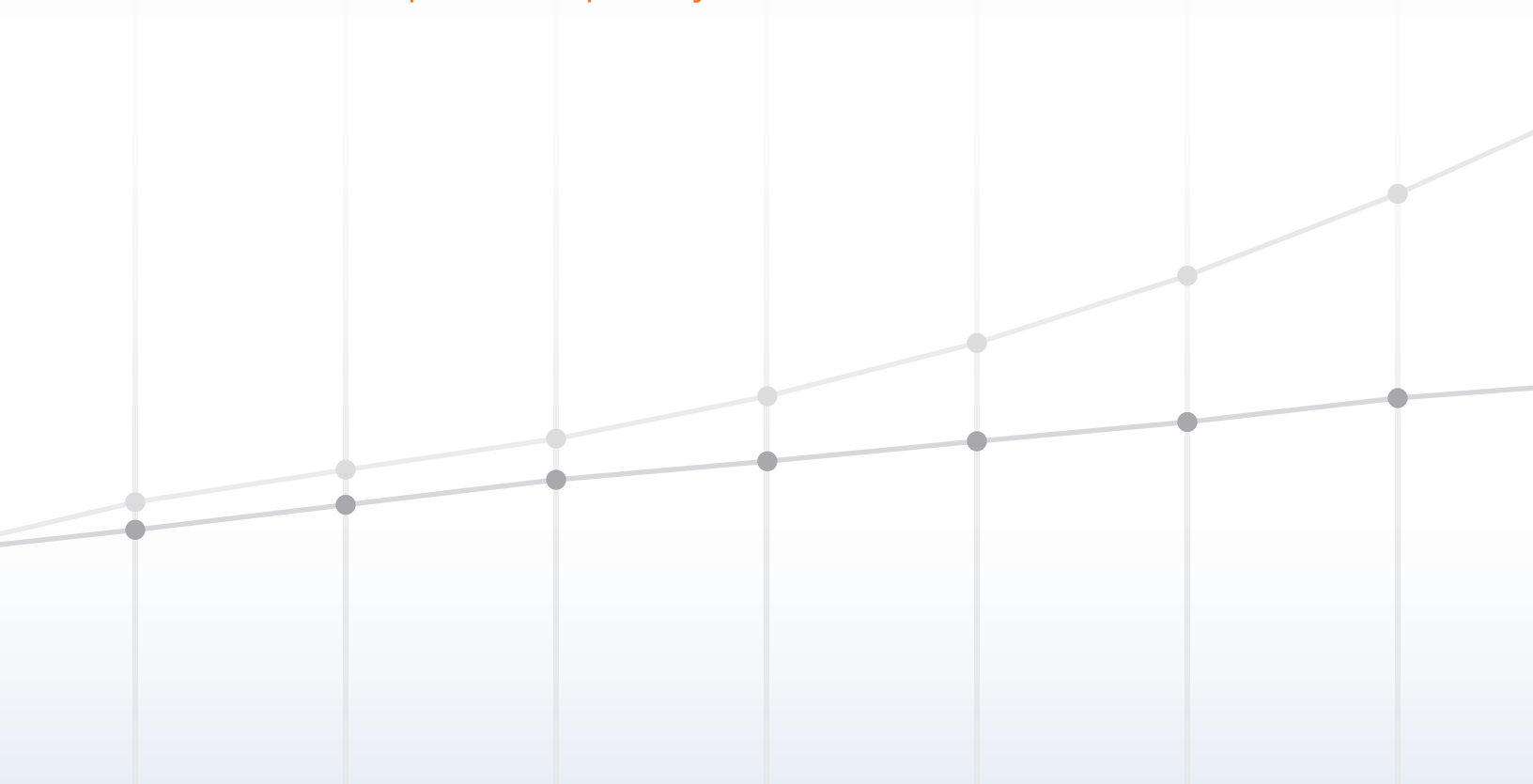


The Nickels and Dimes of Education for All

The expansion of primary education in Sub-Saharan Africa



October 2014

This is an Education Policy and Data Center Working Paper. The primary authors are Carina Omoeva and Ania Chaluda. John Gillies provided input for the organization and flow of the paper and reviewed earlier drafts. The authors are also grateful to Ana Florez, Kurt Moses, Anne Smiley, Elizabeth Buckner, Charles Gale and Rachel Hatch for their review and feedback on earlier versions of this paper.

The Nickels and Dimes of Education for All

The expansion of primary education in Sub-Saharan Africa

EDUCATION POLICY AND DATA CENTER | FHI 360

October 2014

Carina Omoeva
Ania Chaluda

FOREWORD

How can the goals of Education for All (EFA) be achieved? For the better part of two decades, the international community has focused on this challenge. The EFA initiative has produced much innovation, generated political will, and enabled significant policy reforms on such complex issues as school fees. As a result, there has been remarkable progress in increasing access to primary education. Primary school enrollment increased by over 60 million children since 2000, with some countries more than doubling their enrollment.

From the beginning, it has been clear that achieving these ambitious goals would be neither quick nor cheap. Over the past 15 years, a number of analysts and donors have made estimates of the cost of implementing EFA, with scenarios ranging from US\$3 billion to US\$34 billion in annual costs to meet the gap. In general, these costing exercises rest on the foundational assumptions of the international aid architecture – that they represent a transfer from the international community to developing countries. The most recent Global Monitoring Report estimated a gap of US\$26 billion per year above what is currently provided. These funding estimates are eye-catching, but very discouraging if global subsidies of this scale are needed into the foreseeable future.

I am pleased that this new report from the Education Policy and Data Center at FHI 360 brings a new and often overlooked perspective to the discussion. Recognizing that many of the countries of the Global South are experiencing historically high and sustained economic growth rates, this report argues that developing countries can and should share the financial burdens of expanding both access and quality of education for their populations. In fact, it demonstrates that many countries are already maintaining education spending as a percentage of GDP even as the economy grows, generating new domestic resources. The report argues that even with relatively minimal levels of 2% of GDP consistently allocated to primary education, Sub-Saharan Africa could generate over US\$120 billion of additional education funding over a 10 year period.

Beyond the financial analysis, this report also digs into the key barriers to achieving the primary school completion goals, which are not enrollment and access, but rather reducing dropout and repetition. Improving the efficiency of systems will also allocate existing resources more effectively. While much of the current international dialogue is appropriately and necessarily on improving learning outcomes, this is much more difficult in an inefficient, aid-dependent world.

The importance of this analysis is not limited to financial savings for donor countries. Rather, it argues for a more progressive aid dialogue of shared responsibility for development rather than the traditional “donor-recipient” paradigm. The focus of this paper on policies for generating significant domestic resources and focusing efforts on improving efficiency is a welcome and timely addition to the global dialogue for Education for All.



John Gillies

Director, FHI 360 Global Learning Group

CONTENTS

INTRODUCTION	1
WHERE DO WE STAND?	2
Expansive growth	2
It's all about retention	3
The lost opportunity	6
PAYING FOR EDUCATION FOR ALL	7
Education finance post-Dakar	7
Dividing it up	9
All eyes on local growth	9
LOOKING AHEAD: IMPLICATIONS OF EXPECTED ECONOMIC GROWTH FOR EDUCATION	11
Methodology	11
Results: greater growth in spending per student	12
A few country examples	13
A bigger share of a bigger pie	15
What about secondary education?	16
The “true cost of learning”, or how much is enough	17
CONCLUSION	19
REFERENCES	20
APPENDICES	21
Appendix A: Primary education resource projections	21
Appendix B: Cost projections for 31 countries of Sub-Saharan Africa (with baseline data)	22

INTRODUCTION

With the benchmark year of 2015 just around the corner, the discussion around Education for All (EFA) goals once again turns to the issue of finance. The lack of funding — and specifically the inability of donors to come through on pledges made in the year 2000 — has been cited as one of the principal reasons the world has fallen short of accomplishing the ambitious Education for All agenda by 2015 (UNESCO 2013/4).

In 2013, the UNESCO EFA Global Monitoring Report called for an additional US\$26 billion annually in aid to enroll all children in primary school, an almost tenfold increase of aid levels to date (UNESCO 2013/4).¹ About 58 million children are estimated to remain out of school (UIS 2014) and it is argued that without a concerted donor effort and rapid increases in assistance to developing countries, barriers to school access will take until 2086 to overcome (UNESCO 2013/4).

We argue that this pessimistic view of the need for ever increasing donor flows to address education deficits is wrong. EFA can be achieved faster and with a lower donor cost with two key changes to international policy. First, a focused effort to mobilize resources in the developing countries themselves is needed, both to generate necessary funds and to promote an environment of shared accountability for financing education. Our analysis demonstrates that this is a realistic goal — and in fact is already happening. Low income countries are among the fastest growing economies (albeit from a low base), with many countries in Sub-Saharan Africa growing at a rate of 6% or greater annually. We estimate that over US\$120 billion in domestic financing can be generated in Sub-Saharan Africa over the next decade if countries maintain at least a relatively low 2% of GDP dedicated to primary education.

Second, these increased domestic resources need to be focused on the most important constraints to school completion, in light of the significant achievements of EFA, as the critical issue in most countries is no longer barriers to entry, but rather repetition and dropout. Without substantial improvement in these measures of efficiency, the school completion goals cannot be achieved.

