Africa Region Human Development
Working Paper Series

EDUCATION IN ETHIOPIA

Strengthening the Foundations for Sustainable Progress

A Summary of the Key Challenges

Africa Region
The World Bank

Contents

Tables

Figures

Foreword

This paper summarizes recent progress in the education sector in Ethiopia, highlights some of the remaining challenges, and presents some policy options. It is based on the analysis undertaken for preparing the comprehensive Education Country Status Report (CSR) by a team from the Ministry of Education and the World Bank—though neither organization explicitly endorses all of the views expressed. That report provides a detailed snapshot of the education sector up to 2001–02 (and, in some cases, up to 2002–03) using both administrative data and information from household surveys.[1] The focus is mainly on costs, finance, and service delivery, and their impact on learning achievement, in primary and secondary schooling, in an effort to discover potentially important areas for further policy development. In addition to summarizing the main report this publication also includes a set of supplementary tables and figures which describe many aspects of the educational system.[2]

Well developed sector strategies, underpinned by the kind of thorough analysis accomplished in the CSR, have become increasingly important as governments renew their commitment to reduce poverty and develop detailed strategies, and as the international donor community pledges to provide a larger part of the needed financial resources and to provide it in ways which maximize governments' own powers of decision-making. In Ethiopia, the Sustainable Development and Poverty Reduction Programme (SDPRP) provides the overarching framework for poverty reduction and the Education Sector Development Plans feed into this. The results of the analyses undertaken for the Ethiopian Education CSR report are being used in preparation of the Government's most recent version of the Plan for 2005/06 to 2010/11.

The SDPRP requires the sector to progress toward universal primary education, improve the quality of instruction and learning achievements throughout the system, and produce a trained workforce that is responsive, in quantity and skills mix, to the demands of the country's modernizing economy. At the same time, decentralization is opening the way for regional and woreda governments (and through them, local communities) to take greater responsibil-

[1] The main report has the same title as this summary and can be ordered from the World Bank bookstore at www.worldbank.org

[2] The sources for all the information in the tables and figures in this publication can be found in the main report.

ity, financial and otherwise, for managing their own affairs, including the delivery of social services such as education. In responding to the challenges, many questions face the education sector, including:

- Is the current education policy framework adequate for fulfilling the high expectations?
- What resources are available to achieve the stated goals and are they sufficient to meet the requirements; and if not, how will the gap between resource availability and need be closed?
- What changes in the financing of education, in resource allocation across sub-sectors and schooling inputs, and in the arrangements for service delivery will help the education system to develop over the long run in a financially and pedagogically sound manner?

The full CSR, and this summary, suggest that pressures on resources in the sector do necessitate some re-ordering of the immediate objectives and the adoption of some alternative modes of service delivery, as well as more financial resources.

The work that is summarized in this publication has resulted from collaboration between members of the Ministry of Education and the World Bank and has been funded in part by the Norwegian Education Trust Fund. I am pleased that this collaboration was initiated early in the process and that it was maintained through all the subsequent stages of collecting and analyzing data, report writing and dissemination, and policy dialogue. This interaction is critical not only for undertaking the analyses but also for ensuring that the important issues raised receive consideration at the highest appropriate levels of Government.

More broadly, it is noteworthy that World Bank engagement in educational development in Ethiopia dates back to the 1960s. Since then, many projects and programs have been supported including the Government's Education Sector Development Programmes I and II. The most recent support has been for the Post Secondary Education Project which aims to help improve the quality of the university system and parts of technical and vocational education and training. This financial support for projects and programs has provided continuity in the Bank's engagement in policy development and implementation in the sector over many years.

In addition to project financing, World Bank assistance to client countries also takes the form of analytical activities and advice. In the case of Ethiopia, this publication, the larger report, and a recent study of higher education, are all examples of such assistance. Like project and program financing, the ultimate objective of these activities is to help countries to expand educational opportunities while improving quality throughout the system. Unlike these projects and programs, however, this type of assistance focuses on improving understanding of the education sector and diagnosing major constraints on its further development so as to help support the search for appropriate policy responses. It creates a larger knowledge base for deepening the current understanding of the education system, for engaging a diverse audience in dialogue on education sector policies, and for developing a shared vision for the future.

This summary of the Ethiopia Education CSR is presented in Amharic as well as in English in an effort to widen further the dissemination and discussion and it is my hope that its publication in an easily available format will make a small but effective contribution to the country's overall efforts to define educational policies which will have a positive impact on reducing poverty in Ethiopia.

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CHAPTER 1

Introduction

This paper summarizes recent progress in the education sector in Ethiopia, highlights some of the remaining challenges, and presents some policy options. It is based on the analysis undertaken for preparing the Education Country Status Report (CSR) by a team from the Ministry of Education and the World Bank—though neither organization explicitly endorses all of the views expressed. That report provides a detailed snapshot of the education sector up to 2001–02 (and, in some cases, up to 2002–03) using both administrative data and information from household surveys. The focus is mainly on costs, finance, and service delivery, and their impact on learning achievement, in primary and secondary schooling, in an effort to discover potentially important areas for further policy development. The summary is aimed at a wide audience. In the first instance, it is directed toward Ethiopia's policy makers and managers in the education sector at all levels of government, and toward education practitioners and researchers. It should also be of interest to non-governmental organizations which are active in providing various education services and to donors; to teachers and other school personnel, in both the government and non-government sectors, who are at the front line agents in providing education; to parents and their children; and to the public at large for whom a strong education system is important for the country's overall economic and social well-being. In addition to summarizing the main report, in English and Amharic, this publication also includes a set of supplementary tables and figures which describe many aspects of the educational system.[3]

The Ethiopian Government has made poverty reduction the centerpiece of its development strategy and has continued to advance the pace of decentralization. These policy directions are important for the education sector. Ethiopia's Sustainable Development and Poverty Reduction Program (SDPRP) requires the sector to:

- progress toward universal primary education,
- improve the quality of instruction and learning achievements throughout the system, and
- produce a trained workforce that is responsive, in quantity and skills mix, to the demands of the country's modernizing economy.

[3] The sources for all the information in the tables and figures in this publication can be found in the main report.

At the same time, decentralization is opening the way for regional and woreda governments (and through them, local communities) to take greater responsibility, financial and otherwise, for managing their own affairs, including the delivery of social services such as education.

In responding to the challenges, many questions face the education sector, including

- is the current education policy framework adequate for fulfilling the high expectations?
- what resources are available to achieve the stated goals and are they sufficient to meet the requirements? If not, how will the gap between resource availability and need be closed?
- what changes in the financing of education, in resource allocation across sub-sectors and schooling inputs, and in the arrangements for service delivery will help the education system to develop over the long run in a financially and pedagogically sound manner?

This paper hopes to contribute to the continuing dialogue on these, and other, strategic questions and to offer some policy options for wide discussion.

CHAPTER 2

Achievements and Concerns

Remarkable Progress since 1993–94

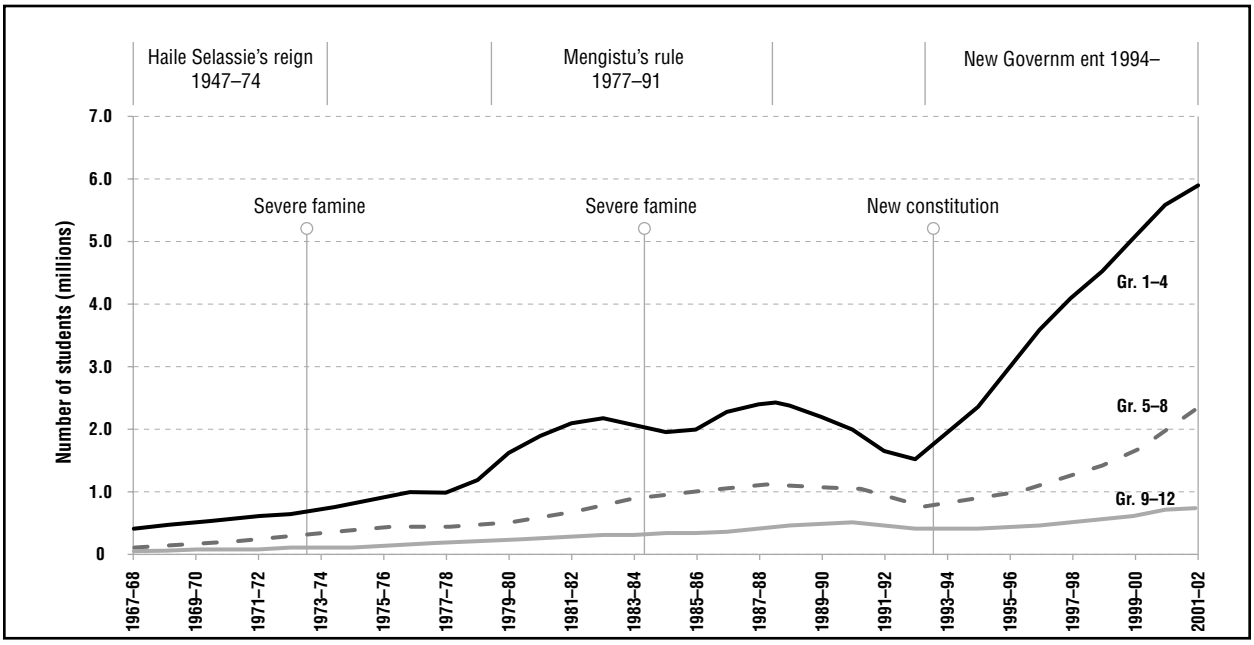
There has been a dramatic growth in enrollments throughout the education system in recent years. Aggregate enrollments in Grades 1–12 rose at a steady pace of around 9 percent a year between 1992–93 to 2001–02; and in Grades 1–4, the first cycle of primary schooling, they grew even faster at an average of 15 percent a year. By 2002–03, the education system had grown to around 8.6 million students in primary schools, with more than 600,000 in secondary schools. Enrollments in technical and vocational training and education grew from less than 3,000 students in 1995–96 to an estimated 54,000 students in 2001–02. In post-secondary education, enrollments have also ballooned, from around 18,000 in 1990–91 to more than 48,000 in 2001–02. These trends are a remarkable achievement given the patterns of stagnation, reversals and uneven growth in the past (figure 1).

The growth in enrollments has in turn increased the gross enrollment ratio (GER), a common indicator for measuring coverage, at all levels in the system. In primary education, it more than tripled between 1993–94 and 2001–02, from 20 to 62 percent. The ratio for secondary education rose from 8 to 12 percent in the same period, while that for higher education climbed from 0.5 to 1.7 percent.

Some Emerging Signs of Distress in the System

In spite of these advances at least one third of all children are never entering school and only around 60 percent of those who do enter survive to the end of the first four year cycle. In addition, while very impressive, the system's expansion has not been problem-free. The clearest distress signals are the deteriorating conditions in classrooms throughout most of the country. Since 1993–94, the pupil-teacher ratio, the pupil-section ratio (the average number of pupils in a sction) and the real spending per student on non-salary inputs have steadily worsened (figure 2). In 2001–02, Ethiopia's pupil-teacher ratios of 65:1 in government primary schools and 52.1 in government secondary schools were among the highest in the world. Inevitably, section sizes at both levels have also risen to extremely high levels, averaging about 74 and 79 students per section, respectively. It is not unusual to find classes with more than 100 students.

Figure 1
Historically Unprecedented Growth in School Enrollments since 1993–94



Note: data include only students in regular programs in government and non government schools.

