finds a positive impact of the abolition of fees on school enrollment, especially in early secondary grades, despite the fact that the initial fees were relatively low. The author finds little effect near the cutoff for fee elimination, for wealthier families.

A few non-merit-based scholarships programs have been studied and show positive results in promoting access to, and completion of education. Yi et al (2014) evaluate a program offering financial scholarships to pay for upper secondary school to poor students in China, with no other condition than being admitted to upper secondary school. This program increased by 7.9% the rate of entry into upper secondary for grade 9 students (and by 3% for grade 7 students). Duflo et al (2017) also evaluate a program offering school scholarships awarded by lottery. The program targets Ghanaian students who were admitted to a specific secondary school but could not immediately enrol, in most cases due to lack of finance. Scholarship winners were 55% more likely to complete secondary school, did 1.26 more years of secondary education, and scored an average of 0.15 standard deviations higher on reading and mathematics tests.

Child sponsorship programs are another way to directly help financially constrained households to pay for education expenditures. In these programs, individual sponsors in developed countries sponsor children in developing countries (by paying for their school supplies,

school fees, uniforms, tutoring, etc) until the end of secondary school. These programs seem to have a positive impact on schooling. Wydick et al (2013) evaluate the Compassion International program, the world's third largest child sponsorship program, in 6 countries including Uganda and Kenya, and find an increase in schooling of 1 to 1.5 years as well as an increase in the probability of getting a white-collar job. These programs raise children's self-expectations for their future vocations, educational expectations and self-esteem (see for example Ross and Wydick (2011) in Kenya; Glewwe and Wydick (2013) in Indonesia).

4.2. Performance-based incentives

The literature shows moderate but positive effects of performance-based incentives on school attendance and learning. In many education systems, students who perform well receive free or subsidized access to the next level of education (Kremer et al 2009). Much less research has been done on performance-based incentives, and the few studies on the impact of financial incentives based on academic performance in developing countries provide less evidence than the policies presented above.

One of the main studies dealing with this kind of program is an experiment on a merit scholarship program in western Kenya carried out by Kremer et al (2009). The program focuses on Kenyan girls with good academic results. If they scored in the top 15% in district-wide exams, they received a merit-based scholarship (worth around 20 dollars). This program enlists children's motivation to improve education outcomes. They find an increase in attendance in the year prior to the final awards (3.2%), a 25% decrease in absenteeism, and an increase in test score results, particularly for students with little or no chance of winning the scholarship. The authors do not identify the mechanism behind these results, but stress the importance of teacher effort and peer effects. In a follow-up to this study that examined the educational outcomes of the same girls 5 years after the original program started Friedman et al (2011) find that the program increased enrollment in secondary school by 8.6%; and current enrollment in any school by 7.9%, but find no impact on grade completed.

Behrman et al (2015) evaluate the impact of three programs (the Aligning Learning Incentives, or ALI programs) which offer performance-based financial incentives to children and teachers in Mexico and are designed to promote mathematics achievement. The first program focuses on students only, and provides individual incentives for performance, the second program targets teachers only, and the third program gives both individual and group incentives to school administrators, students, and teachers. They find mixed positive results, an improvement in mathematics scores, but no impact on dropout. The third program has a bigger impact than the other two.

Several other studies focused on student incentives (Kremer et al (2009) in Kenya; Levitt et al (2010) and Fryer 2010 in the USA), they find only small effects on both school participation and learning. In a more recent study, Blimpo (2014) evaluates a program in Benin which offers 3 types of

scholarships or incentives: i) scholarships based on individual-level performance with respect to a set goal, with no limit on the number of $10 scholarships offered, ii) scholarships based on average performance for teams of 4 students (also with a set goal and unlimited number of $40 scholarships), iii) a tournament in which 84 teams of 4 students compete for a large prize ($640 per team) given only to the top 3 teams. Blimpo finds that all 3 types of incentives had a similar impact, increasing grade 10 test scores by 0.24 to 0.28 standard deviations. Li et al (2014) focus on a program also based on a tournament in China and find that combining student incentives with peer tutoring increased the test scores of the weaker students by 0.27 standard deviations, which suggests that student incentives on their own may not be effective unless combined with teaching support.

4.3. Finance-based interventions (i.e. tuition loans)

Finance-constrained households tend to under-invest in their children's education. **Some evidence shows that giving tuition loans to students in the lowest quintiles and with a score above a cutoff is effective in increasing college enrollment.** The little research literature that exists on the subject concerns higher education, mostly in the United States, and will be dealt with in the Higher Education section below.

4.4. Voucher programs

Like scholarships or cash transfers, **voucher programs aim to reduce the cost of education and improve schooling outcomes.** In order to give parents more choice over where they send their children to school, they receive a voucher, backed by public funding, to spend on a school place in either the public or private sector. The objective of a voucher program is to "extend the financial support from the government to these other education providers and thus give all parents, regardless of income, the opportunity to choose the school that best suits their preferences"[23]. Two types of voucher programs can be distinguished: targeted and universal. Although there is little research on the impact of educational vouchers specifically targeted at the poorest students, school vouchers targeting only disadvantaged students might enhance more equal access to school. While the academic controversy over school vouchers has raged in the United States, the subject is even more relevant in developing countries, where private enrollment is much higher than in industrialized nations.

Voucher programs have been implemented in several developing countries, for example Côte d'Ivoire, Bangladesh, and some Latin America countries (Gauri, 2003). **Little research has been done on the effects of these programs in developing countries. Morgan et al (2013) did a review of evaluations of education voucher programmes in developing countries, finding** only two studies that use a rigorous methodology. .

[23] http://blogs.worldbank.org/education/how-do-school-vouchers-help-improve-education-systems

The first study, Angrist et al (2002), evaluates one of the largest voucher programs, the *Programa de Ampliacion de Cobertura de la Educacion Secundaria (*PACES), launched in Colombia in 1991. Children living in poor neighbourhoods, attending public primary school and accepted to a private secondary school participating in the PACES program received vouchers by lottery covering more than half of the cost of private school. The program ran until 1997 and covered more than 125,000 children in 216 municipalities. Angrist et al (2002) use a quasi-experimental research design to evaluate the impact of this restricted school voucher program on test scores, school choices, and duration of schooling. They find that three years after the lotteries, winners were about 10 percentage points more likely to have finished 8th grade, and scored 0.2 standard deviations higher on achievement tests.. They also find that these effects are larger on girls. In a follow-up study, Angrist et al (2006) estimate the long-term outcomes of the program, seven years after the distribution of the vouchers. They find that voucher winners are 6% more likely to have graduated from secondary school than non-voucher winners, and that students who attended private school learned more than those who attended public school (Angrist et al 2006).

The second study included in the review does not concern a voucher program, but a program where subsidies were directly given to some private schools located in poor urban areas of Quetta (Pakistan) based on the number of girls enrolled (Kim et al 1999). Authors observed a 33% increase in girl enrollment and a lower increase in boy enrollment.

It is also worth mentioning that the best-known universal voucher program was launched in Chile in 1980, as part of the transfer of school management from the central government to municipalities. Most of schooling in Chile is still voucher-financed (Hsieh and Urquiola 2003), but there are no randomized trials on this unrestricted program and research carried out on the system leads to unclear results (finding small, large, or no effect). McEwan et al (2008) show that affluent households have higher enrolment in private schools in Chile, which would mean that the voucher program may increase social segregation.

Since a secondary objective for the introduction of voucher systems is to increase the competition between public and private schools with the idea that competition boosts school performance (West 1997), studies focusing on vouchers often compare the education outcomes attained in public and private schools. Glewwe and Muralidharan (2015) observe that these studies seem to indicate that private schools are more cost effective and productive, since they manage to provide the same learning outcomes at lower costs, but they are not able to offer higher quality education as measured by test scores. They add that "from a policy perspective an important open question is to understand how public and privately managed schools would perform in a setting where the value of the voucher was set equal to the per-student spending in public schools" (Glewwe and Muralidharan 2015, p.73).

5. Information programs and management strengthening programs

Other interesting initiatives such as information programs and management capacity programs have been implemented and evaluated recently. Best practices in these research areas are included in this section.

5.1. Information programs

Information programs are initiatives designed to provide information to children and/or parents about the benefits of education, about student's results and attendance, or about how to take advantage of financing opportunities (Glewwe et al 2015). Information interventions are attractive because their cost is low (World Bank, 2018; J-Pal, 2013), but they seem to have mixed results.

The first kind of information program is those which provide information to children and parents on the benefits of education, in order to increase investment in education. One of the main reasons why parents do not invest more in their children's education and why children from disadvantaged backgrounds receive less schooling is that parents might underestimate the potential benefits of education. They often lack the crucial information needed to make the right long-term investment decisions regarding their children's human capital (Gallego et al 2018). One of the major studies, the first of its type, analyzing the impact of information sharing on children's time in school was conducted by Jensen in the Dominican Republic. Jensen (2010) found that providing information on the benefits of education to boys in grade 8 (i.e. the last year of compulsory school) resulted in an increase of 0.20 years in the number of years of school completed 4 years after the intervention. The effects were lowest for the poorest households, which face more financial constraints, and highest for the richest households.

In Madagascar, Nguyen (2009) showed that simply providing information on the benefits of education through class teachers led to improved student achievement. Nguyen also finds that asking a person from a poor background to share his or her success story had an impact on poor children's test scores. Despite its limited effect, providing information on the benefits of schooling in Madagascar was one of the most cost-effective education interventions evaluated using an RCT (Kremer et al 2013).

Recently, Avitabile and de Hoyos (2018) provided 10th grade students in Mexico with information about, among other things, the average earnings associated with different educational attainments and found a positive and significant impact on standardized test scores and self-reported measures of effort. They also found a positive, but not statistically significant effect on the probability of taking a university entrance exam and of obtaining a high score in this exam. One of the latest studies of this kind (Gallego et al 2018) evaluates two innovative information campaigns in Peru: a telenovela-style video series about the social value of education, earnings information, and options for financing higher education, and an app-based survey using infographics and interactive

activities. They find an increase in students' and parents' perceptions of the financial benefits of education, and a decrease in dropout rates.

Although the studies presented above suggest the existence of positive effects of providing information on the benefits of education, several other studies found little to no effect. Loyalka et al (2013) carried out an intervention in rural Chinese provinces, where students in grade 7 were provided with information on earnings associated with different levels of education and found no significant effect on the dropout rate, test scores, or children's plans to go to high school. They also found that counselling (i.e. helping students identify their career interests) resulted in an increase in dropout rate of 1.7%. This could be probably explained by the fact that some students may have understood that it was too difficult for them to continue with high school and to follow the career they had in mind, and thus they preferred to opt for immediate entry into the labour market.

The second type of information program provides parents with information on children's results and attendance, in order to improve communication between parents and pupils. In a low-income region of Chile, Berlinski et al (2016) tested whether sending data on student outcomes to parents via high-frequency text messages improve schooling outcomes. This program narrowed parent/school information gaps and had a positive impact on students. The authors find a significant increase in mathematics grades, attendance, and a decrease in bad behaviour. These results suggest that poor communication between parents and schools may be a barrier to better schooling outcomes, and that simple programs using low-cost technology could reduce it. Conversely, in Kenya, providing parents with information on their children's literacy levels and suggesting strategies to improve their scores did not have any positive effect (Lieberman et al 2014).

Information programs can also provide information on education funding. In Chile, Dinkelman et al (2014) found that exposure of children to information about how to finance higher education raised enrollment in secondary schools which prepare students for college, and primary school attendance, with gains concentrated among medium- to high-grade students. However, providing this information to parents had no effects.

Information programs can be a way to improve transparency and school governance. Education systems in developing countries are often centrally managed in a top-down structure, with a low commitment by communities and local actors. Recently, several capacity building programs have been launched in African countries with the objective of empowering communities to take charge of their schools. Interventions that try to increase school and system-level accountability include both information-related interventions and interventions that involve school-based or district-based management. Both Reinikka and Svensson (2011) and Bjorkman (2006) examined a government program in Uganda where a newspaper campaign was launched in order to bring attention to the amount of funding that local schools should receive. The idea was that more informed parents would better monitor local administration managers with a

consequent reduction in the loss of funds for schools. This, in turn, would result in positive effects in school quality. Both studies found that this information campaign had a large impact on student performances[24]. The information campaign promoted in India, and evaluated by Pandey (2009), responded to the same rationale: meetings in villages were organized in order to disseminate information on the communities' responsibility in schools' management[25]. Authors found small positive impacts on learning outcomes and on teacher effort. Overall, there is little evidence that these kinds of campaigns have a sizeable effect on student performance (Glewwe and Muralidharan 2015).

5.2. School-based management programs

"Poor management and governance often undermine schooling quality. Although effective school leadership does not raise student learning directly, it does so indirectly by improving teaching quality and ensuring effective use of resources. […] Ineffective school leadership means school principals are not actively involved in helping teachers solve problems, do not provide instructional advice, and do not set goals that prioritize learning" (World Bank, 2018, p. 11).

Management capacity programs for schools are becoming very popular, although the empirical evidence on their success is mixed and limited. Management capacity programmes can improve teachers' commitment (by making them more accountable to the community), and so children's performance.

Lassibille et al (2010) carried out an RCT on AGEMAD, a Madagascan program which aimed to "make explicit the functional responsibilities of teachers, school directors, and district and sub-district administrative staff through a coherent and detailed manual of operations" (p.2) in public primary schools. The interventions improved school attendance and reduced grade repetition, but gains in learning were not statistically significant. Two difference-in-difference studies evaluated school-based management programs in Mexico: Santibanez et al (2014) find that the PEC-FIDE program[26] had no general impact on students' test scores or time in school, and Gertler et al (2012) find no impact of the AGE program[27] on dropout rates.

On the other hand, several programs give school committees real responsibilities over their schools and seem to have more effects. Barr et al (2012) implemented a combined lab and field experiment in 100 Ugandan primary schools and find that programs that engage school management committees in the creation of a school monitoring plan have a positive impact on pupil test scores as well as pupils and teacher absenteeism. They suggest that community-based monitoring of

[24] However, Hubbard (2007) questions whether all of the impacts observed in these studies can be attributed to the newspaper campaign alone, as the information campaign was part of a broader education and fiscal reform strategy (including universal primary education).

[25] In India, communities control several public services, including schools, to improve accountability. In some cases, communities can also hire contract teachers (Pandey et al 2009).

[26] *Programa Escuelas de Caldidad - Fortalecimiento e Inversión Directa a las Escuelas (PEC-FIDE)*

[27] *Apoyo a la Gestion Escolar (AGE)*

public services might provide a possible solution to accountability programs when state oversight is limited.

Similarly, Duflo et al (2012) examined a program under which Kenyan Parent-Teacher Associations were funded to hire an additional teacher on an annual renewable contract conditional on performance. They find positive results for this school-based management program in which school management committees were given hiring responsibilities. Scores of students taught by these teachers increased. They show that training school management committees in their governance responsibilities are an effective complement to the contract teacher intervention and that schools which received the complementary training were less prone to local capture. Also in Kenya, Bold et al (2013) replicated this intervention and find that the effects of short-term contracts produced in controlled experimental settings are lost in weak public institutions, implying that when NGO implementation produces a positive effect on test scores, government implantation produces no effect. The study suggests that the stark contrast in success between the implementation by government and by NGOs can be explained by implementation constraints and political economy forces put in motion as the program scaled up.

In Gambia, Blimpo and Evans (2011) examined the impact of school-based management training, the *Whole School Development* program on student achievement. The WSD program provided a grant and a comprehensive school management-training program for principals, teachers, and representatives of the community. The results were affected by adult literacy rates and suggest that in villages with high literacy, the WSD program may yield gains on student's learning outcomes, but could have a negative effect in villages where literacy is low. The varying degrees of community capacity could explain these discrepancies.

Some studies aim to understand if there are differences in productivity between public- and private-managed schools.[28] If it was the case, it would be interesting to understand what factors drive this result and public/private partnership arrangements could be seen as a way to strengthen public school management. Crawfurd (2017) finds no differences on average in management quality between government and private schools in Uganda. Hanushek et al (2013) and Contreras (2015) show that changes towards more school autonomy generally lead to worse performance in low-income countries whereas they lead to better performance in high-income countries. In Liberia, the state recently delegated the management of the public school to private contracts. Romero et al (2017) find that, after one year, thanks to new management and extra resources, students learning increased by 60% compared to standard public schools. The program also increased teachers' quality of instruction and attendance rate. However, contracts authorized the largest operator to push excess pupils and under-performing teachers into other government schools, which could bias the results. Moreover, costs were very high, in terms of government staffing and private subsidies, thus the policy does not seem to be sustainable in the long run.

[28] On the differences of educational performances between private and public schools, an interesting study by Sekhri and Rubinstein (2011) finds that it is the sorting of better students into public colleges, rather than better value added, that drives higher exit exam scores for public over private college graduates in India.

6. Vocational education and training

In the next 15 years, 375 million young people (15-24 years old) will become of working age in Africa, equivalent to the current population of Canada and the United States combined. **By 2050, nearly 1 in 3 young people in the world will be living in Sub-Saharan Africa.** Currently, the incidence of unemployment among young people in the region is lower than several other regions of the world (10.8% in 2017). But young people are more likely to work in the informal labour market which offers low-quality jobs with limited socio-economic security, training opportunities, and working conditions. The region has one of the highest rates of informal work outside the agricultural sector, ranging from 34% in South Africa to 90.6% in Benin. According to the International Labour Organization (ILO) (2018), **"investing in youth education, closing gender gaps in both labour markets and education, promoting efficient school-to-work transitions and creating decent jobs will be necessary to reap the dividends of the demographic shift in the region"** (p.14). To address young people's unemployment and under-employment, donor organizations and national governments have, over the years, promoted the expansion of Technical and Vocational Education and Training (TVET) in schools and out of schools.

However, **TVET systems in African countries present many problems**, that are well summarized by Tukundane et al (2015) in a study that examined four TVET programs in Uganda[29]. The authors report the following main weaknesses: (i) **negative social perception about vocational training or education** (i.e. most students view it as a "second class" or a "poor cousin" of general education); (ii) **gender disparity** (i.e. boys are predominant); (iii) teacher-centered teaching methods; (iv**) lack of practical and industrial experience of teachers**; (v) inadequate equipment and facilities; (vi) **weak links to the local labor market** (except for apprenticeship); (vii) lack or poor post-training support.

UNESCO defines TVET as "**a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding, and knowledge relating to occupants in various sectors of economic and social life**"[30]. Tripney et al (2013) propose a typology of TVET programs, that we present in box 1.1. below, which distinguishes between technical education, vocational education, vocational training, on-the-job training, and apprenticeship.

[29] These are four different programs, two vocational education schools, a non-formal church-based skill training center and an apprenticeship training in a garage.

[30] https://unevoc.unesco.org/go.php?q=TVETipedia+glossary+A-Zandid=475

Box 1.1. A typology for TVET

"**Technical education**: theoretical vocational preparation of students for jobs involving applied science and modern technology; […] it emphasizes the understanding of basic principles of science and mathematics and their practical applications; usually delivered at upper-secondary and lower-tertiary levels […].

Vocational education: organized activities designed to bring about learning as preparation for jobs in designated (manual or practical) trades or occupations […].

Vocational training: prepares learners for jobs that are related to a specific trade or occupation; but compared to vocational education, is better linked to the labour market and employment development system […]".

On-the-job training: workplace-based training that uses real jobs as a basis for instruction and for practical purposes.

Apprenticeship training: combines on-the-job training for a highly skilled craft or trade (from someone who is already a skilled leader in the field) with academic/ theoretical instruction; ranges from informal work-based 'learning-by-doing' to formally structured programmes sponsored by large industrial firms".

Source: Tripney et al (2013), pp. 15-16

6.1. Technical and Vocational education

Despite the interest of governments in Technical and Vocational education, it remains a complex and controversial topic because it can create a divided society in terms of education and the benefits associated with it. Indeed, school systems in almost all African countries lead to two tracks: general education, which prepares students to continue to higher grades, and vocational education, which allows direct access to the labour market, providing students with specific skills. Since in many African countries, access to secondary general education is restricted to high-performing students (due to the requirement to have the primary education certificate), this implies that vocational education is often attended by students who have been crowded out of the general system

The arguments in support of general education are that it creates 'general human capital' which is seen to carry the advantage of flexibility and portability over one's life, from one job to another, and to some extent from one country to another. In this regard, many people view general education as the most suitable type of education which is capable of responding to economic and labour force changes in society. **Supporters of Technical and Vocational Education, conversely, assert that it produces 'specific human capital' that can make the worker more suitable for a given job and thus more productive** (Tilak 2002; Oketch 2007). This argument relies on the assumptions that: (i) not everyone can be trained for top-level jobs, thus vocational education offers chances to academically less able students who cannot advance

through the school system; (ii) vocational education equips young people with skills that are demanded in the labour market, which is important since employers often complain about a mismatch between skills acquired through vocational education and the ones required by employees.

Unfortunately, few evaluations have been done for technical and vocational education programs. Tripney et al (2013) review 26 studies which were published between 2000 and 2011 and assessed the impact of TVET programs for young people aged 15 to 24 in low- and middle-income countries. The authors only include in the review studies using experimental and quasi-experimental methods. This means that they are constrained to include in their sample mainly vocational training and on-the-job training (only one vocational education program and two technical education programs are included), and mostly based in Latin American countries. Although the authors acknowledge that their results are hard to generalize, what they observe is that the sample interventions have only small (and hard to detect) effects on employment and income. They do not observe heterogeneity of impact across the different type of programs.

To assess the effectiveness of formal TVET education systems in Africa, Oketch (2014) analyzed the case of three countries, Kenya and Ghana and Botswana. Ghana and Kenya are interesting because they tried to introduce vocational education starting with basic school. The idea was to integrate vocational education and general education as early as possible in order to improve the negative perceptions associated with TVET and to give students the opportunity to acquire pre-employment vocational skills, as well as general education. According to Oketch (2014), both countries failed in their attempt to ameliorate TVET quality and perception, because they proposed vocational education to children who were too young, and because of the too strong 'vocationalisation' of programs (meaning the devotion of too many hours per week to vocational education). The Botswana model differs from Ghana and Kenya because it opted for a 'pre-vocationalisation' rather than vocationalisation of school programs: no more than 5 hours per week of vocational education are proposed in secondary schools and the students can select only one practical subject. The idea is to provide general education first and training for employment afterwards.

6.2. Vocational training and on-the-job training

The World Bank and its client governments invested nearly 1US$ billion per year between 2002 and 2012 on skills training programs around the world (Blattman and Ralston 2015). Usually, the World Bank programs combine vocational training and on-the-job training. They are offered to unemployed workers or to low-income or at-risk young people. They typically offer a 3 months classroom training plus 2 or 3 months of job training in the form of an internship. McKenzie (2017) reviewed 9 high-quality studies that analyse the impact of these programs and observes that only 2 of them had a significant impact on employment (2-3% increase) and two of them on earnings (17% increase). Moreover, Mc Kenzie (2017) warns that care must be taken about general equilibrium effects: it is not clear if these programs generate new employment or simply result in a shift in who gets the jobs. From a cost/benefit perspective, these programs are so expensive that

Blattman and Ralstom (2015, p. ii) state that **'it is hard to find a skill training program that passes a simple cost-benefit test**', even though the ones provided by private organisations are slightly more efficient. Finally, training programs are often disappointing because the expectations of both participants and policymakers are very high.

McKenzie (2017) also examined the impact of lower cost initiatives focalized on employability and job search, like providing information on job vacancies and job seekers, organizing job fairs, financing transport to allow people to find a job further away from home. He observes that only 1 out of the 10 initiatives he examined shows a significant impact on employment, but at least they cost far less than the vocational training programs.

The disappointing effects of this type of vocational training programs induced McKenzie (2017) to suggest international players who want to contribute to addressing youth unemployment, should put more efforts into: (i) helping firms overcome the constraints they face in growing and creating more jobs; (ii) helping workers to "overcome sectoral and spatial mismatches" that arise when individuals are stuck in the occupations for which demand is scarce or in geographical areas where there is not enough demand.

Another type of programme deals with training in soft skills. Soft skills can be defined as "skills that are cross-cutting across jobs and sectors and relate to personal competences (confidence, discipline, self-management) and social competences (teamwork, communication, emotional intelligence)"[31]. Campos et al (2017) conducted a randomized control trial in Lome, Togo, in order to test the effectiveness of a training program that teaches "a mindset of self-starting behavior, innovation, identifying and exploiting new opportunities, goal-setting, planning and feedback cycles, and overcoming obstacles" (p. 2). They assigned small business owners to a control group, to a traditional leading business training program focused on accounting, marketing, human resource and financial management, or to a personal initiative training program. The results show that personal initiative training had a significant and large impact on profits and sales, while the traditional training did not.

To sum up, there is little evidence to demonstrate the effectiveness of vocational and training education in general and our academic review shows mixed results and modest effects. The few existing studies and anecdotal evidence show that technical and vocational education face important challenges to demonstrate their impact and cost-effectiveness, including in African countries. Most of these problems are related to the high cost of this kind of education, which makes it difficult for state and non-state actors to provide high-quality services. Also, the debate about the opportunity to provide vocational education (and eventually how much) or not is still open. Concerning vocational and on-the-job training, more evidence exists and it generally indicates that most programs have positive but very modest effects on employment and wages, but they are very expensive. **Whatever is the content or the type of the program, to be (at least**

[31] https://unevoc.unesco.org/go.php?q=TVETipedia+Glossary+A-Zandid=602

modestly) successful it needs to be relevant to the labour market, preferably demand driven and involve the private sector (Hirshleifer et al 2016; Hendra et al 2016). Also, the quality of the programs has to be high, as well as the quality of equipment, implying that sufficient funds need to be guaranteed to the system. Focusing on quality could contribute to overcoming the negative perception suffered by TVET.

7. Higher education

This section presents evidence on the impact of Tertiary Education (TE) on economic development, with a specific focus on African countries, and analyses the available literature on the interventions that have been put in place to improve the functioning of TE systems[32].

7.1. A renewed emphasis on higher education as a development tool

During the 1980s and the 1990s, there was an international consensus on the urgent need for development of primary and secondary education in Africa, while the relevance of tertiary education was neglected (Brock-Utne 2003). **Since the late 1990s, political and academic voices have started calling for the revitalization of African higher education sector** (Castell 1991; World Bank 2002; Sawyerr 2004). Higher education has thus started to be seen as a significant tool in facilitating Africa's development process development (Juma et al 2005; Castell 2009).

Several studied have indicated that investment in higher education and GDP were positively related in African countries (Bloom et al 2006; Kamara and Nyende 2007; World Bank 2009) and that higher education had broad benefits for individuals and societies (Bloom et al 2014; Colclough et al 2009; Fasih et al 2012; McMahon 2009; Moretti 2004; Oketch et al 2014; McCowan and Schendel 2016; Teal 2011). Research also showed that knowledge was the single most important engine of growth and the driving force of economic performance in OECD countries (Marginson and van der Wende 2007). Consequently, countries with an expanded system of higher education and higher levels of investment in R&D activities were seen as having a higher potential to grow faster in a globalized knowledge economy (Varghese 2013). Oketch et al (2014) observed that there is a lack of research into the impact of tertiary education on development. Barouni et al (2014) in one of the broadest studies focusing on returns from education in Africa, show that returns from higher education are larger than returns from primary education. The rate of return from higher education seems, however, to decline as the proportion of the population with higher education increases, as shown by Heckman et al (2008).

Since 2000 tertiary education in Africa has undergone an unprecedented transformation which has led to an impressive expansion in terms of both numbers and diversity of institutions, academic programs, growth in enrollments, and also the development of quality assurance frameworks and institutional governance. But with few resources, inadequate capacity, and a

[32] In this report we use tertiary education and higher education as synonyms.

history of neglect, the sector has been struggling to respond to the increasing demand (Mohamedbhai 2003). In recognition of both the increasing demand for higher education along with its perceived benefits, the Sustainable Development Goals agreed by world leaders in September 2015 included a specific target for achieving equitable access to higher education. Target 4.3 of SD4 aims, by 2030, to "ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university" (United Nations, 2015). Key questions that arise from the setting of this target are, amongst others, whether current patterns of public spending on education are likely to support, or inhibit, its achievement and how to improve the quality, broaden access to higher education, and reduce inequalities.

7.2. A wider but unequal access

Quality, equity and efficiency are three fundamental measures of the effectiveness of a higher education system. The higher education sector in many high-income countries has seen a rapid expansion (Schofer and Meyer 2005; Marginson and Van der Wende 2007; Keeling 2006). Most of the time, these systems have grown from an elite access phase, then to a mass access phase, and more recently, to a universal access phase (Trow 1973, 2007). However, massification has not generally led to equitable access. Students from disadvantaged backgrounds are often less likely to be prepared for higher education (Ilie et al 2016). In some countries even if they have the chance to enter higher education, they have a lower chance of completing it (Altbach et al 2009). The inequalities in access to higher education are sometimes due to inequalities in attainment in primary and secondary schooling (such as in England, as shown by Jerrim and Vignoles 2015). In any case, since students at the tertiary level most often come from affluent families, subsidizing higher education is less equitable than subsiding primary education (Shimeles 2016).

In Sub-Saharan Africa, most countries are still in the elite access phase. Although some countries have registered a massive increase in HE supply (e.g. Kenya), on average only around 1-in-10 young people today have access to higher education (UNESCO Institute for Statistics, 2015). Progress has been faster in South Asia, although still significantly lower than in richer countries, reaching around 1-in-5 young people on average. Expansion of enrollments has been driven by economic priorities (Connell 2015), technological change, globalization and increased international competition. However, gender and socioeconomic inequalities in accessing higher education are very high (Odhiambo 2014), and inequitable access to higher education remains a global problem (Ilie et al 2016; Marginson 2016; Salmi and Basset 2014; McCowan 2016). For most countries in Sub-Saharan Africa, any expansion that has occurred has almost entirely benefited the well-off, with the poorest young people still extremely unlikely to gain access to higher education. A rich young person is 3 to 5 times more likely to attend higher education than a poor young person (Ilie et al 2016). Even in South Asian countries with higher enrolment rates overall, such as Bangladesh, Nepal and Pakistan, only around 5% of the poorest half of young people gain access to higher education.

Carnoy et al (2013), Salmi and Basset (2014) and Chien and Montjourides (2016) show that **growth has not been equitable** and call for policies combining financial assistance with measures to overcome non-financial obstacles. Illie et al (2016) affirm that any measures aimed at attaining the SDG goal need to tackle inequalities in access within a system-wide approach, focusing on the level of education at which inequalities initially manifest (often at primary or secondary level), and higher education. As stated by Oketch et al (2014), all levels of education are interdependent and must be addressed holistically.

We now address the interventions which aim to address the problem of unequal access to tertiary education, in particular credit-based interventions (i.e. loans, grants, and vouchers) and affirmative action policies. In the last section, we briefly discuss the issue of the lack of resources for expanding the higher education system, a problem which is shared by most developed countries. We ask how a private actor could intervene to alleviate this constraint.

7.3. Credit based intervention

As the case for secondary education, the basic model of investment in human capital implies that households which are finance constrained will underinvest in their children's education. **The research on this subject is sparse. A lack of systematic evidence on who benefits and who can afford to pay for higher education has given rise to an unresolved debate about the most suitable level of state subsidies, and about private contribution.** The debates in the literature are about the appropriateness of strategies such as student loans, graduate taxes, and vouchers in countries that are struggling to expand their higher education systems, and where public spending in higher education disproportionately benefits the well-off students (Colclough 1990; Johnstone and Marcucci 2010; Oketch 2016; Salmi and Hauptman 2006; Woodhall 2007; World Bank 2010). The appropriateness of these programs in poorer countries needs "careful consideration, including with respect to how this affects the quality of higher education and who gains access to what type of provision" (Ilie et al 2018, p. 20). Jerrim and Vignoles (2015) indicate that it would be better to finance programs aimed at boosting school performance at high school rather than reducing the cost of higher education because early school attainment is the main factor explaining inequality in higher education access.

A few studies have tried to estimate the impact of access to student loans on higher education enrollment rates and provide evidence that individuals are finance constrained in their decisions to pursue higher education. Solis (2011) studies two programs in Chile that give tuition loans to students who score above a cutoff in the national college admissions test and are in the four lowest income quintiles, using a regression discontinuity design. He finds that access to loans induces a 21% increase in college enrollment. The impact is largest among the poorest students and qualification for tuition loans eliminates the enrollment gap between the highest and the lowest income quintiles. Gurgand et al (2011) also use a regression discontinuity design to analyze the impact of a credit score threshold for university loans provided by Eduloan, a private company supported by international donors, on South African student enrollment. This program

targets employees who are looking to improve their skills (applicants must be employed). The authors find that access to loans increased enrollment by around 25% and that the impact was particularly big for the lowest income quartile[33]. Finally, in a conditional cash transfer program, that obliged the saving of a part of the transfer until the following enrollment season, Barrera-Osorio et al (2011) find a large effect on enrollment and re-enrollment rates. The idea here is that this forced saving acts as a substitute for credit (Banerjee et al 2013)

7.4. Affirmative policies and selection rules

In most developing countries, places in tertiary education institutes are insufficient with respect to the increasing demand, and they are rationed, using sometimes complex rules. **Affirmative policies are often put in place in order to guarantee education access to disadvantaged categories.** These policies were born in the United States, where they are often at the centre of vigorous policy debates, but they are also common throughout the developing world. They are often in the form of a quota system, where a certain number of places are reserved for disadvantaged groups. While the underlying social objectives of this kind of policies are rarely criticized, there is an intense debate over the actual impact of such preference systems on educational performance and labour outcomes. Banerjee et al (2013) observe that several countries have launched affirmative action policies targeting disadvantaged groups, whether as a tool to increase access to higher education for indigenous students (e.g. India, Brasil and Chile), or to expand access for women (e.g. Sub-Saharan Africa).

Studies on African countries are rare, but several studies focus on India's highly regulated tertiary education system and its quota system for historically disadvantaged groups to analyze the effects of affirmative action in this sector. Under the Indian policy, the oldest affirmative action policy in the world (Banerjee et al 2013), a proportion of places at state-run universities are reserved for each disadvantaged group (scheduled tribes, scheduled castes, other backward castes). Bertrand et al (2010) examine an affirmative action program for "lower-caste" groups in engineering colleges in India. They find that the program successfully targets the financially disadvantaged, since the average parental income among students admitted thanks to the quotas is 60-70% of that of displaced students. However, they underline the fact that targeting by caste may lead to the exclusion of other disadvantaged students. Interestingly, they find that this targeting based on caste reduced the number of females entering engineering colleges, which could reflect the greater gender inequality in educational attainment in India's lower castes. Frisancho Robles and Krishna (2012) study the impact of strict quotas for scheduled tribes and scheduled castes in an elite Indian engineering institution. Like Bertrand et al (2010), the authors find evidence of successful targeting, meaning that target minority students are poorer than the average non-minority displaced students. However, they find evidence that minority students do not catch up, and fall behind their same-subject peers.

[33] Kaufmann (2014) tries to find an alternative explanation for differences in college enrollment between poor and rich students. He highlights the impact of differences in information about career opportunities and student's subjective expectations of earnings.

7.5. Resource constraints in expanding the higher education system: the role of private providers

Since participation in higher education tends to increase individuals' earnings and induce growth that benefits the entire society, there is an intense debate about who should bear the responsibility for the investment in higher education. This debate is the same around the world (Oketch 2016). As summarized by Ilie et al (2018), three kinds of arguments are put forward to justify the allocation of public resources for higher education: i) education is a right (McCowan 2012), ii) education contributes to society through economic growth and poverty reduction (see above), iii) public spending is supposed to be equitable. On the subject of equity, Ilie et al (2018) note that although public spending is supposed to be equitable, inequalities in public spending widen as the level of education increases. As the pressure to expand free primary education continues, most African governments have not invested much to reform higher education to meet the needs of the emerging modern sector (Shimeles 2016), and they are faced with an intractable tension between the demands of quality, equity, and funding (Unterhalter and Carpentier, 2010). Most developing countries have resource constraints and limited capacity to expand their higher education systems and are thus a long way from achieving the new sustainable development target of equal access to higher education by 2030. Moreover, higher education in Africa suffers from institutional rigidities that make it difficult for colleges and universities to adjust their curriculum and strategies to be more responsive to changes in global knowledge and labour market demands (Devarajan et al 2011).

In response to this mismatch between supply and demand , private universities are growing steadily, including in Sub-Saharan Africa (Oketch 2009; Teferra and Altbachl 2004; Tilak 2014), as an answer to the challenge of expansion. The private sector has stepped in to fill this educational void, and the number of privately-run colleges and higher education institutions has increased dramatically in many developing countries. Authors such as McMahon agree that in some cases, private funding is needed but a sensible balance is necessary and points out that "little analysis has been done on the degree of privatization that is economically efficient. If control of higher education is to be fully relinquished to private markets, then there needs to be an analysis of the extent to which there may be market failure leading to distortions'' (McMahon 2009, p.2). Moreover, some studies show that private university expansion can result in inequality of access for students (Morley and Lugg, 2009; McCowan 2004).

Public-Private forms of organisation are emerging, like in East Africa, with dual track approaches combining government-sponsored places with privately-funded places within the same institution. These could reduce pressures on government expenditure, but this sometimes occurs to the detriment of quality (Wangenge-Ouma 2007, 2010).

Another popular strategy for ensuring quality in the face of funding constraints is the **concentration of funds in a few flagship institutions, often supported by philanthropic foundations and international donors**. The problem of these projects is that they tend to funnel

public funding away from regional universities, negatively affecting both the quality of more peripheral institutions and equity across the system (Schendel and McCowan 2016).

Distance education is another strategy some governments pursue in order to face budget constraints, but this also raises quality issues (Schendel and McCowan, 2016).

To sum up, the rapid increase in the relevance of higher education for individual and social wellbeing in African counties has to face up to the problems of low financial resources and unequal access. Policies based on loans and grants seem to be effective in improving access to poor young people who menage to complete secondary education, while affirmative action policies seem to be successful at targeting disadvantaged students. Public-private partnerships appear to be a way to fight the funding constraint most countries face, at least in the short term, altought we do not more on the potential distorsion this could raise.

Conclusion

In this section, we try to draw some conclusions from the review of the literature from the perspective of an impact investor. In other words, once the most effective interventions have been identified we ask if an impact investor could have a role in supporting such initiatives.

The most effective interventions to boost learning appear to be the ones related to teaching. The idea is simple: people and methods are more important for learning than infrastructure and equipment. An impact investor who is aware of this could support initiatives that focus on innovative teaching, like the ones based on teaching at each learner's level, or that propose a smart use of education technology in order to individualise learning. Well-designed teacher in-service training programs, based on specific methodologies and spread over a sufficient period of time, could be also supported.

While our literature review stressed the primordial importance of investing in children from an earlier age, it also points out that only quality initiatives are beneficial for young children. It is not sufficient to guarantee them a place in a pre-school, it is necessary that the quality of the service provided by the preschool is high in order to increase learning outcomes. So, an impact investor could support early childhood initiatives which are focused on quality, professionalism, and teaching methods that are appropriate for the young age of the children.

An interesting area of intervention relates to information programmes. The positive, although often limited, effects of information campaigns, suggest that initiatives helping the spread of information (e.g. on performance, attendance, return to education, labour market opportunities, etc) could be supported to enlarge access to education and to improve learning outcomes. The main advantage of this kind of intervention is the low cost, which makes them cost-effective. The development of technologies to spread information through mobile phones, or counselling services proposed to secondary school students is an example of the kind of interventions an impact investor could support, providing they are based on a sustainable economic model.

The development of technologies which help officials to better manage schools and the entire education system is another possible field where technology can be useful and where an impact investor could have a role. We learned from our review that well-designed initiatives aimed at strengthening management capacity (e.g. management software of students' and teachers' absenteeism) could have an effect in improving learning. Technology solutions for adaptive learning can also improve student learning provided that these solutions are used as a complement to traditional education and that teachers are well trained to manage these innovative tools. Also, an impact investor could support management training programs for officials, school directors, teachers or school committees, which may have a technological component.

Equity in access to education is a major challenge in all developing countries, and it is particularly important for secondary and tertiary education. One of the main reasons for which poor people do not have access to education, and even less to quality education, is the financial constraint. We presented in the previous section several forms of **effective programs that can contribute to alleviating this constraint - cash transfers and loans among others.** While cash transfers programs are typically implemented by governments, impact investors can be interested in supporting initiatives promoting loans, in particular to higher education students, as well as scholarships, as a component of their strategy.

For higher education, our review shows how private funds and private providers may be necessary when the public sector is not able to allocate enough funds. The evidence suggests that it is important **to pay attention to the eventual distortions and market failures that the strong presence of the private actors could produce**. Also, there is the risk that public funds are diverted from public to private establishments or, that public funds are reduced because of the presence of private providers. An impact investor who aims to enter the sector should thus (i) assure as far as possible equity of access, and (ii) act in accordance with the national strategy.

Lastly, we pointed out that in general vocational education is expensive. Cost/benefit analysis showed that short World Bank-style vocational training programs, mainly targeted at unemployed and out-of-school youths, are not efficient. In addition, vocational education programs integrated into the school system, usually accessible to pupils with a lower secondary diploma, are expensive in terms of equipment, while it is extremely difficult both for governments and for private providers to adapt the offer to the changing needs of the labour market. An impact investor could thus help to find alternative and more effective ways to train people in relevant skills and so support employability[34]. **The difficulties encountered by public systems and donors' initiatives show that supporting existing private sector capacity in TVET might help to achieve more impact as well as effectiveness.**

[34] The work I&P already does in supporting small and medium enterprises is a way to indirectly do it, because when enterprises are stronger and formal they recruit more and offer better working conditions.

Part 2

The Education Challenges in Five African Countries

Burkina Faso, Côte d'Ivoire, Ghana, Madagascar, Morocco

Education challenges in Burkina Faso

1. Introduction

Burkina Faso has achieved considerable progress in promoting access to basic education since 2000. In a context of poverty, vulnerability, and more recently, insecurity, the country is progressively generalizing primary education, although there are still 2 million children out of school. Big achievements in infrastructure and teacher training are improving the internal efficiency of the basic system, but too slowly. The long-term effects on adult literacy are already measurable.

Encouraged by market opportunity but also by public support, private sector expansion has contributed to enrolment growth in all education levels. In 2014, 1 out of 5 students was enrolled in a private institution. In the pre-primary, technical and tertiary education, the private sector is a major player to increase and improve the available supply of education.

A political momentum has been built to better include and regulate these private providers in the system, and strong efforts have been made to ensure that the schools comply with the minimum regulatory rules. Some types of private schools (such as the Madrasa Schools) remain mainly outside this regulatory framework.

There is a tremendous education quality challenge in Burkina Faso, at all education levels. National and international tests show that a majority of Burkina Faso students do not meet the minimum levels of required knowledge or skills, although they do better than many of their neighbours. Stronger initial and continuous teacher training policies, complemented by investment in education inputs, seem necessary to move forward.

The TVET system suffers from long-lasting under-investment from public authorities and private providers. In this field, the government's goals are substantial, but their fulfilment will depend on the capacity of private providers to deploy more capital and innovation.

In Higher Education, regulatory policies are being set up to improve the general level of higher education institutions. The role of private providers to invest in and implement quality and relevant training is particularly important in a context where education technologies and innovation are lacking.

2. General organization of the national education system

The education system is based on a 3-6-4-3 formal structure, as presented in Table 2.1. The government has extended the mandatory school leaving ageing to 16 in 2014. Pre-school education is called "*enseignement préscolaire formel*" and starts at age 4. It does not belong to the basic education mandatory stage. Primary education is a 6 year system which ends with the

Certificat d'Etude Primaire (CEP) exam. Secondary education is divided between lower secondary school on the one hand (also called post-primary education), and upper secondary schools (or high schools) on the other hand. Post-primary education consists of grades 7-10 and ends with the *Brevet d'Etudes du premier cycle* (BEPC) exam. Secondary education at the upper level consists of grades 11-13 and ends with the Baccalaureate[35]. Compulsory education lasts 10 years, from age 6 to age 17, meaning from 1st grade to 10th grade (primary and post primary education). The TVET system in Burkina Faso is composed of short-term and long-term technical education (secondary education) and vocation training (tertiary education). According to Unesco UIS data, the education structure has not evolved since at least 2000, but reforms have been made since 2008 to consolidate the basic education continuum.

Table 2.1. Education levels and entrance age in Burkina Faso

School Level	Duration (years)	Entrance Age
Pre-school	3	4
Primary	6	7
Lower Secondary	4	13
Upper Secondary	3	17

Source: UIS Data

The governance of the education system is structured as follows:- The *Ministère de l'Education Nationale et de l'Alphabétisation* (MENA) is in charge of pre-school to secondary education and is also in charge of technical education. The *Ministère de l'Enseignement Supérieur, de la Recherche Scientifique et de l'Innovation* (MESRSI) is in charge of higher education and research. The *Ministère de la Jeunesse, de la formation et de l'insertion professionnelle* (MJPEJ) is in charge of vocational training and youth employment and economic inclusion.

3. General Analysis

3.1. Access to education and demographic trends

Burkina Faso is in demographic transition, with an average population growth of nearly 3% and a total population of 19 million people (as of 2017, according to UIS[36]). Around 45% of the population is below 14, which represents more than 8 million children, and 70% of the population is below 25 (RESEN, 2017).

[35] We often use in this section the term 'secondary education' to refer to upper secondary education.

[36] UNESCO Institute of Statistics: http://uis.unesco.org/en/home

The whole education system has nearly 10 million children and young people, including 3.3 million in primary schools and 3.1 million in secondary institutions. Between 2015 and 2020 500,000 more children will be primary school-age, giving an enrolled population of 3.8 million children in 2020. 580,000 more children will be of age to attend secondary education, giving a total population of 3.7 million in 2020 (RESEN 2017).

The tertiary system has around 1.8 million young people. However, there are also a significant number of pupils and students who are not in school. UIS estimates that there are 746,000 out-of-school children at the primary education level (including 51% of girls) and around 860,000 out-of-school young people in secondary education (including 47% of young women).

Table 2.2. Gross and Net Enrolment Rates in Education in 2017

Access to education	Gross enrolment rate 2017	Net enrolment rate 2017
Pre-school	N/A	4%
Primary	93%	76%
Secondary	38%	29%
Tertiary	6%	N/A

Source: UIS Data

Access to education is improving in Burkina Faso, with a difference between the enrolment growth in basic education and the other education levels. As shown in Figure 2.1, almost all education levels show an increase in enrolment rate between 2010 and 2017, except pre-school education which at 4% is far below the regional average of 17% (PSE 2013). The most significant enrolment growths occurred at the lower secondary (+16 percentage points) and primary levels (+15 percentage points). Universal access to primary education has not yet been achieved. A look at net enrolment also shows that access to the first year of primary/secondary cycles balances the access expansion argument: the net enrolment is below 30% in secondary education. This trend unsurprisingly aligns with state and donor recent strategy to foster access to basic education, following the orientations of the MDGs and now SDGs. In this regard, the stagnation in enrolment in pre-school education and the limited growth in higher education enrolment reinforce the fact that state investment has been more limited in these levels. In higher education too, the steady expansion leaves a large scope for additional enrolment. There were 428 students for 100,000 inhabitants in 2013 versus 235 in 2007 (RESEN 2017). For TVET there has been a decrease in the enrolment rate: 7% in 2007 vs 3.4% in 2014, and the number of registered students for 100,000 inhabitants dropped from 172 in 2007 to 158 in 2014 (RESEN 2017).

Figure 2.1. Gross enrollment rates (GER) by education level in 2010 and 2017

*Pre-school is net enrollment rate.

Source: UIS Data

Comparing the enrolment performance to similar countries and to the Economic Community of West African States (ECOWAS) region, access to school in Burkina Faso is lower at all levels. Figure 2.2. shows that gross enrolment rates for pre-school, primary, and secondary education are significantly lower in Burkina Faso than in comparable countries. In terms of enrolment in basic education, Burkina Faso is one the poorest performing countries in the region, similar to Niger, Mali and Côte d'Ivoire.

Figure 2.2. School enrolment in Burkina Faso, compared to similar countries

Source: RESEN, 2017

3.2. Expenditure on education

Education is a big priority for the government of Burkina Faso. In a context of positive macroeconomic dynamics, public spending increased from 435 billion West African CFA Francs (XOF)[37] in 2000 to 1653 billion in 2013, an annual growth rate of 10% (RESEN 2017). The public spending allocated to the education sector in 2015 was about 300 billion XOF, which represents 18% of total spending, 30 % of public expenditure, compared to 12% in the 2000s (RESEN 2017). As shown in figure 2.3., the education budget is almost 5% of national GDP, which is slightly above the West African average but below countries like Ghana (8%) and Senegal (6.8%). There has been a strong expansion of public funding for education with a budget multiplied by 4 between 2004 and 2013.

Figure 2.3. Public spending on education in West African countries

Source: RESEN, 2017

In Burkina Faso public expenditure on education is mainly allocated to primary education, representing 61.2% of current public expenditures in education. This allocation is much higher than in countries with similar GDP (46% on average in 2013). As shown in Table 2.3, this has direct consequences in terms of underinvestment in other education cycles such as pre-school education (0.5% of public expenditure) or TVET (1.2+0.4=1.6%). More surprisingly, the allocation to lower secondary education is very low (9.4%) considering the demographic dynamics and effects from primary education universalization. Hence, despite a strong general priority placed on education, a review of subcycle allocation shows limited support to post-primary education.

[37] 1 XOF was 0.0015 euros on August 15th 2019.

Table 2.3. Public spending on education by level (2013)

	Current public expenditures on education (%)
Preschool	0.5
AENF	1.4
Primary	61.2
Post primary	9.4
Secondary General	3.8
Vocational (short)	0.4
Vocational (long)	1.2
Higher education	17.7
Specialised education	3.9
Total	0.7

Source: RESEN, 2017

4. Specific subsector achievements and challenges

This section explores, for each level of education, the infrastructure, quality, equality, and management issues and the role of the private sector. It also describes specific projects or recent reforms that concern each education level, and presents its main challenges.

4.1. Pre-school education

The preschool system in Burkina Faso is not part of the basic education continuum and is largely underdeveloped, with very limited infrastructure and low enrolment. The pre-school education system is composed of nearly 800 facilities with 1700 classrooms, including 92 public preschools (PSE, 2013). In 2014, there were around 72,000 children registered in preschools. They were enrolled in public preschools (14,000 children), community-based preschools [38] (21,000) and private preschools (36,000). The private sector contributes to nearly 50% of total enrolment and accounts for 56% of facilities (PSE, 2013). Since 2007, the total population registered in private preschools has been multiplied by 2.4. This trend is very low considering the demographics of the country. 96% of children of age to attend preschool stay at home.

[38] Community-based preschooling includes various initiatives including the "Espace d'entraide communautaire pour l'enfance" also called "Bisongo" as well as "Espace d'éveils éducatifs (3E)" led by a Swiss NGO. They are mainly based in peri-urban and rural areas and target low-income populations.

There is very little available information about quality and supervision in pre-school education. Typical data available to assess internal efficiency and learning in preschools are input-level data (number of facilities, of classrooms in public, community and private structures). We know that there were 35 children per class on average in 2012, but with big differences. The average number of children per class was 27 in private preschools and 45 in public preschools. Indirect comments can be made on preschool quality: there is little harmonization and regulation of preschool practices, there seems to be no public training policy for preschool teachers and the difficulties observed later in primary schools in terms of learning show a general lack of readiness for primary schooling.

In terms of equity, the main challenge seems to be to increase the coverage of preschools in rural areas and low-income communities. Only 36% of children enrolled in preschools are based in rural areas, although the rural population of age to attend pre-primary education represents nearly 77% of the population. Thus, rural children are 76% less likely to attend preschools than urban children (PSE, 2013). The current supply of pre-school education is unequally distributed between the regions and communities and only reaches a small proportion of the children. In the central region (which has the capital city, Ouagadougou) the pre-school GER is 15%, whereas the GER in the Sahel region (in Northern Burkina Faso) is 2%. There is not a wide gender gap is pre-primary education, but differences between types of preschools. The percentage of girls in the total registered population stands at 48% for public preschools, 49% for private preschools and 52% for community-based preschools (52%) (PSE, 2013). The cost of pre-school education is generally an important obstacle for low-income families: school fees (per child per year) vary from 25,000 to 50,000 XOF in public preschools, and may rise to 300,000 XOF in private preschools (PSE 2013).

4.2. Basic education

The two components of the basic education continuum, the primary and post-primary (lower secondary) levels, face similar challenges in terms of coverage, infrastructure, quality, and equality.

Big progress has been achieved in terms of access to primary and post-primary education but with an insufficient deployment of infrastructure in rural areas. The number of children registered in primary schools nearly tripled between 2000 and 2014 (+8% per year), and the 2013 cohort was 2,600,000 pupils (RESEN 2017). The number of primary schools increased at an annual rate of 7.5% between 2001 and 2014 to nearly 13,200 schools. The number of classrooms per school also rose from 3.4 to 3.8, which means that many schools do not have one classroom for each sub-level of primary education (grades 1 to 6). In fact, due to their small structure, many schools must have several grades in the same classroom or organize separate morning and afternoon classes. There are big challenges to building additional infrastructure and bringing up to standard a high number of "under straw hut" schools[39] and other schools with poor infrastructure

[39] In French, « écoles sous paillotes ».

which do not provide suitable conditions throughout the year for learning. In terms of location, Table 2.4. shows that the expansion of primary school facilities has been bigger in rural areas. The number of schools in rural areas was multiplied by 3 between 2001 and 2014, whereas it was multiplied by 2 in urban areas. In the general track of post-primary education, the number of registered pupils was multiplied by 4.5 between 2000 and 2014, which is insufficient because the GER is 40%.

Table 2.4. Primary school facilities and classrooms by status and localization (2001-2014)

	2001	2006	2007	2008	2009	2010	2011	2012	2013	2014
Number of schools	**5,131**	**7,579**	**8,182**	**8,778**	**9,726**	**10,198**	**10,796**	**11,545**	**12,394**	**13,204**
Public	4,517	6,451	6,960	7,513	7,997	8,375	8,831	9,266	9,886	10,425
Private	614	1,128	1,222	1,265	1,729	1,823	1,965	2,279	2,508	2,779
Rural	3,923	6,054	6,581	7,042	7,854	8,247	8,993	9,504	10,199	10,849
Urban	1,208	1,525	1,601	1,736	1,872	1,951	1,803	2,041	2,195	2,355
Number of classes	**17,456**	**26,444**	**28,925**	**31,809**	**35,128**	**38,269**	**40,912**	**43,661**	**47,709**	**50,444**
Public	15,171	22,088	24,203	26,694	28,946	31,492	33,757	35,568	38,710	40,680
Private	2,285	4,356	4,772	5,115	6,183	6,777	7,155	8,093	8,999	9,764
Rural	11,631	18,781	20,855	22,941	25,596	28,256	31,345	33,239	36,520	38,628
Urban	5,825	7,663	8,070	8,868	9,533	10,013	9,567	10,422	11,189	11,816

Source: RESEN, 2017

The Northern and Eastern regions of Burkina Faso have a bigger need of infrastructures. Geographic disparities are not only seen in terms of rural/urban but also from a regional perspective. Figure 2.4 shows that the coverage of primary education and post-primary education is not the same in the different regions of the country. The Centre region (which includes Ouagadougou) is one of the top performing regions with nearly 90% of GER in primary education and nearly 60% of GER in post-primary education. Conversely, the Sahel, Est, and Centre Nord Regions lag behind the other regions, with a GER in primary education at 60% and in post-primary education at 15 to 25%.

Figure 2.4. Gross Enrollment Rates in Primary and Post-Primary Education by region (2014)

Source: RESEN, 2017

These geographic disparities raise equity issues for the development of basic education in Burkina Faso. Children in urban areas have an 85% chance of accessing 1st grade in primary school whereas for children rural areas it is only 57%. In terms of post-primary education, the gap is even bigger. Only 1% of rural pupils complete secondary education, versus 13% for urban pupils (RESEN 2017). Important equity issues appear when looking at the socio-economic conditions of pupils. Children from the poorest quintile (in terms of income distribution) have 2 times less chance of accessing primary school, 6 times less chance of completing primary education, 38 times less chance of completing post-primary education, and 159 times less chance of completing the secondary level (RESEN 2017).

Gender disparities are a big challenge, in particular for lower secondary education. In terms of gender, the data show that girls have lower access to basic education. In primary education, the GER of girls is 96% versus 101% for boys (PASEC 2014). Girls are only 44% of the total population in post-primary education and spend a shorter period in education (8.4 years vs 9.2 years for boys). Some initiatives have been pursued to counterbalance this phenomenon (financial incentives granted by parents' associations for instance), but the gender disparities persist, with big regional differences.

The private institutions in the basic education levels are heterogeneous. Private providers include secular schools and faith-based schools. This latter category is itself very diverse and accounts for catholic schools, orthodox schools, Turkish schools, *Madrasa School* and *Franco-Arabic* schools (See box 2.1). Some studies show that the progressive formalization of *Madrasa schools* will increase the proportion of the private sector in the sector in the future (RESEN 2017). In 2014, there

were 173,000 students registered in private secular schools, 171,000 in Franco-Arabic Schools, 55,000 students in Protestant schools, and 45,000 in Catholic schools.

Box 2.1. Madrasa and Franco-Arabic schools in Burkina Faso

Madrasa schools (or Daaras) are faith-based institutions that teach the Islamic religion. Most of them are informal structures led by koranic masters and fully disconnected from the regulation and accreditation constraints of the public sector. These schools are free and mostly enrol children from low-income communities. They are generally of low quality (with a strong focus on theological content with no application of the national curriculum) and are often associated with negative practices (violence, mendicancy).

Franco-Arabic schools are a growing category of private schools in Burkina Faso and other neighbouring countries. These private schools are fee-paying institutions which teach in the two languages and include theological content. The quality of teaching in these schools varies but is generally much better than in Madrasa schools. There is a progressive formalization of Franco-Arabic schools in West African countries.

The private sector has fuelled the expansion of basic education across the country. The number of facilities managed by private sector providers rose from 1.100 to 2.700 schools in the period 2000-2014, representing 1 out of 4 schools in 2014 (RESEN 2017). The total population of primary school students enrolled in private institutions was 450,000 in 2014, which is 17% of primary school children (RESEN 2017). Since 2000, the private sector contribution to primary education has increased at an average annual growth rate of 11.5%, against 8% for the whole sector. At the general lower secondary level, 250,000 students were enrolled in private institutions which is 37%. At the vocational lower secondary level, which is growing very slowly, 4,500 students are enrolled in private institutions, which is more than 60%. The private contribution is therefore much more important in the vocational post-primary cycle, but primary school leavers have a strong preference for the general track. Remedial education or "night school"[40] in Burkina Faso is an important activity targeting early school-leavers and young workers, and is led by private institutions. Some 30,000 students are registered for night remedial classes at the primary level.

Beyond the question of access, the low completion rates of primary and lower secondary education highlight the poor internal efficiency. Access to 1st grade is now getting close to 100% of a given generation of pupils and universal access is within reach in Burkina Faso. However, children enter primary school very late and leave it early. 70% of children who start the first primary grade are more than 6 years old (RESEN 2017). The school life duration is very low, less than 9 years. The completion rate in primary education is 65% (UIS Data), and the transition rate from

[40] Called « cours du soir » in French.

primary rate is only 3 out of 4 pupils. Year repeat rates are relatively low in primary education (7%) but high in secondary education (20%) (RESEN 2017). The completion rate in lower secondary is 24% and 9% in upper secondary education, they are increasing but remain low. This means that only a minority of pupils (nearly 25%) complete the basic education level and a small minority (nearly 8%) complete high school with a baccalaureate. The two main reasons why children drop out of school before the end of primary education are "academic failure" (45% of interviewees) and "lack of financial resources" (28%) (RESEN 2017).

There is a huge challenge to improve school infrastructure and equipment in Burkina Faso. School infrastructure and equipment are far from satisfactory across the country, particularly in rural areas where 80% of primary schools are located. Numerous informal schools and school facilities in a precarious state do not meet the quality standards set by the Ministry of Education: they are not accessible in all seasons (27% of schools), they lack access to a water point (47%) or to latrines (31%), have no canteen facilities (31%), or have poor quality of equipment (missing tables and benches) (RESEN 2017).

The public sector is confronted by a deficit of teachers and other key education inputs. The number of students per teacher is high in many structures: 40% of primary schools have a student/teacher ratio of between 40 and 60, and 18% of schools have a ratio above 60. In post-primary schools, 56% of structures have 1 teacher for 60 students or more in each teaching group. These teachers have not necessarily received initial training: only 18% of post-primary schools have 100% of trained teachers. The lack of manuals and teaching guides is also critical for a majority of schools (RESEN 2017). Nevertheless, we should be careful about the effect of lacking education inputs on the overall learning performance: PASEC highlights that the use of inputs is not necessarily significant in improving test results (PASEC 2014).

A majority of pupils do not reach sufficient levels of skills in their basic education courses. The 2014 PASEC test highlighted the large deficit of learning in primary schools. At the end of primary school (grade 5), the proportion of pupils who do not meet the required level of skills in Mathematics is 43% and 41%. in Language. On a regional perspective, the PASEC results show that Northern and Eastern regions, in particular the Sahel, have the lowest scores both in Mathematics and Language. However, as shown in Table 2.5, PASEC test shows that Burkina is performing well compared to other PASEC countries[41].

[41] The 2014 PASEC test was made in 10 Francophone African countries.

Table 2.5. Percentage of pupils below the sufficient levels of skills in Language and in Maths

	2nd grade		6th grade	
Country	**Language**	**Mathematics**	**Language**	**Mathematics**
Benin	90.4	66.5	48.3	60.2
Burkina Faso	64.6	40.8	43.0	41.2
Burundi	20.9	3.3	43.5	13.3
Cameroun	70.3	44.7	51.2	64.5
Congo	62.0	29.1	59.3	71.0
Cote d'Ivoire	82.7	66.2	52.1	73.1
Niger	90.2	72.2	91.5	92.3
Senegal	71.1	37.7	38.9	41.2
Tchad	82.0	52.0	84.3	80.9
Togo	79.9	58.7	61.6	52.5
All countries	71.4	47.1	57.4	59.0

Source: PASEC, 2014

Compared to Burkina Faso, Burundi is the only country with higher scores in Language and Mathematics. A look at national exams also enhances the lack of knowledge acquisition for post-primary and secondary students: about three-quarters of pupils do not reach the minimum standard in BEPC and Baccalaureate (RESEN 2017).

Box 2.2. The government strategy in basic education:

The priorities of the government in basic education are as follow:

Primary education

- The government plans to extend the number of schools by building additional infrastructure across the country
- The government will increase school standards (improvements in equipment and infrastructures, in particular for schools having less than 6 classrooms)
- Several hundreds of "under straw hut" schools are being closed and replaced by new infrastructures

Post-primary education

- The government plans to increase available infrastructure (3,600 middle schools and 3,600 classrooms are needed), with a focus on rural areas.

4.3. Upper secondary education

The coverage of secondary education is growing but is low due to a lack of infrastructure across the country. The GER in secondary education was 11% in 2017 for a total population of 120,000 students. This population has tripled since 2004. The share of private sector enrolment, 36% in 2004 increased to 46% (55,000 students) in 2017. The night remedial classes had around 5,000 students in 2014 (RESEN 2017).

High schools have big difficulties in recruiting qualified teachers, in particular in sciences. There is a big gap between the hiring ambitions of secondary institutions and the number of candidates trained by ENS[42] centres: only 86% of open positions were taken by ENS graduates. Moreover, there is a misallocation of teachers between high schools. About 28% of teaching hours were not taught because of insufficient staff in certain areas (RESEN 2017).

The accumulated academic deficit impacts the student performance in the baccalaureate exam[43]. We do not have data concerning failed infrastructures or missing education inputs in secondary education, but as high schools are more present in urban areas, we can assume that learning conditions are not as problematic as for primary and post-primary institutions.

Many students start the upper secondary education level with big learning deficits accumulated since the first grades of primary education. Thus, nearly 78% of students do not meet the minimum standards at the baccalaureate exam and the repeat rate in the last year is 31% (RESEN 2017).

Girls' access to, and completion of, secondary education is lower than in basic education. The data available on gender in upper secondary education show that there are only 40% of girls in secondary institutions. A positive change was observed between 2006 and 2014, but the GER for girls remains at 8% versus 14% for boys. When considering a cohort of 100 girls, only 5 of them complete high school versus 10 for boys (RESEN 2017).

There are significant rural/urban and regional disparities in secondary education. Only 20% of young people enrolled in high schools live in rural areas. Rural populations have 110% less chance of accessing upper secondary education. For 100 children living in rural areas, 2 will access high school and 1 will complete high school (against 21 and 13 for children in urban areas). The Northern and Eastern regions (in particular the Sahel region) have very low GER and suffer from a very weak coverage of secondary institutions.

[42] Ecole Normale Supérieure: the public institution in charge of training the teachers of secondary education.

[43] The only quality proxy that we have in terms of test success rate is the Baccalaureate national exam.

Box 2.3. The government strategy in upper secondary education

The government has defined clear strategies to address the access and quality issues in (generalist) high schools:

- Improving the transition from post-primary education by removing the BEPC diploma as an entry condition to upper secondary education
- Construction of scientific high schools and the development of STEM courses across the level
- Development of preparatory classes in high schools ("CPGE")[44] , with a staff of associate teachers

4.4. Technical and Vocational Education and Training (TVET)

The TVET system in Burkina Faso is composed of short-term and long-term technical education (secondary education) and vocational training (tertiary education).

As mentioned above, access to TVET institutions is very low and declining in Burkina Faso. This trend appears to be due to a weak coverage by public and private providers, combined with low investment, and growing enrolled populations in generalist tracks. There were only 21,000 students registered in technical and vocational upper secondary institutions in 2014 (i.e. 3.4% of the students enrolled in secondary schools[45]), of which nearly 14,700 students in private institutions[46]. The contribution of private providers varied between 70% and 80% in the last decade and is now 70% (RESEN 2017).

There is a huge infrastructure issue which affects the efficiency and attractiveness of TVET institutions. Many vocational training programmes rely on outdated infrastructure and equipment and there is very little public investment in TVET education (capital expenditures represent only 10% of the sectorial public spending). The student/teacher rates are satisfactory in technical secondary institutions but this highlights the very low number of students in all institutions.

The external efficiency of TVET institutions is poor, with very low employment rates and high representation of graduates in non permanent jobs. The survey by RESEN (2017) show TVET graduates are more likely to spend some time inactive, probably in additional training, and are less unemployed than HE graduates (they are more likely to find a job aligned with their qualifications). However, 99% of them considered they did not have permanent employment.

[44] CPGE : Classe Préparatoires aux Grandes Ecoles : post-baccalaureate training to prepare access to top higher education institutions

[45] The share is 5% in Côte d'Ivoire and nearly 11% in Mali.

[46] We should also mention the 7,000 students enrolled in post-primary technical institutions, including 4,500 students in private institutions (63%).

As far as equality is concerned, we find similar trends in terms of gender, rural and regional disparities in accessing technical education and vocational training as for other parts of education. There is a big concentration of TVET institutions in Ouagadougou and very low coverage in other regions, including in main regional cities. Only 30% of registered students in TVET are based in rural regions. A student living in a rural area has 90% less chance of accessing this type of institution. There is also lower access to TVET for girls. The gender parity ratio in TVET was 31% in 2007 versus 73% in 2014, meaning that the number of girls enrolled in TVET institutions has increased much less than for boys[47].

Box 2.4. The government strategy in TVET

The government has two main strategies to address the access and quality issues in TVET:

- Increasing the supply of technical education and vocational training to reach 16% of the secondary population by 2020 (against 3% today). Several successful initiatives from Tunisia are being duplicated in the country.
- Improve the orientation toward TVET by increasing awareness with vocational training modules in the general track of post-primary education.

4.5. Higher education

The growth of higher education institutions is fuelled by the entry and development of private providers, but the overall coverage in this level is low. There was a rapid expansion of enrolment in higher education, with an annual growth rate of 14% between 2007 and 2013 (RESEN 2017). As shown by Table 2.6., the enrolled population has steadily increased to nearly 100,000 students in 2016 (MESRSI Data) and the GER has doubled in 10 years (from 3% to 6%) (UIS Data). There were 5,000 more baccalaureate graduates in 2018 than in 2017 (43,000 vs 38,000). The expansion of HE has been stronger in private institutions where enrolled students represent nearly 25,000 students and 25% of the total population. Despite such dynamics, higher education remains only accessible to a minority of the population[48].

Table 2.6. Changes in student numbers in Higher Education, by status.

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Public	54,099	58,566	63,942	64,477	71,501
Privé	14,795	15,710	17,372	19,121	23,227
Total	68,894	74,276	81,314	83,598	94,728

Source : MESRSI, 2017

[47] In this method, the parity ratio equals 50% when parity is achieved, is below 50% when there are more boys than girls enrolled, and exceeds 50% when there are more girls than boys achieved.

[48] The school-age population at this level is nearly 1,800,000 students, against 100,000 students registered in HE institutions.

There is a critical gender issue in accessing higher education. First, the transition rate from secondary to tertiary education is higher for male students (80%) than for female students (70%). Thus, the entry to university and "grandes écoles" show important gender disparities. The female GER in higher education is 4% versus 7% for males. The gender parity ratio is below 50% for the whole system (public and private HE institutions), but it is even worse for Masters and PhD degrees. It should be noted that the parity ratio are higher in private universities (73%) than public ones (46%) for Degree, Masters, and PhD).

There are big territorial differences in the supply of higher education in the country. Most universities are based in 3 cities: Ouagadougou, Koudougou, Bobo-Dioulasso. This concentration of HE institutions in the biggest cities is even bigger for private institutions. As shown by Figure 2.5, the public HE institutions are completely absent in some regions and 100% of the supply is provided by private players (e.g. in Sud Ouest and Centre Est regions).

Figure 2.5. Proportion of students in HE institutions by status and region

Source: MESRSI, 2017

However, private institutions are unequally distributed across the territory. Table 2.7 shows that 302 of the 385 academic programmes taught by private institutions are based in the Center Region (including Ouagadougou) where 85% of the enrolled population is based. The same table also highlights the big differences in teacher location and emphasizes the crucial lack of permanent teachers outside Ouagadougou.

Table 2.7. Students and teachers in private higher education institutions, by region of Burkina Faso

REGION	No. of HE Tracks	No. of teachers		No. of of students	
		Total	Temporary teachers	Total	Girls
Boucle du Mouhoun	4	29	27	27	12
Centre	302	2,524	2,233	19,594	7,925
Centre Est	2	19	19	23	10
Centre Nord	4	75	70	118	17
Centre Ouest	12	80	79	216	74
Hauts Bassins	55	537	516	3,190	1,160
Nord	2	31	31	51	17
Sud-Ouest	4	14	8	8	0
Total	**385**	**3,309**	**2,983**	**23,227**	**9,215**

Source: MESRSI, 2017

The quality control run by the MESRSI shows big differences in terms of administrative and teaching quality in HE institutions. As detailed in Box 2.5, MESRSI since 2017 has conducted an annual quality control on private HE institutions, aiming both to ensure regulation compliance and to classify the institutions in terms of teaching and administrative performance.

Box 2.5. Quality Assurance Control and Institution Ranking in Higher Education

Since 2017, the MESRSI has run an annual quality control on the administrative and academic performance of HE private institutions. The "performance" dimensions explored for this regulation control are:

- Administrative organization and management
- Infrastructures and equipment
- Financial organization and management
- Teaching organization and management
- Research and ecosystem.

This evaluation enables the MESRSI not only to control the compliance to regulations but also to classify the institutions into different quality categories (very good, good, intermediary, bad, etc) on a scale of 20 points. Private universities and HE institutions (institutes, grandes écoles etc.) are ranked in 2 separate rankings.

Top-ranking private universities in 2018: Université Saint Thomas d'Aquin (15.49/20), Université Ouaga 3S (14.39/20), Université Aube Nouvelle (14.02/20).

Top-ranking private HE institutions in 2018: Ecole Supérieure de Microfinance (17.02/20), Institut Supérieur de Technologie (16.67/20), Ecole Supérieure Polytechnique de Kaya (16.4/20).

There are limits to this evaluation. First, it is based on self-completion surveys and field visits (only 30 out of the 111 institutions were visited in 2018), which may weaken the credibility of this evaluation. Secondly, the evaluation of teaching performance is focused on input-based indicators (teachers' qualifications, etc).

This type of evaluation highlights the difficulties of regulating the practices of an emerging sector, in particular regarding teachers' accreditation. A significant part of the sample (19 institutions) was not included in the evaluation because these institutions are in the process of closure, legal redress, or could not be found. The report also counts 12 new institutions that opened too recently to be assessed. This shows that the sector is quite dynamic and developing, with a number of informal/uncompliant institutions. Among the irregularities found in the evaluation, we note 88 institutions in which a part of the staff is not authorized to teach, 45 institutions in which a part of the staff is not sufficiently trained and qualified to teach at this level, and also 63 institutions where new academic tracks opened without a formal authorization (MESRSI, 2017). Thus, it seems that accredited teacher hiring and retention is a challenge that may impact teaching quality.

In Burkina Faso, higher education qualifications are associated with more permanent jobs but also with higher unemployment than other qualifications. As shown in Figure 2.6, the labor

market performance index[49] calculated by RESEN experts show that HE enables a better insertion on labor markets in comparison with other education levels. Unlike TVET graduates who show high levels of non-permanent jobs (99%) and inactivity, HE graduates access better employment conditions. However, their unemployment rate is 68%, meaning that a majority of them cannot find a job after graduation and are likely to eventually accept a job with a lower qualification (Survey in 2010 and assessed by RESEN 2017).