Because the main threat to Education for All is not school exclusion per se but rather low retention, greater investment into improving the quality of school systems will begin to reduce wastage, thereby generating a virtuous circle of gradual advancement towards universal primary completion, with children receiving high quality instruction in school and progressing through the education system in a timely manner. International assistance should be present to ensure that effective technical solutions are available and continuous capacity building takes place to help governments harness domestic finance and direct it towards quality improvement. In all likelihood, however, change will not depend on increased aid nor will it happen quickly — it will rely on the commitment of national governments and the strength of their local economies.

1. The total amount of ODA gross disbursements to primary education in developing countries was \$2.7 billion in 2012 (Source: OECD DAC).

WHERE DO WE STAND?

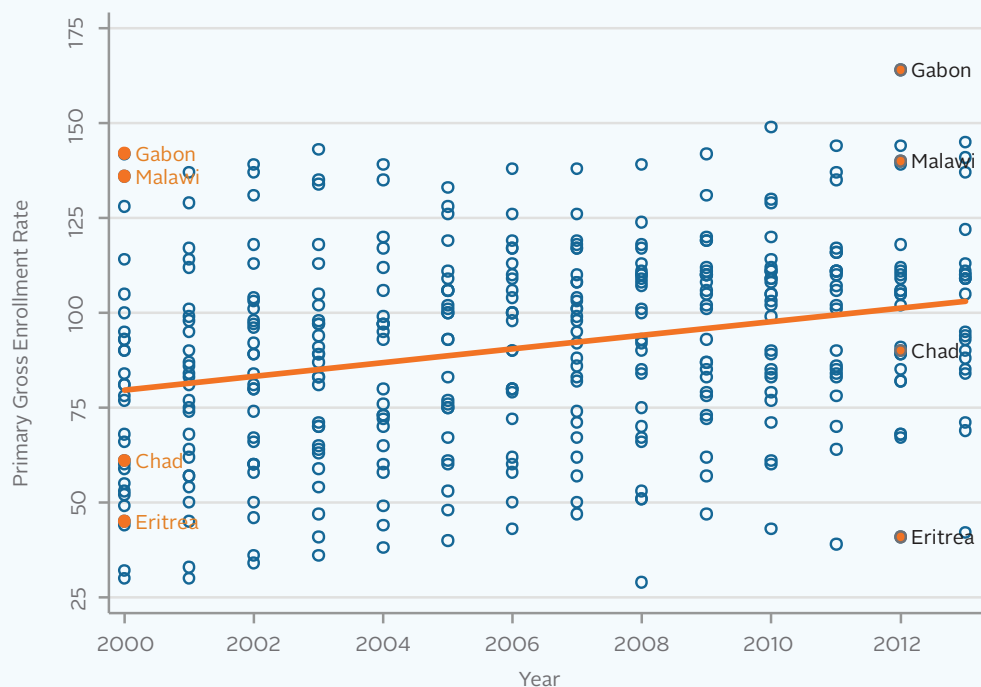
We begin our analysis with a review of the recent accomplishments and remaining challenges in primary education in Sub-Saharan Africa, examining how the combined effects of universal access policies and continued population growth in the region have resulted in dramatic expansion of primary enrollment. Further, we review the differences between initial intake into primary and primary completion and examine the toll that repetition and early dropout — the two drivers of low retention — have exacted on primary education systems in the region. A simulation exercise showing the effects of retention illustrates the crucial importance

of the quality dimension of schooling and the inter-connectedness of access and quality in Education for All.

Expansive growth

Low income countries in Sub-Saharan Africa made remarkable progress in the past decade in increasing their primary school enrollment. Gross enrollment rates² vary dramatically across the region, from a low of 40% in Eritrea to over 140% in Malawi and Gabon (**Figure 1**). Overall however, as **Figure 1** shows, the subcontinent has seen a steady upward trajectory in gross enrollment rates, with an average growth of

FIGURE 1. Growth in primary gross enrollment rates in Sub-Saharan Africa.



Source: UIS

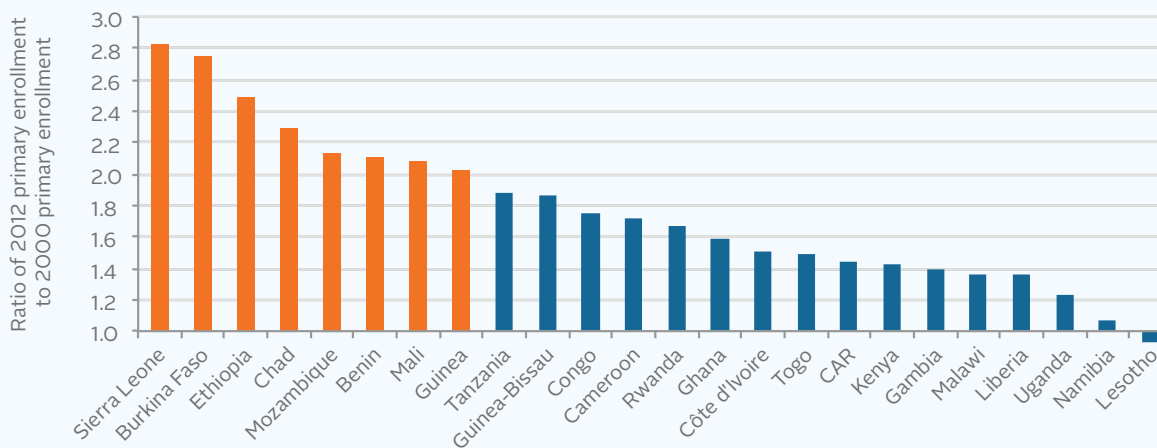
2. Gross enrollment rate is defined as the number of students in primary school divided by the population of primary school age children.

25 percentage points during the period of 2000–2012. The trend has been sustained over the course of the decade, which is in itself remarkable given the magnitude and the speed with which the growth took place. The growth is even more dramatic when expressed in terms of actual pupil enrollments rather than in population-proportion rates. **Figure 2** below shows the magnitude of primary enrollment growth in Sub-Saharan African countries over the post-Dakar period, as a simple ratio of 2012 enrollment, measured in the number of students, over the baseline enrollment in 2000 or 2001. As the figure shows, in several countries (highlighted in orange) the expansion of access has translated into the number of primary school students doubling over the course of the past decade, as a result of the abolition of school fees coupled with continued rapid population growth. On average, the number of students in countries shown in the graph has grown by 75%, from roughly 44 million to 76 million. Only a few countries saw growth below 40% during this period, and only one — Lesotho — experienced a small decline in its primary school enrollment.

It's all about retention

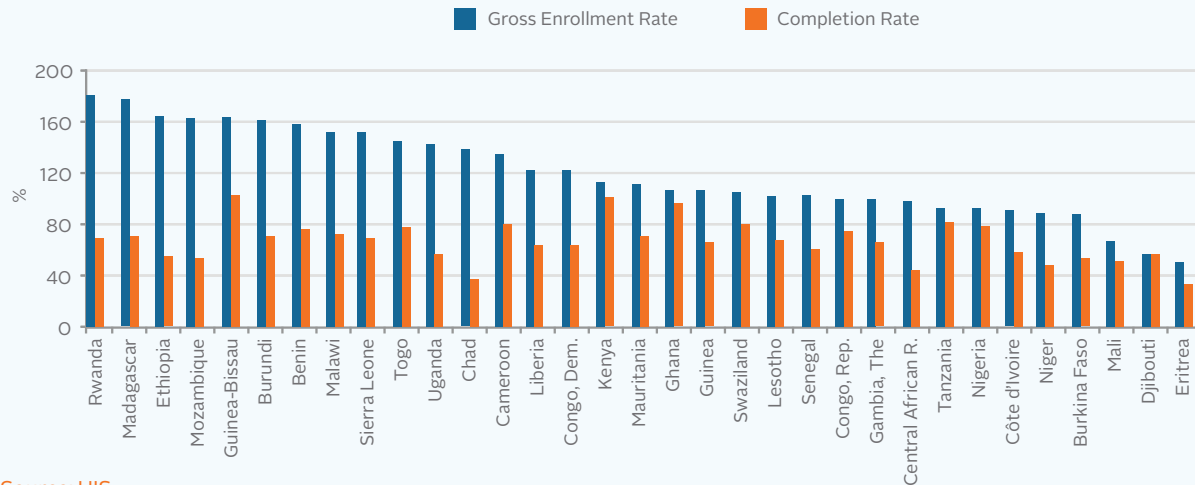
For most countries in the Global South, Education for All is largely not a challenge of initial access, but rather a struggle of keeping children in school and sustaining low repetition rates. Governments have dropped policy barriers for entry and have consistently expanded intake into the first grade of primary and enrolled scores of overage children. **Figure 3** demonstrates that the gross intake rate in 2012 across Sub-Saharan African countries often far exceeded the population of school entry age. However, despite these high levels of intake, the *completion* of primary school continues to be beyond reach for many education systems. In other words, *roughly half of the students* that enter the first grade of primary school in Sub-Saharan Africa find themselves repeating grades they should have completed, or dropping out of school altogether before they have a chance to reach the end of primary. The extent of disparities between entry and completion is highlighted in **Figure 3**.

FIGURE 2. Growth in primary school enrollment (number of pupils), 2012 level as a multiple of 2000 level.



Source: UIS

FIGURE 3. New entry (gross intake) and primary completion rates for primary school in 2012, Sub-Saharan Africa.



