NOTE 2

DIAGNOSTIC OF HIGHER EDUCATION IN GUINEA: CURRENT OUTCOMES AND CHALLENGES

WORLD BANK GROUP

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Abbreviations and Acronyms

CAMES	African and Malagasy Council of Higher Education
CPS	Country Partnership Strategy
ELEP	Limited Poverty Assessment Survey
GDP	Gross Domestic Product
GNF	Guinean Franc
HEI	Higher Education Institution
ICT	Information and Communication Technology
ISAG	Institut Supérieur des Arts de Guinée Dubréka
ISAV	Institut Supérieur Agronomique et Vétérinaire de Faranah
ISMG	Institut Supérieur des Mines et Géologie de Boké
ISSEG	Institut Supérieur des Sciences de l'Education de Guinée
ISSMV	Institut Supérieur des Sciences et Médecine Vétérinaires
LMD	Licence-Master-Doctorate
PPP	Public Private Partnership
PREMA	Program for Reformation of the State and Modernization of Administration
PRSP3	Third National Poverty Reduction Strategy Paper
SVHE	Short-term Vocational Higher Education
SSA	Sub-Saharan Africa
TVET	Technical and Vocational Education and Training
UEMOA	West African Economic and Monetary Union
UGANC	Université Gamal Abdel Nasser de Conakry
UGLCS	Université General Lansana Conté de Sonfonia
UJNK	Université Julius Nyéréré de Kankan

Executive Summary

The World Bank's Country Partnership Strategy (CPS) for Guinea in FY 2014–17[1] confirmed the Government's priority to build 21st century skills for improved employability and to implement systemic reforms. Guinea is emerging from years of political and economic isolation and instability. The democratic election of President Alpha Condé has opened the door for the international donor community, including the World Bank, to come forward and support the new government. Its important reform agenda, PREMA,[2] has helped restore the confidence of the international community. The World Bank will partner with the Government of Guinea to develop systems that will "*improve lagging human development indicators for absolute poverty reduction, through more efficient and transparent allocation of resources, and to build shared prosperity by aligning the business environment and education system with Guinea's economy*" (World Bank, 2013, pp. 1). This is in line with the government's priorities, as per the Third National Poverty Reduction Strategy Paper (PRSP3) approved in 2013. The PRSP3 aims to reduce poverty and to create and sustain a vibrant private economy by maximizing rents from Guinea's substantial mining sector. The Bank supports the Government's agenda on improving human capital by: (a) promoting both the quantity and quality of education and (b) upgrading skills for the needs of emerging and export-oriented sectors such as agriculture, tourism, mining, and telecommunications and Information and Communications Technology (ICT).

The education system has made significant progress, with the primary gross enrollment rate reaching 83 percent as of 2013. However, challenges remain in the areas of coverage, quality, and relevance. Approximately 60 percent of the student population between the ages of 8 and 14 are out of school, and learning assessments conclude that the government must step up its efforts to improve completion rates, gender parity, and learning outcomes. University enrollments have increased tenfold over 10 years, reaching more than 95,000 students in 2012. However, Guinea's higher education coverage rate remains relatively low compared to its neighbors, at 916 students at 100,000 inhabitants. In addition, the traditional opportunities for Guinean graduates on the labor market through the civil service are no longer sufficient. Graduates between the ages of 25 and 35 are facing unemployment rates close to 30 percent, increasing the likelihood of social instability.

All of these goals must be achieved while ensuring that the needs of the labor market are met by the education system. The education system must equip graduates with the skills needed by the emerging export-oriented economy. Developing relevant skills programs that provide students with the competencies in demand and will subsequently enable them to be employed in an economy that values a technological and scientific skill set. Government needs to lay the groundwork to offer training in the relevant fields at the secondary, vocational, and higher education levels.

Despite its abundant natural resources, Guinea has struggled to become attractive to investors and entrepreneurs. In the Ease of doing Business report, Guinea ranks 175th out of 189 countries.[3] Firms operate in a heavily constrained environment and face frequent power shortages and a slow bureaucracy. All of these factors contribute to poor business policies. This unfavorable business environment is also partly the result of poor governance and petty corruption. The International Finance Corporation is providing substantial support to strengthen Guinea's business environment. Lack of local skills is an important constraint, and in order for jobs in the emerging sectors (mining, construction, hotel industry, banking and finance) to be filled by Guineans rather than foreigners, the Government must equip its youth with the skills required.

In 2012, the Government requested special support from the Bank in the form of technical assistance to conduct an analysis of the higher education system. This analysis would be used to prepare a comprehensive higher education strategy to meet the needs of both the economy and the labor market. Since the early 2000s, the Bank had limited involvement in this critical sub-sector. Per the Government's request, the Bank mobilized resources to engage in policy and analytical work in the areas of governance, financing, and diagnostic of skills demand and supply from a new employer survey prepared specifically under this technical assistance project.

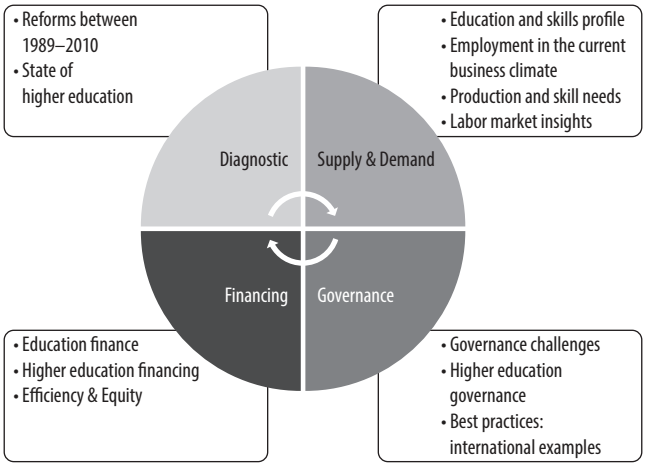
1. Supply and Demand: Higher Education and Skills. This note reviews the current state of education and workforce skills from an employer perspective. It identifies the key bottlenecks faced by firms in hiring qualified workers and provides concrete recommendations to improve workforce quality.
2. Current Outcomes and Challenges: Diagnostic of the Higher Education System. In this note, we trace the evolution of the higher education system. The note shows trends over time, highlights tracer characteristics, and draws comparisons between the public and private provision of education.
3. Governance of Higher Education. The key governance issues faced by the Guinean higher education system are presented. The note delves into the reforms undertaken by the government after 2011 with a focus on the two presidential decrees.

1 The other two areas are: improving governance and service delivery and stimulating growth and economic diversification (World Bank. 2013. Country Partnership Strategy for Guinea).

2 PREMA stands for Program of Reform of the State and Modernization of the Administration and it has the following items on agenda: organization of the country, management of the human resources available in the public sector, improvement of fiscal and economic governance, and overhaul of the judiciary.

3 World Bank (2014). Doing Business Report.

Conceptual Framework



4. Financing of Higher Education. The note provides a brief overview of education funding and structure; the main focus is on the sources and uses of public and private funds for higher education.

These four distinct policy notes are intended for policy makers and technical staff. They may be read individually or as a series. The results from this work will also form the cornerstone for a new higher education operation in Guinea.

Note 1: Higher Education and Skills: Supply and Demand

Economic development and civic participation in Guinea are hampered by an extremely low literacy rate and a poorly educated working population, especially in rural areas. Nearly 22 percent of youth were either economically inactive or unemployed in 2012, with the highest unemployment rates found among the educated population, pointing to a marked mismatch between the supply and demand of skills.

In general, the education system is neither responsive to nor currently producing graduates equipped to adequately meet the needs of the labor market. Universities offer a predominantly theoretical education, despite the fact that firms value experience and practical skills. The school to work transition offers further insight into the extent of the training-labor market absorption mismatch. Graduates of longer-term programs enter the job market earlier than those completing short programs, but there is no distinction between the different levels of programs. Employers report difficulty finding employees with the skills they require, and the informality of the labor market, aggravated by the preference for hiring through personal networks, has important consequences for equity and efficiency.

Universities offer predominantly theoretical education, when firms value experience and practical skills. For example, in the construction, industry and service sectors, one in five firms state that they cannot find the type of qualifications they need, leading to a substantial proportion of vacancies. To increase the relevance of the education system to the labor market, the agriculture, construction and mining industries recommend a focus on the entire system.

As Guinea strives to embark on an accelerated development path, its ability to meet the demands of a diversified economy will be partly determined by the quantity and quality of its trained workforce. An emphasis on growing Guinea's Technical and Vocational Education and Training (TVET) sector, adjusting university programs for greater relevance, and developing strategic partnerships with the private sector will gradually close the gap between skills supply and demand.

Note 2: Current Outcomes and Challenges: Diagnostic of the Higher Education System

Human capital is increasingly a key ingredient for economic success: in Guinea, vast mineral reserves paired with a lack of appropriate skills to exploit their potential keeps the country trapped in poverty. Though enrollment rates have significantly improved over the past decade, Guinea has yet to ensure that its education system produces a labor force composed of workers with the low, middle, and high level skills required by high-growth-potential sectors.

Access to higher education remains a more significant barrier for girls. In 2011–12, only one fourth of higher education students were girls, in contrast to high schools where about 40 percent of students were girls.[4] However, the share of girls by level remains rather stable over time. This implies: girls have as good, if not superior, academic performance as boys, and once they enter higher education, they do not face many constraints in continuing to pursue their education.