Figure 2.6. Performance index on labor market, by education level (2010)

Source: RESEN, 2017

There is a major quality issue regarding the adequacy between the supply of training and the labour market dynamics. Around 30% of workers are downgraded (i.e. they have higher qualifications that those required for their position). The phenomenon is bigger in urban areas where most very qualified workers are based, and where the downgrading effects are bigger.

Secondly, many HE graduates cannot find a job after their training since job opportunities in the labour markets are limited. In 2009, 90,000 students graduated from the education system, but only 60,000 could find a job in the following year. Overall, the RESEN report (2017) shows that the graduate supply is approximately 1.5 times the demand. This phenomenon is stronger for higher qualifications. One explanation of this trend is that many students choose academic programmes which have few related job opportunities. Table 2.8 shows that a big majority of

[49] The labor market performance index is a composit index calculed by the RESEN team to assess the economic integration of young Burkinabe with different education qualifications. It is based on three indicators: employment rate, precarious employment rate and labour participation rate.

students are enrolled in humanities (18%) or social sciences and business (46%), and very few in health (5%) or agriculture (less than 0.1%).

In a nutshell, the qualifications provided by the education and training system are not aligned with those required in the labor market, which is a major orientation challenge.

Table 2.8. Importance of academic tracks in universities and *grandes écoles* according to the number of students enrolled.

ACADEMIC TRACKS	POPULATION			F*100/M
	Female	Male	Total	
Agriculture	117	295	412	39.7
Education	1,093	4,794	5,887	22.8
Not specified	48	55	103	87.3
Engineering and industry	1,104	4,933	6,037	22.4
Arts & Literature	5,919	11,216	17,135	52.8
Health and cocial protection	2,176	3,529	5,705	61.7
Sciences	2,188	11,119	13,307	19.7
Social sciences, business and law	18,071	26,127	44,198	69.2
Services	752	1,192	1,944	63.1
TOTAL	**31,468**	**63,260**	**94,728**	**49.7**

Source: (MESRSI, 2017)

Box 2.6. The government strategy in higher education

The government is following several strategies to increase the supply and quality of higher education

- Regulation has been improved with the annual quality assurance evaluation run by the MESRSI since 2017 (Box 2.5)
- The progressive establishment of a student allocation system (like in secondary education)[50] to transfer students from public to private institutions with a funding mechanism (already implemented with 2,000 students in 2018), aiming to relieve the capacity of public structures
- The strengthening of HE institutions (management capacity, grants programme) and the support to innovation within these institutions
- The creation of the virtual university of Burkina (UV-BF), with the participation of the World Bank[51]
- The development of more academic tracks in sciences and technologies (opening in 2019 of the Ecole Polytechnique de Ouagadougou).

5. The mobilization of the private sector in education

This section reviews the private sector contribution to the different education levels in Burkina Faso, and illustrates the major needs and challenges of private education providers in the country. It also describes the role of some ancillary education services in Burkina Faso.

The private provision of education is growing at all levels and is already substantial in secondary and tertiary education, partly due to state funding. In 2014, nearly 1 out of 5 students were enrolled in a private institution. As shown in Table 2.9, enrolment in private sector providers is high in all cycles and is more than 50% in pre-primary and TVET, where the state has historically made very few investments. In basic education, the public system keeps a big share of enrolment but the growth of private sector enrolment is faster (+11% versus +8% annually). In tertiary education, the public universities and institutes are the main players (75% of students), but the dynamic of private provision is strong (+8% annually). In secondary education, the state funds private sector through massive student allocations. The same mechanism is being tested in higher education (2,000 students in 2018).

[50] A student allocation system is already in place in the secondary level. It means that accredited private operators may receive a public grant from the government for each student transferred from a public lower or upper secondary school.

[51] The World Bank announced mid-2018 a 70M$ plan to support higher education in Burkina Faso: https://www.worldbank.org/en/news/press-release/2018/07/10/burkina-faso-world-bank-approves-70-million-to-support-higher-education

Table 2.9. Share of private sector by education level in 2014

Education level	Share of enrolment in private institutions	Population registered in private institutions
Pre-school	50%	36,000
Primary	17%	450,000
Post-primary	37%	250,000
Upper Secondary	46%	55,000
Technical/Vocational	70%	15,000
Tertiary	25%	18,000
ALL EDUCATION LEVELS	22%	824,000

Source: RESEN, 2017

The private sector expansion in education provision is partly fuelled by public support, in a context of low but reinforced regulation. In the last decade, the state has contributed to the expansion of private providers within the education system through different mechanisms: donation of real estates for certain projects, scholarships, and funding to institutions for student allocation or for teacher wages[52]. We lack data to estimate the amount of these mechanisms, but we understand they can be decisive[53]. In secondary and tertiary levels, representative bodies help to promote the dialogue between the Ministries and the various types of private providers (Catholic, Muslim, Protestant, and secular institutions). In terms of regulation and control, the educational inspectors in basic education are missioned to control both public and private institutions, and some organizations like the Catholic Education Association (SNEC) have their own inspectors. However, with very limited funding for control, the government cannot ensure a sufficient level of regulation. The high number of institutions (in particular in primary and secondary), with some of them deliberately remaining informal, makes it hard for the government to oversee the development of the private sector across the country. In recent years, the regulations were reinforced with more closures of informal basic schools and more careful control on HE institutions. Additional financial sanctions toward uncompliant institutions could be implemented in the future.

5.1. Pre-tertiary education

The pre-school private sector is very much concentrated in Ouagadougou where a few local structures and international networks are based. The preschool population is still very small in the country. There are local mid-price preschools in Ouagadougou with one or two facilities (e.g.

[52] It is called the mechanism of "équilibre budgétaire" and aims to pay additional wages for catholic schools' staff in remote regions so that these teachers can be paid as much as their counterparts in the public sector.

[53] Two examples to illustrate this point: i) the student allocation funding mechanisms in tertiary education already impact 10% of students for the first year of implementation ii) the donation of properties was decisive for institutions like Université Saint Thomas d'Aquin (USTA) which now has 2,5000 students.

Sherikids School, Belemtiise School), and a few preschools in other regional cities. The foreign school networks such as the French School Saint Exupery or the Turkish School Horizon are also based in Ouagadougou. As shown in Table 2.10, the preschool fees in private preschools are an average sum of 50,000 XOF in 2014 but may substantially increase for schools targeting expatriate families and local elites (up to 1,500,000 XOF in a French school and to 3,000,000 X0F in the American-style International School of Ouagadougou).

The private primary education sector is mainly composed of multiple small-scale businesses with a few international businesses. We observed atomicity of supply, with a high number of locally based primary schools, run by experienced teachers or former head teachers (previously employed by the public sector). For reasons we explain later in this report, these projects do not expand nor form networks, but remain local small-scale institutions, and more or less economically fragile. To our knowledge, high-quality basic education provision is provided by foreign networks generally connected to public administrations (e.g. Saint Exupery School connected to AEFE network, American schools) or in some cases to independent groups (Turkish Horizon school). School fees in private primary schools were on average of 30,000 XOF in 2014, but were up to 1,5 million XOF (the French School) and to 9 million XOF (International School) in the case of international schools. The French system is also present in Bobo-Dioulasso (Ecole André Malraux) with lower fees (nearly 20% lower than Saint Exupery).

The same dynamics can be observed in post-primary education, taking into account that many schools provide both primary and post-primary levels. We found in this sector many individual businesses which consist of a small-scale local structure with average school fees of 60,000 XOF in 2014. We also found high quality schools where fees can be up to 2 million (Horizon International, Enko Ouaga International School, the French School) and to 9,5 million XOF (International School of Ouaga). These models have a big focus on international and/or bilingual programmes.

Table 2.10. Households' average education spending for one child (in XOF), 2014

	Tuition fees		School supplies		Food	
	Public	Private	Public	Private	Public	Private
Preschool	13,294	48,872	3,508	6,322	1,288	1,553
Primary	2,689	27,501	1,842	5,589	504	1,189
Lower Secondary, general	19,778	60,972	6,831	11,103	360	346
Lower Secondary, technical	49,120	125,216	8,940	32,581	-	-
Upper Secondary, general	29,588	79,487	8,952	15,406	804	-
Upper secondary, technical	-	143,775	-	13,988	-	-
Tertiary	19,309	358,420	16,929	23,636	7,933	-

Source: RESEN, 2017

The general upper secondary cycle is expanding fast and will have development opportunities for the private sector. The progressive universalization of post-primary education has enabled more high school projects to flourish. Important initiatives are led by faith-based players (Catholic schools in particular), as well as by international organizations and donors in the areas of sciences. As the public supply is still limited, there seems to be scope for lucrative business models to meet this growing demand, which comes particularly from urban areas. Key factors of success in this dynamic seem to be the success rates at the Baccalaureate exam, the provision of remedial education services, suitable pricing, and the provision of accommodation facilities.

In premium[54] upper secondary education, the competition is intense and the establishment of new players difficult. Several foreign networks have created local high schools with a focus on quality, and sometimes international qualifications (e.g. The International Baccalaureate). Nearly half a dozen school groups are present in the country, showing that there is a market for premium upper secondary education. The level of schools varies between mid- and premium-price schools, from 2-3 million XOF (Enko Ouaga International School, the French School, Horizon International), and up to 11 million XOF for the International School of Ouagadougou. As shown in Box 2.7, Enko entered the market in 2018 and will need time to makes its model attractive to local families. Additional challenges of accreditation and integration into the local education ecosystem also structure the development dynamics of these schools. In the end, despite encouraging market dynamics, the implementation phase can have real difficulties.

[54] See part 3 of this report for a definition of premium schools.

Box 2.7. The development of Enko Ouaga

Enko is a network of international schools based in 7 African countries, providing high quality bilingual education aligned with the International Baccalaureate (IB) courses. The Enko team conducted market research early 2018 in Burkina Faso after realizing the country was with Mali one of the only countries with no schools for international baccalaureate in the sub-region. Enko Ouaga International School opened its door in September 2018 with the first cohort of 35 pupils (grades 8 to 12). This first cohort will graduate in 2021. The teaching team is composed of 100% experienced Burkina Faso teachers (some of them have worked abroad). They do not benefit from expatriate wages but access with IB to high-standard teaching training.

The key challenge for Enko's implementation in Burkina Faso has been the regulation process: getting authorization, the many administrative steps, and iterations, etc. Conversely, hiring the teaching team has been relatively easy due to very good applications from local candidates. Finding the right site and building that would match Enko and IB's standards was also a challenge. The current building has a total capacity of 150 pupils and is a former technical school. A key challenge for the local team is now to improve the recognition of international baccalaureate in the local ecosystem, in particular by local universities.

According to the Enko local team, the market is quite competitive in Ouagadougou.. The main competitor is the mid-priced Turkish school Horizon which has been active in Ouagadougou for a while. Other premium models exist but are much more expensive (Universalis, International School of Ouagadougou)

5.2. TVET and Higher education

Techical Education and Vocational Training

There is a majority of private providers in the technical education and vocational training sector, but the sector is stagnant. Private technical and vocational middle and high schools serve a population of nearly 20,000 pupils, for an average fee of 125 to 145,000 XOF (as of 2014). On the supply side, these models are quite expensive due to, first, the lack of specialized teachers and the necessity to contract with professionals from the corporate sector, and second, the need to acquire or rent expensive infrastructure and update costly equipment (including the materials used for the training). The demand for TVET programs has been stagnant in recent last years. The enrolment in technical secondary institutions has not really grown, while in general tracks, the growth rate is higher. One key factor is the preference of families for the general track and the lack of interest and trust in technical and vocational institutions. These two dynamics make it hard for TVET institutions to constitute structured and dynamic networks.

Models of private technical and vocational high schools can be profitable but face severe constraints to growth. Despite the general challenges we evoke above, there are lucrative models that meet a demand for low- and mid-price quality and relevant training in a diversity of sectors.

Table 2.11 shows that training in mechanics, logistics and accounting had in 2014 the highest shares of enrolment in the technical post-primary cycle. Many institutions are in fact the sole players of their sector and serve "niche markets". To our knowledge, very few models leverage technologies to boost access to, and relevance of, contents and optimize the costs of training.

Table 2.11. Enrolled population in each track – Technical secondary education

	Girls	Boys	Total	Percentage
Agri-Food	41	65	106	1.6
Agronomies	130	206	336	5.1
Livestock Farming	14	32	46	0.7
Electrical Engineering	75	170	245	3.7
Mechanical Engineering	46	79	125	1.9
Industrial Maintenance	15	45	60	0.9
Civil Engineering	106	377	485	7.4
Accounting	456	393	849	13.0
Secretariat	322	15	337	5.1
Trade	9	13	22	0.3
Agro pastoral	276	433	709	10.8
Bank and insurance	93	0	93	1.4
Auto Mechanics	302	849	1,151	17.6
Car maintenance	110	303	413	6.3
Steel Building	73	370	443	6.8
Metallic structures	9	46	55	0.8
Logistics	139	934	1,073	16.4
Other	336	490	828	-
TOTAL	2,554	4,820	7,374	100%

Source: RESEN, 2017

The Jean Paul II group, with three high schools and nearly 650 students in 2018, is a good example of the opportunities and challenges these institutions face (Box 2.8). The economic models of these technical high schools seem fragile due to poor access to external funding to start the school activities, the management of income and cost variability, the management of regulatory constraints, and finally the hiring and retention of skilled experienced staff.

Box 2.8: The Development of the Jean Paul II Group in Ouagadougou

The technical secondary education group led by Mr Kaboré is composed of Lycée Jean Paul II, Lycée Cardinal Paul Zoungrana, and Lycée Philippe Ouédraogo. The Lycée Jean Paul II provides technical education in engineering, electrics, and accounting (Technical and vocational baccalaureate), to nearly 400 students (as of 2018). The group has good turnover and is profitable according to the entrepreneur. The two other high schools were launched recently and have more than 100 students each. The pricing model seems aligned with the market average as school fees are from 125,000 to 255,000 XOF. These schools work on a contractual basis with the government and receive students from the public sector in echange of an allocation per student.

The group faces different challenges in its development trajectory, both in terms of its economic model and teaching performance. Firstly, access to ex-ante funding was essential to launch school activities. The entrepreneur has received a reimbursable grant from the World Bank to start the operations. The group also benefit from public funding (student allocation) which helps the schools to increase the enrolment but payment delays are common and may be up to 2 years. Turnover is thus variable. Secondly, in terms of costs, the renting of school facilities is expensive and quite variable: the rent has increased up to 50% annually. The construction of its own facility has been a fundamental strategic move to stabilize this type of costs. As far as the education model is concerned, recruiting teachers is the most pressing issue in the technical secondary cycle. The entrepreneur seeks to open a teacher training centre to meet its own HR needs and support the sector. The authorization request was in process in late 2018,. In the current situation, only the public Institut des Sciences trains secondary teachers in these specializations but has too low a capacity to meet the needs of the whole ecosystem.

Higher education

The higher education private sector is very diverse and has increasing enrolment. There are a dozen private universities and nearly 120 HE institutions in the country (MESRSI, 2018). Due to secondary education expansion (+5,000 baccalaureate graduates annualy), the number of students entering higher education is growing steadily, and the total number of students should exceed 100,000 in 2018, with 1 out of 4 students enrolled in private institutions. In a context where public universities face overcapacity tensions and unsuitable infrastructure (e.g. Université de Ouagadougou), the demand for private quality education constitutes a real market opportunity for private institutions. The average fees in the sector were 360,000 XOF in 2014 (RESEN 2017), which seems now to correspond to a low/middle-price segment (e.g. Institut Supérieur de Technologies fees are around 350,000 XOF). For top-tier universities, the fees tend to exceed 500,000 XOF for first

degrees and 1 million for masters (in Saint Thomas d'Aquin University), and up to 2 million in some private institutions (Université Aube Nouvelle, Université 2IE[55]).

The competition in the higher education sector is strong and the certification of degrees plays a key role in the attractiveness of private institutions. The positive market dynamics have attracted a number of new players, in particular in certain fields where entry costs are low. These new institutions mainly adopt the regulatory form of "Institute" which has fewer constraints than "University" (in particular in terms of teacher qualification and research standard). Some academic fields have many private institutes (e.g. Business, Management, and Communication). In 2018, 10 new HE institutions opened, and at least 4 of them provide training in Business and Management (MESRSI, 2018). In this context of increased competition, students and their families pay attention to quality and accreditation. Two levels of accreditation structure this flourishing supply of degrees and training. The national accreditation is managed by the MESRSRI and enables the recognition of the qualifications Degree, Master and Doctorate. This certification is crucial for students as it enables them to take part in the civil service entrance exam. The other type of accreditation is the regional accreditation, typically provided by the CAMES[56]. CAMES aims to facilitate cultural, academic and scientific cooperation between African countries, and participate in the coordination of higher education systems on the continent. The degree certification process led by CAMES is demanding and costly for the private institutions but constitutes a key asset as it brings region-wide credibility for the institution, and enables better student and graduate mobility within the continent. This last point is important since Burkina Faso (like Senegal and Côte d'Ivoire) attracts a number of students from neighbouring and central African countries. Other certifications from ACE (African Centers of Excellence), ECOWAS and other international organizations (such as ISO) may guarantee better credibility for these institutions.

The challenge of employability is on the agenda of most top-tier HE institutions. Several high quality universities seek to improve the professional insertion of their graduates, through job placement or entrepreneurship. Beyond the accreditation challenge mentioned earlier, this can consist of increasing the training in transversal/soft skills, building-up entrepreneurship programmes or in-house incubators, strengthening partnerships with employers, etc. Scientific and engineering universities such as the well-known 2IE university include training in entrepreneurship that will enable the students to create their project and commercialize the results of their research. More broadly, the valuation of internal research and innovation through market-based initiatives and partnerships (incubators, accelerators) appears to be an important dimension for both the professional insertion of these graduates and the economic model of the university. The internationalization of training is another way to improve students' employability. That may include the improvement and certification in foreign language skills (e.g. Students in 2IE must take the TOEFL exam to graduate). It can also be done by enabling student mobility through academic

[55] 2IE (Institut International de l'Eau et de l'Environnement) is not a pure private player but an international university funded by governments and private sector players. The Ouagadougou-based institution provides high-quality education in water, energy and eco-materials to 1,300 students from the whole region.

[56] CAMES stands for « Conseil Africain et Malgache pour l'Enseignement Supérieur ». http://www.lecames.org/

partnerships (co-graduation) with foreign institutions. Finally, the development of work/study and internship schemes seems a promising but challenging path. These mechanisms require a lot of administrative work and a strong connection with local employers. The development of alumni clubs can be also helpful as it enables business networking through the different cohorts of graduates.

Box 2.9. IST: A dynamic university in Burkina Faso

The Institut Supérieur de Technologies was founded in 2000 by the current president, Mr Issa Compaoré. After the first year of 64 students, the university steadily grew to 1,500 students in 2018 and will enrol nearly 2,000 students in the next few years. The university has 19 different fields (e.g. accounting, business, electronics, construction, engineering) and delivers BTS, Degree, and Masters. IST is in an allocation scheme with the State for the BTS courses (it receives 150,000 XOF for each student but has fees of 350,000 for other students). ITS has academic partnerships with universities in Europe, Canada, Rwanda, and obtained the CAMES accreditation in 2007.

According to Issa Compaoré, the four key factors driving students in choosing their higher education institution are:

- The national certification of degrees
- The ranking of the institution in the MESRSI ranking
- The success rate in national exams
- CAMES accreditation

IST is well aligned with these preferences and now envisions developing new facilities in the region and building a new campus (IST is currently renting different facilities).

IST has developed an online platform to facilitate enrolment from remote locations and is not in favour of a blended model: students have to choose between online education or in-person education. This model enables IST to enrol students from several regions of Burkina Faso.

Finally, the geographic and sectoral diversification of HE institutions is a strategic challenge for many HE institutions. Our study and interviews show that many entrepreneurs seek to extend their educational offer and/or their geographic base to increase and diversify their turnover and their reach. This type of strategy is not only for well-established universities but also for more small-scale institutes which have accumulated some finance to engage in business development operations. In terms of sectoral diversification, the incorporation of new training can simply imply the addition of new courses, but can also be based on uploading educational content (e.g an entrepreneurship programme) on a technological platform (e.g. an "e-campus"). Diversification in certain sectors like IT, Bio-Medical sector or mining can be costly because teachers in these fields

are scarce and expensive. In terms of geography, strategies can consist of setting-up new facilities in other cities of Burkina Faso (Koudougou, Bobo-Dioulasso in particular) but mostly in neighbouring countries (Côte d'Ivoire in particular because the Burkina Faso diaspora there is large). Again, the use of education online platforms may facilitate the enrolment of remote populations, which is a form of geographic diversification. IST, for instance, aims to diversify in West African and open branches in Côte d'Ivoire and other countries. 2IE is also looking at opening new structures in West African countries.

5.3. Ancillary Players

This section is devoted to the role of the ancillary education services in Burkina Faso. In the ancillary services category, we include **education technology, e-learning, in-service teacher training or skill training provided by private providers, publishing, and supplementary education**. It is difficult to obtain information on all these sub-sectors. Here we cover only the ones for which we were able to collect some information, or for which we were able to interview some actors.

Teacher training

The needs in teacher training are massive for the whole education system, in particular for secondary education and in sciences. In the primary education level, there are nearly 45 private centres that provide initial teacher training, including 30 just in the Ouagadougou area. The universalization of basic education and the growing enrolment in secondary and tertiary levels calls for a big increase in the quantity of initial training, which could be partly driven by private teacher training programmes. The local administration and its technical partners (AFD, World Bank) emphasize the need to train teachers in the fields of sciences and technologies to furnish a number of high schools which will be launched in the next few years.

Teachers specialized in technical courses are needed in TVET and higher education institutions. In the tertiary level, teachers hired by private institutions come very often from public universities for extra hours, but these institutions also tend to hire young unskilled teachers to complement the staff at low cost. The burning question is related to technical courses. Unlike the general courses (e.g. Humanities) which can be provided by university teachers, technical courses require specialized teachers and professional experts who are lacking in the system. Contracting with professionals from local companies is generally expensive for small-sized structures, to which must be added the challenge of outdated equipment. Today, TVET institutions mostly rely on retired engineers and short-term trained baccalaureate holders to provide courses in the construction sector for instance. A lot could be done in continuous training to improve their knowledge and practices.

There are some private-led initiatives which aim to train more teachers at secondary and tertiary levels. The IPSO[57] project led by Catholic priests seeks to establish a new teacher training center

[57] IPSO stands for Institut de Pédagogie et des Sciences de Ouagadougou

and a university of sciences located in Ouaga 2000 (Ouagadougou). This project could start by 2019 and reach critical capacity by 2025. Other small education groups like the Jean Paul II group in Ouagadougou seek to create teacher training programmes but are hindered or sometimes blocked by lack of funding and/or regulation issues.

Education technologies

The sector of education technologies is barely nascent in Burkina Faso, constrained by big barriers. Key structural factors may hinder the entry of big "Ed Tech" players from other countries: the small size of the domestic market, the widespread poverty and fragility in rural areas, and the lack of telecom infrastructure in many regions. Therefore, promising "ed-tech" businesses in the sub-region have not selected Burkina Faso in their expansion plans, which thus still provides opportunities for local players to emerge. However, the deficit in (public) funding for research in local universities does not permit the development of an ecosystem to drive innovation in the Tech sector. The entrepreneurial dynamic around education technologies is limited.

There are very few initiatives to promote access to digital education content at all stages, except some projects led by public players. To our knowledge, most of the emerging projects are led or supported by public organizations. The OPEN Education project is led by an association and enables free access to education content for primary and secondary levels. The CEDO (Centre d'Enseignement à Distance de Ouaga) consists of a network of training centers equipped with teleconference material to deliver remote short training courses to civil servants. The Virtual University of Burkina Faso project (UV-BF) could become a game changer, but it is still in the phase of implementation[58]. This new university aims by 2025 to become a regional leader in training by playing a catalyst role in teacher training and access to educational content. The UV-BF will rely on infrastructures with digital eqipped spaces in Ouagadougou, Bobo-Dioulasso and in each region of the country. Virtual University projects have shown great potential in other countries in the sub-region (Senegal, Côte d'Ivoire) and could initiate more projects in remote learning. Other in-house initiatives are being implemented by HE players but with limited externalities on the ecosystem. For instance, IST has built an online education platform (e-campus) targeting students who live remotely. In addition to these projects, there is very little development of start-ups and projects led by private players to disrupt or improve access to education in Burkina Faso.

Supplementary education

Remedial education is an important sector in the education system and could constitute an area of diversification and specialisation for education providers. As mentioned earlier, remedial education providers (i.e. suppliers of "night school") provide services to a lot of students and seem to constitute an economic activity per se. Table 2.12 shows that, in the recent years, the demand for remedial classes has focused on post-primary education (preparation of the BEPC diploma), and to a minor extent, on technical secondary course (preparation of the technical and

[58] See the press article from 2018: http://lefaso.net/spip.php?article83354

vocational baccalaureate). We have little information about pricing and specific economic models in this area, notably because they tend to be provided by core education providers. Indeed, remedial education services allow them to optimize the use of classrooms and of teachers while increasing the overall turnover of the school. To our knowledge, the use of technologies to increase accessibility and adaptability of these services is not much exploited by local players. There could be scope for technology-based models to address this demand with digital access to complement education content and/or a blended education approach in the main urban areas at least.

Table 2.12. Remedial Education enrolment by education level (2014)

Remedial Classes by Level	Number of pupils registered
Generalist lower secondary	30,000
Technical lower secondary	150
Generalist upper secondary	5,000
Technical upper secondary	15,000

Source: RESEN, 2017

6. Policy context and regulation of private players in education

In this sub-section, we present some additional information about regulatory and administrative constraints impacting on the development of private provision in education. Three levels of regulation exist as flollows: licensing, operations, investment activities.

Licensing

To our knowledge, the administrative process to open a new private school seems to be heavy. The demand for creating the school and the demand for opening the school must be considered separately.

- Creation of the school

This is the first step in opening the school and consists of a validation by the Ministry (MENA) of the project. Key conditions to validate this step relate to the infrastructure (confirmation of the rent agreement for the school facility). Some fiscal issues also intervene in this step (to our knowledge, a 5% tax of the school facility's annual rent is to be paid). Several administrative processes must be completed, with various public agencies. That seems to include minimum standards of security and sanitation for the school facility. An administrative visit is implemented by the Ministry.

- Opening of the school

This second step relates more to the composition and the qualification of the teaching staff. It seems that the school can start its operations before the acquisition of the opening authorization. One this step is validated, the control operations led by the Ministry are much less frequent.

Operations

Concerning the curriculum, private basic schools need to follow the national curriculum if they want the students to take the national exam (CEPE, BEPC, Baccalaureate). Certain schools follow the curriculum of other courses (e.g. The International Baccalaureate) which have their own requirements. To our knowledge, there is limited quality control and auditing of these schools. There are no mandatory requirements for continuous teacher training.

Additional control and audits are implemented in the case of a contractual relationship with the state (établissement conventionné). A set of specifications is required to receive allocated students and benefit from the public allocation funding.

Concerning tertiary education, the integration into the LMD[59] system implies a set of specifications, including teacher qualification and status. An annual quality control evaluation is done by the Ministry and relates to both administrative and teaching dimensions (as described above in the higher education in section 5.4). Other requirements can be done by other accreditation agencies such as CAMES.

Investment activities

To our knowledge, there is little constraint on foreign investment in local private education projects and facilities. From the best information we had access to, there is no minimum holding of shares by a Burkina Faso native or institution to launch or develop school activities.

[59] LMD stands for "Licence Master Doctorat" and refers to the European system of accreditation for higher education institutions.

Education challenges in Côte d'Ivoire

1. Introduction

Côte d'Ivoire has made Impressive progress since the time of the economic and political crisis in terms of education. Data from the 2015-2025 Education Plan (MENET-FP et al 2017), show that enrolment increased at all levels over the period 2005-2014. The average annual increases in enrolment were 13.6% for pre-school, 7.5% for primary, 8.5% for lower secondary general education, 6.7% for upper general secondary education, 11.7% for TVET, and 2.1% for higher education.

An important principle was established by the law 2015-635 dated September 2015. In article 2-2, it stipulates that the state is obliged to maintain within the school system all children aged 6 to 16, and to put in place a mechanism to integrate or reintegrate children from 9 to 16 who are out of the system.

The insertion rate in the leading sectors of the economy is low. In 2014, nearly 75% of individuals worked in the service sector, about 15% in agriculture, while only 10% were in manufacturing industry and construction, the 2 sectors which contribute most to employment creation in the country (Christiaensen and Premand, 2017). According to the OECD (2017), this results from the inability of the education system to give the young people the specific operational skills sought by employers of the leading sectors. The lack of adequate skills does not allow young people to have access to qualified jobs, and thus restricts them to non-permanent jobs, where they usually work informally, are underpaid and exploited. Many young people turn to "subsistence" entrepreneurship as a refuge for their lack of skill. Moreover, in 2013, about 38% of young women and 33% of young men were out-of-school and not at work, neither in training, nor in apprenticeship (OECD 2017)

2. General organization of the national education system

The education system in Cote d'Ivoire has a (3)-6-4-3 structure. Pre-school is not compulsory. Children enter primary school at age 6 and this level lasts six years. At the end of primary school children take an examination, called CEPE, which allows them to access the second level, lower secondary school. Lower secondary school last four years, but after the first two years, pupils have the option to continue with the general curriculum or to select a vocational curriculum. After 4 years of general lower secondary, pupils are awarded the BEPC (Brevet d'Etudes du Premier Cycle), allowing them to enrol to general upper secondary school or to enter a teacher training institution (CAFOP). At the end of the upper secondary school, pupils pass the general BAC (Baccalaureat).

Lower technical secondary education is delivered in Vocational Training Centres (*Centres de Formation Professionelles*) or in Technical Education Lower Secondary Schools (*Colleges*

d'Enseignement Techniques) and it ends with the award of the CAP (*Certificat d'Aptitude Professionelle*). CAP only gives access to the technical and professional senior secondary schools, which deliver either the technical BAC, the BEP (*Brevet d'Etudes Professionel*), or the BT (*Brevet technique*). Only students who have passed the BAC can enrol in Universities.

Since January 2017, and after several reforms of the administrative organization of the education system, there are two main ministries in charge of education: the Ministry of National Education, Technical Education and Vocational Training (MENET-FP) and the Ministry of Higher Education and Scientific Research (MESRS). The Ministry of Women, Child Protection and Solidarity (MFPES) is also related to education issues because it takes care of parental education programmes and early childhood protection centres (CPPE). The new Ministry for the Promotion of Youth, Youth Employment and Civic Service (MPJEJSC), established in 2016, is in charge of education for out-of-school and dropout young people[60].

Since 2015, an Interministerial Committee for the Coordination of the Education Sector, chaired by the Prime Minister and including the Minister of Education, the Minister of Higher Education, the Minister of Planning, the Minister of Budget and the Minister of Economy, has been established. Its permanent secretariat, called the Task Force, is in charge of (i) developing the education sector plan every 5 years, (ii) searching for external financing for the implementation of the plan, (iii) assuring the monitoring and the evaluation of the plan (producing an annual review).

3. General Analysis

3.1. Access to education and demographic trends

Forecasts by MENET-FP, indicate that under-18s will constitute 46.7% of the total population in 2015 and 42.2% in 2025. Over the same period, enrolment will rise from 1.13 million to 2.19 million, with an annual growth rate of 6.88% over 10 years (Kouadio et al 2018)

Access to education has continued to increase in Cote d'Ivoire in the last decade. Data from the DSPS (2018), reported in table 2.13., indicates increases in Gross Enrolment Rate for all levels of education between 2013/14 and 2017/18.

Gross enrollment rate at pre-school is very low, it was around 9% in 2017/18. Despite this, it has increased over time: it was 6.9% per cent in 2013/14. Gross enrolment rate in primary school increased from 70% in 2007 to 100% in 2017. This big increase can be explained by the government's commitment to support the education sector after a decade of socio-political crisis, which disrupted the functioning of the Ivorian education system, and by massive donor support

[60] The MPJEJSC was created to compensate for the lack of collaboration between the former Ministry of Youth and Sport and the Ministry of Employment. It is in charge of the elaboration and monitoring of the PNJ (Plan National Jeunesse) 2016-2020, which includes, among others, the National Strategy for Youth Employment (SNIEJ, Strategie Nationale pour l'Insertion et l'Emploi des Jeunes).

(MENET-FP et al 2017). Access to the first year of lower secondary general education also increased from 33% in 2007 to about 64% in 2017.

Table 2.13. Change inenrollment rates in the education system

	2013/14	2014/15	2015/16	2016/17	2017/18
Pre-school GER	6.9	7.4	8.2	8.8	9
Primary GER	94.7	95.4	101.3	104.6	100.6
Primary NER	77	78.9	87.8	91	91.06
Lower Secondary GER	50.8	53.8	58.4	63.5	66.6
Upper Secondary GER	27.2	28.1	29.3	28.4	35
Lower Secondary NER					42.6
Upper Secondary NER					16.8

Source: Kouadio et al 2018

The percentage of out-of-school children of primary school age has declined significantly, from 43% in 2009 to 25% in 2013 and 9% in 2017 (United Nations 2018). Despite these improvements in access,, 1,265,310 children aged 6 to 11 and 801,710 children aged 12 to 15 were out of the school system in 2016. Out-of-school children are mostly concentrated among the lower income population, in rural areas, girls, in the North and South West regions. (RESEN 2016)

Completion rates in primary and secondary education remain challenging: almost 22% of pupils did not complete the primary level in 2017/18, while 45% did not complete lower secondary education and 70% did not complete upper secondary (DSPS, 2018).

Figure 2.7. below shows the progression rates from primary to the end of senior secondary school. It can be seen how the ability of the education system to retain students decreases in the last years. In 2014/15, out of 100 pupils enrolled in CP1, 58 of them stayed in school up to the end of the senior secondary school, while in 2016/17 this number had decreased to 43.

Figure 2.7. Progression rates for primary to SHS

Source: MENET-FP and DSPS, 2017

Year repeat rates remain quite high: national averages were 10.6% in primary school and 11.9% in secondary general in 2017/18, but the proportion of repeaters is far higher for the last grade of lower secondary, where it is 39% (DSPS, 2018). Repeat rates in the public sector are on average twice as high as in the private sector in general education. (MENET-FP et al. 2017).

Data from ENSETE (2013) reported in OECD (2017) show that in 2013, there was 35% of individuals aged 15 to 19 with less than primary education. The percentage was lower for girls (62.7%) and for individuals living in rural areas (67.4%).

3.2. Expenditure on education

The share of public expenditure on education as a percentage of GDP has exceeded 4% for nearly two decades. It was 29.5% of total expenditure (excluding debt service) in 2013. In terms of distribution across school levels, 41% of education expenditure was devoted to the primary sector in 2015, followed by lower secondary education (19.8%), tertiary education and scientific research (16%) and upper secondary education (15.3%), as shown in table 2.14 below.

Table 2.14. Education expenditure as a % of GDP in 2015

	2015
Early Childhood	1.42
Alphabetisation	0.40
Primary School	41.22
Lower Secondary School	19.82
Upper secondary school	15.30
TVET	1.64
Tertiary Education and Research	16.05
	100.00

Source : MENET-FP et al, 2017

MENET-FP et al. (2017) shows that salary expenditure was, on average, 75% of expenses in 2013 (90% in primary education), while spending on equipment and non-wage costs is low. This explains why it is common in public schools for school directors to ask for parental contributions for operating expenses.

Figure 2.8. Public spending in education by education level, 2006-2015

Source: MEN et al. 2016

Table 2.15. Expenditure in education by source of funding, 2006-2015, percentage

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 (budget)
Initial funding	Public Administration	65.5	66.2	69.0	66.7	66.2	64.2	67.0	63.2	65.8	68.2
	International sources	0.0	0.0	0.4	1.9	1.8	0.1	1.4	1.3	0.8	1.3
	Households	34.5	33.8	30.6	31.4	31.9	35.8	31.7	35.4	33.4	30.6
Final funding	Public Administration	63.5	64.1	67.4	66.8	66.4	62.4	66.3	62.9	64.9	68.1
	International sources	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.4	0.3	0.1
	Households	36.5	35.9	32.6	33.2	33.6	37.6	32.7	36.7	34.8	31.8

Source: MEN et al. 2016

Transfers to the private sector represented on average about 12% of education expenditure in 2013, but they are bigger at lower secondary, TVET and tertiary education, for which they are nearly 25% of expenditure (RESEN, 2016).

In addition to public financing of education, families contribute about 37% of total education expenditure. Most family resources go to lower and upper general secondary education, where they finance around 45% of expenditure.

The public unit spending analysis shows that in 2013 the State spent around 160,000 XOF on average per child, with the unit expenditure varying between 97,000 XOF for primary school and 1.1 million XOF for TVET. These unit expenditures are similar to other ECOWAS countries, but significantly higher at primary and secondary levels. (RESEN, 2016).

Table 2.16. Average per pupil expenditure by education cycle and place of residence, XOF

	2008 (price 2008)			2008 (price 2014)			2014 (price 2014)		
Education level	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**
Preschool	86,167	21,635	69,882	96,600	24,254	78,343	144,740	59,647	129,004
Primary	55,346	19,448	33,659	62,047	21,803	37,734	58,597	25,381	42,000
Lower secondary	97,747	75,487	89,199	109,582	84,627	99,999	106,401	92,345	104,208
Upper secondary	141,519	98,654	132,695	158,654	110,589	148,761	164,023	126,385	161,228
TVET	207,876	70,435	201,494	233,035	78,963	225,890	264,234	76,449	260,995
Tertiary	340,138	133,038	330,400	381,321	149,146	370,404	391,823	217,046	388,571

Source : MEN et al. 2016

Table 2.17. Household education expenditures by wealth quintile and by education cycle, XOF

	2008					2014				
Education level	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**
Preschool	14,073	29,513	38,416	55,194	101,295	20,129	28,699	63,297	97,369	224,522
Primary	13,415	17,137	23,148	31,096	63,821	19,414	26,378	33,808	49,216	96,630
Lower Secondary	50,368	61,802	72,423	79,686	130,231	60,025	63,234	76,153	100,922	178,931
Upper Secondary	84,933	82,081	95,183	112,663	185,562	84,639	119,474	103,649	142,618	222,385
TVET	284,103	115,045	143,729	278,905	223,289	82,131	180,296	130,295	205,870	315,304
Higher education	100,448	323,617	117,162	165,609	447,598	104,421	173,855	187,072	206,881	518,760

Source : MEN et al 2016

4. Specific subsector achievements and challenges.

Big efforts have been made in the last two decades to expand education supply. The private sector has contributed a lot to this expansion. The role of community-based education providers has also been increasing, in particular in remote areas and in pre-school education.

The president of Cote d'Ivoire, Alassane Ouattara, announced in 2012 an ambitious plan, aimed at assuring education for all children aged 6 to 16 before 2015. This required enormous efforts in terms of classroom construction and teacher recruitment and training.

Moreover, **the examination to enter lower secondary school was abolished in 2011** by the Council of Ministers, who decided that all pupils obtaining 85 points (10/20) in the CEPE could automatically have access to upper secondary school[61]. **This reform has significantly increased pressure on public secondary schools**, and on private ones as well because the state sents to private schools all the students to whom it was unable to offer a place. In 2012 the number of new classrooms required in order to enrol all the new entrants to lower secondary school for the period 2015-2025 was estimated to be 12,230 (Kouadio et al 2018).

The state thus decided to launch the construction of the "colleges de proximités", which are small lower secondary schools[62], located in remote rural areas of the country, that allow pupils to go to school near their families. The construction of community lower secondary schools was facilitated

[61] Before that, only the pupils who ranked top in the admission exam could enrol in lower secondary school. The state sent the top students to public schools and the others to private schools, and this up to their maximum capacity. This implied that, because of the insufficient number of places, pupils obtaining less than 12/20 were usually excluded from the schooling system.

[62] These schools are built according to a standard plan: they have two classes per level, so eight in total; they have latrines, water points, administrative offices, teachers' rooms; they enrol kids coming from primary schools situated within a 5 km radius (Kouadio et al 2018).

by the partnership with the AFD, which built 40 schools, and with the World Bank (through the Emergency Basic Education Support Project) (Kouadio et al 2018).

In total, the increase in the number of classes in public schools was around 27% for primary schools and 29% for secondary schools between 2013 and 2017. For pre-schools, the increase in the number of classrooms was around 49% in the same period and this allowed an increase in enrolment of more than 39%, reaching 180,000 pupils (up from 74,709 in 2010-11) (DSPS, 2018)

For pre-school, the average pupil/teacher ratio is good, but it differs across the type of pre-schools: it ranges from 19 in private pre-schools, to 21 in public preschools and 30 in community structures (RESEN 2016). The pre-schools of the Ministry of Solidarity, Family, Women and Children (MSFFE), the Centers for the Promotion of Early Childhood, have a pupil/teacher ratio lower than private pre-schools, at around 17. Available data on pupil/class ratio is contradictory: according to RESEN (2016) the ratio has increased from 34 on a national average in 2013/14 to 41 in 2016/17, but according to more recent data from DSPS (2018) it was 23 in 2017/18.

The pupil/teacher ratio is far higher for primary school, with the national average being 44 in 2018. The ratio is slightly lower for the private schools, at 41 pupils per teacher. Equipment is poor at primary level. 45% of public primary school had water facilities in 2017 (35% in rural areas), 45% had functioning latrines, and 55% had a school canteen. In 2017/18, 9% of pupils lived more than 3km far from their primary school. The data in table 2.18 below show how **big regional differences exist with respect to all indicators**, implying big inequalities between geographical locations.

Table 2.18. School equipement by education level

Preschool:			
	% of schools without electricity	Pupil/classroom ratio	Pupil/teacher ratio
Highest	93.30 (Guemon)	38 (Worodougou)	28 (Bounkami)
Lowest	6 (Abidjan)	18 (Tonkpi)	12 (N'zi)
Average	46.4	29	21
Primary schools:			
	% of schools without electricity	Pupil/classroom ratio	Pupil/teacher ratio
Highest	95.7 (Bere)	49 (Abidjan)	49 (Abidjan)
Lowest	5.4 (Abidjan)	33 (Bafing)	32 (Folon)
Average	65.6	43	44
General Secondary			
	% of schools without electricity	Pupil/classroom ratio	Pupil/teacher ratio
Highest	64.3 (Boukani)	85 (Mankono)	
Lowest	2.0 (Abidjan)	37 (Minignan)	
Average	16.8	58	

Source: DSPS, 2018

Below we explore, for each level of education, the quality, equity, and management issues and the role of the private sector. It also describes specific projects or recent reforms that concern each education level, and presents its main challenges.

4.1. Preschool education

Investment in early child development has not been a priority up to now in the country. Cote d'Ivoire does not have a national early childhood development policy yet, but only sparse services and interventions targeting children aged 0 to 6 have been put in place (RESEN, 2016). As well as pre-schools, there are around 100 community animation centres for children and 88 early childhood protection centres which are devoted to the development and well-being of children aged 0 to 5 (Nations Unies, 2018).

Demand for pre-schools is low in the country, particularly in rural areas. 63% of schools are located in urban areas and 77% of pupils enrolled in pre-school live in urban areas (DSPS, 2018). There is poor access to pre-school infrastructures in Cote d'Ivoire. In terms of equity, children from wealthier households are 8 times more likely to enroll in pre-school than poorer ones, but pre-school access is gender balanced (DSPS, 2018).

Only 8% of pupils attending pre-schools were not aged 3 to 5 (MENET-FP, 2017). Pupils enrolled in the third year of pre-school were more than 46% of the total, indicating that parents tend to enroll kids late (DSPS, 2018). This is one of the reasons why the government has recently decided to include a pre-school class in the public primary schools.

72% of pupils are enrolled in public pre-schools. Private pre-schools are almost exclusively located in urban areas. There has been an increase of community schools thanks to the support of partners including UNICEF, but they only represent 1% of the offer.

4.2. Basic education

Gender parity seems to have been reached at primary level, even if gender differences persist in some regions, where GER for boys is higher than for girls. Gender disparity is still present in lower secondary, where average GER is 71.5% for boys, and 61.4% for girls. Girls' GER is very low in some regions, like Folon (15.8%), Boukani (29.5%), and Bafing (29.3%).

Inequalities in enrolment rates persist across regions: 15 regions (out of 33) have a primary school GER below 100%, and for 9 it is below 90%. Most of these regions are located in the North of the country (MENET-FP DSPS 2017)[63]. Regional differences are big for lower secondary education as well, as shown in the Fig. 2.9 below. In most regions in the North enrolment in secondary education was still below 40% in 2015 (Kouadio et al., 2018).

[63] It should be noted that there are several inconsistencies between data sources with respect to some key education indicators. Inconsistencies exist between ministerial sources.

Figure 2.9. Enrollment in secondary education by region

Source: Kouadio et al, 2018

Inequalities also exist with respect to household income: children from better-off families are 6 times more likely to have access to lower secondary school than ones from poorer families. 13% of children living in rural areas complete lower secondary school, compared to 49% of children living in urban areas (RESEN 2016).

Success rates at national exams (CEPE at the end of primary school, and BEPC at end of lower secondary school) **have been increasing in the 2000s** (except during the crisis in 2011-2012). They were 81% for CEPE and 60% for BEPC in 2017, but with a lot of heterogeneity across DRENET (*Direction régionale de l'Éducation nationale et de l'Enseignement technique*). The success rate for CEPE, for example, ranges from 55% to 98% across DRENET (MENET-FP DSPS 2017).

PASEC 2014 results show that education outcomes remain low: 83% per cent of pupils did not acquire a sufficient skill level in French (50% for Maths) at the end of second grade. While at the end of primary schools, the percentage decreases to 52% for French and increases to 73% for Maths. These scores are on average worse than the ones of the other African countries who participated in the PASEC 2014 evaluation (PASEC, 2016). Big differences across regions exist with respect to educational attainments.

The number of hours taught by teachers varies between regions, which implies that teacher allocation is not optimized. 1/3 of teachers are under-used in lower and upper secondary schools,

where the average time of teaching is respectively 12 and 14 hours, instead of 21 and 18 hours (RESEN 2016).

Private schools account for about 15% of enrolment for primary school education, while they account for almost 50% of enrolment for secondary general. 72% of secondary schools are private (lower and upper secondary general combined), with big differences across DRENET. In Abidjan 91% of secondary schools are private, while the percentage is lower in some DRENET (the lowest is 34% in Bourdoukou).

An agreement with the private sector has been established: private schools receive 120,000 XOF for every pupil enrolled in lower secondary, 140,000 for each pupil enrolled in upper secondary, and 175,000 for each pupil enrolled in technical schools.

4.3. Upper secondary education

Students from better-off families are 46 times more likely to access upper secondary schools than students from poorer families. Only 5% of children from rural areas complete high school, compared to 29% for children living in urban areas (RESEN 2016).

The success rate at the BAC was 44% on average in 2017, ranging from 29% to 56% depending on the DRENET. This rate continues to increase (in 2013 it was 34%), but it is still very low (MENET-FP and DSPS, 2017).

The project "Ecole Numériques d'Excellence Africaine Côte d'Ivoire" (African Digital School of Excellence Côte d'Ivoire, ENEACI) was launched as part of the African Digital Schools Initiative (ADSI, 2017-2019) and is promoted by the Global E-Schools and Communities Initiative (GESCI). This project responds to the government's overall goal of introducing ICT and harnessing the effectiveness of this tool as a lever for qualitative changes in the national education system (ROCARE report).

4.4. Higher education

Higher education is confronted with a big increase in the number of students, which has resulted in pressure on the existing infrastructure and human resources. The number of students increased from 170,000 in 2013 to 190,000 in 2015 (MENET-FP et al 2017).

Around 65% of students are enrolled in the country's 5 public universities. The University Félix Houphouët Boigny, located in Abidjan, is the biggest, with 60,000 students. The University Nangui Abrogoua (Abidjan), with about 5,000 students, is specialised in scientific and technological fields. The Alassane Ouattara University is located in Bouaké, the second largest city in the country, and has more than 30,000 students. The University Jean-Lorougnon-Guédé (Daloa) was renovated in 2012, and now has about 4,000 students. Finally, the Université Péléforo-Gabon-Coulibaly (Korhogo) is the newest University in the country.

A vast infrastructure program (*Programme de Décentralisation des Universités en Côte d'Ivoire*, PDU) has been promoted since 2014, with the aim of decentralizing tertiary education supply. The University of Man has been operational since the academic year 2016-17. The University of San Pedro has been built (public-private partnership for the construction, the ownership of the building will be private for a certain number of years), and the University of Bondoukou (public contracting). Both of these two establishments should be operational in 2020. 5 other Universities were planned to be built before 2020, but funding has been provided only for the University of Dabou so far, while there are still ongoing discussions on the other projects[64] . The state has also begun renovating university residences.

In order to solve the problem of a surplus of students, the Virtual University of Cote d'Ivoire (Abidjan) (UVCI) was created in 2015. It offers undergraduate programmes in several fields of computer science and new technologies, including IT security and databases. It currently has more than 6,000 students, and has established several partnerships with digital businesses, like Microsoft or Orange[65]. The establishment of the UVCI confirms the government's willingness to promote Information Technology (IT) in education.

Supply remains dominated by Arts programs, which are 56% of enrolments, with scientific and technical training at only 32.5% of enrolments in 2013. This despite the 2009 Education Policy explicitly called for a rebalancing of supply towards scientific and technological sectors (RESEN 2016).

Private providers were 44.5% of the supply in 2014. (MENET-FP et al 2017). According to World Bank and AFD (2018), private tertiary institutions are considered to be a second-best solution, suitable for students who cannot enter the public ones.

Recent years have been characterized by recurrent strikes of teachers, administrative and technical staff, as well as students. Because of strikes, the academic year is often longer than normal, and student have long delays in obtaining their diploma. MENET-FP et al (2017) also observe that tertiary education in the country is characterized by a low degree of internal efficiency, a high degree of violence, and by the poor performance of the scholarship systems which make higher education difficult to access for poorer households. A child from wealthy families is 70 times more likely to have access to higher education than a child from poorer ones (RESEN 2016). In 2015, girls were 35.6% of students. Among girls, only 26.9% were in scientific fields.

A lot of of reforms have been put in place. The LMD system has been put in place, to align Ivorian higher education with international standards, but it is taking time to be effective. More recently, the PADES *(Projet d'appui de l'enseignement Superieur)* program was launched with the support of

[64] More details on this project can be found at: **https://www.pdu.ci/index.php**

[65] http://uvci.edu.ci/

the Word Bank[66] and the idea of the French-Ivorian HUB was launched in October 2018, aiming at "improving the Ivorian training offer by putting French expertise at the service of local higher education institutions"[67].

There is a lack of training in Science, Technology and Mathematics (STEM), and there are not enough science graduates (BAC C). This poses a problem of qualitative inadequacy between student training and the skills demanded by the labour market. According to the OECD (2017), young people should be mostly oriented towards programs and training in the processing industry (manufacturing), in engineering and architecture (construction), commerce and administration, computer science, physics, mathematics and statistics.

Officials from the MERSR are also worried about a quantitative mismatch that could occur in the next few years because current labor market conditions will not allow the absorbtion of all the future graduates. Some of the officials declared that they would like to regulate the flow to higher education beyond the age of 16: ideally, only 25% of secondary school graduates should go into higher education, the others should be oriented towards professional training.

4.5. Technical and Vocational Education and Training (TVET)[68]

Since January 2017, there is only one Ministry for education and TVET, that is the Ministry of National Education, Technical Education and Vocational Training (MENET-FP). At the same time, a State Secretariat for Technical Education and Professional Training has been created.

A survey by the MET-FP in 2016 recorded 62 public TVET institutes in the country, with an annual capacity of 35,000 students[69]. Their capacity had not increased since 2002, and their infrastructure and their equipment were obsolete (METFP, 2016). 10 new establishments have been created since 2017.

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[66] This project aims to support the development of higher education by: (i) diversifying the supply for vocational programs and increasing the number of students in all type of vocational programs; (ii) improving the quality and relevance of training in public higher education institutions and strengthening the LMD system; (iii) improving the governance and management of the higher education sector. More details on the PADES at http://www.enseignement.gouv.ci/index.php?open=ressources&res=details_offre&offID=264

[67] https://www.campusfrance.org/en/france-supports-innovative-partnerships-in-africa-with-the-franco-ivorian-hub-of-education

[68] This paragraph mainly concerns TVET at secondary level. TVET at the tertiary level is offered at Universities, so it is covered by the paragraph on tertiary education.

[69] Three Technical High Schools (LT), preparing for the Baccalauréat (BAC) and for the Brevet de Technicien Supérieur (BTS); ten Professional High Schools (LP), preparing for the Technician Certificate (Brevet de Technicien, BT) and the BTS, six Professional Development Centers (CPM), preparing for the Brevet d'Etudes Professionnelles (BEP), Brevet de Technicien (BT) and Brevet Professionnel (BP), four Centers of Office, Communication and Management (Bureautique, de Communication et de Gestion , CBCG), preparing for BT and BTS; one Center of Electronics and Applied Computing (CELIA), preparing for BT and BTS; eight Technical Education Colleges (CET), preparing for the Certificate of Professional Aptitude (CAP), BEP and BT; and thirty vocational training centers (PSC), preparing for the CAP and the BEP. In rural areas, there are ten Mobile Training Units (UMF) and three Application and Production Workshops (Ateliers d'Application et de Production, AAP), used for the specialization of craftsmen and for the logistical support of young graduates.

As regards private providers, their number increased from 433 in 2012 to 680 in 2016, when they enrolled about 65,000 students. 26% of the public establishments and 53% of the private ones are based in the Abidjan district (METFP, 2016).

The number of students enrolled in TVET increased from 39,365 in 2011 to 105,353 in 2016, mainly due to the increase in the number of students enrolled in private educational institutions, as shown in figure 2.10 below. Today 117,800 young people are in vocational training, and the government goal is to reach 200,000 students in 2020 (METFP, 2016).

Despite this increase, only 6% cent of students opted for TVET in the 2015-2016 school year. This option remains a palliative solution for the students, and it is mostly seen as a second-best option for the ones who cannot have access to general education.

Figure 2.10. Number of pupils enrolled in private, public, and TVET, 2011-2016

Source: METFP, 2016

In terms of sectors, most students are trained in the service sector (about 72% in 2016), while less than 0.5% of them are trained in the primary sector. The rest are trained in the industrial sector. Girls represent 8,6% and 18,3% respectively in the agricultural and industrial sector, while they are overrepresented in the tertiary sector, at 60.7% (METFP, 2016).

A recent survey by ETFP (2018) shows that, **one year after obtaining their diploma, about 37% of TVET graduates are employed.** This percentage is far higher than the 2017 data, which reported an employment rate of 14.43%. The government targets a 50% employment rate by 2020. The percentage is lower for BEP graduates. When examining the employment rate by sector, we see that among the sectors registering the highest employment rate are carpentry, electronics, aesthetics, jewellery, topography, bakery/pastry, construction, mechanics, and car bodywork.

A Strategic Plan for the Reform of TVET was launched in 2016. The plan is based on several pillars, including: (i) the improvement of private sector involvement in identifying labor market needs and in facilitating labor marker insertion; (ii) the improvement of employability through program revision and teacher training on the competency-based pedagogical approach; (iii) the increase in the supply of apprenticeship and sandwich training; (iv) the introduction of bridge classes (*classes passerelles*) allowing access to TVET for pupils at any level of general education (METFP, 2016)[70].

At the same time**, a large plan of infrastructure construction and renovation has been promoted as well.** The problem is that the renovation of buildings and equipment is very expensive, and it is often possible only thanks to the help of technical and financial partners[71], and also once renovated, establishments need to be operational and the operating budget that the state gives them is very low[72].

Finally, one critical aspect is the negative perception of TVET. This is why the State Secretariat for TVET decided to put in place a communication plan to reduce prejudice and to make TVET more attractive for young people. The plan includes a campaign in the newspapers and magazines, on social networks, as well as the organisation of events, such as the Open Village and the Open Days at TVET Institutions, where young people can meet with TVET professionals and teachers (OECD, 2018).

The Ministry for the Promotion of Youth, Youth Employment and Civic Service (MPJEJSC) is in charge of short-term training programs which are addressed to unemployed people. A number of projects have been promoted in recent years, among others: (i) the Programme d'Appui à l'Amélioration de l'Employabilité et à l'Insertion des Jeunes (PAAEIJ), (ii) the Projet pour l'Orientation Professionnelle et la Formation par Apprentissage des Ex-Combattants (PROFADEC), (iii) the Projet d'Appui au Traitement Économique du Chômage (PATEC), (iv) the Projet Emploi Jeune et Développement des Compétences (PEJEDEC), (v) the Projet C2D Emploi, and (vi) the Programme de Développement des Initiatives Génératrices d'Emplois (PRODIGE). Between 2013 and 2015 these programs targeted about 65,000 young people and cost 48.8 billion XOF (OECD, 2017).

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[70] Several institutions are supposed to contribute to the project setup. The National Agency for Vocational Training (AGEFOP) manages employability projects such as the Projet Formation par Apprentissage (PFA) which aims to promote the social and professional integration of thousands of out-of-school young people through training for a specific job. The Vocational Training Development Fund (FDFP) manages the Initial Training and Apprenticeship (FIA) project, which promotes sandwich training for young people aged 14 to 26 to help them to obtain a job in a business. The implementation of the vocational training reform is receiving significant financial and techinical support, in particular through the C2D Vocational Training Project financed by France and the Project Support to Vocational Training and Youth Integration (PROFORM). (OECD, 2017)

[71] The Saudian Fund, the Koweitian Fund, the Arab Bank for Economic Development in Africa, the Islamic Development Bank, the UNIDO, and Japan and Morocco gave financial and/or technical support in the projects' realization: http://www.formation-professionnelle.gouv.ci/fr/projets.

[72] For example, 6.2 billion Fcfa were spent to renovate and equip the Professional High School of Man, but the operating budget allocated to the school in 2018 was 2.3 million FCFA.

According to the OECD (2017), some of these programs (PEJEDEC financed by the World Bank and C2D Emploi, financed by AFD) had positive effects on employment and wages thanks to the effective management system that was put in place and to the conditions imposed by the donors. Most of the other programs did not attain their objectives in terms of the number of targeted young people, and one of the reasons could be the lack of funding. The PAE (Programme d'Aide à l'Embauche) program, for example, which aims to improve the employability of young people by offering them internships in enterprises, placed 1,827 people on internship from 2012 to the end of 2013, that is 81% of the target, but only 38% of the young people who completed their internship managed to find a job.

It is worth to mention here the Fond de Développement pour la Formation Professionnelle (Development Fund for Vocational Training, FDFP), which was set up in 1991 by the government to consolidate the vocational training system. The fund is mainly financed by taxes on businesses (the apprenticeship tax and the additional tax for continuing vocational training, are respectively 0.4% and 1.2% of payroll). The payment of these taxes gives employers the right to ask for subsidies for the training of their employees. The fund finances face-to-face and online training provided by companies who have received its accreditation.

Box 2.10. The government's strategy for Education

Here we briefly present the main pillars of the current education strategy, according to the last Education Sectoral Plan (2016-2025) and to the conversations we had with officials at the Ministry of Education. We present the government strategy by education sector.

Pre-school main objectives:

- To improve access to pre-school quality services, through the construction of new classes and the recruitment of new teachers.
- To give priority to the improvement of the offer devoted to pre-school children aged 5, through the construction of a classroom reserved for them in all the new-build schools and in the renovated ones.
- To revise CAFOP programs to better prepare teachers to teach to pre-school kids.
- To improve the pre-school offer in rural areas through the development of the *Centres Communautaires*
- To increase private supply up to 27% of the pre-school offer by 2025, mainly in urban areas, but without providing subsidies.
- To reduce the pre-school program to 2 years, with an age of entry at 4 - to immediately improve access to pre-school for children aged 4 and 5 at existing structures.

Primary school main objectives:

- To build about 3,000 classrooms per year and to renovate 5% of the existing ones. Low-density populated areas will be prioritized.
- To put in place a parallel offer for never-enrolled and dropout kids. Bridge classes (*classes*

passerelles) will be proposed to children aged 10 to 13. These classes will allow them to catch up and enrol in primary school. For children aged 14 to 16, special classes in vocational training and at the same time providing general education will be proposed.

- To employ 6,000 additional teachers per year in public primary schools.

Lower secondary main objectives:

- To build new secondary schools (projections show that 1,840 schools are to be built between 2015-2025 in order to assure education for all secondary-age school children. The construction of *colleges de proximité* will be pursued and more bivalent teachers will be trained.
- To revise programs to make them being in line with the policy of compulsory schooling up to 16.
- To improve completion rates and to lower repeats. To give particular attention to girls aged 12 to 16.
- To reduce subsidies to private schools, while at the same time improving the quality of their services through a better control of their compliance to standards, and of the number of pupils they effectively enrol. The ambition is to have 40% of students in private and 60% public in lower secondary education.

Upper secondary main objectives:

- To build new classrooms and new schools.
- To better use existing resources in terms of teaching staff and infrastructures (a lot of under utilisation is observed)
- To elaborate a new policy with respect to private providers: they should propose scientific classes, they should have qualified teachers, and open training schools for private teachers.
- To push pupils towards scientific and technological series (BAC C). One possibility would be to put in place an orientation system during the second year of upper secondary school.

TVTE main objectives:

- To push pupils towards technical upper secondary education.
- To build new establishments, especially for girls
- To develop sandwich programmes in upper secondary education.
- To establish new training programmes, providing a certificate of competences, for individuals aged 14 years and older who just completed primary schools.
- To put in place professional branches and, with their aid, to identify priority sectors
- To better monitor the private sector's quality and performance and to revise legal standards for private providers.

Tertiary education main objectives:

- To build 5 new Universities and 2 IUT (Technical University Institute)
- To improve accreditation and certification procedures
- To increase the number of grants, but only in the priority sectors (mainly in the scientific ones)
- To reduce subsidies to private establishments, by trying to push more students towards public ones.

Other main objectives:

- Several reforms are planned to improve the management of the education system. These would concern, among others, the administrative and teaching management of schools, the optimization of resources utilisation, the functioning of the general inspection system.
- To improve the use of education technologies, especially in secondary and tertiary education. IT is planned to be used in training, but also in the management of the education system (e.g. individualized monitoring of student absences or progress).
- To improve the quality of school amenities, at all levels.
- Promoting campaigns against violence at school

The implementation of the plan would need the country to keep devoting about 30% of expenditure to the education sector

4.6. Teacher training

Currently, MENET-FP is in charge of primary school initial teacher training and of in-service teacher training, while MESRS is in charge of secondary school initial teacher training, but there is a lack of communication between the two Ministries (OECD, 2018). As regards pre-school teachers, the ones teaching in public schools receive the same training as primary school teachers, while the ones employed in the structures under the supervision of the Ministry of Solidarity, Family, Women and Children (MSFFE) mostly receive training specifically targeted at the pre-school level, and are pre-school teachers or pre-school teaching assistants (RESEN 2016).

Primary school initial teacher training takes place in 16 CAFOP (*Centre d'animation et de formation pédagogique*), which are spread over the country, and train around 5,000 teachers per year. Secondary school initial teacher training is concentrated at the ENS (*Ecole Normale Superieure*) of Abidjan, where not enough teachers can be trained because of budget restrictions (ENS capacity is not reached). The government aims to have a CAFOP in every Ivorian region in the medium term and two satellite ENS campus by 2020 (located in Bouaké and Sand Pedro, financed by Millenium Challenge Corporation).

There is a lack of teachers, in particular at the secondary level, in the country. The current challenge is to enrol many more students at the ENS, which would be able to train between 5,000 and 6,000 teachers per year if there were resources. An alternative could be the development of

undergraduate and master courses in teaching, and this option is currently being explored by the Government.

A reform of the initial training of primary school teachers is ongoing. It began in 2012 and it benefited from the support of the *Centre international d'études pédagogiques* of Sèvres (CIEP) for the revision of the teachers' competency framework, and for the finalization of the teaching tools necessary for the implementation of the reform. The project has several objectives, including: (i) making teacher training less theoretical and more practical, by increasing the number of internships and sandwich courses, (ii) adopting a competency-based approach and revising CAFOP curricula accordingly, (iii) changing recruitment procedures to select the best students at the entrance at CAFOP, (iv) adopting a new system for teacher deployment, based on the regional level. The project is currently being tested on three CAFOP and will be extended to three other CAFOP in 2019 before generalization in 2020 (OECD, 2018).

As regards secondary school teachers, their training is mainly theoretical and academic with little time devoted to teaching issues. In the last few years, considerable efforts have been made in order to train teachers for the *colleges de proximité* (see section 4.1), who must have specific skills since they are supposed to teach two different subjects (OECD, 2018).

Concerning in-service training, at present, it is assured by the DPFC (*Direction Pédagogique et de la Formation Continue*) through the 36 antennas of teaching and continuing education spread all over the country. There are currently 1,225 academic advisors for the 76,300 primary school's teachers and 900 for the 28,000 (general) secondary school teachers employed in the country (DSPS, 2018).

The DPFC is very dynamic in terms of distance learning. Their objective is to use digital technology when possible in continuing teacher training. Two ongoing projects, Ifadem-Papdes, led by OIF and AUF, and Mobile-learning, led by AFD-AUF, are already in place to facilitate this process. Projects aimed at equipping classes with digital technologies and training teachers about their use have also been promoted (e.g. Sankoré-RCI 2013, Unesco-CFIT) (OECD, 2018).

In terms of teaching quality, MENET-FP, in partnership with J-PAL Europe, Pratham, and TRECC (Transforming Education in Cocoa Communities) program, is currently developing a TaRL (Teaching at the right level) pilot. TaRL classes are currently running in 50 schools in Gabiadji and Méagui (two cocoa-growing localities), and IPA is in charge of the evaluation of the program. If TaRL implementation is successful, it can be scaled up to an additional 200 schools in 2019-2020 and beyond afterwards[73].

[73] "From Evidence to Action - PEC, le Programme d'Enseignement Ciblé in Côte d'Ivoire" M. Raoul Kone Deputy Chief of Staff, MENET-FT, presentation to the TaRL Conference 2018, South Africa: https://www.teachingattherightlevel.org/conference2018/

It is important to note that teacher absenteeism is an important issue: together with student absenteeism, and the delays at the beginning of the school year, it causes on average the loss of two months per school year in primary school (RESEN 2016).

5. The mobilization of the private sector in education

This section reviews the private sector contribution to the different education levels in Cote d'Ivoire and illustrates the major needs and challenges of private education providers in the country. It also describes the role of some ancillary education services in Cote d'Ivoire.

5.1. Pre-tertiary education

The number of classrooms in private pre-tertiary education has risen significantly in recent years. The number of classrooms in private primary schools, for example, increased by 25% between 2013 and 2017, while the number of classrooms in secondary schools increased by 62% over the same period. Enrolment increased by 31.6% in primary schools and by 44.7 per cent in private schools. These percentages are based on statistics from DPSS and could be underestimated because of the existence of unregistered private schools.

In terms of location, **only 13.2% of new student enrolments in private primary schools were located in rural areas** in the academic year 2017/18. In terms of regional distributions, we can observe that most private schools are concentrated in Abidjan, with 48% of primary and 91% of secondary private schools, while in some DRENET their number is very low, the extreme being the DRENET of Bouna with only 2 private primary schools out of 208, and 1 private secondary school out of 11.

Affectation system:

Before 2011 students could enrol in secondary schools only if they obtained a very good score in the CEPE exam. Public schools enrolled the ones who graded highest, up to their maximum capacity. Private schools did the same with the pupils in the middle of the ranking. Given the limited number of places, this implied that even pupils who obtained a score of 12 or 13 (the exam is passed with a score of 10) in the CEPE could be excluded by secondary schools. Today, all pupils passing the CEPE are allowed to enrol in public or private school. In 2011, when the government stated that all children passing the CEPE exam had the right to enrol in secondary school, there was a big increase in the number of students that were assigned to private schools, because the number of places in public institutions was still very low. But the government did not increase the budget accordingly and this resulted in a big debt to the private schools, which could not be paid on time. After demonstrations from the private establishments, all the debts have been paid, but the government has decided not to repeat the same mistake. The new policy is now to assing students in private schools up to a certain budget, the rest must be accepted in the public

institutions. This implies a big increase in public class size. In the 2018/19, in some schools, the number of 100 students per class was reached.

Pupil assignment to a school is made according to proximity (to avoid reassignment requests) and student preference. Once assigned, the state verifies that the students are actually present in the institution because the state pays on real enrolments, not on those that have been accepted. It is very expensive for the state to control the real presence of the students, and it takes time. This contributes to a delay in the payment to the schools, which usually happens several months (even one year) after the beginning of the academic year. The government is currently studying options to reduce the cost of this control, for example through the use of tablets or other IT systems.

The state pays 120.000 XOF for a pupil enrolled in lower secondary school, 140.000 XOF for upper secondary school and 175.000 XOF for technical secondary schools. These amounts are independent of school performance, thus creating potential incentive problems. Schools do not normally have the right to ask for additional fees to families, but an official told us that this is tolerated by the state because the amount it transfers to private schools is not enough to cover all the costs.

Table 2.19. Per-pupil public transfer to private school in secondary general and technical education, 2013

	Number of pupils enrolled in private schools	Percentage of pupils enrolled in private schools	Transfert per pupil (FCFA)	Unitary cost (% of unitary cost in public)
Lower secondary	281,619	31%	120,000	64%
Upper secondary, general	6,613	2%	140,000	32%
Upper secondary, technical	47,537	95%	175,000	13%
Vocational training	6,926	-	175,000	17%
Tertiary (BTS)	64,327	-	390,000	-

Source : RESEN (2016). Note : BTS is the *Brevet de technicien supérieur*, an higher education diploma delivered in two years.

Table 2.19. above shows that **the amount paid to the private schools are lower than the unitary cost per pupil in public schools.** This is true across all education levels, but in particular for technical and vocational education, which have higher unitary costs.

Household education expenditure in education according to the public or private nature of the establishment is presented in table 2.20 (MEN et al 2016). Households expenditures are on average far higher for private schools, with the differences being bigger for pre-school and primary education, where families spend for private school 3.5 times as much as they would spend to enrol children in public ones[74]. However, in order to understand if private schools are accessible to the poor, it is more useful to look at the prices of the private schools which are located in low income districts. We refer to the work by Harma (2018), who did a survey on private schools in three low-income districts of Abidjan in order to estimate the market potential for financial services for private schools. She estimates the average annual price of private schools to parents at around 53,000 XOF for pre-schools, at 83,000 XOF for primary schools, at 108,000 XOF for lower secondary and 116,000 XOF for upper secondary. The prices include tuition fees, registration fees and extra fees (i.e. uniform, textbooks, and other material). They do not include lunch cost. When we compare the costs estimated by Harma (2018) to data in table 2.20, we see that **enrolling children in private primary schools costs three times more than enrolling them in the public ones.** But this is not the case for the other school levels: **private pre-school appears to be less expensive than the public, while for lower secondary school the difference is still in favour of public school, but it is smaller**.

Table 2.20. Per child household expenditures in education in private and public schools, by education

	2008 (prix 2014)		2015 (prix 2014)	
	Public	Private	Public	Private
Preschool	53,852	98,460	66,462	205,110
Primary	25,688	132,831	29,908	103,691
Lower secondary, general	77,781	159,700	79,966	154,642
Upper secondary, general	106,524	222,157	114,486	221,956
TVET	164,891	299,536	200,803	294,671
Tertiary	218,382	615,112	254,593	557,217

Source : MEN et al. 2016

[74] The price of public schools is not zero because the COGES (Comités de Gestion des Établissements Scolaires) often ask for parental participation in order to cover school expenses that cannot be covered by the public budget.

It is interesting to note that 69% of school proprietors say that they target moderately poor families, while 25% say that they serve lower middle-class families and 26% say very poor families[75].

School proprietors surveyed by Harma (2018) report significant challenges with respect to the ability of households to pay fees. They estimate that they lose 25% of income from fees every year for this reason. They also say that they frequently withdraw children from school when parents do not pay fees on time.

The average private school tuition fee is estimated to be 59,000 XOF for lower and 67,000 XOF for upper secondary schools. These amounts are far lower than the amounts paid by the state to secondary schools, meaning that it is financially interesting for private secondary schools to have students sent from the state. 24 secondary schools were included in the Harma (2018) study and 11 of them received students from the state (on average 69% of their students are funded by the state). According to Harma (2018), schools are allowed to ask those students for extra fees, but the extra fees are capped at 37,000 XOF per year.

Although receiving students from the state seems to be financially acceptable for schools, many difficulties are associated with this system. Payments are often delayed (the average delay is 1 year) and schools often need to ask for loans in order to cover their operating costs[76]. Also, the number of students sent by the government is not stable over time, thus making it difficult for schools to plan the number of students enrolled. Finally, schools cannot select their students, and the state does not send them the ones who performed best in the CEPE exam. This means that some school owners prefer not to work with the state.

Harma (2018) shows that the main private school operating cost is teachers' salaries, which are almost 73% of schools' annual costs. Private primary school teachers earn on average 525,000 CFA, which is higher than the salary earned in the public sector (390,000 XOF since 2108[77]). Many school proprietors own the land where the school is built (47%), but many others need to pay a rent that can be a big cost, and is mentioned as the second biggest source of costs for private schools.

The average size of the schools surveyed by Harma (2018) is big compared to private schools in other African cities. Schools enrol on average 336 students, and a few of them enrol up to 2,000 pupils. Being able to enrol a big number of pupils is the most important determinant of school profitability, thus explaining why most proprietors declare that they would like to build more classrooms to expand the schools if they were able to do so.

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[75] International poverty line stands at 473.3 CFA per day per capita in 2018, while the lower middle income class poverty line stands at 797 CFA in 2018 (https://databank.worldbank.org/data). This means that individuals living with an annual per capita income of around 173,000 CFA (at the international poverty line) need to spend almost 50% of per capita income to enrol in private primary schools, while individuals living with an annual per capita income of around 291,000 CFA (at the lower middle class poverty line) need to spend around 29% of their per capita income.