Source: UIS

It is useful to remind the reader that primary completion is commonly defined as *gross intake into the last grade of primary school*, and thus is calculated as enrollment minus repeating students, over the population of the respective age.³ Both the gross intake rate and primary completion rate capture these specific age cohorts in their denominator, and both exclude repeating students from their numerators, focusing on the entry of new students into the first or last grade of primary, respectively. In fact, the very definition of primary completion as gross intake into the last grade of primary school makes it virtually impossible to make headway on this metric without reducing both premature dropout as well as repetition: students entering first grade must progress in a timely manner to the end of primary school in order for the statistic to eventually reach the universal enrollment of the respective population. As long as both repetition and dropout are visibly present, education systems will struggle to

achieve universal completion, regardless of how far they expand their reach in initial access to primary. In addition, both of these phenomena create and perpetuate inefficiencies, creating lopsided spending patterns where insufficient funding is provided to a student that newly enters the system, while double or triple that amount is spent on students that attend the same grade over a number of years without learning, or those that leave prior to completion.

BOX 1. Key definitions.

New entry into primary school: gross intake rate (GIR) into the first grade of primary, expressed as non-repeating students in the first grade of primary, over the population of the relevant age cohort for first grade (%)

Participation in primary school: gross enrollment rate (GER), expressed as total enrollment over the population of primary school age (%)

Primary completion: gross intake into the last grade of primary, expressed as non-repeating students in the last grade of primary over the population of the relevant age cohort for the last grade (%)

Source: Adapted from UIS

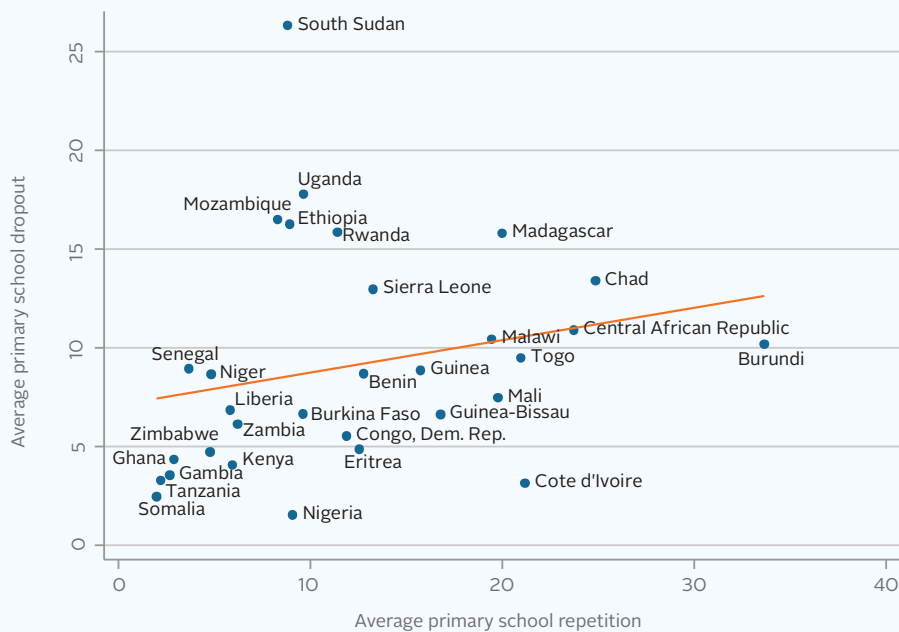
3. For population estimates, EPDC used The World Population Prospects: the 2010 Revision by the United Nations Population Division.

Investing in education quality, and helping students learn and make timely progress through the education system, is a crucial step towards Education for All. As recent data show, low income countries still need substantial support in improving school efficiency and creating high quality learning environments.

Figure 4 shows the most recently published data on repetition and dropout in Sub-Saharan Africa, averaged across primary grades. As is evident from the graph, in some countries, the proportion of repeaters reaches as high as 30% of primary school enrollment, and dropout can be as high as 15–20%. The graph also shows that the two negative phenomena are linked: countries with challenges on one of the aspects generally experience them in the other. The slight positive incline of the linear fit regression line plotted over the scatter shows a positive relationship between repetition and dropout.

At this level, establishing the direction of a potential cause and effect relationship is not possible; however, UIS (2012) argues that high repetition may lead to high dropout, as students who repeat grades and become overage for their cohort become less interested in continuing their studies and graduating from primary school. In Burundi, roughly a third of all students in primary school are repeaters — the highest amount of repetition on the subcontinent. Dropout rates are particularly high in South Sudan, according to the latest UIS data, as well as in Rwanda, Uganda, Ethiopia, Madagascar and Mozambique, where over 15% of students drop out of primary school before reaching its last year. While initial access expanded as barriers to school participation were dropped, education systems were unable to retain newcomers, and as a result, too many students entering the system ended up repeating multiple grades and eventually dropped out before completing a full primary school cycle.

FIGURE 4. Repetition and dropout rates in Sub-Saharan Africa, most recent data (2010–2012).



Source: UIS

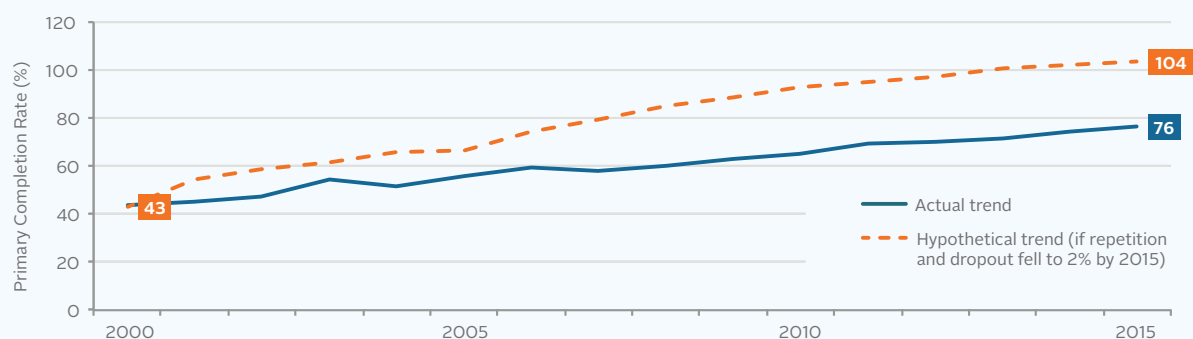
The lost opportunity

Our analysis shows that high repetition and dropout are the main reasons why universal primary completion has not been yet achieved. What would have happened if along with the expansion of intake into the first grade of primary school, countries were also able to roll back repetition and dropout in every grade, every year since 2000 for both male and female students? To visualize the impact of retention on progress in Education for All to date, we simulated a steady decline of repetition and dropout rates between 2000 and 2015 from their actual level to no higher than 2% for a group of countries in Sub-Saharan Africa and calculated the resulting average primary completion rate. The results are shown in **Figure 5**, based on actual primary completion data for 2000–2012 and projections for 2013–2015 which are set against the EPDC hypothetical “quality improvement” trend, plotted by the dotted orange line. The difference between what “could have been” and what “was” is striking: if countries had been able to steadily advance towards higher retention every

year since the year 2000, bringing grade-to-grade promotion rates to 98% by 2015, *primary completion in most countries would have reached near-universal levels during this time*. By then, the number of new students entering the last grade of primary school would have represented over 100% of the population of children who should be in that grade, before beginning to stabilize as overage students gradually complete and exit the system.⁴ Growth on this parameter would have taken place every year, with increasing numbers of students completing school on time.

By contrast, actual historical data show that the completion rate can be expected to reach approximately 76%, on average, by 2015. Repetition and dropout rates remained virtually unchanged during this period, and unacceptably high (as seen above in **Figure 4**). Without question, starting from a low level of 43% on average, progress is remarkable in magnitude — but it is likely that a lot more could have been achieved in school participation with greater attention to the quality of service provision and

FIGURE 5. Effects of low retention on primary completion, 2000–2015.⁵



Source: EPDC estimates, based on UIS.

4. Completion is measured as gross intake into the last grade of primary, so it is blind to overage and underage enrollment.

5. Included countries: Benin, Burkina Faso, Burundi, Chad, Congo, DR., Cote d'Ivoire, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Madagascar, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Tanzania, Togo, Uganda, and Zambia

a focus on retention. This exercise highlights the greatest challenge facing Education for All today: creating opportunities for students to enter the education system at the appropriate age, make timely progress through subsequent grades, and gain quality education that will help them reach

their full potential. The next section discusses opportunities for the countries of Sub-Saharan Africa to address these challenges and move closer to the goal of all children completing primary education.

PAYING FOR EDUCATION FOR ALL

As countries dropped policy barriers to primary schooling, the influx of new pupils overwhelmed existing infrastructure, leading governments to continuously expand education budgets. We continue to examine the dynamics of educational expansion in the first decade of the millennium, turning now to education finance. We review the changes in primary education budgets, and note their stability in relation to the overall domestic economies in Sub-Saharan African countries, even as many of them began to see rapid economic growth in the latter part of the 2000s. As per student allocations continue to be vastly inadequate, we find reason to hope that with the sustained growth of domestic economies, education budgets will continue to increase proportionately, allowing for opportunities for countries to invest more heavily into the quality of education.