Between 1989 and 2010, three major reforms—the transformation of Higher Education Institutions into public administrative institutions, extension and diversification of universities, and transition to the Licence-Master-Doctorat system—have set the higher education system on a more promising path, though progress remains to be made in the areas of institutional autonomy, access in equity, institutional capacity, and teaching quality.

Higher education receives a disproportionate share of all public education spending, relative to enrollment levels. More troubling is the allocation: nearly half of the budget goes to scholarships, and of that, the majority supports predominantly wealthier students enrolled in private institutions.

With the simultaneous removal of entry requirements and substantial increase in high school graduates, higher education enrollment has soared. Though private institutions are multiplying and thus helping to absorb the surge, Guinea remains below the Sub-Saharan average for private higher education enrollment. It should be noted that while access has expanded, secondary education access, completion, and course selection largely determine the distribution of tertiary education students across program areas, with obvious consequences for subsequent employment opportunities. Furthermore, the current system offers little flexibility and few opportunities for adjustments to labor market needs. High repetition rates

4 ELEP (2012)

throughout primary and secondary education creates delays in university enrollment and thus the entry of the most skilled labor onto the labor market.

Guinea's higher education landscape offers ample public-private partnership possibilities, from forecasting to curriculum development, training, job placement, and equipment provision. Public-private partnerships (PPPs) are the key to developing the healthy, equitable, and high-quality education system that will enable Guinea to develop and sustain a skilled and versatile workforce that will enable Guinea to take advantage of its immense natural resources and achieve economic stability.

Note 3: Governance of Higher Education

Over the past decade, governance reforms, which include increased institutional autonomy, diversification of programs, and additional resources for institutions, have contributed to the reawakening of the higher education sector in Africa's developing countries. In Guinea, the central government has pursued three decentralization strategies: delegation to (a) a lower level of government, (b) a buffer body, or (c) institutions themselves.

Moving towards a fully autonomous system should be an incremental process. Given the differences in economic conditions and development of the higher education system, this note examines countries on a similar scale, particularly in the Sub-Saharan Africa (SSA) region, namely: Ethiopia, Nigeria, Ghana, and Kenya.

The successful reforms among the ones adopted are highlighted to provide examples of best practices.

Guinean institutions do not have the institutional autonomy to hire and fire permanent teaching staff, and the growth of teaching staff has not kept pace with enrollments. Private institutions "poach" teachers from public institutions, aggravating the shortage, and the low level of international faculty indicates that opportunities for research collaboration and innovation are insufficient. More than one third of qualified teachers will retire within the next two years. Guinea recently adopted and is in the process of adopting Decrees that will change the higher education landscape. This roadmap for a successful transition towards a more decentralized system of higher education should be combined with initiatives to relax the stringent conditions attached to the budget and allow more flexibility in its use; give control to institutions over the recruitment, promotion, and management of their teaching and research staff; and implement adequate accountability and quality assurance mechanisms.

Note 4: Financing of Higher Education

The education sector is supported by three sources of financing: government, household, and donor financing, respectively. Major challenges include highly centralized funding, disconnect between the budget and sectoral goals, fluctuation in expenditures and consequent lack of predictability.

Guinea's suboptimal allocation of resources is among the most important challenges facing the education sector. One-third of total public education funding goes to higher education, even though enrollment accounts for only eight percent of the entire student body, and the subsidies eating up most of the budget not only prevent better leveraging of public funds; they also remove incentives to develop relevant and innovative higher education programs. Indeed, funding for higher education is neither allocated nor used efficiently: almost half of the higher education funding for operating expenditures is used to support students in public and private universities through stipends and scholarships, regardless of the academic merits of the student and the value of the program in the labor market. Furthermore, evidence shows that this support is both insufficient to cover students' needs, and not allocated to the students most in need.

Improving the effectiveness and efficiency of the sector will require revamping of the scholarship and subsidy payments to higher education students and institutions, greater involvement of the private sector as partners, and the introduction of performance-based contracts for increased accountability of both public and private institutions.

Policy Recommendations

Policy challenge	Recommendations
Skills supply and demand mismatch	Develop and improve skills relevant programs aligned with employer demand
	Involve the private sector as partners in curriculum development, practical training, and financing.
Disconnect between schools/ graduates and potential employers	Facilitate intermediaries to link skills profiles with jobs
	Reform labor market access
Uneven access to relevant training programs	Reduce geographical inequities and ensure school and labor market reform and adequate distribution of training programs throughout the country
	Expand education opportunities for the poor and girls
Lack of autonomy of institutions	The government and the higher education institutions need support to facilitate their transition towards a decentralized and more autonomous higher education system
	Higher education institutions should be given control over the recruitment, promotion, and management of their teaching and research staff.
	Autonomy with adequate accountability and quality assurance mechanisms.
Inflexible budget	Relax the stringent conditions attached to the budget and allow more flexibility in its use
Inefficient and disproportionate spending on student scholarships	Revamp the scholarship and subsidy payments to higher education students and institutions
Lack of accountability	Introduce performance-based contracts for increased accountability of both public and private institutions.

1. Introduction

The quality of human capital is as essential to economic success in Guinea as the production and effective management of its mineral resources. Despite its vast mineral reserves, Guinea remains one of the poorest countries in the world. Improving the quality of education, ensuring the creation of a productive labor market with high returns, and above all, encouraging business creation through a favorable business climate are all essential to boost productivity and skills (Hanushek & Woβmann, 2008, 2010). Today the traditional civil service opportunities available to Guinean graduates are no longer sufficient. University enrollments have increased tenfold over 10 years, reaching more than 95,000 students in 2012. Like other Sub-Saharan African (SSA) countries, Guinea set universal primary school enrollment as an objective for 2015; gross primary enrollment reached 83 percent in 2013.[5] These schooling rates have plateaued in the aftermath of the country's political turmoil, and a wide progress margin remains for girls and students in rural areas. Furthermore, these efforts were made despite a fairly low and unbalanced budget. In 2012, Guinea spent about 2.6 percent of its Gross Domestic Product (GDP) on education, while neighboring countries typically spent between 4 and 5 percent of GDP. More than one third of the budget benefits higher education, with the vast majority of students receiving scholarships and institutional grants.

Guinea needs a labor force composed of workers with low, middle, and high level skills (Employer Survey, 2012). For example, the mining megaprojects planned over the next decade create an important need for all types of skills. Just recently, Guinea entered into an agreement with Rio Tinto to develop the Simandou mining project, an iron ore deposit project, which promises vast employment potential. In the infrastructure phase alone, the project is expected to create employment in the number of 30,000 (direct and indirect jobs). In addition, this project will contribute to the Guinean economy, including through up-skilling and procurement from Guinean suppliers.

While the note on supply and demand focused on the skills required and unmet needs from the employer perspective, this note will delve further into the evolution of the higher education system, showing trends over time and teacher characteristics, and drawing comparisons between public and private provision of higher education.

2. The Current Landscape of Higher Education in Guinea

The current shape, structure, and composition of the higher education system in Guinea is outlined in Box 1 below. For additional information on higher education in the context of governance and funding, please see notes 3 and 4, respectively, in this series.

3. Reforms in Higher Education Over the Past Decade

Three large reforms have significantly affected higher education between 1989 and 2010: the transformation of Institutes of Higher Education (IES) into public administrative institutions, the extension and diversification of the universities, and the transition to the Licence-Master-Doctorate (LMD) system (Box 2).[6]

1. **In the 90's, the two existing universities and three higher education institutions (HEI) were converted into public administrative institutions governed by a university council with mandates in finance, administration, and**

5 EdStats (2014).

6 "The key components of LMD are to establish a system made up of three levels 'bachelor-master-doctorate', an organization of teaching in semesters and teaching units, and the implementation of credit and the delivery of an appendix describing the degree," From http://www.unesco.org/new/en/dakar/education/higher-education/project-to-support-bachelor-master-and-doctorate-reform-through-it/

Box 1: Higher Education System in Guinea

Higher education in Guinea is composed of 17 public institutions, 10 of which are outside of Conakry, and 39 private institutions. There are 3 universities, 14 higher education institutions, and 1 institution offering distance programs. Of the 39 private institutions, 35 are in Conakry. 30 research and documentation institutions are spread over the country.

Academic Programs: 75 bachelor degree programs (licence), around 20 master programs, and 7 specialized programs in medicine and pharmacy, are offered in public institutions. The same programs are offered in private institutions, although the latter primarily offer programs in law, political science, economics, business administration, marketing, ICT, and English, excluding science and technical programs. Ph.D. programs are rare. In 2011, only two PhD theses were presented. The proportion of masters and PhD students is very small. At the University of Sonfonia, which has about 19,000 students, only 287 students were enrolled at the masters and Ph.D. levels (1.5 percent), while the figure was only close to 8 percent in other universities in the sub-region.

Over the past few years, technical bachelor degree programs (licences professionnelles) are being offered by the Institut Polytechnique de l'Université de Conakry, Ecole Supérieure du Tourisme et Hotellerie, Institut des Mines et Géologie de Boké, and the Institut Supérieur de Technologie de Mamou. These programs link training more closely to the emerging needs of the labor market in the mining, agriculture, industrial production, and hospitality sectors.

Source: MESRS (2013).