Figure 2
Persistent Deterioration of Pedagogical Conditions in Schools Since 1994

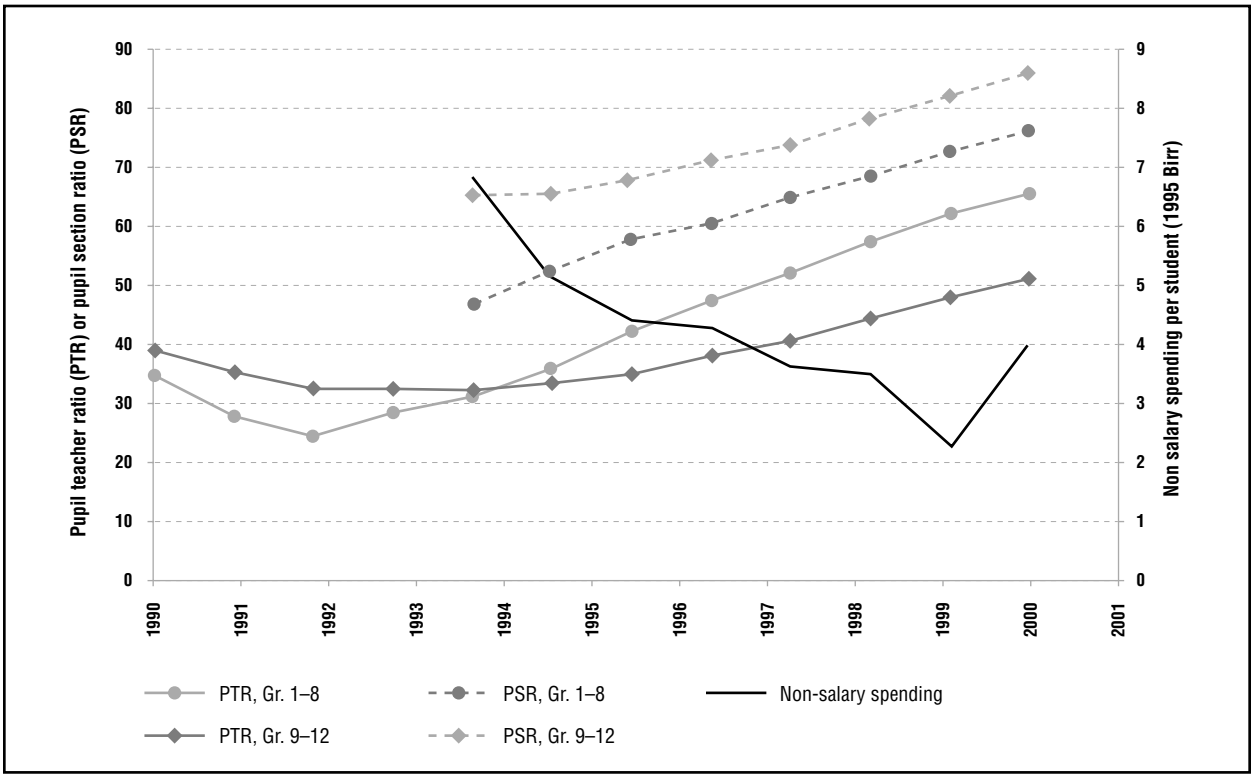
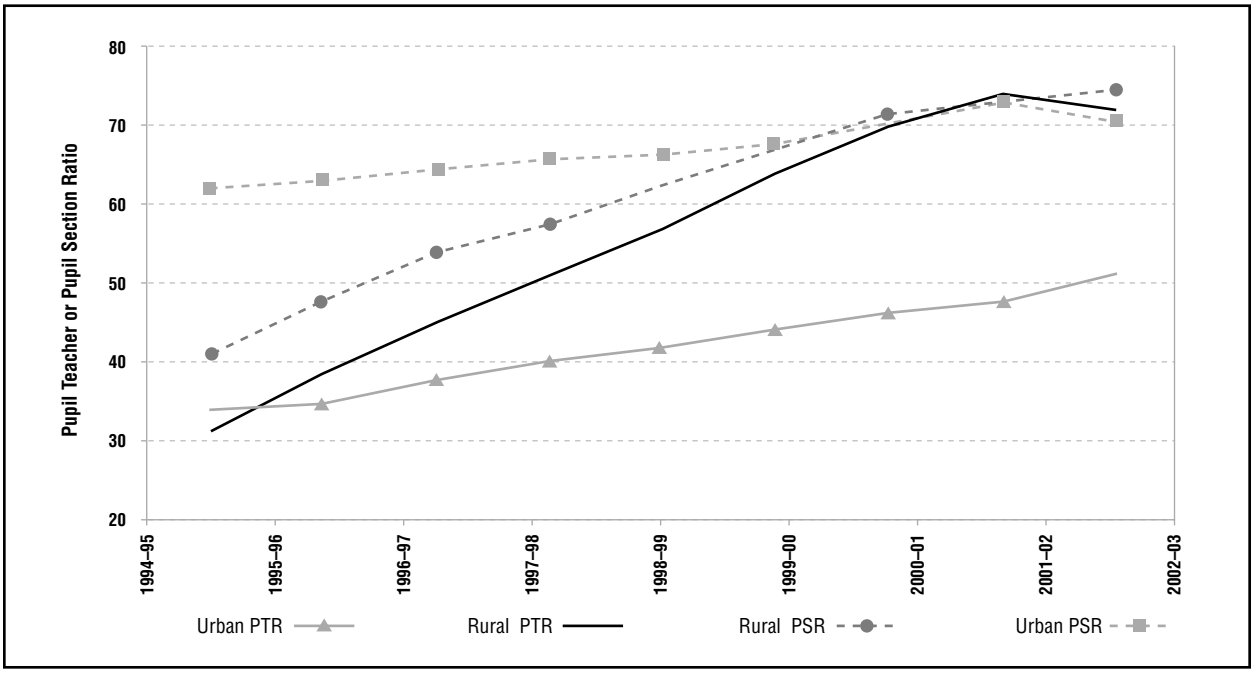


Figure 3
Persistent Deterioration of Pedagogical Conditions in Schools Since 1994



Note: because data are available separately for government and non-government schools only after 1997-98, the figure uses data for both sectors in all years. Data after 1997-98 indicate that the difference is small between the government only series and that for both sectors.

Conditions are Especially Desperate in Rural Primary Schools

Conditions have worsened particularly rapidly in rural schools (figure 3). By 2002–03 pupil-teacher ratios in these schools exceeded those in urban schools, by an average of 60 percent in Grades 1–4 and 50 percent in Grades 5–8. Similarly, classrooms in rural Ethiopia are as crowded as they are in urban areas whereas the pattern in most countries is for rural classrooms to contain far fewer students. The combination of high pupil-teacher ratios and section sizes translates into much heavier teaching loads for teachers assigned to rural than urban schools. In Oromiya, for example, the weekly load in rural schools averages 29 hours in Grades 1–4 and 24 hours in Grades 5–8, compared with the corresponding averages of 22 and 18 hours, respectively, in urban schools. These disparities imply that in rural schools, there is almost no scope for specialized teaching; they also make rural teaching jobs even more unattractive than they already are, and increase the difficulty of rationalizing teacher deployment across schools.

CHAPTER 3

Designing the Overall Policy Framework

Education in Ethiopia is at a crossroads today. Is the model that has supported the system's expansion since 1994 still valid to guide its future development? If the answer is negative, as the data on pupils per teacher and per section increasingly appear to suggest, how then might it be adapted to the conditions in Ethiopia today and in the years to come? Beyond this, some searching questions also need to be addressed on ways to improve management of the system, so that all available resources make their fullest contribution to the sector's development. There are at least four major areas where new thinking would be useful:

- the educational system's goals and targets;
- the financial allocations, especially for primary education;
- the diversification of options to manage the costs of educational services; and
- the key indicators for monitoring progress;

These are discussed further below and some suggestions are made.

Goals and Targets

Ethiopia's SDPRP states that the education sector is expected to help reduce poverty by progressing towards the universalization of primary education and by producing a workforce capable of filling jobs requiring skilled labor. What do these goals mean in practice? In the process of moving towards a primary education of eight years for every child in the country, is it useful to set intermediate goals? If so, what might they be? Does producing a skilled workforce responsive to the demands of the economy simply mean turning out as many graduates as the education system can put through the upper levels of the system, or should expansion be linked closely to the demand for such labor?

These are all difficult questions. As a basis for debate, some suggestions are made below.

- *Provide four years of quality schooling for every single child as an immediate and practical priority.*

The recent study of poverty in Ethiopia calculates that if all adults in the country had at least four years of primary education, the share of households living in poverty would drop by 18 percent. This sizable impact is consistent with

the widespread agreement among policy makers and analysts that the core skills that primary education imparts—literacy and numeracy—can boost a child's life chances, even if he or she eventually earns a livelihood in agriculture. Because five years of primary schooling are generally considered a minimum for a person to become permanently literate and numerate, a large number of countries made the commitment in the United Nation's 2000 Declaration on the Millennium Development Goals (MDGs) to ensure that all children would be able to complete at least five years of primary schooling by 2015.

Ethiopia's education system has a 4–4–2–2 structure which at first sight makes it somewhat awkward to state a clear cut goal for coverage. Given the current starting point, universalizing eight years of schooling is probably financially and practically unviable even in the medium term, while universalizing only four years seems too modest in light of international experience. In practice, at least in the short/medium term, the issue is simple to resolve because coverage is still modest, with only 60 percent in each age cohort ever enrolling in Grade 1, and less than two thirds of *these* reaching Grade 4 (table 1). In other words, less than 40 percent of children currently complete four years of schooling. Under these circumstances, implementation constraints alone would probably make universalizing eight years of schooling for the whole population an impractical goal in the short- or even medium-term. In this context, putting the emphasis on getting every child into Grade 1 and making sure that they complete the first four year cycle (by reducing the very high dropout rate) might be the first priority followed by an expansion of Grades 5–8. Shifting the emphasis in implementation would not change government's long term policy of universalizing the completion of all eight years of the primary cycle.

- *Adapt short and medium term goals for coverage to the different conditions in urban and rural areas.*

Because the current conditions differ so widely across rural and urban areas, setting

Table 1
Low Rates of Entry to Grade 1 and Survival to Grade 4, Especially in Rural Areas Despite Significant Improvement Since 1993–94

		2001–02		
Indicator	**1993–94**	**Overall**	**Urban**	**Rural**
Entry rate to Grade 1 [a/]	0.37	0.61	0.92	0.46
Survival rates from Grade 1				
To Grade 4	0.52	0.59	0.77	0.55
To Grade 8	0.39	0.36	0.80	0.20
To Grade 12	0.15	0.08	—	—
Transition rates				
Grades 4 & 5 [b/]	0.94	0.88	1.07	0.79
Grades 8 & 9	0.84	0.91	—	—
Grades 10 & 11	0.86	0.33	—	—

Notes:

[a/] Data for this indicator refer to 1995–96 and 2000–01, respectively.

[b/] The transition in urban areas in 2001–02 is slightly above 1.0, suggesting possible underlying data flaws.

different time-bound targets for these areas is a practical necessity. In urban areas the goal of universalizing eight years of primary schooling is well within reach, given that most children already enter Grade 1, and the majority who survive past Grade 2 eventually reach Grade 8. The main challenge here is to minimize dropping out between the first two grades. In rural areas, by contrast, less than half the children in each age cohort enter Grade 1, and of those who do, only 55 percent survive to Grade 4 and only 20 percent, to Grade 8. These patterns imply that over the next few years, universalizing the completion of the first four years of primary education in rural areas will itself be a demanding goal.

- *Allow labor market conditions to influence the pace of expansion, particularly beyond Grade 8.*

As the economy matures, the demand for educated labor typically expands, making it increasingly appropriate and feasible to universalize eight, or even more, years of schooling. At issue is how fast to expand the education system. If the system grows too fast and produces more graduates qualified beyond the core skills of basic literacy and numeracy than can be absorbed in the prevailing job market, the investment would be wasted to the extent that school leavers fail to find work appropriate to their level of training and so lose the expected return on their investment. With frustrated job seekers on the streets, the situation could easily escalate into serious social unrest. In part to minimize this risk and to institute a merit-based system to allocate scarce places in post-primary education, most governments in low-income countries use standardized examinations to regulate the flow of students through the system.