Education finance post-Dakar

The expansion of education systems is well reflected in increasing domestic education budget allocations. In countries for which 2000–2012 data were available, budgets appeared to have grown considerably, with consistent year-to-year proportional increases, with the

exception of Mali, Namibia, Togo, and Uganda. In several cases with published data, annual growth in primary education budgets was substantially faster each year, on average, than the pace of economic growth during the same period of time (**Table 1**). On the whole, there appears to be no relationship between the pace and magnitude of economic growth in the low income economies

TABLE 1. Growth in primary education budgets

Country	Period of reporting	Average annual growth	
		Primary education budget	GDP
Burundi	2000–2012	9.9%	3.4%
Benin	2000–2010	8.5%	4.0%
Chad	2004–2011	7.5%	8.3%
Ethiopia	No trend data		8.6%
Ghana	2001–2010	1.7%	5.9%
Guinea	2008–2012	2.4%	2.9%
Lesotho	2000–2008	1.3%	3.8%
Mali	2008–2011	-1.6%	4.5%
Malawi	2000–2011	12.2%	4.3%
Mozambique	No trend data		7.4%
Namibia	2000–2010	0.3%	4.6%
Niger	2003–2011	6.7%	4.7%
Rwanda	2000–2012	6.2%	8.1%
South Africa	2000–2010	3.0%	3.6%
Togo	2000–2012	0.3%	2.4%
Uganda	2004–2012	-0.5%	6.7%

Source: UIS Data Centre 2014, IMF 2013

at the turn of the millennium, and the pace and magnitude of their primary education budget expansion. During this time, primary education budgets ranged from just over 1% to nearly 6% of GDP, and these commitments have generally remained stable over the past several years, despite fast economic growth. In other words, as their economies grew, countries on the subcontinent, overall, did not reduce relative spending on primary education.

As **Figure 6** demonstrates in greater detail, patterns of allocation to primary education as a percentage of GDP in most countries have remained fairly stable, with generally flat trends

and occasional fluctuation. As a notable example of this fluctuation, Lesotho went from nearly 7% of GDP allocated to primary in 2000 to 3.8% of GDP, substantially lower but still the highest in the region. This shrinkage supports the slight drop in primary school enrollment during this period, between 2000 and 2012, seen in **Figure 2**. Trends in resource allocation to primary education end on a high note in several countries, including Benin, Congo, Gambia, and Swaziland. No trend could be plotted for countries such as Mozambique and Ethiopia, where published budget data is limited to one year only. As the graph shows, education systems in low income countries generally responded to the rapid

FIGURE 6. Financial allocation to primary education as a percentage of GDP in selected Sub-Saharan African countries.



Source: UIS

influx of primary students with increases in primary education expenditure, in some cases far exceeding the pace of economic growth. Several education systems in the region doubled in size over the period of 2000–2012 and saw corresponding trajectories in resource allocation. Across the subcontinent, the proportional allocation to primary education remained stable even as economies grew, leading to growth in absolute levels of domestic education budgets. This indicates a general commitment from national governments to continue to invest growing levels of resources in education, offering hope that as the “pie” from local economies grows in the coming decades, so will the ability of countries to meet the challenges facing their education systems, leading to greater school participation and higher quality outcomes.

Dividing it up

While the trends described above indicate progress in greater school participation and higher quality outcomes, the current levels of spending in primary school are still largely inadequate for creating a quality learning environment, particularly when distributed across a growing population of students. **Table 2** shows the most recent levels of overall funding for primary as a percentage of GDP in 2010, as well as funding per student as a percentage of GDP per capita along with absolute levels in US dollars; it illustrates the double challenge of still-weak economic foundations in the region coupled with high demand for primary education. As can be seen from the table, overall

spending as a proportion of GDP in low-income Sub-Saharan African countries is generally on a par or higher than the allocation in developed countries such as the United States or the United Kingdom. Given their larger youth populations, this allocation translates into generally smaller expenditure per primary student relative to GDP per capita, ranging from a low of 4.4% of GDP per capita in Central African Republic to 21% in Niger. Furthermore, these amounts translate into vastly different levels of resources when it comes to absolute dollar values, even when adjusted for international purchasing power parity.

All eyes on local growth

Many low income countries in Sub-Saharan Africa will have an opportunity to increase per pupil spending in the next decade due to the fast pace of economic growth, averaging at about 6.4% of GDP annually across the subcontinent, as shown in **Figure 7**. With very few exceptions, projected growth rates are above 4% for all countries in Sub-Saharan Africa.

Thus far, as **Table 1** above shows, education budgets have been growing steadily since Dakar and, therefore, there is reason to believe that continued growth will create greater opportunities to make headway towards universal school participation. If these economies continue their upward climb and this trend is sustained through 2025, substantially more domestic resources will be available for much-needed investments in the education sector, and efforts to expand school participation and

improve quality can become less dependent on donor assistance. We illustrate the implications of this possibility for Education for All in the next section, focusing on countries in the region with the most recent available data, and taking into account the projected economic growth rates for the period of 2015–2025.

It should be noted that the amount of the primary education budget in the analyzed

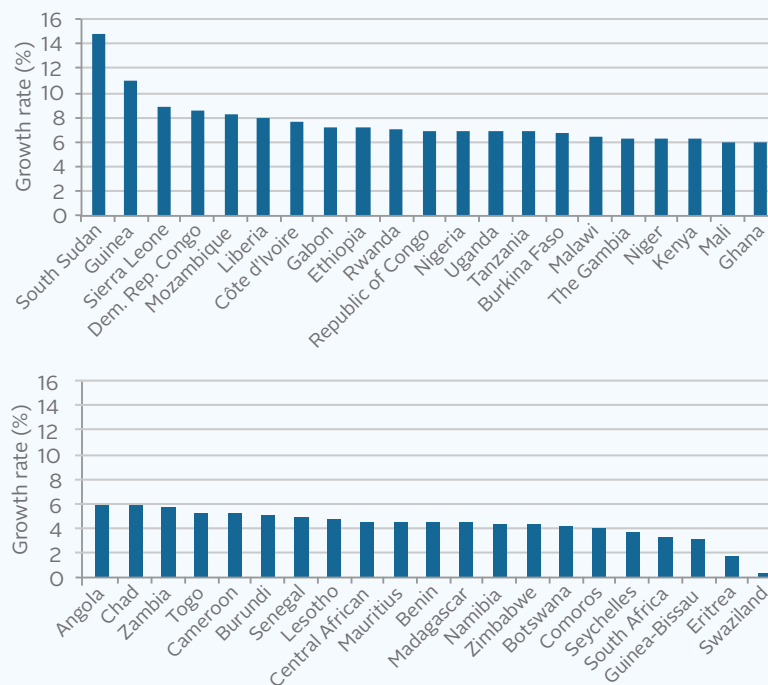
countries is likely to include some portion of international donor assistance, often embedded in education expenditure data. However, as donor commitments fluctuated, the budgets remained stable, suggesting that the amount of international assistance does not have a major impact on the ultimate investment in education that national governments are willing to make.

TABLE 2. Per pupil expenditure in primary school, 2010 or most recent data

Country	Primary education budget, % of GDP	PPE*, % of GDP per capita	PPE in current USD	PPE in current PPP-adjusted USD (same year)
Benin	2.8%	15.0%	\$103	\$218
Burkina Faso	2.3%	17.6%	\$104	\$233
Burundi	3.1%	15.4%	\$33	\$80
Central African Republic	0.6%	4.4%	\$20	\$42
Chad	1.0%	6.9%	\$63	\$139
Ethiopia	3.1%	19.2%	\$63	\$171
Ghana	1.7%	11.4%	\$125	\$174
Guinea	1.4%	10.8%	\$46	\$106
Lesotho	4.7%	22.8%	\$186	\$335
Malawi	1.5%	6.5%	\$22	\$52
Mali	1.9%	12.9%	\$86	\$154
Mozambique	2.9%	15.0%	\$49	\$105
Namibia	3.3%	17.6%	\$728	\$1,116
Niger	2.3%	21.0%	\$75	\$147
Rwanda	1.8%	8.4%	\$41	\$92
South Africa	2.5%	17.5%	\$1,008	\$1,781
Togo	2.3%	11.2%	\$56	\$106
Uganda	1.5%	5.9%	\$26	\$70
Selected OECD countries				
United States	1.8%	22.1%	\$10,387	\$10,387
United Kingdom	1.9%	26.2%	\$9,357	\$9,192

Source: UIS Data Centre, 2014. *PPE: per pupil expenditure.

FIGURE 7. Average projected GDP growth rates, constant prices, 2014–2018.



Source: IMF World Economic Outlook (October 2013)

LOOKING AHEAD: IMPLICATIONS OF EXPECTED ECONOMIC GROWTH FOR EDUCATION

What progress can we expect regarding EFA goals, and particularly primary completion in the next decade? To answer this question, we use historical data on pupil enrollment and progression to predict the most likely trajectory of primary enrollment, and combine this information with current trends in primary education expenditure to estimate future resource availability. Our analysis shows that many countries in the region are likely to generate more domestic resources to increase spending per pupil and, hence, improve the quality of education service provision.