Box 2: Licence-Master-Doctorate Reform in Africa

Licence-Master-Doctorate (LMD)

The Licence-Master-Doctorate (LMD) reform is a series of steps taken to ensure that the higher education system in Guinea (and other African states) can meet international standards. The genesis of the LMD reforms can be traced to the Bologna process, where in June 1999, 29 countries signed a pact "aimed at harmonizing degree structures and quality assurance procedures across their diverse higher education systems by 2010" (WENR, 2007, page 1). The LMD reform was first adopted in Africa by the West African Economic and Monetary Union (UEMOA)[a] in 2007 by decree no. 03/2007/CM/UEMOA. The aims of the reform were to: "(a) improve the efficiency and performance of institutions of higher education; (b) promote a sub-regional system open to the world, able to develop joint mechanisms for promoting quality; and (c) ensure international recognition of degrees issued by the institutions of higher education in UEMOA countries" (Okebukola, 2014, page 5). The African and Malagasy Council of Higher Education (CAMES) coordinates the LMD reform process within the region and oversees accreditation and quality assurance. The reforms are implemented at the sub regional, national, and institutional levels.

Source: WENR (2007), Okebukola (2014).
[a] Member countries of UEMOA: Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo.

Table 1: Higher Education Budget as a Share of GDP

	2006	2007	2008	2009	2010	2011	2012	2013	2014
GDP growth	2.2%	1.5%	4.9%	–0.3%	1.9%	4.0%	5.5%	5.2%	5.0%
Overall public spending as a share of GDP	17.5%	17.1%	17.4%	23.6%	29.7%	21.5%	25.3%	25.0%	24.0%
Public higher education spending as a share of GDP	0.6%	0.9%	1.0%	1.2%	1.9%	1.5%	1.0%	1.1%	1.1%

Source: Ministry of Budget.

pedagogy. This reform set institutions on the path towards increased autonomy; however institutions continued to rely on the government to finance salaries, operational costs, and investments. Thus, institutional autonomy was very limited and the same trends continued until 2012.

2. **In the 2000's, the capacity of the higher education system was greatly expanded.** Until 2003, only one-third of high school graduates taking the examination to gain entrance to higher education were accepted. To promote greater equity in access and expand higher education capacity, the government created regional higher education centres and promoted private higher education. In 2006, the government made two major decisions to: (1) abolish the entrance examination to higher education following the high school exit exam; and (2) give grants to students referred to private institutions because of lack of space in public higher education institutions (HEI).
3. **In 2007, an increasing number of higher education institutions adopted the LMD system joining neighbouring countries**.[7] The system aimed to adapt programs to labor market needs by restructuring them around competencies that students should master, as opposed to purely academic ones, and to encourage student and graduate mobility. An evaluation completed four years later showed that despite significant improvements, much remained to be done to improve teaching, training, and the learning environment to fully achieve this transition.

Brief Overview of Higher Education Financing[8]

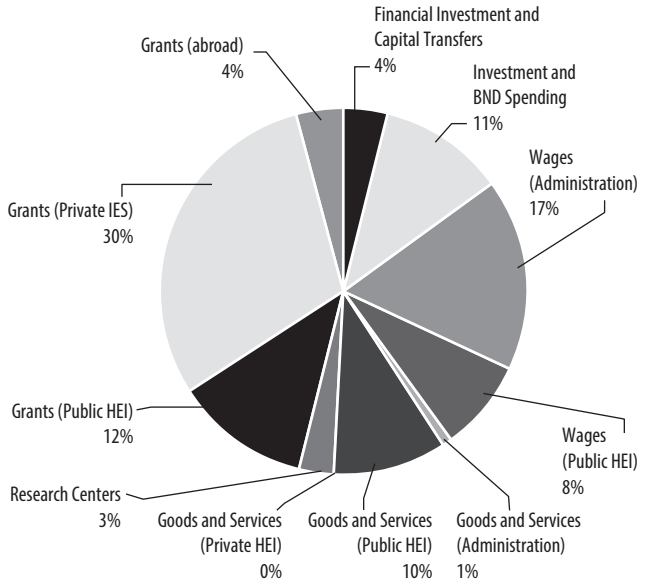
Higher education receives a sizeable share of all public education spending. Higher education spending amounts to 1 percent of GDP (Table 1). The Guinean government spends almost as much on higher education (36.2 percent in 2014 for 100,000 students) as on primary education (41.1 percent for 1.7 million students), despite an enormous difference in the number of students enrolled.

Almost half of the higher education recurrent budget is geared towards the scholarship program. Of the total budget, 30 percent is paid to students in private HEI, 12 percent to students in public HEI, and 4 percent to students abroad (Figure 1). From 2013 to 2014, grants for students in private higher education institutions increased by 50 percent, while the share spent on grants for public institutions remained stable, with serious consequences for public institutions. Since the total budget for higher education remains constant from one year to another, any increase in the share of the total budget paid as scholarships to students from private institutions comes at the expense of the public sector. While partnerships with the private sector are fundamental to expand coverage,

7 The success of the Bologna reform in Europe inspired African nations to move towards regional collaboration. In 2005, Communaite Economique et Monataire de L'Afrique Centrale (CEMAC) comprising of six nations signed a pact to introduce LMD (Materu, 2007). In 2007, the West African Economic and Monetary Union (UEMOA) comprising of eight nations followed suit. Accessed at http://www.universityworldnews.com/article.php?story=20110827191108899.

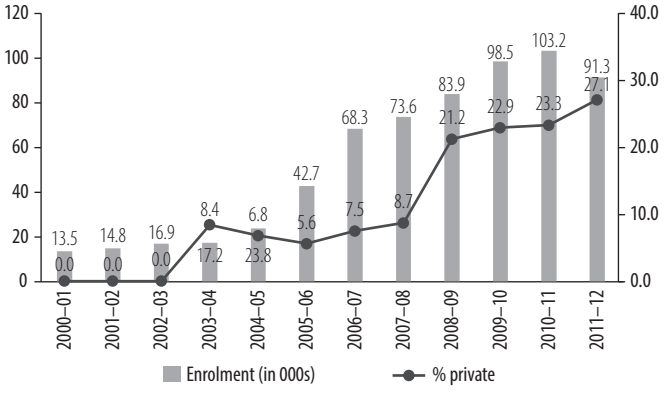
8 A separate note is dedicated to higher education financing.

Figure 1: Decomposition of Public Spending in Higher Education (2014 Budget Law)



Source: Ministry of Budget.

Figure 2: Evolution of Enrollment in Higher Education



Source: EMIS data, Ministry of Higher Education and Scientific Research.

these should complement efforts to ensure quality of services, an accountability measure that is not yet instituted in Guinea. This point will be made in more detail later in the note.

4. Present Situation of the Guinean Higher Education System[9]

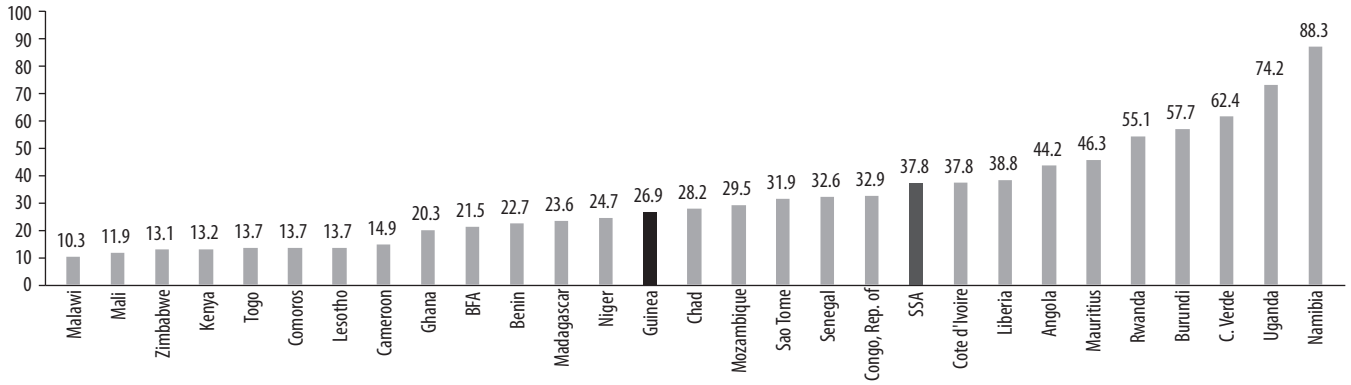
Over the last decade, the removal of entry requirements to higher education and substantial growth of students completing high school has caused a surge in higher education enrollment (Figure 2). In 2012, there were more than 95,000 students in Guinea, 8 times the number ten years prior. The abolition of the entrance examination in 2006 led to a steep increase over the past 6 years (50 percent in enrollment within one year alone), placing a great deal of pressure on the institutions. Public institutions were ill-prepared for such a sudden and significant increase, but the private sector absorbed a substantial portion. While all higher education was public at the beginning of the 2000s, by 2012, 27.2 percent of students were enrolled in private universities.

In terms of private provision, Guinea remains slightly below the Sub-Saharan Africa (SSA) average, but is quickly catching up (Figure 2). Average private enrollment in the region is almost 38 percent, with Namibia having the largest share of private higher education enrollments at 88 percent (Figure 3).

Secondary education completion rates are, as one would expect, an important predictor of higher education access. Potential disparities in accessing higher education can be reasonably predicted from an assessment of exam results. Recent high school exit examination results indicate that boys and private school students tend to perform better. In 2012, only 40 percent of the candidates passed and were granted access to higher education—on average, more than 20,000 per year.