[76] Harma (2018) reports that Ecobank offers loans to schools that are in this situation.

[77] Information on the primary school teacher's salary comes from: http://www.gouv.ci/_actualite-article.php?recordID=9269

Box 2.11. A basic school with high ambitions: IBSA – International Bilingual Schools of Africa

IBSA was created in 2017 by Valérie Zoudiet Coulibaly and her husband, with the goal of providing an outstanding quality of education in several African countries. IBSA is a school network for children from 2 to 11, offering pre-school and primary bilingual education. The English program is based on the British International Program, while the French one is based on the French National Education program.

IBSA's education model is innovative, centered on active teaching where the teacher adapts to the student. The schools are quite small, with less than 300 children.

IBSA's ambition is to become the reference network for African (and international) expatriates who often change place of residence. The model they propose is thus elitist, the annual fee is around $3,500 per year, which is lower than the one charged by British or American schools. The network does not have a social impact policy and does not aim to expand access to low-income students, except if a donor proposes to pay scholarships for them. Their mission is rather to form a better elite.

The first two schools were established in 2017 and 2018 in Abidjan, a third school will open soon in Ouagadougou. The owners plan to strengthen the model, by verifying the demand for their school is high as they suppose, and then starting to expand in other African countries.

IBSA is a member of the International Primary Curriculum (IPC), a network of schools that was created by Fieldwork Education in 2000 and now includes about 1,800 schools in over 90 different countries which share learning experiences, resources and ideas.

In terms of infrastructure policy, they do not build their schools but prefer to rent their buildings for a long term period, which allows them to be more flexible if they need to move or expand a school, and is less risky at the beginning of the activity.

Teachers/ qualifications

For primary schools, only 23% of teachers are qualified as defined by the government (Harma, 2018), while the majority of them are secondary school graduates. There is a high level of teacher turnover, but this is not felt to be a problem by the school proprietors. Since 2011, all private school teachers who are not qualified are invited to follow a mandatory 2-week training led by the Direction of Pedagogy which gives them a certificate. The cost of the training is about 30,000 XOF per person and it is paid by the schools. About 13,000 teachers have been trained up to now.

Public school teachers, if authorized by the DREN, may also teach in private schools, but must not exceed a defined number of hours, and according to Harma (2018), most secondary school proprietors hire public teachers to teach part-time in their schools during their free time.

Box 2.12. Two pre-schools: 'Maison Cerise' and 'La Coccinelle'

Maison Cerise was established in 2016 by two pre-school teachers /teachers who were trained in France. The school at present has 20 pupils from 0 to 6 years. It is a bilingual school, proposing a playing-learning model, centred on the development of a child's autonomy. The proprietors said that it was not easy to find teachers who were able to apply this model, which is quite different from the one commonly practised in Cote d'Ivoire. Besides the recruitment problem, the school suffers from competition because several pre-schools have opened recently in the centre of Abidjan and most of them are cheaper than Maison Cerise. Not all parents seem to understand that this school proposes something different in terms of quality and even less are able to pay for that. The location also poses a problem because the school is not very well located and visible so that it is difficult for them to advertise.

The pupil/teacher ratio is currently 3 (lower than in France). The school charges 600,000 XOF per year, so it is expensive, but it is still cheaper than the French or the US schools. It thus targets the upper middle-class.

La Cocinelle is a pre-school for children aged 2 to 6, created in 2011 par Sara Adico, and located in Cocody, one of the wealthiest suburbs of Abidjan. The school costs 265,000 XOF per year and targets middle- and high-income families living in the surrounding area. The school obtained a grant from the Word Bank in order to open. In the beginning, they had 13 children, in 2018/19 they had about 80. They do not benefit from any government susidies, but have been authorized.

Mrs Adico is supported by a pedagogical consultant working at the Ministry of Education in order to conceive the school program. The school employs 11 people, and 8 of them are teachers.

The owner of the school, Mrs Adico, presented to Comoé a project to create a training centre for pre-school teachers, mainly for the private pre-schools, who struggle to find qualified employees

5.2. TVET and Higher education

Tertiary

According to World Bank and AFD (2017), **private higher education is regarded as second-level teaching to which are directed the students who are not admitted to higher public education.** Most students go to private establishments for the purpose of obtaining a BTS.

There are many private higher education providers[78], mostly offering programs in Arts. The International University of Grand Bassam is the most prestigious private university in the country, and it offers an American-style education, with all courses taught in English. It offers programs in Business Administration, Political Science, Mathematics, Computer Science, Computer Information System and Mechanical Engineering Technology. Tuition fees are more than 2 million XOF per term. Two other private establishments, which are prestigious, are the Catholic University of West

[78] MESRS and DESPRIV (2016) reports 44 higher education providers in 2016, but other sources indicates around 10 universities and more than 100 schools and other private institutions.

Africa, that is part of the UCAO network and has two units in the country (Health Science in Abidjan and Humanities and Theology in Yamoussoukro), and the *Université des sciences et technologies de Côte d'Ivoire* (UST-CI)[79].

The state pays private establishments 300,000 XOF per student studying for a BTS and 450,000 for undergraduate programs and programs in industrial sectors. This amount is perceived to be quite low to cover all the expenses institutions might have. This is why private institutions are informally allowed to demand supplementary fees from the students. Currently, the Minister would like private institutions to reduce the supplementary fees they demand (putting a ceiling at around 60,000 CFA), while at the same time increasing state subsidies. Discussions between the MESRS, the Ministry of Budget and Private Institutions representatives are currently going on about this topic. Apparently, the World Bank recommended replacing the current system with direct scholarship provision to the students. An officer from the MESRS said to us that they tried to implement this system in a pilot, but the approach did not work because some institutions had no students.

As mentioned above, **the Education Plan 2015-2025 states the objective of orienting more than half of the students towards private higher education, while at the same time reducing the resources devoted to it.** Also, private higher education is to be concentrated, on the basis of multi-year contracts, on priority sectors.

[79] https://www.cotedivoire.news/actualite/37783-liste-et-classement-des-universites-cote-d-ivoire.html

Box 2.13. A network of private tertiary institutions: The Intellect Africa Group

The Intellect Africa Group is a network of several private universities (one in Gabon) enrolling more than 6,000 students, including over 200 foreign students. The universities are independent, but they have a single owner, Mr Djegba, who is also president of the CONFESUP, one of the unions in private tertiary education.

The group includes 5 tertiary institutions: (i) Intellect Africa (I.A), created in 1996 (bachelor's and master's degrees in business and computer science), (ii) Afrique Formations (A.F), created in 1999 (bachelor's and master's degrees in business administration); (iii) Higher School of Interpreting and Translation (E.S.I.T) created in 2010, (iv) The School of the Sea (E.S.M) created in 2009, which also has a school in Gabon, (v) The Higher School of Accountancy Expertise, created in 2013.

In terms of teaching staff, the group employs 5 professors, 20 assistant professors and 150 lecturers. 75 people are employed as administrative staff. Most lecturers are recruited at the master level. Then Intellect Afrique provides them with internal training on teaching. They are currently thinking about the possibility of helping their teachers to obtain the CAPES (*Certificat d'aptitude au professorat de l'enseignement du second degré*), but they hesitate because teachers might prefer to leave to join the public sector once qualified. The group also employs teachers and university professors working in the public sector as contractors, as well as professionals working in the private sector. Salaries are very heterogeneous according to qualifications, but they are often lower than the ones paid in the public tertiary institutions.

The subventions that the universities receive do not allow them to cover all their expenditure, so their main sources of income are the students who pay for all their tuition fees and continuing education. On average 50% of their income come from the government. They need bank support in order to deal with government delays in payments. Banks are now able to provide short-term loans (1 or 2 years) to private tertiary institutions, but they are not able to provide them with the long-term loans that would be necessary for them to develop. As for infrastructure, Mr Djegba says that most of the groups universities buy or build their own infrastructure because it is not easy to find enough large spaces to rent, also there is cheap building land outside the city and the proprietors want to take advantage of this land.

Vocational

As mentioned in section 4.4 above, in Cote d'Ivoire **vocational education is mostly provided by private institutions**, which enrol about 60% of the students and registered an impressive increase in recent years. To our knowledge, no study exists on the specific challenges and needs of TVET private institutions in the country and we were not able to understand if the type of programs offered by private and public institutions are heterogeneous or not. Private establishments are concerned by the reforms mentioned in section 4.4 above.

5.3. Ancillary players

This section is devoted to the role of the ancillary education services in Cote d'Ivoire. In the ancillary services category, we include **education technology, e-learning, in-service teacher training or skill training provided by private providers, publishing, and supplementary education**. It is difficult to obtain information on all these sub-sectors. Here we cover only the ones for which we were able to collect some information, or for which we were able to interview some actors.

Publishing[80]

80% of the publishing market in the country is for the school market. It was liberalized in 2002, but it is heavily regulated. All the books for the school market must be written in collaboration with the Ministry of Education. Those adopted by public schools are written directly by the Ministry which assigns the publishing to a publisher through a call for tenders every 5 years. Public pre-schools can be more flexible in the choice of textbooks than public primary and secondary schools. Private schools can choose the textbooks they want to use from a list approved by the Ministry. It seems that the publishers who print the textbooks for the Ministry (Collection "Ecole & Développement") need to deal with the strong constraints imposed by the state through its terms of reference - short turnaround times, large volumes, long delays in payments, prices imposed by the state. The market for tertiary education is dominated by foreign publishers, while the one for secondary education is quite rich because it includes activity and exams books as well as textbooks. There are a few publishers who dominate the market, as shown in the table below. Publishers often use foreign businesses for printing.

Table 2.21. Publishers operating in Cote d'Ivoire

Publisher	Year of establishment	Complementary information	Market share
NEI-CEDA	1961-1972	Monopolist for public primary textbooks up to 2002	37%
Eburnie	2002		25%
Fra-Mat Editions	2005		18%
Les Classiques Ivoriens	2004		12%
Les PUCI	1998	Mainly publishes textbooks for Universities	NA
Neter	1992		NA
JD Edition	2014	Produces almost exclusively activity books	NA
Vallesse Editions	2005		NA

[80] The source of the sub-section on Publishing and on Ed-tech in the Sectorial Study conducted on Education in Cote d'Ivoire by Comoé Capital. The study is not public.

Education technology

The ed-tech sector in Cote d'Ivoire is developing impressively. We present below the ed-tech organisations that currently operate in the country. Some other projects are expected to be launched soon.

- **CHALKBOARD Education**: a French company, also present in Ghana, that offers mobile learning solutions to universities, secondary and higher education institutions
- **Eneza**[81]: an e-learning platform for teachers, students and adults using sms technology, also present in Ghana (https://enezaeducation.com/).
- **Etudesk**[82]: a start-up offering professional and short-term online courses (between 2 and 10 hours) through its interactive platform https://www.etudesk.com/
- **Qelasy**: a company based in Abidjan, offering tablets and teaching applications for teaching and learning in 6 francophone African countries, also present in Morocco http://www.qelasy.com/
- **Educarriere**: a website presenting work and training opportunities in Cote d'Ivoire https://emploi.educarriere.ci/

6. Policy context and the regulation of private players in education

Private education is supervised by the DEEP, *Direction de l'Encadrement des Etablissements Privés*, which is a department of the MENET-FP. The accreditation process for private schools consists of three steps: (i) application for an authorisation to create a school, which allows the school to operate for a few months; (ii) submission of an application for opening, which allows the school to function for 5 years; (iii) application for government recognition after which the school receives a certificate, which has to be renewed every 3 years (Harma, 2018). To receive government authorization, schools need to meet a certain number of requirements. For example, the school proprietor must be the owner of the infrastructure. Inspections are frequent. Even non-recognized schools are inspected by government officers (Harma, 2018), which suggests that the existence of non-registered schools is tolerated.

Private tertiary institutions are under the control of the General Direction of Quality (*Direction Générale de la Qualité*). They are subject to authorization before creation, then for their opening. One of the conditions of opening is that the majority shareholder is of Ivorian nationality. They are inspected, and inspections can be unannounced. Their programmes must also be approved. BTS students pass the same exams whether they are trained in public or private institutions, with the exam being organized by a specific department (Direction des Examens, des Concours et de l'Orientation). In order for Private Universities to deliver their diploma, they need to sign an agreement with a public University, that allow them to provide training and deliver

[81] More information on Eneza can be found in box 2.18 in the Ghana section of the report.

[82] Etudesk is one of the enterprises selected for our in-depth analysis of business models from the education sector, that is reported in part 3 of the study.

diplomas from the partner university, without any additional control. Establishments can be authorized by the MESRS to issue their own diploma for post-BTS training and may also apply for accreditation at African and Malagasy Council for Higher Education (CAMES), an institution that tries to harmonize higher education and research in Francophone Africa (World Bank and AFD, 2017). The *Direction Generale de la Qualité* recently developed quality standards for higher education institutions in line with international standards.

Private higher education institutions are governed by the revised Uniform Act on commercial companies and economic interest groups (the "Revised Uniform Act") of the Organisation for the Harmonization of Business Law in Africa (OHADA). They are usually in the legal form of individual enterprises or enterprises with limited liability and they are managed by a board of directors (World Bank and AFD, 2017).

Education challenges in Ghana

1. Introduction

Ghana is a country where access to education has considerably increased in recent decades and where gender parity seems to have been reached at both basic and secondary level, but where big heterogeneities remain across regions.

Ghana is one of the few African countries where pre-school is compulsory, with an official school starting at 4 years old. Unfortunately, because of the lack of places in schools, this often translates into a late enrolment in pre-school, where it is common to find children of primary school age. The quality of pre-school is low, mainly because of a lack of qualified teachers.

Overall the quality of basic education is low, as shown by National Education Assessment 2016, according to which less than 50% of children achieved minimum competencies in English and Mathematics in their last year of primary school. The government seems aware of the problem and has decided to make quality one of the key priorities for the Education Strategic Plan (ESP) 2018-2013. An important reform of the initial teachers training system is ongoing, together with a revision of all curricula. Moreover, IPA (Innovation for Poverty Action) has evaluated several successful teaching innovations in the country, and the government is now planning to scale up some of them.

The government has invested a lot in infrastructure expansion in the recent decades, mostly at the secondary school level, with the aim of expanding access to secondary education. In the 2017/18 academic year, the Free Senior High School (SHS) policy was launched, resulting in a big pressure on secondary school infrastructures.

The number of basic private schools has also risen significantly, as well as the number of children enrolled in such schools. Enrolment in private SHS is less common, because of their poor reputation. What is interesting in Ghana is that basic private schools are generally perceived to offer a better education than public ones, but the opposite is true for senior secondary schools. This also explains why private SHS have suffered from a drop in enrolment since the introduction of the Free SHS policy.

Vocational education is still considered as a second choice by Ghanaian students, with less than 7% of Junior High School (JHS) graduates opting for vocational programs at school. Several reforms have been undertaken to improve TVET quality and attractiveness, but with poor results for now. A new reform is to be launched soon.

The number of students continuing to tertiary education has increased in recent decades, but access to tertiary education remains difficult, especially for low-income students. The quality of some public Universities has improved and they have also started attracting students

from other African countries, notably from Nigeria. The number of private tertiary institutions has exploded. They mainly offer Arts programs, which cost far less, and by reputation they do not offer a high-quality service.

From our study, Ghana emerges as a business-friendly environment, the ideal place for a start-up to establish. The ed-tech sector is quite dynamic, there are some organizations exploring the in-service teacher training market, and there is a proliferation of remedial classes. There are several foundations working with micro-credit institutions to financially support low-fee private schools.

In this section of the report on Ghana, we present the country education system, with specific analysis by the level of education. For each level, we look at the issues of access, equity and quality, and at the role of the private sector. We also illustrate the government strategy with respect to the main issues and challenges the sector is facing. Finally, we highlight the opportunities and the constraints for private actors operating in the country, both for private education providers and for ancillary education services providers.

2. General organization of the national education system

The education system in Ghana has a 2-6-3-3 structure. Ghana is one of the few African countries where pre-school education is compulsory and the official age at entry is four. Six years of primary education follow. There is not a certificate of primary school completion, all children who complete the sixth grade of primary school are automatically admitted into secondary school. Secondary school is divided into Junior Secondary School (JHS) and Senior Secondary School (SHS). JHS consists of three grades, it provides general education and it is considered as being part of basic school, so it is compulsory. The Basic Education Certificate Examination (BECE) represents the terminal point of basic education. Students who obtain this certificate can proceed into general, or vocational upper secondary education.

General SHS consists of three years and is composed of compulsory core subjects and elective subjects: students can choose between agriculture, arts, science or business programmes. If they choose a vocational or technical program, they enrol in a Technical SHS. The Technical SHS provide theoretical and practical education. At the end of the SHS, students pass the West African Senior School Certificate Examination (WASSCE). If they obtain a sufficient result, they can apply to a university or polytechnic program. The tertiary education system consists of Universities, Polytechnics and Colleges of Educations.

An alternative to general SHS or technical SHS are technical institutes, which propose a 4-year curriculum, divided into two parts of two years (a pre-technical/craft course followed by general technical/craft course.) Student can obtain different certifications according to the kind of program they followed (i.e. the Awards from City & Guilds, the Royal Society for the encouragement of Arts,

Manufactures and Commerce, or the West African Examinations Council). Students can then access polytechnics or apprenticeships.

Informal TVET includes the apprenticeship system and on-the-job training, without formal qualification. The duration of the apprenticeships can last from two to three and a half years.

There is only one Minister of Education in Ghana, which is organised in five divisions: Basic Education, Second Level Education, Non-Formal Education, Inclusive and Special Education, Tertiary education. Each division is managed by a different agency: The Ghana Education Service (GES) manage the pre-tertiary education, the National Council for Tertiary Education (NCTE) manages tertiary education, the Non Formal Education Division (NFED) deals with non-formal education, the Special Education Division (SPED) deals with with special education, and the Council for Technical and Vocational Education and Training (COTVET) deals with TVET. Three independent national bodies are responsible for the accountability of the education system: the National Inspectorate Board (NIB), the National Teaching Council (NTC), the National Council for Curriculum and Assessment (NaCCA).

2018/19 is the second academic year of the introduction of **the Free SHS Policy** which is expected to deliver big changes in the Ghanaian education system. It is also the year of the launch of the reform of the initial teaching training system.

3. General Analysis

3.1. Access to education and demographic trends

Access to education has substantially increased in Ghana in recent decades. Data from the Ministry of Education, shown in Figure 2.11, indicate increases in Gross and Net Enrolment Rate for all levels of education between 2010 and 2016. Figure 2.11 also shows that GER exceeds NER for all education levels: this occurs because many children do not enter school at the appropriate age and because year repeat is very common in the country. The repeat rate is particularly high for the first year of pre-school (37%) because of the high number of under-age children who enrol in that grade. Repetition rate varies between 10% and 15% in primary school, it is 19% in the first year of JHS and 15% in the second year. Repetition is low (5%) in the last year of JHS, probably because it is the last compulsory year of schooling. It increases again to about 15% for SHS.

Figure 2.11. GER and NER for basic education, 2011–2017

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
KG GER	98%	99%	114%	123%	129%	124%	116%
KG NER	60%	64%	75%	91%	83%	80%	75%
Primary GER	96%	97%	105%	107%	110%	111%	111%
Primary NER	78%	82%	84%	89%	91%	92%	91%
JHS GER	80%	81%	82%	82%	85%	88%	87%
JHS NER	46%	46%	48%	49%	49%	50%	50%

Source: Ministry of Education, 2018. Note: KG stands for Kindergarten, that is how pre-school is usually named in Ghana.

Figure 2.12. GER, NER, and JHS3 to SHS1 transition rate for SHS, 2012–2017

	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
GER (%)	37,1	36,8	43,9	45,6	49,6	50,1
NER (%)	23,6	23,6	21,8	22,5	25,2	26,5
Transition rate JHS3 to SHS1	51	61	68	68	67	68

Source: Ministry of Education, 2018. Note: Transition from JHS3 to SHS1 uses figures of JHS3 students in the previous year.

Figure 2.13 shows that the **projected numbers of children are expected to grow** for all school-age categories in the next few years. This means that the enrolment rate will continue to grow, with an ensuing pressure on infrastructure. Enrolment is expected to rise even more in SHS because of the introduction of the free SHS policy.

Figure 2.13. Projected number of school-going children by appropriate school-level age category 2017–2025.

Source: Ministry of Education, 2018

Despite the observed increase in enrolment rates the percentage of out-of-school children remains very high, especially in the north of the country, as shown in Figure 2.14.

Figure 2.14. Regional distribution of Out-of-School Children, 2014

Source: Ministry of Education, 2018

Figure 2.15 shows the **progression rate**s from primary school to SHS. For every 100 children who enter primary school, 75 enrol in JHS, 59 are still there at the end of JSH, and 41 enter SHS. According to estimations based on DHS 2014 data, the progression rate from primary to SHS is even lower, with only 16% of pupils entering pre-school being able to enter SHS. Previously the transition from JHS to SHS resulted in a drastic reduction in the number of enrolled pupils, but this is likely to change thanks to the free SHS policy.

Figure 2.15. Progression rates from Primary to SHS

Source: Ministry of Education, 2018

3.2. Expenditure on education

According to the World Bank (2017) Ghana spends a higher proportion of GDP on education than the other ECOWAS countries. In 2015, education expenditure (excluding internally generated funds, IGF[83]), represented 5.3% of GDP and 19% of total government expenditure. Most of the total education expenditure, 68% in 2015, is used to pay wages. Most funding is used for primary, secondary general, and tertiary education (table 2.22), while per-student spending varies a lot by education sub-sector, with vocational, technical and tertiary education being far more expensive than the other sectors (figure 2.16).

Table 2.22. Proportion of education spending by sub-sector, including and excluding IGF, 2015

Sector	Proportion of education spending, including IGF	Proportion of education spending, excluding IGF
Pre-school	6.0%	7.4%
Primary	17.3%	21.4%
JHS	14.8%	18.2%
SHS	23.4%	17.5%
TVET	2.5%	3.1%
Inclusive and special education	0.4%	0.5%
NFE	0.2%	0.2%
Tertiary	25.2%	19.0%
Management and agencies	10.2%	12.6%

Source: Ministry of Education, 2018.

[83] "IGF is predominantly fees and levees paid by students directly to SHS and tertiary institutions. As such, they should be defined as private contributions to education expenditure; however, it is customary to include IGF in the overall education expenditure" (Ministry of education, 2018, p.7).

Figure 2.16. Unit cost by level of education, public schools only, and excluding IGF, 2014 and 2015, GHC.

Source: Ministry of Education (2018)

Per-student spending also varies across regions: for primary education for example higher amounts are spent in Central and Eastern Regions, while lower amounts are spent in Ashanti, Greater Accra, Western and Upper West Regions (figure 2.17).

Figure 2.17 Total per-student spending on public primary education 2015, GHC.

Source: Ministry of Education, 2018

Public education expenditure is financed by the government budget, from the Ghana Education Trust Fund[84], and from the ABFA (the Annual Budget Funding Amount, which is the channel through which oil revenues are used to support the budget), but also from development partners.

4. Specific subsector achievements and challenges.

This section explores, for each level of education, infrastructure, quality, equity, and management issues, and the role of the private sector. It also describes specific projects or recent reforms which concern each education level and presents the main challenges.

4.1. Basic education: from pre-school to lower secondary school

In the past decade, many basic schools have been built, restored or expanded to face the increase in enrolment in basic schools and to ensure a proper learning environment for all children. A big effort has been made to replace the schools that did not have any infrastructure and were held under trees. Nevertheless, the effort has not been sufficient to respond to the country's needs. The **pupil/classroom ratio (PCR) remains very high** in all regions for pre-school, but also for primary and JHS in some regions (table 2.23). The table also indicates how many classrooms should be built in each region and for each level in order to attain the maximum ratios of 45 for pre-school, 40 for primary, and 40 for JHS.

[84] The Ghana Education Trust Fund is a public sector agency established in 2000 with the aim of providing supplementary funding for education infrastructure and facilities. 2.5% of VAT collections are transferred to the fund annually

Table 2.23. PCRs and classroom backlog for pre-school, primary, and JHS by region, 2016

Region	PCR			Classroom backlog		
	Pre-school	Primary	JHS	Pre-school	Primary	JHS
Ashanti	49	36	35	351		
Brong Ahafo	52	35	33	519		
Central	46	37	33	70		
Eastern	43	31	28			
Greater Accra	46	52	48	26	1,583	612
Northern	86	46	46	2,256	1,545	445
Upper East	81	50	45	785	1,077	190
Upper West	81	40	35	638	31	
Volta	53	33	29	408		
Western	52	36	34	438		
Total	55	38	35	5,491	4,236	1,247
% of total classrooms				24%	5%	4%

Source: Ministry of Education (2018)

Pre-school

In 2007, the Ghanaian government decided to make **pre-primary school compulsory for pupils aged 4 and 5.** Today, most children enter pre-school, but not always at the appropriate age. Data show that 41% of six years old children are still in pre-school. The lack of places in pre-school is one of the reasons which explains this problem: pre-school is compulsory, so children need to enrol in pre-school before going to primary school. But, since places are limited, priority is given to older kids[85]. This initial late enrolment has subsequent effects on all the subsequent levels of education, and partially explains the big difference between GER and NER.

According to IPA,[86] the **quality of pre-school education is very low in Ghana**, in particular in urban and peri-urban areas. This can be explained by the low qualifications of teachers, who are often untrained and use methods that are not appropriate for small children. A few projects have been run in the past few years by Innovations for Poverty Action (IPA), in collaboration with several researchers, the National Nursery Teacher Training Center (NNTTC), the Ghana Education Service among others, with the aim of improving instructional quality and at the same time implementing parental awareness interventions that aligns parents' demands with the accepted age-appropriate

[85] Unicef wants to propose school readiness camps before the beginning of the academic years to prepare children who have not attended pre-school to directly enter primary school.

[86] https://www.poverty-action.org/study/improving-kindergarten-quality-ghana

teaching techniques[87]. One of the problems researchers have identified is the fact that parents do not easily accept play-based teaching techniques and make pressure for the teachers to use more traditional methods.

In one of these projects, NNTTC offered to teachers and head teachers an 8-day training (a 5-day course plus two refresher trainings some months later). The program was effective in improving the quality of child/teacher interactions in the class, and this in turn resulted in small gains in the children's literacy and numeracy skills and social/emotional outcomes. Also, the teacher training reduced teacher turnover in the private sector (McCoy and Wolf, 2018). The NNTTC is currently seeking funds to scale up the project.

This program was run in both the public and private sectors. Researchers were able to compare public and private pre-schools that were in their sample, observing that private pre-schools mostly serve "wealthier families, have smaller class sizes, and children attending private kindergartens [pre-schools] are slightly more likely to have the skills to be "school ready". However, public schools have more qualified classroom teachers, and classroom quality (defined as instructional support, classroom organization, and emotional support to students) is similar across public and private kindergartens [pre-schools]."[88]

The Government seems conscious of the problem of low teaching quality at the pre-school level, a revision of the training program for pre-school teachers is ongoing and a reform of the system is envisaged in the 2018 Strategic Plan.

Currently, about 20% of pre-school pupils are enrolled in private schools, but the percentage varies across regions, from 60% in Greater Accra to less than 10% in the Upper West region.

Primary and JHS

Gender parity seems to have been reached in both Primary and JHS levels, even if gender differences persist in Western and Northern Regions. Inequalities in completion rates persist among rural and urban areas and across income levels and across regions, as shown in table 2.24. The central region shows the least net attendance for basic schools. Some authors suggest that this could be related to the relevance of fishing activities for the livelihood of the people living in this region where children are likely to miss classes to go fishing (Ananga, 2011).

[87] https://www.poverty-action.org/study/improving-kindergarten-quality-ghana; https://www.povertyactionlab.org/evaluation/effects-play-based-preschool-learning-program-rural-ghana

[88] https://steinhardt.nyu.edu/scmsAdmin/media/users/mhm327/baseline_findings_public_private_updated_June_2016.pdf

Table 2.24. Parity indices in completion rates by level of education across gender, rural/urban, quintiles, and regions

2014 Education level	Primary	JHS
Gender: girls/boys	1.05	1.02
Location: rural/urban	0.74	0.61
Income: poorest quintile/richest quintile	0.48	0.37
Region: lowest/highest	0.50	0.35

Source: Ministry of Education, Education Sector Analysis, 2018.

Tests in English and in Mathematics have been administrated every year to a representative sample of pupils attending the fourth and the sixth level of basic education since 2005. The results for this National Education Assessment (NEA) for 2016 show that **less than 50% of children enrolled in the last year of primary school (P6) achieve minimum competencies in both Mathematics and English.** If some difference can be observed between boys and girls, the most striking differences concern locality, with pupils living in rural areas showing significantly lower performances than pupils living in urban areas (table 2.25). The results of pupils living in the three Northern Regions are lower than the others. A difference can be observed between the pupils attending public and private schools.

Table 2.25. Proportion of pupils achieving minimum competency by sex, location, type of school, 2016

Subject and grade	Sex		School location		School type	
	Male	Female	Rural	Urban	Public	Private
Maths						
P4	41.9%	41.5%	37.9%^	47.0%***	38.1%^	55.6%***
P6	44.9%***	42.8%^	40.8%^	47.8%***	41.6%^	53.2%***
English						
P4	49.8%^	52.0%***	45.2%^	59.0%***	46.1%^	69.6%***
P6	47.6%	48.1%	41.6%^	56.0%***	43.9%^	64.6%***

^ = reference; ***p = 0.000.

Source: Ministry of Education (2018)

The performance in Mathematics and Science can be also evaluated thanks to the TIMSS data[89]. Ghana participated in the TIMSS project in 2003, 2007 and 2011. Pupils enrolled in the second grade of JHS were tested with very negative results: Ghana was always among the last countries in terms of performance.

The government is conscious of the poor quality of basic education. Basic school and SHS curriculum are in a revision process, with a specific focus on Science, Technology, Engineering and Mathematics (STEM). The new primary school curriculum is rolling out in September 2019 and the JHS and SHS curricula are planned to roll out in September 2020.

According to the Education Strategic Plan 2018-30, **the school accountability system is weak and inefficient**. Strengthening system accountability, from the teachers up to the ministry civil servants, is one of the government's priorities. World Bank has promoted the GALOP, Ghana Accountability for learning outcome, a project which aims to hold directors and teachers accountable on management issues[90].

Basic public schools receive a per head payment, named 'capitation grant' to implement their activities. The value of this payment was doubled in 2017 because it was perceived as too low. However, it is often paid with long delays, and sometimes schools complain they do not receive the entire amount that was planned so that they must search for another type of funding (NDPC, 2015).

Private schools account for about 20% of enrolment for basic education, with big differences across regions. In terms of infrastructure, private schools constitute about a third of basic school structures in the country, but with an unequal distribution across regions. For example, only 6% of private primary schools are located in the three Northern Regions, while 43% are located in the Ashanti Region and Greater Accra.

4.2. Upper Secondary education

The academic year 2017/18 was marked by one important reform, which was announced by the New Patriotic Party in 2016 elections, **the Free SHS.** Even if previously there were no tuition fees, other costs (i.e. admission fees, examination fees, library and laboratory charges, textbooks, learning material, uniforms, meals, etc.) were an important barrier for access to SHS and partially explained the low enrolment in SHS. It also explained an income parity index that was 0.21 in 2016/17, indicating that access to SHS was mostly reserved for wealthy families, while children from the bottom quintiles and from the poorest districts were far less likely to access SHS. About 25% of students were admitted each year but did not finally enrol. The Government has thus

[89] The TIMSS is an internal survey that compares the abilities of students in mathematics and science after 4 and 8 years of schooling. The framework and the survey specifications are developed in consultation with international experts in mathematics and science, as well as with local academics.

[90] World Bank, Project Information Document (PID), Concept Stage | Date Prepared/Updated: 12-Dec-2018 | Report No: PIDISDSC24903.

decided to absorb these costs for the new entrants to SHS in the academic year 2017/18[91]. This "free SHS" policy was expected to increase demand for secondary education, especially from lower income families. According to President Akufo-Addo's declaration, around 90,000 students benefitted from the free policy in its first year of application[92]. Data show that the number of enrolled students increased from about 310,000 in 2016/17 to about 360,000 in 2017/18[93]. No data are yet available to understand how the policy impacted the different income quintiles.

A massive policy of infrastructure development for SHSs was initiated in Ghana in 2012, with the support of the World Bank. This policy is still ongoing, and in December 2017 another 40 million dollars loan from the Work Bank was approved in order to improve SHSs in the country. Despite these efforts, table 2.26 below shows that about 2,900 classrooms were needed in 2016 in order to reach the targeted PCR of 40 pupils per class. Within the framework of the current SHS free policy, the government was confronted with a lack of classrooms and decided to implement a double track system, a system that splits students and staff into two tracks - while one track is at school the other is on vacation, for about 400 of the total 630 public SHSs, starting in the 2018/19 academic year. Also, in 2018, about 8,000 SHS teachers are expected to be recruited.

[91] This policy was motivated, among others, by « a study by Innovations for Poverty Action that found that providing scholarships for SHS increased secondary school completion by 30%, while also leading to significant gains in relation to cognitive scores. The impact of the scholarships is particularly pronounced for girls in terms of learning outcomes, tertiary enrolment, fertility and marriage, and labour market outcomes (Duflo, Dupas and Kremer, 2017). »

[92] http://dailyguideafrica.com/8000-fresh-teachers-for-free-shs/

[93] Data revealed by Dr. Matthew Opoku Prempeh, Minister for Education: http://moe.gov.gh/edge/content/uploads/2018/10/GES-COUNCIL-PRESENTATION-Copy.pdf

Table 2.26. PCRs and classroom backlog in SHS by region, 2016

Region	PCR	Classroom backlog
Ashanti	49	877
Brong Ahafo	43	109
Central	43	155
Eastern	49	585
Greater Accra	47	272
Northern	55	478
Upper East	51	217
Upper West	45	77
Volta	36	
Western	44	123
Total	**46**	**2,894**
% of total classrooms		16%

Source: EMIS 2016 database

Gender parity was nearly reached in 2016/17 in SHS, with a parity index of 0.96 in GER. Data for 2014 show that girls still presented significantly lower enrolment and completion rates than boys (43.6% versus 47.7% for the enrolment rate; 42% versus 47% for the completion rate) (Ministry of Education, 2018b).

The quality of secondary school education can be evaluated by looking at the results of the WASSCE certification. Figure 2.18 shows the proportion of pupils passing the examination with at least C6 (the score that permits entry to University) over the period 2006-2016. Performances vary a lot across subjects and poorer performances are observed for Mathematics and Science. Heterogeneity across regions is observed for WASSCE results, with the three Northern Regions showing the worst scores.

Figure 2.18. Attainment of A1 to C6 in WASSCE examinations across the four core subjects, 2006–2016

	2006	2007	2008	2009	2011	2012	2013	2014	2015	2016
English	34	28	49	43	70	68	66	64	50	53
Mathematics	32	25	26	29	44	50	37	48	24	34
Int. Science	25	24	26	35	42	57	50	46	24	49
Social Studies	68	76	61	77	82	87	82	71	52	55

Source: Ministry of Education, 2018. Note: WASSCE was not held in 2010 due to a change in the number of years of SHS from three years to four years, which meant that no exams were taken in 2014.

As for basic education, the **government is seriously concerned about the low performance in secondary school,** particularly in science, and it plans to review the existing curriculum.

As illustrated in section 1, at the SHS level, students can enrol in different programmes. Table 2.27 shows that almost half of the students opt for Arts, followed by Business and Home economics (a vocational programme). Enrolment in science programme is less than 12%. Pupils enrol less in scientific programs, and, when enrolled, they perform worse. These data allow us to conclude that **pupils have low interest and low skills in scientific and technical programs.**

Table 2.27. Percentages of students enrolled in SHS programmes by academic year

Programme	2011/12	2012/13	2013/14	2014/15
Agriculture	6.8	6.1	5.6	5.3
Business	22.0	20.7	17.7	15.5
Science	11.6	11.7	11.6	11.9
Arts	39.1	40.5	43.0	44.1
Technical	3.3	3.3	3.3	3.1
Vocational	11.1	11.9	12.8	13.8
Visual Arts	6.0	5.9	6.0	6.4

Source: EMIS 2015 data

It is interesting to remark that the biggest heterogeneity in WASSCE results is across schools: in some 'high-quality' schools, all students receive a A1-C6 grade, while in some 'low-quality schools' all students receive a lower score[94]. This happens because placements to SHS favour selection[95]. Best students often come from good private schools. The **Free SHS policy is likely to further exacerbate disparities between high-quality schools and the rest of the schools**, although one element of the policy is that at least 30% of places in SHSs are reserved for pupils from public schools.

4.3. Higher education

In the 2016/2017 academic year, about 444,000 students were enrolled in Ghanaian tertiary institutions, Gross Enrolment Ratio of about 17%.[96] **Tertiary education is still largely elitist and unavailable to significant parts of the population**, but an increase in enrolment is expected in the next years because of the Free SHS policy. Also, Ghana has started to attract students from other African countries, particularly from Nigeria. The biggest challenge for the system is thus to be prepared to absorb the increased numbers of students from pre-tertiary, starting from the 2020/2021 academic year.

[94] Data from the GES show that over 400 public and private SHS across Ghana, out of the 916, produce less than 10% students qualified to enter tertiary education.

[95] Students give preferences for the SHSs where they want to enrol. There are three groups of schools A, B and C. Students can give a preference for an A school, two for B schools, two for C schools. Then each school can select the students from the list of candidates, and they select the best ones. According to IPA, most students tend to give preference for the best A schools even if they do not know if the grade they have allows them to obtain a place in that school. IPA is evaluating a project where students receive a manual containing the average scores of acceptance for each school, so that they can understand if they have a probability to be accepted in that school. The idea is that with better information students could make better choices and obtain a better placement.

[96] GER is calculated here as the Total Tertiary Enrolment/Population within aged 19 to 23, multiplied by 100.

There are currently about 170 higher education institutions in Ghana of various kinds, 81 of them are private. Table 2.28 shows the number of public and private tertiary institutions, by type.

Table 2.28. Number of Public and Private Tertiary Institutions and enrolment by gender

Institutions	Number	Number of Students		
		Male	Female	Total
Public Institutions				
Universities	9	156,413	102,256	258,669
Technical Universities/Polytechnics	10	33,365	17,567	50,932
Colleges of Education	45	24,041	20,772	44,813
Specialized Institutions	8	5,692	4,631	10,323
Colleges of Agriculture	3	652	108	760
Nursing Training Colleges	15	1,634	4,691	6,325
Private institutions				
Tertiary Institutions	74	37,350	28,672	66,022
Colleges of Education	3	2,721	2,475	5,196
Nursing Training Colleges	4	270	668	938
Total		262,138	181,840	443,978

Source: NCTE, 2018

In terms of subject, **29% of students are enrolled in a Science program** (i.e. Applied Science, Technology, Agriculture, Engineering etc.), while the remaining 71% are enrolled in Arts programs (i.e. Business, Social Science, Humanities etc.). These percentages are far from the target ratio of 60 to 40 fixed by NCTE. Demand and supply-side reasons contribute to explain this difference. Tertiary institutions offer many more Arts-related programs than Science-related ones. In particular, private tertiary institutions rarely propose Science programs. Also, students prefer to enrol in Arts-related programs.

The Gender Parity Index for Tertiary Education in Ghana stands at 0.69, indicating that big **gender inequality exists** at this level of education.

58% of students are enrolled in public Universities, while polytechnics have 11%, and colleges 12%. **Private institutions have about 16% of students.**

There are 9 public Universities in Ghana, but 3 of them (the University of Ghana, Kwame Nkrumah University of Science and Technology, and University of Education Winneba) account for 65% of the total number of students enrolled in public universities. Some of the public University offer courses during the vacation period, called sandwich programs, as well as distance learning programs. Most distance learning programs are undergraduate programs in the fields of Arts. More than 80,000 students were enrolled in such programs in the 2016/2017 academic year and the demand has increased significantly since 2012.

There is a polytechnic in each of the 10 Ghana regions. They were originally created in order to "provide middle-level management personnel to support the economic development of the country" (NCET, 2018, p. 20). Now they are in the process of being elevated to Technical Universities, with the aim of improving quality and attract more students. At present, courses at polytechnics last from two to four years. In the end, students obtain a Bachelor of Technology degree, which is the highest TVTE professional qualification (Gondwe and Walenkamp, 2011).

All public pre-tertiary teachers are trained in Ghana in the Colleges of Education. In 2016/17 there were 45 public colleges of education spread all over the country, and four accredited private colleges of education. The creation of private colleges of education is quite recent because teacher training was traditionally perceived as a public sector prerogative. However, five private colleges of education became public in 2016/17 as a result of the ongoing reform that affects these colleges. All Colleges of Education have been recently upgraded to University Colleges and offer – starting from 2018/19 academic year - a four-year Bachelor of Education degree. Students now have the opportunity to specialize as early childhood, primary or junior secondary teachers from the beginning of the program.

Finally, tertiary institutions include Nurses Training Colleges and Specialized Institutions offering training in specific subjects, including journalism and film making.

4.4. Technical and Vocational Education and Training (TVET)

Vocational education in Ghana is provided at the secondary level in conventional and specialized schools and at the tertiary levels in polytechnic institutions[97]. Since 2006, TVET activities are coordinated by the Council of Technical and Vocational Education (COVTET), but the governance of the TVET system remains complicated because several ministries, other than the Ministry of Education, are involved in the provision of vocational education (i.e. the Ministry of Employment and Labour Relations, the Ministry of Youth and Sports). Non-formal and informal vocation training is coordinated by the National Vocational Training Institute (NVTI) that is under the Ministry of Employment and Labour Relations[98].

[97] This paragraph mainly concerns TVET at secondary level. TVET at the tertiary level is offered at universities and polytechnics, so it is covered by the paragraph on tertiary education.

[98] NVTI operates 38 vocational centres providing training in 28 skill areas (UNESCO-UNEVOC, 2016)

At the secondary level, formal TVET education is provided in the technical secondary schools (SHTS) and in the teaching training institutes (TTIs). Pupils who graduate from technical secondary schools may pursue their education in polytechnics or universities, while those who graduate from TTIs may choose between polytechnics and apprenticeship.

The Ministry of Education (2018 ESA) recorded 120 public TVIs (technical and vocational institutes) institutions and 58 private ones in 2016, an increase with respect to previous years[99]. A similar increase is registered for SHTS. However, enrollment in these schools is quite low, with only 13.6% of students enrolled in technical subjects at general secondary schools.

According to the government, the low enrollment in vocational schools is due to the negative perceptions and the poor quality of these schools. In the *Education Sector Analysis* 2018, we can read (p.53): "In general, evidence suggests that there is a poor public perception of TVET, which is only seen as a good option for academically weaker students, resulting in low social demand for TVET. The social demand for TVET is constrained by the low absorption capacity of TVET institutions and poor quality. Due to the inadequate academic and physical infrastructure of many of the existing schools, only a small percentage (of about 5–7%) of JHS (BECE) graduates can be admitted into public and private TVET schools". Moreover, for a high percentage of the young people who are placed in those schools, this was not the first option since most JHS graduates prefer general SHS. As a consequence, only one-third of those who are placed in a technical institute actually enroll (Ministry of Education, 2018*)*

Most of the vocational education in Ghana is still non-formal and it is based on a 3-years traditional apprenticeship model[100]. In 2012 COVTET introduced the eight level 'National and Vocational Education and Training Qualification Framework', proposing qualifications from proficiency 1 up to the PhD in technology. The main idea of this framework, summarized in table 2.29, is that qualifications are not just reserved for formal education but they also concern informal and non-formal training which allows people to acquire technical skills (UNESCO-UNEVOC, 2016). The main objective of the framework is to recognize the value of the traditional informal apprenticeship and to give uniform standards and learning to individuals trained in the informal economy.

[99] "Some institutes are administrated by the GES at the MOE, while others are administrated by the NVTI of the Ministry of Manpower Development and Employment, by the Ministry of Local Government and Community Development, or by the Department of Social Welfare" (UNESCO 2003).

[100] Innovation for Poverty Action is currently evaluating an apprenticeship program, the National Apprenticeship Program (NAP) that has been initiated by COTVET and implemented at district level by the GES, in partnership with craft trade associations. It is a 1-year training period, during which apprentices are trained by a master trainer, who is payed by the government (IPA study summary on Returns to Apprenticeship Training in

Ghana).

Table 2.29. The Ghana National TVET Qualification Framework

Level	Qualification	Status	Certifying Institution
8	Doctor of Technology	Formal	-
7	Master of Technology	Formal	-
6	Bachelor of Technology	Formal	Polytechnics
5	Higher National Diploma	Formal	Polytechnics
4	Certificate II	Formal	GES-TVET Institutions
3	Certificate I	Formal	GES-TVET Institutions
2	Proficiency II	Informal/Non formal	NVTI/Informal trade associations
1	Proficiency I	Informal/Non formal	NVTI/Informal trade associations

Source: COTVET Legislative Instrument LI 2195 of 2012

Closely related to the qualification framework is the Competence Based Training model. Core subjects, like Mathematics, English and Science, are introduced in all TVET curricula, so that all TVET student can acquire basic general skills besides practical skills (Alagaraja & Mensah, 2018).

According to Alagaraja & Mensah (2018), formal TVET in Ghana has several problems: first, it is perceived as an inferior form of education, so that students entering the system have weak academic results; second the labour market opportunities for its graduates are generally weak; third there are not enough partnerships with employers in the industry; last but not least, the sector is underfunded, so that it is not easy to guarantee equipment and resources for a high-quality training and education.

Vocational education is one of the priorities of the government for the current Education Strategic Plan. Measures will be taken in order to address the low enrolment in formal TVET and its poor quality.

COVTET officers said that they would like to **encourage the private sector to be more involved in TVET**. Private sector representatives are already on the board of all technical institutions, but they are not sufficiently involved. In the government's view, it would be rational for businesses to invest in training and receive qualified workers in exchange, as it works in the Switzerland model, where training is paid from businesses, while infrastructures and equipment are funded by the government and the training program is elaborated by employer organizations and associations (Hoffman and Schwartz, 2015).

COVTET recently elaborated a **five years strategic plan for the TVET transformation** (2018 – 2022), that is based on five pillars: management, access, quality, financing and environmental

sustainability. In terms of management issues, the main idea is to realign all TVET institutions to the Ministry of Education and to strengthen the role of COVTET. In terms of quality, the strategy is focused on more effective implementation of the Competency Based Training Policy and on the progressive adoption of a dual TVET system inspired to the German model, where theory and practice in a real work environment are closely interrelated[101]

4.5. Teacher training

The colleges of education traditionally offered initial teacher education preparation in Ghana. Examinations were centralized at the University of Cape Coast, which also offered degree programs to teach both at basic and high schools. The University of Education, Winneba, also offered this kind of degree program (Asare & Nti, 2014).

The ongoing reform of initial teacher training is changing this system. As mentioned in section 3 above, a 4-year degree has been introduced starting from the 2018/19 academic year. This reform has been implemented after a long work done by the Government of Ghana in collaboration with the University of Cambridge, with the financial support of the DFID. The T-TEL project's mission was to transform the delivery of Pre-service Teacher education in Ghana by **improving the quality of teaching and learning through support to all Public Colleges of Education** from 2014 to 2018[102]. The reform did not just concern the form but also the content of the initial teacher training, because the curricula have been revised. One of the main objectives was to introduce more innovative teaching practices and methods since the ones that are traditionally used are quite old. Apparently, this is not so easy in the Ghanaian context. Several actors we met mentioned teachers', managers' and parents' reluctance to the adoption of new practices as very big constraints.

Several projects on teachers training have been recently implemented in the country. Innovation for Poverty Action has evaluated the Teacher Community Assistant Initiative in Ghana and the Strengthening Teacher Accountability to Reach all Students (STARS) Projects, two initiatives based on the TARL approach. In the first case, high school graduates provided remedial classes to the weakest pupils in classes 1-3, while in the second teachers in grades 4-6 and head teachers were trained on the TARL approach and were requested to apply it for a part of their class time. Results of both initiatives were very positive in improving childrens' literacy and numeric skills[103]. According to IPA, the STARS project is likely to be scaled up given its success. Moreover, USAID has recently financed an early grade reading project that was implemented in 100 districts, where 600 regional supervisors were trained on innovative reading teaching methods.

[101] German cooperation (GIZ) closely cooperates with the Ghana Government in the TVET sector, especially in the non-formal sector, through the Ghana Skills Development Initiative (GSDI).

[102] https://www.t-tel.org/home

[103] https://www.poverty-action.org/study/evaluating-teacher-community-assistant-initiative-ghana

Besides old teaching practices, one of the biggest problems for Ghanaian public schools is teacher absenteeism. According to estimates reported in Abdul-Hamid et al (2015), teachers are absent from schools for 43 school days per year.

Box 2.14. Government's strategy for Education

Here we briefly present the main pillars of the current education strategy according to the conversations we had with officers at the Ministry of Education. The Education Strategic Plan 2018-2030 was just released at the time of the publication of this report, so we were only able to rapidly check the coherence of what was reported from officers we met and what is written in the ESP 2018-30.

- Quality of education is the new priority, in all education level. The government is making a big effort in this respect, working for example at the revision of curricula or reforming the initial and in-service teachers training.
- The government aims to strengthen the accountability and the management of the education system. Some ongoing reforms in this field are the fusion of the NCTE and the NAB, the reform of the NIB to better regulate the pre-tertiary private sector, the introduction of compulsory qualifications for teachers in private schools, the revision of accreditation procedures for private tertiary institutions, the GALOP Project with the World Bank.
- TVET: quality is low, resources are poor, and demand is low. The government will make efforts to implement the National TVET Qualification Framework (established in 2012) and the Competence Based Training (already piloted in some TVET institutions). On this field, they work in close cooperation with the GIZ (German Agency for International Cooperation).
- Enrolment is expected to increase, especially for SHS, thanks to the Free SHS policy: this implies the need to build more infrastructure. In a few years, the pressure on tertiary education is also expected to increase.
- The government is looking for a closer collaboration with the private sector. A PPP on a small scale will be piloted for the basic education cycle[104]. Corncerning higher education, government's vision is to have a private sector which will provide niche programs in areas of national priority to drive innovation and competition in the sectors.

[104] The Ghana Partnership Schools (GPS) Project started in September 2018, and was promoted by the Ministry of Education and the GES, in collaboration with ARK, an international NGO. 100 public schools localized in four different regions (Ashanti, Northern, Central and Greater Accra) have beenare given to private school operators to manage for three years.

5. The mobilization of the private sector in education

This section reviews the private sector contribution to the different education levels in Ghana, and illustrates the major needs and challenges of private education providers in the country. It also describes the role of some ancillary education services in Ghana.

5.1. Pre-tertiary education

The number of private education providers in pre-tertiary education has risen in recent decades. The number of private primary schools, for example, increased by more than 46% between 2009 and 2015, while the number of JHS increased by 57% in the same period (Table 2.30 below).

Table 2.30. Number of public and private basic schools

		2009/10	2014/15	Total growth	Percent change
Kindergarten	Government	12,481	13,828	1,347	10.8%
	Private	4,990	7,132	2,142	43%
Primary	Government	13,835	14,405	570	4.1%
	Private	4,722	6,904	2,182	46.2%
JHS	Government	7,969	9,445	1,476	18.5%
	Private	2,799	4,395	1,596	57.0%

Source: R4D, 2016 – Data from the Ministry of Education

More significantly, **enrolment rates in these schools has increased constantly since 1991,** more than in the other Sub-Saharan countries, as shown in figure 2.19 below (Abdul-Hamid et al 2015). This has occurred despite the fact that in Ghana the government does not provide any kind of support to private schools, except the provision of textbooks and teacher training to the remote schools located in villages which have no public school.

Figure 2.19. The enrolment rate in basic private schools in Ghana, in SSA and in the lower-middle income countries

Source: Abdul-Hamid et al, 2015. The blue line depicts the Ghana trend, the green one the SSA trend and the red one the lower-middle income countries trend. Data are from EdStats.

Enrolments in private schools are heterogeneous across urban and rural areas and across regions, with the highest enrolment rate in Greater Accra and the lowest in the northern regions. This official data may not take into account enrolment in private institutions which are not certified and that may be more common in remote areas of the country.

A World Bank study on the private schools in the Kasoa district (Central Region) showed that "overall, private education costs to parents are 2.5 times public education costs. While the cost of private schooling for the poorest families is approximated at 15 per cent of total household income, hidden costs at public schools exist and add up to around 6 per cent" (Abdul-Hamid et al 2015, p. 6). This means that, as expected, private education is on average more expensive than public education, and that it is more difficult for poor families to send their children to private schools. However, data from the GLSS 2005, show that 11% of poor students and 5% of extremely poor students are enrolled in private schools, meaning that (i) some private schools are accessible for the poorest and (ii) some poor families make the effort to send their children to private schools despite the cost (Akyeampong and Rolleston 2013; Akaguri 2011).

Private schools in Ghana are commonly classified into low-fee, medium-fee and high-fee schools. When speaking to private and public actors in the Ghanaian education sector, this classification is not straightforward, but when using the criteria proposed by Tooley and Longfield (2013) – i.e. a private school is a low-fee school when it charges less than 10% of income for a family at the poverty line to enrol all its children – the World Bank found that there were 9% of low-fee private schools in the Kasoa district. In his PhD dissertation on the contribution of low-fees private schools to access to education for all in Ghana, Akaguri (2011) states that private schools are mostly attended by better-off children, and occasionally by poor children thanks to the flexible fee practices of some schools. Moreover, he observes that "the perception that the LFPS [low fees private schools] provides a better quality of education relative to the public school in a similar environment is not supported by the evidence (p.202)". Finally, a recent study by R4D for the IDP foundation shows that only 2% of pupils enrolled in LFPS come from the poorest 25% of Ghanaian households (R4D, 2016).

According to Abdul-Hamid et al (2015) and (R4D, 2016), **operating costs for private schools are far lower than for public schools thanks to the low teachers' salaries**: on average, a teacher in a public school in Kasoa receives a monthly salary that is five times higher than that of a teacher in a non-government school.

What is interesting in the Ghanaian system is that while private primary schools seem to perform better than public primary schools, the opposite is true for SHS. Public SHS are commonly recognized as being better than private SHSs. The demand for private SHSs is low, with only 6% of SHS pupils enrolled in private schools. Moreover, recently some private SHSs have observed a decrease in enrolment and explained it by the Free SHS policy which has reduced the cost for a public school so that they are now cheaper than private ones. Proprietors of private SHS are now demanding to extend the free SHS policy to pupils enrolled in private schools, claiming that this could be a valid alternative to the double track system[105].

R4D (2016) conducted a survey on LFPS in five Ghanaian regions in order to evaluate the IDP Rising Program (see box 2.20). This study, together with the World Bank study mentioned above in the Kasoa district (Abdul-Hamid et al 2015) and recent research by Capplus in 7 districts of the Greater Accra region (Harma, 2018), coupled with our own interviews, allow us to draw a clear picture of the major needs and challenges of private schools in the country.

Infrastructure is a major issue for all stakeholders. Usually private schools start with 1 or 2 classes and then grow little by little over time to allow more pupils to enrol. School proprietors claim that a school becomes profitable only when it reaches a certain number of students enrolled. Moreover, parents and proprietors often complain about the quality of existing infrastructure (i.e. lack of toilets and sanitation facilities or dilapidated classrooms). The infrastuctures are particularly poor in rural areas, in unregistered schools, and in the poorer regions.

[105] See: https://www.myjoyonline.com/news/2018/september-25th/cape-coasts-biggest-private-school-crumbling-as-free-shs-double-track-begins-to-bite.php

For these reasons, it is critical for proprietors to be able to expand and to improve school infrastructures. The studies mentioned above show that most proprietors do not have enough resources to pay for quality infrastructure development projects. Harma (2018) shows that for more than 90% of sample schools fees payment represent the main source of funding for the school and that about 75% of schools do not have additional sources of funding. When the school has just started, the main source of funding is often the family income of the proprietor. 25% of the sample schools report having taken a loan (mostly from microfinance institutions), but only 3% said that it represents an important (first or second) source of funding.

Most private schools are usually very flexible with payments, proposing delayed fee payments to families who have financial difficulties. In Greater Accra, 60% of proprietors said that parents are often, if not always, irregular with payments, and that they need to chase them. However, this flexibility and this proximity to families can be seen as one of the strengths of the private schools since it allows them to reduce the number of pupils dropping out.

At present, **most private school teachers are high-school graduates** who do not have any specific qualification. According to private school proprietors their teachers are trained in the school. They usually remain in the school for a few years and then try to enter a college of education to acquire a formal qualification which allows them to teach in the public schools where salaries are far higher. This implies that private schools have a high **teacher turnove**r.

This situation is likely to change soon because the Government has recently decided that **all teachers, in both public and private schools, will need a four-year Bachelor of Education degree to be able to teach**. Private schools will need to elaborate new strategies in order to deal with this new constraint: GNACOPS, the Ghana National Council of Private School, one of the associations of private schools, recently proposed to register all current non-trained private school teachers as volunteers giving them an allowance through their association.

The lack of specific qualification for teachers allows private schools to pay them low salaries and thus to keep their costs of functioning low. This might change in the near future.

Box 2.15. A chain of Low-Fee Private Schools: Omega School

Omega Schools is a chain of low-fee private schools based on a pay-as-you-learn model, which was founded by Ken Donkoh and James Tooley in 2008. Ken Donkoh was the CEO up to 2014 when Alain Guy Tanefo replaced him. The first schools opened in 2009, and the chain has now 37 schools, almost all located in Greater Accra. The original idea of the chain's founders was to provide high school quality at the low costs, thanks to two main instruments: (i) daily payment or pay-as-you learn model, i.e. children pay only when they attend school and (ii) the standardisation of education contents, i.e. Omega relies on a group of local experts that create lessons plans and workbooks and train non-qualified teachers on the use of these contents in class. Efficient management of the business is necessary to make the model work. At the beginning Omega

worked on advertising its brand both nationally and internationally. One of the founders, M. Tooley, wrote in 1999: "With the larger education companies it is clear that the brand name works as it does for other consumer goods and services, reassuring parents and students that high quality is being offered and maintained' (1999, p. 40) and encouraged private education providers to spend about 10% of their turnover on promoting their brand name. The commercialisation of the Omega brand internationally allowed the company to obtain support from Google, who gave a grant of $250,000 to Omega Schools to start a similar chain in Sierra Leone in 2011, and from Pearson in 2012 (through Pearson Affordable Learning Fund (PALF)), who also helped Omega to extend its network of schools[106]. In 2013, DFID awarded a grant to Omega to pilot a chain of Girls High Schools in Ghana, but the grant was then cancelled for an undisclosed reason (Right to Education Project, 2016).

In those years, DFID actively supported initiatives promoting private schooling and declared in its Education Position Paper of July 2013 a willingness to support low-fee private schools (DFID, 2013). This position was severely criticized, among others, by The Right to Education Project (2016), by Curtis (2016), and by the United Nations Committee on the Rights of the Child (CRC, 2016)[107]. Today, DFID continues to support other low-cost chains (e.g. Bridge International Academies), but the new DFID education policy, dated February 2018, is far less explicit and talks about supporting "public-private partnerships which open up access to low-cost private schools to out-of-school and marginalised children, including those with disabilities" (DFID, 2018). The period where there was a very optimistic view about the contribution of Low Fee Private Schools to guaranteeing an education for all seems to be behind us. The Bridge International Academy scandal in Uganda in 2016[108],has probably contributed to giving voice to all the critics against the standardized education approach promoted by these school chains. More than 170 civil society organizations have signed a document asking the investors and donors to stop supporting Bridge International Academy.[109] A debate on the benefits and risks related to the spread of an education model based on the standardisation of contents and massive utilisation of technology has recently emerged[110]. To our knowledge, a rigorous impact evaluation of this model has not been conducted yet.

As for Omega Schools, it seems that starting from 2014, internal and international factors pushed the company to adopt a less media-oriented strategy. Omega group had become a big group and the new CEO, Alain Guy Tanefo, arriving at that time, found a difficult financial condition. It took 4 years for him to be able to redress the situation. He had to increase enrolment fees because it was not possible for the company to be financially sustainable at 1 cedis per day (today the daily fee is

[106] http://www.omega-schools.com/history.php

[107] "The Committee is concerned about the State party's funding of low-fee, private and informal schools run by for-profit business enterprises in recipient States. Rapid increase in the number of such schools may contribute to substandard education, less investment in free and quality public schools and deepened inequalities in the recipient countries, leaving behind children who cannot afford even low-fee schools" (CRD, 2016).

[108] See, for example: https://edition.cnn.com/2016/11/25/africa/uganda-schools-zuckerberg-gates/index.html.

[109] The document is available here: http://bit.ly/biainvestors. Bridge's reply is available on the Bridge's website.

[110] The debate is well summarized in the article "The controversial Silicon Valley-funded quest to educate the world's poorest kids" by Jenny Anderson, published on January 22, 2018, on Quartz (https://qz.com/1179738/bridge-school/).

3.6 cedis). This means that now the school is harder to access for the households at the bottom of the pyramid, which was the original aim of the founders.[111]

During the interview he gave us, Mr Tanefo mentioned other challenges the company has to face: high teacher turnover and high pupil absenteeism. Teachers are typically young SHS graduates, without a specific qualification, who are trained by Omega school. They spend about one- year teaching at Omega in order to collect some money to continue their studies. Pupil absenteeism is very high, except at the beginning of the year and just before the exams; in order to overcome this problem they have recently introduced a revision week every 4 weeks, to allow children to follow the program. The high absenteeism is likely to be linked to the daily payment system.

According to Mr Tanefo, the Omega school model is now financially sustainable because all services (i.e. educational advisors, monitoring and evaluation, etc) are located in Accra, and this keeps costs low. In the Omega model these services are sourced locally, whereas in the Bridge model the digital teacher guides and all other instructional materials are elaborated in the US (Cambridge) so that costs are quite high and can be covered only thanks to donations.

5.2. TVET and Higher education

The number of private tertiary institutions has considerably increased over time, but they enrol only 16% of total tertiary students. NCTE splits them into different categories: Chartered Private Tertiary Institutions (which confer their own degree), Private Tertiary Institutions Offering Degree/HND Programmes, Tutorial Colleges, and Distance Learning Institutions.

Private tertiary institutions enrol a high number of international students: 15% of their students enrolled in 2016/17 came from outside Ghana, mostly from Nigeria[112].

Private tertiary institutions mostly offer undergraduate programs (bachelor's degree) in the areas of business, management, arts or social sciences. A few private tertiary institutions offer master's degree programs, mainly in business or in information technology, and only 6 offer postgraduate programs at the PhD level. About 4.5% of students were enrolled in a post-graduate program in a private institution in the 2016/17 academic year, versus 9.1% in the public funded universities (NCTE, 2018 and NCTE, 2018b).

[111] Curtis (2015) conduced an in-depth research on the Omega model and claims that Omega Schools were not affordable for the poorest of the poor even when the fee was set at 1,5 cedis per day. Our calculations confirm this finding. The average annual household income of the first (or lowest) quintile in Ghana was 3,924 GHc in 2012/13 (GLSS 6). 315 cedis is the fee for one year of school, assumingr 210 school days in a year for 1.5 cedi per day (that was the fees for the school in 2012). Poor households would have spent approximately 8% of their income to enrol one child. If we take into account that average household size is 6 and that average per capita income for the lowest quintile is around 654 cedis per year, a household would need to spend almost 50% of per capita expenditure on education to enroll a child in a LFPS.

[112] "The following institutions recorded the highest number of international students i.e. Accra Institute of Technology (1,653), Zenith University College (1,268), Wisconsin International College (901), Ghana Technology University College (505) and Central University College (504)."

According to Dzidonu (2016), **the "non-diversified nature of academic programs offered by the private tertiary institutions […] is weakening their development base and their potential to grow** and expand into highly rated institutions of learning and research. This situation is also congesting the private tertiary education sector and in effect weakening and constraining the student enrolment base of most of the PTIs which in-turn raises issues in relation to their financial sustainability". According to a NCTE civil servant some Private Universities have already collapsed because of the low number of students. He believes that too many institutions, offer business programs, while the country needs computer science, engineering (civil engineering in particular), medicine, and multimedia. Our perceptions are that there are few high-quality private providers of tertiary education in Ghana. This was confirmed by one official from the NCTE, who mentioned Ashesi University, Ghana Technology University College and a couple of private medical schools as rare examples of high-quality private universities.

The number of private technical institutes has decreased in the last 5 years from 74 to 58, and a similar trend has been observed for enrollment, which dropped from 12,651 students in 2012/13 to 4,678 in 2016/17. This occurred while at the same time enrollment to public technical institutes increased, indicating the low attractiveness of private technical institutions. According to COVTET officials, the quality of private TVTE institutions is heterogeneous; one of the reasons is that they are not fully regulated. An accreditation system is planned.

The problem is that providing technical and vocational education, both at secondary and tertiary level, is very expensive for private players, so that it can be done only at high costs for families. Grants systems are needed to allow low- and middle-income students to have access to quality education.

A recent interesting phenomenon in Accra is **the emergence of evening (or weekend) courses for middle-level workers who want to improve in their careers**.

Box 2.16. Ashehi University

Ashehi University is a not-for-profit University that was established in 2002 in Accra by Patrick Awuah. At the beginning, the University was located in a rented house and had about 30 students per year. At the same time, the Ashesi University Foundation was created in order to raise funds for supporting the project. The foundation managed to raise millions of dollars, mostly from the USAID American Schools and Hospitals Aboard program, to build a new campus, that was inaugurated in 2011. A single donator personally funded several blocks. The campus was built a long way from the city centre, where land was available, but it is now suffering from this location.

The University is now offering programs in business administration, management information systems, computer science, and engineering. They have about 1,000 students in total and they enrolled about 320 new entrants in 2018/19. Ashesi was placed under the mentorship of the University of Cape Coast for about 15 years, but it recently received the authorisation to deliver their own diplomas.

Ashesi is a niche University, which clearly puts quality first. Tuition very is expensive: one term costs more than 4,000 US $ for Ghanaians students. But the University provides scholarships to students who cannot afford to pay. This is possible thanks to the support of the Mastercard Foundation, who recently gave them 21 billion US$ to recruit low-income students from Ghana and other African countries. Today about 45% of students receive some financial aid and 28% receive full support. A board composed of faculty members and staff review the scholarship applications, and on the basis of students' financial needs, decide to place candidates in the category of extreme need, high need, medium need or low need. Scholarships are given to the best students in each category. As for fee-paying students, Ashesi mainly targets middle- to upper-income families, most of whom have a family business.

Many teachers are foreign experienced teachers. We talked, for example to Gordon Adomdza, the director of the entrepreneurship program and of The Ashesi Design Lab at Ashesi. He was a teacher at the Northeastern University of Boston before coming to Ashesi. He explained to us that teachers are not attracted by the salaries, which are not higher than in other high-tuition private Universities in Ghana, like Lancaster or Webster University. It is the quality of teaching and training that makes the difference for teachers and for students. Teachers are very motivated at the beginning, but then it is not always easy for the University to keep them. Ashesi also recruits some very well-known professors that come from abroad to teach for a term and return every few years.

Mr Adomdza explained to us that at Ashesi they are particularly engaged with innovation in teaching practices. For example, starting from the second year students are not controlled by teachers during exams. In some of their programs, students can select totally different courses during the first year to understand what they are interested in, and only afterwards they are asked to choose a major. It occurs for example that students go to Ashesi to enrol in business and then they decide to opt for computer science.

The President of Ashehi, Mr Awuah is a charismatic man who never refuses an interview with the media and has largely contributed to the creation of the Ashesi brand. We remarked during our field study, that everyone knows Ashesi in Accra, the University has an extremely good reputation. The placement rate of their students is over 90%. They have partnerships with a few US Universities, where students can go for a term.

Ashesi aims to be an example for other Universities and for this reason, they recently established Ashesi Education Collaborative, an initiative which brings people from other Universities that are interested in their model and that want to learn from them. According to Mr Adomdza, some institutions are already adopting some of the innovations proposed by Ashesi. He also claims that Ashesi aims to be transparent, adopting an open accounting model.

http://www.ashesi.edu.gh/ ; http://www.ashesi.org/

Box 2.17: Design Technology Institute

Constance Elizabeth Swaniker is the founder and CEO of Accents & Art facility (http://www.accents-art.com/live/), a company that was established 20 years ago and that is specialized in producing quality furniture and interior decoration with a particular attention to innovative design. 10 years ago Accents & Art facility started to host students from polytechnics and other technical institutions looking for work experience and some training during summer. Ms Swaniker realised that she could create her own training school and she established The Design & Technology Institute (DTI) in 2016, where she offered short training programs in engineering and design.

In 2019, the institute completed a new "green" campus, where they have established an international technical school for students from JSH to university level. They mainly used donated and recycled material in the construction since they are dedicated to modelling innovative reuse of materials in manufacturing and construction in West Africa.

They plan to start classes in September 2019 with about 100 students. They are starting with two curricula: a one-year intensive diploma followed by a 2 year program in industry and a short continuing education series for experienced artisans, for which they have been awarded an SDF grant for curriculum development. They are currently prototyping both curricula with smaller groups. They already have a partnership with Bosch and they are actively looking for other industrial partners. Their teachers are retired teachers from Ghanaian technical schools.

This project has been carried out without any external financial support up to now. They explored a short-term bank loan in order to build the new school, but they found that the interest rate the bank proposed was too high.

The school they have in mind can be classified as a niche school, which focuses on precision manufacturing and the high quality of its training program to grow. The management has a big ambition. They aim to change the common negative perceptions about technical education, to gain visibility, and to create a strong brand that would allow them to establish strategic partnerships. They ask for a tuition fee of about 3,500 (US) dollars per year, but at the same time, they plan to enrol at least 50% of students who cannot afford this fee. They are actively seeking foundation support to pay for these scholarships, particularly to assure gender balance in a traditionally male industry

http://www.designandtechnologyinstitute.com/

https://dti-africa.com/

5.3. Ancillary players

This section is devoted to the role of the ancillary education services in Ghana. In the ancillary services category, we include **education technology, e-learning, in-service teacher training or skill training provided by private providers, publishing, and supplementary education**. It is difficult to obtain information on all these sub-sectosr. Here we cover only the ones for which we were able to collect some information or for which we were able to interview some actors.

From the interviews, we understood that Ghana is perceived as an easy environment for new business and start-up and an emerging market for ed-tech and e-learning.

Publishing

Unfortunately, we did not meet any business working in the sector and our knowledge about the Ghana publishing sector, in particular in the sub-sectors of books for kids and textbooks is limited. **The publishing industry in Ghana is dominated by a dozen large companies.** The most important are *Ghana Universities Press, Sedco Publishers, Smartline Publishers, Sam-Woode Publishers, Woeli Publishers, Adwinsa Publications, Winmart Publishers*. These companies mainly publish textbooks and novels for children. Not all companies are registered and most produce only for the Ghanaian market[113].

Textbook production in Ghana started in 1965 thanks to the establishment of the Ghana Publishing Corporation (GPCL), but up to 2002 private companies could not publish textbooks.[114]

Education technology.

The Ed-tech market seems to be dynamic in Ghana. We identified several businesses dealing with education technologies in Ghana, but we might have missed some of them. Below we list all the organisations we were able to identify. **Most of them can be also be classified in the supplementary education category.**

- **CHALKBOARD Education**: a French company, also present in Cote d'Ivoire, which offers mobile learning solutions to universities, secondary, and higher education institutions (https://www.chalkboard.education/)
- **E-Campus Test Prep**, a business which provides access to standardized materials to prepare junior and senior high school exams via mobile and web technologies (https://ecampus.camp/about-us)
- **SORNOKO Academy**, a company which teaches coding to adults and children (http://www.soronkoacademy.com/index.html)

[113] "Developing an International Market for the Ghanaian Book Publishing Industry" https://tkbr.publishing.sfu.ca/pub800/2014/12/developing-an-international-market-for-the-ghanaian-book-publishing-industry/ , Posted December 12, 2014 by Sandra

[114] Carollann Efua Buckle, "The Publishing Industry in Ghana: Ways to Promote Local Auhtors and Writing", Ashesi University college, Undergraduate thesis, April 2016.

- **ENEZA Education**, an e-learning platform for teachers, students and adults using sms technology, also present in Cote d'Ivoire (https://enezaeducation.com/) (see box 2.18 for more details)
- **Blend your learning**, a company offering in-place and distance learning programs in marketing, project management, and communication, to young professionals (http://blendyourlearning.com/index.html).

Besides private enterprises, we can add initiatives by no-profit organisations:

- **Young at Hearts**, a not-for-profit organisation which promotes digital literacy and its use as an education tool to improve children's learning. They propose training sessions for teachers, youths and children on digital education (programs **DiggieActs**), they have established hubs where children can regularly practice their digital knowledge. They have also created **Ananse the teacher**, an app for mobile phones which uses games and folklore to teach Science Technology Engineering Arts & Mathematics and to spread Ghanaian culture (https://www.youngatheartgh.com/).

The **MGCubed (**Making Ghanaian Girls Great!) **Project**, promoted by the **Varkey foundation** with the financial support of DFID, has installed solar-powered and satellite-enabled distance learning infrastructures in some remote rural communities to deliver interactive learning sessions, with the aim of improving literacy and numeracy skills of students, teachers, communities and government officials. The Varkey foundation uses the same technology in the **Train for Tomorrow,** a project financed by Dubai Care, that trains school leaders in Ghana's Eastern Region through face-to-face and distance-learning training.

Box 2.18: ENEZA Education – Eneza Ghana

Eneza Education is a business established in Nairobi in 2012 by Tony Maraviglia and by a young developer, Kago Kagichiri. Eneza Education aims to promote access to quality education, to students in rural and marginalized communities, using text messaging. It mainly targets children from 10 to 18 years old, who are in upper primary to senior high school.