Methodology

The progress-based EPDC projection model uses past trends and interdependencies between the baseline levels and rates of change on key parameters, such as gross intake rate, repetition, and dropout rates, to estimate the likely trajectory of school participation through 2025, setting the assumption of continued gradual improvement across these key dimensions. We set the gross intake rate to increase gradually if it is below 100% and decrease gradually if it is currently above 100%. Repetition and dropout rates are set to go down gradually, resulting in roughly 1–1.5 percentage point decreases per

BOX 2. Key assumptions in cost projections for Sub-Saharan Africa

Category	Inputs	Assumptions
Resources	GDP	IMF data through 2018; average 2014–2018 growth rate assumed beyond 2018; adjusted for inflation projected by IMF until 2018 and then kept constant at the 2018 value
	Primary education budget	2% of GDP or most recent data available, whichever is higher
Costs	Per primary pupil expenditure	Most recent data on government expenditure per primary pupil, adjusted for inflation projected by IMF until 2018 and then kept constant at the 2018 value
	Total cost	Per pupil expenditure multiplied by projected enrollment (EPDC projection, see methodology document at www.epdc.org)

year or less, depending on the baseline level. We call this scenario the *base progress* scenario, reflecting a conservative yet realistic forecast for the next decade. Under this scenario, primary completion in Sub-Saharan Africa will increase steadily albeit slowly, reaching a regional average of 86% in the year 2025.

In order to estimate the potential that domestic resources would support this gradual expansion of the education system in the near future, we must estimate the projected cost of school participation for a growing number of students, and subtract it from the projected primary education budget. To calculate the projected costs, we use the most recent data on government expenditure per primary student in US dollars as a basic unit and, after adjusting for inflation, multiply it by the number of students projected to enroll in the system each year. To calculate the projected budget, we base our estimates on the most recent data on the proportion of GDP allocated to primary education, and project the total resources available each year by applying either this constant proportion to the growing GDP, or a

constant level of 2%, whichever is higher.⁶ For GDP growth, we apply growth rates projected by the International Monetary Fund (IMF) through 2018, and assume a constant growth rate beyond 2018 to be equal to the average of 2014–2018 annual growth rates.

Results: greater growth in spending per student

These assumptions are quite conservative — and yet they produce striking results. A number of countries can be expected to generate sufficient resources to cover the cost of growing enrollment in the next ten years (2015–2025), and even run a budget surplus in the meantime. Given the low current levels of per student expenditure, this indicates the potential for increased spending — or for greater expansion at existing low per capita financing. **Figure 8** shows these countries marked in dark blue, while countries that will still struggle to meet increasing demand for primary education at current per student spending levels (and will likely experience a budget deficit) are marked in orange. While the dynamic of costs versus projected resources varies substantially across

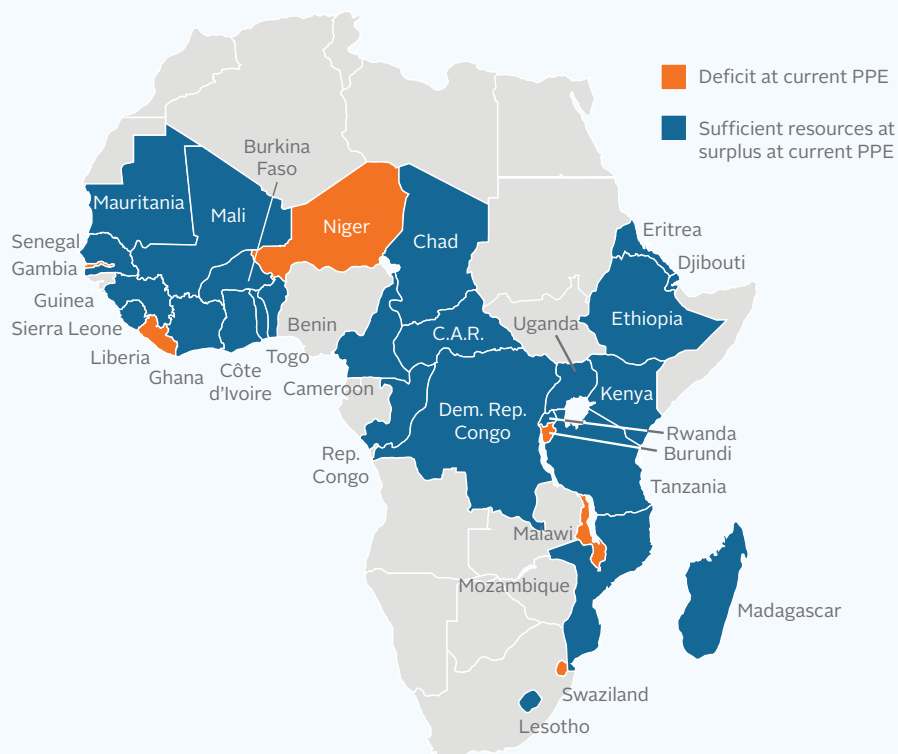
6. Among the 31 countries with available data during the period of 2000–2012, average spending on primary education was 1.99% of GDP. The minimum was 0.5% (Central African Republic, 2010) and the highest level was 6.4% (Lesotho, 2005).

countries, most of the 31 countries in **Figure 8** can expect to see increasing resource availability. In these countries, budget growth is expected to create additional funds for investment in educational quality, which is crucial for improving retention and combating repetition and dropout. *The total amount generated for primary education due to economic growth in Sub-Saharan Africa is estimated to be about 120 billion in constant 2014 US dollars between 2015 and 2025, assuming that countries continue to devote at least 2% of GDP to primary education (see Appendix B for details).*

A few country examples

Examining projections at the country level is instructive for our understanding of the implications of expected growth for the education sector, and the types of changes that we can anticipate in primary education financing across the subcontinent. As we noted when examining **Table 2** above, spending per student in most countries of the Global South, and particularly in Sub-Saharan Africa, is a fraction of that in developed countries, even with the requisite adjustment for purchasing parity. As the number of students enrolled in the system

FIGURE 8. Countries projected to have a budget surplus at current levels of per primary pupil expenditure

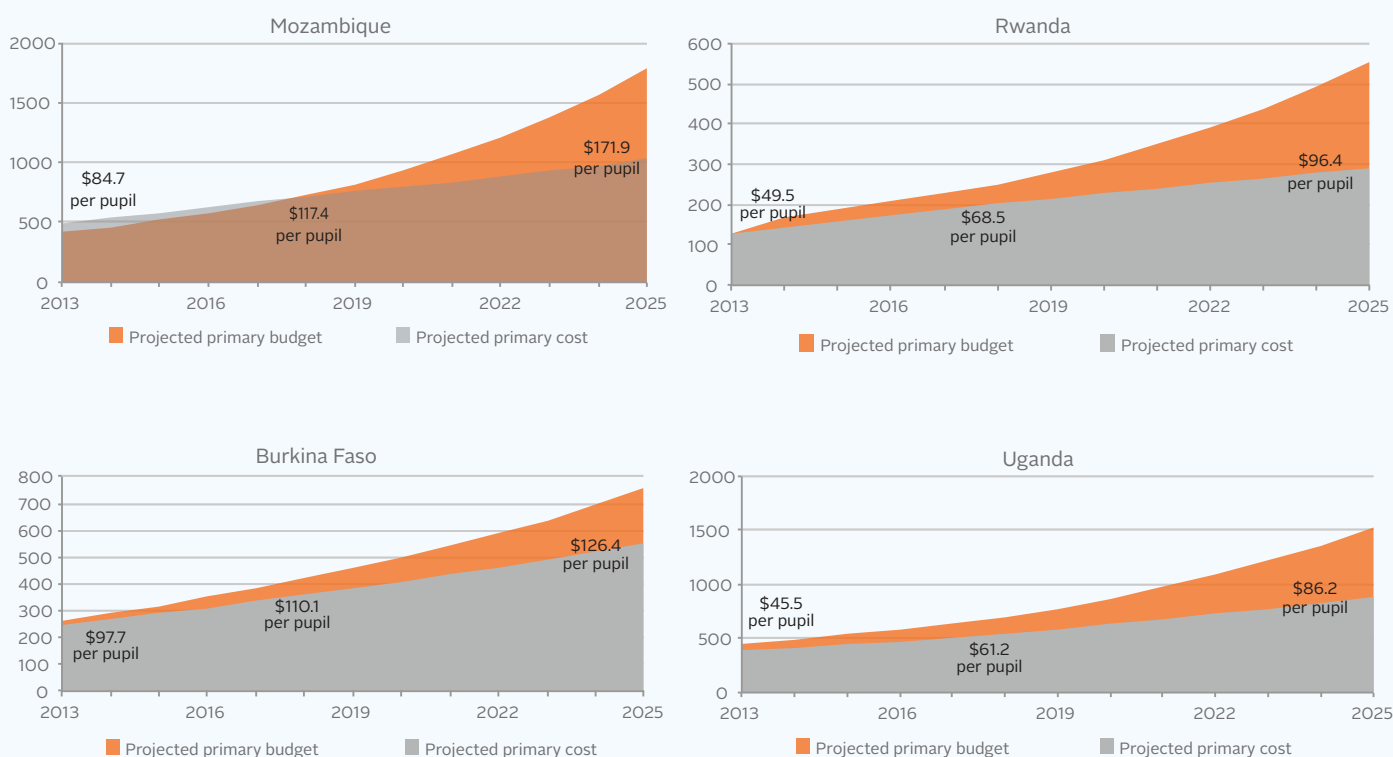


grows, per student spending usually adjusts to the level of available resources — increasing if more resources become available, or declining if funding becomes scarcer. In our projection scenario, the pace of budget growth must at a minimum meet the growth of enrollment, to sustain or increase baseline levels of funding per student. When economic growth outpaces the expansion of school enrollment, additional resources become available for investment in quality of school inputs and strengthening the capacity of the system. According to our estimates, such is the case in many African countries, as shown in examples in **Figure 9**. The projected level of resources potentially available for primary education is greater than the cost of projected enrollment, and this potential surplus can be expected to increase over time as a result

of sustained economic growth. Assumed levels of per student spending, adjusted for projected inflation, are also shown on the chart.