9 This note relies on data from EMIS (consecutive years) collected by the Ministry of Higher Education and ELEP (household survey, 2012). Data limitations were observed in lack of information on graduation, student achievement and recent data on repetition. A large number of observations were missing with respect to teacher's age, status, and number of effective hours taught.

Figure 3: Share of Private Higher Education Enrolments in Sub-Saharan Africa in 2011



Source: EdStats (2014).

Table 2: High School Graduates and Acceptances into Higher Education

Year	2006	2007	2008	2009	2010	2011	2012
End of High school graduates (passing Baccalaureate) (number)	32,586	9,029	23,955	22,822	19,998	13,062	27,021
Students accepted to higher education (number)	22,129	7,582	17,082	22,294	19,504	12,792	26,672
%	**67.9**	**84**	**71.3**	**97.7**	**97.5**	**97.9**	**98.7**

Source: Conference des Recteurs.

Table 3: Number of High School Graduates from Non-Scientific Subjects Admitted to 1st Year of Higher Education

Year	2006	2007	2008	2009	2010	2011	2012
High school graduates (number)	22,129	7,582	17,082	22,294	19,504	12,792	26,672
From non-scientific subjects (number)	6,146	5,005	9,484	14,093	9,407	9,730	17,418
%	**27.8**	**66**	**55.5**	**63.2**	**48.2**	**76.4**	**65.3**

Source: Conference des Recteurs.

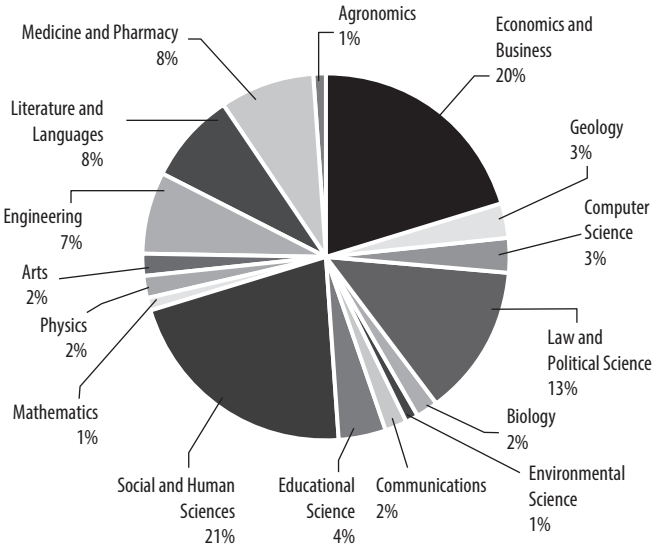
Of those who succeeded, 40 percent of boys passed versus 31 percent of girls, and 59 percent were private school students compared to only 30 percent from public schools. More than 50 percent of candidates passing the end of high school examination are from Conakry. These disparities are then transferred into the admission patterns of the tertiary education sector. As mentioned on page 5 of this note, the Government abolished the entrance examination to higher education and set the high school examination as the only criteria for admission. As a consequence, the proportion of high school graduates admitted to higher education institutions has increased tremendously since 2006 (Table 2).

The distribution of tertiary education students across program areas depends to a large extent on their course selection at the secondary level (Table 3)**.** For instance, students on the humanities track cannot pursue disciplines requiring science or mathematics. Thus, their pre-university track plays a critical role in their future placement and only partially follows the applicant's personal choices. The final decision process remains somewhat opaque and rests with the Commission of Rectors (*commission des recteurs*).

The proportion of high school graduates from non-scientific subjects admitted to higher education varied from roughly 25 percent admitted in 2006 to 75 percent in 2011. This imbalance complicates their orientation to higher education as non-science high school graduates are not eligible to choose science courses. This further complicated their chances for jobs given an increased demand for those with science skills.

The current system leaves little room for flexibility and adjustments to labor market needs (Figure 4). One reason for the rigidity of the higher education system is the absence of entry courses at the university level to serve as a passage between different sectors. About 27 percent of students are enrolled in liberal arts/humanities courses such as languages, art, sociology etc.; this figure has almost doubled from 2009 to 2012. Agriculture, agronomics, and geology seem substantially underserved, given the crucial importance of these sectors in the Guinean economy. A decrease in hard science, such as mathematics and physics, has also been observed over the past 5 years (Note 1 on supply and demand provides details on job openings and demand of employers).

Figure 4: Selection of Higher Education Programs

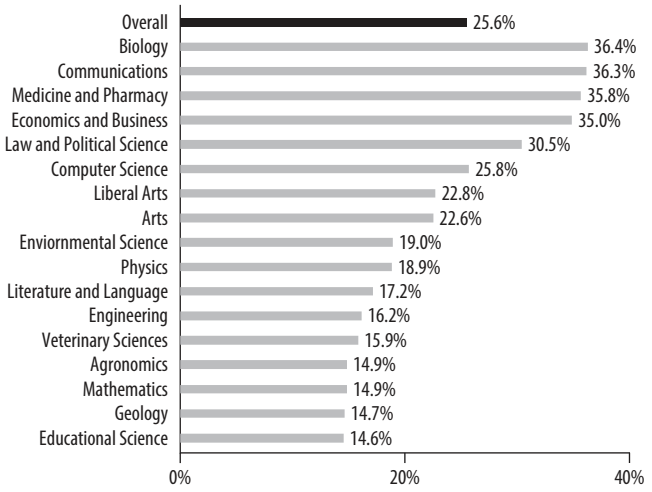


Source: Higher Education EMIS Data (2012).

Access to higher education remains a more significant barrier for women. In 2011–2012, only one fourth of higher education students were female, in contrast to high schools, where about 40 percent of students are female.[10] Interestingly, females are better represented in private education (35 percent) and are more likely to choose areas such as Medicine and

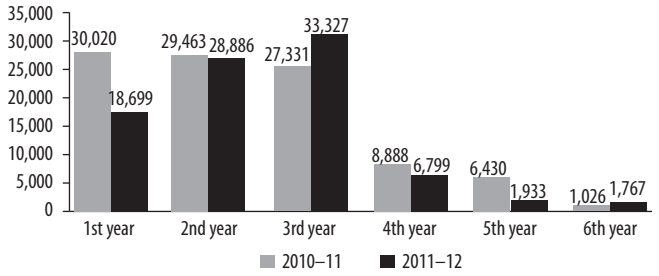
10 Source: ELEP 2012

Figure 5: Percent of Females (2011–12) in Higher Education Programs



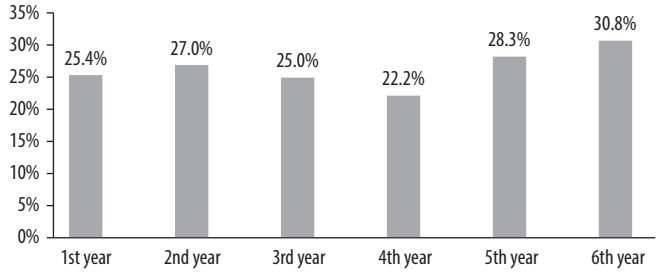
Source: ELEP, 2012.

Figure 6: Enrollment by Level



Source: EMIS data.

Figure 7: Share of Females by Level (2011–12)



Source: ELEP (2012).

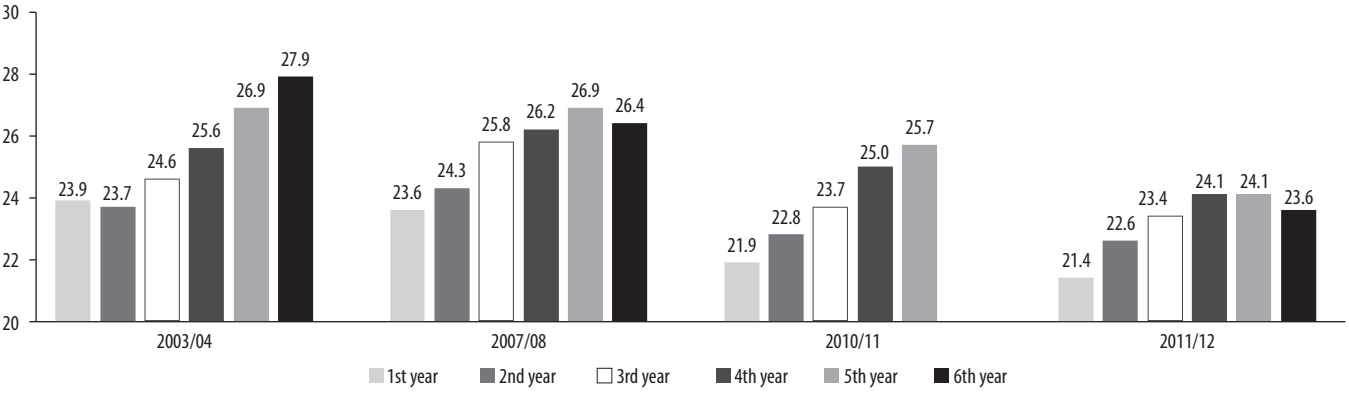
pharmacy, communication, economics and business, law, and political science. Except for biology, they avoid hard sciences, much like their male counterparts (Figure 5).