Learners can take lessons on any mobile device. By dialing Eneza's shortcode number, learners get bite-sized lessons, assessment questions with explanations on right or wrong answers as well as the ability to ask a teacher any questions and get responses within 15 minutes.

Today the headquarter of the company is still in Nairobi, but Eneza Education is present in Ghana and in Cote d'Ivoire. Eneza Ghana was established in 2017, after having tested the service in 10 schools in collaboration with IDP foundation in 2015/2016. The company has agreements with MTN Ghana and AirtelTigo allowing them to cover a large part of the country. The Eneza Ghana CEO, Rudolph Ampofo, recently received a grant from MIT SOLVE thanks to his idea to use the Eneza technology to providing dedicated support to teachers to reduce the time they spend on administrative tasks and increase the time teaching. As Eneza Ghana prepares to scale the app in Ghana, they are working with the Miller Center for Entrepreneurship in the GSBI Accelerator.

The service in Ghana costs less than US$ 1 a month. Although a detailed study on the socio-economic composition of the customers has not been done yet, the CEO believes that they come mainly from low-income families. In terms of regional distribution, customers come from all over Ghana, but primarily from Ashanti and Greater Accra regions.

Eneza Ghana today has a staff of 7 people and is aligned with the global mission and operational processes of the Kenyan headquarters. Content is developed locally in Ghana with practicing teachers. This helps build good relations between Eneza Ghana and teachers. In terms of marketing, the company mostly uses mass marketing strategies. The company does not currently have any relationship with the government, but understands the importance of working closely with it.

Eneza Ghana is trying to diversify its activity in several ways. The company is establishing partnerships with organizations in the education sector who want them to work with specific schools or groups of people. Also it is working on a dedicated teacher platform that will support teachers and serve as a way of diversifying its income generation. Other options the company is taking into consideration are the development of health-related content, or the establishment of partnerships with private school.

In-service teacher training

There are a few initiatives in Ghana that deal with teacher training. As well as the DiggieActs and the T4T projects mentioned above, we were able to identify: Teach for Ghana (see box 2.19), Practical Education Network (see PEN case study in part 3 of the study) and the Institute of Teacher Education and Development (INTED)[115], NEOGenics Education[116].

All these initiatives are promoted or financially supported by not-for-profit organisations. We tried to understand if there is a market for private teacher training services, or in other words if teachers or school proprietors are available to pay for these services. Our impression is that it is not the case and that this kind of initiatives needs donors or public support.

In-service teacher training provided by external trainers seems uncommon in private schools. Some schools benefit from the training offered by not-for-profit organisations like Edify, Opportunities or IDP Foundations, who ask school proprietors (and sometimes teachers) to follow their training if they want to be eligible for a loan (see box 2.20 to see how these organizations operate). Otherwise, most private school proprietors provide internal trainers, at least according to Härmä (2018) who reports that almost all sample school proprietors declare that they provide some training to their teachers, but that only in 28% of cases do teachers benefit from out-of-school training.

[115] INTED offers summer intensive courses in pedagogy, peer training and evaluation and support during the academic year. It was founded in 2011 by Kwabena Amporful thanks to the 80,000 dollars received from the Center for Social Innovation at Stanford. INTED more recently received grant funding from the World Bank Skills Development Fund. Despite this, it is hard to find information on this company, the website is down, available videos and information are quite old. We are currently in contact with M. Amporful to understand more about the development of his project.

[116] http://neogenicseducation.com/. We have been informed about the existence of two others organizations involved in teacher training, E-A Service in Education and XCEL Education Services, but we were not able to find any information about them.

Box 2.19: Teach for Ghana

Teach For Ghana (TFG) is a not-for-profit organization which is an independent partner in of the global education network, Teach for All, that is currently present in 48 countries, with a mission of providing an excellent education to all children. Teach For Ghana was founded in 2014 and they currently operate in the Northern Region and Volta Region with plans of expanding to all 10 regions by 2023. Before starting operations, they conducted a study in order to identify the main problems of the Ghanaian education sector. As a result of this study, they found that the quality of teachers was very low and they attributed this to the fact that the best Senior High School (SHS) students went to the Universities and did not enrol to the Colleges of education, the institutes where teachers are trained. This is why they decided to set up a program in which they recruit the top graduates from Universities, they provide them with an initial training of 5 to 6 weeks on teaching practices and then they place them in schools to be excellent teachers. They provide them with in-service training and support throughout the two-year teaching fellowship. They recruit students from all academic backgrounds, but mostly with a scientific background, because they mainly focus on English, Mathematics, Science, and Information Technology.

The program lasts two years. Teachers are assigned to a trainer, called a Leadership Development Associate, who regularly goes to the school where they teach, to provide them with suggestions on teaching methods. Teachers are also trained in leadership skills (i.e. behaviour management, assessment and professionalism), because TFG believes that teachers, and head teachers as well as regional and district directors do not currently have enough leadership skills. At the end of the two-year program, teachers are part of the network of Teach For Ghana alumni.

Thanks to a partnership with the University of Cape Coast, Teach for Ghana teachers obtain an official teacher diploma after 1 year of teaching.

Teach for Ghana works very closely with the regional and district education offices in the identification of the schools for their intervention: their policy is to target the schools which have most need, generally schools which do not perform well, in poorer communities, mostly in rural areas. Once they start working with a school, they work there for at least 6 years.

Since the beginning of its operations, the organization has trained 65 teachers who are now teaching and graduated 26 alumni who working mainly in the education sector, influencing education policy. They are currently raising funds to train an additional 100 teachers. They offer teachers the same salary as government teachers, proving that there are many universities graduates who would like to teach and who are willing to accept a relatively low salary and to work in remote areas. Daniel Dotse, one of the founders and the CEO, mentioned to us that they received every year at least 1,000 applications for a relatively low number of posts (about 30 every year). He believes that it is the good reputation of the organization that attracts applicants. As mentioned above, Teach for Ghana is part of the global network Teach for All, which is present in many countries around the world. Applicants know they will have access to global resources through the global network, that they could benefit from it and learning from other countries, as well as benefiting from strong leadership development programs.

At present, Teach for Ghana only works with public schools because of the close cooperation with the government, which also pays a part of the teacher salary, but they would be interested in cooperation with low-fee private schools.

Teach for Ghana is a small organisation, with 10 permanent staff. Its board of directors is mainly composed of people in the education, finance, and investment sectors. The organisation is mainly supported by donors, and the government of Ghana. The Teach for Ghana foundation, based in the US, helps with fundraising. There are also some companies who contribute to funding when Teach for Ghana intervenes in the communities where they are present.

In terms of development perspective, Teach for Ghana aims to further expand its activities and believes that it will allow them to lower costs. It has already seen the cost per fellow fall from 12,000 dollars in 2016 to 8,000 dollars in 2018, thanks to economies of scale and they plan to reduce costs to 4,000 dollars in 2020. However, further development will not be possible without additional funds, and Teach for Ghana is now in a phase of active fundraising.

https://www.teachforghana.org/

BOX 2.20. The IDP Rising Program

IDP is a family not-for-profit foundation, established in 2008. IDP created the Rising Schools Program (IDPRSP) in 2009, in collaboration with a microfinance institution, Sinapi Aba Trust. The idea behind IDPRSP is to provide school proprietors of low-fee private schools "with financial literacy and school management training and access to capital".

IDPRSP was motivated by the observation that low-fee private schools did not have access to the credit market because of the extremely high interest rates demanded by banks. The idea behind IDPRSP is to provide school proprietors first with basic skills in finance and management, and in a second step, to offer them a small loan.

Proprietor training involves several subjects, including "accounting, savings, handling credit, human resources management, community relations and registration with Ghana Education Services (GES) as a school and business".

A total of 584 basic schools, mostly primary schools, have benefited from the program up to now. IDPRSP says it targets low-fee private schools, but heterogeneity exists in the number of tuition fees asked by the schools that benefited from the program. The average fee is 724 cedis per year, the lowest 70 cedis, the highest 7,000 cedis.

After having benefited from the training, some proprietors ask for a loan, usually needed to expand the school. Loans are provided through the microfinance Sinapi Abia in the following form: IDP Foundation gives Sinapi Aba a subsidized loan, which allows the microcredit institution to lend to school proprietors at an interest rate that is well below the market rate. The interest rate paid by IDPRSP beneficiaries is about 23% per year, while the interest rate of commercial banks is around 40%. Most proprietors ask for a 2-year loan. The repayment rate is very high, about 94%.

IDPRS is currently operating in Ghana, but IDP Foundation is exploring the possibility to expand the program to Cote d'Ivoire and Kenya. They have experienced difficulties in working with private schools in Francophone countries.

http://www.idpfoundation.org/idp-rising-schools

Remedial Schools

A new phenomenon in Ghana is the spread of remedial classes in some Ghanaian towns[117]. According to Oduro-Ofori (2014) remedial classes are usually proposed, by private schools, to secondary schoos students. They mainly target students who are experiencing difficulties in preparing the WASSCE, but some of the students are school dropouts and workers who aim to reintegrate the education system. **The schools proposing remedial classes also provide secondary school services.** Oduro-Ofori (2014) expresses a positive opinion on the contribution of remedial classes to learning quality. We were not able to gather more information on this kind of ancillary education service during our field study.

6. Policy context and the regulation of private players in education

Regulation of basic and SHS schools

School registration is required in Ghana, and the registration process appears to be flexible. Usually, the school is allowed to open, to start functioning and attract some students before asking for registration from the District Education Office. Inspectors then visit the school and decide what improvements proprietors need to make to receive an official registration. Once inspectors are satisfied, they give their approval for registration (Härmä, 2018). We did not manage to obtain documents describing minimum operating criteria that are asked of private schools to obtain registration. According to Abdul-Hamid (2015), operational guidelines are not publicly available and can be only obtained through individual requests. He also argues that the requirements can be quite restrictive.

The National Inspectorate Board is in charge of inspecting both private and public schools. Inspections are quite regular in Greater Accra, according to Härmä (2018). Despite this, according to the president of GNACOPS, many schools do not even know that a registration process exists and they do not complain about regulation issues.

The Educational Act 778, which was drafted in 2008 and reviewed in 2015, is the only legal instrument which regulates the activities of education providers in Ghana, both public and private. It devotes only 3 pages to private providers. It states that the government should support private schools by providing textbooks, examination fees and in-service teacher training, but is it not clear under which conditions schools can receive these funds. In terms of curricula, private schools need to follow the official ones but are free to apply their own teaching methods. Schools are also free to determine their tuition fees, but they need to be approved by the GES (Abdul-Hamid, 2015).

[117] http://www.ghanaiantimes.com.gh/private-remedial-schools-business-booms/ (Published on 07-11-2018)

As regards taxes, schools visited by Abdul-Hamid (2015) in Kasoa districts, report paying on average 315 US dollars per year. More specifically, schools say they pay income taxe, property tax, and business operating tax.

The Tertiary Education Regulatory Framework

There are 2 main agencies which regulate Tertiary Education Providers in Ghana: the National Council for Tertiary Education (NCTE) and the National Accreditation Board (NAB). NCTE is in charge of regulating the system (established by the Act 454 of 1993), while NAB is in charge of accreditation issues (according to the Law 317 in 1993 and the Act 744 of 2007).

Education challenges in Madagascar

1. Introduction

Education is at the heart of development challenges in Madagascar. The education system faces a sustained population growth which is increasing the pressure on the capacity at all school levels. The enrolment rates have been increasing from pre-primary to higher education levels, and basic education is slowly heading towards universalization. The population aged from 3 to 24 will grow by 25% in the next 10 years (RESEN, 2016). However, the problems caused by poverty and poor health are endemic in a large part of the country, and this affects the equity of the education system, by lowering education access and survival rates for vulnerable children. Important differences in access and completion are observed between and within regions, for secondary and post-secondary levels, and between boys and girls.

Since 2013, government efforts on education have been tangible and sustained, accounting for around 25% of public spending, slightly higher than countries with similar income levels. Nevertheless the reforms and progress in education are fragile and depend on the socio-political context. The severe political crisis that Madagascar experienced from 2009-2013 considerably affected the resources allocated to education, and the necessary reforms to improve the education system. But recently alignment and coordination efforts have been made with the Sector Plan for Education (PSE) to undertake important reforms for the education sector.

The quality of education has dramatically declined in the last 20 years. In the 1990s Madagascar was one of the top performing countries as far as primary education outcomes were concerned. In the last PASEC test (2015), Madagascar was in the poorest performing countries like Niger and Chad. Donors and international organizations will play a key role in supporting the government in addressing the so-called "learning crisis" in Madagascar.

Another critical challenge is the difficult socio-economic insertion of graduates in the formal labour market. In 2014, 155,000 students were registered for the Baccalaureate, 56,000 passed it, 36,000 enrolled in the 1st year of university and only 9,000 completed their degree (RESEN, 2016). Thus, access and completion of higher education remain limited to a small minority of young Malagasy and the TVET sector is barely emerging. Furthermore, many employers and observers denounce the lack of relevance of students' academic experience and skills. The employability challenge affects all education stakeholders and local employers.

The private sector has become an important player in the education system. Private schools account for nearly 20% of enrolment in primary, 40% in lower secondary, and 50% in upper secondary education. Private universities are also flourishing, which leads to serious issues of accreditation and regulation for the authorities. But overall, this increasing contribution by private

institutions to education may constitute an important response to the many education challenges Madagascar is facing.

This section describes in further details the challenges of access, equity, quality and relevance of the education system in Madagascar, and the strategic responses the government intends to provide through the implementation of the PSE. It also highlights the growing contribution of private sector operators, and what opportunities and challenges private schooling will bring to the table.

2. General organization of the national education system

Three Ministries are in charge of the education sector in Madagascar: The Ministry of Education (MEN), which is in charge of pre-school, basic education and secondary education, the Ministry of Higher Education and Research (MESupReS), and the Ministry of Technical and Vocational Education and Training (METFP). These national bodies are also in charge of the governance of literacy and non-formal education. The fragmentation of this governance between different bodies and structures leads to problems of coordination and harmonization, especially to manage the incoming flows of students. MEN is represented at the regional level by 22 decentralized organisations[118], at the district level by 114 school districts (CISCOs), and at the community-level by 1,591 sub-districts (ZAPs). Other key governance players include the "FAFs" (Fiarahamiombon'Antokaho amin'ny Fampandrosoana ny sekoly), which are school management committees composed of parents, teachers, the school director, and community representatives, and who play a role in the accountability and financing of school operations.

The general structure of the education system in Madagascar is composed of pre-school education, basic education, upper secondary education, TVET, and higher education. Pre-school education is not mandatory in Madagascar and includes children from 3 to 5 in different structures: public pre-school centres[119] and community-based pre-school centres[120]. The basic education system is composed of primary education and lower secondary education. Primary education is 5 years for children aged from 5 to 10, terminated by a national exam, the "Certificat d'Etudes Primaires Elementaires" (CEPE). The lower secondary education is 4 years of general education for children aged from 10 to 14, with a focus on Mathematics, Malagasy, and French.

[118] "Directions Régionales de l'Education Nationale" or DRENs

[119] "Centre d'activité Préscolaire Public »

[120] " Centre d'activité Préscolaire Communautaires"

Box 2.21. Reforming basic education

A new system of basic education will be implemented by 2022, following the PSE strategies which aim to increase basic education level completion and to improve its overall internal efficiency. The future system will be divided into 3 sub-levels, composed of two sub-levels in primary education and one sub-level in lower secondary education, for a total duration of 9 years. In the first level (6-9), the child will learn in Malagasy, a second language will be introduced in the second level (10-12), and the last level (13-15) will prepare the learner with fundamental skills necessary for secondary education, TVET, or for a direct insertion on the labour market.

Upper secondary education is composed of general high schools (under the supervision of MEN) with children aged from 15 to 17, and technical/vocational high schools (under the supervision of MEFTP) with children aged from 15 to 18. The general section ends with the Baccalaureate national exam (with a specialization in Humanities or Sciences). The technical section ends with the Technical Baccalaureate. TVET also includes vocational centres which provide initial and continuous training that aims to increase employability and foster socio-economic insertion of learners.

- After passing the Baccalaureate, students may access higher education, which is progressively organized on the DMP system: Bachelor degree 3 years, Master 2 years and Doctorate/PhD. Higher education institutions include:
- 6 public universities: directly supervised by the Ministry (MeSUPres) which have soft application requirements), and offer courses in humanities, social sciences, languages, etc e.g. **Université de Antananarivo**
- Public « grandes écoles », institutions, highly selective, usually in sciences, engineering and management, and public institutes, specialized in vocational training: E.g. **Institut de Science Comptable, des Affaires et de l'Entreprise (ISCAE)**
- Private universities and institutions: diverse forms of selection and fees; various disciplines, some are led by confessional organizations. E.g. **Université Catholique de Madagascar**

Two categories of teachers are present in the national system: civil servant teachers and FRAM teachers. Civil servant teachers receive formal training, may benefit from internal promotion and receive salaries from the state. FRAM teachers are hired by the community, receive payments from parents, and sometimes also from the state, but they do not have initial training.

3. General Analysis

3.1. Access to education demographic trends

Madagascar is experiencing a big growth in school-age children, but its education system faces critical challenges. The population in Madagascar was 24 million in 2015, with a high annual growth rate of 3%, which is one of the highest rates in the region[121], and a forecast population of 36 million people in 2030. The school-age population (3-24) is forecast to grow from 12.8 million in 2015 to 17.6 million in 2030, which is both a wonderful opportunity for economic growth; but also a critical challenge for the education system. This growth will increase the pressure on national education facilities, both in the public and private institutions.

Access to education has been significantly improved in the last two decades. As detailed on table 2.31, the dynamics are specific for each education level. In preschools, the enrollment rate has nearly doubled but remains fairly low. The gross enrollment in primary education exceeded 100% in 2014 and was close to 50% in the lower secondary level. The number of higher education students for 100,000 inhabitants has doubled between 2006 and 2014, but has been stagnant in the TVET system. Further analysis for each education level is given in the following sections.

Table 2.31. Enrollment rates in Madagascar between 2006 and 2014

Enrollment indicators	2005-06	2013-14
Pre-school GER	8,2	13,9
Primary GER	135,4	146,5
Lower Secondary GER (generalist track)	31,8	49,8
Upper Secondary GER (generalist track)	9,6	20,3
TVET (number of students for 100,000 inhabitants)	170	165
Higher Education (number of students for 100,000 inhabitants)	272	464

Source: Resen 2016

However, there are still tremendous socio-economic constraints that impact the performance and dynamics of the education system. First, the poverty rate is very high in Madagascar - 71.5% of the population lives under the poverty line (RESEN 2016) and 93% of the population lived on less than US$ 3.1 a day in 2010. The structural poverty is also reinforced by widespread illiteracy among adults of 28% (RESEN, 2015). Other key challenges include food insecurity, which is specifically problem in Southern Madagascar, malnutrition which affects 1 child

[121] SSA's average demographic growth rate reaches 2.7% and East Africa's is at 2.8% (PSE, 2017).

under 5 out of 2 nationally, and public health threats and climate problems which also affect children's capacity to attend and learn at school (RESEN, 2015).

3.2. Expenditure on education

Education is one of the top priorities of the government, but spending per student is low and focused on the basic education cycle. The share of public expenditure allocated to education (excluding debt service) was 26.9% between 2004 and 2008, and 25.5% between 2009 and 213 (RESEN, 2015). This is slightly higher than the average for other African countries with similar income levels. This spending is essentially for the teacher payroll and capital expenditure for education is weak, only 15% of total public capital expenditure (PSE, 2017).

Figure 2.20. Public spending on education in Madagascar

Source : UNICEF, 2018

One major cause of the low education expenditure is the drastic reduction of foreign aid following the political crisis of 2009-2013. Furthermore, due to a low fiscal pressure and big informal economy, the domestic resource mobilization for education is far from enough, and education public spending per student (around US$ 20) remains much lower than in other countries in the region like Burundi (US$ 50), Malawi (US$ 70) or Mozambique (US$ 165) (UNICEF, 2018). The education budget is mainly spent on basic education (75.7%), with less for TVET (3.8%), and higher education (20.5%) (RESEN, 2015). The budget is controlled at the central level and only 7.8% of education spending was done by the decentralized agencies like CISCOs and ZAPs in recent years (UNICEF 2018). It is also worth noting that the contribution of households is significant: families pay for up to 40% of total education spending (all levels of education included).

We should also mention **key international partners/donors of the government,** and in particular of the Ministry of Education: AFD, Ambassade de France, Agence Universaire de la Francophonie, World Bank, BIT, GIZ, Global Partnership for Education, JICA, Norway, Organisation Intertionale de la Francophonie, WFO, EU, UNESCO, UNICEF, USAID, and Monaco.

Figure 2.21. International comparison in public spending per student on education (US $)

Source : World Development Indicators, 2018

4. Specific subsector achievements and challenges

This section explores, for each level of education, access, infrastructure, quality, equity, and management issues, and the role of the private sector. It also describes specific projects or recent reforms which concern each education level and presents the main challenges.

Box 2.22. A new strategy for education

The education system experienced a lack of strategic leadership during the political and economic crisis of 2009-2013 with a deficit in performance management and with interrupted reforms. Efforts were made through the Interim Education Plan (PIE) in 2013 to mitigate the education crisis and to promote short-term developments of the system.

Since 2017, strong efforts have been made to align priorities and strategies through the "Education Sector Plan" (PSE, 2018-2022). This plan was created with the involvement of a wide range of stakeholders, including the Ministries, NGOs, Foreign aid donors, and local civil society organizations. It made an inventory of the situation at every education level and provides key strategic orientations to improve the access, the quality, and the relevance of the education system.

4.1. Pre-school education

Access to pre-school education is increasing with a big contribution from community-based organizations. Access to pre-school centres has steadily increased in recent years. The total number of (public and community) pre-schools grew from 195 in 2006 to 4,882 in 2014. The GER mechanically rose from 8% in 2008 to 19% in 2014-2015 (PSE, 58), and was estimated to be 28% in 2016. It was also led by quick enrolment growth in private pre-schools. The parity index shows that girls are slightly more numerous than boys. The number of children enrolled in private structures has risen from 132,000 in 2004 to 285,000 in 2014 (RESEN 2016), an average annual growth rate at 9% in private pre-schools. However, this GER growth is unequally distributed among the regions. For example, the GER in the last year of pre-school education was 30% in 2015 in the Amoron'I Mania region but only 3% in the SAVA region.

Figure 2.22. Changes in enrollment and GER in pre-school

Source : PSE, 2017

However, there is a big need for training, experienced teachers, agreed curriculum, education tools and general equipment in pre-primary education. Most teachers do not receive initial and continuous training. Moreover, their allocation between schools is not necessarily based on the local needs: 50% of teachers are randomly assigned across the country (PSE, 59).

The main challenge for pre-school education is to strengthen quality and quity, especially in the last year (for children aged 5) to boost readiness for primary education, and to increase

performance and retention in the basic education cycle. In 2015 around 2,500 pre-primary classes existed in primary schools[122]

A US$ 20M World Bank funding should help the government increase the number of community pre-school centres and facilitate enrolment growth in high-need regions.

Box 2.23. Public strategy for Pre-school education (PSE)

Key strategies for Equity and access to pre-school education are the following:

- Increase the enrolment rate of children in Public CAP: target at 35% in 2022, 100% in 2030 (SDG 4).
- Develop a pre-school class for children aged 5 within the public primary schools: starting basic education at 5? (goal: 60% of primary public school starting at 5 in 2022, in order to increase and facilitate the insertion into the basic education level
- Set up new community-led care centres by creating structures (CAP Communautaires) or using current "Espace d'Eveil Communautaire" (EEC).
- Partner with NGOs, civil society organizations, private schools to reach the most remote areas.

Key strategies for Quality of Pre-school Education

- Harmonization of practices through the creation of a dedicated curriculum
- Training of teachers (2-year training, 200 graduates each year) and teaching assistants (short training)
- Development of a continuous training scheme and teaching support

Other strategies for governance & funding

- Reinforce the multilevel governance (national, regional, local) and increase dialogue with a sector committee
- Find new funding partners to support the achievement of these goals (e.g. the World Bank is likely to finance community-led care centres with a US$ 20M.

4.2. Basic Education

Primary Education

Access to primary education has continued to grow in the last decade. Considerable progress has been made since primary education was made compulsory in 2001. Recently enrolment growth has been 3% every year for the whole country, with Gross Enrollment Rate exceeding 140% in 2013 over the whole primary level (vs 105% in other African countries with similar GDP/capita) (PSE, 2017). The GER has been above 100% for 10 years, but some discrepancies between

[122] https://www.orange.mg/actualite/education-prescolaire-programme-denseignement-experimentation-0

education and demographic data, as well as some specific methodological challenges, may tend to overestimate this general level of access.

The private sector contribution to primary education is slightly reduced. In 2004 3,500,000 pupils were enrolled in the private sector, and this grew to 4,600,000 in 2018, an average growth rate of 2.8%. The share of students enrolled in the private sector decreased slightly over the last decade, to 18.6% in 2014 (PSE, 2017).

There are geographic differences in access to primary education. A rural/urban divide influences the conditions of access to primary education, which is almost 100% in cities, whereas 10% of rural children do not go to primary school.

Primary education is facing internal efficiency problems. Primary schools have a 20% repeat rate (one of the highest levels in SSA) and a school drop-out rate of 16% at this first level, which explains the very high level of GER observed since 2004. The completion rate in the primary school system has been improving, rising from 60 to 70% between 2014 and 2016 (UNESCO Institute Data), with substantial differences between cities and rural areas. Around 550,000 children are not in school (UNESCO Institute, 2003).

Figure 2.23. Completion rates in primary school

Source : World Development Indicators, 2018

The quality of learning and teaching in primary schools is poor. PASEC scores have fallen in the last 15 years. In 1999, around 55% of 5th-grade students had minimal skills level in Reading and Mathematics, but in 2014, this figure had dropped to 25% of students. Madagascar belongs to the 3 poorest performing countries in PASEC tests (with Chad and Niger), after being one of the top performing countries in the 1990s. Only 20% of primary education teachers have a teaching

qualification, and more than half of public and community school teachers have not received either an initial training or a short training course. The situation is problematic for FRAM teachers who were 78% of teachers in 2014 (UNICEF, 2015). Efforts have been made since 2016 to train these FRAM teachers, but around 30,000 teachers still have to complete their training.

There is a general recognition that the education system faces issues of accountability. The implementation of reforms is made difficult by the lack of autonomy of local schools and decentralized administrations like the academies and DREN[123]. The education budget remains centralized in the ministries and the regional and local administrations receive a very small allocation from this budget. Consequently, these local actors, who are theoretically in charge of transforming the education system and management, lack the resources and authority to implement tailored solutions on the ground. They also lack the capacity and staff to supervise local institutions and monitor their performance.

Figure 2.24. Quality evaluation in French, Mathematics and Malagasy

Source : UNICEF, 2018

Several factors explain the learning crisis in primary education. Firstly, there are the recurrent political crises which have led to a reduction in international resources allocated to education infrastructures, equipment, and health issues (Malaria, Tuberculosis). Also there are other organizational factors which do not facilitate learning in schools: teacher absenteeism, multi-grade classes with one teacher responsible for several age groups at the same time, and the double use of classrooms which mechanically limits the learning time of pupils. Rural and remote areas have been especially affected by these factors.

[123] Directions Régionales de l'Education Nationale

Box 2.24. The politics of *Malgachisation*

The term "Malgachisation" was coined in the 1970s and refers to the active promotion by local authorities of the local culture and language as a movement of cultural resistance against French influence. The French influence in Madagascar after decolonization was considerable, and it was sustained by economic, diplomatic, and cultural dynamics. This policy to support a national identity was incorporated into the socialist ideology promoted by Didier Ratsiraka from 1975. It included the Educative Linguistic Policy consisting of making the unified Malagasy language the official language for education, but also in producing new curricula and programmes that would not be issued or inherited from the French education system. In this context, the French language used to be used as an exception, a 'window open on the world of technical civilization" (Randriamarotsimba, 2016).

The aftermath of this voluntarist and new education policy is generally described as negative, or even terrible. "The results can be summarized in a generalized decrease in student achievement, high repetition and dropout rates, a decrease in teacher achievement, and the emergence of a Malagasy-French or French-Malagasy codex alternation" (Randriamarotsimba, 2016). Malgachisation had, in practice, led to a series of inconsistencies, linguistics issues and teaching distortions at school which had a terrible effect on the level of students, but also on teachers. Teachers' proficiency in French during this era severely declined, and the return to a bilingual system in the 1990s after the Forum National still constitutes a real challenge for the whole education system.

A gender-based analysis suggests that more girls than boys go to primary schools, complete their primary education more effectively than boys, but are less likely to access secondary education. School life expectancy for girls is 10.35 years (vs 10.47 for boys). Repeat rates are 20.15% for girls and 22.54% for boys. The gross enrolment rate in the last year of primary schools is 69.76% for girls and 65.42% for boys. The transition rate to secondary education is 72,62% for girls and 73.87% for boys (UIS, 2018).

Lower Secondary Education

Access to lower secondary school has been substantially rising during the last decade, with GER increasing from 27.5% in 2004 to nearly 50% in 2013, which is nearly 1,150,000 students - but with substantial differences within the country (the GER range by region is from 17% to 78%). The private sector accounted for 38% of students in 2014 (versus 41% in 2004) (PSE, 2017).

Figure 2.25. Enrollment and GER changes in lower secondary education

Source : PSE, 2017

The internal efficiency of lower secondary education is a problem. The general transition rate from primary education to lower secondary education is stable at 65%. The repeat rate is 15% and the school drop-out rate is 11%. One key element which might explain the low transition rate from primary school to lower secondary school is the delivery of the "CEPE" diploma which is considered by families as a signal of the end of education, and so the end of the enrolment imperative.

Key challenges in lower secondary education include big deficits in teacher training and in learning equipment. Like for primary education, secondary education faces a clear lack of teachers who possess qualifications in education, which may influence the overall level of teaching and the students' performance in national exams. The lack of school books is critical, especially for sciences: there is 1 book per 33 students in Physics and Chemistry, 1 book per 28 students in Sciences (PSE, 64). The student/teacher ratio was 40 in 2016 (UIS data).

The intensity of the quality control in the education system has been decreasing. The Ministry of Education lacks the capacity to monitor teacher performance in public schools because a high number of educational inspectors have left the academies in recent years. A programme launched with AFD will seek to address this challenge by training a new generation of inspectors, but a deep reform of the whole quality control system will be necessary to increase public schools' accountability.

The PSE has a series of strategies to tackle the issues of access, equity, and the quality of lower secondary education. The strategic plan calls for a reorganization of basic education into three 3-year sub-levels, making 9 years of education compulsory for all pupils. Only the last sub-

level (equivalent to lower secondary education) will lead to a national exam (BEPC), and the primary education final exam (CEPE) will be progressively abandoned.

Box 2.25. Public Strategy for Basic Education

Key strategies to promote access and equitable education

- Increase the capacity of secondary schools through the construction of new classrooms, the increased use in double teaching day, the refurbishment of classrooms.
- Increase effort toward free education (support to school lunch and school uniform).
- Recruit of community teachers ("FRAM").

Key strategies to promote quality education

- Reform the curriculum with skills-focused sub-levels and increased coherence with national socio-economic changes, and the language education policy, along with the publication and distribution of new school books and teaching guides.
- Initial training of teachers will be reviewed and improved, with increased capacity for the national training centre (INFP).
- Increased teaching/learning time will be targeted to reach international standards
- Increase the use of standard evaluation of academic achievements at the regional level and new inspectors will be recruited and trained.

The funding from Global Partnership for Education (GPE) and the World Bank could reach 100 to 120 M US$, and will support the implementation of these reforms.

4.3. Upper secondary education

Access to upper secondary education is increasing but remains low and is predominantly for students from wealthy backgrounds. Only 12% of pupils enrolled in 1st grade (primary education) reach the first year of general upper secondary education ("la seconde générale"), which is 320,000 pupils (2014). Thus, only 1 out of 2 students who complete the basic education level will attend high school.

There are fewer girls than boys in high schools. While there seems to be no gender difference in enrolment in basic education, girls are less likely to enrol in high school than boys (between 48% and 49% of students were girls between 2004 and 2014). A possible explanation is that when schooling is no longer mandatory, families do not enrol their daughter for financial reasons. A second factor may be that for security reasons, families will not send their girls to the high schools in remote towns. Finally, sexual health issues and early pregnancy may prevent girls from attending school.

Despite these issues, enrolment is growing: GER has increased at a 13% rate in the last decade, due to the opening of community-based high schools, and to other local initiatives. The reform of basic education and the demographic trend should increase the demand for this education level in coming years.

The private sector contribution is stagnant, at nearly 50% of students, and 378 general high schools (vs 1050 high schools). 90% of students in high school come from wealthy families (the 40% richest families) (PSE, 2017).

Figure 2.26. Enrollment and GER changes in secondary education

Source: PSE, 2017

The internal efficiency of upper secondary education needs to be improved, especially for the scientific tracks of general education. The retention rate is acceptable in secondary education (80%), but the overall completion rate was only 16.4% in 2014. The success rate at Baccalaureate exam has been stagnant at 40% in recent years, but with fewer students enrolled in the sciences (40% of science students versus 60% in literature). This trend may be explained by a diversity of factors including a lack of science teachers, and a massive lack of infrastructure and equipment suitable for the teaching of sciences. Student supervision is also lacking, with a student/teacher ratio of 20 in 2017 (UIS Data).

Box 2.26. Public Strategy for High Schools

The PSE has a series of strategies to tackle the issues of access, equity, and the quality of upper secondary education. Key focuses will be on quality and are relative to the adaptation of its content to the evolution of higher education requirements and labour markets, as well as on the controlled extension of high school capacity.

Key strategies to promote (equitable) access, in upper secondary education include

- School capacity will moderately increase under the control of MEN, relying on both public and private institutions
- Private sector contribution to this level is planned to rise to 60% in 2030, while the enrolment growth in public high school will be maintained at +1.6% yearly.
- The MEN will incentivize the opening of newhigh schools in areas where the public offer is insufficient, and "referring high school" will also be created
- It is planned to develop Merit scholarships, primarily targeting low income families and girls.

Key strategies to improve quality in upper secondary education include

- The curriculum will be reformed, particularly to facilitate the transition to higher education. A bilingual system will be aimed at targeting proficiency in Malagasy and French at the end of the level.
- IT tools will be introduced to teaching and learning.
- Set up a guidance/orientation system which will incentivize students to continue their studies to higher education and to respond to socio-economic needs.
- New modalities for continuous teacher training will be explored and created, in particular using a devolved governance system.

Unlike the reforms focused on basic education, these reforms for secondary education remain mostly unfinanced and thus will require additional funding from external partners. More generally, following the framework of MDGs and the SDGs, foreign donors and partners tend to focus on basic education and provide little funding for upper secondary education.

4.4. Technical Education and Vocational Training (TVET)

The TVET system is underdeveloped in Madagascar. There are only 50 vocational training centres (CFP) and 121 technical and vocational high schools (secondary education). Most TVET providers are concentrated in urban areas, and some regions have almost no active operator.

Access to TVET is very limited across the country. There are only 164 TVET learners per 100,000 inhabitants. TVET operators have 36,000 studentss, which is 0,6% of total enrolled students, and is 6 to 7% of students enrolled in secondary education. The students are divided between technical high school students (24,000) and vocational students (12,000). Most provincial capital cities do not have a technical high school, which are concentrated in the main cities.

For technical high schools, the contribution of the private sector steadily decreased to 36% in 2014, while the overall participation of the private sector in TVET is 45%.

The lack of adequacy of the TVET system with the economic environment is problematic. Most TVET operators do not have suitable equipment and infrastructure to provide relevant and up-to-date training courses. More importantly, there is a mismatch between the current TVET supply and the demands of the local job markets and the key sectors of the economy, as pointed out by many businesses in Madagascar. The absence of a legal and dedicated framework for work/study programs and apprenticeships is clearly detrimental to the sector. In this context, big local businesses and foreign companies may tackle this issue by developing expensive internal training processes for their employees, but most local SMEs cannot afford such practices.

The governance of the TVET system has not sufficiently relied on dialogue with private sector representatives (unions, professional organizations) and has not built the institutional capacity to monitor and assess the skills and qualifications required in the economy. However, a serious reform is trying to increase sector-wide committees to assess the qualitative and quantitative needs of skills and jobs, especially in 5 sectors: Tourism, Construction, Strategic Resources, Rural Development, IT.

A government financing fund for vocational training is being created in Madagascar[124]. It will be financed by 1% of the total wage bill[125] of formal businesses, and will serve to fund the continuous training activities of these businesses as well as the inclusion of informal companies in the formal training system.

[124] https://www.lexpressmada.com/26/04/2017/secteur-prive-un-fonds-alloue-a-la-formation-professionnelle/

[125] And the Fund is also financed by AFD.

Box 2.27. Public Strategy for TVET

The strategy of the government, in particular of the METFP, is based on the general aim of promoting employment as well as improving the skill-based setting of the TVET system. The key strategies include

Reforming and broadening to have an inclusive TVET system

- Harmonization of practices through the creation of a "National Certification Framework" to boost the adaptation of TVET to the economic environment, and to facilitate the transition from fundamental education to TVET.
- Diversification of TVET based on learners' skills and situations by the implementation of different levels of insertions and qualifications to increase access and improve economic insertion.
- Implementation of innovative and formalised apprenticeship training schemes
- Construction and renovation of TVET centres and equipment

Fostering the relevance and adaptation of TVET operators

- The governance of TVET will increasingly rely on the participation of private sector organizations (firms, unions and sector-wide organizations); in particular to reform curricula and orientate the creation of new training sectors and operators
- **A reform of curricula will be focused on 5 strategic sectors**[126]: Tourism, Construction, Strategic Resources, Rural Development, IT.
- Improved academic governance and controls will ensure the relevance of TVET offers.

4.5. Higher Education

Higher education institutions remain accessible only to a minority of Malagasy, with a growing share of private institutions. The Madagascar state has historically focused its effort on extending the access to basic education while limiting resources to the higher education system. In parallel, donors and external support have also neglected higher education. In this context of long-standing budget shortages, the gross enrolment rate in higher education is low at 5% (compared to 7% on average in Sub-Saharan Africa), and was a total of 106,000 students in public and private universities in 2014 (PSE, World Bank). There are 494 HE students per 100,000 people in the country, which is well below similar countries in the region (PSE, 2017). The proportion of students enrolled in non-state institutions rose from 8% in 2004 to 24% in 2014. However, high levels of poverty and the concentration of higher education institutions in the main cities make the system inaccessible for most families. While the gross enrolment rate for the top income quintile is 10%, it is almost zero for the bottom quintile (PSE, 2017).

[126] An important work of consultation and co-construction is being made with the representatives of these sectors, and will seek to produce sector-specific skills framework and certifications.

A massive programme of scholarships benefits 2 out of 3 students in public universities but may face critical efficiency issues. Around 45,000 students received a scholarship to enter public universities in 2014 (Statistics, MESUPRES). 2 out of 3 students of this programme benefit from a 100% reduction in tuition fees, and 1 out of 3 from a 50% reduction. A scholarship programme also exists for the National Institute of Technologies and benefits nearly 2,000 students. Overall, this means that 70% of students enrolled in public universities and institutes benefit from public support to access higher education. However, big problems may undermine the effects of this policy. First, scholarship funding does not take into account out-of-pocket fees which are generally high at this level of education. As most universities are located in urban areas, expenses for accommodation and food may constitute a significant part of total education spending per student. This may imply that only students with enough personal financial resources can effectively attend and complete higher education. In addition, the lack of supervision may lead to student absenteeism and mean that some scholarship-funded students do not complete their education at university. Overall, we have not found substantial research about to what extent this programme meets its goals.

The transition from secondary to tertiary education remains low and problematic. The Baccalaureate is a barrier for many students because the success rate at this exam is below 40%. The majority of high school students in humanities tend to over-estimate the value of literature and management in higher education. In addition, mobility between institutions and academic tracks is not clearly established and facilitated, which makes the reorientation of students difficult.

Universities do not provide quality learning environments, especially for new students. For a long time, the majority of public spending in education was allocated to teacher payroll and scholarships, and a very limited amount, to teaching resources and innovation. Most public buildings are old and in a bad state, and libraries and laboratories are generally archaic.

The teacher to student ratio is weak at universities (correct ?)[127], and the level of equipment is particularly poor. Moreover, the quality control of educational content is weak, with very little incentive for universities to adapt curricula, improve quality, and increase the relevance of their academic offer. The challenge is particularly intense during the first year of university. The poor preparation of 1st year students who lack supervision but also the transversal/soft skills required for a good academic performance at university may explain the high failure and repeat rates in first degrees. For 100 students starting a first degree, only 20 complete it, and the repeat rate is between 10 and 15%, which demands a bigger financial investment from students to succeed at university.

The mismatch between universities' offers, students' aspirations and the needs of businesses is another challenge. The public universities were built on the French academic heritage, with a lack of practical, need-based courses which would boost students' employability. According to the

[127] The teacher to student ratio is 1 to 44 in 2013 and 1 to 143 in some universities (PSE, 2017).

PSE, 63% of students want to become civil servants, while the private sector massively lacks qualified and ready-to-work graduates.

Box 2.28. Public Strategy for higher education

Improving quality

- Transition to the LMD system since 2013-2014 that will be extended to all public and private higher education institutions in Madagascar
- Diversification of TVET tracks based on learners' skills and conditions through the implementation of different levels of insertions and of qualifications, increasing access and improving economic insertion.
- Implementation of innovative and formalised apprenticeship training schemes
- Construction and renovation of TVET centres and equipment

Fostering the relevance and adaptation of TVET operators

- The governance of TVET will increasingly rely on the participation of private sector organizations (firms, unions and sector-wide organizations); in particular to reform the curriculum and orientate the creation of new training sectors and operators
- **Reform of curriculum will be focused on 5 strategic sectors**[128]*: Tourism, Construction, Strategic Resources, Rural Development, IT.*

Figure 2.27. Higher education: distribution of students by type of organization, and enrolment growth

Source: MESUPRES Statistics (2019)

[128] A big project of consultation and co-construction is being made with the representatives of these sectors, and will seek to produce sector-specific skills framework and certifications.

5. The mobilization of the private sector in education

This section reviews the private sector contribution to the different education levels in Madagascar, and illustrates the major needs and challenges of private education providers in the country. It also describes the role of some ancillary education services in the country.

The private sector contributes significantly to education in Madagascar, although there is a diversity of situations and significance. This section reviews the private sector contribution to the different education levels, notes the key challenges in the development of private supply in education, and provides some information on a few private players to illustrate the diversity of education businesses and challenges.

Table 2.32. Contribution of private schooling in the Malagasy education system

Cycles	No. of students in private schools	No. of students in private and public schools	% of students enrolled in private schools
Primary (1st – 5th))	936,175	5,004,479	19%
Lower Secondary (6th-9th)	457,057	1,132,596	40%
Upper Secondary (10th-12th)	185,312	363,053	51%

Source: MESUPRES 2017

Table 2.33. Changes in numbers and proportions of private school enrollments at all education levels

	2005/06		2013/14	
	Pupils enrolled	**% of private**	**Pupils enrolled**	**% of private**
Preschool	190,674	88.3	285,530	68.3
Primary	3,698,906	19.3	4,611,438	18.9
Lower Secondary	581,615	41.3	1,146,264	37.9
Upper Secondary	116,794	51.8	320,766	49.9
Vocational and technical education	31,136	42.1	37,699	36.4
Higher education	44,494	7.4	106,330	24.8

Source: RESEN, 2016

5.1. Pre-tertiary education

Pre-school education

The private sector makes a significant contribution to the supply of pre-school education in Madagascar, mainly through community-based institutions. In 2014, nearly 70% of pre-school pupils were enrolled in private institutions. This contribution includes a growing number of community-based centres which are local organizations, financed and operated by the communities, to deliver care and education to children under 5. We could not find data to determine the share of for-profit players in this private sector contribution, but we assume it is low. The total number of children in private institutions was 190,000 in 2006, and 285,000 in 2014 (PSE, 2017). Because private enrolment is growing at nearly 9% yearly, this educational level is experiencing a phase of a rapid growth, fuelled by the multiplication of community centres, but remains underdeveloped in comparison to the rest of the education system.

Despite a growing number of institutions across the country, there is a pre-school capacity gap, and so there is a need for additional infrastructure. There were 2.500 private centres in 2015 out of a total of 4.300 pre-school institutions. 500 additional centres were built annually between 2006 and 2014

The private provision of pre-school by for-profit institutions is essentially an urban phenomenon. If we exclude the community centres, the majority of private pre-school centres are located in urban environments, in particular in the central and eastern regions.

There seem to be no certified training provision for private pre-schools. Our field research suggests that most teachers in the community-based and private institutions have not received any form of certified training from secondary or tertiary institutions. Very little attention from the government is currently given to the quality of preschool education or the harmonization of teaching practices in the private sector. As mentioned above, public strategy is focused on extending access to public and community preschool centres. The regulatory constraints for private providers seem quasi-non-existent, and there is no sign that efforts will be made in the near future to improve quality and content within preschools.

Figure 2.28. Public and private enrollments in basic education (2014-2015)

Source : PSE, 2017

As a consequence of little regulation and attention provided by public authorities, the quality of teaching and supervision in private pre-school centres is very uneven and generally poor. The research and monitoring of educational outcomes in the pre-school level is very limited in Madagascar, and a quality analysis would mostly be based on the qualifications of educators and the quality of equipment and infrastructures. Another indicator is the low survival rates of pupils in the primary level whcih may be due to the poor pre-school education that is not sufficiently promoted and supervised to increase children's readiness for basic education.

There seems to be little opportunity for sustainable models in the private pre-school sector. On the one hand, the majority of pre-schools are led by community players or belong to the public sector, and consequently are funded through public funding or support. This large number of institutions typically provide education to low-income communities and seems not to have any business perspective. On the other hand, there are a few profitable players who have an offer in pre-school education. Our research found a few education groups that provide both pre-school and basic education. The ACEEM group has more than 9,000 students from pre-school to university level, with a presence in Antananarivo and its surroundings (see Box 2.29). However, we did not find any network of pre-schools which cater for the demand from middle-income and/or wealthy urban populations. There may be some niche actors in Antananarivo which deliver premium pre-school education to a very wealthy class, but we assume this segment is largely occupied by the foreign education networks, and primarily by French schools. The French School network in Madagascar is the 4th biggest country of AEFE (the Network of French schools outside France), with 23 institutions. Overall, there could be opportunities for the launch of new private players in this segment, but with a perimeter reduced to urban areas, and with significant competition for the premium/niche market.

Box 2.29. The ACEEM Group

ACEEM was founded in the 1980s and is still chaired by Ratrema William, a former senior official in the administration and former candidate in the presidential election. It is one of the biggest private school groups of Madagascar. Its first academic activities consisted of remedial education and were progressively extended to basic education and secondary education, university, vocational education, leisure centres, and a cultural radio station. ACEEM teaching is based on the national curriculum and the group delivers accredited diplomas, but also promotes the French language and includes additional courses such as IT and Mandarin. ACEEM has an average success rate in the Baccalaureate exam of 75% vs 40-50% nationally.

The group is auto-financed by the fees of the 9,000 students. The managers state that it is profitable but with very low margins. ACEEM typically targets upper- middle-income urban populations (correct?) with fees in IEF of about 200.000 Ar. Key financial challenges for this group are the changes in education policies which impose regular changes in the organization of the schools, and the inconsistency between costs (property rentals over 12 months) and income (fees over 10 months). Several partnerships have been made with WWF and the US Embassy to deliver specific projects and for school material donation.

Primary and secondary education

Private operators are significant contributors to primary and secondary education in Madagascar. The private sector accounts for 20% of students in primary education (around 900,000 pupils), and for 38% in middle schools and 50% in high schools (450,000 and 180,000 students) (PSE, 2017). This contribution has decreased in the period 2006-2014, for all education levels.

The determinants of private schooling results are diverse, but the level of income plays an important role in the access to quality education. There are multiple reasons why parents enrol their child in private institutions (quality of teaching, better exam results, proximity, religiosity), but the general orientation toward private providers seems to result from a poor performance by public primary schools. Field investigation work was done by D'Aiglepierre (2011) to report and assess these various factors. For the demand side, he highlights the importance of income and religious factors as determinants of parents' choice of private schooling. On the supply side, teacher supervision and results in national exams (CEPE and BEPC) are key information parents will look for to make their decision. As private middle schools offer better supervision rates and better results in exams, families with higher incomes are more likely to pay for basic education provision for their child, and in particular for more distant institutions.

There are 7,000 private primary schools, 3,000 private middle schools and nearly 1,000 private high schools in the country. These private institutions are mainly **located** in the centre regions and the eastern coastal regions, in particular in urban and peri-urban areas.

Figure 2.29. Location of private schools (basic education) by regions

Source: PSE, 2017

The quality challenge is urgent in Madagascar. In 1997, Madagascar was ranked top in the PASEC study, first in Maths and second in French. The 2014 PASEC Study showed that Madagascar is one of the worst performing countries in Francophone Africa (with Tchad and Niger). As shown in Figure 2.30, more than 82% of pupils did not acquire the minimum skill level in French and 79% for Mathematics while completing primary education. The general performance of students decreased rapidly in the 2000s, confirmed by the PASEC test (PASEC, 2014), and showing the difficulties encountered in primary schools and more generally in the education public policy. Other tests like the EGRA ("early Grade Reading Assessment") confirm this trend.

Figure 2.30. Share of pupils who acquired the required level of skills in late primary

Source: PASEC, 2014

Box 2.30. The Saint Michel Group

The Saint Michel group is a Jesuit institution founded at the end of the 19th century in Antananarivo. It is a renowned and prestigious institution in Madagascar with high selectivity of incoming pupils. The group is active at all education levels, with pre-school, primary, secondary schools and a university. 3,500 pupils are enrolled each year in the group (2,700 enrolled in pre-school and basic/secondary education and 750 in higher education). The employment insertion of graduates is excellent, due to the good reputation of the group.

Tuition fees are generally 2 to 3 times lower than in the other for-profit educational institutions of Antananarivo (for instance, they are 650,000 Ar for one year in high school). As well as the fees, the general funding of the school is ensured by a foundation based in Switzerland. The group tends to be accessible to middle- and high-income classes, but a small programme of scholarships is implemented and funded by foreign partners such as the government of Monaco.

The group plans to extend its educational supply and open an agriculture institute on a new site. Additional financing is being sought to implement repair work and maintenance on the campus.

Fees vary a lot in the private institutions but remain accessible for the majority of Malagasy people. 5.7 million pupils were enrolled in the basic education system in 2014, with 1.3 million in private providers. Private local institutions in the basic education cycle have different levels of fees, ranging from 400 to 500,000 Ariary, and even reaching several million ariary in the case of foreign educational institutions. Unfortunately, little data is available on the private market of basic education in Madagascar. We noted that competition may be intense in urban zones, which may incentivize private providers to increase their differentiation. For instance, the ACEEM group set up additional classes in Mandarin and in IT, which are not provided by many schools in Antananarivo.

5.2. TVET and Higher education

Private institutions have been emerging recently in higher education in Madagascar. The first implantation of private players was observed in the 1990s (World Bank, 2014). In the context of limited public spending for this level, the development of secondary education and the consequently increasing number of baccalaureate graduates each year has increased the demand for private education providers. The number of high school graduates has increased from 25,000 students in 2006-2007 to 55,000 in 2014 (MESUPRES Statistics, 2018). These dynamics have been particularly strong for the series A baccalaureate graduates (in Humanities), passing from 14,000 students in 2006 to 36,000 students in 2014. Thus, the limited public supply and the growing demand for higher education has opened the way for new capacity which has been filled by private players. This situation has fuelled student enrolment in and development of private universities and institutes, and there were more than 50 in 2013 (MAE, 2013). The number of students enrolled in private universities and institutes grew from 3,400 in 2005 to 27,600 in 2014. Private universities are geographically concentrated in a few urban areas, where 94% of these

institutions are based (MAE, 2013). Antananarivo is where infrastructure, equipment and capacity are most easily found, but also where the middle- and high-income population is concentrated.

There is a diversity of private institutions in the higher education sector in Madagascar, characterized by heterogeneous quality, pricing, and size. Most of them are very selective institutes, with strict application procedures, and often with a written examination.

- **Université Catholique de Madagascar (UCM)**: this university is based in Antananarivo and offers LMD diplomas in economics, law, political sciences, philosophy and sciences. Created in the early 20th century to teach philosophy and theology, it was progressively transformed into a private university with an extended course offer in social sciences, and has recognized professors (qualified professors?).
- **Institut Supérieur de Communication, des Affaires et du Management (ISCAM)**: well-known and selective business school, with the LMD system as well as vocational training in communication, marketing and management.
- **Institut d'Etudes Politiques (IEP)**: political sciences institute with several international partners such as Sciences Po Paris.
- **IT University**: private university specialized in information & technology. Offers a double degree in partnership with the University of Nice Sophia Antipolis.
- Institut Supérieur de Technologie (IST): Institution specialized in management, business, human resources. Good reputation.
- **ACEEM**: University based in Antananarivo on several sites, with big capacity.
- **Institut Supérieur Polytechnique de Madagascar (ISPM)**: Well-known private institute specialized in Engineering and IT. Offers vocational training and LMD diplomas
- **Université Privée de Madagascar (UPRIM)**: University specialized in paramedical training.

We also mention here several vocational schools that are small-sized institutions specialized in information and technologies, and in tourism and hostelry.

- **Sayna: Sayna** is an early-stage vocational school based in Antananarivo which provides short-term training in IT to disadvantaged students 1 to 1. The model is free of charge for students and paid by companies with which Sayna partners.
- **ESTI**: Institute specialized in IT, has developed the first work/study programme in the sector. Supported by AFD.
- **Havila School**: vocational school specialized in hospitality, also based in Antananarivo.
- **Vatel School**: well-known international vocational school specialized in tourism and hostelry, part of the VATEL group. http://www.vatel.mg/

Like for post-primary education, the pricing of private institutions in higher education varies a lot. Some institutions may charge similar tuition fees to well-known public institutions (e.g. the public school INSCAE charges tuition fees of nearly 700 US$). Others may charge substantially higher fees. Tuition fees at the renowned tourism school Vatel can be 10,000 US$, for a Masters

degree. On average, completing higher education training in Antananarivo would cost around 1200 US$ yearly for a student, including tuition fees, accommodation, food, and transport (MAE, 2013). 90% of the population lives on 3.1 US$ or less a day, consequently, access to these institutions is very difficult for the majority.

Very few institutions have created the capacity to broaden access with a system of student loans and/or scholarships. The Sayna school is, to our knowledge, the only private institution in Madagascar focused on deprived students through an innovative model which puts the cost of education on companies instead of on families. Other institutions may have found external funding to finance scholarships (e.g. the government of Monaco for the Saint Michel Group) but this generally concerns few students. There is a population of foreign students (1,300 in 2013), mostly from Comoros, and divided between public universities (40%) and private universities (60%) (MAE, 2013).

For TVET, access to vocational centres is restricted and the private sector contribution is still to be structured and enhanced. The pricing of private operators in the TVET remains unclear, as the system is still emerging and dispersed. As mentioned above, the creation of a government TVET fund could be a game-changer for the structuring of the TVET landscape. This fund for vocational training[129] will be financed by 1% of the total wage bill[130] of formal enterprises and will serve to fund the continuous training activities of these enterprises as well as the inclusion of informal companies in the formal training system. This could contribute to boosting the demand for training by businesses (businesses will anyway finance the fund) and also the supply of traini ng (provided that TVET operators are certified and recognized by the fund).

Higher education players face strong barriers to design study tracks and teaching models which ensure the socio-economic insertion of students. A clear example of this challenge is the difficulty which has been found in experimenting and scaling up work/study programmes in vocational schools and universities. On the supply side, vocational schools may encounter difficulties in designing programmes which are well adapted to the needs of the employers. Generally, schools and businesses have very little knowledge of this teaching approach (which is not legally recognized). On the demand side, this approach may provoke legal risks for companies which accept to enter into these partnerships. Furthermore, these models make the firms bear a substantial part of the training costs of the students (inc. fees and insurance), which makes it unaffordable for most local SMEs. Finally, they have little teaching experience in training and supervising students. These different barriers may explain why so few companies use work/study programmes. In this context, the ESTI School is an interesting case study that could point the way for the future development of these programmes.

[129] https://www.lexpressmada.com/26/04/2017/secteur-prive-un-fonds-alloue-a-la-formation-professionnelle/

[130] And the Fund is also financed by AFD.

Box 2.31. The ESTI School: An IT School Initiating A Work/Study Track

ESTI School is an early stage IT school based in Antananarivo which provides Degrees and Masters in web development and in network security. ESTI is an association which was designed and duplicated from a French Model, ITECIA, a French IT school partnered with the Chamber of Trade in Paris. ESTI is funded by AFD to extend its school capacity and improve the equipment. It currently employs 40 teachers of which 5 are permanent and had120 students as of January 2019. ESTI's income is divided between student fees (500 US$ for Degree and 600 US$ for Masters, and similar fees paid by businesses.

ESTI has launched the first Work/Study track in IT in Madagascar as a way to boost the adaptedness of its training to the needs of employers. ESTI partners with a diversity of corporates including local tech SMEs and international IT industries. These partnerships enable the students to spend two weeks a month in the business to gain practical knowledge in IT, acquire soft skills and boost their employability when graduating from school. As the first students graduated in December 2018, data on professional insertion is not available yet.

In civil society, we also found several projects that aim to boost the employability of vulnerable youth and could inspire private sector practices. For instance, the programme SESAME[131], launched by the French NGO IECD, aims to support young Malagasy in the creation and implementation of a professional project. The programme includes a preparatory year where young people learn to conceive a project, strengthen their transversal skills and acquire the necessary skills for the "student profession". At the end of this year, young people start their studies fully paid for by the SESAME programme and follow training courses including meetings with the business sector. The insertion rates at the end of the programme are excellent and underline the strength of this innovative academic and social intervention, which makes it possible to give young people from disadvantaged backgrounds a real chance. A similar programme is implemented by the NGO SOS Village d'Enfants Madagascar: the objective is to integrate vulnerable young populations by increasing young people's interactions with companies, building partnerships with businesses and civic organizations to conduct training and provide them with internships, facilitating the acquisitions of soft skills and eventually supporting the young people in their insertion on labour markets. We may draw a few lessons from these programmes aiming to support the insertion of vulnerable young people:

- Successful programmes require heavy investments in time and human resources to create personalized and long-term support. For instance, SESAME estimated at 2,000€ the average cost of the programme per student.
- Strong intervention on soft skills and personal development are the heart of these models
- Strategic partnerships with companies and/or civic organizations are the key to increase the exposure of young people to professional actors.

[131] http://sesame.promesmada.org/

SESAME staff have engaged in a reflexion to make the programme sustainable and thus to find ways to raise funding from local players that benefit from the positive trajectory of these youth. It could be interesting to build innovative private sector initiatives that are based on the experience and knowledge base of these successful programmes.

5.3. Ancillary players

Teacher training

There is a room for a significant contribution of the private sector in teacher training. According to an Education specialist at the World Bank, 40,000 additional teachers will be necessary to address the educational access and quality issues at the primary and post-primary levels. As the public system only trains 1,000 to 2,000 teachers a year (in the Ecoles Normales Superieures), there is a clear role for private players to paticipate in this challenge. There is a market-driven demand for private teacher training centres that could give initial training but also life-long training courses to benefit private and public teachers. Vocational schools also have opportunities to develop training for teachers who can cover several functions (child care and health, educational development, nutrition) in early childhood centres. Hence, the state could consider implementing public-private partnerships to increase the offer of these types of training while maintaining control over the number and quality of teachers trained.

Education Technologies

Education technologies are barely emerging in Madagascar. First, the development of distance learning solutions in rural areas is constrained by the lack of telecom infrastructure and connectivity in the regions. Internet cover is limited to urban areas, which makes it much harder for start-ups to explore the Ed-Tech models which are increasing elsewhere in Sub-Saharan Africa, and which provide affordable education content in remote areas. However, there is a growing demand for distance learning solutions in urban areas. E-learning models could provide solutions to increase access to quality education, especially in higher education where universities are not accessible for a substantial part of the population. A significant player in this sector is the CNTEMAD, described in Box 2.32 below, which is exploring new models of blended education through a network of CNTEMAD spread across the country. A number of private players intend to duplicate the training delivered by CNTEMAD, which implies issues of quality control and certification.

Several telecom companies are also developing e-learning solutions. For instance, Orange Madagascar received in 2016 the support of AFD and AUF[132] to launch a distance teacher training project (FADEP[133]), which aims to increase 1,000 teachers' skills and motivation. Telma, another big

[132] Agence Universitaire de la Francophonie.

[133] https://www.orange.mg/actualite/lancement-projet-formation-distance-enseignants-primaire-madagascar

telecom company, has worked with the CforC association[134] to provide IT training to disabled persons.

Box 2.32. CNTEMAD AND THE CHALLENGE OF E-LEARNING IN MADAGASCAR

CNTEMAD (*Center for distance learning of Madagascar)* is a public organization which was founded in the context of the higher education crisis in 1992 when most public universities were shut down. It offers affordable higher education distance courses in Madagascar. 18,000 students were enrolled in CTNEMAD courses in 2018, in Degree and Masters classes in Law, Management, Communication, IT, Engineering, and Social Sciences. Each student has access to paper-based course material to learn in autonomy, takes two exams per semester, and can get support from contract teachers and tutors in one of the 44 learning centres across the country. The curricula are based on existing courses in universities, so all training courses are certified.

The CNTEMAD is a very interesting organization as regards access to higher education in remote areas. Tuition fees are low: 200,000 Ariaries (60$), which makes it much more affordable than most public and private higher education institutions. The extended network of 44 centres (located in 44 of the 119 districts of Madagascar) is a real asset to facilitate access, as it does not force the student to move to an urban district. However, the blending learning model, based on self-learning at home and access to learning centres (which is not compulsory), is far from perfect. The success rates in the Degree are low, like in public universities, for instance 28% for Law. The Director of CNTEMAD confesses that many students have not the skills and discipline to effectively learn in full autonomy. We have no data about how many of them go to the centres to receive support and guidance.

The priority project for development of CNTMED is to put the course material online and become an e-learning model. The director is currently working with a local tech company to create online modules (MOOCs) and put them on a digital platform. The problem is that connectivity in Madagascar is poor, and many students would not have access to the online platform. Thus, the director has launched the construction of a new learning platform that could be accessed without internet connexion. The platform will be operational in 2019. The next project is to upgrade the CNTEMAD centres with internet connections and computers, so that students have access to the MOOC. The upgrading cost is very high (20m Ar, 6,000 US$) and external funding is necessary to implement it. The third project is to launch an SMS-based information platform that sends information related to exams and classes to the students, but there are several challenges to agreeing a possible partnership with a telecom company.

Supplementary education

There are several education groups which offer remedial education in addition to core education delivery. This is the case for the ACEEM group which started as a provider of remedial classes before extending to a traditional schooling model. We did not encounter any organization specialized in the remedial education business. We could make the hypothesis that widespread poverty and low

[134] http://matv.mg/fondation-telma-et-cforc-formation-des-handicapes-aux-nouvelles-technologies/

level of income in urban areas may limit the capacities of most families to afford additional services in education, but to confirm this would require additional analysis for which data are missing. Supplementary education could also be provided in rural areas with the support of education technologies. However, considering the numerous obstacles that hinder the development of Edtech models in Madagascar, we do not observe short-term opportunities for local/foreign businesses to provide such services in rural Madagascar.

Student finance / School finance

There are several microfinance institutions which provide facility solutions for schooling. For instance, the ACEP IMF provides "school loans" to families, which may be useful to finance the combination of fees and out-of-pocket expenses that are concentrated in a specific time of the year (mostly January, for when the new school year begins)[135]. To our knowledge, this type of service tends to be incorporated in general programmes of financial inclusion and we did not encounter any organization that would create specific programmes of additional capacity building or financing services for schools and students.

6. Policy context and regulation of private players in education

Regulation of private investments in education

There is no private investment regulation dedicated to education in Madagascar. Private investments in education institutions must comply with the general regulation in place. Indeed, for any investment in foreign currency, it is mandatory to go through the SSOC (Service de Suivi des Opérations de Change) of the Ministry of Finance and Budget, in order to obtain the FOREX certificate (Foreign Exchange), which is useful, in particular for tax audits. Capital transactions remain free transactions in Madagascar (i.e. there is no obligation to declare them to the SSOC), and so far there are no regulations against this. On the other hand, it is necessary to detail the beakdown by investor of the investments in the agreements, according to how much is in capital and how muchs in loan. Only the loan is subject to an obligation of certification. FINEX certificates are mandatory for shareholder loans

Regulation of education activities

The regulation of private institution education activities has historically been very limited in Madagascar. The arrival of private players in the system started in the 1990s in a context of deregulation and structural adjustment programmes which severely affected the reach and capacities of public authorities. Regulating the private education sector remains a huge challenge for the authorities. In the last 20 years, the government has seen a multiplication of initiatives led by private players, with little control over school openings and quality.

[135] http://www.acep-mada.com/services-produits/credits/

Some media and civic organizations have constantly criticized this trend [136], calling for increased public scrutiny of private players. Some education levels are particularly targeted by these critics, such as private universities in the paramedical sector. In higher education, many institutions have opened since the 2000s and remain informal/without permission, and others have not obtained the accreditation for the qualifications they deliver. We observed a diversity of situations regarding regulation and certification of private universities and schools, and a generally low level of quality control by the authorities. The strengthening of quality control over private universities is a strategic orientation taken by the Ministry of higher education, but no independent agency is so far in charge of assuming this necessary function.

Private universities and higher vocational schools are grouped into two structures: A.E.E.E.S.P.H.M (Association des Établissements D'Enseignement Supérieur Privés Homologués de Madagascar) and the A.E.F.P.P.S.A (Association des Établissements de Formation Professionnelle Supérieure Agréés).

Three levels of control structure the regulation and certification process of higher education in Madagascar:

1. Permission
2. Approval
3. Authorization

Authorization is a full recognition of the institution and enables the students to enter to apply for civil service positions

Table 2.34 shows that among the 27,000 students enrolled in private institutions and registered in 2014, a large majority are enrolled in schools which have received permission but no approval.

[136] https://www.lexpressmada.com/07/08/2018/education-des-universites-privees-non-conformes/

Table 2.34. Regulatory status of private higher education institutions, by number of enrolled students

Private institutions	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Permission									15,720	23,922
Approval	3,430	3,875	4,361	6,127	6,313	6,292	6,402	6,934	3,251	579
Authorization			3,827	5,309	8,901	11,141	14,797	14,319	5,050	3,096
All	3,430	3,827	8,188	11,436	15,214	17,433	21,199	21,253	24,021	27,597

Source: MESUPRES Statistics, 2019

Education challenges in Morocco

1. Introduction

Morocco has made tangible efforts to improve access to, and quality of, education in the last 20 years, but general education outcomes remain fragile and uneven. After a delicate period of rollback and stagnation for primary and secondary education during the 1980s, rapid progress and numerous reforms were made in the 2000s, under the MDG framework and with a new national momentum led by the authorities in Morocco. The Charte Nationale pour l'Education et la Formation (CNEF) in 1999 gave concrete strategies for reforming and improving the national system, for example, with the creation of autonomous universities and of Regional Academies (AREF). In 2013, a Council for Education (CSE) was created as a policy advice body to foster the modernization of the system and to monitor progress and achievements.

The recent organizational reforms as well as the renewal of curricula and teaching methods are still in progress, but they have already given results for access to quality education. The illiteracy rate was 87% after independence, universal education for children aged from 9 to 15 is now in reach, and gender differencies have been substantially reduced. Key challenges are still to be found in rural areas where the population, and in particular girls, have more difficulty to access secondary and higher education access. In general, the internal efficiency in basic education could still to be improved. The quality of learning and teaching has suffered from inconsistent (and sometimes divergent) linguistic policies in recent decades[137], but also from insufficient investment in modern infrastructure and equipment.

Universities and TVET institutions do not promote the employability of young Moroccans. Historically, the state made less budgetary effort for the higher education and TVET sectors, but good public universities educated a limited number of qualified people to manage the economic development of the country. Today, higher education remains underdeveloped in comparison with the demographic trend and the needs of the country. The lack of relevance of training courses, and the low preparedeness of students for the labour markets are critical challenges as young people are more and more confronted with unemployment and/or social stagnation.

The private sector is a growing stakeholder in the education system. Private schools enrol 10% to 15% of students in basic education, and generally provide quality learning, in particular regarding the bilingual challenge of Arabic and French. Private universities enrol less than 5% of students but are growing, under the reinforced regulation of the sector. TVET is mainly a public-driven sector, but some private players provide relevant training in specific fields.

[137] See Box 2.34 .

Section 2 aims to detail these challenges of access, equity, and relevance of the education system in Morocco. It also gives the government strategies to address these challenges. Lastly it highlights the participation of private sector operators in the different education levels.

2. General organization of the national education system

The education system in Morocco is composed of pre-school education, a mandatory cycle of basic education, general and vocational secondary education, higher education and TVET. The compulsory track for children aged from 6 to 15 has historically been 9 years of basic education, primary school followed by lower secondary education. However, recent government plans[138] have introduced pre-school education as a compulsory component of basic education. Thus, all children aged from 4 to 6 must attend pre-school, through a diversity of institutions (public institutions, community-based institutions, and for-profit institutions), with the aim of facilitating the child's physical, cognitive, and emotional development and the development of his or her autonomy and socialization. This plan is a long-term objective and the transition from the current system to the lengthened education period will take nearly 10 years[139].

Primary education, which lasts 6 years, is open to pre-school children, and on a transitional basis, to children who have not benefited from pre-school, aged six years or over, as well as to pupils from traditional schools, at the level for which they are qualified. It is structured in 2 levels. The first primary school level lasts 2 years and the second level lasts 4 years. At the end of primary school, pupils graduate with the Primary Education Certificate (CEP).

The 3-year lower secondary school is aimed at young people from primary school who hold a CEP. Completion of lower secondary school is made with a lower secondary diploma (BEC), mentioning, where applicable, the field of learning and technical and vocational specialization. Holders of the BEC may continue their studies in secondary education, depending on their choices of orientation and aptitudes. If they chose to move directly into working life, they can still apply to resume secondary education, provided they meet the prerequisites and admission criteria for this level.

Secondary education has 3 tracks: (1) A short vocational training organized in a professional qualification; ending with the graduation in "*Diplome de Qualification Professionnelle*" (DQP), (2) A general high school track, (3) A technical and vocational training in high school. The general field ends with the General Education Baccalaurreate (BEG) with a specialization in Sciences, Literature or Social sciences, and gives access to higher education. The Technical and Vocational track ends with the Technical and Vocational Education baccalaureate (BETP) and gives access to the job market, training centres, and under certain conditions, to higher education institutions.

[138] This strategic orientation is mentioned in the 2015-2030 Strategy and was put as a national priority by the King in a recent Speech made in July, 2018.

[139] The universalization of pre-primary education is to be completed in three phases by 2027.

TVET is composed of DPQ secondary level and of initial and continuous post-baccalaureate training. Initial TVET is largely implemented by public bodies, including the OFFPT organisation and some technical ministries (Tourism, Agriculture), but also by a limited number of private schools. Continuing TVET for employees and unemployed people is mainly provided by companies in partnership with public and private bodies.

Higher education is composed of universities, specialized institutions and *grandes écoles* (whose access may be restricted to students following the *Classes Préparatoires* intensive 2-year track - "CPGE"). Several forms of institutions coexist in higher education: public universities (12), private universities working under PPP framework (5), private and independent universities (5), and finally public universities with private management (1). Since 2003-2004, the whole system is based on the LMD framework which divides higher education into First Degrees, Master Degrees and Doctorate Degrees (PhD).

3. General Analysis

3.1. Access to education and demographic trends

The demographic growth of Morocco is slowing down but provides the country with a growing number of working-age young people. Demographic growth has been declining for the last decade and is now below 1% (BAD, 2013). Due to a declining fertility rate, the number of children from 7 to 12 is now decreasing and the total population is ageing (UNESCO, 2010). The demographic pressure reached its peak around the 2000s regarding the school-age children (BAD, 2013). However, Morocco still has a fairly young population, with a growing active population. As shown in Table 2.35 nearly 18% of the population is aged between 15 and 24, which represents 6 million young people. The demographic pressure is currently impacting higher education and professional insertion: the number of baccalaureate graduates has increased from 300,000 to 500,000 in 10 years.

This demography constitutes a considerable opportunity for economic growth and the so-called demographic dividend. Hence, the dependency ratio (working population / school-age children) increased (from 1.6 in the 1990s to 2.6 in the 2010s). Many studies and reports highlight the youth inclusion challenge as the most prominent challenge of the period which also bears tremendous social and political risks for the country (Chauffour, 2018 ; Conseil Supérieur de l'Education, 2017; BAD, 2013).

As detailed in Table 2.36, enrollment growth has affected all education levels except preschool education where fluctuations are observed in the latest years and explained in section 4.1. The GER is close to 100% in primary education, and to 90% in lower secondary education. In upper secondary, the enrollment ratio stands between 65 and 70%. These figures clearly demonstrate that the Moroccan landscape of education is very different from the other case coutries. Indeed,

the universal access to basic education is on good track to be achieved, and twho thirds of a generation enter high school.