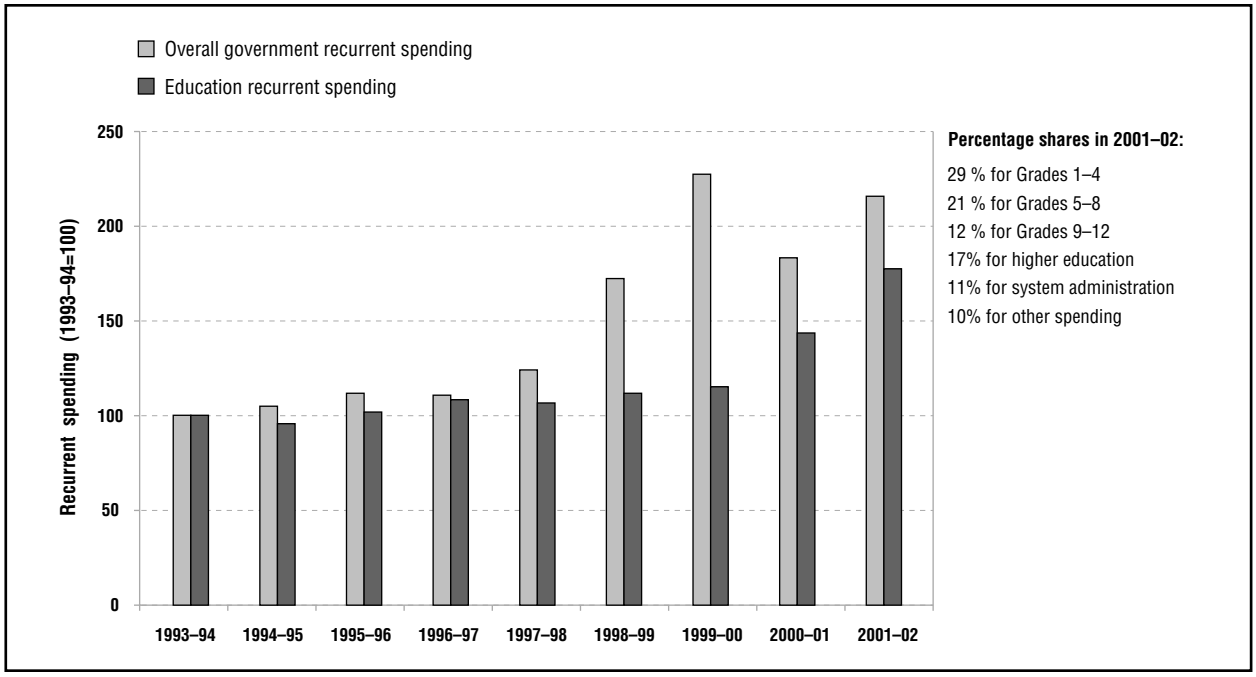
In Ethiopia the demand for educated labor has been growing but only slowly. Nearly 80 percent of the country's workforce is still in agriculture, and more than 90 percent of the workers are either self-employed or used as unpaid family labor—features which put a limit on the economy's capacity to absorb large numbers of educated labor into modern sector jobs. Data from the most recent labor force survey in 1999 suggest, for example, that for recent school leavers the unemployment rate was about 25 percent among those attaining Grades 5–8 or vocational/technical education and 44 percent among those attaining general secondary education. Only among university graduates was the unemployment rate at a modest 4 percent; and with the large increase in graduates over the past five years even this favorable situation may change unless jobs outside of the public administration (which have seen a large increase in recent years because of decentralization) become the major source of employment in the future. These patterns underline the importance of aligning the pace of expansion of post-basic education to labor market conditions.

- *Improve the education system's responsiveness to labor market signals by increasing information, encouraging private sector provision of post-primary education and managing student flows.*

To foster a closer link between the education system and the labor market will require not only regular monitoring of the labor market to generate the relevant data, but also fairly flexible and responsive arrangements for the provision of schooling. An option here is to enlarge the role of the private sector at post-primary levels. Because private providers charge fees to cover most, if not all, of the cost of services, parents are likely to insist on getting a reasonable return on their investment, and providers tend to respond more nimbly to labor market signals in designing their course offerings.

Beyond encouraging private providers, the government can also tighten the management of student flow through its own institutions. In recent years, the pressure on preparatory and higher education has risen sufficiently for the

Figure 4
Recurrent Spending on Education Has Risen But Share of Primary Education Still Needs to Grow



Note: the spending in both series are expressed in 1994–95 constant Birr, indexed to spending in 1993–94, the first year in the series; shares of spending in 2001–02 includes amount spent on administrative overheads of federal ministry and regional bureaus, prorated by sub-sector in proportion to their share of non-administrative spending.

government to limit the number of places in Grade 11, and to divert the remaining Grade 10 completers who do not directly enter the labor force to programs in teacher training, and in technical and vocational education and training. A selection mechanism also exists in Grade 8 where students sit standardized regional examinations. However, as table 1 shows, in practice there is at present little or no selection at this point, as nearly 91 percent of the students eventually continue to Grade 9. This fact, coupled with the absence of a formal selection mechanism earlier than Grade 8, may not matter much at present because nearly two-thirds of each cohort of first graders eventually drop out long before they reach this level. But as basic education expands and survival rates improve, as they should, there may be a need for a more active selection mechanism at Grade 8.

Financial Allocations, Especially for Primary Education

During most of the 1980s and 1990s, education was not a priority for public spending. Since 2000, however, the government has been spending more on education and aggregate public recurrent spending on education has now been restored to three percent of GDP, similar to the rate in 1993/94 (figure 4). Much of the increase has gone into administrative overheads and post-secondary levels of education, however, leading to a significant shift in the allocation of spending. The share of primary education—50 percent of the total in 2001–02—remains much less than the international benchmark of 67 percent (for eight years of schooling), which is based on the pattern of spending in countries that have made good progress toward universalizing primary

school completion. Two broad recommendations follow.

- *Continue to allocate more to education while ensuring wise use of the resources.*

Looking to the future, the increased attention being given to education, both domestically and internationally, implies that the prospects of more resources for education are good. Yet the magnitude of the increase will inevitably be constrained by the competition from other sectors for the government's limited resources. Among low-income countries, very few have managed to allocate levels of recurrent spending on education beyond four or five percent of their GDP. Thus, if Ethiopia faces the same internal pressures as the governments in these other countries, the amount of additional resources that the sector can count on is likely to be limited even under the best of circumstances. If so, tradeoffs within the education sector will be unavoidable. To achieve the goal of universal primary school completion, primary education up to Grade 8 will require a bigger share of recurrent spending in education than it currently receives.

- *Tap into households' willingness to spend on post-primary education.*

Because of likely constraints on the public purse, household contribution for post-primary education may need to increase as part of an overall strategy for the education sector in Ethiopia. Mobilizing this contribution at post primary levels would help the government to prioritize primary education in the allocation of public spending. In Ethiopia, private post secondary education and training institutions have begun to flourish in recent years, and a continuation of this trend would make it more possible for the government to prioritize primary education in the allocation of public spending. In secondary education, the share of enrollments in privately-financed institutions has been modest since the 1970s, averaging about 5 percent of the total. This level of participation is low even by low-income country standards, so the scope for encouraging the growth of private secondary education should be quite promising.

Diversifying Options for Managing the Costs

Giving more resources to primary education would not remove the need to make tradeoffs within the sub-sector itself. The distress signals already present in the system suggest that a simple replication of the current model of service delivery is unlikely to be effective. For the system to continue to expand rapidly in a financially viable manner and without compromising its ability to function well would probably require significant change in some key dimensions of service delivery. Broadly the options for managing schooling costs fall into two categories:

- those that involve the use of alternative delivery arrangements;
- and those that involve lower cost inputs or increased efficiency within the regular government sector.

In both cases, a useful approach would be to make the list of sensible options as wide as possible, and empower and motivate decision makers on the ground in the regions and woredas to choose among them and to adjust the national criteria and standards in order to achieve the educational goals within the budget (and human) constraints they face.

Some of the options are discussed below. It is worth restating that these are meant to offer promise as *short to medium term solutions* enabling Ethiopia to meet its enrolment targets while providing sufficient resources to ensure that learning meets acceptable standards.

- *Support alternative basic education centers (ABECs) as an option for service delivery.*

In Ethiopia, the ABECs provide a three year low-cost schooling covering the first four years of the primary schooling syllabus. By compressing the program, the centers are particularly responsive to the needs of the large numbers of overage children currently seeking primary schooling. Although the centers have achieved reasonably good outcomes in terms of student learning, the majority operate without government funding. As a result, they still only serve a limited number of pupils totaling around 500,000 in 2001–02, or about 8 percent of total enrollments in Grades 1–4. If alternative basic education is to play a more *central* role in universalizing primary schooling, it will need to be financed by the government, and the centers will need to be made an integral part of the whole system rather than left to continue as *ad hoc* experiments. In the process it will be important to retain the features that make alternative basic education highly relevant in the first place, particularly in rural contexts:—a flexible school day and academic calendar, use of teachers from the community, simple classroom facilities, proximity to children's homes, strong in-service teacher support, and reliance on community participation.

- *Use teacher recruitment criteria which leave room for improving other aspects of conditions in classrooms.*

Teacher recruitment criteria that are set without adequate attention to their financial implications can produce unintended consequences. If they are set beyond what the country can afford (or can mobilize through donor assistance), schools may meet the requirements, but only by cutting back in other areas that eventually undermine the ability to provide a good education. The result is a tradeoff by default. That a poor tradeoff has occurred in the past is reflected in the continuous deterioration in pupil-teacher ratios and pupil-section ratios since 1993–94 (shown earlier in figure 2). Other telling signs are a high number of large and over-crowded schools (more than 20 percent of the government primary schools enroll more than 900 pupils; and about 25 percent of government secondary schools enroll more than 2,500 students). And at the same time many villages in Ethiopia do without a government primary school and many children must travel long distances to get to a school.

In Ethiopia, the use of criteria for teacher recruitment that are tied to civil service pay structures has reduced the recurrent budget available for other school inputs that are also essential for effective teaching and learning. A comparison of the pattern of resource allocation across school inputs in Ethiopia and other countries illustrates this point (table 2). Expressed relative to the per capita GDP, the amount that Ethiopia spends per student in Grades 1–8 is comparable to what the average low-income country spends. But the composition of its spending differs strikingly from that in other countries. In the first cycle, the recurrent public spending per pupil is comparable to that in Asian and Eastern European countries, but Ethiopia achieves the result by combining a much higher cost of teachers with a substantially less favorable pupil-teacher ratio and a significantly smaller share of spending on inputs other than teachers. In Grades 5–8, even when compared with other African countries, where teacher remuneration as a multiple of per capita GDP typically exceeds that in other low-income countries, the composition of spending in Ethiopia reflects a substantial tradeoff against pupil-teacher ratios and allocations for inputs other than teachers, in favor of higher teacher costs. With regard to Ethiopia's low level of spending on inputs other than teachers, this can be seen in terms of a scarcity of pedagogical materials, including textbooks, throughout the system, as well as limited provision for teacher supervision and other support services for effective teaching.

Because spending on teachers makes up the bulk of education costs, any strategy for cost-management must consider ways to keep this cost item under control. A straightforward op-

Table 2
High Teacher Cost Leads to Adverse Tradeoff Against Other School Inputs in Ethiopia

Country/Region	Public spending per pupil	Average teacher wage	Pupil-teacher ratio	% of recurrent spending on inputs other than teacher/
Ethiopia. 2001–02				
Grades 1–4	0.10	6.8	74.3	7.8
Grades 5–8	0.18	8.0	48.9	10.3
Regional averages, circa 2000				
Francophone Africa (20)	0.13	4.4	51.0	26.8
Anglophone Africa (13)	0.13	4.3	41.6	20.2
South & East Asia (10)	0.09	2.4	36.5	23.4
Latin America (4)	0.16	4.3	33.6	18.5
Eastern Europe &Central Asia (5)	0.11	1.2	18.2	31.3

Numbers in parentheses following each region's name refer to the number of countries on which the regional averages are based.

tion is to reduce the pay structure, but in practice this would be politically difficult and also largely irrelevant since the high rates of attrition among those with TTC diplomas and university graduates suggest that they are not overpaid.

A more promising option is to accept greater flexibility in teacher recruitment standards, for example, by allowing new teachers to be recruited at lower levels of formal certification. This does not mean filling teaching posts with clearly unqualified candidates, nor does it mean that once recruited the teachers remain stuck in their careers. Rather, the idea is to lower the floor for entry while encouraging teachers to upgrade their qualifications over time as part of a long-term career plan. As indicated above, recruitment of para-professional teachers is already happening to some extent in some regions. Such teachers may be tenth or twelfth grade completers without certification from a teacher training institute or college, and they typically receive an income that is perhaps only half as high as that of a certified teacher. Even so, recent processing of recruitment in Oromiya, for example, suggests that in some localities there may be as many 20 qualified applicants for each available position. Recruiting at lower levels of certification is admittedly not ideal because of possible adverse effects on the quality of services. Yet it may be the only way to manage tradeoffs within a limited budget so as to achieve a balanced and *pedagogically effective* combination of school inputs, characterized by reasonable student-teacher ratios and adequate availability of books and other pedagogical materials.