Among enrolled students, a majority (about 90 percent) attend the first three years of university (*Licence*) and earn an undergraduate degree. Enrollment in these first three years is relatively steady; it is likely that most enrolled students will eventually earn their degree. Data from the Ministry of Higher Education and Research does not include information on graduation. Only one in four students will pursue a graduate degree and only 1,000 students are shown to be enrolled in the 6th year or beyond. Post-graduate degree enrollment accounts for only 1 percent of overall university enrollment. The annual enrollment profile changed dramatically in 2011–12, as enrollment in the first year decreased by 40 percent following a drop in high school graduates (Figure 6).

The share of females by level remains rather stable over time (Figure 7), even increasing slightly in the fifth and the sixth year when students are pursuing a graduate degree. This suggests two things. The weeding out of the education system for girls happens prior to higher education and as Figure 7 shows, female students continue to be under-represented. However, once they enter higher education, they do not face many constraints in continuing to pursue their education.

The average age of 22 in the first year of university is particularly old and is a result of the very high repetition rates during all stages of primary and secondary education (Figure 8)**.** The expected transition from secondary to tertiary education is usually around 18–19 years of age; only 14 percent

Figure 8: Distribution of Age in the First Year



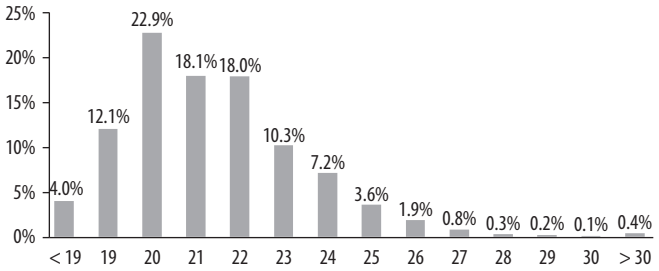
Source: EMIS data.

of students start university at the right age and more than 20 percent start at least 5 years late. As a result, labor market entry of the most skilled is considerably delayed.

The most recent figures available for repetition rates (2007/08) show that in a given year, about 3 percent of students are repeaters. The graph below shows the mean age by year (Figure 9), which can be an alternative to grade repetition rates. From one level to another, a student can pass, repeat, or drop out of university. This results in level to level variations in the average age. This age pattern has greatly evolved over the years: from 2003–04 to 2011–12, the average age in the first year fell by two years, while in the fourth year, it fell by almost three years. In 2011/12, a radical change from the previous year was observed: the mean age in the first year fell by six months and almost one year in the fourth year. Data indicate an adequate evolution of the efficiency of the school system, with a lower grade repetition rate before higher education, and thus, a shorter time to obtain a degree.

Data on student achievement is not available; therefore, it is difficult to determine which program area attracts the highest-performing students. (Figure 10). However, by looking at the average age in the first year for different program areas, assuming that younger students are more able (given that they finish high school earlier, although this assumption needs to be taken with a grain of salt given the late entrance into primary school), law, computer science, geology, engineering and economics are often a top choice for young students. On the contrary, students in literature and language, liberal arts, or arts are older than the average.

Figure 9: Average Age, by Level



Source: ELEP (2012).

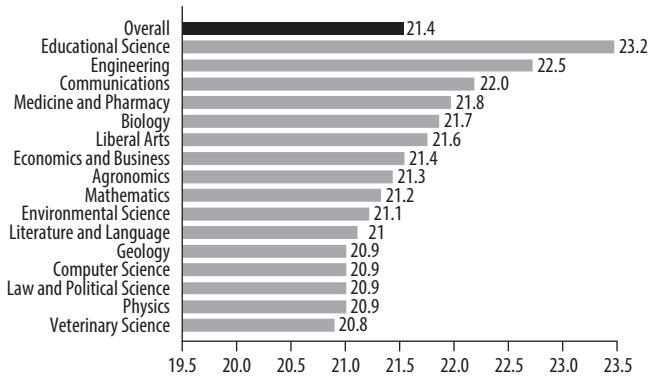
Teacher Composition

Unlike other SSA countries, institutions in Guinea do not have the institutional autonomy to hire or fire their permanent teaching staff. This important governance issue impeding institutions' academic freedom is highlighted in note 3. A majority of the teachers are civil servants and their selection is made by the National Commission for Recruitment and Promotion (*Commission Nationale de Recrutement et de Promotion*), and those selected are hired by the Ministry of Civil Service. They are later assigned to institutions by the Ministry of Higher Education. Contract teachers are selected and hired by institutions from their own budget. These are frequently graduates of the institution. University teachers in Guinea do not have a special status within the civil service, as is the case in Senegal and Congo.

The overall number of higher education teachers has increased five times from about 1,200 in 2004 to 5,950 in 2012. This figure includes all categories of teachers, from tenured professors to part-time teachers. Teacher recruitment in the public sector did not follow the enrollment increase and the student/teacher ratio climbed from 25 in 2004 to 32 in 2011. However, with 400 additional teachers in 2012 and the simultaneous decrease in enrollment, the student/teacher ratio is back to 24. In the private sector, most teachers are part-time teachers, and many come from the public sector: low salaries prompt many teachers employed by public institutions to also teach part-time in private institutions. For this reason, it is difficult to draw any robust conclusion concerning the student/teacher ratio in private institutions.

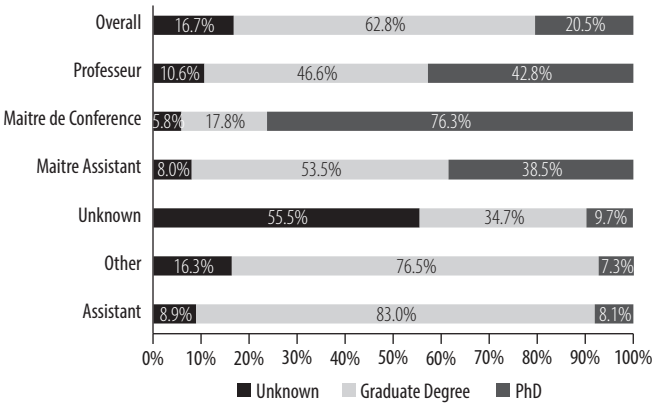
The academic profile of teachers in public university depends on their status (Figure 11). Overall, 20 percent of teachers have a PhD, 63 percent have a graduate degree and 17 percent have an unknown degree. Faculty are either *Professeur*, *Maitre de Conference* and *Maitre assistants*. *Professeurs and Maitre de Conference* have a PhD, whereas *Maitre assistants*

Figure 10: Mean Age in the First Year, by Subject Area (2011–12)



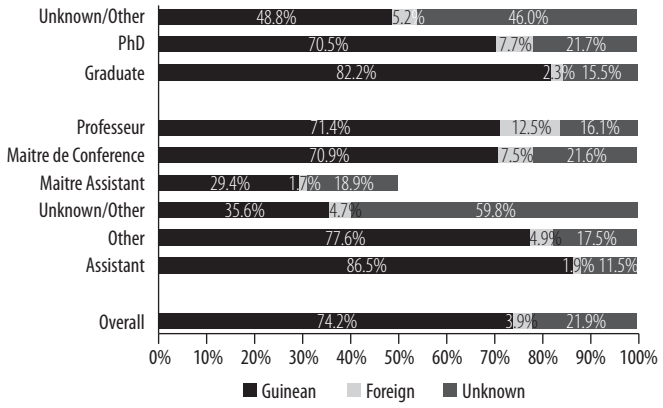
Source: ELEP (2012).

Figure 11: Diplomas of Teachers (2010–11)



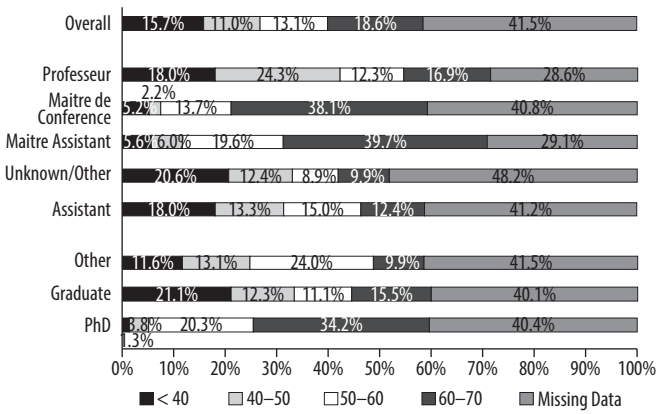
Source: ELEP (2012).

Figure 12: Teachers' Nationality (2010–11)



Source: ELEP (2012).

Figure 14: Age of Teachers (2010–11)



Source: ELEP (2012).

often belong to the group of other teachers with fewer qualifications. All teachers under a temporary contract are listed in the latter category, and account for 50 percent of the total.

Most teachers are Guinean, showing that universities are not attracting a diverse and competitive foreign teaching corps (Figure 12). Of the 78 percent of teachers whose nationality is known, only 3.9 percent reported being foreigners. This proportion is slightly higher for teachers with higher qualifications: 12.5 percent of *Professeurs* and 7.5 of *Maitre de conferences* were foreigners. To make teaching an attractive option for international candidates, universities must bolster their research capacity. Academic staff are drawn towards universities which offer opportunities for research collaboration and innovation.