Table 2.35. Evolution of school-age groups (1970-2030)

(Thousands)	1970	1980	1990	2000	2010	2020	2030
Age 6-11 (primary)	2,791	3,198	3,948	3,935	3,518	3,550	3,289
Age 12-14 (low secondary)	1,139	1,405	1,754	2,019	1,826	1,778	1,715
Age 15-17 (upper secondary	952	1,286	1,666	2,025	1,887	1,720	1,736
Age 6-17 (a)	4,882	5,886	7,368	7,979	7,231	7,048	6,739
Age 18-57 (b)	6,125	8,734	11,719	15,032	18,493	20,551	22,086
Dependency ratio (b/a)	1,25	1,48	1,59	1,88	2,56	2,92	3,28
% rural population	66	59	52	47	43		

Source : UNICEF, 2017

Table 2.36. GER evolution in all education cycles (2005-2017)

Age (level)	2005-06	2010-11	2014-15	2015-16	2016-17
4-5 (preschool)	-	-	49,2	45,3	49,5
6-11 (primary)	89,0	97,5	94,9	97,4	99,1
12-14 (lower secondary)	68,1	79,1	86,4	85,2	87,6
15-17 (upper secondary	46,0	53,8	70,1	65,3	66,6

Source: UNICEF, 2017

3.2. Expenditures on education

Public spending on education has been increasing in the last decade, with big efforts made for basic and secondary education, but with less attention given to TVET and higher education. The education expenses were 47 million dirhams, 23% of public spending in 2015, and 16-18% between 2012 and 2014. The budget for education stands at 5.6% of total GDP, which is higher than other countries of the region (UIS, 2018). Following the strategic focus on primary

education universalisation since the 2000s, 60 %[140] of this budget is continuously spent on basic education, which is about 20% of GDP/capita (UNESCO Data, 2018). This allocation was made to the detriment of other education segments, such as higher education and TVET which only received a small proportion of education spending. The budget is mainly spent on operating expenditures (including teachers' payroll) and only 5 to 10% of total education spending goes to investments. Decentralisation is very weak, with only 10% of total budget distributed to regional academies (AREF) (MEN Statistics, 2017).

Table 2.37. Evolution of education (and health) public spending as part of GDP and of total public spending (2012-2015)

	2012	2013	2014	2015
Education				
In % of total public expenditure	17.2	16.4	18.3	22.2
In % of GDP	-	-	-	5.6
Health				
In % of total public expenditure	4.8	4.8	5.2	5.3
In % of GDP	-	-	-	1.4

Source : UNICEF, 2017

Key socio-economic and infrastructure challenges affect the performance of the education system, particularly in rural areas. Although key achievements will be emphasized in the forthcoming analysis, Morocco faces a series of structural challenges impacting the performance of its education system. Despite overall good economic performance in the last 15 years[141], the situation in rural areas, where 13 million and 37% of the population lived in 2015 (HCP, 2013), has not been improving regarding education conditions and achievements. Poverty and vulnerability ratio is still high in rural areas, reaching respectively 7.2% and 21.2% of the population there. Therefore almost 1 out of 3 Moroccan is affected by poverty or vulnerability in rural areas, against 1 out of 10 in urban areas (UNESCO, 2010). Most access indicators, as detailed below, show difficulties for rural families to enrol their children due to home to school distance and its socioeconomic consequence (security, costs of transport, costs of accommodation for remote education institutions, opportunity cost against economic activities). This situation particularly affects girls from vulnerable families. The state has developed specific policies, with some success[142], to target the rural population and support them enrol and complete basic education. However, as we see later, poor rural populations affected by lack of mobility and of adequate infrastructures cannot benefit as much as the rest of population from increased state efforts in the

[140] This figure needs to be confirmed by an alternative source.

[141] GDP/capita increased from 4500$ in 1990 to 7500$ in 2014 (in constant dollars, PPP) (Chauffour, 2018).

[142] Stratégie nationale de développement de l'éducation en milieu rural (1996) - A note on the Tayssir programme is developed further in the analysis below.

sector (see above), and do not have access to private schooling as an alternative option (CEMPT, 2016).

Table 2.38 Poverty rate and vulnerability index for children living in urban and rural areas (2015) (in%)

	2015
Poverty rate – total	4.4
Urban areas	2.1
Rural areas	7.2
Vulnerability rate - total	14.4
Urban areas	9.1
Rural areas	21.2
Combined poverty rate and vulnerability – total	18.8
Urban areas	11.2
Rural areas	28.4

Source: UNICEF, 2017

4. Specific subsectors achievements and challenges

This section explores, for each level of education, access, infrastructure, quality, equity, and management issues, and the role of the private sector. It also describes specific projects or recent reforms which concern each education level and presents the main challenges.

4.1. Preschool education

Pre-school enrolment has been declining in the last decade. In Morocco, pre-school has 700,000 children and is composed of 23,000 schools (of which 11,000 are in rural areas) and 36,000 teachers. The pre-school system has experienced a worrying setback in the last years, with enrolment rates declining from nearly 60% in the 2000s to 50% in recent years for a pre-school age population of 1.4 million children. 720,000 children were not enrolled in the system in 2018. The number of schools has also decreased between 2015 and 2017, and the number of children enrolled in traditional pre-schooly education has reduced by 80,000 (MEN Statistics, 2017). Despite growing urbanization, the decline of pre-school education shows that the current system has reached its limits and lacks a clear regulation and vision to address the universalization challenge.

Figure 2.31. Preschool enrollment evolution

Source: MEN, 2018

The current situation does not ensure equitable access to, and equal opportunities for all in pre-school education. Although equal opportunity in education is guaranteed by the 1999 Charter and regularly re-stated in political speeches, an analysis of equity indicators shows big differences in of access and completion regarding rural areas and gender. The enrolment in rural preschools is very low, reaching 35% in average as shown in Figure 2.32. Gender disparities also reinforce the unequal access to pre-school as only 24% of girls in rural areas enrol in pre-schools (vs 45% in urban areas).

The pre-school sector is characterized by a diversity of practices, a multiplicity of players and a lack of state regulation. There are currently three kinds of pre-schooly systems in Morocco: traditional pre-schooling (led by communities), public pre-schooling and modern pre-schooling (led by private-sector players, mostly in urban areas). There is currently no centralized regulation of these different systems which have their own dynamics and practices. From this multiplicity of players a diversity of practices emerges in terms of infrastructure, equipment, programmes, teaching methods and pricing. They also employ educators with varying levels of qualification and experience (MEN 2018). The lack of harmonization of practices is essentially due to the lack of state intervention, although recommendations have been made since 2008 by the CSE to produce a common referential of teaching methods with clear goals and determined educational outcomes. There is also a lack of regulation of teacherr training, with little or no control over recruitment and training of pre-school teachers.

Figure 2.32. Shares of modern, public and traditional preschools (%)

Source: MEN, 2018

Teacher training is the most urgent challenge to promote equitable access to quality education in preschools. The lack of pre-school teachers is huge: only 40% of the necessary resources are today mobilized in preschools. The lack of teachers is likely to reach 50-60,000 teachers (Abouid, 2018). In addition, the number of teachers has declined from 39.00 to 36.000 from 2015 to 2016 (MEN Statistics, 2017). Although some training is provided by the OFPPT, there is a general lack of certified skills training courses for teachers and teachers assistants in public university and TVET centres. Private training centres have also a reduced presence in this field, and there is almost no control over recruited teachers in community / traditional preschools. Overall, the emergency for the sector is double. First, there is an urgent need to establish a common system that includes educational content and teaching approaches in order to guarantee the skills and practices of the trained teachers in all systems. The adoption of local languages is a crucial strategy to facilitate the transition to primary school. Second, several thousands of teachers are lacking in the sector, all types of providers combined.

Table 2.39. Pre primary education

			2014-15	2015-16
Institutions		Total	25,026	20,551
		Rural	14,106	11,151
Classrooms		Total	38,780	32,641
		Rural	14,752	11,161
Classes		Total	40,722	37,177
		Rural	16,656	14,004
Number of pupils				
Traditional Preschool	Total	Total	482,353	398,792
		Filles	198,071	165,852
	Rural	Total	181,438	133,605
		Filles	53,758	38,756
Modern Preschool	Total	Total	181,126	180,636
		Filles	86,205	86,829
	Rural	Total	4,368	5,328
		Filles	2,001	2,404
Public Preschool	Total	Total	73,103	79,361
		Filles	35,458	39,047
	Rural	Total	43,054	48,328
		Filles	20,755	23,624
Total Preschool	Total	Total	735,582	658,789
		Filles	319,734	291,728
	Rural	Total	228,860	187,261
		Filles	76,514	64,784

Source: MEN, 2017

Box 2.33. The public strategy for pre-school education

The recent political push, following the King's Speech, July 18 2018, imposed a series of strategies to concretize the preschool agenda drawn in the 1999 Charter and accelerated the implementation of reforms made in the 2000s. The public strategy currently aims at:

- Revitalizing the generalisation of pre-school education after the first reform of 2008
- Mobilizing a wide range of stakeholders on a regional and local basis and including civil society organizations, private sector representative bodies, regional academies and foundations.
- Confirming the role of the Ministry (MEN) as the national governance institution, in charge of regulating and coordinating the sub sector and harmonizing all actors' efforts.
- Producing a common teaching system both for in-class teaching and for training teachers.

The public authorities are willing to rely on the private sector and the voluntary sector at a regional level to accomplish this strategy, but with unclear modalities. The political will to involve private players in the development of the education system was already in the 1999 Charter, when the government set a target of private enrolment at 20% (for all education levels). In 2018, the ministerial strategy to involve the private sector and not-for-profit players is a key step to reach a universalization of pre-school, but also a way to overcome the serious budget constraints[143]. Specific incentives and partnerships (taxes, school facilities) are to be developed to attract private players, especially in the suburban and rural areas (MEN, 2018). However, there is no sign of a clear target. In addition, private universities and vocational centres will be authorized to deliver initial and continuous training and diplomas for teachers.

4.2. Primary and Secondary Education

Access to primary has considerably increased in the last decade but social and geographical disparities persist. Strong efforts were made to reach universal education in the basic cycle where GER in primary and lower secondary education respectively increased from 90% and 67% in 2005 to 110% and to 87% in 2017. Overall, primary education has a good internal efficiency: repeat rate is low in primary school, at nearly 10%, and completion rate is 94% (World Bank Data, 2018). However, there are still 200,000 out-of-school children in age to attend primary (5% of the target population). While gender and geographical factors have little impact on primary schooling, they affect the general access to lower secondary schools. Enrolment rates drop from 97% in urban areas to 77% in rural areas, and the adjusted gender parity index (GPIA) drops from 0.95 in primary enrolment to 0.85 in lower secondary enrolment (UNESCO data, 2018).

[143] A plan of 3 billion euros in 10 years will support these orientations, but will probably not be enough to reach the objective of universalization (MEN, 2018).

Figure 2.33. GER Evolution in junior secondary school (1991-2008) (by gender)

Source : MEN 2017

Social policies may increase access and completion in rural primary schools, but they are not sufficient to overcome structural barriers to universal education. The state has developed several social policies to support and incentivize the most vulnerable families in rural areas to put their children in school during the whole basic education level. Social policies may mitigate the structural challenges in infrastructure, transport and affordability of basic education attendance that tend to keep a quarter of rural children out of schools. The *Tayssir* programme, for instance, is a conditional cash transfer programme that aims to incentive vulnerable families in rural families to enrol their children in public schools. The Tayssir impact is quite remarkable and should encourage public authorities to expand its ambition and reach. Public transport may also facilitate school attendance as the remoteness of many schools from villages is a strong barrier, both in terms of security for girls and of costs for the families. The development of boarding schools, school canteens and full scholarships could also limit out-of-pocket costs for families and improve completion of children, but there are currently not enough public resources given to these policies.

Morocco is, like many African countries, experiencing a learning crisis with low and unequal education outcomes systematically registered in basic education. Although the capacity of the country to monitor education outcomes is far from being maximized[144], educational outcomes in basic education have been regularly proved to be low. National tests run by the MEN in 2001, 2008

[144] Morocco's score at Learning Assessment Capacity Index (LACI) is only at one (out of five) (LACI Website, 2018).

and 2010 have systematically demonstrated low level in Mathematics and Arabic and average performance in Sciences (compared to minimum proficiency required in the curriculum) (UNESCO, 2010). International tests such as PIRLS or TIMSS also show that the Moroccan pupils underperform in Mathematics and Arabic, compared to other Maghreb countries. As shown in table 2.40, TIMSS tests have produced key evidence to highlight the deficit in Mathematics and Sciences for pupils in grade 4 and 8 (UNICEF, 2017). National tests have shown that girls are better in French and in Arabic and equal boys in mathematics and sciences (UNESCO, 2010). Disparities persist in terms of the rural/urban divide. The average performance of rural pupils is significantly lower in all disciplines at all education levels.

Key factors that explain low quality education include educational content, teacher capacity, equipment, governance and government spending. Several reports deal with the quality challenge and emphasize various explanatory factors for low performance in terms of learning. The curriculum content and approach, which focus more on memorization and less on problem-solving and critical thinking, for instance, was reformed in the 2000s, introducing more relevant and updated content (UNESCO, 2010). Teacher training has experienced a dramatic rollback during the period of basic education generalisation, when teachers were massively recruited with a very limited initial training and no continuous training (UNESCO, 2010). In addition, it is likely that teachers without a sufficient initial training face big difficulties to catch up to the minimum level of teachers through continuous training (CSE, 2008). As specified in Box 2.34, the changing linguistic policies in basic education also explains why teachers solely trained in Arabic have most difficulties to teach new disciplines in French. Poverty incidence, living areas and the level of parents' education directly drive families' decisions and ability to provide children with books and computer and impact eventually the level of performance of the children at school. Thus, the 10% best performing pupils tend to come from wealthier families, live in urban areas, and are equipped with books and computers, when the 10% worst performing have less access to educational equipment and do not practice French at home (CSE, 2018). Other structural challenges include the misallocation of public spending and the lack of accountability in the education system. There is very little decentralization and autonomy given to regional academia to control local schools and implement context-based support programmes.

Table 2.40. Performance in Maths and Science in TIMSS Test 2015 (4th and 8th grades) (% of students reaching proficiency at international standard)

	Advanced benchmark	High benchmark	Intermediate benchmark	Lower benchmark	Below the lower benchmark
Mathematics					
4th grade – Morocco	0	6	17	41	59
International Median	6	36	75	93	7
Mathematics					
8th grade – Morocco	0	2	14	41	59
International Median	5	26	62	84	16
Science					
4th grade – Morocco	1	5	17	35	65
8th grade - Morocco	0	3	17	47	53

Source: UNICEF, 2017

Box 2.34. Languages in Morocco: a challenging diversity

Mastering the learning language is a key condition for a successful education. In Morocco, most children first learn to speak local languages at home, mainly the Darija (a local derivative of the Arabic) and dialects related to the diverse Amazigh languages (from the Berbers). In this context, pupils have to learn in classic Arabic when starting school, as well as French from the 3rd year of primary education. Since they do not all practice these new languages at home, many pupils cannot speak and read properly in Arabic and French, which is a big barrier for learning at school. Repeat rates in the early years of primary education express this phenomenon of "semi-illiterate bilingual pupils" (UNESCO, 2010). The CNE has produced recommendations to reinforce learning in French and Arabic, and to introduce local languages in the early years of primary education in order to facilitate the transition from native languages to national languages (UNESCO, 2010).

It is important to note that Arabic has historically been the language of basic education and that French is perceived -and often practised- as the language of technical training and higher education. Morocco has crossed various phases of Arabic expansion ("Arabisation") to the detriment of the French and other languages, with big political debates dividing the society and impacting curriculum and teaching at school. Without engaging in the debate, it is noticeable that these numerous changes have thoroughly impacted the teaching capacity of teachers as well as the learning capacity of pupils, especially for families which do not speak French at home (CSE, 2018). Recently, new policy orientations were taken to introduce French and English in more disciplines, and facilitate the transition from basic education to higher education.

Box 2.35. The public strategy for basic education

- The total budget: €3 billion over 10 years.
- Creation of 4,000 classrooms in 2018/19 with the use of associations to train female teachers. Should therefore reach 100,000 students.
- Dedicated budget allocation in 2019: 1.1 billion for the construction of pre-school classes, and 250 million for operating expenses. Aims for an enrolment rate of 67% in 2021
- Universalization by 2027. Will be integrated into the school cycle.

The social challenges of education

- Develop the cash transfer system conditional on the enrolment of children in rural areas (tayssir programme).
- Develop boarding schools, school canteens and school transport (a major challenge in Morocco!)

The pedagogic reform

- Ongoing curriculum reform (content & method): publishing 23 new textbooks, with new methods: syllabic reading method, teaching error in maths, introduction of NICTs...
- Work on local languages in the pre-school.
- Strengthen foreign languages (French in primary school, English in lower secondary)
- Promote school support systems

Governance

Improving the decentralization of education (12 academies, 1/region): more capacity building, the creation of "school projects" for each school and the promotion of school life adapted to the context (citizenship, sport, environment, etc.).

Initial teacher training

Create a teacher training degree course in a selective field with a disciplinary background, language and pedagogy, and a two-year work-study period and internship.

The access to secondary education is on track to reach universalization, at least for the lower secondary level. The gross enrolment rate in lower secondary education is 87% (against 68% in 2005). According to MEN, the GER in upper secondary education is not as high and is close to 66%, with variable evolution in recent years (70% in 2015, 65% in 2016) (MEN Data). More recent data collected by UNESCO shows a GER at nearly 80%. These dynamics result from the universalization of primary education and to a lower extent to the improving retention of the education system (BAD 2013). The completion rate of lower secondary education is 64% and slightly decreased in the last year (it was 70% in 2014) (World Bank Data).

The private sector contribution to secondary education is growing but is still a minor player. There are nearly 1.7 million students enrolled in the lower secondary cycle, including 146,000 in private institutions (9%) (MEN Statistics). At the upper level, there are 890,000 enrolled students, including 89,200 students in private institutions (nearly 10%). Between 2015 and 2016, the additional contribution of private providers represented respectively 9,000 in lower and 4,000 students in upper secondary education.

There are equity issues in the secondary cycle, in particular for female students in rural areas. Firstly, there is a gender gap in accessing secondary education. The GER of female students is 7% lower than males. The gender parity index is 0.87 (0.86 one year earlier). Secondly, and more importantly, there is a rural/urban divide in secondary education. The Rural/Urban Parity index is low: 0.56 in 2015 at the lower secondary level. The GER in rural areas for this level is 75% versus 98% in urban areas (MEN Statistics). The coverage rate of secondary institutions is low - 65% (+1% in a year). This double gap results in very difficult access to, completion of secondary education for rural female students. The GER of rural girls stands at 68% (versus 97% for urban girls and 82% for rural boys). This latter point shows that the problem in rural areas is not only a challenge of infrastructure and coverage but also a socio-cultural challenge.

4.3. Higher education

Access to higher education is low but growing quickly. There were around 850,000 higher education students, including 230,000 incoming students and 90,000 exiting graduates, in Morocco in 2018 (MEN Statistics, 2018). The system is in dynamic expansion: the GER was 33.8% in 2018 versus 14% in 2010 (UIS Statistics 2018). The majority of students are enrolled in 12 public universities (Mohammed V in Rabat and Hassan II in Casablanca are the biggest), but their capacity is limited. In this context, the private sector expansion has been a crucial element in facilitating access to higher education. In 2018, 45,000 students are enrolled in 170 private universities and other private institutions (enrollment grew by 10% compared to 2017).

Girls are gradually catching up in terms of access to university. In 2017, the student population was 48% girls, with a similar ratio in the new generation entering university. The GER of girls in higher education is 33.3% versus 34.2% for boys. When looking at the details of disciplines, we observe that the growth of girls' enrollment was positive in sciences and in social sciences, respectively at +2% and +11%, but negative in humanities at -4% (MEN Statistics, 2018).

Low completion rate is a burning issue and highlights the unpreparedness of pupils for higher education. A lot of stakeholders in the field emphasize the difficulty for incoming students to complete the 1st year at university. Transition rates from the first year to bachelor completion and master completion are low, especially from 1st year to 2nd year of university. We do not have disaggregated data between disciplines and between private/public sectors but we presume that this challenge is systemic.

Key factors that explain the low completion are at least threefold: the difficulties of student orientation, the deficit in "student skills", and the deficit in French proficiency. First, there is a general lack of information and preparation for the baccalaureate graduates to select the right track, with the right skills and objectives. Information programmes and platforms as well as student orientation support are needed to address this issue which results in a mis-allocation of students across study fields and tracks. Second, there is a gap in terms of teaching practices and expectations between secondary education and higher education. The transition between the two levels is abrupt because baccalaureate graduates are generally not prepared, and not mature enough, to successfully pursue an academic track at university. They tend to lack the methodology, practical skills and supervision necessary to bridge this gap and succeed in the first year of university. Third, the lack of proficiency in French, the most used language in higher education institutions, hinders student learning and progression.

The regulation of higher education is improving and facilitates the development of private education providers. Substantial reforms have been implemented since 2014 to facilitate the opening and development of private institutions. A dedicated public agency, the ANEAQ, was launched in 2016 to conduct an evaluation of both public and private institutions and deliver accreditation (see Box 2.36). The first private university to be recognized by the state (meaning that graduates can access civil service entry exams) was the Université Internationale de Rabat (UIR) in 2015. There are now around 30 private universities which are, or in the process of being, recognized by the State (MEN Statistics, 2018) and 130 more which have an authorization to operate from the Ministry.

The development of private higher education institutions and the strategic position of Morocco have attracted top-tier private equity players. Recent transactions have been made by giant private equity players like ECP, DPI or Mediterranean Capital to acquire private universities in Casablanca, Rabat and Marrakech. IFC also invested in 2013 in the Business School HEM before the school was recently acquired by the Canadian group LCI[145]. This trend shows that some institutions are strong enough to attract financial investors with transactions reaching several tens of millions of US dollars. The structural factors which explain these dynamics could include the very good reputation of Moroccan institutions, and their capacity to attract African students and so expand to the southern markets. For instance, the IT vocational group IFIAG[146] has more than 70% of its enrollees in Morocco from Sub-Saharan African countries. This attractiveness is reinforced by the diplomatic orientation of Morocco towards Sub-Saharan Africa and its strategic position between Africa and Europe.

[145] https://www.challenge.ma/le-groupe-hem-rejoint-le-reseau-lci-education-101462/

[146] http://www.ifiag.ma/

Table 2.41. Higher education in Morocco: Main features

	2016/17	2017/18
Number of institutions		
Universities	124	126
Training of local executives	70	71
Institutions with PPP	26	28
Private institutions	172	168
Total	392	393
Number of new students		
Universities	202,613	210,488
Training of local executives	8 ,787	10,189
Private institutions*	10,613	12,435
Total	222,023	233,112
Total number of students		
Universities	781,505	820,430
Training of local executives	29,218	25,634
Private institutions*	41,555	45,174
Total	852,278	891,238
Number of graduates	**2015/16**	**2016/17**
Universities	95,167	103,173
Training of local executives	7,572	8,479
Private institutions*	7,840	9,814
Total	1110,579	121,466

Source: MEN 2017. Notes: * including institutions with PPP.

Box 2.36. ANEAQ : the new regulation body in Moroccan higher education

L'Agence Nationale d'Evaluation et d'Assurance Qualité (ANEAQ) is a new independent public body in charge of promoting the evaluation and quality control standards in higher education and TVET. Its mission is to conduct evaluations of teaching in public and private higher education institutions and to deliver and renew their accreditation. The Agency is recent and has only been active for two academic years.

The development of ANEAQ is linked to the global reform of higher education in Morocco and the transition to the LMD system. The ANEAQ oversees the accreditation process at 3 levels: opening; accreditation; state recognition of the institution (more details in the regulation section). These levels imply different standards and thresholds in term of staff qualification as well as other regulatory constraints. The Agency has the capacity to withdraw accreditation from institutions that do not comply with these standards.

According to its director, in the long term, the Agency could also play a role in regulating the opening of new training tracks in relation to the needs of labour markets. Following the forecasts of the Haut Commissariat au Plan (HCP), the Agency would anticipate the needs in key economic sectors with large job needs and adapt its accreditation policy to new institutions accordingly. With a capacity to deliver more or fewer authorizations to these training sectors, the Agency could, therefore, improve the national match between graduates' demands and job supply.

The other central challenge of higher education is the low suitability of graduates for the job market. Research by Haut Commissariat au plan (HCP 2015) shows that around 20% of graduates from higher education are unemployed, and the rate rises to 25% for vocational training graduates. On average, unemployed people are thus more qualified than employed people. The study also shows that around 46% of the active population is overqualified (their study level is higher than the level requested in their job position). However, this over-qualification situation (with job position inferior to the study level requested) is particularly widespread for young people: 21% of active people between 25 and 29 are in this situation. Overall, the mismatch between job requirements and qualifications highlights several structural challenges in the country: the lack of graduates ready for employment, the lack of creation of jobs requiring qualifications, and the difficulty for employers to hire and train suitable staff.

4.4. Technical and Vocational Education and Training (TVET)

The TVET system in Morocco is very much centralized around public bodies, in particular, the OFPPT. As detailed in Box 2.37 and Figure 2.34, OFPPT is the main player of TVET in Morocco, serving more than 90% of TVET learners countrywide and employing more than 7,500 instructors. Beyond OFPPT, other public TVET operators include Technical Ministries (Health, Agriculture) which provide training offer in their fields.

Box 2.37. OFPPT, THE MAJOR TVET OPERATOR

The OFFPT is a large public body in charge of TVET in Morocco. Created in 1974 and placed under the supervision of MEN in 2017, OFPPT is in charge of a wide range of formal training including industry, administration, tourism, IT. OFPPT has 7,500 instructors and aims to reach 1 million learners by 2020. It regularly develops new training depending on the needs and evolution of the economy, with the expertise of its own training laboratory. Important training fields offered by OFPTT include tertiary sector training in Tourism,

A recent focus was made on paramedical and care services, and a new initiative is to be launched for pre-school teachers. OFFPT has little competition from private sector players since its training supply is free and generally of good quality and with possible connection to higher education training.

However, the OFPPT may also meet difficulties to adapt all training to the national economy needs, and may face structural challenges to ensure flexible and relevant training opportunities in all sectors. For instance, several technical fields such as IT and telecoms need to be restructured since their employability rates have decreased in recent years.

Figure 2.34. The OFFPT, key figures

Source: OFPPT Website

The private sector is a minor player in TVET, but could grow substantially by partnering with a diversity of stakeholders, with strong social impact locally. There are needs and opportunities for TVET private operators in the branches of health, restaurants, construction and maintenance, security. The supply of training is not necessarily assumed by TVET operators due to the heavy costs of investment (equipment, material) necessary for these sectors. In many regions remote from the dynamic Rabat-Casablanca region, there are opportunities to develop TVET in these industries, provided that the operators have access to financial resources to invest adapted equipment and material. In certain industries like care activities, they may supplement the work of civil society organizations. In others, they may partner with companies to position their training in a specific niche that is not filled by public bodies. For instance, the needs of skilled workers in the logistics sector in Tanger have increased in recent years, at all the levels of the value chain. Figure 2.35 shows the levels of training required in the value chain.

Figure 2.35. Port Logistics Career entry points and corresponding training

Source: USAID 2016

In this specific sector, "there are around 120 companies providing over two-hundred training programs in logistical skills covering higher education and vocational training across Morocco. Between 2009 and 2015 the number of people following a logistical training increased from 2,500 to almost 7,500 people, 40% of whom work in the private sector" (USAID, 2016). The role of soft

skills is seen by employers as a strong component of young people's employability, as their acquisition leads to strong impact on business capacities. Figure 2.36 emphasizes this contribution of soft skills to business capacities.

Figure 2.36. SOFT SKILLS NEEDED IN LOGISTICS AND BUSINESS IMPACTS

Source: USAID 2016

Access to TVET services is very unequal across the country, with insufficient investment in rural and suburban areas. There is a big difference between the Casablanca/Rabat region and the rest of the country. In Casablanca and Tanger, the implantation of large companies, and of many OFPPT centres, has boosted the development of training opportunities in many sectors such textiles, logistics, aeronautics, etc.

However, other regions do not benefit from this industrial dynamism but still play a significant role in the socio-economic inclusion of local young people. Vocational centres in these other regions (Fès or Southern region for instance) offer training services in sectors such as health, care, tourism, and other tertiary sectors. The students in these centres are mainly young people from low- and middle-income backgrounds who do not have access to higher education institutions. Private small-scale providers tend to be precarious entities which lack access to funding to increase their capacity and open new training tracks which require big investments in machines and materials. Other models embedded in philanthropic organizations may also perform well in terms of employability but need to create new economic models to achieve sustainability.

Apprenticeship, work/study schemes and career centres are underdeveloped in Morocco and constitute important mechanisms to boost employability via vocational schools. Most experts recognize that it is hard to implement these kinds of scheme for various reasons. Firstly, the lack of state regulation can result in legal issues for companies with apprentices. Secondly, companies lack resources and expertise to invest in these schemes and train young people. There is a big need to develop partnerships between TVET operators and businesses to help the businesses develop. The USAID experience, described in Box 2.38, shows another kind of initiative to increase graduate employability. This experience emphasizes the need for higher education institutions to play an active role in the preparation of graduates for entering job markets with dedicated programmes such as Career Centers.

Box 2.38. THE USAID CAREER CENTERS AND THE CHALLENGE OF EMPLOYABILITY

The poor employability of young people was identified by USAID as one of the key education challenges in Morocco. USAID launched in 2014 a career center programme to increase young people's socio-economic insertion. This programme (24M US€ over 5 years) consists of a pilot project in 3 cities (Casablanca, Marrakech, and Tanger) to launch career centers in universities and vocational centers as well as an online career center platform. Inspired by US models, these centers aim to: (1) Assess private sector needs with sector-specific studies to identify job market trends and the skills required in these sectors, (2) Promote the acquisition of soft skills ("Najanhi programme").

The career centers also aim to help young people to boost their self-confidence, choose a professional project, increase their knowledge of the "business world", and facilitate their job search. To meet these goals, the centres organize workshops with private-sector representatives, short-term training sessions to work on soft skills, and meetings with employers. The USAID Career Centers will terminate this pilot phase in 2019 with the aim of making this initiative sustainable and ensure that the universities internalize this programme. Contacts with OFPPT and several ministries are on-going and could lead to the adoption of these programmes in the first level of higher education in public institutions (Degree).

Several lessons can be drawn from this experience. Firstly, the programme has shown that private education providers have a big interest in this type of initiatives as they see a clear interest in increasing the job readiness of graduates and future employees. Many private operators are developing their own career centers inspired by this programme. Secondly, employers and companies were key stakeholders and also show a big interest (240 partners registered in total) by participating in the workshops and job sessions. There is a risk of seeing the programme staff in public bodies (trained by USAID) being recruited by private universities. Externalizing the programme to other public and private institutions could happen. Private organisations could be willing to pay for acquiring the know-how developed in this programme. Finally, the possibility of expanding the programme in other regions where the job markets are less dynamics should be assessed. The availability and interest of SMEs getting involved in these initiatives is to be tested, as many partners in the pilot phase tend to be big companies.

A recent reorientation was given by the King last summer (Extrait du Discours, 20 Août 2018) and will impact the organization and content of TVET[147]. An important conference is to be organized in spring 2019 and should foster the structuration of the sector (governance, regulation, public-private partnerships etc). As detailed in Box 2.39, the restructuration of TVET will give priority to 3 sectors: education & languages, health, and tourism and should impact on the vocational centres in the next months.

Box 2.39. Public strategies in the TVET and higher education sectors

The most recent declarations of the King show that important restructuring of TVET is to be expected in 2019. In a recent speech,[148] the King emphasized the necessity to promote the employment of young people and gave the following orientation:

- Restructuring of TVET tracks, and update of content in partnership with employers
- Creation of modern vocational centers, financed by the Hassan II fund, in particular in the sectors of industry, services, construction, agriculture, energy and craftsmanship.
- Increase the attractiveness of technical secondary education through the development of work/study schemes and with systematic student guidance
- Development of compulsory modules of language and entrepreneurship

The current public orientations regarding higher education are the following:

- Strengthen Morocco's position as a regional centre for higher education and scientific research, in particular through encouraging foreign investment in the ES sector, the introduction of a label of excellence, and increased openness to African students
- Encourage the creation of private higher education institutions in a wide range of disciplines and strengthen private sector regulation, with the key role of ANEAQ to establish a culture of evaluation and quality, rank universities, encourage the exchange of good practices.

[147] https://lnt.ma/sm-roi-preside-seance-de-travail-consacree-a-formation-professionnelle/

[148] https://www.medias24.com/MAROC/NATION/185346-Discours.-Le-Roi-Mohammed-VI-annonce-une-serie-de-mesures-en-faveur-de-l-emploi-des-jeunes.html

5. The mobilisation of the private sector in education

5.1. Pre-tertiary education

This section reviews the private sector contribution to the different education levels in Morocco, and illustrates the major needs and challenges of private education providers in the country. It also describes the role of some ancillary education services in the country.

The private sector is a historical stakeholder in the national education system, with an important and growing presence in basic education. In Morocco, non-state education institutions are typically composed of faith-based schools ("missions étrangères"), not-for-profit organisations (foundations), and for-profit organizations. The arrival of private players in the education system dates from the 1980s when the state had few resources to absorb the millions of children in public schools. With no, or nearly no, regulation at that time, a high number of local private schools opened in both small and big towns, as well as international schools and faith-based institutions. In the 1999 Charter (CNEF) it was stated that Morocco would progressively increase this contribution of non-state institutions to 20% of total pupil numbers by 2020. The current contribution of private sector education players is 13.6% for all levels (MEN Data 2018, see Table 2.42).

Table 2.42 Private school enrollment at all education levels

Education Levele	Proportion of students enrolled in private organisations
Pre-school (excluding traditional preschools	27%
Primary education	15.9%
Lower Secondary education	8.9%
Secondary Secondary education	9.1%
Higher education	4.3%

Source: MEN 2017.

7 million pupils are enrolled in formal education institutions, with 1.3 million in private institutions (including pre-schools). The private sector is mostly present in primary education, accounting for 15.9% of pupils (around 1 million pupils). The presence of private institutions is much lower in the other levels, around 9% in lower secondary education and secondary vocational training, 4.3% in higher education, and less than 1% in TVET students (Ministry of Education, 2018).

The perception of private education institutions has evolved in society, along with the growing mistrust of the public system. After independence, access to public schools was perceived as a good strategy for successful studies and social mobility, but enrolling in private schools was considered as a second-best option for unsuccessful pupils. In 2019, the majority of

pupils are still enrolled in public institutions, but families' perceptions of public and private schools have changed. The public sector has experienced real difficulties to maintain its performance during the period of liberalisation due to teacher strikes and absenteeism, low investment in infrastructure and equipment, and the pitfalls of the *Arabisation* policies. Conversely, the private sector has progressively acquired a reputation for being a better-quality education provider than state institutions (CSE, 2018). So middle-class and wealthy families tend to enrol their children in private institutions for primary education, but may enrol them in public schools for the subsequent levels, depending on the relative reputations and/or performance of local schools.

The growing contribution of the private sector has led to the diversification of the education supply but raises issues of equity across the country. In the for-profit sector, education infrastructure and facilities and reputation vary a lot between schools. Inscription fees range from 720 DH to 2,000 DH[149], and monthly school fees range from 700 DH to 2,400 DH and with a typical fee of 800 DH monthly. Private schools tend to provide education content with a higher focus on French and/or English and with better equipment and materials, which are key demands from many families. They may also provide supplementary education courses as well as remedial education, which also increases school fees and differentiation (CSE, 2018). Teaching quality may not be systematically higher in private institutions than in the public sector, and many families which enrolled their children in private primary schools may enrol them in public institutions for middle and high schools, especially when proficiency in French is an aim. However, access to private schools has increasingly become a mark of social and economic distinction across society.

The arrival of international investors could lead to increased competition in education provision for the middle class and for elites. In Morocco, traditional elite schools and international education networks have not invested enough in school capacity to absorb the demand for quality education. For instance, the French education network "AEFE"[150] has seen its investment capacity frozen because of budget constraints imposed by the French Ministry of Foreign Affairs. Responding to this movement, several new investors from local financial industries and from other African countries have entered the premium education segment. The ambition of these new players is to create large networks of schools targeting the middle-class and wealthy families, with the possibility of benefitting from economies of scale. For instance, Sana Education[151] delivers top quality education at primary and secondary levels with schools in Casablanca and Rabat, as detailed in Box 2.40. In 2015, Satya Capital (Mo Ibrahim) and TPG Growth investment fund acquired Ecoles Al Yassamine which is one of the biggest education groups in Morocco. They are competing with other well-established local groups (like La Résidence), and are now likely to expand in the region[152]. The OCP Foundation group which is one of the major not-for-profit players in education in Morocco is also investing in education in the premium segment. The arrival and

[149] Respectively from 70 to 240 euros and from 72 to 200 euros.

[150] AEFE is the Network of French Schools Worldwide, under the direct supervision of the French Government.

[151] http://www.leseco.ma/business/54486-enseignement-la-lecon-strategique-de-sana-education.html

[152] https://www.agenceecofin.com/investissement/1709-32420-tpg-growth-et-satya-capital-realisent-leur-premier-investissement-au-maroc-dans-les-ecoles-yassamine

strengthening of news players from the private equity industry is a strong signal that education markets in Morocco are ready to see the development of sustainable high-quality education groups, in particular for the growing demand from the middle classes. Nevertheless, these dynamics remain nascent, and are likely to remain localized in the most attractive parts of Morocco (especially the Rabat Casablanca region and to some extent in Marrakech and Tanger).

Box 2.40. Innovations at Sana Education

Sana Education was founded in 2014 by the insurance group Saham and the South African Investment Fund Tana to deliver high quality education in pre-school, primary and secondary education. The strategy of Sana is to deliver high quality education through child-centered teaching, with a focus on foreign languages. Saha is addressing a growing demand for quality education from the upper middle class and wealthy local and foreign families.

In 2018, Sana had 3 schools in Casablanca and 2 schools in Rabat, delivering either the French Baccalaureate or International Baccalaureate (IB) for annual fees of 3,000 to 4,000 US$ at primary and secondary levels.

At Ecole Internationale de Rabat (EIR) where 700 pupils are enrolled from pre-school to secondary education, Sana has built top quality equipment and infrastructures, with several fab labs, laboratories, libraries, computer rooms, and an amphitheatre Pre-school classes include "double classrooms", one for dynamic learning and leisure, and one for quiet activities. In primary and secondary levels, teaching is mostly done through inter-disciplinary group projects, and it is planned to introduce tablets and laptops in 2019 for all pupils at secondary level, under the supervision of an education technology expert.

As the competition for highly qualified and experienced teachers is intense at Rabat, the retention of the teaching team is one of the key challenges for EIR. Big investments are being made in teacher training and salaries to attract and retain the best teachers. At EIR, teachers have access to continuous training (3 hours a week) and have many opportunities to learn and experiment with new teaching methods with their colleagues. Most teachers are recruited locally.

Another key challenge for Sana schools is the accreditation of the internationally-recognized qualifications they deliver. Locally, Sana schools compete with foreign institutions like the Lycées Français or British schools, which provide international qualifications at a slightly lower price. However, in Morocco, some qualifications, like the International Baccalaureate, are not yet accepted by local higher education institutions.

5.2. TVET and Higher education

Private universities are expanding in Morocco, but face severe constraints. In Morocco, the growing number of baccalaureate graduates[153] has increased the pressure on universities. However, the privatization of higher education has historically been slower and more gradual than in other education levels. The first policies to introduce private players in higher education were

[153] In 2018, the number of baccalaureate graduates has increased of 18% (MEN, 2018).

implemented during the liberalization era in the 1980s, but most legal requirements to recognize private universities as legitimate and relevant stakeholders in the system are much more recent. As mentioned above, private universities may work under a Public-Private Partnership (PPP) framework, or be fully private. Currently, there are 5 private universities which are in a PPP framework and 5 private independent universities. The development of these independent universities is largely constrained by state regulation which is detailed below. The main challenge for these universities is to obtain the accreditation for their degrees so that students may access the civil service. An agency of quality insurance ("ANEAQ") was created in 2016 to ensure a suitable, transparent process of control over university management and quality, and now enables universities to guarantee accreditation.

5.3. Ancillary players

Education Techologies

Education technologies could help local education resolve a number of issues in Morocco. In a context of class overload at university, and of difficult access to universities for rural populations, the spread of technologies may help students to access education services at home and maximize time spent learning. Affordable tech solutions may also increase access for low- and middle-income populations which generally do not have access to private education facilities. Moreover, while most curricula are based on teacher-focused approaches and do not encourage student autonomy, education technologies could also foster innovative teaching methods by experimenting with adaptive learning solutions. Ed Tech may also facilitate the use of different languages and adapt the content to local dialects in different regions. For all these reasons, exploring the potential of education technologies in Morocco is relevant and necessary.

The local start-up ecosystem is dynamic with increasing numbers of tech hubs and initiatives. Morocco was recently ranked as the 9th most dynamic African country for start-up development with total fundraising of 3.9M US$ in 2017 (Partech 2018)[154]. This is four times the amount Moroccan startups raised in 2016 (0.98M US$). The start-up ecosystem is growing, and a number of tech hub and accelerators have blossomed in the big cities - organizations like Numa Casablanca, New Work Lab, Enactus Morocco, and Jokkolabs. Several corporates in the Telecom and IT sectors are very active, and support a number of initiatives and start-ups. A new accelerator, H7, was created in Morocco in 2018 to support impact entrepreneurs and train "African Champions". Despite this dynamism, Morocco remains far behind the most dynamic African countries and their attractive ecosystems. South African, Nigerian and Kenyan startups raised 30x to 40x more money than Morocco in 2018. Furthermore, the start-up ecosystem is not necessarily addressing education challenges, and mainly supports other sectors like energy, financial inclusion, and health.

The education technology sector is emerging slowly in Morocco because it faces big cultural, institutional, and economic barriers. Despite the big need emphasised above, the Edtech

[154] https://www.linkedin.com/pulse/another-record-breaking-year-african-tech-start-ups-raised-collon/

landscape in Morocco is relatively empty. Several projects have emerged in E-Learning, but they tend to be funded and implemented by big corporates rather than by start-ups. These big businesses have the resources to invest in internal solutions to train their employees on specific topics, and they tend to rely on foreign players who propose a ready-to-use E-learning solution (e.g. the Telecom company Inwi has invested in e-learning solutions for its employees). This configuration does not help the local ecosystem of start-ups to grow and experiment with new services. Also the focus is on employees (and in particular middle management) and much less on students. Local start-ups, like Nuppio, have emerged to provide companies with e-learning solutions. Another constraint is the public procurement process which is not adapted to innovative companies. The public procurement process does not help start-ups and emerging players to access public contracts, and so to climb the learning curve. An important difficulty is also due to the capacity and willingness of students to pay for educational content outside schools. Moroccan students are not used to accessing paying content on the internet or via other platforms, as they already pay high fees to enrol in expensive schools and universities. Intense efforts to raise the awareness and interest of students would be required to increase the demand for these services, assuming that they do improve educational outcomes.

There are a few established players who are experiencing difficulties in scaling up sustainable BTC models. The emigration of many upper-class students to other countries (particularly France) has a big effect on available local income for supplementary education and e-learning models. Due to the low capacity of middle-class families to pay for Ed-Tech solutions in addition to private schooling, BTC models are not expanding in Morocco. The privatization of higher education does not facilitate the emergence of private Ed-tech solutions in a context of income stagnation and fee inflation. In this context, start-ups could maybe focus on B2B models where they provide education solutions to universities, vocational centres and corporates, and so indirectly to students, learners and employees. The business evolution of a start-up, Education Media Company (EMC) very much symbolizes this dilemma between B2B and B2C models, see Box 2.41 below.

Box 2.41. THE MAROC NUMERIC FUND AND THE EDUCATION MEDIA COMPANY

The Maroc Numeric Fund (MNF) (*Moroccan Digital Fund*) is a Moroccan investment fund to support innovative businesses in the fields of education, technology, and media. The first fund raised 100m MAD from public bodies (1/3) and national banks. MNF I has made 17 investments, of which the only one in the education sector, was Education Media Company (in 2015). MNF II is being launched and is targetting a fund size of 200M MAD.

Education Media Company (EMC) is a Moroccan start-up launched by Adama Bouhadma in Agadir, which aims to facilitate student orientation after the baccalaureate. The firm has had a reputable online information platform, "9rayti" since 2009. EMC has 5 different education websites which provide references and information about universities and "Grandes Ecoles" - practical information, the application process, programmes and tracks, etc (9rayti.com, Concourat.com, PrepaBac.ma, iLycee.com et MaFormation.ma). These websites also provide information about secondary education institutions across the country. EMC raised 250k US$ from MNF in 2015, and MNF became a minority shareholder.

EMC has explored different business models to achieve profitability. The current model is a B2B model that is totally free for users (students and their families), and paying for universities and "Grandes Ecoles" which buy referencing and marketing on the websites. They may buy data about the users of the website to launch targeted mailing campaigns, organize student events, etc. The websites have a user-base of tens of thousands of people, who have to renew yearly. I EMC has also recently benefited from a grant by CFI (the media group, with France 24) and the EU to produce school orientation videos for young people.

EMC model is today profitable but fragile. Big efforts are made every year by EMC to find new partners and to refresh the user database on different websites and platforms. EMC has managed to maintain the 9rayti platform as the leading national platform, which opens new opportunities for additional marketing strategies and B2B models. But the limited market size, substantial school fee inflation, and the stagnant income of middle classes across the country impact the development perspectives of this start-up.

Education finance

Our research and interviews show that traditional finance solutions exist in Morocco to access higher education and vocational training. These solutions are generally provided by banking institutions which can be guaranteed by a public agency like the Caisse Centrale de Garantie[155]. After the recent fee inflation in the sector, providing additional financing solutions, like student loans, could boost the competition between traditional providers and enable wider access to higher education. However, to our knowledge, and considering the current players' positioning,

[155] https://www.9rayti.com/article/credit-etudiant-maroc

there is little opportunity to invest in education-dedicated finance/microfinance solutions to impact the demand-side for education which might be the case in Côte d'Ivoire or Ghana.

Teacher training

Teacher training is one of the key dimensions to address the quality challenge of the education system. Support from private organizations investing in this activity may constitute opportunities to address the shortage of qualified and trained teachers at the basic education level. At the pre-school level, the public strategy of universalization will heavily rely on private-sector initiatives, which opens a window for creating and developing teacher training centers. Some early-stage projects are emerging to provide high quality initial training to teachers, sometimes based on modern teaching methods like Montessori. One key challenge of these projects is to obtain accreditation by building a partnership with a local or foreign institution. Other teacher training projects may be developed internally by existing universities.

Transport

Transportation is a key challenge for improving school access in Morocco. Parents pay a lot of attention as to how their children go to school, and whether they are in security when commuting from home to school. The costs of transport are significant in the education budget. The development of safe collective transport solutions in peri-urban and rural areas could facilitate access to schools, especially for girls and young women.

6. Policy context and regulation of private players in education

In this section, we present some information about the regulatory and administrative constraints which affect the opening and development of private education schools in Morocco. To do so, we look at three levels of regulation: licensing, operations, investment activities.

Licensing and operations

The governance of the education sector has been improved in the last year. In higher education, there are three levels of control and licensing which are regulated by the ANEAQ:

- opening authorization
- accreditation
- state recognition of the institution

These levels imply different standards and thresholds in term of staff qualication as well as other regulatory constraints. For instance, a HE institution needs 15% to 25% of permanent teaching staff to acquire the opening authorization, more than 30 % for the accreditation level, and more than 50% for state recognition of equivalence to public institutions (?). In addition, at least 50% of teaching staff should be PhD holders. The evaluation process is strict and includes an

administrative process, a self-evaluation step, a field visit, and control by the Agency's staff. The Agency has the capacity to withdraw accreditation to institutions that do not comply with these standards.

To our knowledge, the regulatory framework is similar in other education cycles.

Investment activities

The business environment is very favourable to foreign investments, including the education sector. A number of investors consider Morocco to be a business hub to invest in the African continent. Indeed, FDIs have increased substantially in recent years (+23% in 2018 compared to 2017, 2.7 billion dollars[156]), attracted by the pro-business environment, macro-economic stability, and a number of structural assets such as the high quality local banking industry (which is well-established in African countries). Among the pro-business incentive policies, it should be noted that foreign organizations or people can start a business without partnering with a Moroccan organization or person. Also, there is no restriction of foreign currency repatriation as far as foreign organizations are concerned. In order to drive investment in local firms, the local administration has implemented a number of new fiscal incentives, some of which are specific to the education sector. They include a lower corporate income tax rate for 5 years, an exemption from VAT on all equipment and infrastructure investments for a period of 6 months, and an exemption from business tax ("taxe professionnelle")

The NBA website provides all the documents that are necessary for a tertiary institution to ask for accreditation, including a roadmap for accreditation.[157] The website also publishes the list of all the tertiary institutions which have received accreditation.

[156] See the press article : https://www.lepoint.fr/economie/investissements-directs-etrangers-l-afrique-poursuit-sa-mutation-10-06-2018-2225841_28.php

[157] See: http://www.nab.gov.gh/2014-08-13-14-37-14/accreditation-documents

PART 3

Investing in education for impact

Private sector dynamics in African education and possible interventions for an impact investor

The country-by-country review presented in the previous sections reveals that our sample countries sometimes share similar patterns, and sometimes have their own specificities with respect to their education challenges and needs, and with respect to the place of the private sector in education. In this section, we present the common patterns and the heterogeneities that we have identified in our sample countries, by education level. We also suggest possible interventions for an impact investor in each level. When necessary, we also use examples from other countries.

As a reminder, in the introduction to this study, we defined impact investments in education as **investments** i) **in organizations that deploy a sustainable economic model and may deliver positive financial returns to investors,** ii) that contribute to **achieving at least one of the main educational challenges** (i.e. access, quality or relevance), iii) that are **complementary or consolidatory,** rather than competitive **with, the local education system.**

1. Pre-school education

The development of pre-school activities in Africa is still limited and characterized by a diversity of actors and practices, leaving considerable space for new structuring initiatives. In general, our study showed that the pre-school level (2-5 years) has suffered from a lack of long-lasting commitment from governments. The international agenda has focused on primary education for children aged 6 and over. In this context, pre-school initiatives have been mainly carried out by community actors, civil society organizations, and associations. These players have had a key role in the construction and management of early childhood centres, particularly in rural and disadvantaged areas where socio-economic conditions seem much less compatible with the deployment of the private provision by for-profit actors. Public pre-school centres also exist, but often suffer from a lack of resources made available by public authorities and the quality of childcare seems extremely variable. In urban areas where there is an emerging demand from the middle- and upper-class for quality pre-school education, the opportunity to develop private provision has gradually increased. Indeed, we see the emergence of early childhood centres that are neither managed by community actors nor attached to a public administration, but operated by individuals in the form of private schools. In our sample countries, there seem to be very few examples of the development of large networks, except official foreign networks (such as French schools). The difficulty in setting up networks is partly due to supply-side challenges such as the difficult access to banking resources for financing dedicated infrastructures. It should also be remembered that many early childhood centres are attached to school groups which also include primary and sometimes secondary education. Hence dynamics of these levels are often intertwined.

A strategic momentum in favour of pre-schools is likely to grow in the coming years. The universalization of pre-school education is not on the agenda of many African governments. Ghana seems to be the exception in having introduced compulsory pre-school education, and Morocco is also moving in this direction. Nevertheless, governments seem to be increasingly aware of the importance of pre-school education and are moving towards direct or indirect support for this level (e.g. the creation of transitional primary school classes in Madagascar and Côte d'Ivoire). These recent efforts to facilitate the development of supply in this level tend in some countries, such as Morocco, to rely on incentives or support mechanisms for private operators entering the market (land or infrastructure donations, subsidies, etc.). Governments' strategic plans often rely on the mobilization of community and for-profit actors to counterbalance the lack of resources needed to generalize the public offer in this level. These plans also call for more investment in the training of teachers, which will benefit all stakeholders in the sector, both public and private.

The regulatory context for pre-school education is still quite flexible and should evolve due to the momentum mentioned above. The situation seems to give private operators considerable flexibility to test new educational models (e.g. Montessori teaching), but makes the accreditation process in the local educational system more uncertain due to the high heterogeneity of practices. Regulatory differences exist between countries, but the trend seems to be broadly similar. On the one hand, there are regulatory barriers (on infrastructure, school ownership, facilities) to formally declare the school in the local Education Ministry register. On the other hand, there are few constraints on the nature of teaching content and practices as in most countries no official curriculum for pre-school exists, as well as on the qualifications of teachers (there is lack of regulation and/or control in the training of teachers in private institutions).

Regarding the issues of access and social inclusion , the available data show that private operators are unable to enrol the poorest segments of the population in their early childhood centres. In fact, private pre-schools are mainly urban and address the demand of middle- and upper-class families, while in rural areas, private initiatives seem to be much less numerous, if not absent. Nevertheless, the available supply seems insufficient in urban areas, even for middle-income populations. There is a need to develop high-quality pre-school education which aims to be complementary with the public one in terms of geographical location and teaching content

The quality of private initiatives is heterogeneous, but entrepreneurs who are aware of best practices in learning could be able to bring innovations to the sector. These entrepreneurs, some of whom may have a professional background in education provision, could develop new teaching methods based on child empowerment, games, the discovery of foreign languages, and other practices which permit a wider and deeper learning experience. Teaching practices in pre-schools from our sample countries tend to be poor, with inappropriate teaching methods (sometimes more related to the goals of primary education than those of pre-primary education).

Thus, there is a large scope for innovation and improvement for the development of evidence-based successful early childhood programmes.

To ensure quality, private providers need to be able to recruit qualified teachers, to keep the pupil-to-teacher ratio low and to invest in decent infrastructures. Faced with these costs, school proprietors need to fill their classes in order for their school to be economically sustainable. Some pre-school centres face high competition in dense urban zones, which makes their business relatively precarious, with limited prospects of scaling up. The expansion of private pre-school institutes could favour the establishment of a divided pre-school system, where children from better socio-economic background go to private pre-schools, while the ones from low-income families go to public schools if they can find a place. It seems to be very important that these initiatives make an effort to diffuse their innovation and good practices to the local ecosystem.

What windows of opportunity for an impact investor in pre-school education?

The above analysis suggests that access to pre-school is limited to a small part of the upper- and middle- urban classes and pre-school quality is often low. These two factors are true in all the sample countries. An impact investor will thus find very limited opportunities to play a key role in improving equitable access to pre-school education as we believe that lucrative provision models are not able to reach the poorest households. Nevertheless, there could be advantages in testing innovative teaching practices, that although first benefitting the upper- and middle-class, due to their price, could eventually be disseminated to the rest of society.

Thus, a potential intervention of an impact investor in the pre-school sector should target: (i) **an economically sustainable organization promoting innovative and/or effective teaching practices** in early childhood development and learning, with a clear difference from the common practices observed in the country, (ii) **committed approach to improved accessibility and inclusiveness,** (iii) be able to **generate positive externalities** in the local education system.

On the first point, it seems desirable to support innovative educational projects rather than to support traditional actors. This could mean, for example, supporting the establishment of the first Montessori school network in a given country. Impact investment could help to increase the number of beneficiaries of new teaching approaches, strengthen the structure of the schools proposing these approaches, and even consider the creation of school networks.

On the second point, it seems important for the impact investor to support a promoter who is sensitive to the equity challenge and willing to take measures to promote access to lower-income communities. Several modalities could be considered, from equalization systems within the same school or between different schools (privileged residential districts, low-income districts, peri-urban areas, etc.) to a subsidy mechanism targeting children from non-privileged neighbourhoods. The investor contribution to this strategic reflection and to the additional resources (e.g. Technical Assistance) to be mobilized could be a driving force to increase access.

On the third point, it seems essential for an innovative and qualitative pre-school model to generate positive externalities in the local education system. We think that these models should indirectly benefit other schools and/or other local stakeholders. This could be done by implementing a teacher training project where the new teaching practices could be taught and transferred to trainees who will use them in other environments (e.g. public schools). Another dimension could be the funding of impact evaluation to raise awareness about a specific model. Other actions on communication, experience sharing, advocacy, and dialogue with public authorities appear to be interesting ways to diffuse these innovative practices. The idea behind this intervention would be to produce a demonstration effect that could initiate changes in practices from within the system.

Finally, approaching the sector by supporting ancillary activities could also be considered. As mentioned above, one option could be investment in the initial or in-service training of educators and teachers, especially in the countries where formal training does not exist. Another investment opportunity could be the development of the book publishing offer for early age children.

2. Basic Education

There has been a general agreement for almost two decades about the fundamental need to improve public basic education provision in African education systems. Since the MDGs and then the SDGs, basic education has received a substantial part of African governments' and their partners' attention. With compulsory education from 6 to 16 years in most African countries, the state plays a major role in ensuring the basic education of each generation of children. Gross enrollment rates have increased considerably but are at different levels, with still lower levels in the Sahel and in Madagascar. The increase in enrollment has sometimes resulted in a rise in the number of pupils per class, which has reached alarming levels in some areas. In addition, primary education completion and transition to secondary education remain major challenges, particularly in rural areas. Nevertheless, it seems that the focus of public education policies will gradually shift from the issue of access to the issue of the quality of education, which has been recognized as the new priority on the international agenda and for which governments are struggling to find solutions at the scale required.

The deficit in student learning in government schools leads a part of the population to favour enrolment in private primary schools. These schools are often perceived as providers of better supervision of children (including through reduced teacher absenteeism). Private primary schools are expanding in many African countries and often, due to their number and small size, remain invisible to Education Ministries which often do not have the capacity to control them. With extremely variable quality, sometimes due to difficult recruitment and retention of teaching staff, private primary schools do not necessarily complement the local education system because they have little or no added value in terms of education access, relevance of instruction, or quality.

For lower secondary education, most African countries struggle to guarantee universal access and sometimes rely on private providers. In this specific level, the need to increase the available supply remains significant, because of the increasing populations and of the aim of universalisation of primary education. The private education sector is teaching (more or less according to the country) a rapidly increasing number of students. In some countries, like Burkina Faso and Côte d'Ivoire, allocation or subsidy systems have consolidated the private provision of secondary education. These systems of public financial support to private providers increase the available supply and support institutions that are sometimes precarious. However, the allocation of funding may not always be optimal nor directed to the most-needed institutions or areas. As public secondary schools also face quality challenges, private schools sometimes appear more attractive, which can lead to forms of social division between the public and private spheres and may contribute to the intergenerational transmission of inequality.

Faced with the difficulties encountered in primary and lower secondary education, public authorities have different approaches to the role of private players. Some governments seem to want to slow down the expansion of the basic private schools and reaffirm the prevalence of the public system, while others plan to rely more on the private sector to expand access to basic education, especially at the lower secondary level, sometimes through subsidies. To a lesser extent, some governments, like Liberia, are engaged in pro-active cooperation with the private sector through public-private partnerships and delegate a part of their education activity to school networks which have demonstrated some experience in managing large numbers of students. All the sample countries aim to reinforce the regulation and the control system of the private sector.

Public and private institutions may face common challenges. Both public and private lower secondary schools face significant challenges in recruiting and retaining quality teachers, particularly in science subjects. They also share the challenge of accessing quality school equipment (e.g. updated and quality textbooks and school management software programmes). More generally, the support to ancillary activities which provide quality education inputs (goods and services) including technology, to private and public education providers would help to address the overall learning crisis with better materials, and potentially strengthen all types of providers in the education system.

What windows of opportunity for an impact investor in basic education?

Unlike other education levels, the basic education level is compulsory in all the sample countries, and generally across Africa. This implies that the state is committed to guaranteeing all children free access to primary and lower secondary schools, usually up to the age of 16. One implication of this is that private providers, especially the for-profit ones, are sometimes not considered legitimate to intervene in this level unless the state explicitly asks for the support of the private

sector to meet with their obligations[158]. The impact investor should then follow a very cautious approach to this level.

Direct support to private schools in basic education could be problematic, given the necessary alignment of the impact investor with local government strategies. As described above, most governments seem committed to stabilizing the contribution of private institutions to basic education, and to control it better. Under these conditions, it seems politically sensitive to give direct and explicit support to private institutions without risking breaking the imperative of alignment. The support should also be complementarity with local public actors and their strategies. These concerns seem even more sensitive for investments in the low-fee standardized school networks that seem to currently struggle to meet the quality challenge when scaling up their model[159].

Indirect interventions through support for ancillary activities could be a pragmatic way to help to build effective economic models and to produce widespread impacts on the education system. The provision of education goods and services could benefit the entire education system and could have a considerable impact on the issues of quality and access, including in the public system. Nevertheless, these ancillary activities have their own constraints, whether it is competition with an informal sector for textbook publishing, or the difficulty of stabilizing a robust business model for the education technology sector. Comprehensive support from the impact investors, in terms of financial resources, technical assistance and strategic coaching, could make all the difference and build local leaders in sectors that are often underdeveloped in the country.

Impact investors could also consider the possibility of indirectly supporting low-fee private basic schools through school-focused microfinance and capacity building programs, following the example of the IDP foundation in Ghana. This kind of intervention would improve the learning conditions for many lower- and middle-class students, by increasing the opportunities for these schools to invest in infrastructure and equipment. However, by focusing only on private providers, this kind of intervention risks causing an increase in the fees required by private schools and thus increasing the gap with public schools. Training programs for managers and teachers of both public and private institutions would be preferable to a program aimed solely at the private sector.

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[158] The recent adoption of *Abidjan Principles* by many civil society organizations and other education stakeholders show a growing mobilization for limiting and regulating the private provision of (basic) education across the world. See the full text here: https://static1.squarespace.com/static/5c2d081daf2096648cc801da/t/5caf90114785d3c2ac9b7eef/1555009556517/Abidjan-Principles-Designed-online-v4.pdf

[159] Some of them recently received severe criticisms mainly on the standardization of their contents (see box 2.15 in section 5.1).

3. Upper secondary and TVET[160]

Upper secondary education and technical education and vocational training (TVET) have historically been less supported by governments and international institutions. Unlike basic education, the international agenda for supporting upper secondary education, especially technical and vocational, has been low in the last two decades. Access to these levels is generally very low in the sample countries, where the number of institutions is also very low. **General and technical high schools remain inaccessible for a large part of the population, which tends to drop out of school after completing lower secondary education** (i.e. at the end of compulsory schooling). Mostly located in urban areas, high schools and TVET institutions do not reach children living in rural areas. The situation of technical and vocational high schools is particularly problematic because of severe public under-investment which has lowered the quality of, and undermined the relevance of, this type of education, often making these institutions unattractive to families and students. Private institutions have to deal with the same effects of under-investment and quality degradation. Governments agree on the need to attract more youth to technical and vocational secondary education, but effective solutions have yet to be built at scale.

The role of the private providers in upper secondary education and TVET is very heterogeneous across the countries we visited. For general upper secondary education, in some countries, private providers are not very common and sometimes, like in Ghana, they do not have a good reputation, while in other countries such as in Morocco, high-fee paying high schools are very attractive for the upper classes. The situation is different in Madagascar or Cote d'Ivoire, where the share of high-school students enrolled in private schools is very high. For TVET, some countries, such as Morocco, have built powerful public bodies to structure the vocational training sector. In Ghana, where a very low number of students enrol in technical and vocational education, private technical institutions do not seem to be attractive. In Madagascar, a fund for vocational training has been launched, which could facilitate the rise of new public and private players. Other countries are in a very different situation where private institutions host the majority of students enrolled in technical and vocational education, as is the case in Cote d'Ivoire. However, our field studies show that all countries face huge challenges in providing students with quality training that is relevant to the labour market. One of the reasons is the high cost of equipment that is needed in technical and vocational education. Another is the lack of coordination with local employers. This adds to a major shortage of training opportunities in some technical fields, for which equipment and trainers might not be easily available in the country.

In-service vocational training in our sample countries shows varying dynamics and generally targets well-established companies, in particular large and/or international companies.

[160] These two levels have their own dynamics but are analyzed in the same section for simplification purposes. Although some countries introduce some technical education at lower secondary school, pupils usually need to select between general and technical or vocational education when starting upper secondary education. So here TVET refers to upper secondary and post-secondary vocational and technical education.

These companies develop their own initiatives with internal resources, sometimes by working with local vocational centres. Collective funding systems for continuous training programmes have been established (Morocco and Côte d'Ivoire) or are emerging (Madagascar), but often struggle to meet the needs of SMEs and to provide them with relevant and updated training opportunities. In the most dynamic zones, vocational players enter the sector to work in close collaboration with local employers to provide them with tailored training solutions, sometimes based on e-learning or blended learning.

What windows of opportunity for an impact investor in technical secondary education and vocational training[161]?

The analysis of the dynamics and challenges in these levels shows that the contribution of the private sector to develop the supply, relevance, and quality of training can be crucial, especially in technical and vocational education. **Direct support for technical institutions in strategic sectors can have a significant impact on employability.** It may bring value to these types of training schemes through enhanced quality and attractiveness, in a context where the role of the state is less predominant. However, the likelihood of finding sustainable economic models in these technical sectors remains unknown; we will come back to this issue later. At this stage, we can only point out that the use of technology may enable technical training projects which face significant upgrading costs to find more sustainable development models. Indeed, technology may lower the costs of education provision, as well as significantly extend the user base. More generally, **it seems desirable to support TVET projects which succeed in including employers in curriculum construction, which focus on students' job readiness (through apprenticeship and work/study systems), and which make substantial efforts in job placement.**

Training support for entrepreneurship in job-creating sectors such as in construction services (plumbing, electricians, and masons) also appears to be a good way to improve the integration of young people through self-employment. Support for ancillary activities would also be relevant, particularly in the area of teacher and trainer training.

4. Higher education

The student population growth in higher education raises a major access challenge in many African countries, in a context where the capacity of public institutions is reaching saturation. The increasing size of the annual cohorts of incoming students is the result of several factors: a demographic effect (as in Madagascar), institutional reforms at the secondary level (as in Ghana), and an overall increase in students' school life expectancy (as in Morocco). As a result of these dynamics, many public universities are now overloaded and struggling to adjust their capacity to the rising number of new entrants. Moreover, despite this increase in demand, higher

[161] We do not focus in this section on opportunities to support upper secondary generalist education as we have already dealt with lower secondary education (in the previous sector) which provides quite similar opportunities and challenges.

education is still far from accessible for lower soci-economic classes. The need to expand access to the higher education system calls for urgent reforms to improve the efficiency of public institutions, but also for a more inclusive private sector.

The private sector expansion in higher education has largely contributed to increasing the supply for new generations of students, but it also raises issues of quality and equity. There is a common dynamic in our sample countries: the proportion of students enrolled in private institutions is rising. This is occuring to different degrees across countries since each of them has specific characteristics. In Morocco, the proportion of the population enrolled in private education remains low, which is explained by the rise of school fees, making these institutions inaccessible to many households. In addition, student migration to Europe limits the growth of private universities in Morocco. In countries like Burkina Faso, Ghana and Madagascar, the private sector has increased more and now accounts for a quarter to a third of the student population. In Côte d'Ivoire, the phenomenon is even more significant and now half of the student population is enrolled in private universities. This expansion has been encouraged by the subsidy system which is sometimes poorly calibrated or allocated. The expansion of the private sector in higher education calls for the development of efficient regulation systems, in contexts where regulatory capacities are often very low. However, some governments have already established regulatory bodies that are in charge of controlling the quality of private providers.

The employability crisis after higher education is the equivalent of the learning crisis in basic education: this alarming situation affects all institutions and stakeholders, but solutions are still not available. The mismatch between skills provided by the educational institutions and those demanded on the labour market characterizes, at different degrees, all African countries. This seems to occur for several reasons. First, most students enrol in general and theoretical tracks, particularly in humanities, which offer poor labour market opportunities. It is unclear if this occurs because of the students' preferences or because of the poor supply of high-price scientific programs that are more in line with labour market needs, like computer science, engineering, or medicine. It is a fact that most governments struggle to re-orient students towards the scientific programs, but it is also true that most private providers offer programs in business, management, arts and social sciences, where school equipment costs are lower.

Another reason for the skill mismatch is the difficulty for higher education institutions to constantly align their programs with the changing realities of the economic environment. A constant interaction and dialogue with potential employers would be necessary in order to make training more relevant, but these efforts are not always made, either because of lack of resources or lack of incentives. The capacity of institutions to invest in updated training and student coaching is very uneven. Finally, the lack of training in transversal (soft) skills (e.g. communication, adaptation, etc) penalizes graduates when searching for a job or in the pursuit of career paths. These difficulties affect both public and private higher education institutions, but to varying degrees and in different economic environments.

What windows of opportunity for an impact investor in higher education?

In view of the analysis presented above, it seems that several strategies would allow the impact investor to support the emergence of high-quality, accessible and relevant private institutions.

Support for scientific training courses (e.g. medicine, agronomy, engineering, IT) or niche professions (e.g. architecture, design), in accordance with the strategic priorities identified by governments, seems to be a priority. This strategy would make it possible, on the one hand, to strengthen the complementarity between public and private higher education, and on the other hand to contribute to matching the provided training with the needs of the local economy. This intervention strategy may require significant investments to renew or build appropriate infrastructure and a big increase in the number of students to strengthen the economic performance of institutions with additional income and stabilized pricing. The provision of subsidies to set up scholarships or other mechanisms to allow (at least a partial) access to low-income students would be very beneficial to increase social diversity.

Investment in generalist universities or business schools seeking financial support to build infrastructures can be considered, but caution must be given to the real added value of the impact investor. Generalist universities with high volumes of students are most likely to have a sustainable economic model, but not necessarily a positive impact performance in terms of employability. Impact investors aiming to support them could probably combine financial and strategic support with technical assistance and action/research efforts to improve the employability of graduates. In some cases, big generalist private universities may be directly competing with public institutions. This raises the question of whether supporting them strengthens or weakens the public sector. In countries with very few investors (typically fragile countries) and with highly overloaded public institutions, investing in generalist universities which focus on the quality and the relevance of their programs could be a valid option for an impact investor. Conversely, in countries where commercial investors are already able to provide funding and assistance, it might not be recommended to use impact investing to support such universities.

It also seems important to consider an indirect approach to the sector by supporting the deployment of ancillary activities, particularly in the field of distance learning technologies. The support of distance learning technologies and other valuable services for students (loans, remedial education, job placement platforms, etc.) may have a big impact on the local education system, especially when there is no direct investment opportunity in core education provision.

Education technology initiatives are particularly relevant for higher education where the access and quality imperatives are not sufficiently met by local governments, donors, and other investors, but they may also be relevant for the other education levels. The sector seems particularly interesting for impact investors: this is why we devote the next section to highlighting the opportunities and challenges it may provide.

5. Education technologies: a range of ancillary activities with strong impact potential

A diverse sector of education technologies is emerging in Africa, but with a significant gap between Anglophone countries and the rest of the continent. This geographic gap seems to be linked to economic factors (average income of the country, quality of telecommunication infrastructure), institutional factors (business-friendly environment, promotion of technologies) and perhaps socio-cultural factors (openness to, and awareness of technologies). There are a large number of technology initiatives in Kenya, Nigeria, and South Africa, but many fewer in Burkino Faso and Madagascar. Figure 3.1 shows that most Sahelian countries, and the countries of Central Africa, have no Ed Tech businesses. However, there is some dynamism in Côte d'Ivoire, which with Senegal could be the gateway to French-speaking Africa for innovations which have emerged in the English-speaking countries. This is probably due to a better quality of infrastructures, to a more dynamic growth trajectory, and to a larger domestic market than in neighbouring French-speaking countries.

Figure 3.1. Ed-Tech Companies in Francophone Africa

There are numerous technological models of education that can produce significant changes in teaching approaches, information flows, and organizational modes of educational institutions. Distance learning models are the most visible part of these innovations and consist of technological platforms storing educational content provided to different types of beneficiaries through Internet websites and apps (e.g. Etudesk in Côte d'Ivoire), tablets or SMS exchanges (e.g. Eneza Education). These models may disrupt core education provision by being delivered to large numbers of beneficiaries through remote access, provided that there is suitable local infrastructure and equipment to access them, as well as cultural acceptance to use them. The learning outcomes of distance learning are variable and depend on different factors: quality of content, adaptive learning tools, diversity of media support, pleasure dimension. More broadly, the use of new educational media (audio books, web TV) and platforms (Apps, MOOCs, etc.) can also increase the number of learners and produce education outcomes. These models should be seen as complementary education providers which can help students and learners acquire relevant skills missing from traditional curricula. We observed, in our field study, that these models tend to include more and more direct supervision or contact with a tutor/teacher/coach or use peer-learning opportunities and group-based work to boost the learning experience. Blended learning models which combine distance learning with direct coaching or team-work project delivery are one type of solution to this challenge (e.g. African Management Initiative in Kenya). Other technological models do not serve the learning function but include information programs and platforms that can facilitate the search and comparison of institutions (e.g. Education Media Company in Morocco), of programs and curriculum (e.g. Chalkboard in Ghana) and of job opportunities (e.g. Talenteum in East Africa and the Indian Ocean). Finally, the provision of software to manage student flows, school records, examinations and school staff management can significantly improve school performance (e.g. Totem in Niger). These information and management systems can facilitate the organization of courses and enable parents to better monitor their children's progress. They can also improve and facilitate the organization and coordination of the management of teaching and administrative staff in big structures.

Several types of economic model underlie these innovations and allow more or less space for generating returns and scaling up. From our understanding, it appears to be difficult for many ed-tech companies to stabilize their business models. Initial enthusiasm for some innovative ed-tech models has been confronted with the need to increase incomes and increase differentiation from open-access education platforms and from foreign established ed-tech companies. We observed various models where the final clients were the platform users, their parents, an educational institution, a third-party organization (such as NGOs), the government, a business, or others. One leverage for differentiation is to directly work with businesses and other organizations in B2B models to provide them with tailored value-added education/training content[162]. Rapid expansion strategies (in one or more countries) are generally envisioned by ed-tech startups to compensate for the small size of domestic markets and/or pursue volume strategies. These

[162] We come back to this point in the next subsection.

strategies are not easy to implement successfully and require strategic alliances with (regional) telecoms agencies and other technical partners, plus the capacity to adapt the model to different institutional and socio-cultural environments. To date, there do not seem to be initiatives which have reached a significant client base with income from a multi-country setting, even though this is already happening in the mobile payment and off-grid solar energy kit systems that constitute other waves of tech-focused businesses.