For example, Mozambique, which starts out with a small gap between its budget and costs, will reach parity around the year 2018 and can be expected to generate additional resources in the primary education budget after that due to GDP growth — and, hence, will be able to increase investments in the education system and strengthen management and instructional capacity. With additional resources, the education system may improve service delivery and, ultimately, boost the rates of completion in primary school. Current spending per capita in primary school in Mozambique is estimated at only about US\$85 (adjusted for inflation from

FIGURE 9. Projections of primary education costs and primary budgets in selected SSA countries, 2013–2025, mIn USD



most recent pushed data of US\$64 in 2006), which will amount to approximately US\$172 in 2025 — leaving room for further upward adjustments. This amount, while arguably inadequate for quality instruction, would nonetheless be on a par with per capita spending levels across the region, as the charts in **Figure 9** illustrate. In nearly every education system in our sample, the growth of domestic economies will make it possible to increase per capita spending, provided the commitment to primary education as a proportion of GDP remains the same.

A bigger share of a bigger pie

It must be noted that the resource cushions shown in **Figure 9** are, to some extent, boosted by the assumption of an allocation to primary education equal to at least 2% of GDP, which is slightly higher than the most recent available data indicate for two of the four countries displayed: it is 1.5% in Rwanda (2013) and 1.8% in Uganda (2012). By contrast, in Mozambique, the most recent data show that primary education expenditure comprised 2.9% of GDP (2006), and in Burkina Faso this amount was 2.2% (2012). It is our assumption for this projection exercise that countries can be expected to increase the share of primary education to at least the average 2% level, given the immense demand and importance of increased, predictable investment in education to meet the EFA goals. For the purposes of this exercise, we assume that for as long as there is need and the resource base remains steady, allocation to primary education will remain stable.

The disparity between what is allocated to primary education and what could be allocated becomes evident with the example of Cameroon, where economic growth rates for the next five years are projected to average around 5% annually. At this time, about 1% of the country's GDP is allocated to primary education. Government spending per primary student is average by regional standards, at about US\$77 per year, which, adjusted for inflation, will equal approximately US\$106 by 2025. As **Figure 10** shows, at this modest resource allocation level, which is represented by the blue area on the graph, Cameroon can accommodate growing enrollment. It is evident, however, that there is untapped potential to increase per pupil spending in the country's economy if current levels of allocation to primary education are maintained given economic growth (this scenario is marked in light orange), and even greater possibilities may well emerge over the next decade if a greater percentage of GDP is devoted to education (marked in dark orange). It is therefore a matter of capturing this potential and directing it to meet the needs of the country's education system.

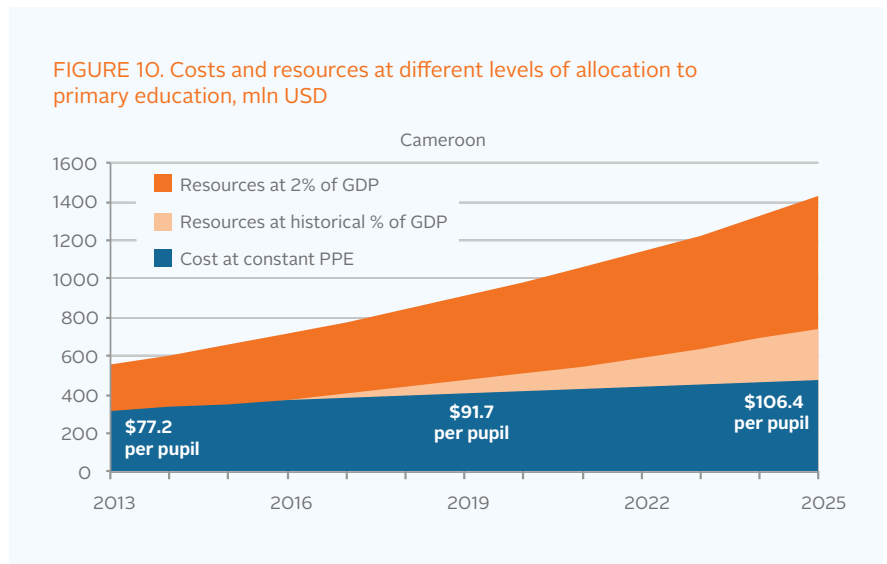
Economic trends in Sub-Saharan Africa described above create vast opportunities for investment in education. In low-resource environments, the lack of adequate funding per student breeds inefficiencies such as student and teacher absenteeism, leading to grade repetition and dropout. It has been shown that students who are overage for their grade and students who repeat grades are much more

likely to leave school before completing the full cycle of primary school (EPDC 2009; UIS 2012; Sabates et al. 2010). The impact of low quality education therefore extends beyond the walls of the school and into the broader economy, creating a drain on public resources within an education system, and robbing countries of the productive potential of primary school graduates — some of whom may have continued their education to make an even higher contribution to the labor force in their home countries.

What about secondary education?

In this projections exercise, we zoomed in on primary education as we examined the financial implications of reaching universal primary completion. We made the assumption that domestic allocation to primary education as a percentage of GDP will remain generally stable at least until universal primary completion is achieved, resulting in greater absolute amounts of resources per student. We argued that these new resource cushions should be used to improve the quality of education service provision with the goal of raising student retention. As we project steady improvements in primary school completion, we recognize the growing importance of access to education beyond the primary level. Indeed, in another policy brief, EPDC (2014) explores current and future trends for post-primary school participation and finds that the demand for secondary education already exceeded available supply in 2013, and will only accelerate in coming

FIGURE 10. Costs and resources at different levels of allocation to primary education, mln USD



years. Because at this time secondary education is generally more expensive per student than primary, it is not unreasonable to inquire whether the growth of secondary participation will result in reduction of primary education budgets. In other words, one may wonder if the growth of secondary will pose a risk to commitments at the primary level.

With full recognition of the competing pressures that may be facing governments and donors in this changing global landscape, we believe that a stable allocation of domestic resources in the amount of at least 2% of GDP is necessary to retain the gains in primary school access and completion, and to make headway on the quality dimension. Over time, with improvements in the quality of primary education, resources previously lost to repetition and early dropout will return as savings to education systems. By contrast, reductions of primary spending before retention challenges are fully resolved and all students have the opportunity to complete primary education will result in a rolling back of progress in primary completion and will serve to perpetuate wastage of resources, ultimately

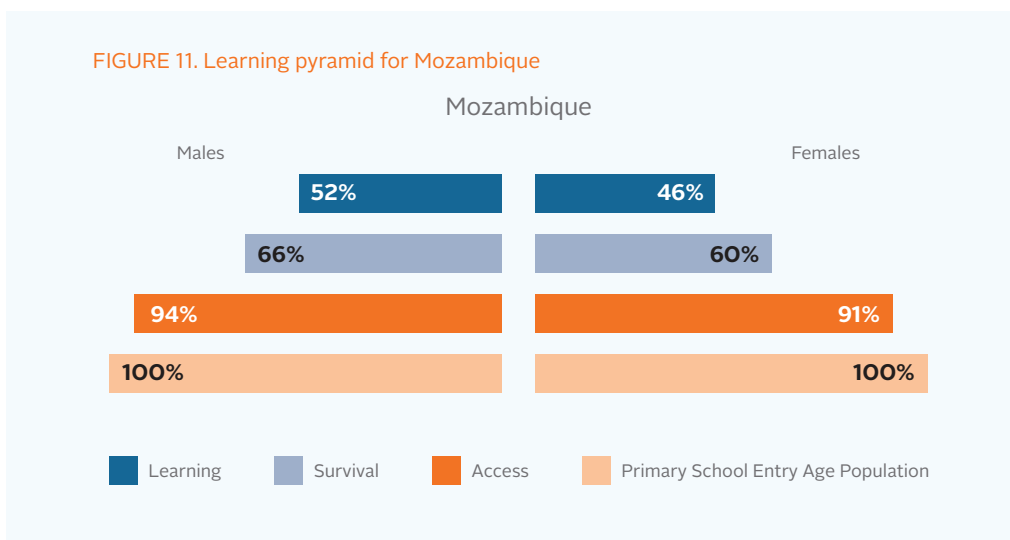
diminishing secondary schooling opportunities for millions of children. Opportunities created by economic growth in Sub-Saharan Africa should be used to create spaces for sustainable, long-term, and quality-oriented development to meet the needs of students at every level of the education systems in the region.

The “true cost of learning”, or how much is enough

Even as we establish that greater spending per primary pupil on the part of governments is needed, and likely possible, in lower income countries, it is difficult to specify what that amount should be. The basic question is: how much does it cost to produce a graduate who has the requisite learning skills to lead a productive life? In purely economic terms, one can conceptualize the optimal output of the education system as having 100% of its population of primary school graduation age completing primary school and obtaining basic learning skills in the process (however learning

goals are defined in a given country). Wastage can then be measured as the difference between this ideal outcome and the actual *suboptimal* outcome, where not all students enter school, even fewer complete primary school (many having repeated at least one grade), and others reach the end of primary with hardly any knowledge and skills to show for it.