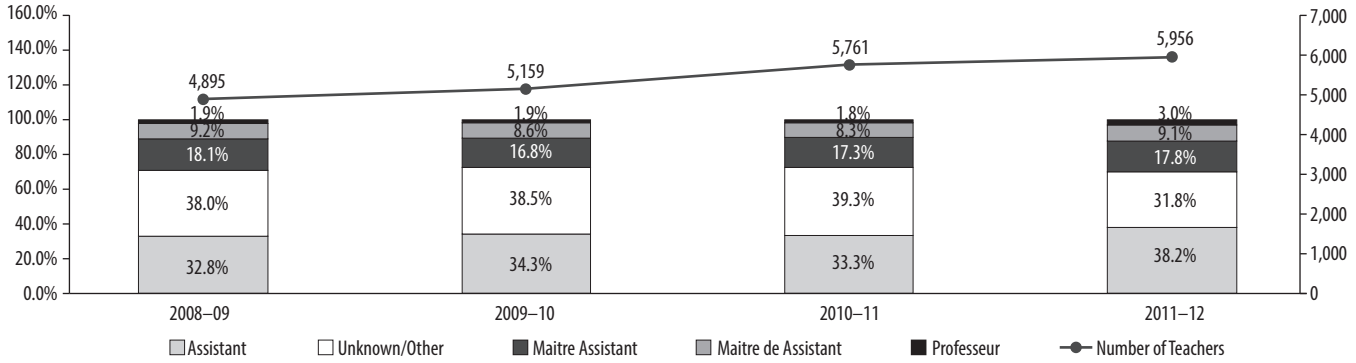
The recent evolution of the teaching workforce shows no sign of structural change (Figure 13). While their number increased substantially by more than 1,000 additional teachers between 2009 and 2012, the lower group of the teaching workforce still accounts for 70 percent of all teachers. From 2011 to 2012, a transfer from the *Unknown* category to the *Assistant* category occurred, and the number of *professeurs* increased slightly.

The age of the teacher is a concern, with more than a third of qualified teachers retiring in less than two years from now (Figure 14)**.** Although the data is incomplete (41.5 percent of teachers do not give their age),[11] at least 18.6 percent of all teachers are older than 60 (retirement age is 62). Among PhD holders, this proportion is even higher, reaching 34 percent. *Maitre assistants* and *Maitres de conférence* are especially old, with close to 40 percent older than 60 years. *Assistants* are contract teachers hired by the institutions; most often they are graduates of the institution and comparatively younger. It is urgent for the higher education system to train more PhD to replace this pool of teachers who will retire within a few years. The government should view replacing the retiring pool of teachers, as an opportunity to introduce greater efficiency and innovation and bring in a broader cadre of younger staff.

There is a lack of gender balance in the composition of teachers: the vast majority of teachers are men (Figure 15). Only 6.6 percent of all teachers are women, and the proportion is even lower for teachers with higher status. Among teachers with a PhD, this proportion is only 3.7 percent. There are more women with an unidentified degree: about 10 percent of teachers with unknown or other status are women. In

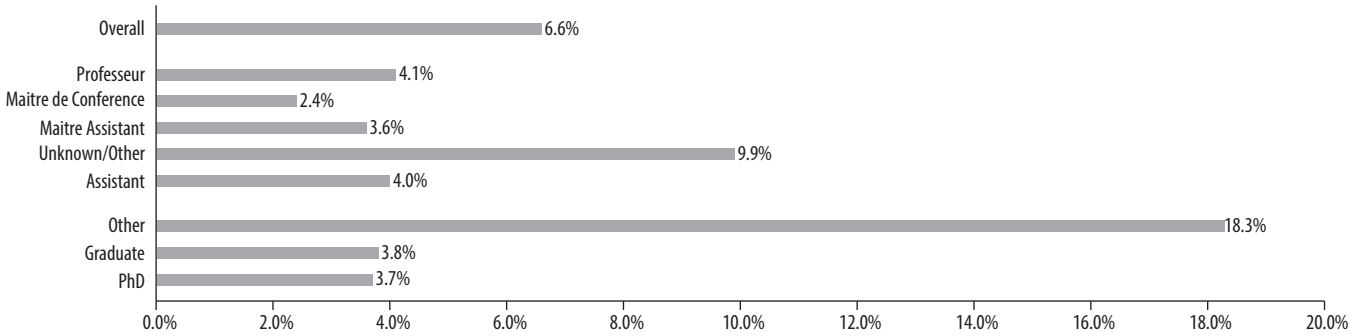
11 As a result, all figures in this graph are lower bound.

Figure 13: Teaching Workforce in Recent Years



Source: ELEP (2012).

Figure 15: Gender of Teachers (2011)



Source: ELEP (2012).

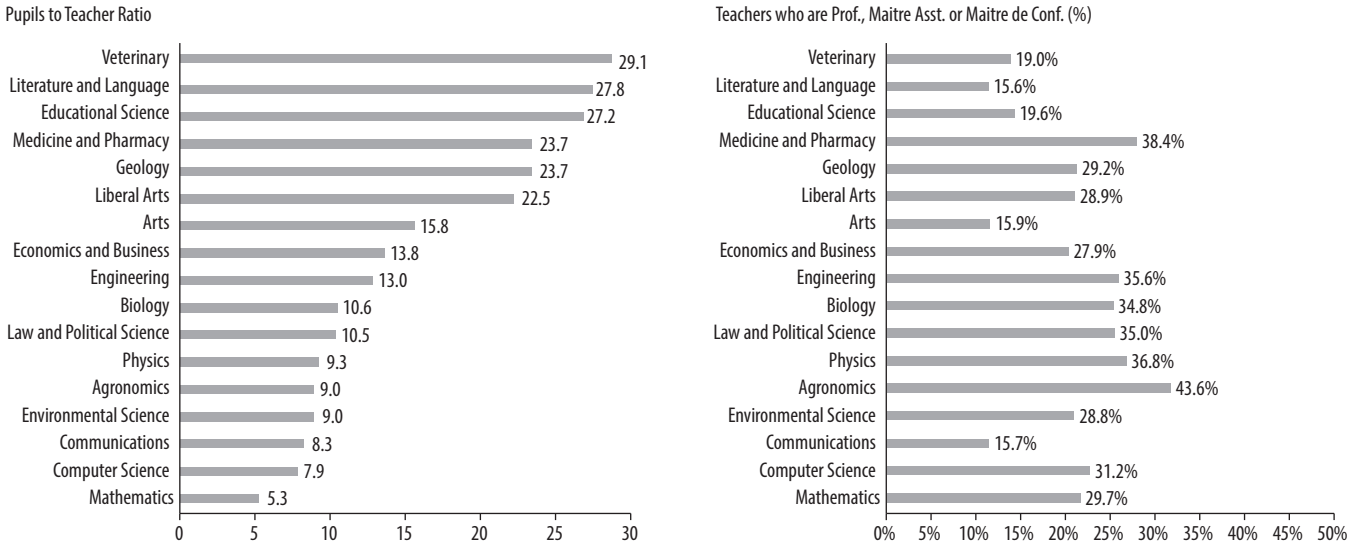
order to increase the proportion of women faculty members, it will be crucial to attract women to graduate studies, and especially PhD programs. As shown earlier, the proportion of female students is still very much underpresented, comprising only 25 percent of the student popualation. More efforts need to be made to attract female students to higher education and into the teaching force.

The quality and numbers of teachers are inadequately spread across disciplines (Figure 16)**.** Student to teacher ratios vary from 5.3 in mathematics to 27.8 in literature and languages (Figure 16, left). Unsurprisingly, these ratios are the highest in the three study areas where there have been recent increases in enrollment: liberal arts, educational science, and literature and language. Teaching ratios have differential impacts depending on subject matter and learning models with complex subjects requiring smaller ratios. It is worrying though that the ratio is quite high in geology, a key area for the country. Program areas related to health (medicine, pharmacy and veterinary) also have quite high ratios. For some of these areas, the high ratio goes along with a low proportion of teachers with high level of qualifications (literature and language, educational science, veterinary science). According to these statistics, the need for new teachers is thus very different across study areas, with some in need of more experienced teachers, others lacking teachers altogether (Figure 16, right). Subject areas with a good balance between teachers, enrollment, and teacher qualification (or status) are law and political science, computer science, economics, and business, as well as agronomics, biology, environmental science, mathematics, and physics.

Differences Between Public and Private Institutions

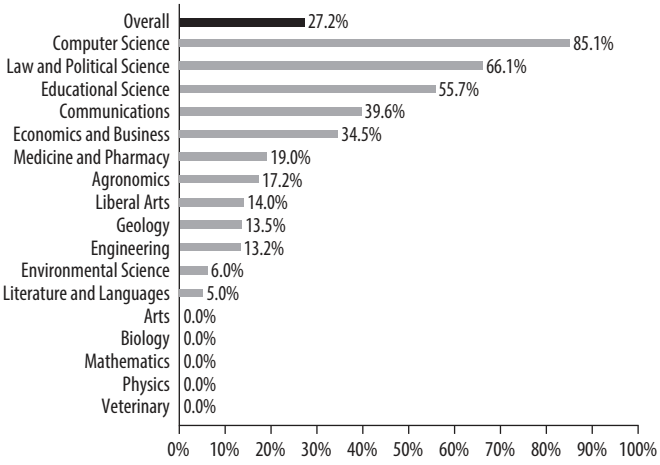
The distribution of programs among private institutions shows a slightly different pattern compared to those from the public sector (Figure 17)**.** While only one out of four students attends private university, this share is much higher in

Figure 16: Teachers by Program Area (2012)



Source: ELEP (2012).