- *Reduce subject specialization so as to make better use of teacher time.*

Comparison with the practice in other countries suggests that there is probably some scope for improving the management of teacher time in Ethiopia. While teachers of Grades 1–4 appear to have a relatively high teaching load, those in the higher grades do not. Further exploration of this is important because differences in teaching loads make a big difference to the cost of service delivery. Our analysis suggests that were

teachers in Grades 5–8 used as fully as they are in Grades 1–4 this would lower spending by around one third.

- *Consider the use of construction technologies which would lower classroom costs.*

A classroom in Ethiopia can cost up to US$19,000. The Ministry of Education recently commissioned two studies to look into the options for more affordable designs for school buildings. One study found that construction costs could be reduced to between $4,400 to $5,900 per classroom depending on choice of materials and design. Costs are naturally higher in the more remote areas, but the second study found that even after taking this factor into account, existing construction costs could be reduced by about a third. Across Africa, the benchmark rate is around $8,000 per classroom. The scope for reducing construction costs in Ethiopia thus appears to be substantial. While a $6,000 classroom may not be as good as a $20,000 classroom, choosing the latter standard effectively means that for a given budget less than a third as many new classrooms would be built.

Key Indicators in Measuring Progress

In designing the overall policy framework, it is not enough simply to define goals and make tradeoffs; it is also critical to track progress towards the intended goals. As mentioned above, three goals in education have been included in the SDPRP context: universal primary education, improvement in the quality of services, and the production of a skilled workforce. Monitoring the first goal is described below. With regard to the second goal, in 2000 the government completed a national baseline assessment of student achievement in Grades 4 and 8 and has just repeated the exercise in 2004. Regular follow-up and translation of findings into implementation recommendations is a good way to track progress. With regard to the production of a skilled workforce, it is particularly important to track the transition from school to work among the graduates of courses of study that are especially expensive for the government to provide (e.g. TVET and higher education). While a systematic and routine tracking of this transition does not appear to be in place at present, the gap could be bridged by exploring collaboration with the Central Statistical Authority to generate the required data through its regular surveys.

- *Keep the set of indicators for primary education small and relevant.*

In the past, most countries have used measures such as the gross and net enrollment ratios to monitor progress in the coverage of primary schooling, in part because these indicators are easy to compute. However, while appropriate for some aspects of education planning, they are not adequate for tracking the country's progress toward ensuring that all children have access to a full cycle of primary schooling, particularly in the context of Ethiopia where the system is still catering to a large backlog of overage children. Increasingly, countries are instead using the primary school completion rate (typically at Grade 5 or 6) as the relevant measure of success. Because this indicator reflects underlying patterns of access and continuation in school, two other measures, the entry rate to Grade 1 and survival rates to subsequent grades, are also included as part of the package. In addition, repetition rates are typically reported as well, for two reasons. First, an education system characterized by high rates of repetition costs more to operate; and second, high repetition rates point to possible problems in managing student flow, which, if left unattended, are likely to make it harder to improve completion rates.

CHAPTER 4

Getting Resources to Schools, Communities and Households

Pay Special Attention to the Needs of Rural Populations

There are large differences in primary school participation across three commonly defined population groups: girls and boys; children in urban and rural areas; and children from rich and poor households (table 3). The gap is widest between children in urban and rural areas: participation for rural children is, on average, less than one third that of their urban counterparts. Whereas 90 percent of urban children ever enroll in Grade 1, the share is only 45 percent among rural children. Once in school, rural children survive to Grade 4 at about 72 percent of the rate among urban children, but their survival rate to Grade 8 is only 25 percent as high. Overall, these results suggest that to improve primary schooling outcomes in Ethiopia, and to reduce socio-economic disparities in the higher levels, the needs of rural localities are paramount.

Managers in the education system can influence progress toward the country's goals in basic education through their management of the supply- and demand-side factors that affect

Table 3
Urban-Rural Disparities in Primary School Participation Are Especially Wide in Ethiopia

	Index of parity in primary school participation			
	Girls (Boys=1.00)	Rural Areas (Urban = 1.0)	Poorest Quintile (Richest = 1.0)	Average across all three sets of comparisons
Ethiopía	0.77	0.31	0.69	0.59
Sub-Saharan Africa	0.83	0.63	0.50	0.65

Note: indices of parity between the groups compared are based on the averages of the following cross-sectional indicators: gross enrollment ratio for Grades 1–6; non-repeaters in Grades 1 and 6 relative to the populations ages 7 and 12, respectively.

Table 4
Primary Schools Are Still Too Inaccessible For Many Children in Rural Ethiopia

	Distance from home to nearest primary school				
Locality	**0**	**1–2 km.**	**3–4 km.**	**5 km. +**	**All**
Percentage of all sample children					
Urban	47.4	45.3	6.2	1.1	100
Rural	15.4	28.1	27.8	33.3	100
Total	19.6	30.4	24.9	25.1	100
Percent of children registered for school					
Urban	85.5	83.1	78.9	71.0	84.0
Rural	43.6	38.8	32.6	19.8	32.4
Total	57.0	47.4	34.1	20.0	41.6

schooling behavior. While the supply- and demand-side issues are discussed separately below, in practice they often interact.

Act on the Supply of Services

- *Improve the availability and accessibility of schools in rural areas.*

Distance to school is a problem. One third of all rural children live at least 5 kilometers from the nearest primary school. Statistical analysis indicates that when socio-economic differences across households are controlled for, each additional kilometer from the nearest primary school reduces registration rates by two to three percentage points, up to distances of 12 to 15 kilometers. In other words, reducing the distance to school from 5 kilometers to zero (i.e. to within the neighborhood) could raise registration rates by 10–15 percentage points—a substantial increase.

However, distance is not the only determinant of school registration: among children in rural areas with a school in the immediate neighborhood, only 44 percent registered. If school attendance is to be improved, other constraints will also need to be addressed. Statistical analysis suggests that the quality of the learning environment also matters: the combined variables associated with this aspect of supply explain a large fraction of the remaining differences in enrollment rates across localities that are not explained by differences in the characteristics of the households.

- *Deploy teachers across schools more consistently in relation to size of enrollments.*

An important action required to improve the quality of the learning environment is to ensure that teachers are available in adequate numbers relative to the number of students in the school. Because pupil-teacher ratios are so high on average in Ethiopia, most schools suffer from chronic shortages of teachers. However, the situation is much worse in some schools than in others. Among government primary schools enrolling about 1,000 pupils, for example, the number of teachers ranges from less than five to more than 30. Across all government primary schools an estimated 28 percent of the variation in the number of teachers on staff is accounted

for by factors other than the size of enrollments; across government secondary schools, the corresponding share is 30 percent. The relation between number of teachers and number of pupils is even weaker in Grades 1–4. Indeed at this level in the system, Ethiopia's degree of randomness in teacher deployment exceeds that of all other 21 African countries for which there is information. Making the allocation of teachers more consistent and purposeful across schools is clearly an area that better administrative management of the system can and should seek to bring about.

- *Encourage schools progressively to offer complete instructional programs.*

Another factor that affects the quality of services is the completeness of the instructional program offered by schools. Where schooling cycles are incomplete some students drop out sooner than desired or repeat the highest grade offered simply because they have nowhere else to go. In Ethiopia, only a fifth of government primary schools offer instruction up to Grade 8, while just over 31 percent stop after Grade 6, and 34 percent, after Grade 4. Rural schools are more likely than those in urban areas to offer an incomplete instructional program. The legacy of the previous 6–4–4 structure of education system is evident in the large share of schools that stop at Grade 6. Most of these schools were created around 1980. Schools that stop at Grade 4 were created on average, around 1987, and most also appear not to have developed beyond the scope of their initial instructional program. Schools that offer less than the first four grades make up less than eight percent of Ethiopia's primary school but have, on average, higher pupil-teacher ratios than other schools, suggesting that staffing constraints may be one factor standing in the way of their development. Part of the task of strengthening the administrative management of the system is to ensure that constraints at the school level, whether in staff or classroom facilities, are addressed so that a complete instructional program can be offered.

Address Demand-side Constraints

The demand-side constraints on school participation are many. They include household-level factors such as the affordability of schooling relative to households' incomes, the opportunity cost of children's time, and the value of schooling as perceived by parents; individual-level factors such as child's personal characteristics such as gender and being an orphan; and community-level variables such as language. While many of these variables cannot be altered in the short run (or at all), documenting their impact helps in understanding the dependence of progress in education on advances in solving problems in other sectors, and in identifying possible interventions and target groups for special attention.

- *Reduce the direct costs of schooling for children from poor families.*

In Ethiopia schooling is tuition-free but families do incur other fees and expenses. The direct costs of schooling can be significant: in 2001, households spent an amount equal to nearly 30 percent of the government' recurrent spending on education that year, and slightly more than half of the total was for primary schooling. Across households, the direct costs of primary schooling weigh heavier on the budgets of the poorest households than on that of their richer neighbors, not just because the per child outlay is a larger share of household income, but also because they tend to have larger families (table 4). It is important to avoid increasing the already large burden on poor households. Indeed, if private funding for post-primary education is successfully mobilized, the result should be to free up public funds for primary schooling, perhaps even to eliminate the cost that families still face to enroll a child in primary school.

Table 5
The Direct Cost of Primary Schooling Can Be Significant For the Poorest Families

	Annual education outlay per child in primary school [a/] (Birr unless otherwise indicated)			
Type of school	**Poorest quartile**	**2**	**3**	**Richest quartile**
Government schools	21.9	27	36.5	57.2
Non-government school	37.4	56.9	64.1	340.9
Weighted average	22.6	28.1	38.2	80.8
As a percentage of consumption expenditure per adult equivalent	3.3	2.6	2.5	2.4
Memorandum:				
Annual average consumption expenditure per equivalent adult	688	1,095	1,555	3,366

[a/] Includes expenditure on fees, Books, school supplies and other education-related items. The estimates are based on data for the 8,112 households in the sample which have children enrolled only in primary education in the indicated type of school. The estimates are underestimated to the extent that spending on evening programs are excluded.

- *Offer additional help where needed to reduce the opportunity costs of schooling.*

When a child's attendance at school conflicts with participation in work activities—whether at home, on the family farm, or in the labor market—families incur an opportunity cost in enrolling a child at school. The data suggest that more than half of rural Ethiopian boys and nearly a third of rural girls work in a range of activities that might constitute a "job". Children who work are generally less likely to attend school, although it appears that not all work is incompatible with schooling.

- *Help parents and communities better appreciate the value of schooling.*

In a country where schooling rates are low, a barrier to the enrollment of children may simply be that parents themselves have not been to schools and have no idea what schools can do for their children. Statistical analysis shows that a child's chances of being enrolled is influenced by the percentage of household heads in the community who are literate, even after controlling for such factors as household poverty, distance from school, and whether or not the child's own household head is literate. The fact that the impact of parental literacy diminishes sharply with the inclusion of community-level literacy rates suggests that beliefs about the importance of schooling may be formed at the community-level, and that exposing communities to the potential benefits of schooling may be a very useful approach in the short run for enhancing school participation.

- *Remove barriers to school participation posed by gender and being orphaned.*

Gender gaps are primarily a rural phenomenon, and appear to be region-specific, implying that efforts to increase school participation by girls will require a region-by-region approach. For orphans, statistical analysis shows that af-

ter controlling for a variety of household, community and regional characteristics, children who have lost one parent are 5–6 percentage points less likely to attend school than non-orphans, and that the effect is twice as great for children who have lost both parents. Again, specific programs targeted as such children are required.

CHAPTER 5

Transforming Resources in Schools Into Educational Outcomes

Once children are in school it is the responsibility of teachers and school directors to ensure that they not only remain there but that they learn. Successful delivery of education services must be reflected in progressive improvements in the level of student achievement.

Make it a Key Goal to Raise Student Achievement

In the 2000 assessment of learning achievement of Grade 4 and Grade 8 students, about 10,500 fourth graders were tested in Reading (in the language of instruction), English, Mathematics and Environmental Science; and some 5,500 eighth graders were tested in English, Mathematics, Chemistry and Biology. The average percentage of correct answers for all the subjects combined was 48 percent in the Grade 4 sample; and 41 percent in the Grade 8 sample. Given that the test items were chosen from a range of key topics in the curriculum for the grade tested as well as that for the *previous* grade, these scores indicate that a large number of students were not achieving the curriculum objectives. The results of the 2004 assessment are not yet available.