Figure 11 shows the cumulative effect of lost opportunities throughout primary, using the example of Mozambique, where samples of sixth grade students took part in the regional student learning assessment SACMEQ in 2007, and school attendance and survival data is drawn from a household survey (DHS, 2006). As the graph shows, only about half of girls and boys of a given school cohort could be expected to complete primary school with basic literacy skills. In the simplest terms, one can argue that the cost of producing a primary school graduate who is literate is twice the nominal per student expenditure in this context.



As a basic unit, this higher amount can serve as a “true learning cost” benchmark, against which one can estimate the resources needed to maximize on-time promotion and acquisition of basic learning skills. A more nuanced view would take into account the likely differences in the learning abilities and family support structures of the student population successfully completing primary school, on the one hand, and those who continuously repeat and eventually drop out before reaching the end of last grade of primary, on the other. It is likely that the true learning cost for those students will be still higher than of those already in the system. At the same time, it is also not true that a doubling of expenditure would necessarily bring about optimal results. Research has long shown that the best approaches in education are not always the most expensive, and innovative local solutions can sometimes greatly improve outcomes at lower cost. Sabates et al. (2010) proposed a number of solutions that have been shown to improve learning throughout primary, including early childhood and preparatory preschool programs, remedial instruction for students at risk of grade

repetition, flexible school schedules — which require an upfront investment but help create savings by reducing wastage down the road.

In short, examining the “true costs of learning” in the present may provide one gauge for governments to assess the adequacy of per student financing in primary education as their domestic economies continue to grow and more resources become available for education. Focusing on quality as the end goal, regardless of the solutions taken to get there, is certain to bring about greater efficiency, in turn allowing education systems to ensure that all students complete the full cycle of primary school. In the post-2015 era in global education, quality is the name of the game, and countries benefiting from rapid economic growth should begin to see a new surplus of resources invested in the quality of public education. It is up to national governments to ensure that this growth translates into better educational opportunities for a new generation of their citizens.

CONCLUSION

Over the course of the past decade, many education systems have dropped barriers for entry and dramatically expanded access to primary schooling. Official development assistance to primary education in developing countries grew rapidly during the period of 2002–2010 but declined slightly in the years 2011–2012. By contrast, despite the ups and downs of the global economy, domestic education budgets in lower income countries have continued to steadily grow, accommodating the influx of new pupils. There are indications that the development landscape is changing, with many countries in the Global South increasingly able to generate revenue to boost government spending on social services and reduce their dependency on foreign aid. While it is true that universal access and primary completion will not be accomplished by 2015, there is reason to believe that these objectives can become a reality in the medium term, if current economic trends continue. The time frame and the pace in reaching EFA goals will differ across countries, and one set of benchmarks may not fit all countries in the same way. However, as our analysis of countries in Sub-Saharan Africa showed, the task of most education systems faced with low primary completion is not to enroll more new students — it is to retain those already enrolled and improve the quality of their learning outcomes. Investment in quality, in

turn, will reduce wastage of resources resulting from grade repetition and early dropout, thereby creating a virtuous circle where funds previously spent on children repeating grades would be directed towards teacher training or strengthening management systems to improve the learning experience of students newly entering primary school.

In this changing context, donor aid becomes less the answer to the Education for All challenge, and more an enabling factor, with international technical assistance focusing on helping governments develop and implement solutions that address the barriers to retention and the root causes of poor learning outcomes. Donor-supported efforts must come with an approach that emphasizes capacity building within the government education systems, taking a long view of development rather than focusing on rapid expansion and short-term benchmarks. In other words, reaching Education for All may not require a dramatic increase in donor assistance — certainly not a tenfold increase over today's US\$2.7 billion. Accountability for the provision of primary education has always rested on the shoulders of national governments — and there is evidence that governments in many lower income countries, particularly those in Sub-Saharan Africa, are increasingly prepared to step up to this challenge.

REFERENCES

- EPDC (2009) *Efficiency: A study of promotion, repetition and dropout rates among pupils in four age-groups in Sub-Saharan Africa*. Washington, DC: FHI 360
- EPDC (2014) *Making waves: The rising demand for secondary education*. Washington, DC: FHI 360
- Sabates, R., Akyeampong, K., Westbrook, J. and Hunt, F. (2010). *School dropout: Patterns, causes, changes and policies*. Education for All Global Monitoring Report 2011 background paper. Sussex, UK: University of Sussex.
- UNESCO (2013/4). *Teaching and learning: Achieving quality for all* (Education for All Global Monitoring Report 2013/4). Paris: UNESCO.
- UNESCO Institute for Statistics [UIS] (2012). *Opportunity lost: The impact of grade repetition and early school leaving*. Global Education Digest 2012. Montreal, Canada: UIS
- UIS (2014). *Progress in getting all children to school stalls but some countries show the way forward*. Policy paper 14, Fact sheet 28. URL: <http://www.uis.unesco.org/Education/Documents/fs-28-out-of-school-children-en.pdf>

APPENDIX A

Primary education resource projections

Country	GDP in bln, 2014 estimate	% of GDP to primary education	Projected average economic growth 2014–2025, %GDP**	Cumulative economic growth 2014–2025, %GDP	Additional resources for primary due to economic growth, in \$ bln
Benin	9	3	5	62	0.9
Burkina Faso	13	2	7	104	1.6
Burundi	3	3	5	72	0.3
Cameroon	30	2	5	76	5.7
Central African Republic	2	2	5	70	0.5
Chad	16	2	6	79	3.2
Congo, Dem. Rep.	20	2	9	141	5.6
Congo, Rep.	14	2	7	113	1.8
Cote d'Ivoire	32	2	8	123	5.4
Djibouti	2	2	6	96	0.2
Eritrea	4	2	2	20	0.6
Ethiopia	50	3	7	114	9.4
Gambia, The	1	2	6	92	0.1
Ghana	50	2	6	88	6.3
Guinea	7	2	11	232	2.3
Guinea-Bissau	1	4	3	41	0.1
Kenya	51	4	6	94	9.9
Lesotho	3	5	5	67	0.5
Liberia	2	2	8	135	0.6
Madagascar	11	2	4	63	1.7
Malawi	4	2	6	99	0.5
Mali	13	2	6	87	1.2
Mauritania	4	2	9	155	0.8
Mozambique	16	3	8	137	3.3
Niger	8	2	6	95	1.0
Nigeria	319	2	7	108	44.8
Rwanda	9	2	7	111	1.4
Senegal	17	2	5	69	1.4
Sierra Leone	5	2	9	144	1.1
Swaziland	4	4	0	4	0.0
Tanzania	35	2	7	108	4.5
Togo	5	2	5	75	0.4
Uganda	25	2	7	109	3.5
Total					121.0
Total without Nigeria					76.1

* Primary budget allocation assumption: 2% of GDP or most recent published %, whichever is higher

Source of most recent data on primary education budget: UIS

**Source: IMF through 2018, assumed constant 2018–2025 at average 2014–2018 rate

APPENDIX B

Cost projections for 31 countries of Sub-Saharan Africa (with baseline data)⁹

		2014	2015	2016	2017	2018	
Benin	<i>pupils</i>	2,233	2,335	2,423	2,488	2,525	
	<i>budget</i>	256	277	299	324	350	
	<i>cost</i>	269	289	308	325	340	
Burkina Faso	<i>pupils</i>	2,634	2,790	2,942	3,100	3,264	
	<i>budget</i>	289	318	350	384	421	
	<i>cost</i>	268	289	311	335	359	
Burundi	<i>pupils</i>	2,088	2,135	2,183	2,216	2,238	
	<i>budget</i>	72	79	85	92	98	
	<i>cost</i>	109	119	128	138	145	
Cameroon	<i>pupils</i>	4,142	4,256	4,334	4,392	4,417	
	<i>budget</i>	608	662	718	780	847	
	<i>cost</i>	336	354	369	383	395	
Central African Republic	<i>pupils</i>	695	709	723	739	757	
	<i>budget</i>	45	49	53	58	63	
	<i>cost</i>	17	18	18	19	20	
Chad	<i>pupils</i>	2,409	2,543	2,665	2,761	2,832	
	<i>budget</i>	313	355	366	383	393	
	<i>cost</i>	212	231	249	266	281	
Congo, Dem. Rep.	<i>pupils</i>	13,676	14,291	14,783	15,141	15,373	
	<i>budget</i>	407	451	498	540	582	
	<i>cost</i>	164	181	199	215	230	
Congo, Rep.	<i>pupils</i>	744	750	759	772	790	
	<i>budget</i>	282	302	316	354	363	
	<i>cost</i>	301	312	325	339	356	
Cote d'Ivoire	<i>pupils</i>	3,266	3,435	3,598	3,763	3,917	
	<i>budget</i>	637	712	791	875	963	
	<i>cost</i>	592	638	686	735	784	
Djibouti	<i>pupils</i>	67	71	76	83	89	
	<i>budget</i>	32	35	38	41	45	
	<i>cost</i>	22	24	27	30	33	
Eritrea	<i>pupils</i>	417	471	529	590	649	
	<i>budget</i>	77	87	97	106	121	
	<i>cost</i>	37	46	58	73	90	
Ethiopia	<i>pupils</i>	15,428	15,794	16,136	16,227	16,165	
	<i>budget</i>	1,553	1,699	1,835	1,980	2,141	
	<i>cost</i>	1,991	2,201	2,428	2,638	2,838	