Figure 17: Share of Private Education by Discipline (2011–12)



Source: ELEP (2012).

five program areas (computer science, law, educational science, communication and economics and business). Disciplines such as the hard sciences and arts are practically non-existent in private institutions.

Facilities

Public and private institutions differ greatly in institutional capacity. The private sector is better endowed than the public sector (Table 4)**.** There are 0.735 seats per student in the public sector, while the corresponding figure in the private sector is almost three times higher (1.726). Moreover, classrooms in the private sector are twice as small: the mean capacity reaches 68 while it is 143 in the public sector. This makes it difficult to set up tutorials in the public sector. By contrast, the capacity available in amphitheatres in the public sector is quite high, but this space is only used for lectures, which involve minimal interaction between teachers and students. In both sectors, there is a shortage of capacity in computer classrooms, workshops, and science and language labs. The number of seats in libraries is also too low in both sectors.

Public and private universities show very different profiles in terms of enrollment, type of programs offered, and other general characteristics. Public universities are larger than private universities, and the three public universities enroll 42 percent of all Guinean students (Table 5). Two of these universities are located in Conakry and offer a differentiated set of studies. The UGANC was founded in 1962 and offers programs in science and medicine. Law, social science, and literature are taught at UGLCS, which was founded in 2005 when the University of Conakry was split into UGANC and UGLCS. The third university, UJNK, located in Kankan, was founded in 1989 and offers programs in various areas. By their sizes, these universities constitute the core of public higher education in Guinea. Specialized schools like ISSEG for educational sciences or ISMG for geology and small general university centres outside of Conakry have much lower enrollment. The recent decrease in public sector enrollment has not affected all universities equally (Table 5). Among those with a large decrease are ISAG (-60 percent), ISAV, ISMG, UGANC, ISSMV and the *Institut Superieur de Formation a Distance*. By contrast, UGLCS gained 1,900 students and UJNK 1,600. Other public institutions were not affected.

Private universities have blossomed since 2003. In 2011–12 there were 36 private universities with a total enrollment of about 22,400 students (Table 6)**.** These universities are smaller than their public counterparts, and only six have more than 1,000 students. Among the 12 universities listed in Table 6, 6 of them have seen a decrease of 25 percent or more in 2012. By contrast, Nongo Conakry has experienced a notable rise in enrollment.

The distribution of universities across Guinea is highly unequal, as most of them are concentrated in Conakry (Table 7). Two-thirds of all tertiary students are enrolled in Conakry, while Conakry constitutes one fifth of the overall population. This distribution follows the high contrast between Conakry and the rest of the country in terms of economic activities, but also primary and secondary education. Given the poor transport network, higher education is not accessible for most Guineans who wish to remain in their home regions away from the capital. Private education is almost absent outside of Conakry, while public institutions are more equally distributed.

Table 4: Facilities and Capacity (2011–12)

	Public			Private		
	Mean	Overall	By Student	Mean	Overall	By Student
Amphitheater	871	53,151	0.798	141	11,139	0.450
Workshops	57	1,484	0.022	40	606	0.025
Library	101	3,733	0.056	46	2,085	0.084
Other	100	2,892	0.043	89	5,951	0.241
Science Lab	42	2,789	0.042	55	981	0.040
Language Lab	52	992	0.015	74	517	0.021
Classrooms	143	48,979	0.735	68	42,673	1.726
Computer Classrooms	85	5,019	0.075	55	4,715	0.191

Table 5: Public University Enrollment, 2010–11 and 2011–12

	Enrollment	
	2010–11	2011–12
Université Général Lansana Conté de Sonfonia (UGLCS)	17,876	19,604
Université Gamal Abdel Nasser de Conakry (UGANC)	12,537	9,734
Université Julius Nyéréré de Kankan (UJNK)	6,698	8,350
Institut Supérieur De Formation A Distance	7,490	4,535
Centre Universitaire de Kindia	4,564	4,378
Institut Supérieur des Sciences de l'Education de Guinée (ISSEG)	2,992	2,780
Institut Supérieur des Sciences et Médecine Vétérinaires (ISSMV)	3,470	2,779
Ecole Supérieure de l'Hôtellerie et du Tourisme	2,701	2,666
Institut Supérieur des Mines et Géologie de Boké (ISMG)	3,223	2,300
Institut Supérieur Agronomique et Vétérinaire de Faranah (ISAV)	3,998	2,221
Centre Universitaire de Labé	2,002	2,114
Institut Supérieur des Arts de Guinée Dubréka (ISAG)	4,764	1,790
Institut Supérieur de technologie de Mamou	1,772	1,701
3 other universities	2,900	2,441

Source: EMIS (2011, 2012).

Table 6: Enrollment in Private Universities (2011 and 2012)

	Enrollment	
	2011	2012
Université Kofi Annan de Guinee	3,812	3,828
Université Nongo Conakry Unc	2,202	3,316
Université Mahatma Gandhi	1,419	1,665
Université Mercure International	2,001	1,302
Université La Source	1,969	1,180
Université Titi Camara	1,299	1,051
Université Ahmadou Dieng	1,402	949
University International	2,137	796
Udecom	687	707
Institut National De L'Enseignement Technique	527	701
HEI Rene Levesque	1,100	674
Université International Cheick Modibo Diara	1,192	650
24 other universities	6,376	5,574

Source: EMIS (2011, 2012).

Table 7: University Enrollment Across Regions, 2011

Region	Enrollment	% Total	Private IES	Public IES
Conakry	67,838	65.74	32	7
Basse Guinee	12,659	12.27	2	4
Moyenne Guinee	8,563	8.3		3
Haute Guinee	11,333	10.98	1	2
Guinee Forestiere	2,799	2.71	1	1

Table 8: Student/Teacher Ratio in Public Universities

	Enrollment in 2012	teachers in 2012	Students/teacher ratio
Université Général Lansana Conté de Sonfonia (UGLCS)	19604	452	43.4
Universite Gamal Abdel Nasser de Conakry(UGANC)	9734	509	19.1
Université Julius Nyéréré de Kankan (UJNK)	8350	410	20.4
Institut Superieur De Formation A Distance (ISFAD)	4535	113	40.1
Centre Universitaire de Kindia (CUK)	4378	203	21.6
Institut Supérieur des Sciences de l'Education de Guinée (ISSEG)	2780	114	24.4
Institut Supérieur des Sciences et Médecine Vétérinaires (ISSMV)	2779	92	30.2
Ecole Supérieure de l'Hôtellerie et du Tourisme (ESHT)	2666	67	39.8
Institut Supérieur des Mines et Géologie de Boké(ISMG)	2300	91	25.3
Institut Supérieur Agronomique et Vétérinaire de Faranah(ISAV)	2221	147	15.1
Centre Universitaire de Labé (CUL)	2114	126	16.8
Institut Supérieur des Arts de Guinée Dubréka (ISAG)	1790	113	15.8
Institut Supérieur de technologie de Mamou (IST)	1701	79	21.5
3 others universities	2441	207	

In general, a high student to teacher ratio implies lower teaching quality (Table 8). More importantly, practical courses for which teachers need small classes are difficult to create and/or sustain. While these ratios are consistently high, there are wide inequalities across universities. The UGLCS, where there are 43 students per teacher, is much less favored than the UGANC, where the corresponding figure reaches 19. This might be a sign that the rise in the number of humanities students has not been controlled. Other institutions have very high ratios (ISSMV, ESHT), while universities outside Conakry tend to have lower ratios.

In contrast with public universities, private institutions usually have very few full-time teachers. Most of their teachers are lecturers who teach only a few hours per week. Since the average time spent by lecturers at the institution is not known, it is difficult to calculate a significant student/teacher ratio.

Public and Private Provision of Higher Education

The previous section has shown that Guinea provides an interesting example of private provision of higher education. Government supports the expansion of private education as a complement to the public sector's efforts to build the country's human capital and develop the skills necessary for its emerging growth sectors. However, more efforts need to be put in place to promote a culture of quality assurance of both types of provision (see note 3 on governance for more details).

Private higher education largely depends on public financing and support to survive. This support must be complemented by adequate accountability and quality assurance systems. Currently, 30 percent of the funds devoted by the government to higher education go to private institutions. This is important, but the funds should be channeled only to institutions of proven quality. This is not the case at the moment, since there are no reliable quality assurance agencies to evaluate and testify to their quality. The relatively young private sector has not developed practices that could serve as examples for other institutions, public or private. For instance, teacher evaluations by students are not yet a regular practice, nor are programs regularly evaluated.

Furthermore, private institutions depend largely on teachers from public universities to offer their programs. This is not done in accordance with a pre-established agreement. In fact, public universities do not receive any benefit from this practice, despite the fact that they are losing hours of valuable manpower that could have been used for research, supervision of students, liaison with industry and community, and fulfillment of service requirements. A serious evaluation of the benefits of this practice should be conducted. For instance, the benefits would be greater if the resources were used to improve the salary of teachers and upgrade the infrastructure of the public universities. This is particularly relevant in view of the fact that most private institutions are in Conakry and offer programs similar to those offered in public universities. Consequently, they do not contribute to increased access to higher education outside of Conakry and to diversify the program offerings. In particular, one would expect that private institutions would be in a better position to develop linkages with employers and offer short programs in line with their needs. Given the profit motive inherent in the private sector, it would be reasonable to assume that the private sector will provide programs in sync with the labor market. At the present moment, this is not the case. In short, the private sector in Guinea still has to prove that it can be an interesting and useful alternative to the public sector and not just a place to direct the surplus of the latter.