A key challenge for pedagogical management is to improve upon these baseline scores. Finding the right interventions will not be easy. The national baseline assessment evaluated the importance of such factors as school infrastructure; school organization and management practices; teacher characteristics and practices; and the availability of instructional materials and equipment. In both Grades 4 and 8, the study confirmed the importance of textbooks and the use of radio for supplemental instruction, findings that are consistent with those reported in many other similar studies. In Grade 8, schools differ in the share of teachers who graduated from a teacher training college or higher levels of training but the study reported that this variable had no impact on student achievement. By contrast, it did find that variables that reflect attitudes and behaviors were important, including how well teachers prepare their lessons; how much the director focuses on school matters; and the extent to which students engage in homework.

Taking Advantage of Decentralization to Get Results

Ethiopia is currently undergoing a far-reaching decentralization of the structure of government. Budgets are allocated to the regions in block grants, and the regions in turn are expected to make block grants to the *woreda* governments. In the new governance landscape, these sub-national governments are directly responsible for delivering primary and secondary education. For them, two of the issues discussed above are immediately relevant: (a) the mis-allocation of teachers; and (b) the encouragement of those inputs and attitudes which boost pupils' performance. Making tradeoffs among alternative goals and means will become increasingly relevant as authority, finances and responsibilities are transferred to these lower level authorities. Two broad recommendations are offered.

- *Learn from International and Domestic Experience*

Even though the process of decentralization is still at an early stage, Ethiopia might take note of some of the lessons for the educational system emerging from the experience in countries which are further along in the process. Experiences in Latin America and Eastern Europe suggest:

- efficiency and effectiveness are most likely to improve under decentralization when service providers—schools, local governments, or regional governments—are held *accountable for results*.
- accountability requires *clear statements of authority and responsibility* and transparent and *understandable information* on results (both educational and financial).
- decentralization of real decision making power to schools or school councils can significantly increase *parental participation* in the school, and high levels of parental and community participation are associated with improved school performance.
- decentralization of education to sub-national governments does not in itself empower parents or improve *school performance*. Further decentralization to schools (school councils or school boards) or local communities is more likely to empower parents and can improve school performance.
- for decentralization to schools to be successful, *principals* must acquire new skills in motivating teachers and the community, and in financial management.
- the specific *design of financial transfers* to sub-national governments or schools can have powerful effects on both efficiency and equity.
- failure to restructure national and/or regional *ministries of education* is a serious obstacle to realizing the benefits of decentralization.
- the decentralization of *teacher management* is critical to creating accountability and realizing the potential benefits of decentralization.

Some of the foregoing ideas are already being made concrete in Ethiopia. In 2002, the Ministry of Education issued a set of "Guidelines for Organization of Educational Management, Community Participation and Educational Finance" to clarify roles and responsibilities at all levels of management in the education system, as well as to give explicit recognition to the importance of community participation and parental involvement in school-based management. Identifying the most critical elements in these guidelines, putting them into practice and evaluating the impacts of alternative arrangements are important tasks that warrant attention in the years to come. If carried out systematically and routinely, they will provide lessons from Ethiopia's own implementation of decentralization in the sector.

- *Mobilize and Disseminate Information to Enhance Accountability for Results.*

As education is decentralized in Ethiopia, the challenges of ensuring accountability for results

will be increasingly important. The task is difficult but can be reduced by creating the right kinds of information flow. In the first instance, the availability of appropriate information at the level of schools can help stimulate a community's interest in ensuring that its schools get a fair share of the public resources for education. In Uganda, for example, a large-scale public dissemination of information on grants for schooling gave schools and parents the information they needed to monitor the grants. Over the space of just six years, the leakage of funds fell from 80 to 20 percent, and schools were able to use the resources now reaching them to purchase textbooks and other pedagogical inputs.

Report cards are another interesting example. They provide schools with information that compares indicators for the school (e.g. pupil-teacher ratios, examination results, and parent feedback) with averages at the national and relevant sub-national levels. Report cards for school districts and other higher levels of aggregation can also provide similar comparative information. The availability of such information may be expected to improve conditions in schools in two ways: by creating incentives for under-endowed schools to seek redress; and by pinpointing specific schools in the system that warrant the attention of those in charge.

Finally, a greater transparency at the local government level in the formulation and implementation of budgets, could have a positive impact. This would make visible aspects such as the balance between salary and non-salary expenditures and the utilization rate of the capital allocation. In addition there is a great need to ensure timely payments and reports and to put in place a viable audit system; and to encourage a more bottom-up establishment of needs.

Conclusion

A decade after the launch in 1994 of the New Education and Training Policy, Ethiopia's government can look back with justifiable pride on the progress achieved. The very rapid growth of primary education reflects a genuine commitment to transform the country's historically elitist system into one that serves all of Ethiopia's children. And the growth of secondary and higher education will provide the potential manpower for all sectors of the economy. The government's recent poverty reduction strategy paper (SDPRP) reaffirms the goal of universalizing primary education while also envisioning improvements in quality and expansion of other levels to enhance the skills profile of the workforce. These ambitions present sobering challenges on many fronts.

Accomplishing them will likely require more public spending on education than the sector currently receives, as well as increased spending on education by households in post-primary education. Money alone is unlikely to produce the desired results, however. In primary and secondary education the system is truly at a cross-roads today. The continuous deterioration of pedagogical conditions in schools across the country since 1993–94 which has accompanied the high rates of expansion sounds an alarm that bears heeding. It is a signal that the existing arrangements for service delivery—characterized in particular by the criteria for teacher recruitment and classroom construction—may not be suited for expansion on the scale required to attain the goal of universal primary school completion.

The work of finding new approaches will need to be informed by a hard-nosed, system-wide assessment of potential tradeoffs among the options for moving forward. Better administrative management is also critical for continued progress, so that the available human and financial resources for education are channeled effectively to schools, communities and households. Transforming these resources into higher levels of school participation and even more importantly, into learning outcomes, is the ultimate measure of success. This task is difficult in the best of circumstances, but it can be made less so by cultivating a culture of accountability for results and good stewardship of resources throughout the system.

Annex Tables and Figures

Table A1.
Enrollments by Level in Government and Nongovernment Institutions, Ethiopia, 1967–68 to 2001–02

School Year	Preprimary (Grades 1–8)	Primary	Secondary (Grades 9–12)	Technical and Vocational Education and Training	Teacher Training Institutes	Higher education (Regular programs only)[a/]
1967–68	—	496,334	26,690	—	—	—
1970–71	—	728,548	53,220	—	—	—
1975–76	—	1,226,124	90,091	—	—	—
1980–81	—	2,341,437	216,876	—	—	—
1985–86	—	2,811,910	292,385	—	—	18,457
1990–91	—	2,871,325	453,985	—	—	17,895
1995–96	—	3,787,919	402,753	2,738	5,900	17,378
2000–01	109,358	7,274,121	649,221	8,639	6,224	46,812
2001–02	118,986	7,982,760	684,630	38,176	6,080	48,143
2002–03	123,057	8,572,315	626,714	54,026[b/]	7,002	77,946
2003–04[c/]	—	9,343,428	725,059	—	—	80,698

— Data not available at time of report writing.

Note: All data in this table refer to enrollments in regular programs only.

a. Includes students in diploma-level teacher training colleges, but excludes part-time students and those in evening or summer (*Kiremt*) courses.

b. Data probably incomplete because of missing information from several regions.

c. Preliminary data available as of September 2004.

Table A2.
Number of Students by Type and Level of Education, Ethiopia, 2001–02

Type of student	Primary cycle			Secondary cycle (grades 9–12)	Higher education[a/]	Adult education
	Grades 1–4	Grades 5–8	Total			
Regular daytime students						
Total	5,725,954	2,256,806	7,982,760	684,630	48,143	0
In nongovernment establishments	229,265	140,050	369,315	15,667	12,619	0
Nongovernment share (%)	4	6	5	2	26	n.a.
Evening students						
Total	87,863	73,714	161,577	80,011	44,567	0
In nongovernment establishments	33,806	26,145	59,951	2,695	6,472	0
Nongovernment share (%)	38	35	37	3	15	n.a.
Students in distance education	0	0	0	1,080	—	0
Students in *Kiremt* courses[b/]	0	0	0	0	9,119	0
Students in nonformal education[c/]	~ 500,000	0	~500,000	0	0	~500,000
Grand total (thousands)	**6,314**	**2,331**	**8,644**	**766**	**102**	**~500**
Memoranda[d/]:						
Percentage of students in regular daytime classes	91	97	92	89–93	47–57	n.a.
Percentage of fee-paying students	5	9	6			
Percentage of students not financed by government[e/]	13	9	12	} 9–13	} 50–56	} ~ 100

— No data available; n..a. not applicable.

a. Includes diploma-level teacher training.

b. Refers to summer courses mainly for trainee teachers seeking a diploma-level certification.

c. Participants in nonformal education are divided into two groups, those aged 7–14 and those aged 15 and older. The younger group follows a curriculum that allows transfers to the formal system and is therefore classified here under the primary cycle in grades 1–4. Participants in the older group are grouped under adult education to correspond to the intent and content of the courses. The total is a rough estimate based on data between 1997–98 and 2001–02.

d. The ranges shown for secondary and higher education correspond to alternative assumptions in adding up enrollments in the various types of programs. For the first figure in each range, enrollments are computed by simple addition across all types of programs; for the second figure, they are added after converting enrollments in evening, *Kiremt*, and distance courses to regular daytime equivalents on the assumption that students in such programs take 1.5 times as long to complete their studies as regular daytime students. For nonformal basic education, a similar calculation is not attempted because while pupils in the well-organized programs complete their studies in three instead of the four years in formal primary schools, the arrangement is not uniform across the country, and pupils in some of the less well-organized programs may in fact take longer or even fail ever to reach grade equivalency with the formal program.

e. Includes fee-paying students.

Table A3
Primary Gross Enrollment Ratios (GER), Ethiopia, 1993–94 to 2001–02

School year	Based on school census and government population estimates [a/]	Based on household surveys	
		GER Estimate	Survey and data collection period [b/]
1993–94	20.5	—	
1994–95	26.2	—	
1995–96	30.1	34.0	WMS, Jan./Feb. 1996
1996–97	34.7	—	
1997–98	41.6	45.8	WMS, March/April 1998
1998–99	45.8	41.3	LFS, May 1999
1999–00	51.0	53.9	WMS, Jan./Feb. 2000
		51.6	DHS, Feb./May 2000
2000–01	57.4	—	
2001–02	61.6	—	

— Estimate not available in the absence of a survey

Note: The gross enrollment ratio (GER) in this table refers to grades 1–8.

a. For 2000–01 and 2001–02, the GER includes evening students in the numerator (which was augmented as a result by 1.2 percent); the increase would have been much larger if children in nonformal basic child education programs were also included. In this case, the GER would have risen to 61.2 percent in 2000–01 and 65.6 percent in 2001–02, assuming that the share of students in regular day programs is 92 percent.

b. The household surveys are the following: WMS, Welfare Monitoring Survey; LFS, Labor Force Survey; DHS, Demographic and Health Survey. The Child Labor Force Survey conducted in March 2001 could have extended the series based on household surveys, but the data files were unavailable at the time of data analysis for this study.

Table A4.
Three Indicators of Entry to Grade 1, Ethiopia, 1993–94 to 2000–01

Year	Apparent intake rate (AIR, %) [a/]	Cohort entry rate (CER, %) [b/]	Ratio of AIR to CER	Percentage of children ever enrolled by age 7
1993–94	45.2	—	—	—
1994–95	55.8	—	—	—
1995–96	71.3	37.2	1.9	12.6
1996–97	80.6	—	—	—
1997–98	90.5	44.6	2.0	17.3
1998–99	92.9	54.5	1.7	21.9
1999–00	95.7	52.4	1.8	20.6
2000–01	99.5	60.5	1.6	—

— Data not available.

a. Defined as the number of new entrants to grade 1, regardless of age, relative to the population of 7-year-olds; data exclude evening students.

b. Refers to the estimated share in a cohort who ever entered school. The rates are estimated from data for sampled youths ages 7–18 in the Welfare Monitoring Surveys of 1996, 1998, and 2000; youths ages 7–14 in the 1999 Labor Force Survey; and youths ages 7–17 in the 2001 Child Labor Force Survey. Because the percentage ever enrolled tends to peak by ages 13–14, it provides a reasonably good estimate of the share of children in a cohort who would ever enroll. For 1995–96 and 1997–98, the peak occurs slightly later, so the data shown in the table correspond to the percentage ever enrolled by ages 15–16 and 14–15, respectively.