What windows of opportunity for an impact investor in education technologies?

It seems essential for investors to closely follow the evolution of the education technology sector and to support the most promising initiatives, particularly in French-speaking contexts where early-stage investors are scarce. Finding viable business models seems possible, provided that organizations have time to test their approach, prove the teaching concept and build the right strategic partnerships. The potential for impact at scale is considerable. While the quality of e-learning models varies, they have a big potential to extend the access to educational content to a wider audience, in a context where public universities are overloaded and where very few TVET institutions are present in rural areas. In terms of vocational training, there are many possibilities, as start-ups contribute to making training courses more enjoyable, more flexible, and, above all, more adapted to each learner. It should also be stressed that these technologies can contribute, through volume effects, to drastically reducing the cost of contents and thus provide a response to the need for equity in any education system. In addition, the impact investor has a fundamental role to play in technology transfer from one country to another, particularly if it has a regional or even a pan-African scope of intervention. By being able to address public, community, philanthropic, or for-profit educational institutions, these initiatives have significant consolidation potential for the local ecosystem. For these reasons, the impact investor must be positioned as a precursor and strategic sponsor of the sector, with long-term support for these models of educational innovation.

6. Conclusions

In this section, we have provided key guidelines on whether and how to intervene as an impact investor in each education cycle and in the ed-tech sector. These guidelines are based on the transversal analysis of private sector dynamics and education challenges in our sample countries and need to be contextualized in order to be used in a specific country. This section has not presented the types of education businesses that could be found in the different education levels. This is the scope of the next section.

The models of education businesses: analytical tools

General dynamics and context-based analysis are crucial to understanding what role an impact investor may play in education. But for enhancing the role and the dynamics of private education providers it is essential to understand what contribution each institution may have on the education challenges in Africa. In this section we look in detail at the key characteristics of private schools and ancillary services. Here, for simplicity, we use "private school" to include Pre-school, Primary school, Secondary school, University, and Training organisation.

In this section, we use the term 'private school' in a broad sense and as a synonym of the private education provider. We include in our analysis all private education providers operating in all education levels, from pre-school to higher education and training. Our scope for private schools focuses on **independent and for-profit education providers**[163]. The scope excludes non-state institutions which are managed or substantially influenced by either (local or foreign) public administrations), faith-based or other philanthropic organizations. We thus exclude from the typology not-for-profit schools as well as foreign private schools which are directly or indirectly governed by foreign ministries/associations as well as faith-based schools which are fully operated and owned by religious associations.

1. Private education providers

1.1. Relevance and objectives of a new typology

During our field visits, interviews and research, we observed a large diversity of private education providers. Education businesses are growing in most African countries, and so is their participation in the local education systems. Research about the different types of education businesses that form the heterogeneous African private education sector is scarce. Most reports use education levels to differentiate the private operators (Dalberg, 2015) and sometimes include a variable of pricing, for instance separating low-cost from premium K12 education (Caerus, 2017). Other analyses use the main asset of education businesses and differentiate investments in human capital, infrastructures, technologies or activities (Dalberg, 2013). We find these typologies very useful to approach the sector, and to some extent, complementary to each other. However, the business models within the same education level or asset-focused group may be very different, in terms of economic and impact performance. From an impact investor perspective, we consider that a new typology is needed to answer two crucial questions:

- **What is the general economic model behind a private school?**
- **What is the impact potential of a private school?**

[163] We also include "social business"-style private school which are not necessarily for-profit but seek financial sustainability through commercial activity.

With this in mind, we believe it is important **to select a limited number of key criteria to segment education providers into several homogeneous groups.** We built our typology to make sure that each group tends to have common features in terms of economic model and impact perspectives. We based our typology (criteria selection, construction of groups) on the numerous interviews we had with school directors and project holders, as well as on desk-based research on their model. The new typology introduced in this section aims to give information on the types of business models education providers may use, and on the constraints and the opportunities of development they face. In addition, the typology aims to assess what kind of educational impact these schools may have (in terms of access, quality, equity/social inclusion, relevance, etc). Finally, the typology seeks to show what interventions (financing instrument and needs, type of support) could help these organizations improve their economic performance and impact.

1.2. Design of the typology

The business of core education provision in Africa implies a diversity of economic models, size, strategies, regulatory context, and varying entrepreneur profiles and ambitions. Within the same education level and the same city, we encountered very different models, from international schools providing high-quality education, to affordable big schools with attractive branding, to small-scale schools accessible to low-income families. **We have chosen three main criteria to segment private education providers and assess their economic model and impact performance/potential:**

School pricing

School pricing is a crucial factor for the quality and positioning of private schools. By school pricing, we mean the level of tuition fees (and additional cost to enrol) typically paid by the students. **The pricing determines the level of school turnover** and may be used as a proxy for the unit cost of student enrollment. Thus, it influences the ability of the school to deliver quality education, attract good teachers, invest in equipment or/and innovation, and serves as a signal on the market.

The pricing also influences the school's capacity to reach different categories of populations and beneficiaries (elites, middle-class, low-income class). It is an important impact indicator as it may enable/prevent the access of certain group of the population. However, the pricing criterion *per se* does not necessarily limit the type of students who can access the school. Some schools may be high-price but develop scholarship policies to attract good students and increase social diversity.

We observed at least 4 broad levels of pricing (high, medium, medium/low, low) chosen by the private providers we met. Due to the diversity of situations and systems in our sample countries, these levels may refer to different price ranges. The characterization of "low-cost" school is in itself a big debate within the literature where scholars use different methods and criteria (see

for example Tooley and Longfield, 2016). For our study, we used data from direct observation, interviews and sectoral analysis to position each school in a corresponding category of pricing.

Innovation

Innovation in education is a fundamental challenge to improve quality and access, and increase school attractiveness. By innovation, we mean all qualitative improvements in teaching practices, and in teaching materials and equipment including technology. We also include in our definition of innovation the organizational innovations which impact school performance (teacher management, fee-paying process, information systems etc). We also look more broadly at the factors of differentiation which constitute a comparative advantage for a school in competition with others. This may include additional services or modules provided by the school (remedial education, IT classes, languages).

We believe that innovation, with this very broad definition, is a key and relevant criterion to segment education businesses. It should be noted that innovation is inherently connected to the price. High price provides income for the school to invest in new teaching practices or in modern equipment. On the other hand, innovation may increase the economies of scale, improve school processes, allow the school to be more competitive, and eventually affect the pricing strategy.

We found different type of innovation models:

i. **Disruptive innovation** refers to innovations which are essentially education technology-based and/or concern organizational aspects. Disruptive innovation in this sense is usually associated with standardized educational content and teaching, as well as new payment processes (e.g. Pay As You Go model). These innovations could be characterized as access-oriented innovations as they seek to drastically lower the fixed costs of the business model.
ii. **High-quality oriented innovation** refers to a set of innovations targeting high standards of teaching, with big investments in teachers, equipment and infrastructures. They may also include internationally accredited training and qualification or innovative teaching.
iii. **Incremental innovation** refers to a range of small innovations that enables the school to be progressively more competitive and attractive. These innovations are not necessarily sophisticated education content or practices but constitute factors of differentiation which are appealing to students. It may include a specific course (e.g. teaching of Mandarin), a modern campus, a career service, or a partnership with a foreign University.
iv. **Limited innovation** refers to schools that have little capacity to invest and to experiment with new practices or equipment. These schools follow the traditional education model (generally copied from other players in the system), and sporadically infuse some new contents and modules when they have the financial capacity to do so.

Growth strategy

There are various growth strategies implemented by private schools. By growth strategy, we mean **the willingness of entrepreneurs or school managers to expand the school capacity/number of schools according to a specific plan.** In other words, the growth strategy refers to the aptitude of the school management to increase its provision of education services and improve their quality. Thus, while pricing and innovation are crucial to understanding the demand side of education businesses, growth strategy consists of supply-side characteristics.

The magnitude and speed of growth targeted by the manager follow different patterns:

i. **Strong growth strategies:** quick expansion (typically through the opening of new sites in the country, or in other countries), with an entrepreneurial mindset
ii. **Medium growth strategies**: progressive expansion (typically through the opening of additional training curricula)
iii. **Low growth strategies**: limited expansion (typically aiming to build a few new classrooms).

Additional criteria for segmentation

We believe that the three criteria illustrated above are the most important when assessing the economic model and the impact performance of private schools. But **other factors may be very relevant to understand the model of private schools.** We consider at least 5 key additional criteria: education level, maturity, infrastructure, certification of degrees and exposure to public resources.

i. **Schools differ according to the education level in which they operate**. This has important implications for the complexity of teaching and learning (impacting the student/teacher ratio for instance) the price the family is willing to pay, the distance to school the children will be willing to accept, and many other features of the school model.
ii. **The infrastructure strategy is also a differentiator between schools.** Each school defines its infrastructure strategy, which generally consists of a building acquisition (construction), or renting, or a mix of both. This strategy will substantially impact the business model, the financing needs and the risks taken by the manager.
iii. **The accreditation of qualifications impacts the attractiveness of the school**, the future of its students, and the relation to the public authorities. Some schools do not deliver certified training and are not subject to the regular control of public authorities. Some schools comply with the national certification system and make sure graduates can continue to the next level/find a formal job/join the civil service. Other schools decide to provide international curricula that are generally more costly and may provide broader opportunities for the students.
iv. **Exposure to public resources:** private schools may rely on public resources for income and do so through different schemes (PPP, subsidies, transfers of students from public schools). These different configurations provide opportunities, but also imply different risks in terms of funding (payment delays) and corruption (administrative control).

v. **Impact policy:** some private schools are aware of the lack of social diversity in their model and want to address this challenge with scholarship programmes, equalization fee modes,l and other social initiatives targeting population groups that have little access to school.

These additional criteria are used in the typology to produce a more detailed analysis of each group of schools, and where possible to build subgroups of schools.

1.3. The four families of private schools

Basing our analysis of education businesses on the 3 main criteria we identified, we identify 4 families of private schools in African education: premium schools, dynamic schools, neighbourhood schools, and standardized schools.

Each family of private schools is characterized by:

- Price range
- Use of innovation
- Growth strategy

We describe the main features of the 4 types of schools in this sub-section.

Figure 3.2. A typology of education businesses

1.3.1. Premium School

Premium schools are a group of private schools characterized by:

- **High-fee model**, generally targeting high-income populations but may provide merit scholarship to widen access and social diversity (see below).
- **High-quality oriented innovation,** with a focus on the quality and standards of infrastructure, equipment and teaching. Teaching innovation and/or international certification may be key differentiation factors for these schools.

- **High growth strategies,** which are usually based on the duplication of the model in other cities or countries, once the proof of concept is achieved, or in certain cases in the extension of school capacity.

These schools are competitive because they provide high quality education and are often supported by a recognized brand name. We observe that many premium school projects have a strong growth perspective, on a national or international scale[164]. In many cases, this rapid expansion seeks **economies of scale** as some support functions are costly for the economic model (e.g. curriculum design, qualified staff in the administration, marketing costs, management wages[165]). For these premium schools, the analysis of business models and impact perspectives could be more detailed by at least three additional criteria.

Accreditation of qualification

Some Premium schools may be fully integrated into the local education systems and provide nationally-certified qualifications. Conversely, other premium schools tend to be internationally-oriented and will provide international qualifications and standards.

As mentioned above, this affects the business models as international accreditation usually requires big investments in infrastructure, equipment and teacher training, and increases the fixed costs of the model. Furthermore, the impact perspectives may differ between the two subgroups. National qualifications ensure good insertion of the graduates in the local education system or labour market, in contrast, international qualifications allow students to pursue their studies abroad, so they may contribute to increasing brain drain.

Infrastructure management strategy

The growth strategy is inherently associated with the infrastructure management strategy. We observe in general two infrastructure management strategies. The first strategy consists of self-financing the building new infrastructures or acquiring existing ones to enable an expansion of school capacity. The second strategy consists of renting infrastructures.

The asset investment strategy may be influenced by investors' preferences (time horizon, cash-flow expectations, liquidity). In addition, depending on the education level and the teaching project, flexibility may be needed to adapt and customize the equipment and facilities. Quick school capacity expansion may be associated with rental operations that provide more flexibility, and require less investment.

Impact policy

[164] In this sense, premium schools differ from private schools which are run and/or funded by foreign administrations and apply foreign curricula (typically French or American schools). This last type of schools, which is not part of the perimeter of our study, is generally not involved in fast-growth strategies.

[165] International networks of premium schools may bear additional costs, as holding costs, or foreign exchange market fees.

Premium schools by nature have high tuition fees. They are not accessible for a majority of the population in most African countries. But the premium school managers may have a different approach to the social inclusion/equity challenge.

We understand that some premiums schools are very aware of the necessity to increase social diversity and to attract brilliant students from low-income backgrounds. These premium schools may find mechanisms to broaden access, for instance by self-financing scholarships or finding philanthropic partners to do so. They may also set up equalization policies in their models to make sure low-income households may enrol.

Other premium schools are less likely to provide concrete solutions to the equity challenge. They may follow a specific marketing strategy targeting elites which has little room for social policies.

From the economic perspective, these impact-related choices may affect the cost-structure and the types of external investors that could invest in the premium schools.

Examples of African premium schools

- Asheshi University (Higher Education - Ghana)
- Enko Education (Secondary Education - Pan-African)
- Ecole Internationale de Rabat (Basic Education – Morocco)
- International Bilingual School of Africa (Basic Education – Côte d'Ivoire)
- Design and Technologies Institute (Vocational Training – Ghana)

1.3.2. Dynamic School

Dynamic schools are a group of private schools characterized by:

- **Medium price,** with tuition fees which target low- and upper-middle-income classes, and may be a mass market strategy.
- **Incremental innovations,** to improve education quality but also the attractiveness of the school. These innovations may consist of: remedial education services, multiple choices of academic courses, foreign languages, extra-academic activities, niche field of studies, academic partnerships with foreign schools/universities, modern infrastructure and equipment, good staff qualification, use of technology, partnerships with local employers, policies for internships). They constitute comparative advantages for the school and send positive signals to prospective and enrolled students and their families.
- **Medium growth strategies,** generally focused on the national market, with a progressive expansion of school capacity (multi-site schools or centralized campus with building land)

Dynamic schools are very important players in the private education system. They tend to be or become big structures with a **big enrolment**. They are very visible players and have a strong interest in complying with regulatory constraints. A major challenge for these schools is to develop

their **brand name** because they often operate in **competitive markets** and need to differentiate their offer (and justify their pricing). In comparison to premium or neighbourhood schools, dynamic schools tend to aim for a **volume strategy** to strengthen their economic model but do not neglect the quality of education.

Beyond these common features, the business models of dynamics schools may vary according to additional criteria:

Education level

Dynamic schools in different education levels face different types of constraints and opportunities. For example, the construction or acquisition of new infrastructures does not imply the same costs in higher education as in basic education, and may be external funding for universities but self-financing for basic schools. The education level also impacts on the types of requirements and compliance in terms of local certification. The size of the local market also depends on the level of education.

Accreditation

The same opportunities and constraints as for Premium schools also apply to Dynamic schools for the delivery of local or international curricula. However, Dynamic Schools may be more incentivized to invest in and deliver local curricula since they tend to maintain a strong national anchorage and do not necessarily target enrollees who want to study abroad.

Exposure to public resources

A key factor that impacts on the business model of the Dynamic schools is their exposure to public resources. Private schools may engage with the state in different types of partnerships to access to public funding. We observed that Dynamic schools may enter these configurations to increase their turnover and enrollment and so stabilize their business model. The participation in PPP and in student transfer schemes may also unlock additional funding from local banks, which is a key challenge for early-stage Dynamic schools.

We also note that such partnerships can become risk factors if public funding is delayed or subject to a lot of administrative control or potential corruption. These risk factors vary, depending on the government, education level, and partnership configurations. In contrast, some Dynamic schools would rather make the choice not to be exposed to public resources; or may not have the capacity to do so for various reasons (regulatory status, size, level).

Infrastructure management strategy

The same opportunities and constraints as for Premium schools apply here to Dynamic schools as regards the selection of the infrastructure management strategy (rental vs acquisition). However,

we observed that the more the Dynamic school increases in size, and is established in a given context, the more it may become interesting for this school to own its own infrastructure[166].

Examples of African Dynamic Schools

- Université Privé de Fès (Higher Education – Morocco)
- Institut Supérieur de Technologie (Higher Education – Burkina Faso)
- Education group ACEEM (Basic education and HE – Burkina Faso)
- Université Aube Nouvelle (Higher education – Burkina Faso)

1.3.3. The Neighborhood School

The Neighborhood Schools are a group of private schools characterized by:

- **Medium/low pricing,** targetting low- and middle-income classes.
- **Limited innovation** in a traditional education model, with few resources to invest in innovative practices, to upgrade, or to build successful branding. May increase differentiation by selecting low-competition sectors by partnering with other organizations.
- **Low-growth strategy** due to scarce access to external funding and usually limited to small-scale projects. May accelerate through the support and networks of the entrepreneur.

Neighborhood Schools are generally small providers which have a **strong local base.** Low price and proximity are two important assets for their student customers. These schools have quite **precarious education models** (low-skilled staff or a limited number of skilled staff and little access to premium education inputs) but may invest in visible inputs which are not always related to the quality of teaching but constitute positive signals for students (e.g. school equipment). These schools tend to rely on **fragile economic models** (low turnover, enrolment variability, weak profitability, no/little access to external funding).

Neighborhood schools may be **affordable** for large segments of the population (in comparison with other types of school) and may provide education in specific contexts where other institutions are scarce (remote area, niche training). In the end, their educational impact can be significant but it is also often constrained by their economic fragility.

Additional criteria can be used to sharpen the description and segmentation of these schools.

[166] This was observed especially in higher education: many universities as they grow seek to build and own their own campus for several reasons including dependency on local landlords' rental strategy and the scarcity of suitable infrastructures for rent in most African cities.

Education level

The capacity of Neighborhood schools to innovate and gain attractiveness on the local scale depends to a certain extent on the education level they work in. Differentiation opportunities may be stronger in complex education activities, typically higher education and vocational training cycles. Beyond the proximity advantage, Neighborhood schools may be more attractive when they offer programs which are difficult to find in the region/country. Such differentiation opportunities are fewer for basic education providers. Thus, growth perspectives of Neighborhood schools may be better in the higher education and TVET levels.

Exposure to the public sector (PPP, student transfers)

Like for Dynamic schools, the exposure of Neighborhood schools to public resources may provide interesting opportunities for their business model, but it also creates risks and challenges. Those who enter, or not, into these public private partnership configurations have different perspectives on development and impact.

It should be mentioned here that many Neighbourhood schools are not necessarily formally recognized by their country's Ministry of Education. Some schools have no resources to upgrade and to comply with the sector regulations. However, Neighborhoods schools may also on purpose remain informal to escape regulatory constraint, which may raise serious issues when it comes to education quality and outcomes. In any case, informal structures have little chance of entering into PPP to access to public funding.

Infrastructure strategy management

As with other private schools, for Neighborhood schools the infrastructure management strategy is crucial to understand the business model. The same differentiation can be made between acquisition versus rental. Also, the maturity of the infrastructure project will impact the types and amounts of risk taken by investors, the amount of funding needed, and the profit perspectives for external investors.

Examples of African Neighborhood Schools

- Michele Yakice School (Vocational training – Côte d'Ivoire)
- ISTH Tourism School (Vocational training – Morocco)
- Intellect Afrique (Basic Education – Côte d'Ivoire)
- ISTD Dental School (Vocational training – Morocco)

1.3.4. The Standardized School

Standardized schools are a group of private schools characterized by:

- **Low price,** (and low-cost structure) deliberately targeting low- and middle-income populations
- **Disruptive innovation** is at the heart of the business model, with an orientation towards the standardization of the model (standardized education processes/practices, education technologies), and based on organizational innovations (P,A.Y.G. model for instance).
- **Strong growth strategies** which tend to be on a multi-country scale.

Standardized Schools tend to be grouped in **networks**. They were founded with the explicit purpose of making private education accessible to low-income populations. Standardized schools tend to be managed by international entrepreneurs seeking to provide **cost-effective and innovative education solutions** to a large number of users. The standardization of education content and processes may ensure an equalized learning at scale in contexts where the staff have low qualifications and little experience. **Education technologies** are often used for this purpose, with more or less sophistication to adapt their content to their users. In some cases, the standardization of the model becomes excessive and threatens the quality of education. For this reason, some standardized schools have faced strong **reputational risks,** and, according to many observers, do not necessarily contribute positively to education challenges. The business model of the standardized school is typically based on a large volume of students, with low cost school facilities and learning processes. In vocational training, alternative business models are emerging, which partly rely on the financial participation of employers[167].

The analysis of standardized schools can be detailed with additional criteria.

Education level

We noted that standardized schools are often found in the basic education level, but also in several fields of vocational education such as IT, and could be probably developed in pre-school models. The education level has a big impact on the mission of the standardized school network. In basic education, standardized schools may directly compete with the public system, but provide no guarantee of doing better than public schools. In other levels, such as vocational training, the situation is completely different and the entry of standardized low-price schools could be very relevant to increase the available supply of training.

Exposure to public resources

The relation with the public sector is an important factor. In some contexts, standardized schools enter into public private partnerships with the government, which enables them to grow faster and gain legitimacy nationally[168]. Other standardized schools remain fully autonomous and provide an alternative to public schools (e.g. Omega Schools in Ghana), and may not comply with local regulations.

[167] This type of business model is discussed further in the case study section with the example of Sanya in Madagascar.

[168] We saw this happened in Liberia to the private chain Rising Academy for instance.

Infrastructure management strategy

As for the other school categories, the infrastructure management strategy is crucial to the business model and the growth strategy of the Standardized schools. We observed both acquisition and rental strategies in this category, with different implications for the shareholders and prospective investors.

Examples of African Standardized Schools

- Bridge Academies (Basic Education – East Africa)
- Omega Schools (Basic Education – Ghana/Liberia)
- Sayna (Vocational training – Madagascar)
- Rising Academy (Basic Education - Liberia/Sierra Leone)
- Silver leaf Academy (Basic Education – Tanzania)

1.4. Conclusions

We have demonstrated in this section how diverse private schools can be in Africa. The private education sector is composed of institutions subject to different dynamics, opportunities, and challenges. Our typology demonstrates that identifying a few types of private schools can lead to a better understanding of this market. We do not pretend that any African private school would fit perfectly into one of these four types of models and some schools are probably in-between. Nevertheless, we believe this typology provides general guidelines for an impact investor wishing to invest in private education providers.

Premium schools are the private providers which are best placed to explore innovative models of education and to shift the learning innovation frontier in a given country. However, premium schools rely on expensive equipment, human resources and know-how, which increases their price and makes their model affordable only for a high-income population, except when scholarships can be funded by the school itself or by a third-party. The impact investor can support the growth of this type of school, and also help them to implement the mechanisms that could make the model more inclusive. Moreover, the impact investor could support the Premium schools in order to produce positive externalities on their environment, as a way to diffuse their innovation and consolidate the local education system.

Dynamic schools are significant players. They provide quality education, attract a high volume of students and are generally economically sustainable. However, even if they are not elitist, they are still not easy to access for the lower- and middle-class. This raises issues about how more equitable access can be guaranteed (like for Premium schools). The impact investor may invest in Dynamic schools in particular when seeking to combine relatively mature business models and teaching projects. In higher education, where Dynamic schools become attractive institutions for a growing number of learners, the impact investor could help these models to better suit the socio-economic environment and to complement the public provision of education.

Neighborhoods schools are probably the biggest category, in terms of the number of institutions. With low growth perspectives, a fragile economic model, and little innovation to improve quality, Neighborhood schools may not be tailored for an impact investor, at least with equity funding. Nevertheless, one should remember that they have a very important role in expanding access to education, in particular in fragile countries or in remote areas where the public provision of education may be insufficient. Moreover, some Neighborhood schools propose relevant programs in vocational training which are not provided by the public sector. The impact investor could thus consider providing direct or indirect support to these schools, under specific conditions, with the aim of helping them to improve their economic performance and impact.

Standardized schools are emerging in the form of ambitious school networks, in particular in Anglophone African countries. They aim to lower their fees as much as possible in order to make private education accessible to the largest part of the population. Some models have been more successful than others at scaling-up while maintaining a decent level of quality. Investing in these schools in the basic education cycle can be risky because they need to achieve rapid growth, often with a multi-country strategy, to achieve break-even. In other levels such as TVET, these schools could constitute a relevant contribution to the education challenges, although only a few examples seem to exist today.

2. Ancillary activities in education

2.1. A better understanding of how ancillary businesses in education deliver impact

"Ancillary activities" refers to a wide range of economic activities providing goods and services to education providers. There is a diversity of businesses, economic models, and dynamics and may serve different education levels. These ancillary businesses are generally divided into providers of education "goods" (typically school books, school equipment, computers, etc) and providers of education "services" (teacher training, capacity building programs, student financing, etc). They may work with education providers or provide supplementary educational content themselves to complement the provision of education by traditional providers.

Our field studies suggest that African education systems may face a critical shortage of these ancillary activities. The challenges of education quality, access, and relevance are intrinsically linked to the low provision of quality and updated textbooks, of student financing services, of teacher training programs, and so on. The development of ancillary businesses appears to be as essential as the development of educational institutions, since both are necessary to provide system-wide responses to education challenges. Investing in ancillary businesses could therefore be a very impactful complementary support to direct education provision. A good understanding of these businesses and their dynamics is, therefore, necessary to provide the impact investor with guidelines for intervention.

This section aims to assess the key drivers of financial and impact performance of ancillary activities. Since this category of education player is very diverse, we do not intend to provide a typology like we did for the education providers. Instead we propose key criteria for the analysis of the business model and of the impact potential of ancillary services. Some criteria are very similar to those used for the typology of education businesses, others are more specific to these ancillary businesses because they address their relationship to schools, students, and other stakeholders. Thus, we facilitate the understanding of the nature of these ancillary activities by providing conceptual and practical tools which highlight the drivers of economic performance and impact.

2.2. Criteria of analysis for ancillary education businesses

Our analysis of ancillary education businesses is based on 5 criteria:

We describe each of these criteria and illustrate them with ancillary activities we saw in several African countries.

The relation to customers and to students

The financial performance and impact of ancillary businesses is partly defined by their interactions with customers and students. For private schools we observe that the vast majority of ancillary businesses are contracting with customers whose children are students (or their legal representatives). Parents pay tuition fees for their children to enrol, so that families are both the school's clients and the school's students. As far as ancillary activities are concerned, this "customer-student" model is not necessarily the golden rule. Publishing companies, ed-tech start-ups, school loans providers, or teaching advisors may provide services to a diversity of buyers (students, families, schools, Ministries, NGOs, businesses), for a diversity of consumers (students, teachers, school headmasters, school institutions, etc). We counted at least 3 configurations of relations as shown in Box 3.1. These configurations may be mixed in one business model, but imply different types of opportunities and constraints.

Box 3.1. The approach to buyers and consumers by an ancillary business

- **"Business to Business" (B2B)**

The ancillary business provides an education service to a company or an education provider. This service supports or strengthens the institution as a whole and is not individually distributed to users.

e.g: a software company sells its management system to a university.

- **"Business to Consumer" (B2C)**

The ancillary business directly provides an educational service to the consumer, with no intermediary.

e.g: a business provides learners with educational content on an e-learning platform.

e.g: a microfinance institution provides the student with a loan (and parents may guarantee the loan).

- **"Business to Business to Consumer" (B2B2C)**

The ancillary business contracts with an education business to provide a service to its students on an individual basis. The approach to students depends on who is the buyer and what kind of student is involved. It should be noted that this "business" could be a government or an NGO which is in relation with students.

e.g: a teacher training company contracts with a school to train its teachers.

e.g: a publishing company contracts with the ministry to furnish textbooks to public primary schools.

e.g: an Ed-tech platform contracts with an NGO to provide local young people with online entrepreneurship programmes.

Why do these kinds of configuration matter? Contracting with businesses and institutions (rather than directly with users) impacts on the corporate strategy, the cost structure, and the marketing model including distribution channels and salesforce. Thus, it impacts on the economic model of the ancillary business, defining the costs and returns of its growth trajectory. But these configurations also structure the relation to the users (typically the students) and the kind of education impacts to be expected from the ancillary business.

Ancillary businesses following a **Business to Business model (B2B)** typically provide goods and services which will improve the economic performance and impact the of an educational institution as a whole. By having schools as clients, they must ensure that their service/product is relevant and bring value to the development and the attractiveness of the institution. This results

in a corporate marketing strategy in which the business development efforts are generally high, and the end the business needs to have a good knowledge of school networks, associations, and representatives.

Ancillary businesses following a **Business to Consumer (Student) model (B2C)** directly provide their services to the students. They can be either a supply-side education player or a demand-side education player. In the first case, the ancillary player furnishes a service/good to an education provider (e.g. schools manuals or teacher training services to private schools) or to other organizations (e.g. capacity building programmes for companies, Ministries of education). In the second case, the ancillary business enables the students to access education, with a technology solution (or a transportation solution) or a financing service.

Ancillary businesses following a **Business to Business to Consumer model (B2B2C)** typically provide goods and services to institutions which are then transferred or distributed to the user. These institutions serve as intermediaries but do not consume the product/service per se, and the user cannot always provide direct feedback to the ancillary business. In terms of economic performance, it means that these ancillary businesses need to adapt business development and marketing strategy to two kinds of stakeholders (institutions and users), which may cause additional costs.

The pricing model

The costs in education in a given ecosystem are partly defined by the prices of education inputs provided by ancillary businesses. The pricing of education inputs is defined by various factors, some of them depending on the type of relations with users and customers as shown above. Other key factors include the type of activity and sophistication of product, the level of education, and the types of clients.

We note here three general categories of pricing: premium-price, mid-price and low-price services. The pricing model is a sector- and context-specific dimension of analysis. It permits the comparison of different players in the same sub-sectors in the same context (e.g. remedial education providers in urban Burkina Faso). Premium ancillary businesses have a pricing model in which the price is higher than competitors. Mid-priced ancillary businesses align their pricing alongside competitors, and low-price ancillary players may have a larger volume of clients due to low pricing.

Like with private education providers, the price may structure both the economic model and the impact. Price is directly correlated to the turnover of the ancillary businesses and its economic model (volume strategy, quality strategy). The pricing also affects the impact of any ancillary business. Premium services may not be accessible to a large part of the population and low-price education services do not necessarily meet the education quality challenge.

The innovation component

Innovation is an important dimension of ancillary businesses, driving business performance and impact. As in the previous section, by innovation we mean an extended range of interventions which improve the attractiveness of a service or a product, be it technological and technical improvements or improvements related to the marketing and/or distribution channels and client service quality. To better understand the key characteristics of education services or goods, and the extent to which they may impact the education ecosystem, we believe that innovation is important.

Some ancillary businesses are more likely to invest in, or benefit from, innovations than others, depending on their activity and their environment. It is obvious that education technologies are based on innovations as they typically seek to change the way educational content is accessed and learned through digital technologies. In other businesses, such as school equipment providers, innovation is more likely to affect logistics and distribution channels. All ancillary activities may more or less rely on innovation that may improve their economic performance and impact. In our study, innovation is a context-based concept. An education business may be innovative compared to its competitiors, at least on a national basis. The unequal deployment of education technologies in African countries shows that a big innovative education platform in urban Niger may not be innovative in rural Kenya. So we include the national environment as a dimension of innovation analysis. We found three general categories of ancillary activities: 1) disruptive businesses, 2) innovative businesses, 3) businesses with limited innovations.

Disruptive ancillary businesses may transform the education ecosystem because they provide a new category of education services. The disruption is embedded is the characteristics of the service: for instance, a new modality of accessing and exchanging educational content, a new support to provide learning tools, a new way of organizing in-class teaching through technology. A range of educational technologies is likely to be in this category. As mentioned above, the disruption must be assessed in its context. Providing the first agronomy training course by SMS to rural farmers in Senegal would be disruptive if the only competitive solution belongs to another category, like a traditional vocational centre. By enabling a disruptive innovation to be commercialized through an education business, an ancillary player may create a new product and achieve substantial economic and impact returns.

Innovative ancillary businesses may significantly improve the education system as they provide education services and goods which already exist in the market, but they aim to do it better. The innovation helps these businesses to differentiate their activity from their competitors. This type of innovation may consist of the characteristics of the product or service. For instance, a company proposing an e-learning tool which may be accessible off-line after the first connection, thus enabling students to study in the bus while stuck in a traffic jam without consuming their credits, could be considered as innovative in a context where such a tool did not already exist. The innovation may also be organizational- or distribution-related. It could consist of a microfinance institution providing school loans at a lower interest rate because of a better organization of

distribution channels or a partnership with a local player. Innovative ancillary businesses may, increase their economic performance due to a competitive advantage as well as improve their impact on their users.

Low-innovation ancillary businesses are not likely to disrupt the access to, and quality of, the education system, but may still improve the education system. There is a wide range of ancillary activities where innovation perspectives are limited because of the nature of the activity. For example, a publishing business providing textbooks, or a catering services company delivering daily meals to urban public schools. A restricted potential for innovation may also be due to the context: the lack of, or absence of, investment due to credit shortage, public procurement legislation, the market dynamics, etc. Ancillary activities are crucial to the system but may be in very competitive markets (strong demand and strong supply) or in very underdeveloped markets (weak demand and weak supply). Because of their internal characteristics, or because of external factors, these ancillary businesses tend to struggle to be innovative and so struggle to build their economic performance and impact.

The potential for scaling-up

Scaling-up in the education industry means to achieve substantial turnover growth and impact (with no reduction in quality and performance) and eventually to play a leading role in a given market. The growth trajectory of ancillary businesses may follow very different patterns. We found 3 different levels of scaling-up potential that characterize ancillary businesses: rapid scalability, progressive scalability, and limited scalability.

Growth patterns are determined by a wide range of factors such as the entrepreneurial mindset, the innovation component, the market dynamics, and the socio-economic context. This diversity of factors and conditions implies that it is difficult for ancillary businesses to scale up. But the scale-up potential is a critical factor to understand to what extent these ancillary businesses can achieve a strong economic performance and impact.

Ancillary businesses with rapid scalability are very dynamic and high-performance projects driven by a strong entrepreneurial mindsetand a close adaptation to changing environments and dynamics. This type of scalability is not yet widely present in those education systems which face strong challenges and under-investment. There is a series of African businesses some of which have achieved rapid growth and substantial turnover increases by forging a business on disruptive innovation in an enabling environment - for example, Jumia in the trade sector, Gifted Mum in the health sector, or M-Pesa in the mobile money sector. Their technologies probably support this strong expansion (sometimes in several countries simultaneously) as their marginal expansion cost may approach zero. We believe that similar trajectories are likely to happen in education, although the ancillary business education sector is still composed mainly of early-stage projects.

Ancillary businesses with moderate scalability are composed of projects with a medium growth pattern, they have opportunities to increase sales and turnover through innovation in a

competitive environment. Many good-performing ancillary businesses evolve in this category because they have moderate growth perspective but very limited opportunity to scale up rapidly. Some of these businesses have strong asset-based activities with big fixed costs and so require big investment to increase production capacity. Publishing companies such as Vallesse Editions (Côte d'Ivoire) or Editions Afrique Lecture (Niger) could be in this category. Other businesses rely a lot on human resources (large staff or many contractors), and so also need big investments to achieve progressive growth (e.g. Microfinance organisations providing loans to students, or to schools and teacher training programmes).

Ancillary businesses with limited scalability are projects stuck in low growth patterns in difficult economic environments. Providing some services to education systems may be particularly difficult. Some contexts are helpful for ancillary activities to thrive and expand. It may simply be due to bad economic conditions, especially public procurement. For instance, in a context of budget cuts, it is likely that a ministry of education will not renew the public school equipment for a few years. The dependency on public providers as clients may make these activities quite fragile. In other contexts, the equipment can be imported from abroad at cheaper costs, which makes the development of local capacity quite challenging. The widespread informality in certain sectors like school book distribution may also affect the growth perspectives of main players. Low-quality services and goods, easily copied by competitors, may be subject to low scaling-up potential.

The relation to the public sector

As we described in earlier sections, the role of the public sector in education provision is central, which gives both opportunities and constraints for ancillary businesses. Given the diversity of ancillary activities, the ancillary businesses may have a very different relation to the public sector. By the term "public sector", we include the public education providers and the public administrations in charge of managing the education system.

We found 3 types of relationship with the public sector (which can be combined). The ancillary business may be related to the public sector as: (i) a client, (ii) an academic or technical partner, (iii) a regulator..

The ancillary business contracts with a public sector body as a client. In this type of relation, the business provides the public administration with an education service or goods. For instance, a publishing company furnishes textbooks to a local administration which then dispatches the books to local schools. This relation is one of public procurement, which is both a big opportunity and a challenge for many ancillary activities. Contracting with a public actor to furnish the public education system with goods and services may be very valuable for the ancillary business since it can ensure high-volume and recurrent demand. However, it may be a challenge to be dependent on the public sector: public procurement is not always easy to access, payment delays can occur, and integrity risks are able to affect the commercial relationship.

The ancillary business contracts with a public sector body as an academic partner. In this configuration, the ancillary business does not enter into a commercial relationship with a public administration, but solely in a technical or strategic relation to developing its business. For instance, an Ed-tech start-up partnering with a public university to test a new product. Such partnerships may bring new opportunities to develop the activity but also increase its credibility and relevance to local education stakeholders.

The ancillary business contracts with a public administration as its regulatory body. As shown in this study, the state is a regulator of education providers, although in different ways and to variable degrees. Many ancillary businesses working with education providers, public or private, can be required to comply with state regulation. For instance, an Ed-tech platform may have to obtain an accreditation from the Ministry of education to deliver complementary education content to public schools. The compliance with regulatory constraints may be more or less strategic for an ancillary business. It can bear substantial costs in the short term, but may broaden the opportunities to work with public actors and achieve scaling-up in the medium or long term.

2.3. Conclusions

Ancillary businesses are multiple and diverse, and play an important role in African education ecosystems. They deal with education providers and affect directly or indirectly the learning experience of their students. The 5 variables we have introduced in this subsection affect the economic performance and impact. They facilitate or hinder the ancillary businesses' strategic development and thus impact the potential financial returns an impact investor may achieve by supporting them. They also contribute to the performance of education systems at all stages. We could have mentioned other factors, such as the types of assets or the need to acquire infrastructures, but we believe that these five factors are general and strong enough to describe a good part of an ancillary business's trajectory. Combined with the typology of private schools, these factors help understand the dynamics of education businesses in various contexts and to what extent they can impact on, and contribute to, improvement of African education systems.

Models of African education businesses: 6 case studies

Building on the business typology, this section consists of an in-depth analysis of 6 business models from the education sector, with a focus on the economic performance (and challenges), as well as the key dimensions of impact. The analysis of each organization includes the key elements on turnover and cost, financial sustainability, and strategic development.[169]

4 education providers:

- A Premium School: **Enko Education**, a pan-African network of high schools
- A Dynamic School: **Institut Universitaire d'Abidjan** a large university in Cote d'Ivoire,
- A Standardized School: **Sayna** in Madagascar, a digital vocational school
- A Neighborhood School: **Institut Spécialisé En Technologie D'Art Dentaire,** a vocational school in Morocco

2 ancillary activities:

- A project in teacher training: **Practical Education Network** in Ghana
- An education technology company: **Etudesk** in Côte d'Ivoire

In what follows we present the general model of each organization, its dynamics and potential for impact, using the criteria identified in the previous section.

1. Enko Education, a pan-African network of premium schools

Organization	**Enko Education**
Location	South Africa, Mozambique, CI, Burkina, Senegal, Mali, Cameroon
Field	Premium Secondary Education (and Primary Education in a couple of schools)
Disciplines	Curriculum based on the International Baccalaureate and on international standards
Student numbers	1,800 pupils in 13 schools
Annual school Fees	2,000 - 3,500 US$

[169] All data and information for each case study are extracted from an interview with the entrepreneur as well as strategic and financial documents provided by the entrepreneur. All confidential data has been deleted for this public version of the study.

1.1. Introduction

Enko aims to democratize high-quality education for the middle class in Sub Saharan Africa and increase middle class access to world-leading universities. Enko is building one of the largest networks of private schools in the region by partnering with, or acquiring, high-potential existing private schools and helping them to accelerate their growth and improve their operations. Enko has 2 models. In the first model, Enko is the school operator but does not own the facility. In the second model Enko both owns the school and operates it directly.

Eric Pignot and Cyrille Nkontchou launched Enko Education in 2013, with the ambition of creating a pan-African network of schools. The first Enko school was La Gaieté International School in Yaoundé, Cameroon. Enko schools then expanded to South Africa, Mozambique, Côte d'Ivoire, Senegal and Burkina and there are now 13 schools with 1,800 students. I&P and Proparco co-invested in Enko in 2016 as minority shareholders, along with Oiko credit which invested in 2017. .

Enko also developed a **shared service centre** to offer its schools economy of scale, access to world-class educational resources, and services that they could not afford individually, such as **shared teacher training centre**, a shared procurement platform, and **partnerships** with International Baccalaureate Organization (IBO) and Library Without Borders (LWB).

Key challenges to the Enko model are: opening new schools in different countries, maximizing school occupancy rate, managing a network of 13 schools in 7 countries (budget control, cost management), hiring and retaining experienced teachers.

1.2. Enko, a premium education model

Pricing

Annual school fees in Enko schools typically range from 2,000 to 3000$ in 8th and 9th grade and nearly 3,500$ in high school grades. Considering these fees, the school appears to be accessible to the local upper- middle- and upper- classes. Enko targets this segment of the population which is willing to pay for quality education, but has little access to elite schools (French School, British school, etc) whose price can be up to 3 times higher. Enko schools are typically located in capital cities or main cities in Francophone African countries and in Southern Africa.

Innovation

The Enko education model has 3 main innovations.

Enko seeks to offer international programmes and qualifications recognized around the world. Most Enko schools follow the curriculum based on the international baccalaureate (I.B.)

certification (which may be taught to 3 to 19 years old students)[170]. Nearly 4,000 educational institutions offer the I.B. Diploma which is recognized by more than 2,000 universities in 75 countries. It implies high standards of teaching practice, locally-adapted international curriculum, and a bilingual program. Enko schools also offer the Cambridge International Examination[171].

Table 3.1. The levels and content of International Baccalaureate certifications

I.B. Levels	Curriculum content (as described by IB)
Primary Years Programme (age 3 – 12)	The PYP curriculum framework is adaptable to state and national standards and guided by 6 transdisciplinary themes of global significance.
Middle Years Programme (age 11 – 16)	The MYP curriculum framework has 8 subject groups, providing a broad and balanced education for early adolescents.
Diploma Programme (age 16-19)	The Diploma Programme (DP) curriculum is made up of six subject groups and the DP core, comprising theory of knowledge (TOK), creativity, activity, service (CAS) and the extended essay.

Enko provides high-level university entrance guidance for their students. Enko staff advise the students on the identification of the universities offering the best programmes (matching their skills and ambition), with high admission rates and interesting scholarships programmes. They provide the student with knowledge of admission processes and help them to make their application. They also identify scholarships offered by universities and foundations to finance their studies. In 2018, Enko graduates entered many top tier universities including Sciences Po, Hult Business School, Lancaster University, University of Toronto, University of Ottawa, University of Nottingham, African Leadership University, and Yale University.

Enko enhances the learning experience of students with a strong approach to the learning environment and international mindedness. As a condition for delivering Cambridge Examinations and IB Diploma Programme, the Enko staff are highly qualified and experienced in teaching in international schools. Teachers receive up to 100 hours of training yearly. There are 24 students maximum per class in Enko schools. The learning of languages is also central to the Enko model. IB Programmes are taught in French or English as a first language, and other languages can be offered (Chinese, German, Zulu, Portuguese). Progressive bilinguism to English is applied to schools where students do not have English as a first language. In terms of technology, Enko schools have media centers where students can access computers and wifi; they also have access to a science lab. Finally, Enko schools value the diversity of African cultures and the possibility of operating in a globalized world, building their programmes on local curricula and international frameworks.

[170] https://www.ibo.org/programmes/diploma-programme/

[171] https://www.cambridgeinternational.org/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/

Growth strategy

Enko is pursuing a fast growth strategy across Africa. Enko aims to open more than 30 schools in some 20 countries, mainly in French-speaking Africa, and in Southern Africa. The strategy combines green-field project where Enko open and operate a new school, and existing school acquisition.

Table3.2. Enko's expansion in Africa

Year	Network Expansion
2013	Enko is created.
2014	1st school, in Yaoundé, Cameroon
2016	Enko is in Mozambique (Maputo), Cameroon (Douala) and Côte d'Ivoire (Abidjan)
2017	Enko is in Mozambique (Vilankulo)
2018	Enko is in Senegal (Dakar), Mozambique (Tete), Mali (Bamako), South Africa, and Burkina Faso (Ouagadougou)

1.3. Additional criteria

We consider Enko a premium school network, we thus apply the additional criteria we believe more appropriate to analyze this type of schools.

Accreditation

Enko schools are all certified (or in the process of being) to international standards, including the IB Diploma Programme as well as Cambridge Examination. These accreditations enable the best learning conditions and achievements for Enko students, and facilitate applications to world-leading universities by a visible, recognized and well-known curriculum. At the same time, the international accreditation is not necessarily recognized by local higher education institutions, thus raising an issue of integration of Enko schools into the local system. Even if Enko students aspire to join renowned foreign universities, it seems important to have a locally-recognized qualification, and if desired by the student, to join a local university and eventually the local job markets. Enko claims to encourage students to come back to their own countries after their higher education and participate in the local development ("give back") but we do not have data on this challenge[172]. Enko management is pushing for recognition of IB in their countries of operation, but it could take time to change the current situation.

[172] According to Prodigy Finance, a financial institution granting loans to students (mainly from developing countries) so that they can access the world's best universities in Business and Sciences, 60 to 70% of students come back to their countries after graduation. https://prodigyfinance.com/get-a-loan

Infrastructure management

As far as infrastructure management is concerned, Enko has deployed a mixed approach with an asset-light model and a school acquisition strategy,. This approach gives Enko sufficient flexibility to operate in different contexts and through various configurations.

Impact

The educational impact of Enko is focused on education quality and access to worldwide top-tier higher education institutions. Enko aims to provide high-quality secondary education in Sub-Saharan Africa and to support African middle class access to the World's Top Universities. Enko alumni study at Yale, Sciences Po and other prestigious universities in Europe and in the US. Some of them also access top African universities, such as the University of Cape Town. Enko also trains dozens of teachers to international standards (I.B.), some of them coming from other regions to work in Africa.

Enko provides quality education to the upper middle class with contained levels of fees and competes with elite schools. Enko programmes are not affordable for a majority of the local population, but they are for a part of the middle class which typically cannot afford elite schools. Thus, there is an impact in terms of access although it does not benefit all segments of the population.

Enko envisions broadening the accessibility of its model by providing merit scholarships to pupils from disadvantaged backgrounds to a limited extent. Scholarships were granted to 11% of Enko students (May 2017 - including partial and full scholarships). They were fully funded by Enko and directly subtracted from its turnover[173]. Scholarship allocation conditions are based on the financial situations of families and student results in exams. Enko management seems willing to work with I&P and other stakeholders to broaden this mechanism, possibly by working with a foundation,. With this policy, Enko stands at an intermediate level in terms of inclusivity of premium schools. Some premium schools do not consider scholarships programmes at all, and follow a marketing positioning which leaves no doubt about their willingness to serve elites or expatriates only. Some other models like Ashesi University in Ghana function as a not-fot-profit organization with substantial levels of scholarships (up to 50% of enrollees). Enko appears to be an in-between player since they do accept to lower their profitability with self-funded scholarships although this does not appear to be a core mission project for the management.

[173] Unfortunately we do not have disaggregated data by country, age, or gender for the scholarship programme.

The Entrepreneurs

Cyrille Nkontchou is the chairman and co-founder of Enko. He serves as managing partner of Enko Capital Management LLP, an Africa-focused asset management firm with offices in South Africa and United Kingdom. He is also the founder and executive chairman of the pan-African investment bank LiquidAfrica Holdings Limited. He started his career as a consultant with Accenture in France and worked as a banker with Merrill Lynch in London. He has a BA in Economics from Sciences Po Paris and an MBA from Harvard Business School. Cyrille was nominated as Young Global Leader 2006 by the World Economic Forum.

Eric Pignot is the co-founder and COO of Enko. Eric worked at BearingPoint, a management consulting firm. As an Engagement Manager, he helped his customers to improve their performance and scale. Eric is French, has an MBA degree from the MIT Sloan School of Management, where he focused his MBA experience on understanding how digital technologies will transform education in Sub-Saharan Africa.

1.4. Financial sustainability.

Enko has developed a proven economic model with a significant turnover and good perspectives of profitability.

1.5. Conclusions

Enko is a promising network of premium schools. In a few years time, Enko has gained a strong capacity to deliver high-quality education certified by IB in seven African countries and to compete with well-established elite schools. The network of Enko is expanding at a good speed with a soon-to-be recognizable brand (in particular in Francophone Africa).. The social ambition of Enko to support students in entering top-tier international universities seems successful so far (according to the data on the first cohorts).

The role of an impact investor in supporting Enko's development seems critical. First, the capacity of the investor to assist Enko in its deployment in many countries makes the cases for a pan-African fund based on several local offices and networks. Second, support in building a functioning platform for the whole network as well as a good branding strategy could be essential to explore the potential of an education network. Third, the impact investor may help the premium school to make the education model more inclusive with an ambitious programme of scholarships and help the entrepreneur respond to the questions: What is the funding mechanism for these scholarships? What is a sustainable level of subsidized students for the model? What partner could Enko work with to implement this programme?

2. Institut Universitaire d'Abidjan: A Dynamic University in Côte d'Ivoire

Organization	Institut Universitaire d'Abidjan (IUA)
Location	Abidjan, Côte d'Ivoire
Field	Tertiary Education
Disciplines	Sciences, Law, Business
Student numbers	4,200
Annual university Fees	1,200€ (Degree to 1,500€ (Masters)

2.1. Introduction

IUA is a private university[174] which was created in 2004 and is now one of the biggest private higher education institutions in Côte d'Ivoire. IUA is an Abidjan-based private university which started with a first cohort of 27 students and now has about 4,200 students and a diversity of academic tracks, and is one of the few universities which provides higher education qualifications in various subjects such as engineering, law, political sciences and management. IUA aspires to develop a technology faculty and increase its offer in technical tracks as well as moving to a new campus with suitable modern facilities.

IUA is developing in a context of intense competition in Abidjan. Several international business schools are established in Abidjan (e.g. HEC, EM Lyon) and constitute attractive institutions for local students. Local universities, such as IUA, tend to invest in better infrastructure and equipment, develop more partnerships with local employers, and explore the potential of technology for teaching purposes as well as increasing access to education.

IUA plans to be the leading private university in Côte d'Ivoire as well as a significant player in the sub-region. IUA was ranked 5th best private university in Côte d'Ivoire in 2013 and 3rd best university in 2014 out of 44 legally recognized tertiary institutions[175].

[174] See the official website: http://www.iua-ci.org/

[175] See the list of tertiary institutions that are legally recognized at: http://www.enseignement.gouv.ci/files/UNIVERSITES%20PRIVES%202013.pdf

2.2. IUA, a model of the Dynamic university

Pricing

IUA offers bachelor and master degrees with fees ranging from 800,000 XOF (about 1,200€) to 1,000,000 XOF (about 1,500€). With this range of fees, the university is affordable for middle classes and competitive[176] in its market[177]. It also targets local elites who do not wish to study abroad. In addition, students may benefit from state subsidies which are 450,000 XOF per student. IUA has a very small scholarship programme.

Table 3.3. Pricing at IUA (2018/19)

Academic level	Annual Fees
Degree First year	800,000 XOF
Degree Second year	850,000 XOF
Degree Third year	900,000 XOF
Masters First year	950,000 XOF
Masters Secons year	1,000,000 XOF

Innovation

IUA has a traditional education[178] model, but has developed several incremental innovations which have contributed to improving the learning environment and to differentiating the university from its competitors.

First, IUA has developed a variety of academic tracks and programmes which make it very attractive in the local market. IUA is organized into 4 faculties: Political Sciences and Law, Social Sciences and Economics, Sciences and Technologies, Arts and Humanities. Through these faculties, IUA offers a wide range of bachelor and masters in varied topics such as management and finance, economics, political sciences, IT, mathematics, engineering, law. These qualifications are accredited by the Ministry and labelled by CAMES (*Conseil africain et malgache pour l'enseignement supérieur*). IUA is also a research organization[179], and it has three active research labs in Social sciences (CRSD), Economics and Finance (GREFIQ), and Management (CRGE). More research institutes are expected in the near future, in particular in law and political sciences and in Ivoirian economics. A survey institute will also be created.

[176] This range of school fees is described as "competitive and social" by IUA's management.

[177] The range of fees at the degree level for universities is from 650,000 CFA Francs (Groupe Loko, UNISAT) to 1200,000 CFA Francs (FUPA, IUGB).

[178] Traditional model of education in the sense that it does not use technology or any other source of strong innovation to disrupt the provision of education.

[179] http://www.iua-ci.org/page/les-unites-de-recherches

Second, IUA possesses good quality infrastructures, although they are not all on one campus. IUA currently occupies 8 small and medium-sized buildings in Abidjan through a rental strategy. IUA has several modern infrastructures (one trading room in the finance department, several sciences and engineering labs, 7 IT rooms, 1 videoconference room), a physical library and 2 virtual libraries, which is unusual for the sector. IUA plans to merge several of these sites into one campus in order to invest in modern equipment, increase school capacity, and also gain independence from landlords.

Third, IUA has partnered with many foreign institutions to facilitate student mobility and professor exchange. In order to become an internationally-oriented institution, IUA has built international partnerships with academic institutions based in France (e.g. Université de Nantes, de Montpellier), in Canada (Université du Quebec). IUA has also an agreement with the Université Felix Houphouët Boigny de Cocody, and the Agence Universitaire de la Francophonie (AUF).

We have little information about graduates' employability and the coordination with job market dynamics. IUA claims to be strongly associated with local private players but we have little information to confirm this. The alignment of new academic programmes with the demand of local employers is yet to be assessed. The establishment of a career centre and a new strategy for student's employability could be supported with technical assistance and advice by an impact investor.

Growth strategy

IUA's management team has an ambitious growth plan and wishes to become the leading private university of Côte d'Ivoire and a significant player in Western Africa. IUA envisions having 10,000 students by 2028.

To support this ambitious growth, IUA will invest in new infrastructure and increase its programme diversification. . According to IUA's management, the construction of a new campus is the best promotion campaign the university can do to be more attractive in the local market and to become a reference in the sub-region.

2.3. Additional criteria

Institut Universitaire d'Abidjan can be considered as a model of **Dynamic school** of higher education. Additional criteria of analysis should include the following:

Education level

IUA belongs to the higher education level.

Exposure to public funding

IUA has public support through the state allocation per student that can reach 450,000 to 600,000 XOF (650 to 900 euros) and which is directly paid to IUA. The public funding share in IUA's revenues is likely to be significant, although we did not have access to detailed data.

Accreditation

The accreditation of academic programmes is a key dimension of IUA's academic offer. According to the management, all IUA's courses are certified by the Ministry (national certification) and by CAMES (regional certification). With local curriculum and medium pricing, IUA is likely to attract middle class students and foreign students.

Infrastructure management strategy

As mentioned above, IUA has 8 different facilities located in Abidjan with a rental strategy. Due to capacity constraint and dependency on landlords, IUA would like to build its own infrastructure near Abidjan. In the coming years, IUA plans to build new infrastructure in the area of Abidjan in order to significantly increase its schooling capacity.

Table 3.4. IUA - Financials and Projections

IUA - Key financial indicators	2016	2017	2018
Turnover (k€)	3,400	3,467	4,974
EBITDA (k€)	440	783	1,687
Margin (%)	13%	23%	34%
Net Profit (k€)	301	544	1,125
Net Margin (%)	9%	16%	23%
Other indicators			
% of staff costs[180] / revenue	17%	18%	14%
% of infrastructure costs[181] / revenue	11%	11%	10%

Source: Financial statements provided by IUA to I&P team (2019)

[180] This does not include non-permanent contracts that may be significant in the model but for which we do not have financial data.

[181] Rough estimate based on the limited and aggregated information we had access to. We know that in the academic year 2018/19, the total rent charges exceed 300 million CFA Francs (equivalent to 460 k€).

IUA shows a profitable economic model with growing turnover and good profitability.

THE ENTREPRENEUR

Mr Aka Kouamé is the founder and current chair of Institut Universitaire d'Abidjan. Mr Kouamé holds a PhD in Demographics from the University of Montreal. He founded IUA in 2004.

2.4. Conclusions

Since 2004, IUA has built a strong and recognized model of a private university in Côte d'Ivoire. The enrollment growth added to the diversification of academic programmes makes IUA a significant player in Abidjan with solid profitability at relatively moderate pricing. . In a context of high competition where competitors are engaged in the construction of new campuses and in the diversification of their curricula, IUA needs to invest in modern facilities to remain attractive for the local demand.

We believe the intervention of an impact investor could support IUA's development to reach a critical size and help it become a leading provider in higher education in Côte d'Ivoire. The support to IUA's strategic expansion could include the funding of the campus construction and equipment, improvement of internal processes and quality control, reinforcement of the academic and administrative team, and support for academic and teaching innovations. However, impact perspectives would be also tied to a strong inclusion of IUA in the local education ecosystem: enabling better alignment and cooperation with the public universities (in research, teacher training, etc), stronger inclusion of employers in the life of the university, better support to students during and after their studies, and better tracking of employability performance.

3. Sayna: an early-stage standardized school

Organization	Sayna
Location	Antananarivo, Madagascar Aiming for expansion in other Africa countries
Field	Vocational Training (3-month training and 6-month work/studies)
Disciplines	IT & Coding
Student numbers	30 in 2018, target 160 in 2019
Annual school fees	Free for students Businesses pay nearly 900$ to recruit a student

3.1. Introduction

Sayna was founded in 2017 as a vocational school delivering short-term training in IT to the vulnerable young people of Madagascar. Sayna's mission is not only to provide technical and soft skills to its trainees, but also to facilitate their social integration and boost their employability. The social ambition of Sayna is strong, and from the beginning the school has targeted young people from poor families who have no chance to pursue traditional higher education opportunities.

The Sayna education model is to provide a 3-month intense training in Coding and a 6-month internship. A selective process was created to identify and select the most able and motivated students in disadvantaged neighbourhoods of Antananarivo ("Sayna Sourcing"). The selection process includes a basic technical skill test, a motivation test, and a language test. During the training period, the student learns basic skills in coding and programming as well as some soft skills (e.g. communication, CV writing). Then, the trainee develops his/her skills in a business environment during an internship programme. Sayna provides support and coaching during the whole period and aims to facilitate the placement in companies as soon as possible in the training process.

Sayna's main innovation is that it is free for students, which makes it accessible to the low-income community. Sayna has set up partnerships with local employers so that each firm pays the totality of the trainee's fees to recruit him/her after the training period. According to Sayna's CEO,

the very high motivation of these young people, added to their potential in IT, make them very reliable and hard-working employees who become very valuable to future employers.

Sayna's advocacy efforts are driven by its owner and CEO, Matina Razafimahefa. Sayna's ability to contract with big firms and local employers is enabled by the Matina Razafimahefa's personal investment in business development and advocacy for the sector. She believes that Malagasy employers should participate more in the funding and development of the training sector, in particular in the digital and IT sector where the local needs are huge.

To develop relevant and quality training modules, Sayna partnered with internationally-recognized institutions of the IT Training sector. A first partnership was early in 2018 with The Hacking Project –THP (https://www.thehackingproject.org/) which provides low-price basic coding modules with peer-learning methodology and group-based projects. Sayna trained a cohort of 12 students with one coach following the THP method. Another partnership started in early 2019 with Ecole Simplon (https://simplon.co/qui-sommes-nous/) to extend the types of coding and methods provided to the trainees. These two partnerships provide the trainees with coding skills developed in international standards which are demanded by IT companies, and international businesses with IT departments (e.g. banks). The training content is not driven directly by local firms, but the standardization of coding skills ensures a good match with employers' needs.

Sayna enrolment is growing, and the placement of trainees has been very effective in 2018. The first cohorts of students were 36 students in 2018 and will significantly increase in 2019 (Sayna targets 160 trainees over the current year). In January 2019, the first new cohorts included 20 students for the THP track and 20 students for the Simplon track.

Table 3.5. Impact performance of Sayna in 2018: integration of trainees

Cohort	Total number of trainees	Placement in local firms	Others
"Sayna 1"	12 trainees	9 got a job after their training	2 pursue their studies, 1 hired by Sayna (coach)
"Sayna 2"	12 trainees	10 got a job after their training	2 doing projects for Sayna/waiting for jobs
"Sayna 3"	12 trainees	In process	In process

The job placement rate was 80% for the two first cohorts of trainees. In 2018, the training placements were done in local firms like Axian and Star as well as local branches of international corporates like Orange and Maltem.

3.2. Sayna, an early-stage standardized school

Pricing

Free for students. Moderate for employers.

From the start of its activities in 2017, Sayna has built a free access education model in order to maximize the accessibility for low-income trainees. The incoming students do not pay tuition fees to enrol in Sayna and have a number of additional benefits (they are provided with a personal laptop, they have 24 hour access to the school facility). The school funding scheme is based on a business to business model (B2B) in which the Sayna team ask the client, the future employer, to pay a fixed price for the student they will recruit at the end of the training. The portfolio of clients was developed through strong business development efforts led by Matina Razafimahefa. She has done a lot of marketing and advocacy work, with the CEOs of companies but also with middle managers (typically IT systems directors).

Sayna's price can be considered to be moderate for its business clients. According to Matina Razafimahefa, the price charged in 2018 (800€) for one trainee was much lower than the short- and long-term benefits for the companiesy.. In 2019, Sayna increased the price per trainee because:

- They consider the companies have a higher ability to pay;
- Companies acquire valuable and multiple benefits from this recruitment (skilled, highly-motivated workers on the HR side, impactful HR policies which are valuable for CSR, advocacy and communication strategy);
- There is a lack of IT-skilled workers in the local markets and very few schools provide this type of training.

In 2019, there will be a significant strategic shift, as Sayna will broaden its service offer to employers with dedicated learning modules for each customer.

Innovation

Strong. Sayna has developed a very effective training model, in partnership with internationally-recognized institutions. In addition to the business model which is an innovation *per se* in Madagascar, the Sayna project is to transform the skills and employability of Malagasy young people in the IT industry where very few vocational schools can effectively source, train, and place local talent.

The Sayna approach is to use active teaching and group-based projects to offer 3-month intense training for young Malagasy from disadvantaged backgrounds. Sayna was able to develop this teaching thanks to partnerships made with renowned IT schools. The technology is well integrated into this training as the whole training experience is based on computer-assisted or computer–led learning. The nature of training in coding and this reliance on peer-learning enables a significant standardization of the learning track with limited individual supervision.

The training session is followed by a 6-month internship. This is also an innovation since in Madagascar very few schemes of this kind exist. This period of practice brings great value to the training as it enables the students to develop soft skills in a corporate environment as well as further technical skills in coding, to boost their employability.

Growth strategy

Fast. With strengthened implementation skills, Sayna could replicate the model inside and outside Madagascar and achieve fast growth. The school will target 160 students (which is 4x more than in 2018). In 2018, Sayna announced a target of training 10,000 Malagasy digital workers in 5 years. Sayna is also seeking to build new partnerships with education companies (e.g. OpenClassRoom) to increase the number of trainees and courses. However, the scalability of Sayna in a single country is naturally limited by the job placement capacity of the IT industry. Thus, an international expansion constitutes another dimension of strategic growth for Sayna. Some business development has been done in Côte d'Ivoire. Due to the nature of Sayna's core education model (short-term, little equipment required, low supervision), the scalability is high.

Sayna envisions playing a large role in the tech community by providing new services to trainees and local employers. Sayna's growth will thus be based on diversification. In 2019, Sayna will provide local and international firms with consulting services about their impact, and their digital policies which may include a recurrent partnership for sourcing, training, and hiring local talents in IT positions, but also strategic guidance on digital transformation, impactful HR policies, ecosystem leadership and advocacy ("Sayna Advisory"). Finally, Sayna will also help and support young people's entrepreneurship in the tech sector through the implementation and commercialization of group-based projects run by the trainees ("Sayna Seed").

To support and sustain this growth strategy, Sayna will recruit and "industrialize" its processes. Work will be done to rationalize the different functions of the school that were mainly managed by Matina Razafimahefa in 2018. New employees will be trained by the managers (in particular Matina Razafimahefa and her mother Nirina, who joined the school in early 2019). The recruitment will target a teaching director (overseeing training module development and coaching) and a business development officer in charge of facilitating the placement of trainees. The team will also transform the sourcing work, by leveraging technology and standardizing a part of the hiring process.

Sayna will participate in quick fundraising rounds to support this growth strategy. Seed money will be raised with the support of business angels in the short term. Later in the development stage, a series A fundraising could be implemented. This further step could facilitate the reach of new African markets and the investment in new infrastructures. Additional criteria

We consider Sayna a **Standardized** school because the model relies on free access for students and moderate pricing for employers, high innovation and fast-growth strategy. We thus apply the

additional criteria we believe to be appropriate to analyze this type of school: education level, infrastructure management, and accreditation.

Education level

Sayna provides vocational training services in coding. There is no plan to evolve into different education levels.

Infrastructure management

Sayna uses a rental contract for its only facility in Antananarivo.. As it is still a very early stage project, infrastructure management appears not to be a critical component of the business model.

Accreditation

Sayna favours international accreditation due to the nature of its training activity. Indeed, Sayna does not provide a local curriculum which could be certified with the Ministry as its short-term trainingis not in the LMD system. However, the different training tracks in Sayna are recognized and certified by foreign institutions like Ecole Simplon or The Hacking Project which are well known players in the international coding industry.

3.3. Financials and projections

In 2018, Sayna's economic model was supported by financial and in-kind donations. In 2019, the evolution of the business model and the expected growth of activities could enable Sayna to reach break-even.

The entrepreneur

Matina Razafimahefa is a 21-year-old social entrepreneur. She studied Political Sciences at La Sorbonne University in Paris. She founded Sayna in 2017 and aspires to make Madagascar the "Next Digital Eldorado". Matina **Razafimahefa** was awarded the prize of "Social Entrepreneur of the Year" by Organization Internationale de la Francophonie in 2018.

3.4. Conclusions

The Sayna model is unique in the Madagascar context and shows great promise in term of employability and socio-economic integration for local young people. Its key assets in terms of educational impact include the relevance of the training to the needs of local employers, and the quality of partnerships made with reputable coding schools. The training field and teaching approach enable Sayna to use standardized modules and sessions in a cost-effective way, which shows potential for reproducability.

The project is at a very early stage and there are still a number of questions to be answered about the business model. We believe the key dimensions influencing the future of Sayna will be the

management of scaling-up training activities (while maintaining quality. It will also have to deal with its capacity to stabilize and reproduce the business model in very different contexts.

There are success stories in this sector, such as the US-based Andela[182] which has raised 100m$ since 2014 to train and place African talents in top IT companies. These stories show that the potential of standardized schools in IT is important and may attract considerable investment, including from impact investors, once the right positioning is found.

4. Institut Spécialisé en Technologie d'Art Dentaire (ISTD): a Neighborhood school

Organization	**Institut Spécialisé En Technologie D'Art Dentaire (ISTD)**
Location	Fès
Field	Vocational Training (2 or 3-year Technician Degree)
Disciplines	Dental Prosthesis
Student numbers	60 students, 1 site
Annual school fees	About 2000$

4.1. Introduction

ISTD school was established in 2006, it offers dental laboratory technician programs which train technicians to work in dental laboratories, dental clinics, and hospitals. The school is accredited and its legal form is the limited liability company (LLC). It proposes two kinds of programs: a two-year program for dental lab technicians and a three-year program for specialised dental lab technicians. Both programs are accessible to all students with a high school diploma.

The number of students registered has increased from 47 in 2012/13 to 69 in 2018/19, but the school has not yet reached its capacity.

In terms of employability, most students easily find a job within six months after they obtain the diploma. Data on graduates in the 2017/18 academic year show that 13 out of the 25 graduates are currently employees, or self-employed, in dental laboratories or clinics in Morocco, 8 others are on an internship, 4 of them continued their studies abroad.

[182] See https://andela.com/about/ and https://www.jeuneafrique.com/emploi-formation/715540/formation-au-code-andela-recoit-un-financement-de-100-millions-de-dollars/

The school employs 10 teachers, some permanent and some temporary. It also employs 4 administrative staff. Staff represent the largest expense for the school. The school uses specialized equipment and many consumables which is also a big cost.

There are currently about 10 schools offering dental lab technician programs in Morocco, but only half of them are accredited[183]. According to the manager of ISTD, Mrs El Hraiki, the labour market conditions are such that all graduates from those schools are able to find a job. Moreover, ISTD has a good reputation in the field, which allows it to compete with new market entrants.

4.2. ISTD, a model of Neighborhood school

Pricing

Medium pricing. Student fees are 20,000dirhams per year, plus 2,000 dirhams of registration fees. This makes a total fee of about 2,000€. Although it might seem to be a high fee for a country where annual per capita GDP is 3,000€[184], it is much lower than the average fee for private universities in Morocco[185]. Moreover, since the school is accredited, students can apply for a State contribution of 4,000dirhams to enrol. We consider that the training is accessible to the Moroccan lower middle class, especially from the Fès region. According to the manager of ISTD, their students typically come from middle-class families; their father is often an entrepreneur who has an income of between 1,000€ and 1,800€ per month.

Innovation

Limited. ISTD trains dental lab technicians with suitable equipment and motivated teachers. The education model appears to be quite traditional and occurs in a small structure, where students are well supervised. The school has a good reputation, but it competes with other private and public schools offering the same programs. There are several innovations in the profession, especially since 3D printers have started to be used in dentistry. The school thus needs to continuously invest in new equipment to be competitive and offer relevant training for the sector

Growth strategy

Low. ISTD is financially self-sufficient and has no access to external resources to implement extension projects. ISTD would like to develop new programs in the next few years, in order to diversify its offer. In particular, the school would like to propose a new undergraduate programme in partnership with a US-based University and a Master degree in Dental Hygiene. In the longer run,

[183] In the region of Fès-Meknès, there are two private schools (*Institut spécialisé et prothèses dentaires* located in Meknès, *Art' Dent*, located in Fès) and a public school (*OFPPT ISTA Paramédical et Santé branche Prothésiste Dentaire*) who offer the same programs as ISTD, but only ISTD is accredited.

[184] Source: http://pubdocs.worldbank.org/en/909011553672435332/Morocco-MEU-April-2019-Eng.pdf

[185] An average fee of 95,000dirhams per year is indicated here for the programs in dental medicine: https://www.9rayti.com/article/frais-scolarite-facultes-medecine-pharmacie-maroc

the school also aims to build a new campus and to eventually establish a school in a sub-Saharan African country.

One problem with dental prosthesis production is that it can be easily delocalized. This is has already happened in Western Europe, where technicians are expensive and prostheses are sometimes outsourced in developing countries[186]. For now, Morocco is among the developing countries which seem to be known to be advantageous for a dental implant[187], but the situation could easily reverse and the country could quickly change to the other way round. ISTD could try to take rapid advantage of this situation, for example by setting up partnerships with industry players for starting production of dental implants for the European market. At the same time, the diversification of the education offer with the inclusion of training programs for diverse careers in the dental field seems possible.

4.3. Additional criteria

With medium/low pricing, limited innovation potential, and a low growth strategy, we consider ISTD to be a Neighborhood school, and we thus apply the additional criteria we believe appropriate to analyze this type of school.

Education level

The school is in the Tertiary Vocational Education level but plans to provide Higher Education programmes in the future.

Exposure to public sector

ISTD does not receive any direct subsidy from the government, but its students may receive support in the payment of their fees, as mentioned above. The government is also a regulator for the school because it gives the accreditation.

Infrastructure strategy management

ISTD aims to build a campus, probably in another Moroccan town, but this is a long-term project. For now, the school is located in 3 rented apartments.

4.4. Financial and Projections

ISTD creates value with good profitability but is limited by its low capacity to increase enrollment. The growth of ISTD is constrained by the small size of the school.

[186] See for example this article on the situation of dental prostheses in France, which shows that between 10% and 30% of prostheses were imported into France in 2016, mainly from China and Hong-Kong (57%), but also from Morocco (9.8%) and Madagascar (3.7%): https://www.eurodentaire.com/la-situation-preoccupante-de-la-prothese-dentaire-en-france/

[187] See for example : https://www.vivamorocco.com/what-about-medical-tourism-in-morocco/

Entrepreneur

Saloua EL HRAIKI is the Director of ISTD. ISTD was founded in 2006 by her husband who was a professional from this field. Saloua studied law and eventually became a professional of dental sciences when she took over the management of ISTD.

4.5. Conclusions

ISTD offers relevant training at an accessible price and with good employability to dozens of students in a region which provides few employment opportunities for young people. It also participates in the much-needed strengthening of the health sector with qualified human resources. Finally, ISTD has a strong local anchorage and is very aware and committed to social challenges in the Fès region.

However, ISTD appears to be constrained in its capacity to grow and expand. While our estimations of the economic model show a good level of profitability, there is limited scope for increasing the turnover of the school for at least two reasons. First, the entrepreneur does not have access to the long-term funding which would be required to build new facilities and pursue other strategic development projects. Second, ISTD is now positioned in a niche market (dental studies), and could not easily diversify its training without a strong partnership with other academic players.

Therefore, the added value of an impact investor in supporting such a Neighborhood school would be strong but there are also challenges and risks. We believe that in the short-term ISTD is not likely to show sufficient and feasible growth perspective to collaborate with an equity fund. A grant-funding approach and/or small loan associated with non-financial support to the entrepreneur and the school would constitute a good strategy to support and increase ISTD's development and its impact.