9. Units: number of primary school pupils (thousands), primary school budget and costs (USD mln, current dollars)

	2019	2020	2021	2022	2023	2024	2025
	2,539	2,538	2,527	2,515	2,503	2,495	2,491
	375	403	432	464	498	534	573
	351	361	369	378	386	396	406
	3,427	3,584	3,740	3,894	4,045	4,193	4,336
	458	497	541	587	638	694	754
	385	410	437	464	492	520	548
	2,248	2,248	2,239	2,221	2,194	2,159	2,118
	107	117	128	140	153	167	182
	152	158	164	170	175	179	183
	4,431	4,438	4,443	4,444	4,447	4,451	4,456
	912	983	1,059	1,141	1,229	1,324	1,426
	406	417	428	439	450	462	474
	775	793	810	827	844	859	872
	67	71	76	81	86	92	98
	21	22	23	24	25	26	26
	2,880	2,912	2,938	2,959	2,980	3,000	3,021
	428	466	507	552	601	654	712
	294	306	318	330	342	355	368
	15,555	15,714	15,896	16,088	16,302	16,528	16,760
	664	757	863	984	1,122	1,279	1,458
	246	262	280	299	319	342	365
	810	831	851	870	888	905	920
	397	435	476	521	571	625	685
	374	394	414	434	454	475	495
	4,054	4,176	4,290	4,397	4,499	4,596	4,686
	1,061	1,168	1,285	1,415	1,558	1,715	1,888
	832	878	925	972	1,019	1,067	1,115
	95	100	106	111	115	119	122
	49	53	58	63	68	74	81
	36	39	42	45	48	51	54
	702	749	790	825	854	879	900
	138	157	178	203	232	264	301
	110	131	155	182	212	245	281
	16,031	15,857	15,663	15,449	15,250	15,078	14,936
	2,467	2,842	3,273	3,771	4,344	5,004	5,765
	3,039	3,247	3,463	3,689	3,933	4,200	4,493

		2014	2015	2016	2017	2018	
Gambia, The	<i>pupils</i>	277	292	306	320	332	
	<i>budget</i>	23	25	27	28	31	
	<i>cost</i>	28	31	34	37	40	
Ghana	<i>pupils</i>	4,149	4,229	4,317	4,424	4,522	
	<i>budget</i>	998	1,087	1,182	1,276	1,408	
	<i>cost</i>	846	934	1,025	1,126	1,231	
Guinea	<i>pupils</i>	1,704	1,759	1,813	1,870	1,925	
	<i>budget</i>	142	152	166	199	235	
	<i>cost</i>	83	92	100	110	120	
Guinea-Bissau	<i>pupils</i>	415	433	446	453	454	
	<i>budget</i>	36	38	40	41	42	
	<i>cost</i>	36	38	40	41	42	
Kenya	<i>pupils</i>	7,743	7,973	8,199	8,421	8,643	
	<i>budget</i>	1,948	2,168	2,383	2,674	2,928	
	<i>cost</i>	2,108	2,279	2,461	2,654	2,860	
Lesotho	<i>pupils</i>	383	384	386	389	393	
	<i>budget</i>	126	137	145	155	168	
	<i>cost</i>	103	110	117	125	133	
Liberia	<i>pupils</i>	848	891	923	944	960	
	<i>budget</i>	44	51	57	62	69	
	<i>cost</i>	87	96	105	113	120	
Madagascar	<i>pupils</i>	4,718	4,859	5,000	5,084	5,126	
	<i>budget</i>	223	238	263	291	321	
	<i>cost</i>	159	174	189	201	213	
Malawi	<i>pupils</i>	4,009	4,186	4,378	4,559	4,731	
	<i>budget</i>	83	88	96	104	114	
	<i>cost</i>	180	200	219	237	256	
Mali	<i>pupils</i>	2,213	2,296	2,401	2,533	2,694	
	<i>budget</i>	253	279	306	332	359	
	<i>cost</i>	213	226	241	259	281	
Mauritania	<i>pupils</i>	575	586	596	604	616	
	<i>budget</i>	85	92	96	121	128	
	<i>cost</i>	88	94	101	108	116	
Mozambique	<i>pupils</i>	5,710	5,857	5,986	6,058	6,094	
	<i>budget</i>	461	518	579	647	723	
	<i>cost</i>	539	584	630	673	715	

	2019	2020	2021	2022	2023	2024	2025
	343	353	364	375	385	395	404
	34	38	42	47	52	58	65
	44	47	51	55	60	64	69
	4,607	4,680	4,747	4,809	4,868	4,926	4,984
	1,590	1,796	2,027	2,289	2,585	2,918	3,295
	1,342	1,458	1,582	1,714	1,857	2,010	2,175
	1,978	2,028	2,076	2,122	2,167	2,211	2,254
	276	323	378	442	517	606	709
	130	141	154	166	180	195	210
	451	446	441	436	432	429	426
	43	43	44	44	44	45	46
	43	43	44	44	44	45	46
	8,865	9,084	9,300	9,503	9,686	9,847	9,987
	3,257	3,622	4,028	4,481	4,983	5,543	6,165
	3,081	3,315	3,563	3,823	4,091	4,367	4,651
	397	402	406	410	414	416	418
	186	206	228	252	279	309	342
	143	153	164	175	187	199	212
	974	986	997	1,009	1,021	1,034	1,047
	77	88	99	112	126	142	161
	128	136	145	154	163	174	185
	5,139	5,128	5,105	5,085	5,071	5,066	5,070
	351	385	421	461	505	553	605
	224	235	246	257	269	282	297
	4,888	5,033	5,169	5,299	5,426	5,555	5,682
	126	139	154	170	188	208	229
	275	295	315	336	358	381	406
	2,872	3,051	3,226	3,395	3,557	3,710	3,853
	388	419	453	489	528	570	616
	305	331	357	384	410	436	462
	628	640	651	662	673	683	693
	147	168	191	219	250	285	326
	125	134	144	155	166	178	190
	6,097	6,080	6,057	6,035	6,013	6,001	6,000
	823	936	1,065	1,212	1,380	1,570	1,787
	756	796	837	881	927	977	1,031

		2014	2015	2016	2017	2018	
Niger	<i>pupils</i>	2,362	2,503	2,620	2,770	2,937	
	<i>budget</i>	191	206	224	243	263	
	<i>cost</i>	221	237	251	270	291	
Nigeria	<i>pupils</i>	26,636	28,154	30,186	31,907	33,395	
	<i>budget</i>	8,301	9,388	10,771	12,182	13,642	
	<i>cost</i>	8,301	9,388	10,771	12,182	13,642	
Rwanda	<i>pupils</i>	2,583	2,689	2,801	2,884	2,945	
	<i>budget</i>	170	188	207	228	249	
	<i>cost</i>	144	159	174	188	202	
Senegal	<i>pupils</i>	1,934	2,013	2,091	2,169	2,243	
	<i>budget</i>	368	398	432	468	508	
	<i>cost</i>	369	390	412	435	457	
Sierra Leone	<i>pupils</i>	1,379	1,442	1,504	1,552	1,576	
	<i>budget</i>	108	124	136	146	156	
	<i>cost</i>	63	70	77	84	90	
Swaziland	<i>pupils</i>	238	237	238	238	240	
	<i>budget</i>	157	160	163	166	204	
	<i>cost</i>	219	229	241	254	269	
Tanzania	<i>pupils</i>	8,805	9,169	9,566	10,044	10,545	
	<i>budget</i>	783	840	901	965	1,025	
	<i>cost</i>	791	864	946	1,042	1,148	
Togo	<i>pupils</i>	1,357	1,370	1,377	1,379	1,379	
	<i>budget</i>	95	105	114	123	132	
	<i>cost</i>	82	86	88	91	93	
Uganda	<i>pupils</i>	8,255	8,400	8,572	8,775	8,987	
	<i>budget</i>	494	536	583	636	694	
	<i>cost</i>	414	442	475	512	550	

	2019	2020	2021	2022	2023	2024	2025
	3,104	3,273	3,447	3,626	3,810	3,999	4,190
	285	308	333	360	389	421	455
	314	337	361	387	414	443	473
	34,766	36,062	37,347	38,572	39,757	40,891	41,960
	15,196	16,867	18,690	20,654	22,779	25,069	27,525
	15,196	16,867	18,690	20,654	22,779	25,069	27,525
	2,993	3,026	3,045	3,050	3,046	3,036	3,022
	279	312	350	392	439	492	552
	215	229	242	254	266	279	291
	2,313	2,375	2,434	2,489	2,542	2,593	2,643
	541	576	614	654	697	742	791
	479	500	521	542	562	583	604
	1,579	1,567	1,548	1,527	1,507	1,490	1,476
	179	204	233	267	305	349	399
	95	99	104	108	112	117	122
	243	246	249	252	254	256	257
	215	227	239	252	265	279	294
	285	303	323	342	363	384	405
	11,096	11,645	12,193	12,739	13,282	13,819	14,345
	1,147	1,282	1,434	1,603	1,793	2,005	2,242
	1,268	1,396	1,534	1,681	1,839	2,008	2,187
	1,377	1,373	1,367	1,361	1,355	1,350	1,344
	142	153	165	178	192	207	222
	95	97	99	101	103	105	107
	9,190	9,378	9,558	9,733	9,913	10,102	10,300
	777	869	973	1,088	1,218	1,363	1,525
	591	633	678	725	775	829	888



EDUCATION POLICY AND DATA CENTER
Making sense of data to improve education for development

1825 Connecticut Ave NW
Washington, DC 20009

Visit us at
www.epdc.org
www.fhi360.org