Table A5.
Composite Cohort Survival Rates and Intercycle Transition Rates, Ethiopia, 1993–94 and circa 2000–01

Indicator	1993–94	1999–00	2000–01	2001–02
Cohort survival rates from grade 1				
To grade 4	0.52	0.60	0.61	0.59
To grade 5	0.49	0.53	0.54	0.51
To grade 6	0.48	0.47	0.49	0.45
To grade 8	0.39	0.36	0.40	0.36
To grade 10	0.23	0.20	0.31	0.27
To grade 12	0.15	0.19	0.13	0.08
Intercycle cohort transition rates				
grades 4 & 5	0.94	0.88	0.90	0.88
grades 8 & 9	0.84	0.89	0.98	0.91
grades 10 & 11	0.86	— [a/]	0.34	0.33

Notes:

a. Survival rates and transition rates are computed from data for two adjacent school years, the first of which is indicated in each column in the table. Shaded cells draw attention to the impact of policy changes implemented in 2000–01 to regulate student flow in grades 11 and 12.

b. Estimate exceeds unity, which is by definition inadmissible; it signals probable inaccuracies in the counts of repeaters and re-admitted students as a new policy to regulate student flow in preparatory secondary education was implemented from 2001–02 on.

Table A6.
Efficiency of Student Flow in Primary Education, Ethiopia, 1993–94 and 2001–02

	1993–94			2001–02		
Grades	Number left from an initial cohort of 1,000	Repetition rate[a/]	Pupil-years invested	Number left from an initial cohort of 1,000	Repetition rate[a/]	Pupil-years invested
1	1,000	0.139	1,162	1,000	0.191	1,235
2	580	0.075	627	746	0.141	867
3	539	0.055	570	652	0.132	751
4	518	0.086	567	587	0.161	699
5	489	0.064	522	515	0.159	612
6	483	0.137	559	450	0.115	508
7	413	0.147	484	437	0.226	564
8	385	0.243	508	363	0.221	467
Cumulative pupil years	4,406		4,999	4,749		5,704
Index of efficiencyb/						
Dropout-related		0.70			0.61	
Repetition-related		0.88			0.83	
Overallc/		0.62			0.51	
		(0.71)			(0.61)	

a. Defined as the number of repeaters in grade X in year Y+1 relative to the number of students in grade X in year Y.

b. The index is defined as the ratio between the cumulative pupil-years invested in a system with neither dropping out nor grade repetition, and the actual cumulative pupil-years invested given the pattern of dropping out and repetition. Thus, the closer is the index to 1.0, the more efficient is the student flow.

c. Figures in parentheses refer to the index associated with student flow patterns in grades 1–5.

Table A7.
Trends in Public Spending on Education, Ethiopia, 1980–81 to 2001–02

Total recurrent and capital spending		Recurrent spending[a/]					
E.C.	Gregorian Calendar	As percentage of GDP	As percentage of total government spending	As percentage of government revenues net of grants	As percentage GDP	As percentage of total spending on education	As percentage of total government current spending net of debt interest payment
1973	1980/81	2.1	10.0	13.0	—	—	—
1974	1981/82	2.4	9.7	14.4	—	—	—
1975	1982/83	2.2	7.3	12.7	—	—	—
1976	1983/84	2.5	8.8	12.9	—	—	—
1977	1984/85	2.4	8.4	14.1	—	—	—
1978	1985/86	2.4	8.5	12.3	—	—	—
1979	1986/86	2.4	9.3	12.8	—	—	—
1980	1987/88	2.5	8.2	11.6	—	—	—
1981	1988/89	2.9	8.5	12.4	—	—	—
1982	1989/90	2.8	9.4	15.8	—	—	—
1983	1990/91	2.5	10.1	18.1	—	—	—
1984	1991/92	2.5	12.6	23.9	—	—	—
1985	1992/93	2.8	14.3	23.4			
1986	1993/94	4.0	15.8	28.5	3.0	75.6	24.6
1987	1994/95	3.5	14.3	20.3	2.7	76.1	20.9
1988	1995/96	3.8	15.7	20.6	2.6	68.2	21.0
1989	1996/97	3.6	15.3	20.1	2.6	71.7	22.5
1990	1997/98	3.5	14.1	19.5	2.6	74.2	18.8
1991	1998/99	3.5	11.5	19.9	2.6	73.6	13.8
1992	1999/00	3.1	9.5	17.3	2.6	82.0	10.6
1993	2000/01	4.1	14.2	21.5	3.0	71.5	16.9
1994	2001/02	4.0	13.6	21.0	3.0	75.9	

— Data not available.

a. Excludes spending on items such as vehicles, equipment, building, and construction materials which were classified in the budget data as recurrent spending.

Table A8.

Recurrent Public Education Spending Trends and Composition by Subsector, Ethiopia, 1993–94 to 2001–02

Item	1986 E.C. 1993–94	1987 E.C. 1994–95	1988 E.C. 1995–96	1989 E.C. 1996–97	1990 E.C. 1997–98	1991 E.C. 1998–99	1992 E.C. 1999–00	1993 E.C. 2000–01	1994 E.C. 2001–02
Spending trends (1993–94 = 100)[a/]									
Administration	100	100	140	203	215	266	268	309	373
Primary & secondary	100	95	100	101	97	99	98	121	139
Grades 1–8	100	96	101	105	100	103	103	122	140
Grades 9–12	100	95	98	81	75	76	75	113	128
TVET	100	117	99	105	187	204	189	312	1221
TTI	100	88	93	103	86	111	111	102	139
TTC	100	96	92	175	239	329	310	380	461
Higher education	100	97	99	128	137	139	176	244	330
Other	100	83	71	55	60	64	73	105	143
Total	100	96	102	108	107	112	115	143	178
Percentage share of spending									
Administration	5.0	5.3	6.9	9.4	10.2	11.9	11.7	10.8	10.6
Primary & secondary	80.9	80.7	80.0	75.7	73.2	71.2	69.0	68.0	63.1
Grades 1–8	68.9	68.9	68.5	66.7	64.8	63.1	61.2	58.5	54.4
Grades 9–12	12.0	11.9	11.5	9.0	8.4	8.1	7.8	9.4	8.6
TVET	0.7	0.9	0.7	0.7	1.3	1.3	1.2	1.6	5.1
TTI	1.5	1.4	1.4	1.4	1.2	1.5	1.5	1.1	1.2
TTC	0.4	0.4	0.4	0.7	1.0	1.3	1.2	1.2	1.1
Higher education	9.3	9.4	9.1	11.0	11.9	11.5	14.2	15.8	17.3
Other	2.1	1.8	1.5	1.1	1.2	1.2	1.3	1.6	1.7
Total	100	100	100	100	100	100	100	100	100
Memoranda on total spending:									
In millions of current Birr	847.6	913.1	979.4	1,084.1	1,174.8	1,265.8	1,343.2	1,563.5	1,799.3
In millions of constant 1994–95 Birr	955.4	913.1	970.2	1,035.5	1,018.3	1,070.6	1,102.2	1,370.5	1,696.8

Note:

a. First row shows Ethiopian Calendar years, second row, Gregorian Calendar years. TVET Technical/Vocational Education and Training; TTI Teacher Training Institute; TTC Teacher Training College.

b. Spending trends are based on amounts in 1994–95 constant Birr.

Table A9.
Regional Recurrent Spending on Primary, Secondary, and Technical and Vocational Education and Training, Ethiopia, 2001–02

	Spending in 2001–02 as a ratio of spending in 1993–94[a/]			Percentage share of regional recurrent spending on education[b/]		
Region	**Overall**	**Grades 1–8**	**Grades 9–12**	**Grades 1–8**	**Grades 9–12**	**TVET[c/]**
Tigray	2.07	2.07	2.07	75.7	9.9	2.1
Afar	1.35	0.75	3.07	44.0	34.1	0.0
Amhara	1.43	1.29	0.92	75.1	7.0	1.7
Oromiya	1.74	1.45	1.70	68.5	11.9	7.9
Somali	1.14	1.00	0.80	71.8	7.9	2.9
Benshangul-Gumuz	1.71	1.48	1.58	71.6	7.9	0.0
SNNPR	1.69	1.52	1.01	74.5	6.3	2.3
Gambilla	2.53	1.71	5.26	50.3	7.9	1.2
Harare	1.80	1.64	2.80	63.8	20.7	0.0
Addis Ababa	1.62	1.09	0.73	38.5	15.7	22.8
Dire Dawa	2.11	1.42	2.41	46.0	22.1	11.6
Average	1.74	1.40	2.03	61.8	13.8	4.8

SNNPR, Southern Nations and Nationalities Peoples' Republic.

Notes:

a. Amounts in both the denominator and numerator denominated in 1994–95 constant Birr.

b. Columns do not add to 100 percent because of the omission of spending on administration (shown in the previous table) and other items (e.g., teacher training institutes and colleges in some regions and special education).

c. Refers to Technical and Vocational Education and Training; increase since 1993–94 not shown because spending was 0 in that year for most regions.

Table A10.
Teacher Wages and Educational Supplies as a Percentage of Recurrent Spending in Primary and Secondary Education across Regions. Ethiopia. 2001–02

	Teacher wages as a percentage of subsector recurrent spending			Educational supplies as a percentage of subsector recurrent spendinga/	
Region	**Grades 1–4**	**Grades 5–8**	**Grades 9–12**	**Grades 1–8**	**Grades 9–12**
Tigray	89.8	82.2	66.3	1.2	6.9
Afar	71.9	65.5	13.4	8.5	5.2
Amhara	96.4	94.8	82.7	0.8	1.6
Oromiya	90.4	89.3	69.2	4.1	15.2
Somalib/	84.5	87.4	73.5	2.9	0.0
SNNPR	97.7	93.8	73.1	0.6	1.7
Harari	73.2	82.1	64.0	1.4	5.5
Addis Ababa	75.2	76.7	78.8	4.7	5.1
Dire Dawa	80.5	91.4	73.3	8.8	7.4
Averagesc/					
Unweighted	84.4	84.5	65.1	3.8	6.1
Weighted	92.5	89.8	71.0	2.5	8.9

SNNPR Southern Nations and Nationalities Peoples Republic.

Notes:

a. The percentage share of spending on teachers and educational supplies does not add to 100 percent, as the residual category of spending on administrative staff, foodstuff, uniforms, bedding, and so on have been omitted from the table.

b. For Addis Ababa, the source data are not broken down by the subcycles shown; for our purpose, we estimate the desired breakdown by prorating spending according to shares of enrollments in the relevant subcycles.

c. Estimate based on assumption that teacher remunerations are the same as in Afar, another region where teacher pay is augmented by a 30 percent increase as hardship allowance.

d. Excludes data for Somali, Benshangul-Gumuz and Gambella , and spending by the federal government.

Table A11.
Public Recurrent Spending Per Student by Level and Type of Education in Government Institutions, Ethiopia, 2001–02

Level/type of Education	Total recurrent public spending (millions of current Birr)[a/]	Number of students in government institutions	Spending per student			
			Amount in current Birr	As multiple of per capita GDP[b/]	As multiple of spending per primary pupil	
					Grades 1–4 = 1.0	Grades 1–8 = 1.0
Primary (grades 1–8)[c/]	785.8	7368038	107	0.12	1.2	1.0
Grades 1–4	457.1	5,311,949	86	0.10	1.0	0.8
Grades 5–8	328.7	2,056,089	160	0.18	1.9	1.5
Secondary (grades 9–12)[c/]	185.6	655,664	283	0.32	3.3	2.7
Tech./voc. education & training[d/]	91.1	36,462	2,499	2.85	29.0	23.4
Teacher training institutes	21.2	6,080	3,495	3.98	40.6	32.8
Teacher training colleges	22.7	3,618	6,267	7.13	72.8	58.8
Higher education[e/]	265.4	27,924	9,504	10.82	110.4	89.1

Notes:

a. Data exclude administrative overheads at federal and regional levels.

b. The per capita GDP of 878.3 Birr was calculated by dividing the estimated GDP of 59.11 billion Birr in 2001–02 by the projected population of 67.3 million.

c. Data exclude Somali to ensure consistency with data presented later for the decomposition of unit spending.

d. Data are shown in italics to alert the reader that spending on this subsector refers to the amount reported in MOFED budget data, and that the estimate of unit spending may be unreliable because of possible incomplete counts of enrollments.

e. Refers to estimates for 19 institutions of higher education; number of students excludes those in postgraduate studies.