5. Practical Education Network (PEN): a teacher training project

Organization	Practical Education Network
Location	Ghana, PEN mainly operates in Greater Accra
Field	In-service teacher training
Disciplines	STEM: science, technology, engineering and mathematics
Student number	About 2,900 teachers trained in 3 years
Cost	Around 78$ for a 6-day training for public school teachers, 114$ for private ones.

5.1. Introduction

PEN is a social enterprise which was started in 2014 with the idea of diffusing an experiential Massachusetts Institute of Technology (MIT) learning approach to children living in contexts where schools normally lack laboratories and equipment to do science experiments, have large class size, and where interactive teaching is not well developed yet. PEN decided to establish in Accra because of the pro-business environment.

PEN engages STEM *(Science, Technology, Engineering, and Mathematics)* teachers in workshops where they can learn how to teach the national curriculum using hands-on science activities which could be created from low-cost material that is available locally. At the end of the workshop, the teacher receives a booklet presenting all the proposed activities, that can thus be replicated in class with the students. PEN sees the teachers as agents of change in STEM learning.

PEN's workshops are mostly aimed at teachers teaching in Junior High School (JHS, grade 7 to 9). Today PEN targets Neighbourhood and Dynamic schools, mainly located in Greater Accra. Up to 2018, PEN had organized 68 workshops and about 2,900 teachers have been trained.

The first workshop was organised in 2014, and after a rapid increase, in 2016 PEN organised 34 workshops spread across Ghana, in collaboration with several NGOs and with the Ghana Education Service (GES). The elections in December 2016 marked an important change for PEN. The new government added the "free SHS" policy to its agenda, and with the idea that education was supposed to be free, any initiative which demanded a financial contribution (even if not paid by

the students) met a lot of resistance. At the same time, a change in the leadership at the GES, made it even more difficult for PEN to spread its activities.

5.2. PEN, a model of teacher training programme

Relation to buyers and beneficiaries

At present, typically PEN's training takes the form of workshops where PEN staff train teachers. Sometimes the workshops are organized in cooperation with third parties, mainly NGOs, and in those cases, PEN shares revenues with them. Between 30 and 70 teachers attend each workshop, usually one per school, but numbers are lower when no partner is involved. Currently, PEN is also testing a new micro-franchise model which consists of setting up a PEN science lab in a school, which can be opened to students from other schools and thus constitute a sort of community hub, to which PEN provides regular training and materials. PEN is refining the model and aims to promote it in the next few years[188].

We consider PEN has a Business to Business to User (B2B2C) model in terms of relation to buyers and teachers because PEN always contracts with the school to train its teachers. Teachers can thus be considered as the final beneficiaries and the schools can be considered as the customers. Public schools are supposed to pay for the training using their capitation grant, that is the general payment public schools receive from the state for their functioning.

Pricing

Mid-price marketing strategy. PEN's training consists of 6 courses: teachers are supposed to attend 6 workshops over a period of 2-3 years and each workshop currently costs on average 66cedis (about 13US$) for public school teachers and 100cedis (about 19US$) for private school teachers. PEN wants the income from workshops to cover the expenditure, but at the same time, it aims to keep the price accessible for public schools and it often charges less to schools which are in financial difficulty. Public JHS receive 4.5GHC[189] per enrolled pupil per year as capitation payment. This means that to pay for an entire training for a STEM teacher the school needs to spend roughly the amount it receives for 88 pupils. This might be a big amount for schools to pay. For this reason, PEN in the past has usually proposed schools 1 or 2 workshops, rather than the entire training. PEN is currently trying to get schools to sign up for the whole training package, which includes follow-up school visits, coaching and recognition awards for top performers.

[188] PEN's ideas and methods are also spread through the step-down trainings that are provided by teachers who have been already trained by PEN. Although PEN does not have clear tracking systems of those trainers' workshops, they were estimated at 45 in 2017.

[189] 1 GHC was equivalent to 0.1649 euros on August 21th 2019.

Innovation

Innovative business. A limited offer of in-service teacher training already exists in Ghana, but what PEN proposes is very different from what others do. PEN aims to introduce simple, hands-on experiments into science classrooms. They view teachers as the best channel to do so. PEN's main innovation is to give teachers, who have no laboratory nor technical equipment, ideas on how experiments can be created using simple and locally available materials. It is worth mentioning that PEN is one of the 8 winners of the 2018 MIT's Solve Class for Teachers and Educators.

Potential for scaling up

Potential for progressive scaling up. The environment in which PEN operates presents several obstacles for the expansion of their activities. Since 2016, the business has been searching for a model which would allow it to be financially sustainable in the long term. One option could be to offer more training to private schools since the latter might be more able to pay for them and are more flexible in the use of their funds. Although this option has not been discarded yet, currently PEN seems to be trying to be more involved in public education (see below).

Projections for the next few years see an increase in the number of workshops from 10 per year in 2019 to about 22 per year in 2023, and an increase in the number of school laboratories from 5 to 13. PEN is also elaborating strategies to allow it to scale up in other countries and to diversify its offer. For example, they plan to produce a science-focused cartoon.

Relation to the public sector

Client, academic partner, and regulator. Since the beginning of its activities, PEN has always made the effort to engage with the government. When training is provided to public schools, the public sector is a client of PEN. Also, all training materials proposed by PEN are designed to align with the national curriculum, so as to be best adopted.

PEN's engagement with the public sector is expected to increase in the next years. Currently, Ghana is involved in a comprehensive reform of curricula for basic and SHS school and PEN has a seat on the Science Panel, which is revising the science curriculum for primary school. Moreover, PEN is working with GES in preparing the nation-wide training of science teachers on the new curriculum. Finally, PEN hopes to be involved in the organization of the regular in-service teaching training for STEM teachers which could become compulsory soon according to the wishes of the NTC (National Teaching Council).

Entrepreneur

Heather Beem is the founder and CEO. She has a PhD from MIT in Mechanical Engineering. She also teaches Engineering at Ashesi University.

5.3. Financial and Projections

PEN's income statements for the period 2014-2018 show that turnover rapidly increased at the beginning of the activity, suddenly decreased in 2017, and then started gradually rising again the year after. This trend can be explained by the difficulties encountered in 2017 after the national election and its consequences on secondary education, as described above.

In terms of expenditure, the rapid increase seen in the data for the first 3 years of activity can be mainly explained by the increase in the number of workshops PEN organised. At the same time, the company was growing, so general and administrative expenditure increased as well. In 2014, there was only one staff member and two volunteers, in 2015 3 part-time master trainers were recruited and three more staff were recruited in 2017. That year, despite the drop in the number of workshops, the amount of general and administrative expenditures remained stable, thus explaining the big loss of net income for 2017.

In the period 2014-2018, PEN received several grants. A total amount of 67,400 US$ that allowed the company to cover the loss and to constitute a reserve to continue operations. It will also allow PEN to plan investments for future years.

Table 3.6. Key financial indicators – PEN

In US dollars	2014	2015	2016	2017	2018
Turnover	0	1,507	16,119	1,613	3,722
Grants received		4,000	6,000	22,400	35,000
Expenditure	724	2,224	22,521	10,790	9,722
% General and administrative expenditures / total expenditure	44%	26.3%	62%	93%	84%
Net income without grants	(724)	(716)	(6,402)	(9,176)	(6,000)
Net income including grants	(724)	3,283	(402)	13,223	29,000
Number of workshops organised	1 (pilot)	17	34	8 direct et 45 indirect (trainer-led)	10

Source: PEN's income statements. Original data in GHC, have been converted to US dollars by the authors (exchange rate at April 30th, 2019).

Since 2017, PEN has been refining a strategy which would allow them to reach financial sustainability. At the same time, they are perfectly aware that it is extremely difficult for a company aiming to work with public schools to be viable without grants.

PEN is planning an increase in general and administrative expenditures from 2019 because the company has finally invested in infrastructure (i.e. an office space) and in a vehicle. Moreover, the company has just hired a new operations manager.

Breakeven calculations show that a total of 875 workshops and 631 science labs schools should be organized between 2019 and 2023 to balance total costs with total income, while the latest internal forecast has only 77 workshops and 45 science labs in the period.

For the period 2019-2023 PEN plans to have a deficit of about 23,000US$ per year. The deficit is planned to be higher at the beginning of this period (about 27,300US$) and to decrease over time to less than 20,000US€ in 2023. PEN plans to cover the losses by asking for new grants, creating partnerships with local companies, and above all, they hope to win a tender for the government.

5.4. Conclusions

PEN aims to improve the quality of teaching and learning experience in science, thus contributing to changing the negative perceptions students often have about it. PEN may have a positive and long-term impact on the enrolment rate in scientific and technical programs, which is very low in Ghana. PEN's mission is well aligned with the government strategy of increasing the percentage of young people pursuing scientific studies.

In terms of social impact, **PEN is concerned about reaching the maximum of teachers, mainly in the public schools, thus promoting equitable access to good teachers and quality education.** At the same time, the economic model of PEN is not sustainable and requires additional grants or other sources of funding to reach break-even.

A traditional impact investor could not be expected to invest in PEN's current model. However, support with grant-funding as well as additional non-financial support to improve the strategy and strengthen the revenues would be an impactful investment for PEN and its ecosystem, including the public sector. This example shows that an impact investment project should incorporate diverse instruments which may benefit social enterprises that are looking for financial sustainability or/and independence from grant-funders.

6. Etudesk: an early-stage education technology company

Organization	Etudesk
Location	Abidjan, Cote d'Ivoire
Field	E-learning
Disciplines	Finance and Accounting, Marketing, Human Resources, Sales, Management and Communication
Student numbers	About 8,000 learners (as of 2019)
Price	Around 200$ for a 2-3 month training

6.1. Introduction

Etudesk is a startup which currently offers short online training programs, highly business-oriented, to young francophone Africans. It currently proposes short training courses in Finance and Accounting, Marketing, Human Resources, Sales, Management and Communication.

The company was established in 2016 with the objective of becoming the "University of Businesses". The founding idea is to develop training programs with businesses and offer them on a learning platform. At the origin of Etudesk there was the recognition that a mismatch exists between the traditional programs offered in Cote d'Ivoire and the skills demanded in the labour market.

The original Etudesk model consisted of short online course provision (between 2 and 10 hours), in full autonomy and with no coach or teacher, and the platform still offers about 40 courses responding to this model. Although the company was able to reach about 8,000 learners in a few years, it quickly realized that the short MOOCs format does not work well for the Ivorian market, where students appear to be reluctant to study in complete autonomy. So Etudesk recently decided to move towards longer training (2 or 3 months) in which learners not only have access to several practical training modules on specific job-related contents but are also accompanied by a mentor throughout the entire course. Interactions with the mentor always take place on the platform.

The choice of the programs to offer is demand-driven: Etudesk conducts market research with companies and job seekers to identify their needs. According to the CEO of the company, the most demanded jobs in Cote d'Ivoire are in sales, logistics, finance and in web and app development. Since there is a lot of competition in web and app development[190], Etudesk decided to launch its first longer training programs in sales, project management, and corporate finance.

When businesses approach Etudesk to put a course in place for their employees, they often provide their own instructors. Sometimes the company needs to find external consultants as instructors, these are usually paid with revenue sharing contracts. Etudesk recently encountered some difficulties in finding Ivoirian experts in some fields, for example in project management.

Etudesk is not currently able to provide any certifications to learners, so the value of their programs is only given by the credibility of the partner businesses. For this reason, the company tries to associate with mainly large businesses including branches of international companies.

A recent survey of Etudesk users shows that they are on average 27 years old, most of them are trainees or recently-employed persons and 23% of them are women. In terms of nationality, only 58% of learners are from Cote d'Ivoire. 12.9% are from Cameroon, 9.8% from Senegal, 4.5% from Benin and 3.4% from Morocco. These percentages indicate that Etudesk is already spreading to other francophone countries[191].

Today 9 people work for Etudesk. Lamine Barro is the founder and CEO of the company. He is accompanied by an educational content manager, a technical manager, a content manager, a multimedia project manager, a marketing manager, an administrative and financial manager and two trainees.

6.2. Etudesk, a model of an education technology company

Relation to customers and beneficiaries

Etudesk sells its training programs to both individuals and businesses. As described above, the main initial strategy of the enterprise was to deliver training to individuals, in a **Business to Customer Model (B2C)**, where the clients are also the final users of the courses. With this configuration, Etudesk mainly targets three types of customers: (i) graduates and students wanting to prepare for a more successful job insertion or wanting to reinforce their theoretical knowledge with business-oriented courses; (ii) job seekers who want to acquire new skills.; (iii) workers, employers and entrepreneurs, who want to develop their skills (in a more flexible format for employees, with tracking for their employers, and at a lower cost).

[190] Several free courses on web and app development are available online. Moreover, on this subject, Etudesk is in competition with Edacy, a company which proposes 9-months training (3 months specialisation on line and 6 months of work-learning) in web development, mobile development and data science, both in Senegal and Cote d'Ivoire, as well as with Open Classrooms (French), a significant player in West Africa.

[191] The enterprise mostly uses mobile money and credit cards as payment methods. This makes it easier to sell its services abroad (e.g. Cameroon and Gabon).

Recently, the strategic shift is leading Etudesk toward a **Business to Business to Customer (B2B2C)** model, where the clients are big businesses and the students are their employees. Etudesk currently sells 70% of its programs to businesses.

Pricing

Low-price positioning. The price of shorter courses (between 2 and 10 hours) ranges from 3.5U$ to 35US$. This low price makes them accessible even to lower-income classes. The cost of the newly-designed programs is around 200US$. The new offer is not expected to change significantly the typical socio-economic profile of learners, although it might be more difficult for low-income users to afford this new price.

Innovation

Innovative. Etudesk is the first platform proposing low-price online training programs in Cote d'Ivoire. Direct and indirect competitors seem to be more expensive. The direct competitors in Côte d'Ivoire are Educatel Cote d'Ivoire and CED-CI (Centre d'Education à Distance), but both seem not to be active at the moment. There are more indirect competitors, the training and recruiting firms who offer face-to-face training[192]. A market study by Comoé Capital found that the average price of a face-to-face training course in Cote d'Ivoire is about 250US$. The main direct competitors are the international platforms which are accessible from Cote d'Ivoire (e.g. Coursera, Edx, Udacity, Udemy, OpenClassroom) who offer online training. OpenClassroom is the only one that offers courses in French, and can thus be considered the most important direct competitor. An OpenClassroom training course can last from 3 to 16 months and prices range from 330US$ to 560US$ per month[193].

We see Etudesk as innovative in two senses. First, in the low price of training that can allow the company to reach a wide range of beneficiaries in the local education system and job markets such as students, job seekers and employees. Second, the collaboration with employers, because most of their programmes are proposed and designed in coordination with the companies themselves thus ensuring the relevance of the training offered in the local context.

In addition, Etudesk is seeking through its new strategy to increase its knowledge of skilled worker availability on local job markets and facilitate job placement after they attend and complete one of Etudesk's training courses. With such positioning in both training and job placement (which are usually done by recruitment agencies), Etudesk could gain an important strategic value to a local employer in a diversity of sectors.

Potential for scaling up

[192] There are many training and recruiting firms in Cote d'Ivoire. COMOE Capital market research identified three main training and recruiting firms: Maison Chefs d'Entreprise, CIFIP and RMO, which have an increasing demand for their services, that are offered to both individuals and businesses. As indicated in the section on Cote d'Ivoire, businesses can benefit from the resources of the FDFP to train their employees.

[193] OpenClassroom also helps people to search for enterprises that are available to pay for training.

Progressive. The initial short program was hard to make financially sustainable because it required a huge number of learners to be profitable.

By the end of 2019, Etudesk aims to be able to sell at least 10 long training programs. They also aim to establish partnerships with businesses operating in Cameroon, Senegal, Mali, Gabon and Guinee to be able to better sell their services in those countries.

Etudesk also look at opportunities of launchingan income sharing system which could be increase accessibility of the trainings.

Relation to the public sector

No relation for now. No authorization is needed in order to sell on-line training programs and their contents are not verified by regulation authorities (Ministry of education) since no formal certification is required. The management is willing to obtain accreditation from the FDFP ("Fonds de Développement de la Formation Professionnelle), the public organization in charge of funding the public vocational centres with the revenues collected by the fiscal authorities ("taxe professionnelle"). Such accreditation could permit Etudesk to offer its services to local companies with public funding. In 2020, Etudesk will seek to work with the Ministry of Education to obtain a certification of its training.

The Entrepreneur

Lamine Barro is the founder and CEO and the Lead Developer of Etudesk. After an undergraduate degree in Biology, he developed many professional websites and apps for companies in Côte d'Ivoire, before creating his own businesses. He is also a graduate of the Founder Institute.

6.3. Financials and Projections

Etudesk a still young start-up and is progressively advancing toward economic sustainability.

6.4. Conclusions

Etudesk is a start-up seeking to provide students, job-seekers, and employees with affordable and relevant training through e-learning modules. Etudesk is trying to find the right strategy in order to be financially sustainable and to differentiate from current models in education technology. It is too early to say if it will be successful in finding a way to become significant in the Ivorian and, more generally, in the francophone African market. A seed funding in equity such as the investment made by Comoé capital in 2018 seems most suited to this profile of risk but with unclear perspectives on exits and returns. We also believe that beyond an investment, the non-financial support of an impact investor (strategic guidance, TA, networking) is essential to help Etudesk to find its way in this early-stage development.

Part 4

A mapping of private investments in education

In the previous sections, we have described the role and contribution of private sector players in the African education system, which is considered as the demand-side of the education financing sector. This section aims to better understand the current state of the education financing sector by looking at the supply side of investments (i.e. the types of investors and transactions made in recent years). To do so, we present an overview of investments in private education providers from 2012 to 2019.

1. Introduction and objectives

This section aims to provide information and analysis about the investment ecosystem targeting private education in Africa. By zooming in on the supply of education financing, this mapping of investments was conducted in order to answer a series of key questions:

What organizations have invested in the education sector recently? Under what strategy?

What types of educational institutions received these investments?

What regions and education segments are the most and least attractive and dynamic?

Which investors could be considered as impact investors?

Which organizations are funding these investors? With what financial and/or impact objectives?

This section seeks to build a comprehensive and detailed overview of the education investment ecosystem in Africa and to assess the strategies used by investors to support educational institutions. We build upon this mapping work to present several trends about these investment markets and to provide key lessons for the design and positioning of a new impact fund dedicated to education.

2. Mapping methodology

This section details the methodology used for building this mapping. The investor listing and transactions details can be directly requested from the authors.

Mapping scope

The mapping work aimed to encompass most investment operations on the African continent, from 2012 to 2019. All African countries are included in this research, although the sources and information available to the authors have limited the work to nearly 20 African countries.

The transactions tracked in the database are equity and senior debt investments in education providers as well as in ancillary activities (education technology, teacher training, publishing companies, student finance). The mapping also tracked grant-based funding when it is provided as

a complementary component of investment (e.g. Technical Assistance) although related information is generally scarce.

All investors can be integrated into the database, excepting local and national governments which may invest in education operators and activities through different kinds of funding (e.g. subsidies, infrastructure).

Mapping indicators

In order to get as much information as possible on these investors and their interventions, the mapping of investments collects data and information on 6 different categories with 45 indicators and criteria.

Table 4.1. Investment Mapping and Data Clusters

Data cluster #	Typical indicators include…
1. **Organization**	Organization type, home country
2. **Investment Strategy**	Investor type, maturity, education segment, countries, investees
3. **Financial Performance**	Deal size, financial returns expected/achieved
4. **Funders & fundraising**	Fundraising status, vehicle type, investors
5. **ESG/Impact policy**	Impact policy, impact goals, indicators, certification
6. **Human resources**	Number of staff in Africa, location of offices

Several analyses and trends are drawn from the aggregated data, based upon these different types of information.

Mapping sources

The mapping is based on a diversity of sources that includes:

- Industry data (EMPEA and GIIN databases)
- Grey literature / secondary data (Dalberg 2013, 2015 ; Caerus, 2017)
- Generalist and Specialized News screening (Africa capital digest, PE Africa, Google News)

These sources have different interest and focus on African countries. Most sources are fed or produced by Anglo-Saxon organizations and/or Anglophone players. As a consequence, we recognize that insufficient data is available on Francophone and Lusophone African countries. However, additional data has been collected through the field studies implemented for this study.

We accept that our sources may track big transactions more effectively than small transactions, which makes the database less reliable as far as transactions lower than 2-3mUS$ are concerned.

3. Emerging trends in the education financing sector

In this sub-section, we provide analysis and trends that emerge from the overview of education investments.

3.1. A diversity of investors and strategies

Nearly 80 investors have invested 2 billion dollars in the private education sector in Africa since 2012. The mapping shows that 1,750 million dollars were invested in education companies from 2012 to 2018. These education companies are in different education levels and activities[194]: preprimary education, low-price K12[195,] mid-price and premium K12, vocational training, contact higher education, distance higher education, other education technologies, student and institutional finance, other ecosystem activities. The mapping is able to track investments in 25 different countries, so it is likely that the total amount of investment exceeds 1.8 billion dollars.

There is a wide range of investors and strategies that are active in the African education space. The mapping shows the diversity of players, transactions, and strategies. The geographical origin of these players is very diverse, but there is a majority of Anglo-Saxon players as shown by Figure 4.1.

Figure 4.1. Education investors by home countries

A relevant criterion that could be used for grouping these 80 investors is the economic sector/field of each organization. As shown by Table 2, there are 4 main categories of sector: financing industry,

[194] These categories were used in the Caerus Report (Caerus, 2017).

[195] K12 refers to the primary and secondary levels. In this section, low-price K12 refers to the education supply targeting low-income populations and whose tuitions fees typically do not exceed 600$ per year (with country-specific variations). Conversely, mid-price and premium education refer to education providers targeting middle class and high-income populations, and whose tuition fees exceed 600$ per year (Caerus, 2017, p87).

philanthropy, education sector, public or multilateral sector. Each investor can be assigned to one of these categories, as well as the aggregated funding invested by these categories.

Table 4.2. Types of investors active in Africa

Types of investors	Definition
1. Financial investors	Professional investors belonging to the financing industry. Typically: commercial funds, impact funds
2. Strategic investors	Independent players from the education sector, or financial players specialized in the education sector.
3. Public investors	Public and para-public organizations whose mandate is to provide financing to private-sector organizations. Typically: development finance institutions.
4. Philanthropic investors	Philanthropic organizations which have legal and operational capacity to invest in private-sector organizations.

Financial investors are the most widespread type of investors in the education financing sector. The database includes 41 investors in this category. These financial investors have invested nearly 990mUS$. Beyond the fact that they all are professional investors from the financial industry, they are very different types of investors, pursuing a wide range of investment, and impact, strategies. We foundprivate equity funds that are specialized in emerging markets and that pursue a commercial (finance-first) strategy, through a generalist approach. For instance, this includes Development Partners International (DPI) or Emerging Capital Partners (ECP). We also find impact investors, such as Omidyar Network, who have invested in several education companies in West and East Africa. These investors have invested in projects with different maturity and risks (from seed capital to venture capital to growth investments) as well as on specific projects (e.g. infrastructure financing). Financial investors include many players with a pan-African approach (e.g. Actis), or with a strong national anchorage (e.g. Comoé Capital in Côte d'Ivoire).

Strategic investors are significant players in the education financing sector. A dozen players correspond to this category. Together they have invested around 460mUS$. They are generally education businesses that are big enough to make direct investments in other companies (for example Galileo-Studialis, a global private education group, investing in higher education institutions in West Africa). We may also find specialized investment funds that were created to invest in the sector as well as strategic investment funds backed by global education businesses. For example, the Pearson Affordable Learning Fund is an investment fund that was financed by the global publishing company Pearson. Again, these players have a diversity of strategies, but they tend to follow an education-focused commercial approach, and there is a geographical concentration in East Africa and in South Africa.

There are few non-African public investors active in the education financing sector. They mainly are European and multilateral development finance organizations such as the UK-based

CDC or the International Financial Corporation (IFC). These players may operate with both impact- and finance-first strategies, with most of their investments in infrastructure, agriculture and services. The DFIs tend to manage substantial funds, of which only a small part goes to education. We count nearly 180mUS$ invested by these public investors, who tend to make investments which range from 5 to 20mUS$.

Philanthropic investors are active in the education financing sector and pursue impact strategies. Most of these players are US-based foundations which have funded education projects and companies following a specific impact goal (e.g. provide affordable education with a new model of blended education in East Africa). The Gates Foundation and the Ford Foundation are two organizations that have historically been active in the sector and that may sponsor and fund private education companies. The Chan & Zuckerberg Initiative is a new player in the sector and was involved in the funding of Bridge Academies. Other foundations, like IDP Foundation, develop education-dedicated programmes that provide financing to private schools, as a microfinance player. We estimate that nearly 70mUS$ was invested by these organizations.

3.2. A geographic overview of education investors

The mapping shows that investments were made in 25 countries from all the sub-regions of the African continent, with an unequal spread. The allocation of investment amounts by African sub-regions is given in Chart 2.

Education investors are most active in Anglophone African countries, especially in South Africa and Kenya. Most education investors target their activities in specific sub-regions. We found that nearly 80% of education investments were made in Anglophone countries. Southern Africa is the most attractive subregion, with investments of nearly 600mUS$. The large majority of this volume was invested in South Africa, which is the most dynamic market for education investors. East Africa is another very dynamic sub-region with 325mUS$ invested. Kenya appears to be a very attractive market in this sub-region (nearly 30 investors are active in Kenya). The mapping work could not track significant education investments in the Indian Ocean (e.g. Madagascar) nor in Central Africa, probably due to data limitation in this sub-region.

North Africa has attracted a large amount of education investments, but with a limited number of transactions. The mapping shows that more than 415mUS$ were invested in North Africa in education companies. We observed that most transactions in North Africa correspond to big operations in the higher education segment, that can reach 50mUS$ to 100mUS$. Morocco and Egypt are two very dynamic markets for these big transactions, which were done by a few players.

Despite a significant economic dynamism, Francophone Western Africa lags behind North Africa, East and Southern Africa in the educational investment. 300mUS$ were invested in Western Africa, this investment was mainly concentrated in two Anglophone countries, Nigeria and

Ghana, where 10 to 15 education investors are active. Very few transactions could be tracked in the Francophone West African countries.

Figure 4.2. Geographic Spread of Education Investments in Africa

These geographic trends are closely aligned with the general landscape of private equity in Africa. The total investments made by PE firms on the continent were worth 24.4bUS$ between 2012 and 2017, invested in many sectors such as health care, agribusiness, industries and

education[196]. This suggests that education investments are only 8% of this total value over the period. In West Africa, Nigeria accounted for 73% of the 10bUS$ registered. Kenya is ranked as the second most attractive country after Nigeria and accounted for 60% of total PE investment in Eastern Africa[197].

3.3. Investments in different education segments

The mapping shows that the investments were spread across the different education levels and ancillary activities. The different segments and activities attract different investors and strategies.

A substantial part of education investment was made in higher education. As shown in Chart 3, traditional higher education is the most attractive segment with an average investment of 40mUS$ and more than 600mUS$ invested in total. These transactions tend to include the acquisition of large infrastructures (campus, student housing) and of well-known universities. A significant number of these deals were made in North Africa and in South Africa. Active investors in higher education include ECP, DPI, Africa Integras and Actis. Some big transactions should be noted. Université de Casablanca was acquired in 2017 by Holding Pédagogique (DPI) for 56mUS$. Africa Integras (The Christie Company) will undertake the extension of the University of Ghana for 64mUS$.

K12 education is the most dynamic market when we consider low-price and premium education combined. K12 education received around 700mUS$ and constitutes the most attractive segment in the database. Nearly 500m$ was invested in mid-price and premium K12 education, with an average investment of 6mUS$. Typical investors in this segment include AfricInvest, Centum, Curro, ADvTech and IFC. We find low-price K12 education to be a dynamic segment with nearly 200mUS$ invested in total, and an average transaction size of between 5 and 10 mUS$. These investments are mainly concentrated in the East and Southern African zones, with a significant number of deals in South Africa and Kenya. Typical investors for low-price education include DFIs (IFC, DFID) and impact investors (Omidyar Network, Pearson).

Other education cycles like vocational training and early childhood development appear to be much less targeted by investors. The database indicates that around 100mUS$ were invested in TVET, but the data show a very limited number of deals which makes the calculation of average transaction size difficult. Typical investors in TVET include Echoing Green, TLCom, Actis and Learn Capital. ECD has nearly 50mUS$ of investments, with an average transaction below 5mUS$.

Ancillary activities appear to constitute an emerging sector for investing, with an increasing number of small transactions. This includes several transactions in education technologies, ecosystem activities (publishing for instance) and student and institutional finance. The average

[196] https://www.dlapiper.com/en/southafrica/insights/publications/2018/11/africa-connected-doing-business-in-africa/private-equity-as-a-catalyst-for-growth-in-africa/

[197] https://www.avca-africa.org/media/1634/avca-eastafrica-spotlight-public-sheets-161117c.pdf

transaction size for these segments is below 1-2mUS$ and generally concerns early-stage companies. Some tech companies are fast-growing ventures that are financed by the venture capital industry, while other activities are supported by traditional and impact investors. E-learning models in higher education have attracted nearly 20mUS$. The biggest transaction was the fundraising for the e-learning business UNICAF, in which CDC, University Ventures and Savannah Fund invested for a total of 12mUS$. Education technology is another fast-growing segment, with around 45 transactions and big investors such as Injini, Future Learn (PSG Fund) and Village Capital.

Figure 4.3. Education investment volume and average transaction size, by segment

3.4. Some insights on exits, valuation, and profitability

As the strategic interest of private equity investors in African private education is quite recent, the number of exits, as well as available information on transactions, is still quite scarce. To our knowledge, most exits with institutional investors were realized in two education levels: higher education and K12.

Transactions in higher education

Since 2015, big private universities have been acquired by some of the major private equity players of the continent:

- In 2017, the UK-based **Actis** built up its pan-African Higher Education platform, **Honoris United Universities**, which acquired 7 HE institutions with 27,000 students, both in Northern and Southern Africa. The platform owns and manages the MANCOSA University (South Africa), the Ecole d'Architecture de Casablanca, the Université Mundiapolis (Morocco), and the Université Centrale (Tunisia). Mundiapolis is based in Casablanca. It has a strong international profile with 21 international degree programs attracting over 30% of students from a range of foreign countries. Actis acquired Mundiapolis for an estimated 100mUs$.

- **Emerging Capital Partners** backs the education-focused Maarifa fund which invested in Zambia and Uganda, typically in institutions with an EBITDA of 2 to 5mUS$. According to a Maarifa manager, typical valuations in the sector are a multiple of 7x to 8x EBITDA.
- **Mediterranean Capital,** in conjunction with **Development Partners International,** acquired the KMR Holding Pédagogique, a leading HE platform in Morocco and Senegal (7,500 students). KMR owns the Université International de Casablanca (UIC) and the Université Internationale de Marrakech (UIM).

Transactions in K12 education

In Kenya, several significant deals and exits have been made in recent years and show a growing appetite of investors, not only for premium and international education models but also for mid-price models.

- **Brookhouse Schools** (Premium and international K12): invested in 2010 by Africinvest and exited in 2015 to UK-based education-focused Educas. Africinvest was a part of a consortium which owned 75% of the school network. Africinvest sold its 30% shares for 9.8mUS$ (1 billion KES at this date) and achieved a multiple of 3x on its investment.
- **Hillcrest (Premium K12)**: invested in 2011 by Fanisi Capital and exited in 2015 to the Dubai-based GEMS Education. The 2015 deal was estimated at 25mUS$.
- **Makini Schools** (Mid-price K12, 3,200 students) was invested in 2018 by Caerus Capital (US), Scholé (UK) and ADvTEch (SA). The consortium bought 71% of shares with a total investment of nearly 9mUS$.
- Early 2019, **Riara School** (mid-price K12, 6 schools, 12mUS$ revenues) was partially acquired by the Swedish holding Actus for 7mUS$, with additional fundraising to 15mUS$.

3.5. Impact strategies in the education financing sector

The majority of education investors do not operate as impact investors. The database shows that only 20 investors, which is nearly 25% of investors, could be considered as impact investors. That means that 25% of investors declare that they pursue a clear impact strategy, with defined and precise impact goals. However, only 10 investors effectively track and report publicly their impact performance against impact goals, on an annual basis. We can assume that only a minority of investors operate as impact investors in the region.

Education impact strategies are diverse. Impact investors seem to pursue different impact goals in the financing sector. We found at least four categories of impact strategies in education:

a. Support affordable education
b. Enhance quality education and learning
c. Support relevance of higher education and TVET
d. Build an effective ecosystem around education

These impact strategies are different in different countries and in education segments. For instance, affordable education was pursued by impact investors in the low-price basic education segment, while quality of learning was pursued in the premium education sector. Effective ecosystem financing is an impact goal which tends to be associated with impact investors active in the ancillary services.

We observe that impact metrics are generally more focused on input and output levels, but less frequently on the outcome and long-term effects on education systems. Many impact investors report the number of learners, facilities built, and other easy-to-track data. Many fewer investors are able to report on how well their investees did in terms of effective learning or professional insertion of graduates. Impact evaluations in this sector are limited to short-term quantitative outputs but give much less information on the long term. Two reasons may explain this statement. First, most impact investors have started their activities in recent years, and it is probably too soon to consider the long-term effects of investments. Secondly, robust impact evaluations on long-term effects are very costly and are generally not funded by investment funds. Partnerships with funders and academic institutions would be necessary to fill this gap.

3.6. Funding features of the investors in the education sector

Education investors are supported by a variety of funders, pursuing very different interests. Our database aims to track the identity and category of the funders that finance the education investors. This data is much more complex to access[198], and the emerging lessons to this regard are still unclear. To our knowledge, there are four types of funders that finance education investors:

a. Development Finance Institutions and other public actors
b. Private players, including funds of funds
c. Foundations and High Net Worth Individuals (HNWIs)
d. Other diverse players (e.g. banks, listed companies, consortiums)

Most education impact investors are funded by DFIs, public actors, by Foundations, and by HNWIs. We observe that these two categories of funders tend to support impact strategies in the education space. However, these funders can still have different orientations and expectations in terms of financial returns. Some DFIs have market returns expectations and are close to the investor profiles operating in the private equity industry. Other public investors expect much lower financial returns and may follow riskier strategies to operate in the education sector. Some of these funders are focused on early-stage companies and are interested in financing Venture Capital investors. Foundations and other philanthropic players have very different returns expectations and are more active in the impact-only space. Overall, this means that education businesses may encounter a diversity of funders in the education space, and may struggle to achieve interest alignment in terms of financial returns and impact objectives.

[198] The trends we draw in this sub-section account for only 50% of investors and 30% of the volume invested and tracked in the database.

Private players and funds of funds are significant players in the education financing sector. They may include large-scale independent investment funds, domestic pension funds, and family funds. These organizations tend to support traditional commercial investors that pursue finance-first strategies in education. This is also true for the other diverse players which fund education investors. Some are listed-companies (e.g. ADvTECH in South Africa), others are industry players. Some funders have specific vehicles to invest in the sector (e.g. education holdings, JV, SPV)

All these funders may take part in initiatives with very diverse sizes of fundraising. Chart 4 shows that around 20 investors have raised more than 80mUS$ to invest in education, while a dozen of them have raised less than 50mUS$. This diversity of fundraising emphasizes the diversity of models to invest in education, ranging from pan-African funds investing in big education ventures to small-scale investors with the capacity to support early-stage projects.

Figure 4. Number of education investors, by size of fundraising

3.7. A snapshot of three education-dedicated investment vehicles

The database enables the mapping to zoom in on specific players in order to understand their approach to the education sector. We identy Fig 4.5 three players with different investment strategies.

Figure 4.5. 3 education-dedicated investment programmes or funds

Programmes/funds	School and Education Investment Fund (Old Mutual)	Pearson Affordable Learning Fund (Pearson)	Omidyar Network
Description	A vehicle launched in 2011 to support K12 education in South Africa by the financial group Old Mutual.	The vehicle has been backed by the UK-based global publisher Pearson since 2014	Has operated as an impact investor in the education sector since 2009
Financing	100mUS$ fund, financed by public and private pension funds	50m$ raised in 2015 from own resources	N/A
Strategy	Funds the development of school infrastructure in a 17 -year investment horizon, targeting « commercially acceptable returns ».	Supports the growth of education providers in Anglophone countries (SA, Kenya, Ghana, India) with equity investments up to 2mUS$ and with a « patient capital approach »	Support to affordable education across Africa. Mostly in Anglophone countries. VC model with equity investments from 1 to 4mUS$. Also invests through funds.
Target	Low-price and mid-price K12 education providers	Low-price/affordable education (core & ancillary operators)	Supports K12 innovative school models as well as K12 edtech and online/blended vocational training
Portfolio	7 investments to date (24 schools & 16K students). e.g: Meridian	9 investments representing 20mUS$. e.g. Bridge, Omega Schools, Lekki Peninsula Schools, CTI	11 investments in Africa. e.g. African Leadership University, Andela, Bridge, Spark shools, Siyavula
Impact reporting	Some information available but no access to full reporting	Do not disclose impact reporting	Do not disclose impact reporting

3.8. Education-focused initiatives will flourish in the next years

At the time of writing the study, several education-focused financing projects are emerging, in particular in the impact investing sector.

Along with I&P, other significant players in Africa's landscape of SME financing and private equity have said they are launching education dedicated initiatives. Acumen will launch an education impact fund targeting higher education and vocational institutions in East Africa. Other private equity professionals will build on their experience in DFIs or incubators to launch education-focused initiatives mainly in Anglophone Africa (Mavna Cap, The future of Learning Fund).

Other institutional investors such as the African Development Bank are seeking to develop education funds and cover a wide spectrum of needs and areas in Africa. In addition to such type of initiatives, more and more players have launched impact strategies dedicated to employability and skills-training, with the aim of increasing their exposure to African educational institutions.

4. Key lessons from the education investment mapping

We may draw a few emerging trends from the analysis of the education investing ecosystem in Africa. Five general trends may be observed to respond to the general questions that were proposed in the introduction of this section.

1. There is a wide diversity of investors and investment opportunities in all education segments.

Education investors are a diversity of organizations, with different approaches and strategies to the sector. **Financial investors** are very active investors and include both commercial investors and impact investors, for a total amount invested of 1 billion US$. Many of them invest with a regional approach to big transactions. **Strategic investors,** financed by industry players, are significant funds with education-dedicated strategies and with a total amount invested of 350mUS$. **DFIs and other public investors** are not numerous but invest significant amounts in the sector through a generalist approach (around 200mUS$). Lastly, **philanthropic investors** play a role in financing impact-oriented projects and early-stage companies. They have invested around 70mUS$ in education.

The mapping shows a diversity of investment types across the regions and the education cycles. Despite a very unequal distribution of transactions on the continent, there are significant opportunities in core education provision as well in ancillary activities.

Basic education and higher education providers have attracted a substantial part of the transactions and investment volumes. While the financing of universities and higher education infrastructures in North and Southern Africa are well illustrated in this database, we also observed a real dynamism in Anglophone markets to finance private education providers in the primary and secondary levels. The large transactions in these sectors attract private equity investors who typically target up to 25% of net returns.

Although fewer transactions were tracked in **TVET and pre-primary education**, there seems to be an increasing number of early-stage projects in these cycles, as is shown in our field report section. Finally, **ancillary activities** are also a vibrant sector where we see numerous transactions, especially in the education technology businesses. **Venture capital-style transactions seem to flourish**, in particular in vocational and job placements services where some success stories like Andela have brought high attention to the sector.

2. Francophone Africa seems to be under-served by education investors

As nearly **80% of investments were made in Anglophone African countries**, other regions like Lusophone African and Francophone African countries appear far less attractive to investors. While other sections in this report explored structural challenges and constraints that may restrain investors' appetites in these sub-regions, our mapping study shows that the prevalence of Anglo-Saxon investors in this sector does not favour the development of an education financing sector in non-Anglophone areas.

In Western Africa for instance, education investors have actively invested in Nigeria and Ghana, while very few transactions are observed in neighbouring Francophone countries. In fact, education investors with systematic activity in Francophone countries are very scarce (I&P and its local fund partners are one of them). The geographic gap is partly explained by the **entry barriers** to the area for Anglophone education investors based in Kenya or South Africa (linguistic, institutional, political and cultural challenges), and by the reluctance of certain investors to support them in expanding in Francophone or Lusophone countries.

We believe traditional and impact investments will increase quite strongly in the next years across the continent, in particular but not only in Anglophone Africa, as we see emerging initiatives (education funds, strategic shifts for foundations, renewed interest of DFIs, "Africa Tech" narrative) targeting the education and training sector and its financing.

3. There could be a missing middle in the education financing sector... and a missing bottom?

The mapping shows that a majority of investments exceed 5mUS$, in particular in core education provision where growth strategies are predominant. Very few transactions could be tracked in the 1-5mUS$ segment. While missing data is likely to limit the overview of the sector, the hypothesis of a **missing middle** should be carefully examined. The role of local banks is not assessed in this mapping but may constitute a source of financing for mature education businesses. However, very few investment funds seem to be active for this size of transaction. Closer examination of the needs of education businesses could lead to confirming the missing middle hypothesis.

The hypothesis of a **"missing bottom"** is also of interest in this overview. Most transactions below 1mUS$ are in the ancillary sector, and very few investments of this size in core education businesses were tracked in the database. Again, limitations in data availability may explain this finding, as it would be logical to find less information for smaller transactions, and as banking funding was not part of this study. The provision of microfinancing solutions to small education providers could also meet this segment and is implemented in some contexts by traditional MFIs and specialized investors.

Overall, the general absence of investors in Western Francophone Africa should be examined further, and the lack of competition to serve education startups and early-stage ventures could constitute an opportunity for a new player in this sub-region.

4. Education investors are not necessarily impact investors

The mapping shows a **very limited number of active impact investors** in education. Many players deploy private equity financing instruments and expect related returns to target fast-growing private education institutions, in mid-price and premium K12 and higher education levels.

The database shows that **only 10 education investors disclose clear impact goals and report publicly on these goals**, on a regular basis. Conversely, a majority of investors do not declare that they pursue specific impact goals in the education sector and/or do not report any impact-related data.

The impact investors present in the education space follow different impact goals (quality, access, relevance) in different countries and sub-regions. Only a few ecosystems (South Africa, Ghana, Kenya) may benefit from the systematic support of impact investors, but generally in growth stage rather than early-stage.

5. Impact investments are mainly funded by DFIs and foundations

North-American Foundations and DFIs are key funders for impact. The foundations tend to have lower financial return expectations and have a stronger appetite for high-risk projects such as support to early-stage companies. DFIs are significant players since they invest both directly and through funds in the sector. They may have market return expectations but can operate in new markets and in more fragile countries than commercial investors.

Conclusions and Recommendations

This section gives the general conclusions of this feasibility study and suggests several recommendations for the establishment of an education-focused impact fund in the African context. The study has reviewed and assessed a series of general opportunities and challenges to constitute a portfolio of impact investments targeting African education and training. The first section summarizes the key findings from the academic literature review and the investment mapping to suggest and justify an evidence-based impact investing intervention in the African context. The second section provides key findings to be used as conceptual and practical recommendations in the design of an impact and investment strategy in the education sector. It provides selection criteria for constituting the portfolio and then general factors that could maximize the finance and impact performance of each type of investments. The third and last section provides additional insights and recommendations and emphasizes several caveats for the project.

General conclusions

It is urgent to address the global education crisis, in particular in Africa. This global education crisis is first and foremost a **learning crisis** which affects all the levels of the education systems in the developing world. Urgent interventions should address this quality challenge to make sure that pupils and students effectively learn at school and acquire the minimum level of knowledge and skills. **Promoting universal access to basic education and upper levels** should also be considered as a priority, and requires a significant increase in the supply of education and a focus on equitable access. Improving the external efficiency of education and training system and the job insertion of graduates requires significant **upgrades in the relevance of the supply of secondary and tertiary institutions**, through better dialogue and cooperation with employers and other job market stakeholders. These challenges are not exhaustive, but we believe they should be integrated into any organization's strategy claiming to support the education sector. Since African countries are engaged in a dynamic demographic transition with half of the population under 18, facing these education challenges will require more attention and efforts than in another region of the world.

Education investors and their partners should prioritize evidence-based solutions to address these challenges. This study reviews the most recent academic literature to emphasize several "good practices" in education that are supported by scientific evidence and practice. Quality-focused interventions should prioritize **improvements and innovations in teaching** rather than infrastructure and equipment. In this regard, education technologies have a big potential to integrate adaptive learning methods and integrate the cognitive and social skills' development of

the learner as a complementary tool. The academic review also demonstrates how **information programmes and financial support** through vouchers and scholarships can facilitate the access of low-income populations to education. These interventions focusing on the entry barriers, particularly matter for post-primary levels, where participation costs increase and are often perceived as higher than long-term social and economic returns. Finally, **supporting the capacity of existing institutions in higher education and vocational training** with a strong focus on young people's employability seems as urgent as the creation of new infrastructures and projects. An impact strategy targeting education quality, access and relevance should be based on these good practices which are further described in the impact goals and indicators below.

The private sector offers significant opportunities to implement these solutions, but it may produce market distortion and potential perverse effects. Education is a public good, but is also an economic activity that may be funded, organized and managed by private operators. Our academic review shows that the determinants of the private share in education provision are multiple, with an **important role for public spending and regulation of private institutions**. The growth of the private sector in education brings new opportunities: increase in the supply of education in secondary and tertiary institutions, diversification of models and programmes, a boost of education innovation in some cases, improved collaboration with private employers. Private institutions may also fit better with the preferences of families for cultural reasons (religious schools) or direct advantages (proximity, better quality perceived). The literature also enhances the risk of the education system to concentrating on wealthy and best students in private institutions and eventually fail to provide equitable access to diverse social groups. In some cases, research also demonstrates that private institutions do not innovate but rather follow traditional models with little incentives to do better than government schools.

The landscape of education investments in Africa provides significant opportunities to generalize impact investments in the sector, with a focus on francophone countries. The sectoral mapping (Part 4) shows that education investors have provided nearly 2 billion US dollars to private education businesses since 2012 and other studies estimate the same volume of opportunities in the next five years (Caerus, 2017). However, the contribution of these investors is very unequally spread across the continent: Anglophone African countries such as Kenya, South Africa and Nigeria attracted 80% of the total volume of investments. In these regions, education investors concentrate their strategy on higher education and on (mainly mid-price and premium) basic education and conversely show much less interest in vocational schools and preschools. The mapping shows that transactions were also done in francophone countries, in Senegal, Morocco and Côte d'Ivoire, in particular in the last two years. In addition, many investors deploy finance-first strategy in education deals, seeking market-level returns on large transactions with little interest for supporting early-stage or more impact-oriented projects. The added value of impact investors in Western and Central African would certainly be very high considering the "missing middle" of investors and despite dynamic and growing education businesses in these regions. Finally, the

likelihood for an impact investor to exit to strategic players is increasing, as a growing number of international or regional education funds enter the West African space.

Impact investing can play a crucial role in the African context and complement the interventions of traditional funders and operators. The study seeks to demonstrate that impact investing should be defined as an investment in a sustainable economic model that produces direct and positive impacts in terms of education quality, access and relevance and which complements or strengthens the dynamics of the public sector and other ecosystem partners. Since we refer here to a social sector which should guarantee inclusiveness and social diversity, supporting private projects that cannot generate market-level financial returns open the way for impact investors to intervene. Our analysis of the private sector contribution to education systems makes the case to use impact investing as a developmental project aiming to effectively address education challenges across Africa. There are sustainable and successful business models in the African education sector, including in ancillary activities, providing fundamental inputs to the education chain. Impact investing can thus contribute to foster more responsible development of education businesses in Africa by selecting and supporting the best performing institutions in terms of economic sustainability and of educational impact.

Recommendations to structure the impact and investment strategy

1. Impact strategy

The impact strategy could include at least three impact goals and an additional focal point.

1. Quality learning first: The impact fund should target education institutions which have a proven record in providing quality education and effective learning to students, which present new opportunities to invest in, and which deepen quality improvements and innovations including through strengthened teacher capacity, innovative teaching and renewed and modern curricula (i.e. soft skills, 21st century skills). The fund should also target high-quality ancillary activities which participate in the strengthening of the local ecosystem, in particular in terms of teacher training and evidence-based learning-focused education technologies.

2. Focus on local relevance and employability: The impact fund should target initiatives which favour employability. We use the term employability here in a broad sense: it not only refers to the match between training and current local employers' needs but generally to the investment in skills that are "genuinely transferable and of long term value to employers, employees and other job seekers" (Mc Quaid and Lindsay, 2005, p. 215). Interventions can thus include the support (or the development) of certified vocational programmes and skills-training activities in dynamic economic sectors and in health and education, or the support of programs assisting students in the professionalization of skills, career development, access to job opportunities etc. But it also means,

for example, supporting initiatives that propose the teaching of soft skills, or make efforts to orient children from the youngest ages towards scientific subjects.

3. Strengthen equity in access to partnering institutions. The concern for improved equity in access and inclusiveness should be integrated into the impact matrix for every investment. The impact fund should make the effort to always facilitate access to quality education for girls and women, low-income populations, and for disadvantaged categories (e.g. disabled people, people living in remote areas, especially rural areas).

(!) The impact fund interventions should be supportive of the local education ecosystem and aligned with the government strategy. In pursuing the impact goals mentioned above, the impact fund should pay attention to the way the partnering institution and its projects may strengthen and consolidate the broad education system, including the public sector. Impact interventions should prioritize academic fields and training sectors where public capacity is inexistent or insufficient and exclude those which are already well served by public institutions unless major improvements can be added. The impact fund can support the development of a strong public education sector by helping its investees to produce positive externalities in the ecosystem: diffusion of good practices and innovation, development of teacher training programmes, cooperation with public organizations, support to regulation reforms etc.

2. Impact dimensions and indicators

To explain and clarify the dimensions of these generic impact goals, we provide additional insights in the form of impact indicators and metrics. Such indicators may be used as part of the investment selection criteria (e.g. through a scorecard) as well as the regular impact monitoring during the investment period (e.g. with an annual reporting). The list below is not exhaustive but seeks to provide guidelines for the construction of an education-focused impact management policy and tool.

1. Quality learning first:

Impact scoring and monitoring tools should use various complementary dimensions of quality.

- Strong education outcomes: impact indicators may use several proxies to assess the quality of learning within the institution. In basic education, it may use the assessment of test scores in international evaluations (e.g. PISA/PASEC) or national evaluations (e.g. Baccalaureate). Such types of evaluation can be used in a comparative approach with competing institutions or in a dynamic approach to assessing the evolution of education outcomes across time.
- Effective teaching: impact indicators should assess the profiles of teachers and educators (qualification, experience) and the opportunities to benefit from individual and collective training opportunities (depth and recurrence of teacher training). Teacher motivation and retention should also be considered as core elements which foster effective learning.

- Innovative teaching and technologies: teaching innovations should emphasize an individualized teaching and learning approach and education technologies such as online learning platforms should include adaptive learning processes in their functioning. The use of in-class technologies should support teacher capacity in a complementary approach.
- Accreditation: compliance with national or international certification and accreditation.

Key examples of outcomes metrics: success rate and completion of curriculum, student satisfaction, share of teachers with regular training benefits.

2. Focus on local relevance and employability:

Impact scoring and monitoring tools may focus on processes to strengthen the professionalization of skills and the job-readiness of students, job-seekers, and employees.

- Professional development: specific support to students in the development of their career projects in career centres or dedicated programmes.
- Extra-curriculum skills: the teaching of soft-skills, 21st-century skills etc.
- Professionalization of skills: implementation of internship, apprenticeship, work-study programmes.
- Highly relevant skills and training: training in education, health and care, sciences, environment, tourism and hostelry etc.
- Job market matching: organization of job fairs, meeting with professionals, job platforms.
- Focus on scientific subjects: improve students' views of scientific subjects and technical disciplines at school to increase learners' awareness of sciences and scientific studies

Key examples of outcome metrics: share of students using the taught skills in their job, share of graduates employed after 6 months.

3. Strengthen equity in access to partnering institutions

Impact indicators related to equity in access/social inclusivity should look at how the institution (or project) may facilitate access to quality education for vulnerable social groups.

- Financial incentives: implementation of merit scholarships and/or student loans and/or cross-subsidy models for girls and women, low-income populations, rural communities and marginalized children and youth.
- Non-financial incentives: information programmes and marketing campaigns targeting vulnerable social groups, suitable infrastructures for disabled students etc.

Key examples of outcomes metrics: share of students with (full and partial) scholarships, share of girls/women in the student population.

(!) The impact fund interventions should be supportive of the local education system and aligned with the government strategy.

Impact indicators could access whether the business/project complement or consolidates the local ecosystem and ensure good alignment with the public sector.

- Compliance with local regulation and certification
- Positive externalities: cooperation with public institutions (for teaching, research), diffusion of good practices (Open House Day, participation to specialized conferences, conduct and diffusion of impact evaluation, training of teachers for other institutions)

Key examples of outcomes metrics: share of offered training which complies with the local certification process.

3. Impact strategies: 4 ways to impact on education

There are at least 4 approaches to tackle African education challenges as an impact investor. These 4 strategies correspond to mission-driven interventions in pre-school education, basic education, technical and vocational education, and higher education. In this concluding section, we summarize what types of investments could be made for each strategy. The 2 former strategies are mainly associated with the learning crisis in basic education and the latter strategies with the employability challenge in secondary and higher education. We believe this classification will help the impact investor to establish a clear approach to the education sector.

1. Boosting innovations in pre-primary education

Our academic literature review shows that strengthening pre-school education provision is the most effective way to achieve strong and long-term impacts in learning and employment.

As described in part 2 and 3, the role of an impact investor in pre-school education could be to support the development of innovative and qualitative models and to help disseminate good practices in the ecosystem. In this education level, the impact investor could target: (i) **an economically sustainable organization promoting innovative and/or effective pedagogical practices** in early childhood development and learning, with high differentiation from the common practices observed in the country, (ii) with a **committed approach to improved accessibility and inclusiveness,** (iii) able to **generate positive externalities** on the local ecosystem.

This strategic approach could lead the impact investor to **invest in premium pre-schools** whose first comparative advantage is to explore and expand a high-quality model in a context where most private pre-schools are poor and underdeveloped. Other opportunities in **dynamic pre-schools** could be considered, although our analysis suggests that such schools are barely emerging, in particular in Western francophone Africa. In terms of ancillary activities, a very impactful approach could be to invest in the initial or **in-service training of teachers**. An additional support to learning-oriented technology or media could be proposed within this strategy.

2. Strengthening the ecosystem of basic education

As explained in our study, the direct support to private schools in basic education may face stronger issues of accessibility and local alignment, in a context where the government needs to ensure universal free access to basic education. This concern is particularly true for investments in the low-price standardized school models which have emerged in several Anglophone African countries and neighbourhood schools which represent the majority of institutions in this level.

The impact investor could prioritize **indirect support to basic education by investing in impactful ancillary activities** which lack support to build up effective economic models at scale and to produce diffused impacts on the ecosystem. Investments in teacher training and school capacity building programmes, accessible education technologies and qualitative education editing could together contribute to the strengthening of basic education ecosystems in Africa. Investment in microfinance programmes targeting private schools and associated with capacity building assistance could also be considered in African countries where the private sector expansion in basic education is well regulated (e.g. Ghana).

3. Improving the relevance of education and the professional integration of graduates

Our analysis of the dynamics and challenges in post-primary education has shown that many vocational training schools and technical education programmes lack funding and technical support to make their curriculum and programmes more relevant to the local economic sector. More broadly, secondary and tertiary institutions lack interaction and cooperation with employers to boost the employability of the African youth.

The impact investor could consider **direct support for technical and vocational schools**, in particular in strategic sectors which lack formalization and skilled work-force. Some opportunities in **dynamic networks of vocational training** could constitute a good approach to increase access to the sector and, more importantly, to strengthen its value and attractiveness. Secondly, an increasing number of vocational programmes will partly rely on technologies to facilitate remote access to training programmes but also to job opportunities. Fast-growing **standardized models of vocational training** could be supported by the impact investor, for instance in the field of IT and coding. More generally, the impact investor could seek to prioritize vocational projects which demonstrate a **capacity to scale-up**, including with the **support of technologies**. Additional support could target skill-connecting technologies, entrepreneurship programmes and other initiatives focused on soft-skills training, and matching mechanisms between graduates and job seekers, and employers.

4. Expanding capacity in higher education

The study has pointed out the current under-capacity of universities and other higher education institutions in most African countries. The access challenge in higher education requires more

investment in suitable infrastructure and equipment, as a complementary approach to the employability strategy described above, and with attention to quality and social inclusiveness. It also requires developing education and training initiatives which show a great potential to scale-up and to address the fast-growing demography-driven demand in African markets.

The impact investor could consider **direct support to dynamic universities** aiming to expand their capacity through the construction of larger and better-suited facilities. We strongly recommend favouring **scientific education and training** (e.g. health and medicine, agronomy, engineering, IT) and **key niche professions** (e.g. architecture, design), in accordance with the local government's strategy. A support to other generalist universities or business schools seeking financial support to build infrastructures can be considered, but caution must be given to the real added value of the impact investor, in particular in emerging economies where other equity investors may be active. In all cases, the impact investments in dynamic universities should be focused on 3 issues: 1. the **inclusion of vulnerable groups** through financial and non-financial incentives, 2. the **quality of teaching and learning**, which could be part of a technical assistance programme funded by the impact investor, 3. the integration of social skills, **professional skills** and job-readiness programmes in the curriculum. Indirect support to higher education systems could include investments in **distance learning platforms and other education technologies,** as well as other valuable services to the students (loans, remedial education, job placement platforms etc.).

4. Investment strategy

In order to complement the impact goals and strategies introduced above, we provide recommendations to structure the investment strategy.

4.1. Geographic perimeter

Considering the outputs of the country studies and the sectoral investment mapping, we provide recommendations and justifications regarding the geographic scope of an education-focused impact investing initiative in Africa. In fact, three main lessons emerge from this feasibility study.

First, there is a clearly identified need to **target francophone Sub-Saharan African countries.** Considering the current positioning of Investisseurs & Partenaires, it is recommended to base the fund in the Western and Central African zone where the education challenges are urgent and where other investors are not active[199]. In this area, several fast-growing education systems such as Senegal, Côte d'Ivoire and Cameroon could provide an interesting pipeline of projects which could match the impact strategies of this report.

[199] A similar conclusion may be drawn for the Lusophone African countries. However, the feasibility study did not focus on this zone and we have little evidence to clearly demonstrate the needs and opportunities in Angola, Mozambique or Guinee Bissau.

Second, there is an imperative to **include fragile countries and LDCs**[200], even if the investment opportunities may be quantitatively and qualitatively lower in these countries. The added value of an impact investor in the Sahel region or in Madagascar, for instance, would be very important because there are no education-focused investors in these regions. Considering that their demographic and socio-economic challenges are even bigger, we recommend the fund to include francophone fragile countries as much as possible in the investment activity.

Thirdly, the impact investment vehicle should target **a pan-African scope** as much as possible. There are various justifications to do so. First, traditional and relevant arguments of **risk diversification** should be integrated into the thinking. Since the francophone African zone (in particular the Sahel region) is affected by a significant and correlated matrix of political and macroeconomic risks, it would be advisable to diversify investments into other regions with uncorrelated risk dynamics. Second, there is a clear need to **facilitate the transfer and duplication of education innovations across Africa**. The study shows that Anglophone countries such as Ghana, Kenya or Nigeria have developed very innovative models of education which could be expanded to other regions, provided that there is an impact investor active in these regions to support them. Thirdly, there are several significant quality education providers in **North Africa** which would like to expand in Western Africa, in particular in higher education and vocational training. The Fund could contribute to the creation of regional leaders in private education and facilitate student mobility between North and West Africa. Finally, considering the difficult environment for entrepreneurship and impact investing in many African countries, it seems advisable to expand the scope of the fund to maximize the quality and quantity of projects in the pipeline.

Other geographical scopes could probably be considered but alternative recommendations would require further research (e.g. new sample countries and new sources of data tracking past transactions and present opportunities).

4.2. Investment policy and support to private schools

Our recommendations in terms of investment policy are designed according to the type of school and activities. For each category of private schools for which we recall the main features, we intend to summarize the kinds of financial and non-financial needs the business may have and the type of investment policy that could support these needs. Our assessment here is partly grounded on I&P's past experience in investing in such types of schools (with a minority equity stake in most cases). This section calls for the need to develop a blended approach regarding financing instruments, and makes the case for deploying grant-funding and other subsidies for support including capacity building and scholarship programmes.

[200] We refer here to the list of Fragile countries proposed by the World Bank and the list of Least Developed Countries made by the United Nations. In these lists, we found countries like Mali, Chad, Central African Republic or Madagascar.

Premium schools are the private providers which are best placed to explore innovative models of education and to shift the learning innovation frontier in a given country. However, premium schools rely on expensive equipment, human resources and know-how, which increases their price and makes their model affordable only for a high-income population, except when scholarships or other subsidy mechanisms can be implemented.

Premium schools tend to target country-wide or international growth through a network, which may help strengthen their profitability and expand their impact. These patterns of growth target substantial increases in turnover and operational profitability, sometimes after a period of break-even. A key challenge for growing the network is to adapt the infrastructure management policy (renting or acquiring facilities) to the school environment and the company strategy. This type of strategy could be supported by **equity or quasi-equity investment**. The size of investments in premium schools naturally depends on the maturity of the project, the infrastructure management, the education cycle and the aggressiveness of growth; however, they **may be between 500,000€ and 3million€**. Expected returns on this type of investments may be relatively better than in other school categories[201].

As shown by the example of Enko, this type of growth may require different non-financial support which could include **strategic coaching**, **technical assistance** and **other grant-funding support**. These supports may help with the determination of the strategy of expansion (acquisition vs green-field projects), the setting-up of a central platform to provide key functions to all partnering schools (accounting, communication, and administration), the development of a branding policy, among others. Other assistance could concern the establishment of a scholarship policy by partnering with a philanthropic player, and more generally the support in helping the school produce positive externalities on its ecosystem.

Dynamic schools are significant players in education. They tend to provide quality education, to attract a high volume of students, and are generally economically sustainable. However, even if they are not elitist, they are still not easy to access for the lower-middle class. Dynamic schools are generally anchored in a regional or national landscape and seek to strengthen their position in a competitive sector through incremental innovation and differentiation, including the construction of new modern infrastructures.

Given the growing demand for the dynamic school model, the financial profitability of a dynamic school may be strengthened by the extension of school facilities and reaching a significant enrolment size. The impact investor may support this type of expansion project and benefit from the financial and impact returns they seek to provide. The size of financial needs would depend on the characteristic of the dynamic school (education level in particular) and its project (size and quality of facilities to be built). Impact investments in dynamic schools could use **mixed debt and equity** funding which may be between **1 and 5 million€**, with bigger investments in higher

[201] We do not intend to provide exact figures on expected financial returns for the investor but rather follow a comparative approach between schools.

education projects. In particular, the funding of infrastructure projects in dynamic universities (which corresponds to the impact strategy introduced in the previous section) can generate financial returns for the impact investor.

Additional support can be provided by the impact investor to support the investment and strengthen the impact of a dynamic school: **technical assistance** to support the effective and on-time realization of the construction programmes; support in the certification process of the school, in the establishment of academic partnerships with foreign institutions, **grant-funding scholarship policy** targeting girls and vulnerable population etc.

Neighbourhood schools are probably the category with the highest number of institutions in our typology. They tend to have low growth perspectives, a fragile economic model, and little innovation potential to improve quality. However, they may contribute to increasing access to education, including for low- and middle-classes and may provide relevant education and training opportunities to learners. Considering the impact strategies described above, the support to neighbourhood schools in the vocational training space could be a relevant approach to deepen the Fund's impact in rural or suburban areas.

Considering the economic fragility of this type of school and their difficulties in implementing growth plans, **neighbourhood schools may not be ready for an impact investment**, at least not by equity funding. The impact investor could thus consider indirect support to these schools, with the aim to help them to improve their economic performance and impact. This type of direct support could be provided through investment-readiness programmes which aim to formalize the schools' structure, and improve their business model, and could use **grant or debt funding, typically less than 500,000€**. Indirect support through microfinance and capacity building programmes could also be considered.

Standardized schools are emerging as ambitious school networks, in particular in Anglophone African countries. They typically combine a low-cost structure with disruptive teaching or organizational innovations to provide education or training to low- and middle-income populations. Some models of standardized schools have been more successful than others at scaling-up while maintaining a satisfactory quality. Our study shows that investing in this category of schools in the basic education cycle can be risky for an impact investor because the quick expansion strategy is not easily associated with the quality and impact goals. However, standardized schools in TVET can contribute to transform educational practices in the ecosystem and quickly foster young peoples' economic integration.

The impact investor could support the growth of these standardized schools in the vocational training sector whose financial needs are for the acquisition of technology, the expansion to new cities and countries, the possibility to build a central platform of support functions for the network, and the reinforcement of quality of content and teaching. Due to their capacity to grow and scale-up quite quickly, standardized school networks can require regular and growing financing rounds,

and to some extent, could be assessed as Venture Capital-style investments. Consequently, **equity investments** ranging from **500,000€ to 5million€** would fit this type of investment opportunity. Strategic guidance can also be provided to help the entrepreneur to stabilize their business model, target the right speed of expansion, and build solid partnerships with other stakeholders (government, accredited schools, employers, etc). Technical assistance programmes may be used to fund initiatives related to standardization of processes, teacher training, or impact evaluation.

Investing in **ancillary businesses** may also be useful to meet the challenges of quality, relevance, and improved equity of education businesses and systems in Africa. This study has shown that the economic performances and impact of ancillary businesses are driven by a variety of factors, including the relation with customers and students, the pricing model, the innovation dimension, the scalability, and the relation to the public sector. Despite their impact potential on education ecosystems, many ancillary activities tend to evolve in a difficult economic environment, with little public support and have difficulty to grow sustainably. Some models are more dynamic, in particular in the field of education technologies.

The impact investor can play an essential role in accompanying good-performing models of ancillary activities. Recommendations related to the investment policy targeting these businesses are harder to define because of the **variety of businesses and trajectories** in this market. Some opportunities to invest in **teacher training** programmes, **publishing companies,** and other types of ancillary activities are relatively small with early-stage or fragile models, and would require seed funding, patient support and mentoring. Other opportunities to invest in **microfinance programmes** dedicated to school loans or student loans could be bigger, with equity investment exceeding 1 million €s. Lastly, investments in fast-growing types of **education technology** could require progressive funding in equity with a better scenario of exits and financial returns for the impact investor than for the other business models. For this wide range of ancillary activities, the added value of the impact investor can be to facilitate their scale-up and increase their support to other education institutions, including in the public sector (e.g. providing qualified teachers, school equipment, school books, and technologies).

Looking at these different types of businesses and investment opportunities, it is likely that an impact portfolio should not necessarily focus on only one type of school or activity. The study shows that different types of schools and ancillary activities have different profiles of risks, financial returns and impact, and that, in terms of impact, they offer different opportunities to tackle challenges of access, quality and relevance of education as well as to improve equity and inclusiveness. The capacity of the impact investor to constitute a large and qualitative deal flow will naturally influence the composition of the impact portfolio and the type of financial returns and impacts the impact fund will be able to achieve. A possible investment strategy could be to diversify the types of businesses and projects invested in, in order to balance and diversify the results for the fund.

Final recommendations and comments

In this final section, we provide some key warnings for the fund, additional insights and recommendations, and finally some key conclusions which, will hopefully help in the preparation, structuration, and launch of this impact investing initiative in education.

1. Points of attention

The feasibility study shows that an impact investing project in education could support education businesses and their partners facing the urgent educational challenges in their ecosystem. At the same time, we recognize this highly-relevant contribution should be seen as complementary to other interventions, in particular those of local governments and their international partners, which have more capacity and resources to test and implement system-wide education solutions that could benefit a majority of learners in the ecosystem.

In order to deepen and sustain the general impact performance of the Fund, we make two additional points:

First, there is an essential challenge in **including the rural young people** as a target category of final beneficiaries of the impact fund. Many institutions and investment opportunities highlighted in the study are based in urban zones, in particular in capital cities, and this trend could be representative of the future pipeline. Nevertheless, a significant share of children and young people lives, studies and works in rural areas and has little access to secondary and tertiary institutions, to education innovations, and eventually to formal employment opportunities. Education businesses may be less present in these areas where the structural conditions for running sustainable education businesses are more difficult. Therefore, a clear priority should be given to projects and opportunities to reach and benefit rural young people in future investment activity. This could include projects in agri-business entrepreneurship or rural neighbourhood high schools or even education technologies which are technically and also financially accessible to rural populations.

The second point deals with the **alignment imperative** with other education stakeholders, including the local government and public sector, and the possibility to create **partnerships with other funders.** Our study shows that it is fundamental to anchor the Impact Fund's activity and team in the local education ecosystem and to ensure a good complementarity with local public policies and strategies in education. It seems necessary to conduct regular dialogue with other stakeholders such as public education institutions, philanthropic organizations and organizations of employers. Impactful partnerships could be implemented with other philanthropic institutions and would significantly strengthen the credibility and sustainability of the initiative in the local ecosystem. The example of Comoe Capital and Jacobs Foundation is in this regard critical as the *Education Impact Fund* was part, for Jacobs, of a larger intervention promoting quality education in

Côte d'Ivoire. Important synergies between impact investment activities (targeting private sector initiatives) and philanthropic activities can be found and developed through these partnerships. In the end, we believe that this global effort to increase alignment and dialogue with other education stakeholders will help the Impact Fund be more in phase with the country-specific challenges and thus to provide the most relevant contribution at the local scale.

2. Additional insights

In addition to the recommendations made in the previous section, the study also stresses two important insights, one related to the investment activity and one to the impact management policy.

The Fund's team and partners should think about to what extent, and how, the Impact Fund could target and **support hybrid models of education**, typically philanthropic organizations searching for financial sustainability[202]. Indeed, among the numerous organizations interviewed for this study, we have encountered several effective and inspiring education projects, led by non-profit organizations, but which do not meet the long-term financial sustainability criteria that characterize private sector initiatives. However, these programmes and organizations may have long-lasting and deeply-rooted experience in providing education and training opportunities to vulnerable populations, sometimes in fragile countries or regions. Many of these organizations seek to strengthen their independence from donations and subsidies and to find an economically-sustainable model. The role of an impact investor could be to facilitate this transition and support hybrid models of education to maintain their impactful activities through diversification of funding schemes and income. These models are presumably not suited to investment by the Impact Fund, and so this insight is not formally part of the investment strategy. However, we recommend the impact investor to consider alternative approaches to support these hybrid models reach long-term sustainability, either through a funding and capacity building approach (e.g. grant-funding and technical assistance) or through an advisory activity.

Secondly, the Fund's **impact management and advocacy policy** should seek to establish and promote good practices for other education investors, as well as to drive an advocacy project for engaging with the impact of education businesses across the African continent. The sectorial mapping (Part 4) shows that most education investors are not impact investors because they do not disclose impact strategy, goals and reporting, thus providing little evidence of their true educational impact. There are some well-established impact investors in Africa which have occasionally invested in education projects but there is little publicly-available information about their impact management practices. The global evidence and knowledge about how impact investing can effectively support education is weak. In addition, scientific research and the

[202] There is not an official denomination for this type of company. Some organizations could be also called "social businesses", as it is the case for Practical Education Network, the teacher training social enterprise we analysed in part 3 of the study.

academic literature on how private sector providers can positively contribute to education challenges is also weak, including in the African context. Consequently, there is a double gap in the impact investing space in Africa. We recommend that the impact investor and its partners seize this opportunity to contribute to filling this gap. First, by designing and implementing an ambitious impact management policy which could be based on multidimensional and regular impact reporting, but also on field studies and long-term impact evaluations. Second, by sharing good practices with other investors and stakeholders and by advocating for a stronger engagement of funders and investors with the education sector across the continent. This way, the impact investor could use this innovative experience to encourage further education-focused impact investing projects, and increase the support to responsible and good-performing education businesses across Africa.

3. Final conclusions

This feasibility study aimed to emphasize the most important opportunities and challenges of launching an impact investing initiative in African education. It cannot pretend to treat exhaustively all dimensions of the project, and calls for additional work on other key topics (investor landscape, deal-flow screening, legal and financial structuration of the Fund). But the study has sought to establish a rigorous approach to justify and implement a systematic impact investing activity in the education sector, for the African context.

To do so, we have first based the analysis and recommendations on evidence-based practices and academic research. We have also made an in-depth analysis of five education systems, emphasizing their common dynamics as well as their specific challenges. We provided a methodology to differentiate and analyse the types of education businesses and their suitability to be supported by an impact investor. We also highlighted the current dynamics of investments and the potential gaps across the continent. Each of these stages was necessary to provide justifications and recommendations for launching an education-focused impact investing fund in Africa. Our recommendations for designing the investment and impact strategy aspire to be as ambitious as possible and constitute guidelines that may serve other projects in the future.

We suggest building the impact strategy on three main impact goals: (i) focusing on quality learning, (ii) searching for the relevance of training for employability, (iii) acting in order to strenghten equity in access to education in partner institutions. We also point out that the impact fund interventions should be aligned as much as possible with government strategy. In addition, we propose four approaches to tackle African education challenges as an impact investor, which correspond to mission-driven interventions in pre-primary education, basic education, technical and vocational education, and higher education, and we illustrate challenges and opportunities to invest in different types of education businesses.

Finally, this study suggests that a specific approach to impact investing is necessary to effectively contribute to addressing the education challenges in Africa. Indeed, the necessity to ensure

equitable access and social inclusiveness of partnering education businesses as well as the needs for research and advocacy, call for using complementary types of support which are not necessarily in the core mission of a traditional impact fund. Thus, our conclusions make the case for **launching an innovative approach in blended finance** that would associate impact investments with grant-funding subsidies and non-financial assistance, enabling the project to support good-performing and responsible entrepreneurs in education, meet ambitious impact goals, generate a decent financial return, and finally align and coordinate its intervention with other key stakeholders to maximize the long-term impact on African education.