Short Cycle Vocational Higher Education[12]

The origin of short-term vocation higher education (SVHE) courses can be traced to economic necessity in developed

12 This section is developed from Mazeran (2007)

Table 9: Trends in Student Enrollment, Select Countries, 2000 and 2004

Country	Number of Students		SVHE Students	
	2000	2004	2000	2004
Chad	6,500	10,000		500
Madagascar	32,000	42,000	4,300	5,500
Mali	23,000	32,000	800	1,400
Mauritania	9,500	9,000	100	200
Senegal	35,000	57,000	7,000	13,000

Source: UNESCO BREDA (2005).

nations in the 1960s (Box 3). The success of the SVHE courses in the 60s led to them being adopted by emerging nations in the next few decades. Examples include the University Institutes in Korea, the Institutos Universitarios de Tecnologia in Venezuela, the Universities of Technology in Mexico, the Ecoles superieures de technologie in Morocco and the Centros Federales de Educacao Tenologica in Brazil. Currently, several Latin American countries are in the process of revamping their vocational education systems. Meanwhile, in most of Africa, the effects of achieving basic education goals has created a much needed impetus to develop and diversify higher education. The vocational education system is still in its infancy and the growth rate is slower than the growth rate of non-vocational higher education (Table 9).[13]

Links Between Higher Education Institutions and the Labor Market within a Public-Private Partnership (PPP) Arrangement

If the Guinean higher education system is to become more relevant to labor market demand, and more effective, it needs to reach out to the private sector. The private sector is still somewhat embroynic, but holds vast potential for expansion if the business environment becomes more attractive.

Typlogy of Contracts with the Private Sector

Opportunities for Public-Private Partnerships: Public–private partnership (PPP) could be envisaged in the form of active participation of the industry/private sector in every stage of the design and implementation of the following activities (Box 4 and Table 10):

- Forecasting of emerging areas of employment at micro level
- Development of course curricula for various professions and trades
- Development of instructional material for training
- Assisting in the training of trainers, wherever required
- Making available their training and testing facilities, wherever required

13 The results from the assessment must be taken with caution given the incompleteness of the data.

Box 3: Short-term Vocational Higher Education in Canada

Canadian Community College System

The Canadian community college system, inspired by the developed of the American system, is comprised of Institutes of technology and advanced learning, Colleges of Applied Arts and Technology, University Colleges, and the Colleges d'enseignement general et professionnel of Quebec. The Canadian community college system is overseen by the Association of Canadian Community Colleges of Canada and not a federal government agency.

Most of the colleges within the community college system are comprehensive institutions offering a wide range of disciplines in engineering, business management, arts, health and these programs are designed for students from all backgrounds. The programs may be of a two or three year duration, or an apprenticeship type program or university transfer programs. The programs are mostly publicly funded and autonomy is shared between the institution and the provincial government. The community colleges have a strong relationship with employers—employers offer students placement, they are consulted on curriculum development in certain cases and employees with expertise are allowed to teach certain courses in the programs.

Source: Mazeran (2007)

- Providing on-the-job training in their establishments
- Development of assessment standards
- Monitoring and quality assurance
- Assistance in placement of graduates
- Providing professionals to work as assessors of competencies
- Voluntary donation of equipment to the information technology institutes/other training institutions
- Providing guest faculty in professional programs

5. Summary

The transformation of higher education institutions into public administrative institutions government by a council, the extension and diversification of the universities, and the transition to

Box 4: Examples of Successful Public-Private Partnerships (PPPs)

Successful Public-Private Partnerships (PPPs)

International experience in higher education, professional training, and research and development has proven the feasibility and viability of public-private partnerships.

1. Engagement in joint training, research, or development to meet specific needs identified by the private partner. In Tunisia, professional degrees and applied masters degrees built jointly with and for professionals were introduced in 2008 in response to the national objectives on improving the employability of young graduates. Set up in emerging sectors (mechanics, retail, aerospace, food processing, etc.) at the request and with the active participation of professionals at every level of preparation, implementation, and evaluation, the training programs boast an employment rate of nearly 100 percent; a number of these trainings benefitted from grants from the Tunisian competitive fund for quality improvement (*Programme d'appui à la Qualité*) funded under the PARESII (World Bank loan).
2. A Government and a firm or group of firms/professional sectors/private foundation for the creation and management of a professional training institution. In Morocco, the *Institut des Métiers de l'Aéronautique* (Institute for Aeronautical Trades) is managed by an anonymous firm, IMA-Sa, to whom the Moroccan state has entrusted infrastructure and equipment management. In Tunisia, the Centre d'Excellence dans *les Métiers de l'Industrie Aéronautique* (Center of Excellence in the Aeronautics Industry Trades) is a pilot initiative of the Ministry of Professional Training and Employment in partnership with the Ministry of Higher Education, piloted by two national federations of mechanisms and electricity and electronics.
3. TVET training programs have been conducted by both private and public institutes independent of each other. In Bangladesh, recently, there have been some partnerships, but they are mostly initiated by non-governmental organizations. For example, a Garment Workers' Education Program has been set up to provide basic and vocational education to eligible former garment workers. The program is a partnership between the Bangladesh Garments Manufacturers Export Association, United Nations Children's Fund and the International Labor Organization (Tansen, 2012).
4. Professional associations and professional sectors are set up for initial and vocational training in response to the needs of a given sector. In France, *Union des Industries et des Métiers de la Métallurgie* is a consortium bringing together Industry Professional Associations (Associations professionnelles de l'Industrie) for vocational education and training and the Industry Apprentices Training Centers (*Centres de formation d'apprentis de l'Industrie*) for initial training from the CAP to the engineering degree. The professional associations and apprentice training centers are nonprofit organizations, autonomously managed by firms.

Table 10: Public-Private Partnerships in Skills Training: Example of India

The unique public-private partnership for skills development in India	Contributions from private sector
National Skill Development Corporation (51% private and 49% government stake; endowed with a corpus)	Supporting sector skills councils for assuring talent needed in industry
Objectives: **Nurture development with long-term capital** **Improve returns by providing viability gap funding**	Setting up standards and quality assurance to ensure use of global best practices Modernizing labor market information for accurate and real-time inputs
Viable skills ecosystem: **Support systems required for skills development** **Skills councils** **Quality assurance mechanisms** **Information systems** **Train-the-trainer programs** **Skills standards and competency mapping**	Supporting industry-relevant training Demanding and absorbing "ready-to-work" and "certified" employees Supporting internships and placements Supporting employee cadres to act as trainers and assessors of competencies Promoting and rewarding lifelong learning

Source: World Bank (2008).

the LMD system have all changed the higher education landscape in Guinea. Over the last decade, higher education enrollment has surged; the growth is explained by the removal of higher education entry requirements and the substantial growth of students completing secondary education. Secondary education is an important predictor of higher education access; examination results indicate that the results favor boys and private school students. However, once females enter into the higher education system, they face fewer constraints in finishing their studies. The average age of 22 in the first year of university is particularly old and is a result of the very high repetition rates during all stages of primary and secondary education.

Higher education receives a sizeable share of all public education spending. The Guinean government spends almost

as much on higher education (36.2 percent in 2014 for about 95,000 students) as on primary education (41.1 percent for 1.7 million students). Almost half of the higher education recurrent budget is geared towards the scholarship program. In terms of private provision, Guinea is slightly below the SSA average, but quickly catching up. Private higher education is rapidly increasing (38 private institutions versus 18 public ones in 2012), but depends on public financing and support to survive. The distribution of universities across Guinea is highly unequal as most of them are concentrated in Conakry. The current system leaves little room for flexibility and adjustments to labor market needs. Unlike other SSA countries, Guinean institutions do not have power over the hiring or firing of their permanent teaching staff. Higher education academic faculty are either civil servants or contract teachers (assistants), and they do not directly belong to institutions as they have not been hired by them. The civil servant salary scale is quite flat with little difference between higher education and secondary teachers. This also explains the lack of diversity among teaching corps (less than 4 percent being foreigners) and the fact that the majority of teachers teach in private institutions to supplement their salaries. Reforms are currently ongoing to revise the salary scale. Lastly, the teaching professions suffers from a serious renewal constraint—40 percent of the most qualified teachers (PhD and Masters' degree holders) are older than 60 (retirement age is 62).

A healthy, equitable, and high-quality education system is vital to developing and sustaining a skilled and versatile workforce that will enable Guinea to take advantage of its immense natural resources and achieve economic stability. There are positives in Guinea's story—access to higher education has increased over time; private higher education is on the rise with the potential to make the education sector efficient, accessible, and competitive if overseen adequately; and women are pursuing undergraduate and graduate education at a higher rate than before. It now becomes important to build on this success, while addressing some of the deficiencies in the system. Growing higher education enrollment must be met with adequate resources—infrastructure and personnel. Higher education is accessible if one is from higher income households, urban areas, and/or privately educated. Gender is still a key determinant of inequity in access. Private higher education, while a step in the right direction, requires regulation.

The government should make use of its leverage, given that it funds the system, and develop accountability and quality assurance standards and systems. Overall quality is in need of improvement, and giving institutions control over human resources seems to be a natural step in the evolution of skill development. Financing of higher education should be rethought and made not only efficient, but also equitable. Finally, skills development is tied to the needs of the labor market. Improving the education and training system requires input and collaboration with the private sector to ensure that the education system develops the skills required by the labor market.

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