Table A12.
Public Recurrent Spending Per Primary Pupil, Teacher Wages, Pupil–Teacher Ratios, and Spending on Inputs Other Than Teachers, Ethiopia and Selected World Regions, circa 2000

Country/region	Number of countries	Public spending per pupil[a/]	Average teacher wage[a/]	Pupil–teacher ratio[b/]	Percentage of recurrent spending on inputs other than teachers[c/]
Etiopía, 2001–02					
Grades 1–4	1	0.10	6.8	75.2	7.8
Grades 5–8	1	0.18	8.0	48.8	10.3
Regional averages, circa 2000					
Francophone Africa	20	0.13	4.4	51.0	26.8
Anglophone Africa	13	0.13	4.3	41.6	20.2
South & East Asia	10	0.09	2.4	36.5	23.4
Latin America	4	0.16	4.3	33.6	18.5
Eastern Europe & Central Asia	5	0.11	1.2	18.2	31.3

Notes:

a. As a multiple of the per capita GDP.

b. Weighted average for government schools, excluding data for Somali, Benshangul-Gumuz, and Gambella.

c. Includes spending on administrative personnel at the school level, pedagogical supplies, and unspecified nonsalary items for Ethiopia. Data exclude administrative spending at the federal and regional level.

Table A13.
Gross Enrollment Ratios by Region, Ethiopia, 1993–94 and 2001–02

	Primary education (grades 1–8)			Secondary education (grades 9–12)		
Country/region	1993–94	2001–02	Index (1993–94=1.0)	1993–94	2001–02	Index (1993–94=1.0)
Ethiopia	24.1	61.6	2.56	6.9	13.1	1.90
By region						
Tigray	43.7	77.6	1.78	4.4	24.8	5.64
Afar	5.0	12.6	2.52	1.2	3.2	2.67
Amhara	17.9	58.1	3.25	5.2	9.1	1.75
Oromiya	21.2	62.4	2.94	5.6	11.6	2.07
Somali	6.5	13.1	2.02	0.4	1.4	3.50
Benshangul	35.4	89.1	2.52	2.4	12.2	5.08
SNNPR	28.8	67.5	2.34	5.1	10.7	2.10
Gambilla	53.9	102.7	1.91	5.3	12.4	2.34
Harare	53.4	107.5	2.01	31.6	50.3	1.59
Addis Ababa	84.9	128.4	1.51	40.8	57.3	1.40
Dire Dawa	41.0	80.2	1.96	19.4	28.4	1.46

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Table A14.
Gross Enrollment Ratios by Locality, Gender, and Wealth, Ethiopia, 1999–2000

Population group	Primary education			Secondary education (grades 9–12)[a/]	Higher education[b/]
	Grades 1–4	Grades 5–8	Grades 1–8		
By gender					
Boys	89.1	53.6	72.6	*15.6*	2.6
Girls	72.6	43.8	59.3	*10.5*	0.6
Index (boys = 1.0)[c/]	**0.81**	**0.82**	**0.82**	***0.67***	**0.21**
By locality					
Urban	122.9	101.1	111.6	*76.3*	3.7
Rural	65.3	22.0	46.2	*0.4*	0.02
Index (urban = 1.0)[c/]	**0.53**	**0.22**	**0.41**	***0.00***	**0.00**
By consumption quintile[d/]					
Richest	112.3	81.2	95.8	53.7	4.8
2 91.0	68.8	80.6	31.1	1.0	
3 89.5	50.9	71.3	26.6	1.0	
4 80.0	45.0	64.3	21.6	0.4	
Poorest	72.9	42.2	59.4	18.9	0.3
Index (richest 20% = 1.0)[c/]	**0.65**	**0.52**	**0.62**	**0.35**	**0.05**

Notes:

a. Ratios in the first two blocks are shown in italics to alert the reader that the data are based on data from the school census and population projections rather than on data from the survey.

b. The denominator for this calculation is the population ages 19–23.

c. The index is computed by dividing the ratio for the less-favored group in each block (i.e., girls, rural children, and children from the poorest quintile), by the corresponding ratio for the more-favored group (i.e., boys, urban residents, and children from the richest quintile).

d. Households are ranked according to the per adult equivalent expenditure on food and other nonfood items.

Table A15.
Female Share of Primary and Secondary Enrollments across Regions, Ethiopia, 2001–02

	Percent female		Index (Ethiopia=1.0)	
Country/region	**Grades 1–8**	**Grades 9–12**	**Grades 1–8**	**Grades 9–12**
Ethiopía	**40.9**	**39.3**	**1.00**	**1.00**
By Region				
Tigray	48.2	36.8	1.18	0.94
Afar	36.9	39.3	0.90	1.00
Amhara	45.8	42.1	1.12	1.07
Oromiya	36.9	35.6	0.90	0.91
Somali	32.8	23.6	0.80	0.60
Benshangul-Gumuz	36.3	30.8	0.89	0.78
SNNPR	37.4	31.7	0.91	0.81
Gambella	36.3	23.7	0.89	0.60
Harari	41.0	42.7	1.00	1.09
Addis Ababa	52.7	50.2	1.29	1.28
Dire Dawa	43.5	43.1	1.06	1.10

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Note: Includes enrollments in evening programs.

Table A16.
Distribution of Primary and Secondary Students and Schools by Sector, Ethiopia 2001–02

		Percentage share by sector	
Level of education/item	**Number**	**Government**	**Nongovernment**
Primary education			
Schools	11,754	94.9	5.1
Students	7,876,188	95.3	4.7
Secondary education			
Schools	436	87.6	12.4
Students	679,377	97.7	2.3

Note: The total number of schools differs from the 12,438 reported in the Ministry of Education's Statistical Abstract for 2001–02 (i.e., 1994 E.C.) for several reasons: (i) schools are counted more than once in this table if they offer instruction at both the primary and secondary levels; (ii) schools from Somali are excluded for lack of data in the school census; (iii) schools identified as offering technical and vocational education and training in the census are excluded; and (iv) schools reporting no teachers or no students are excluded.

Table A17.
Prevalence of Double Shifting and Section and School Sizes of Government and Nongovernment Primary and Secondary Schools, Ethiopia, 2001–02

	Primary schools		Secondary schools	
Indicator	**Government**	**Nongovernment**	**Government**	**Nongovernment**
Official instructional time (hours per week)a/				
Single shift	1,100	—	1,100	—
Double shift	840	—	840	—
Percentage of schools operating two or more shiftsb/	44.3	19.3	78.6	16.7
Number of students per sectionc/	72.1	60.1	80.4	51.1
Grades 1–4	75.9	61.9	n.a.	n.a.
Grades 5–8	60.7	54.8	n.a.	n.a.
Number of sections per schoolc/	9.0	9.9	21.0	6.0
Number of students per schoolc/	673	611	1,741	290
Memorandum:				
Number of schools in sample	11,047	596	378	54

— Data not available.

n.a. Not applicable.

Notes:

a. Computed as follows: average of 7 daily periods of 45 minutes each in single shift schools; and 6 daily periods of 40 minutes in double shift schools, in a school year of 210 days.

b. Each shift of students has its own set of teachers, but administrative staff, including the school head, is shared by the various shifts.

c. Refers to averages per school or section.

Table A18.
Distribution of Teachers by Gender and Qualification in Government and NonGovernment Primary and Secondary Schools, Ethiopia, 2001–02

Teaching assignment of teacher and type of school	Number of teachers	Percentage of female teachers	Percentage distribution of teachers according to their academic qualification						
			Grades 8 and below	Grades 9, 10,11, & 12	TTI	TTC & diploma[a/]	BA & MA	Other[b/]	Total
Grades 1–4									
Government	74,408	40.4	0.4	2.7	91.6	4.3	0.0	1.0	100.0
Nongovernment	4,756	39.6	1.0	13.7	60.8	17.9	0.8	5.8	100.0
Grades 5–8									
Government	43,710	15.7	0.2	0.6	70.3	26.4	0.1	2.3	100.0
Nongovernment	4,008	15.5	0.1	3.4	31.7	54.3	2.7	7.8	100.0
Grades 1–8									
Government	118,118	31.3	0.3	1.9	83.7	12.5	0.1	1.5	100.0
Nongovernment	8,764	28.6	0.6	9.0	47.5	34.6	1.7	6.7	100.0
Grades 9–12									
Government	13,306	7.6	0.0	0.1	6.9	59.5	32.8	0.7	100.0
Nongovernment	785	11.0	0.0	0.0	1.8	46.9	49.6	1.8	100.0

BA Bachelor's degree; MA master's degree; TTI teacher training institutes; TTC teacher training colleges.

Notes:

a. Refers to diploma-level courses from other institutions of higher education; includes teachers with grade 12 and summer training or one to three years of unspecified training beyond grade 12.

b. Includes teachers qualified to teach physical education, technical and vocational courses, crafts, agriculture, music, art, or unspecified subjects.

Table A19.
Average Weekly Teaching Loads by Teacher Certification and Grade in Which Teacher is Teaching, Oromiya, Ethiopia, 2002–03
(*in hours*)

	Teacher Certification				
Locality & grade to which teacher is assigned	**10+1; 10+2**	**12; 12+1**	**TTI**	**TTC and equivalent**	**All teachers**
Oromiya	17.7	21.0	24.2	18.1	23.8
Grades 1–4	18.0	27.4	26.0	22.2	26.0
Grades 5–8	17.5	16.2	21.2	18.0	20.6
Urban schools	17.5	16.6	19.9	17.0	19.5
Grades 1–4	18.1	21.6	21.6	18.1	21.5
Grades 5–8	17.1	15.8	17.9	17.0	17.6
Rural schools	23.0	27.7	27.3	22.3	27.2
Grades 1–4	15.0	28.9	28.6	28.9	28.6
Grades 5–8	27.0	20.3	24.5	21.9	24.3

Note: Refers to government teachers only.

Table A20.
Incidence of Poverty by Gender and Education of Household Head, Ethiopia, 1999

Characteristic of household head	Percentage living in poverty [a/]
Male	0.38
Female	0.37
Completed some primary education	0.32
Completed secondary	0.21
Completed postsecondary	0.09

Note: Refers to share of households whose consumption expenditure (food and nonfood) per adult equivalent falls below a lower bound threshold estimated in World Bank 2005, Poverty Assessmert.

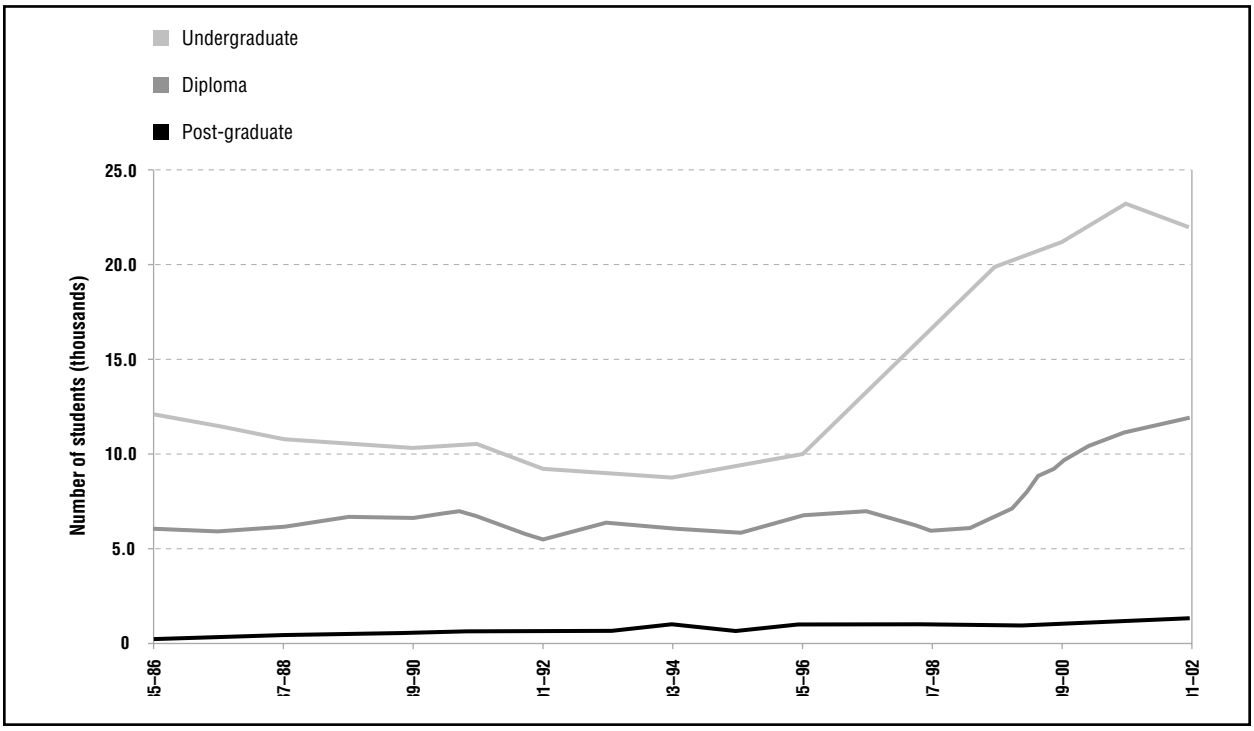
Table A21.
Unemployment Rate by Educational Attainment and Age, Ethiopia, 2001