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Name		Position	Organization	Country
Laura	Abadia	Senior Policy Manager	J-Pal Europe	France
Saida	Abouid	Coordinatrice Pays	Coopération Monégasque	Maroc
Sophie	Achilleas	Chef de la section Education	UNICEF	Madagascar
Desiree	Acholla		IDP Foundation	Ghana
Sara	Adico Ollo	Fondatrice Directrice	Ecole La Coccinelle	Côte d'Ivoire
Gordon	Adomza	Associate Professor	Aseshi University	Ghana
Mohammad	Alaa Nasser	Consultant en éducation	IPC	Allemagne
JO	Ally	Manager	Design and Technology Institute	Ghana
Nathanaëlle	Amar	Responsable Projet, Division Education Formation	Agence Française de Développement	France
Rudolph	Ampofo	Country Director	Eneza	Ghana
Kwabena	Amporful	Ex-Director	Stanford Seed Ghana	Ghana
Saaid	Amzazi	Ministre	Ministère de l'Education Nationale, de la Formation Professionnelle, de l'Enseignement Supérieur et de la Recherche	Maroc
Djohary	Andrianambinina	Directeur National	Centre National de Télé-Enseignement de Madagascar	Madagascar
Christophe	Andriantarijaka	Coordonateur Général	Ministère de l'Enseignement Technique et de la Formation Professionnelle	Madagascar
Louis Gervais	Anoma	Responsable Education	UNESCO	Côte d'Ivoire
Jerry	Ansah	Budget Office	Ghana Education Service	Ghana
Fred Kyei	Asamoah	Executive Director	Council for Technical and Vocational Education and Training	Ghana
Carole	Attoungbre	Directrice Pays	Eneza	Côte d'Ivoire
Océane	Aucour	Chargée de Mission Coopération	Ambassade de France	Madagascar

Julie	Averseng	Senior Analyst	Koys Invest	Belgique
Bernard	Ayensu	Head Planning and Budgeting Department	Ministry of Education	Ghana
N'Goh	Bakayoko	Conseiller Technique	Ministère de l'Enseignement Supérieur et de la Recherche	Côte d'Ivoire
El Mkohtar	Bakkour	Directeur	Agence Nationale d'Evaluation et d'Assurance Qualité de l'Enseignement Supérieur	Maroc
Alexandra	Balafreg	Responsable Projet Career Center	US Agency for International Development	Maroc
Ashley	Barry	Senior Evaluation and Learning Manager	Education for Employment	Maroc
Tunas	Bas	CEO	Mavna Cap	France
Saturnin	Bationo	Directeur Général des Etudes	Ministère de l'Enseignement Supérieur	Burkina Faso
Joe	Beaulieu		SABRE education	Ghana
Heather	Beem	Founder	Practical Education Network	Ghana
Saïd	Benjelloun	Directeur Fondateur	ISTH Ecole de Gestion Tourisme Hotellerie	Maroc
Faitai	Berdai	Directrice Complexe Formation	Office de la Formation et de la Promotion du Travail	Maroc
Emilie	Bih	Coordinateur Pays	Réseau Ouest et Centre Africa de Recherche en Education	Côte d'Ivoire
Lise	Birikundavyi	Directrice Impact Investing	Fondation Jacobs	Côte d'Ivoire
Johnson	Boh		Ghana Association of Teachers	Ghana
Sara	Bolliri	Premier Secrétaire	Ambassade du Luxembourg	Burkina Faso
Adam	Bouhadma	Fondateur	Education Media Company	Maroc
Martin	Briba	Promoteur	Institut Pédagogique des Sciences de Ouagadougou	Burkina Faso
Antoine	Bricout	Attaché de coopération universitaire	Ambassade de France	Burkina Faso
Svenia	Buisson	Fondatrice	Learn Space / EdTech Tours	France
Vikash	Chabra	Investment Director	Marifaa Education	Mauricius

Marcelin	Cissé	Directeur du Plan	Ministère du Plan et du Développement	Côte d'Ivoire
Renaud	Comba	Education Project Development Lead	Innovation for Poverty Action (IPA)	Ghana
Issa	Compaoré	Directeur Executif	Institut Supérieur Privé de Technologies	Burkina Faso
Paul	Cordeiro	Consultant	University of San Diego	Ghana
Laurent	Cortese	Chargée de Mission Education Formation	Agence Française de Développement	Côte d'Ivoire
Valérie	Coulibaly	Directrice	International Bilingual School of Africa	Côte d'Ivoire
Rohen	d'Aiglepierre	Economiste Développement Humain	Agence Française de Développement	France
David	de Ferranti	Président du Conseil d'Administration	Results for Development Foundation	Etats-Unis
Hamzah	Debbarh	Founder	3W Academy	Maroc
Yoann	Dechambenoit	COO	African Leadership University	Mauricius
Florencia	Devoto	Chercheur	J-PAL / IPA	Maroc
Carsten	Diaha	Directeur	Ecole Maison Cerise	Côte d'Ivoire
Mohamed	Diakité	Directeur	RH Afrique Excellence	Sénégal
Saloua	El Hraiki	Gérante	Institut Spécialisé en Technologie d'Art Dentaire	Maroc
Omar	El Hyani	Directeur des Investissements	Maroc Numeric Fund	Maroc
Hakima	Fassi Fihri	Directrice des Relation Internationales	Université Internationale de Rabat	Maroc
David	Ferreira	Directeur Général	Caerus Capital	Etats-Unis
Remi	Filippi	Senior Investment Manager	REFFA / Blue Orchard	Kenya
Adama	Fofana	Responsable Investissement	Education Impact Fund	Côte d'Ivoire
Hélène	Giacobino	Directrice Générale	J-Pal Europe	France
Marion	Ginolin	Consultant en éducation	Le Vif du Sujet	France
Hélène	Guéhenneuc	Chargée d'Innovation	Institut de Recherche pour le Développement	Burkina Faso

Rakoto	Harimino	Directeur Administratif et Financier	Institut Nationale des Sciences Comptables et de l'Administration d'Enteprises	Madagascar
Peter	Hinton	CEO	Cap Plus	United Kingdom
François Xavier	Huard	Directeur, Programme Sésame	IECD	Madagascar
Isidore	Ilboudo	Fondateur	Ecole d'Architecture et Génie Civil de Ouagadougou	Burkina Faso
Salima	Imani	Secrétaire Générale	Université Internationale de Rabat	Maroc
Monsieur	Kaboré	Directeur	Lycée Technique Jean Paul II	Burkina Faso
Harouna	Karambiri	Directeur de la Recherche	Institut International d'Ingénierie de l'Eau et de l'Environnement	Burkina Faso
Isidore	Kini	Président Fondateur	Université Aube Nouvelle	Burkina Faso
Florian	Kollewijn	Board Member	Chancen	Allemagne
Nourgo	Koné	Directeur TRECC	Fondation Jacobs	Côte d'Ivoire
Raoul	Koné	Directeur de Cabinet Adjoint	Ministère de l'Education Nationale et de l'Enseignement Technique	Côte d'Ivoire
Mien	Konkobo	School Launcher	Enko Education	Burkina Faso
Gala	Kouamé	Conseiller Technique	Ministère de l'Enseignement Supérieur et de la Recherche	Côte d'Ivoire
Alim	Ladha	Founder and CEO	Instill Education	South Africa
Mohammed	Lalhou	Président	Université Privée de Fès	Maroc
Pierre	Lazamanan	Economiste	CERED, Université d'Antananarivo	Madagascar
Oussama	Loukili	Conseiller Technique	Secrétariat Général à la Formation Professionnelle	Maroc
Alkassoum	Maiga	Ministre	Ministère de l'Enseigment Supérieur	Burkina Faso
Toungara	Mamenet	Chef de Service, Encadrement des Etablissements Privés	Ministère de l'Education Nationale et de l'Enseignement Technique	Côte d'Ivoire
Anne	Marie	Sawadogo	Agence Française de Développement	Burkina Faso
Julia	Moffet	CEO	Future of Learning Fund	Kenya

Obenfo	Nana Gyetuah Enoch		Ghana National Council of Private School	Ghana
Mirana	Noronirina	Specialiste Partenariat Secteur Privé	UNICEF	Madagascar
Michèle	Okeî	Directrice des Etudes	Ecole de Formation Professionnelle Michèle Yakice	Cote d'Ivoire
Stéphane	Orivel	Attaché de Coopération Education	Ambassade de France	Côte d'Ivoire
Stanislas	Ouaro	Ministre	Ministère de l'Education Nationale	Burkina Faso
Malick	Ouattara	Partner	Oasis Capital	Côte d'Ivoire
Tewinde	Ouedraogo	Direction de la Coopération	Ministère de l'Economie et des Finances	Burkina Faso
Honoré	Ouedraogo	Directeur de Cabinet	Université Saint Thomas d'Aquin	Burkina Faso
Anne	Panel	Directrice Générale	Fert	France
Elise	Perrin	Chargée de Mission	Advans	Côte d'Ivoire
Eric	Pignot	Fondateur et Directeur Général	Enko Education	Afrique du Sud
Cécile	Poulain	Chargée de Mission	Advans	Côte d'Ivoire
Rolland	Rabeson	Secrétaire Général	Ministère de l'Education Nationale	Madagascar
Mbolatiana	Raharimanga	Directeur Modélisation	Ministère de l'Economie et du Plan	Madagascar
Adria	Rakotoarivony	Spécialiste Education	Banque Mondiale	Madagascar
Raymondine	Rakotondrazaka	Directrice Education	UNESCO	Madagascar
Christian	Ralijaona	Secrétaire Général	Ministère de l'Enseignement Supérieur et de la Recherche	Madagascar
Jean Luc	Ramanonjiarisoa	Président	Association Malgache des DRH	Madagascar
Monsieur	Randrianaivoj	Directeur	Groupe Scolaire Saint Michel	Madagascar
Ridjanirainy	Randrianarisoa	Directeur	Ecole ESTI	Madagascar
Jean Gabriel	Randrianarison	Secrétaire Général	Ministère de l'Economie et du Plan	Madagascar
Olivier	Randrianarivelo	Directeur Adjoint	SOS Village D'Enfants	Madagascar
Matina	Razafimahefa	Fondatrice	Ecole Saina	Madagascar
Eliane	Razafimanantsoa	Directeur	Groupe Scolaire ACEEM	Madagascar

Tojo	Razafindrakoto	Responsable Pôle Education Formation	Agence Française de Développement	Madagascar
Olivia	Réveillez	Responsable Equipe, Division Education Formation	Agence Française de Développement	France
Aarti	Saihjee	Chief of Education	UNICEF	Ghana
Mohamed	Salifu	Secretary	National Council for Tertiary Education	Ghana
Michel	Sanguinetti	Directeur	Ecole Française de Management IEA	Côte d'Ivoire
Anna	Schrimpf	Directrice Générale	J-Pal Europe	France
Audrey	Seguillon	Directrice	Ecole Internationale de Rabat	Maroc
Pénélope	Silice	Business Development Officer	Child Fund	Senegal
Alex	Silva	Founder	HEFF	Costa Rica
Paul	Skidmore	CEO	Rising Academies	Sierra Leone
Hadja	Sonan	Directrice Fondatrice	Institut Supérieur de Commerce et de Management	Côte d'Ivoire
Alain Guy	Tanefo	Directeur Général	Omega School	Ghana
Julie	Tardieu	Coordinatrice Education	IECD	France
Ernest	Tsikel'Iankina	Secrétaire Général	Ministère de l'Enseignement Technique et de la Formation Professionnelle	Madagascar
Ninel	Ulloa Maureira	Chargée de Mission	Agence Française de Développement	Maroc
Amadou	Yaro	Directeur	Ecole Nationale des Régies Financières	Burkina Faso
Mohamed	Zizi	Founder	Innovat'Educ	Maroc
Tertius	Zongo	Président	Chaire Sahel	Burkina Faso

References

Introduction

Caerus (2017) "The business of Education in Africa".

Glewwe P., Muralidharan K. (2015) "Improving School Education Outcomes in Developing Countries" RISE Working Paper 15/001, Research on Improving Systems of Education (RISE).

McCowan T. (2007) "Expansion without equity: an analysis of current policy on access to higher education in Brazil", *Higher Education*, vol. 53 (5), pp. 579-598.

Part 1. Supporting education: insights from the academic literature

Kramarz F., Viarengo M. (2015) "Using Education and Training to Prevent and Combat Youth Unemployment", EENEE Analytical Report No. 22.

Private Sector participation in Education: the state of the debate

D'Aiglepierre, R. (2011) "Économie de l'éducation dans les pays en développement : Cinq essais sur l'aide internationale à l'éducation, la nature publique ou privée de l'enseignement, le choix des parents, l'efficience des collèges et la satisfaction des enseignants", Sciences de l'Homme et Société. Université d'Auvergne - Clermont-Ferrand I.

D'Aiglepierre, R. (2013) "L'enseignement privé en Afrique subsaharienne Enjeux, situations et perspectives de partenariats public-privé", AFD.

Epple, D. and Romano, R. E. (1998) "Competition between Private and Public Schools, Vouchers, and Peer-Group Effects", *The American Economic Review*, Vol. 88(1), pp. 33-62.

Friedman (1962) *Capitalism and freedom*, Chicago, University of Chicago Press.

Glewwe P., Muralidharan K. (2015) "Improving School Education Outcomes in Developing Countries" RISE Working Paper 15/001, Research on Improving Systems of Education (RISE).

Harma, J. (2015) "Private schooling and development: an overview", in *Handbook of International Development and Education*, edited by P. Dixon, S. Humble and C. Counihan, Edward Elgar Publishing.

Hsieh, C. T. and Urquiola, M. (2003) "When Schools Compete, How Do They Compete? An Assessment of Chile's Nationwide School Voucher Program", Cambridge, Massachusetts, National Bureau of Economic Research Working Paper Series No.10008.

James, E. (1993) "Why Do Different Countries Choose a Different Public-Private Mix of Educational Services?", *The Journal of Human Resources*, Vol. 28(3), pp.571-592.

Kitaev, I. (2007) "Education for All and Private Education in Developing and Transitional Countries" in *Private Schooling in less Economically Developed Countries: Asian and African Perspectives*, edited by P. Srivastava and G. Walford, Oxford Studies in Comparative Education, Oxford.

Laroque, N. (2008) "Contracting for the Delivery of Education Services: A Typology and International Examples", Research report, CfBT Education Trust.

Lubienski, C. (2006) "School diversification in second-best education markets: international evidence and conflicting theories of change", *Educational Policy*, 20(2), pp.323–344.

Martin, J.-Y. (2003) "Les écoles spontanées en Afrique subsaharienne. Champs éducatif et contre-champs scolaire", *Cahier d'études africaines*, pp. 169-170.

Mounmé, R. and Saudemont, C. (2015) "Overview of the role of private providers in education in light of the existing international legal framework. Investments in private education: undermining or contributing to the full development of the human right to education?", *UNESCO Working Papers on Education Policy* N° 1.

Tilak J. B. G. (2016) Public Private Partnership in Education, *THF Discussion Paper Series* No. 3/2016.

Tooley J. & Longfield J. (2016) "Affordability of private schools: exploration of a conundrum and towards a definition of 'low-cost'", *Oxford Review of Education*, Vol. 42(4), pp. 444-459.

Good Practices in Education

Innovating pedagogy and strengthening effective learning at school

Banerjee A., Banerji R., Duflo E., Gelnnerster R., Khemani S. (2010) "Pitfalls of participatory programs: evidence from a randomized evaluation in education in India". *American Economic Journal: Economic Policy,* vol.2(1), pp.1-30.

Banerjee A., Cole S., Duflo S., Linden L. (2007) "Remedying Education:Evidence from Two Randomized Experiments in India". *The Quarterly Journal of Economics*, vol. 122(3), pp. 1235–1264.

Banerjee A., Glewwe P., Powers S., Wasserman M. (2013) "Expanding Access and Increasing Student Learning in Post-Primary Education in Developing Countries: A Review of the Evidence." Post-Primary Education Initiative Review Paper, Abdul Latif Jameel Poverty Action Lab, Cambridge, MA.

Banerjee A., Banerji R., Berry J., Duflo E., Kannan H., Mukerji S., Shotland M., Walton M. (2016) "Mainstreaming an effective intervention: Evidence from Randomized Evaluations of Teaching at the Right Level in India", NBER working paper n° 22746, National Bureau of Economic Research.

Bray M., Lykins C. (2012) *Shadow education: Private supplementary tutoring and its implications for policy makers in Asia*. CERC Monograph Series in Comparative and International Education and Development N°9, Asian Development Bank.

Bray M. (2009) *Confronting the Shadow Education System: What Government Policies for What Private Tutoring?,* UNESCO International Institute for Educational Planning (IIEP), Paris.

Conn K. (2017) "Identifying Effective Education Interventions in Sub-Saharan Africa: A Meta-analysis of Rigorous Impact Evaluations" *Review of Educational Research*, vol.87(5), pp.863-898.

Cristia J., Czerwonko A., Garofalo P. (2014) "Does technology in schools affect repetition, dropout and enrollment? Evidence from Peru." *Journal of Applied Economics*, vol.17 (1), pp. 89-112.

Diagne A.W., Sall B.R.A. (2009) "Assessing the Faire-Faire approach to literacy programs." In ADEA Secretariat (ed.), *What makes effective learning in African literacy programs?* Tunis, Association for the Development of Education in Africa, pp. 137-169.

Duffy M., Fransman J., Pearce E. (2008) *Review of 16 REFLECT evaluations.* London, ActionAid UK.

Duflo E., Rema H., Ryan S. (2012) "Incentives Work: Getting Teachers to Come to School." *American Economic Review*, vol.102(4), pp. 1241–78.

Duflo E., Dupas P., Kremer M. (2011) "Peer Effects, Teacher Incentives, and the Impact of Tracking: Evidence from a Randomized Evaluation in Kenya." *The American Economic Review,* vol.101 (5), pp. 1739-1774.

Duflo E., Dupas P., Kremer, M. (2012) "School Governance, Teacher Incentives, and Pupil-Teacher Ratios: Experimental Evidence from Kenyan Primary Schools." NBER Working Paper No. 17939, National Bureau of Economic Research.

Escueta M., Quan V., Nickhow A.E., Oreopoulos P. (2017) "Education technology: an evidence-based review", NBER Working Paper No. 23744, National Bureau of Economic Research.

Evans D., Popova A. (2015) "What Really Works to Improve Learning in Developing Countries: An Analysis of Divergent Findings in Systematic Reviews". Policy Research Working Paper 7203, The World Bank, Washington, DC.

Glewwe P., Muralidharan K. (2015). "Improving School Education Outcomes in Developing Countries" RISE Working Paper 15/001, Research on Improving Systems of Education (RISE).

Glewwe P., Park A., Zhao M. (2014) "A Better Vision for Development: Eyeglasses and Academic Performance in Rural Primary Schools in China". HKUST IEMS Working Paper No. 2015-37.

Glewwe P., Kremer M., Moulin S. (2009) "Many children left behind? Textbooks and test scores in Kenya." *American Economic Journal: Applied Economics,* vol.1 (1), pp. 112-135.

Hamid O., M., Sussex, R., Khan A. (2009) "Private Tutoring in English for Secondary School Students in Bangladesh." *TESOL Quarterly*, Vol. 43(2), pp. 281-308.

Hanushek E., Woessmann L. (2007) "The role of School Improvement in Economic Development." NBER Working Paper No. 12832, National Bureau of Economic Research.

Hanushek E., Woessmann L. (2015) *The knowledge capital of nations: education and the economics of growth*, MIT press, 280p.

Harlen W., (2007) *The quality of learning: Assessment alternatives for primary education*. Primary Review Research Survey 3/4, University of Cambridge Faculty of Education.

He F., Linden L.L., MacLeod M. (2008) "How to Teach English in India: Testing the Relative Productivity of Instruction Methods with Pratham English Language Education Program." Department of Economics and School of International and Public Affairs, Columbia University, New York, NY.

Kellaghan T., Greaney V., Murray T. (2009) *Using the results of a national assessment of educational achievement*. The World Bank, National Assessments of Educational Achievement, vol.5.

Kiessel J., Duflo A. (2015) "Targeted lessons to improve basic skills". Innovations for Poverty Action, IPA Brief.

Kremer M., Brannen C., Glennerster R. (2013). "The Challenge of Education and Learning in the Developing World", *Science,* vol. 340(6130), pp. 297-300.

Lakshminarayana R., Eble A., Bhakta P., Frost C., Boone P., Elbourne D., Mann V. (2013) "The support to rural India's public education system (STRIPES) trial: a cluster randomosed controlled trial of supplementary teaching, learning material and material support." *PLoS One*, vol. 9(1).

Lind A. (2008) *Literacy for all: Making a difference. Fundamentals of Educational Planning.* UNESCO-IIEP, Paris, 147p.

Linden L. (2008). "Complement or Substitute? The Effect of Technology on Student Achievement in India" J-PAL Working Paper.

Liu J. (2012) "Does Cram Schooling Matter? Who Goes to Cram Schools?" *International Journal of Educational Development*, vol. 32(1), pp. 46–52.

Malamud O., Pop-Eleches C. (2011) "Home Computer Use and the Development of Human Capital" *The Quarterly Journal of Economics,* Oxford University Press, vol. 126(2), pp. 987-1027.

McEwan P., Benveniste L., (2001) "The politics of rural school reform: Escuela Nueva in Colombia." *Journal of Education Policy*, vol. 16 (6), pp. 547–559.

McEwan P. (2015) "Improving Learning in Primary Schools in Developing Countries: A Meta-Analysis of Randomized Experiments". *Review of Educational Research,* vol. 85(3), pp. 353-394.

McEwan P. (2013) "The impact of Chile's school feeding program on education outcomes" *Economics of Education Review,* vol. 32, pp. 122-139.

Mori I., Baker D. (2010) "The Origin of Universal Shadow Education: What the Supplemental Education Phenomenon tells us about the Postmodern Institution of Education." *Asia Pacific Education Review,* vol. 11(1), pp. 36–48.

Muralidharan K., Sundararaman V. (2011) "Teacher Performance Pay: Experimental Evidence from India" *Journal of Political Economy*, Vol. 119(1) , pp.39-77.

Muralidharan K., (2015) "Field experiments in education in developing countries" J-PAL Working Paper.

Muralidharan K., Sundararaman V. (2013) "Contract Teachers: Experimental evidence from India." J-PAL Working Paper.

Murnane R., Ganimian A. (2014) "Improving Educational Outcomes in Developing Countries: Lessons from Rigorous Evaluations." NBER Working Paper 20284, National Bureau of Economic Research.

Nath, S.R. (2008) "Private Supplementary Tutoring among Primary Students in Bangladesh." *Educational Studies,* vol. 34(1), pp.55–72.

Piper B., Korda M. (2011) "Early Grade Reading Assessment (EGRA) Plus: Liberia—Program Evaluation Report", prepared for USAID/Liberia.

Roesgaard H. M. (2006) *Japanese Education and the Cram School Business: Functions, Challenges and Perspectives of the Juku.* Copenhagen: Nordic Institute of Asian Studies Press, 216 p.

Sabarwal S., Evans D.K., Marshak A. (2014) "The permanent input hypothesis: the case of textbooks and (no) student learning in Sierra Leone". The World Bank, Policy Research working paper no. WPS 7021.

Seth M.J. (2002) *Education Fever: Society, Politics, and the Pursuit of Schooling in South Korea*. University of Hawai'i Press, Honolulu, 320p.

UNESCO (2018) *Global Education Monitoring Report,* UNESCO Report, Paris.

Wagner D. (2014*) Learning and education in developing countries: Research and Policy for the Post-2015 UN Development Goals*, Palgrave Macmillan US, 116p.

World Bank (2018) *Learning to realize education's promise*, The World Bank, World Development Report.

Early Childhood Development

Bastos P., Bottan N. L., Cristia J. (2017). « Access to Preprimary Education and Progression in Primary School: Evidence from Rural Guatemala." *Economic Development and Cultural Change*, vol. 65(3), pp. 521-547.

Behrman J., Cheng Y., Todd P.E. (2004) "Evaluating Preschool Programs when length of exposure to the program varies: a non parametric approach." *The Review of Economics and Statistics*, vol. 86(1), pp. 108–132.

Berlinski S, Schady N. (2015*) The early years: child well-being and the role of public policy.* Palgrave, MacMillan, New York, 262p.

Berlinski S., Galiani S., Gertler P. (2006). "The effect of pre-primary education of primary school performance." *Journal of Public Economics*, vol. 93, pp. 219-234.

Bernal R., Attanasio O., Peña X., Vera-Hernández M. (2014) "The Effects of the Transition from Home-Based Childcare to Center-Based Childcare in Colombia." Universidad de los Andes, Bogotá, and Institute for Fiscal Studies, London.

Bietenbeck J., Ericsson S., Wamalva, F. (2017) "Preschool attendance, school progression, and cognitive skills in East Africa" *IZA Discussion Paper Series*, DP No. 11212.

Bitler M.P., Hoynes H.W., Domina T. (2014) "Experimental Evidence on Distributional Effects of Head Start," NBER Working Paper No. 20434, National Bureau of Economic Research.

Black M.M., Walter S.P., Fernald. L, et al. (2017) "Early childhood development coming of age: science through the life course." *Lancet*, vol. 389(10064), pp. 77-90.

Campbell F.A., Ramey C.T., Pungello E., Sparling J., Miller-Johnson S. (2002) "Early Childhood Education: Young Adult Outcomes from the Abecedarian Project." *Applied Developmental Science*, vol. 6(1), pp. 42–57.

Carneiro P., Ginja R. (2014) "Long Term Impacts of Compensatory Pre-School on Health and Behavior: Evidence from Head Start." *American Economic Journal: Economic Policy,* vol. 6(4), pp. 135-173.

Council for Early Child Development (2010) *The Science of Early Child Development,* CECD, Canada.

Engle P.L., Black M.M., Behrman .JR., et al. (2007) "Strategies to avoid the loss of developmental potential among over 200 million children in the developing world". *Lancet,* vol. 369(10064), pp. 229–242.

Gibbs C., Jens L., Miller D.L. (2013). "Head Start Origins and Impacts." In *Legacies of the War on Poverty*, edited by Martha J. Bailey and Sheldon Danziger, Russell Sage Foundation, pp. 39-65.

Heckman J. J. (2008a) "The Case for Investing in Disadvantaged Young Children." In *Big Ideas for Children: Investing in Our Nation's Future*, ed. First Focus, pp. 49–58.

Heckman J. J. (2008b) "Schools, Skills, and Synapses." *Economic Inquiry,* vol. 46 (3), pp. 289–324.

Kline P., Walters C.R. (2016). "Evaluating Public Programs with Close Substitutes: The Case of Head Start," *The Quarterly Journal of Economics,* vol. 131(4), pp. 1795-1848.

Kremer M., Brannen C., Glennerster R. (2013) "The Challenge of Education and Learning in the Developing World." *Science,* vol. 340 (6130), pp. 297–300.

Martinez S., Naudeau S., Pereira V. (2013) "The Promise of Preschool in Africa: A Randomized Impact Evaluation of Early Childhood Development in Rural Mozambique." The World Bank, Working paper.

Murnane R.J., Ganimian A.J. (2014) "Improving Educational Outcomes in Developing Countries: Lessons from Rigorous Evaluations." NBER Working Paper No. 20284, National Bureau of Economic Research.

Shonkoff J.P., Phillips D.A. (2000) *From Neurons to Neighborhoods: The Science of Early Childhood Development*, National Academies Press, Washington, DC.

Alleviating resources and credit constraints

Akresh R., de Walque D., Kazianga H. (2013) "Cash transfers and child schooling: evidence from a randomized evaluation of the role of conditionality", Policy Research working paper n° WPS 6340; Impact Evaluation series n° IE 82. Washington, DC: World Bank.

Angrist J., Bettinger E., Bloom E., King E., Kremer M. (2002) "Vouchers for Private Schooling in Colombia: Evidence from a Randomized Natural Experiment." *American Economic Review*, vol. 92(5), pp. 1535-1558.

Angrist J., Bettinger E., Kremer M. (2006). “Long Term Educational Consequences of Secondary School Vouchers: Evidence from Administrative Records in Colombia.” *American Economic Review*, vol. 96(3), pp. 847-862.

AngristJ., Lavy V. (2009) “The Effects of High Stakes High School Achievement Awards: Evidence from a Randomized Trial.” *American Economic Review*, vol. 99(4), pp. 1384-1414.

Attanasio O., Costas M., Santiago A. (2011) "Education Choices in Mexico: Using a Structural Model and a Randomized Experiment to Evaluate PROGRESA." *The Review of Economic Studies*, vol. 79(1), pp. 37-66.

Baird S., Ferreira F. H. G., Özler B., Woolcock, M. (2013) “Relative Effectiveness of Conditional and Unconditional Cash Transfers for Schooling Outcomes in Developing Countries: A Systematic Review”. Campbell Systematic Reviews 2013:8. 123 p.

Baird S., McIntosh C., Özler B. (2011) “Cash or condition? Evidence from a cash transfer experiment”. *The Quarterly Journal of Economics*, vol. 126(4), pp. 1709-1753.

Banerjee A., Glewwe P., Powers S., Wasserman M. (2013) “Expanding Access and Increasing Student Learning in Post-Primary Education in Developing Countries: A Review of the Evidence.” Post-Primary Education Initiative Review Paper, Abdul Latif Jameel Poverty Action Lab, Cambridge, MA, 64.

Barrera-Osorio F., Linden L. L., Urquiola M. (2007) “The Effects of User Fee Reductions on Enrollment Evidence from a quasi-experiment.” enGender Impact : the World Bank's Gender Impact Evaluation Database. Washington DC ; World Bank.

Barrera-Osorio F., Bertrand M., Linden L. L., Perez-Calle F. (2008) “Conditional Cash Transfers in Education; Design Features, Peer and Sibling Effects: Evidence from a Randomized Experiment in Colombia”, Working paper no. 13890, NBER, Cambridge, MA.

Behrman J. R., Sengupta P., Todd P. (2005) “Progressing through PROGRESA: An impact Assessment of a School Subsidy Experiment in Rural Mexico.” *Economic Development and Cultural Change*, vol. 54 (1), pp.237-253.

Behrman J. R., Parker S. W., Todd P. E., Wolpin K. I. (2015) “Aligning Learning Incentives of Students and Teachers: Results from a Social Experiment in Mexican High Schools”, *Journal of Political Economy*, vol. 123(2), pp. 325-364.

Benhassine N., Devoto F., Duflo E., Dupas P., Pouliquen V. (2014) “Turning a shove into a nudge ? A « labeled cash transfter » for education”, NBER Working Paper No. 19227.

Blimpo M. (2014) “Team Incentives for Education in Developing Countries: A Randomized Field Experiment in Benin” *American Economic Review: Applied Economics*, vol.6(4), pp. 90-109.

Bobonis G. J., Finan F. (2009) “Neighborhood Peer Effects in Secondary School Enrollment Decisions.” *Review of economics and statistics*, vol.91 (4), pp. 695-716

Borkum, E. (2012) “Can Eliminating School Fees in Poor Districts Boost Enrollment? Evidence from South Africa.” *Economic Development and Cultural Change*, vol. 60(2), pp. 359–398.

de Groot, R., et al. (2015) "Heterogeneous Impacts of an Unconditional CashTransfer Programme on Schooling: Evidence from the Ghana LEAP Programme", Innocenti Working Paper no. 2015-10, UNICEF Office of Research - Innocenti, Florence

Duflo E., Dupas P., Kremer M. (2017) "The impact of free secondary education: experimental evidence from Ghana", Innovations for Poverty Action Working paper, 2017.

Evans D. K., Hausladen S., Kosec K., Reese N. (2014) "Community based conditional cash transfers in Tanzania : results from a randomized trial". World Bank Study, Washington DC; World Bank Group, 191 p.

Fiszbein A., Schady N. (2009) "Conditional cash transfers, reducing present and future poverty", Policy Research Report, Washington, DC : World Bank.

Friedman, W., Kremer M., Miguel E., Thornton R. (2011) "Education as Liberation?" NBER working paper No. w16939, NBER, Cambridge, MA.

Fryer, R. (2010) "Financial Incentives and Student Achievement: Evidence from Randomized Trials." NBER Working Paper no. 15898, NBER, Cambridge, MA.

Galiani, S., McEwan P. J. (2013) "The heterogeneous impact of conditional cash transfers." *Journal of Public Economics*, vol. 103, pp. 85–96.

Gauri V., Vawda A. (2003) "Vouchers for basic education in developing countries: a principal agent perspective". Policy Research Working Paper Series 3005. Washington, DC: The World Bank.

Glewwe P., Kassouf A. L. (2012) "The impact of the Bolsa Escola/Familia conditional cash transfer program on enrollment, dropout rates and grade promotion in Brazil", Journal of Development Economics, vol. 97(2), pp. 505-517.

Glewwe P., Wydick B. (2013) "Child Sponsorphip and Child Psychology, evidence from Children's Drawings in Indonesia", Working paper, University of San Francisco.

Glewwe, P., Nauman I., Kremer M. (2010) "Teacher Incentives." *American Economic Journal: Applied Economics*, vol. 2, pp. 205–27.

Gurgand M., Lorenceau A., Melonio T. (2011) "Student Loans: Liquidity Constraint and Higher Education in South Africa." Agence Française de Développement Working Paper No. 117, September.

Henriquez F., Lara B., Mizala A., Repetto A. (2010) "Effective schools do exist: low-income children's academic performance in Chile". Working Document 003. Santiago, Chile: Adolfo Ibanez University.

Hsieh C.T., Urquiola M. (2003) "When schools compete, how do they compete? An assessment of Chile's Nationwide School Voucher Program". NBER Working Paper 10008, Cambridge, MA.

Kilburn, K., Sudhanshu H., Angeles G. (2017) "Short-term impacts of an unconditional cash transfer program on child schooling: Experimental evidence from Malawi" *Economics of Education Review*, vol.59, pp. 63-80.

Kremer, M., Edward M., Thornton R. (2009) "Incentives to Learn." *Review of Economics and Statistics*, vol.91(3), pp. 437-456

Krishnaratne, S., White H., Carpenter, E. (2013) "Quality education for all children? What works in education in developing countries". Working Paper 20. New Delhi: International Initiative for Impact Evaluation (3ie).

Levitt S. D., List J. A., Sadoff S. (2010) "The Effect of PerformanceBased Incentives on Educational Achievement: Evidence from a Randomized Experiment." Working paper, Univ. Chicago.

Li T., Han L., Zhang L., Rozelle S. (2014) "Encouraging classroom peer interactions: Evidence from Chinese migrant schools." *Journal of Public Economics,* vol.111, pp.29-45.

McEwan P.J., Urquiola M., Vegas E. (2008) "School choice, stratification, and information on school performance: lessons from Chile". *Economia*, vol.8(2), pp. 1-42.

Morgan C., Petrosino A., Fronius T. (2013) "A systematic review of the evidence of the impact of school voucher programmes in developing countries". London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Muralidharan K., Sundararaman V. (2011) "Teacher Incentives in Developing Countries: Experimental Evidence from India." *Journal of political economy*, vol. 119, pp.39–77.

Patrinos H.A., Sakellariou C. (2008) "Quality of schooling, returns to schooling and the 1981 vouchers reform in Chile". Policy Research Working Paper 4617. Washington, DC: The World Bank.

Ross P., Wydick B. (2011) "The Impact of Child Sponsorship on Self-Esteem, Life-Expectations, and Reference Points; Evidence from Kenya", Working paper, Univ. San Francisco.

Schultz, P. (2004), "School subsidies for the poor: evaluating the Mexican Progresa poverty program", *Journal of Development Economics*, vol. 74(1), pp. 199-250.

Solis, A. (2011) "Credit Constraints for Higher Education." Working Paper, October 21. (NEUDC 2011).

Springer M. G., et al. (2010) "Teacher Pay for Performance: Experimental Evidence from the Project on Incentives in Teaching." Manuscript, Nat. Center Performance Incentives, Vanderbilt University.

Todd P. E., Wolpin K. I. (2006) "Assessing the Impact of a School Subsidy Program in Mexico: Using a Social Experiment to Validate a Dynamic Behavioral Model of Child Schooling and Fertility." *American Economic Review*, vol. 96 (5), pp. 1384-1417.

West E.G. (1997) "Education Vouchers in Principle and Practice: a Survey", *The World Bank Research Observer*, vol. 12(2), pp. 83-103.

World Bank (2009) "Conditional Cash Transfers: Reducing present and future poverty, Policy Research Report." World Bank Policy Research Report, Washington, DC : World Bank

Wydick B., Glewwe P., Rutledge L. (2013) "Does International Child Sponsorship Work? A Six-Country Study of Impacts on Adult Life Outcomes." *Journal of Political Economy*, vol. 121(2), pp. 393–436.

Yi, H. et al. (2014) "Giving Kids a Head Start: The Impact and Mechanisms of Early Commitment of Financial Aid on Poor Students in Rural China." *Journal of Development Economic*, vol. 113, pp. 1-15.

Information programs and management strengthening programs

Angrist J., Pathak P., Walters C. (2013) "Explaining Charter School Effectiveness." *American Economic Journal: Applied Economics*, 5 (4), pp.1-27.

Avitabile C., de Hoyos R. (2018) "The heterogeneous effect of information on student performance: Evidence from a randomized control trial in Mexico." *Journal of Development Economics*, Elsevier, vol. 135(C), pp.318-348.

Barr A., Mugisha F., Serneels P., Zeitlin A. (2012) "Information and collective action in the community monitoring of schools: Field and lab experimental evidence from Uganda." Working paper, University of Tilburg.

Beaman L., Duflo E., Pande R., Topalova P. (2012) "Female Leadership Raises Aspirations and Educational Attainment for Girls: A Policy Experiment in India." *Science* 335 (6068), pp.582–86.

Berlinski S., Busso M., Dinkelman T., Martinez C. (2016) "Reducing Parent-School Information Gaps and Improving Education Outcomes: Evidence from High Frequency Text Messaging in Chile." Working paper, Abdul Latif Jameel Poverty Action Lab, Massachusetts Institute of Technology, Cambridge, MA.

Björkman M. (2006) "Does Money Matter for Student Performance? Evidence from a Grant Program in Uganda." Innocenzo Gasparini Institute for Economic Research (IGIER), Università Bocconi. Milan, Italy, Working Paper no. 326.

Blimpo M., Evans D. (2011) "School-based management and educational outcomes : lessons from a randomized field experiment." enGender Impact : the World Bank's Gender Impact Evaluation Database. Washington DC, The World Bank.

Bold T., Kimenyi M., Mwabu G., Ng'ang'a A., Sandefur J. (2013) "Scaling Up What Works: Experimental Evidence on External Validity in Kenyan Education." The Center for Global Development, Working Paper no. 321.

Conn K. (2017) "Identifying Effective Education Interventions in Sub-Saharan Africa: A Meta-analysis of Rigorous Impact Evaluations". Columbia University. New York.

Contreras N. (2015) "School autonomy, education quality and development: an instrumental variable approach." CES Working papers, 2015.20.

Crawfurd L. (2017) "School management and public-private partnerships in Uganda." Working paper, RISE-WP-17/013, July.

Dinkelman T., Martínez, A. C. (2013) "Investing in Schooling in Chile: The Role of Information about Financial Aid for Higher Education." *Review of Economics and Statistics,* 96, pp.244-257.

Dizon-Ross R. (2016) "Parents' Beliefs and Children's Education: Experimental Evidence from Malawi." Working paper, Booth School of Business, University of Chicago.

Dobbie W., Fryer Jr. R. (2013) "Getting beneath the veil of effective schools: Evidence from New York City." *American Economic Journal: Applied economics*, 5(4), pp.28-60.

Duflo, E., Dupas P., Kremer M. (2012) "School Governance, Teacher Incentives, and Pupil-Teacher Ratios: Experimental Evidence from Kenyan Public Schools." NBER Working Paper Series. No. 17939.

Eyles A., Hupkau C., Machin S. (2016) "Academies, Charter and Free Schools: Do New School Types Deliver Better Outcomes?" *Economic Policy*, 31(87), pp.453- 501.

Gallego, F., Molina O., Neilson, C. (2018) "Choosing a better future: information to reduce school drop out and child labor rates in Peru", J-PAL Policy Briefcase, J-PAL, Massachusetts Institute of Technology, Cambridge, MA.

Gertler, P- J., Patrinos H-A., Rubio-Codina M. (2012) "Empowering parents to improve education: Evidence from rural Mexico", *Journal of Development Economics* 99, pp.68-79.

Glewwe P., Muralidharan K. (2015) "Improving School Education Outcomes in Developing Countries. Research on Improving Systems of Education". RISE Working Paper 15/001.

Glewwe P., Hanushek E., Humapage S., Ravina, R. (2013) "School resources and educational outcomes in developing countries: a review of the literature from 1990 to 2010." NBER working paper series, WP 17554, NBER, Cambridge, MA.

Glewwe P., Maïga E. (2011) "The Impacts of School Management Reforms in Madagascar: Do the Impacts Vary by Teacher Type?" J-PAL Working Paper.

Hanushek E.A., Link S., Woessmann L. (2013) "Does School Autonomy Make Sense Everywhere? Panel Estimates from PISA." *Journal of Development Economics*, 104, pp.212–232.

Hook, T. (2017) "Partnership schools for Liberia: a critical review." Education international Research, Actionaid Report.

Huan W., Chu J., Loyalka P., Tao X., Shi Y., Qu Q., Chu Y., Rozelle S. (2014) "Can School Counseling Reduce School Dropout in Developing Countries?" REAP Working Paper #275.

Jensen, R. (2010) "The (Perceived) Returns to Education and the Demand for Schooling", *The Quarterly Journal of Economics*, vol. 25(2), pp. 515-548.

Jensen, R. (2012) "Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India." *Quarterly Journal of Economics*, vol. 127 (2), pp. 753–92.

J-PAL (Abdul Latif Jameel Poverty Action Lab) (2013) "Informing Future Choices." J-PAL Policy Briefcase, J-PAL, Massachusetts Institute of Technology, Cambridge, MA.

Kremer, M., Brannen, C., Glennerster, R., 2013. "The challenge of education and learning in the developing world." *Science*, vol. 340(6130), pp. 297-300.

Lassibille G., Tan J.-P., Jesse C., Van Nguyen T. (2010) « Managing for Results in Primary Education in Madagascar: Evaluating the Impact of Selected Workflow Interventions". *The World Bank Economic Review*, vol. 24(2), pp.303–329.

Lieberman, E. S., Posner D. N., Tsai L. L. (2014) "Does Information Lead to More Active Citizenship? Evidence from an Education Intervention in Rural Kenya." *World Development,* vol.60, pp. 69–83.

Loyalka, P., Liu C., Song Y., Yi H., Huang X., Wei J., Zhang L., Shi Y., Chu J., Rozelle S. (2013) "Can information and counseling help students from poor rural areas go to high school? Evidence from China." *Journal of Comparative Economics,* vol. 41, pp. 1012-1025.

Nguyen T. (2009) "Information, Role Models and Perceived Returns to Education: Experimental Evidence from Madagascar." MIT Working Paper, Massachusetts Institute of Technology, Cambridge, MA.

Pandey P., Goyal S., Sundararaman V. (2009) "Community participation in public schools: impact of information campaignes in three Indian states." *Education Economics*, vol. 17(3), pp. 355-375.

Patrinos A., Barrera-Osorio F., Guaqueta J. (2009) "The Role and Impact of Public-Private partnerships in Education", The International Bank for Reconstruction and Development / The World Bank, Washington DC.

Reinikka, R., Svensson J. (2011) "The power of information in public services: Evidence from education in Uganda". *Journal of Public Economics*, vol.95, pp.956–966.

Romero M., Sandefur J., Sandholtz W. A. (2017) "Can Outsourcing Improve Liberia's Schools? Preliminary Results from Year One of a Three-Year Randomized Evaluation of Partnership Schools for Liberia." CGD Working Paper 462. Washington, DC: Center for Global Development.

Santibanez L., Abreu-Lastra R., O'Donoghue J. L. (2014) "School based management effects: Resources or governance change? Evidence from Mexico", *Economics of Education Review, vol.* 39, pp.97-109.

Sekhri S., Rubinstein Y. (2011) « Do public colleges in developing countries provide better education than private ones? Evidence from general education sector in India." Virginia Economics Online Papers 375, University of Virginia, Department of Economics.

World Bank (2018) "Learning to realize education's promise", World Bank report.

Yamauchi F. (2014) "An alternative estimate of school-based management impacts on students' achievements: evidence from the Philippines". Policy Research working paper, no. WPS 6747; Impact Evaluation series, n°IE 113. Washington, DC: World Bank Group.

Vocational Education and Training

Blattman C., Ralston L. (2015) "Generating employment in poor and fragile states: Evidence from labor market and entrepreneurship programs", *SSRN Electronic Journal*.

Campos Frese M., Goldstein M., Lacovone L., Johnson H., McKenzie D., Mensmann, M. "Teaching personal initiative beats traditional training in boosting small business in West Francisco." *Science,* vol. 357 (6357), pp.1287-1290.

Hendra R., Greenberg D., Hamilton G., Oppenheim A., Pennington A., Schaberg K., Tessler B. (2016) "Encouraging Evidence on a Sector-Focused Advancement Strategy: Two-Year Impacts from the WorkAdvance Demonstration." *MDRC*, Washington DC.

Hirshleifer S., McKenzie D., Almeida R., Ridao-Cano C. (2016) "The Impact of Vocational Training for the Unemployed: Experimental Evidence from Turkey." *Economic Journal* (126), pp.2115–2146.

ILO (2018) *World Employment and Social Outlook: Trends 2018,* International Labour Office, Geneva.

McKenzie D. (2017) "*How effective are active labor market policies in developing countries? a critical review of recent evidence"*. Policy Research working paper No. WPS 8011, Impact Evaluation series, Washington, D.C., World Bank Group.

Oketch M. O. (2014) "Education Policy, Vocational Training, and the Youth in Sub-Saharan Africa." UNU-WIDER.

Oketch M. O. (2007) "To vocationalize or not to vocationalize? Perspectives on current trends and issues in technical and vocational education and training (TVET) in Africa." *International Journal of Educational Development*, 27(2), pp.220–34.

Tilak J. B. G. (2002) *Vocational education and training in Asia*. The handbook on educational research in the Asia Pacific region, in J. P. Keeves and R. Watanabe (Eds.), Berlin, Germany (Kluwer).

Tripney J., Hombrados J., Newman M., Hovish K., Brown C., Steinka-Fry K., Wilkey E. (2013) "Technical and Vocational Education and Training (TVET) Interventions to Improve the Employability and Employment of Young People in Low- and Middle-Income Countries: A Systematic Review". *Campbell Systematic Reviews* 2013:9.

Tukundane C., Minnaert A., Zeelen J., Kanyandago P. (2015) "Building vocational skills for marginalised youth in Uganda: A SWOT analysis of four training programmes," *International Journal of Educational Development*, Elsevier, vol. 40(C), pp.134-144.

Higher education

Altbach P. G., Bala´n J. (Eds.) (2007) *Transforming research universities in Asia and Latin America*, World class worldwide, Baltimore: Johns Hopkins University Press.

Altbach P. G., Reisberg L., Rumbley L. E. (2009) *Trends in global higher education: Tracking an academic revolution*. A report prepared for the UNESCO 2009 world conference on higher education.

Appleton S. (2000) "Education and Health at the Household Level in sub-Saharan Africa." Centre for International Development at Harvard University Working Papers No. 33.

Banerjee A., Glewwe P., Powers S., Wasserman M. (2013) "Expanding Access and Increasing Student Learning in Post-Primary Education in Developing Countries: A Review of the Evidence." Post-Primary Education Initiative Review Paper, Abdul Latif Jameel Poverty Action Lab, Cambridge, MA.

Barouni M., Broecke S. (2014) "The returns to education in Africa: Some new estimates." *The Journal of Development Studies* 50:12, pp.1593–1613.

Barrera-Osorio F., Bertrand M., Linden L., Perez-Calle F. (2011) "Improving the Design of Conditional Transfer Programs: Evidence from a Randomized Education Experiment in Colombia." *American Economic Journal: Applied Economics* 3 (April), pp.167-195.

Bertrand M., Hanna R., Mullanaithan S. (2010) "Affirmative action in education: Evidence from engineering college admissions in India." *Journal of Public Economics* 94 pp.16-29.

Bloom D, Canning D., Chan K. (2006) "Higher Education and Economic Development in Africa." Washington DC, The World Bank.

Bloom D. E., Canning D., Chan K., Luca D. L. (2014) "Higher education and economic growth in Africa." *International Journal of African Higher Education*, 1(1), pp.22–57.

Brock-Utne B. (2003) "Formulating higher education policies in Africa: the pressure from external forces and the neoliberal agenda." The Journal of Higher Education in Africa / La Revue de l'enseignement supérieur en Afrique, 1(1), pp.24–46.

Carnoy M., Loyalka P., Dobryakova M., Dossani R., Froumin I., Kuhns K. (2013) « University expansion in a changing global economy: Triumph of the BRICs?", Stanford University Press.

Castells M. (1991) "The University System: Engine of development in the new world economy." Washington DC, The World Bank.

Castells M. (2009) Transcript of a lecture on higher education delivered at the University of the Western Cape, 7 August.

Castells M., (2002) *Universities as dynamic systems of contradictory functions*. In Muller J., Cloete N., Badat S. (eds) Challenges of Globalisation: South African debates with Manuel Castells. Cape Town, Maskew Miller Longman.

Chien C., Montjourides P. (2016) *Global trends in access to post-secondary education*. In Mountford Zimdars A., Harrison N. (Eds.), Access to higher education: Theoretical perspectives and contemporary challenges. Abingdon, Routledge.

Colclough C. (1990) "Raising additional resources for education in developing countries: Are graduate payroll taxes superior to student loans?" *International Journal of Educational Development*. 10 (2-3) pp.169–180.

Colclough C., Kingdon G., Patrinos H. A. (2009) "The pattern of returns to education and its implications." Policy Brief 4, Cambridge: Research Consortium on Educational Outcomes and Poverty (RECOUP).

Connell R. (2015) "Australian universities under neoliberal management: The deepening crisis." *International Higher Education*, 81, pp.23–25.

Devarajan S., Monga C., Zongo T., (2011) "Making higher education finance work for Africa." *Journal of African Economies,* Vol. 20, Issue sup. August, pp.133-154.

Fasih T., Kingdon G., Patrinos H. A., Sakellariou C., Soderbom M. (2012) "Heterogeneous returns to education in the labor market." Policy Research Working Paper, The World Bank.

Frisancho Robles V., Krishna K. (2012) "Affirmative Action in Higher Education in India: Targeting, Catch Up, and Mismatch," NBER Working Paper No. 17727.

Global Value Chains and Africa's Industrialization (2014) African Economic Outlook. African Development Bank, OECD, UNECA, UNDP.

Gurgand M., Lorenceau A., Mélonio T. (2011) "Student loans: Liquidity constraint and higher education in South Africa", PSE Working Paper No. 20.

Heckman J. J., Lochner L. J., Todd P. E. (2008) "Earnings Functions and Rates of Return." University of Western Ontario CHCP Working Papers, 2008-2.

Ilie S., Rose P. (2018) "Who benefits from public spending on higher education in South Asia and sub-Saharan Africa?" *Compare: A Journal of Comparative and International Education*, 48:4, pp.630-647.

Ilie, S. Rose, P. (2016) "Is equal access to higher education in South Asia and sub-Saharan Africa achievable by 2030?" *Higher Education*, October, Volume 72, Issue 4, pp.435–455.

Jerrim J., Vignoles A. (2015) "University access for disadvantaged children: a comparison across countries." *Higher Education*, 70(6), pp.903–921.

Johnstone D. B., Marcucci P. N. (2010) "Financing Higher Education Worldwide: Who Pays? Who Should Pay?" Baltimore, MD: Johns Hopkins University Press.

Juma C, Yee-Cheong L., (2005) Innovation: Applying knowledge in development. London, Earthscan.

Kamara A., Nyende L. (2007) "Growing a Knowledge-Based Economy: Public expenditure on education in Africa." Economic Research Working Paper, No. 88. Tunisia: African Development Bank.

Kaufmann K. M. (2014) "Understanding the income gradient in college attendance in Mexico: The role of heterogeneity in expected returns." *Quantitative Economics*, vol. 5(3), pp. 583-630.

Keeling R. (2006) "The Bologna Process and the Lisbon Research Agenda: The European Commission's expanding role in higher education discourse." *European Journal of Education*, 41(2), pp. 203–223.

Lewis M., Lockheed M. (2006) "Inexcusable Absence: Why 60 Million Girls Still Aren't In School and What to Do About It?" Washington, DC, Center for Global Development.

Marginson S. (2016) "The Worldwide Trend to High Participation in Higher Education: Dynamics of Social Stratification in Inclusive Systems." *Higher Education* 72 (4), pp.413–434.

Marginson S., Van Der Wende, M. (2007) "Globalisation and higher education." OECD Education Working Papers, 8. OECD Publishing.

McCowan T. (2004) "The growth of private higher education in Brazil: Implications for equity and quality." *Journal of Education Policy,* 19(4), pp.453–472.

McCowan T. (2012) "Is there a universal right to higher education?" *British Journal of Educational Studies*, 60(2), pp.111–128.

McCowan T., Schendel R. (2016) *The impact of higher education on development*. In McGrath S., Gu Q. (Eds.), The Routledge handbook of international education and development. Abingdon, Routledge.

McMahon W. W. (2009) "Higher learning, greater good: The private and social benefits of higher education." Baltimore, Johns Hopkins University Press.

Mohamedbhai G. (2003) *La mondialisation et ses conséquences pour les universités dans les pays en développement*. Extrait de : Breton G., Lambert V. (éds) Universities and globalization : Private Linkages, Public Trust. Paris, UNESCO/Université Laval/Economica, pp.153-162.

Moretti E. (2004) "Estimating the social return to higher education: evidence from longitudinal and repeated cross-sectional data." *Journal of Econometrics*, 121(1), pp.175–212.

Morley L., Lugg R. (2009) "Mapping meritocracy: Intersecting gender, poverty and higher educational opportunity structures." *Higher Education Policy*, 22(1), pp.37–60.

Odhiambo G.O. (2014) "Quality assurance for public higher education: Context, strategies and challenges in Kenya." *Higher Education Research and Development*, 33, pp.978–991.

Oketch M. (2008) "Public–private mix in the provision of higher education in East Africa: stakeholders' perceptions." *Compare: A journal of comparative and international education,* Vol. 39(1).

Oketch M.O. (2016) "Financing higher education in sub-Saharan Africa: some reflections and implications for sustainable development." *Higher Education* 72 (4), pp.525–539.

Oketch M.O., McCowan T., Schendel R. (2014) "The impact of tertiary education on development: A rigorous literature review." EPPI-Centre Report 2205, Department for International Development.

Sailors, M., Hoffman, J. V., Pearson, P. D., Beretvas, S. N., & Matthee, B (2010). "The effects of first- and second-language instruction in rural South African schools". *Bilingual Research Journal*, 33, pp. 21-41.

Salmi J., Bassett R. M. (2014) "The equity imperative in tertiary education: Promoting fairness and efficiency." *International Review of Education*, 60(3), pp.361–377.

Salmi J., Hauptman A. (2006) "Innovations in Tertiary Education Financing: A Comparative Evaluation of Allocation Mechanisms." Education Working Paper Series No. 4). Washington, D.C., The World Bank.

Sawyerr A. (2004) "Challenges Facing African Universities: Selected issues." Accra, Association of African Universities.

Schendel R., McCowan T. (2016) "Expanding higher education systems in low-and middle –income countries: the challenges of equity and quality." *Higher Education*, 72(4), pp.407-411.

Schofer E., Meyer J. W. (2005) "The worldwide expansion of higher education in the twentieth century." *American Sociological Review*, 70(6), pp.898–920.

Schultz T. P. (2003) "Evidence of Returns to Schooling in Africa from Household Surveys: Monitoring and Restructuring the Market for Education." Yale University Economic Growth Center Discussion Paper No. 875.

Shimeles A. (2016) "Can higher education reduce inequality in developing countries?" IZA World of Labor 2016 No. 273.

Solis A. (2011) "Credit Constraints for Higher Education." Working Paper, October 21. (NEUDC).

Teal F. (2011) "Higher education and economic development in Africa: A review of channels and interactions." *Journal of African Economies*, 20(suppl. 3), pp.50–79.

Teferra D., Altbach P.G. (2004) "African Higher Education: Challenges for the 21st Century", *Higher Education*, vol. 47(1), pp. 21-50.

Tilak, J. B. (2014) "Private higher education in India". *Economic and Political Weekly*, 49(40), pp. 32–38.

Trow M. (1973) "Problems in the transition from elite to mass higher education." Carnegie Commission on Higher Education Commission Reports.

Trow M. (2007) *Reflections on the transition from elite to mass to universal access forms and phases of higher education in modern societies since WWII*. In Forest J. F., Altbach P. G. (Eds.), International handbook of higher education, pp. 243–280, New York, Springer.

UNESCO Institute for Statistics (2015) Data Centre Theme: Education. http://data.uis.unesco.org/

United Nations (2015) *Transforming our world: the 2030 Agenda for Sustainable Development*. Resolution adopted by the General Assembly on 25 September 2015. Seventieth session.

Unterhalter E., Carpentier V. (2010) *Global Inequalities and Higher Education, Whose interests are we serving?*, Ed. Palgrave Macmillan, Universities in to the 21st Century.

Varghese N.V. (2013) "Governance reforms in higher education: a study of selected countries in Africa." Working paper IIEP/SEM334, International Institute for Educational Planning / UNESCO, April.

Wangenge-Ouma G. (2010) "Tuition fees and the challenge of making higher education a popular commodity in South Africa." *Higher Education,* Vol.64, No6 (December 2012), pp.831-844.

Wangenge-Ouma, G. (2007) "Higher education marketisation and its discontents: The case of quality in Kenya." *Higher Education*, 56(4), pp.457–471.

Woodhall M. (2007) "Funding Higher Education: The Contribution of Economic Thinking to Debate and Policy Development." Washington, D.C., The World Bank.

World Bank (2002) "Constructing Knowledge Societies: New challenges for tertiary education." Washington DC, The World Bank.

World Bank (2009) "Accelerating Catch-up: Tertiary education for growth in sub-Saharan Africa." Washington DC, The World Bank.

World Bank (2010) "Financing Higher Education in Africa." Washington, D.C., World Bank

Part 2. The Education Challenges in Five African Countries

Burkina Faso

Ministère de l'Education Nationale et de l'Alphabétisation (MENA), Statistiques : http://www.mena.gov.bf/

Ministère de l'Enseignement Supérieur, de la Recherche Scientifique et de l'Innovation - MESRI (2018) Rapport des Sorties de suivi- contrôle des institutions privées d'enseignement supérieures, Juillet 2018 : http://www.mesrsi.gov.bf/

Ministère de l'Enseignement Supérieur, de la Recherche Scientifique et de l'Innovation (MESRI), Liste des Ecoles primaires, post-primaires, secondaires privées http://www.mesrsi.gov.bf/

Ministère de l'Enseignement Supérieur, de la Recherche Scientifique et de l'Innovation (MESRI Data), Statistiques. http://www.mesrsi.gov.bf/

PASEC (2014) Performances des systèmes éducatifs en Afrique subsaharienne francophone : Compétences et facteurs de réussite au primaire : http://www.pasec.confemen.org/pasec2014/

PSE (2013), Programme sectoriel de l'éducation et de la formation - 2012-2021.

RESEN - Rapport d'état du système éducatif national du Burkina Faso (2017) Ministères en charge de l'éducation et de la Formation, UNICEF, Pôle de Dakar de IIPE – UNESCO, Août 2017.

Ministères en charge de l'éducation et de la Formation, UNICEF, Pôle de Dakar de IIPE - UNESCO (2017) Rapport d'état du système éducatif national du Burkina Faso, Pour une politique nouvelle dans le cadre de la réforme du continuum d'éducation de base.

UNESCO (2019): http://uis.unesco.org/en/country/bf

World Bank (2019) Education Statistics:
http://datatopics.worldbank.org/education/country/burkina-faso

Cote d'Ivoire

AGEPE (2014) Enquête Nationale sur la Situation de l'Emploi et du Travail des Enfants (ENSETE) 2013, Agence d'Études et de Promotion de l'Emploi, Abidjan.

Christiaensen, L. and Premand, P. (2017) Côte d'Ivoire Jobs Diagnostic: Employment, Productivity, and Inclusion for Poverty Reduction. Washington, DC: World Bank Group.

DSPS (2018) Schools Statistics 2017-2018.

ETFP (2018) Rapport d'enquete sur la situation post-formation des diplomés de la Formation Professionelle de l'année 2017. Juin 2018

Harma, J. (2018) "Low Fee Private Schools in Low Income Districts of Abidjan, Cote d'Ivoire", CapPlus.

Kouadio, A.O., Azoh F.-J. , Bonnel M.-L., Maïga S. and N'dri J. (2018) "Les collèges de proximité en Côte d'ivoire au prisme de l'approche par les capabilités", Papiers de Recherche AFD, n° 2018-80, Septembre.

MESRS and DESPRIV (2016) Liste Effective des etablissements d'enseignement superieur privés de type Universitaire, Mars 2016.

Ministère de l'Éducation Nationale (MEN) UNESCO, GPE (2016), Le financement de l'education en Cote d'Ivoire 2006-2015.

MENET-FP and DSPS (2017) Rapport d'analyse statistique du système éducatif ivoirien 2016-2017.

MENET-FP, MESRS and Task Force (2017) Plan Sectoriel Education/Formation (2016-2025)

METFP (2016) Reforme de l'enseignement technique et de la formation professionnelle 2016 -2025, Document de Diagnostic et d'Orientation Strategique.

Nations Unies (2018) Rapport de la Rapporteuse spéciale sur le droit à l'éducation sur sa mission en Côte d'Ivoire, A/HRC/38/32/Add.1.

OECD (2017) Examen du bien-être et des politiques de la jeunesse en Côte d'Ivoire, Centre de développement de l'OCDE, Projet OCDE-UE Inclusion des jeunes, Paris.

OECD (2018) Suivi de la mise en œuvre des réformes vers l'émergence de la Côte d'Ivoire RAPPORT D'AVANCEMENT N°3.

PASEC (2016) PASEC 2014 – Performances du système éducatif ivoirien : Compétences et facteurs de réussite au primaire. PASEC, CONFEMEN, Dakar.

RESEN (2016) Rapport d'état du système éducatif national de la Côte d'Ivoire, Pour une politique éducative plus inclusive et plus efficace, Gouvernement de la Côte d'Ivoire, UNICEF, Pôle de Dakar de IIPE - UNESCO.

World Bank and AFD (2017) L'enseignement supérieur en Côte d'Ivoire Rapport thématique 4 : La gouvernance de l'enseignement supérieur et de la recherche scientifique en Côte d'Ivoire.

Ghana

Abdul-Hamid H., Baum D., Lewis L., Lusk-Stover O. and Tammiet A. M. (2015) "The role of the private sector in providing basic education services in Kasoa, Ghana – A pilot study of the World Bank Group System Approach for Better Education Results (SABER) Engaging the Private Sector", Pilot Country Report 2015, The World Bank.

Akaguri, L. A. (2011) "Household Choice of Schools in Rural Ghana: Exploring the Contribution and Limits of Low-Fee Private Schools to Education for All."

Akyeampong, K., and C. Rolleston (2013) "Low-Fee Private Schooling in Ghana: Is Growing Demand Improving Equitable and Affordable Access for the Poor?" In *Low-Fee Private Schooling: Aggravating Equity or Mitigating Disadvantage?* ed. Prachi Srivastava, 37-63. Oxford Studies in Comparative Education. Oxford, U.K.: Symposium Books.

Alagaraja M. and Arthur-Mensah N. (2018) "Exploring technical vocational education and training systems in emerging markets: A case study on Ghana", *European Journal of Training and Development*, Vol. 37 Issue: 9, pp.835-850

Ananga E. (2011) "Dropping Out of School in Southern Ghana: The Push-out and Pull-out Factors", CREATE PATHWAYS TO ACCESS, Research Monograph No. 55, January 2011.

Asare K.B. and Nti S.K. (2018) "Teacher Education in Ghana: A Contemporary Synopsis and Matters Arising", SAGE Open April-June 2014: 1–8.

CRC (2016) Concluding observations: United Kingdom, CRC/C/GBR/CO/5, paras. 16-17, 3 June 2016.

Curtis, M. (2015) "DFID's Controversial Support for Private Education". Curtis Research.

DFID (2013) "DFID Education Position Paper - Improving learning, expanding opportunities". July 2013.

DFID (2018) "DFID Education Policy - Get Children Learning". February 2018.

Duflo E., Dupas P. and Kremer M. (2017) "The Impact of Free Secondary Education: Experimental Evidence from Ghana", Working Paper.

GLSS 6, Ghana Living Standard Survey 2012-2013.

Gondwe, M. & J. Walenkamp (2011) "Alignment of Higher Professional Education with the Needs of the Local Labour Market: The Case of Ghana", The Hague: NUFFIC and The Hague University of Applied Sciences.

Härmä J. (2018) "Low Fee Private Schools in Low-Income Districts of Accra, Ghana3", CapitalPlus Exchange Corporation and IDP Foundation, March 2018.

Hoffman N. and Schwartz R. (2015) "Gold Standard: The Swiss Vocational Education and Training System" Washington, DC: National Center on Education and the Economy.

McCoy, D. C., and Wolf, S. (2018) Changes in classroom quality predict Ghanaian preschoolers' gains in academic and social-emotional skills. Developmental Psychology, 54(8), 1582-1599.

Ministry of Education (2019) Education Strategic Plan 2018-2030.

Ministry of Education (2018) Education Sector Analysis (ESA) 2018, September 2018.

Ministry of Education (2018b) Equity Analysis of the Pre-Tertiary Sub-Sector in Ghana based on available secondary data, Draft, June 2018.

National Council for Tertiary Education - NCTE (2018b) SUMMARY OF BASIC STATISTICS ON PRIVATE UNIVERSITIES 2016/2017.

National Council for Tertiary Education - NCTE (2018) Statistical Report on Tertiary Education for 2016/17 academic year.

NDPC (2015) 2014 Citizens' Assessment Report on the Capitation Grant Scheme.

Oduro-Ofori E., Peprah C. and Cann P. (2014) "The Role of Remedial Schools in the Development of Education in Ghana", *Journal of Education and Practice*, Vol.5, No.36.

R4D - Results for Development (2016), "Understanding Household and School Proprietor Needs in Low-Fee Private Schools in Ghana A Needs and Impact Assessment of the IDP Rising Schools Program", IDP foundation.

The Right to Education Project (2016) "The UK's support to private education in developing countries, particularly for-profit, low-cost private schools, and its impact on the right to education", 2016.

Tooley, J. (1999) "The Global Education Industry. Lessons from Private Education in Developing Countries", Hobart Paper 141. London: Institute of Economic Affairs.

Tooley, J., and D. Longfield (2013) "Private Primary Education in Western Area, Sierra Leone." E.G. West Centre, Newcastle University and Development Initiatives Liberia Inc., U.K.

UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training (2016) World TVET Database Ghana, February 2016.

World Bank (2017) Fiscal Consolidation to Accelerate Growth and Support Inclusive Development: Ghana Public Expenditure Review. Washington, DC.

Madagascar

D'Aiglepierre (2012) "Quel choix des parents pour l'établissement éducatif de leurs enfants ? Le cas de l'enseignement secondaire à Madagascar," *Revue économique*, Presses de Sciences-Po, vol. 63(2), pages 283-314.

Ministère des Affaires Etrangères (2013) Fiche Madagascar, Mise à jour : 10 avril 2013.

MESUPRES (2014) Memorandum 2013-2014, Evolution des enfants boursiers.

MESUPRES (2016) L'enseignement Supérieur et la Recherche, un réel moteur de développement par l'excellence et l'innovation

MESUPRES (2017) Annuaire statistique national 2016-2017.

MESUPRES Statistics (2019) Répartition des étudiants inscrits par université, établissement au titre de l'année universitaire 2015-2016 et autre données sur le site officiel du Ministère: http://www.mesupres.gov.mg/?page=effectif_etudiant

PASEC (2014) Performance du système éducatif malgache, Plaquette. Conférence des ministres de l'Éducation des États et Gouvernements de la Francophonie.

PSE (2017) Plan Sectoriel de l'Education (2018-2022), Version finale, MEN – MESUPRES – MEETFP.

RESEN (2016) Une analyse sectorielle pour instruire un nouveau plan sectoriel de l'éducation 2017 2021, Principaux Eléments de Diagnostic, Antananarivo, 14 Novembre 2016.

UNICEF (2018) Analyse Budgétaire de l'Education Nationale 2014-2014, UNICEF.

UNESCO Institute of Statistics (UIS): Data accessed on http://uis.unesco.org/en/

WDI (2018): Data accessed on http://datatopics.worldbank.org/education/

Morocco

Abouid S. (2018 Chantier préscolaire, Direction de la Coopération Monégasque.

Agence Nationale d'Evaluation et d'Assurance Qualité (2017) « Rapport Annuel », Rabat, Maroc.

Chauffour, J-P (2018) *Le Maroc à l'horizon 2040 : Investir dans le capital immatériel pour accélérer l'émergence économique.* Washington, DC : La Banque mondiale. DOI : 10.1596/978-1-4648-1078-7. Licence : Creative Commons Attribution CC BY 3.0 IGO

Conseil Supérieur de l'Education et de la Formation & Recherche Scientifique (2017) « Une école de justice sociale ».

Conseil supérieur de l'éducation et de la Formation & Recherche Scientifique (2011) «Vision Stratégique de la réforme 2012 – 2030 ».

Conseil Supérieur de l'Enseignement (2008) *Etat et Perspectives du Système d'Education et de Formation*. Vol. 1. *Réussir l'Ecole Pour Tous*. Rabat : Rapport annuel 2008.

Education Inequalities, Global Education Monitoring Report, Online Database: https://www.education-inequalities.org/countries/morocco#?dimension=all&group=all&year=latest

Extrait du Discours de « S.M. le Roi Mohammed VI lors de l'ouverture de la session d'automne de la troisième année législative » - Rabat le 8 Octobre 1999 / Charte Nationale de l'Education

Extrait du Discours, « SM le Roi adresse un Discours à la Nation à l'occasion de la fête du Trône (renforcement du programme TAYSSIR) », 29 juillet 2018

Extrait du Discours, « SM le Roi adresse un message aux participants à la Journée nationale sur l'enseignement préscolaire », 18 juillet 2018

Extrait du Discours de SM le Roi à l'occasion du 65ème anniversaire de la Révolution du Roi et du Peuple, le 20 août 2018 http://www.consulatmarocorleans.org/discours-de-sm-le-roi-a-loccasion-du-65eme-anniversaire-de-la-revolution-du-roi-et-du-peuple/

Haut Commissariat au Plan – HCP (2015) « Adequation entre formation et emploi au Maroc : Note de synthèse ».

Haut-commissariat au Plan – HCP (2018) Statistiques en Ligne https://www.hcp.ma/Projections-de-la-population-rurale-du-Maroc-par-age-simple-et-sexe-2014-2050_a2208.html

Ministère de l'Education Nationale -MEN (2017) « L'education Nationale en Chiffres 2014-2015 » : https://www.men.gov.ma/Ar/Documents/Depliant2015-16.pdf

Ministère de l'éducation Nationale - MEN (2018) « L'enseignement supérieur en chiffres : 2017/2018 » :https://www.enssup.gov.ma/sites/default/files/STATISTIQUES/4535/Brochure%20v%20101218.pdf

UNESCO (2010) « Education au Maroc – Analyse du secteur », Sobhi Tawil, Sophie Cerbelle et Amapola Alama, UNESCO, Bureau multipays pour le Maghreb.

UNESCO Statistics Institute (UIS) http://uis.unesco.org/fr/country/ma

UNICEF (2017) « Résumé Statistique », Unicef Maroc, Novembre 2017.

USAID (2016) « USAID Career Center Moroccan Port Logitistics Industry (Tanger Med) Rapid Analysis" Submitted to USAID/Morocco, Economic Growth Office - Development Objective 1: Employability of Target Youth Enhanced. By FHI 360. Contract Number: AID-608-C-15-00004 / Request project: REQ-608-14-000023

Part 3. Investing in education for impact

Caerus (2017) "The business of Education in Africa".

Dalberg (2013) "Impact investing in education: an overview of the current landscape".

Dalberg (2015) "The impact of private investments in education in sub-Saharan Africa".

Part 4. A mapping of private investments in education

The sectorial mapping was made with two main types of sources:

Industry Data & Specialized sources

- EMPEA Data Base: https://www.empea.org/research/data-and-statistics/
- GIIN Research: Education. https://thegiin.org/research?filters=15&sortby=relevance%2Cnewest
- E-Learning Industry, Survey 2018: https://elearningindustry.com/investments-in-the-education-sector
- Africa Capital Digest: https://africacapitaldigest.com/
- PE Africa: https://peafricanews.com/
- Google screening with key words "education", "investment", "private" (monthly update).

Reports & grey literature

- Caerus (2017) "The business of Education in Africa".
- Dalberg (2013) "Impact investing in education: an overview of the current landscape".

Conclusion

McQuaid, R.W. and Lindsay, C. (2005) "The concept of employability", Urban Studies Vol. 42, No. 2, pp. 197-219.

“Sur quoi la fondera-t-il l’économie du monde qu’il veut gouverner? Sera-ce sur le caprice de chaque particulier? Quelle confusion! Sera-ce sur la justice? Il l’ignore.”

Pascal

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Contact
www.ferdi.fr
contact@ferdi.fr
+33 (0)4 73 17 75 30