Educational attainment	10–14	15–19	20–24	25–29	30–34	> 34	All ages
No schooling	1.6	5.8	5.3	4.7	4.7	3.6	3.7
	(14,250)	(7,116)	(6,587)	(6,078)	(4,426)	(20,030)	(58,487)
Primary							
Grades 1–4	4.4	5.1	5.4	2.8	3.5	2.9	4.3
Grades 5–8	6.7	9.6	11.0	7.0	4.5	5.8	7.8
Sub-total	4.7	6.9	8.2	5.0	4.0	4.3	5.7
	(4,355)	(5,133)	(3,965)	(3,438)	(2,122)	(4,366)	(23,379)
Secondary							
Grades 9–10	—	26.3	24.4	14.0	10.7	6.6	16.4
Grades 11–12	—	45.3	34.4	21.4	12.6	9.4	22.1
Sub-total	—	33.7	30.6	18.8	11.9	8.3	19.9
	—	(875)	(2,272)	(2,397)	(1,307)	(1,897)	(8,755)
Higher education	—	—	16.6	9.1	3.7	3.3	7.1
		(485)	(776)	(598)	(1,374)	(3,258)	

—Too few observations to compute reliable rates of unemployment

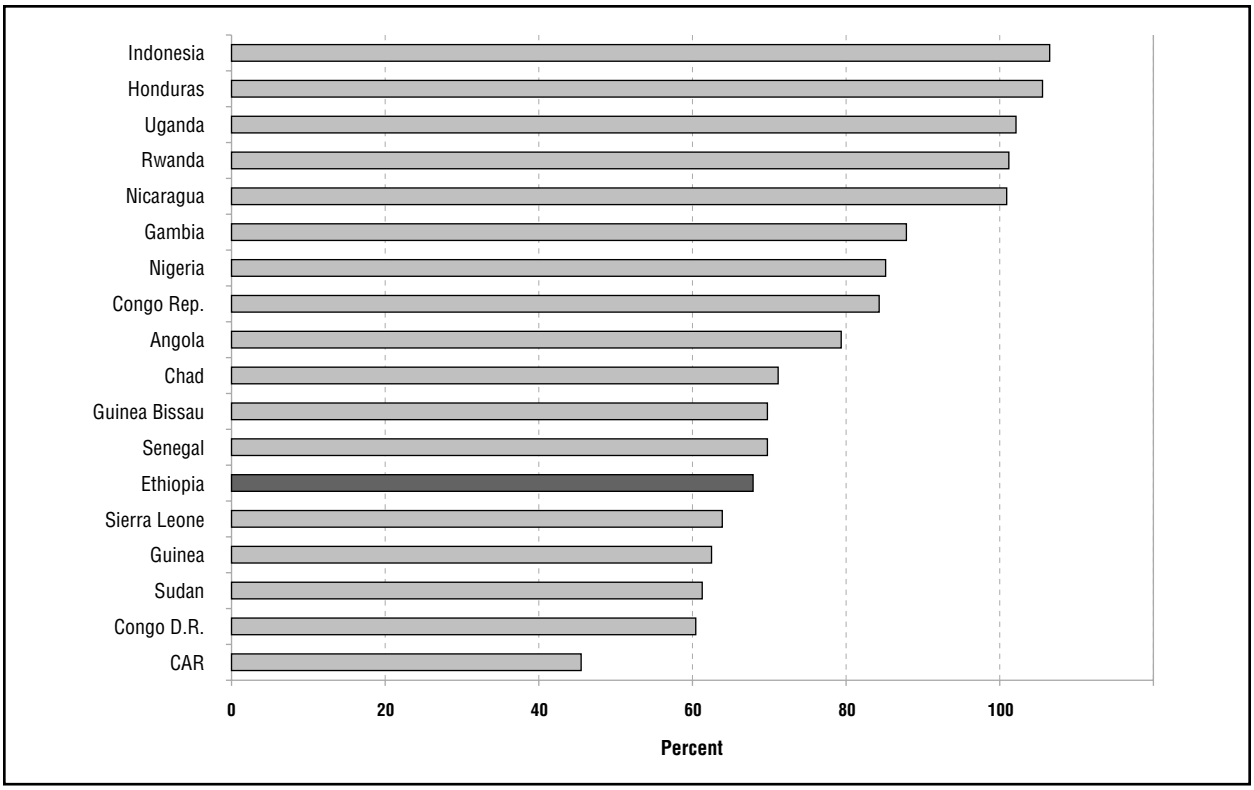
Note: Shaded cells refer to the age groups where first-time entrants from each education category are concentrated. Number of observations in the sample in parentheses.

Figure A1:
Enrollments in Regular Programs in Higher Education, Ethiopia, 1985-02



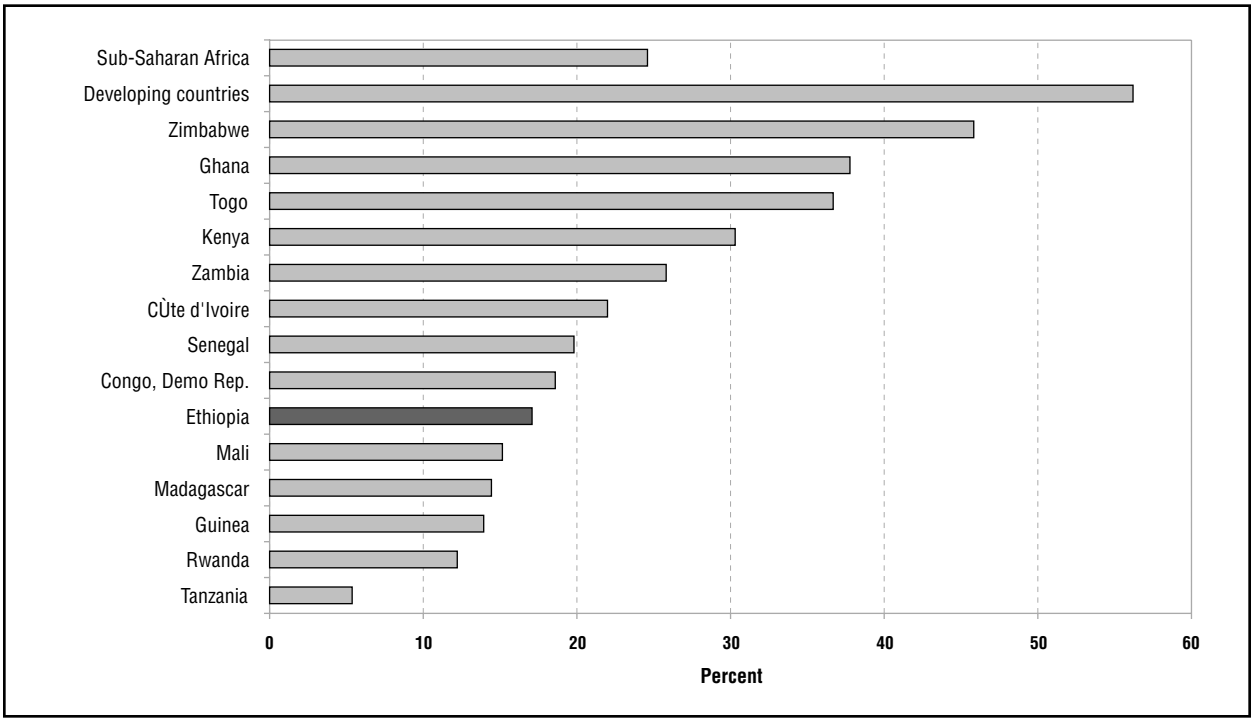
Note: data on enrollments in private institutions and evening classes are excluded for lack of a sufficiently long time series.

Figure A2:
Primary Gross Enrollment Ratio, Ethiopia and Other Countries, circa 2000



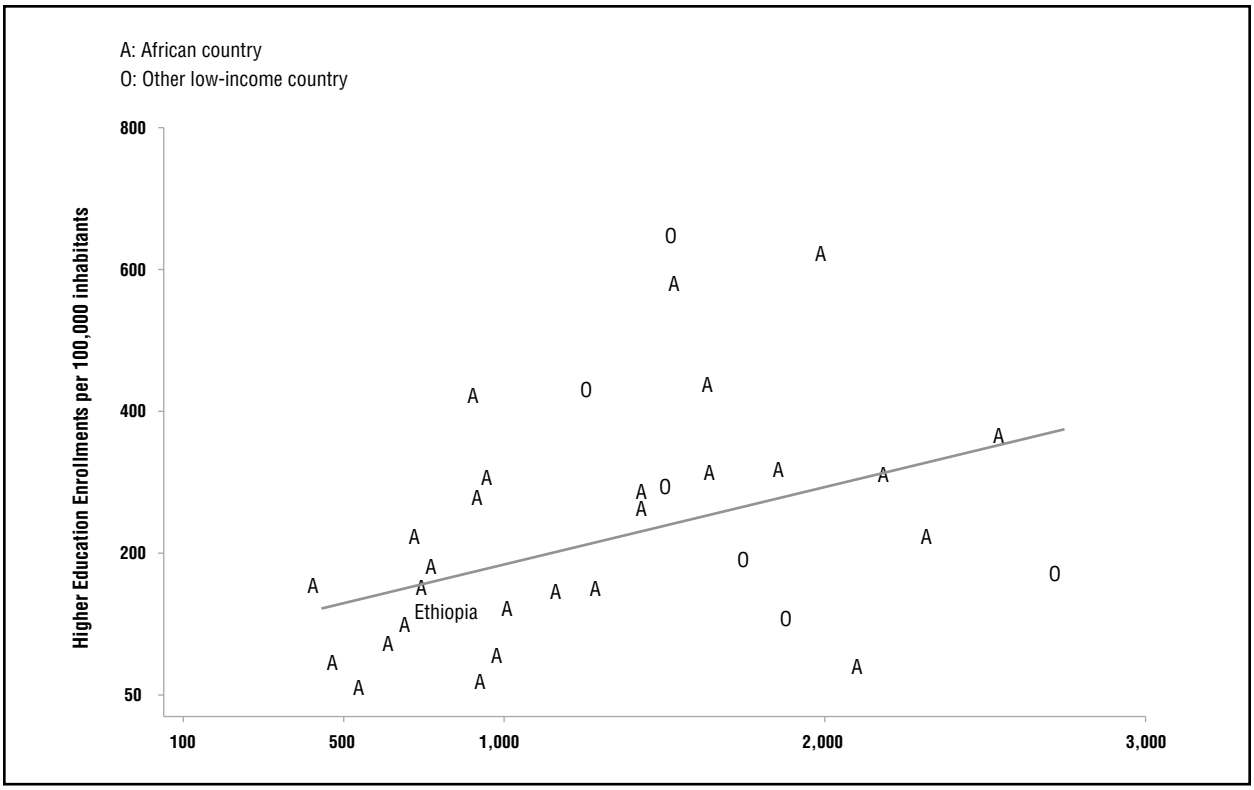
Note: the GER has been standardized for six years of primary schooling for all countries in this figure; CAR refers to Central African Republic; Congo D.R. refers to the Democratic Republic of Congo.

Figure A3:
Secondary Gross Enrollment Ratio, Ethiopia, Selected African Countries and Country Group Averages, circa 2000



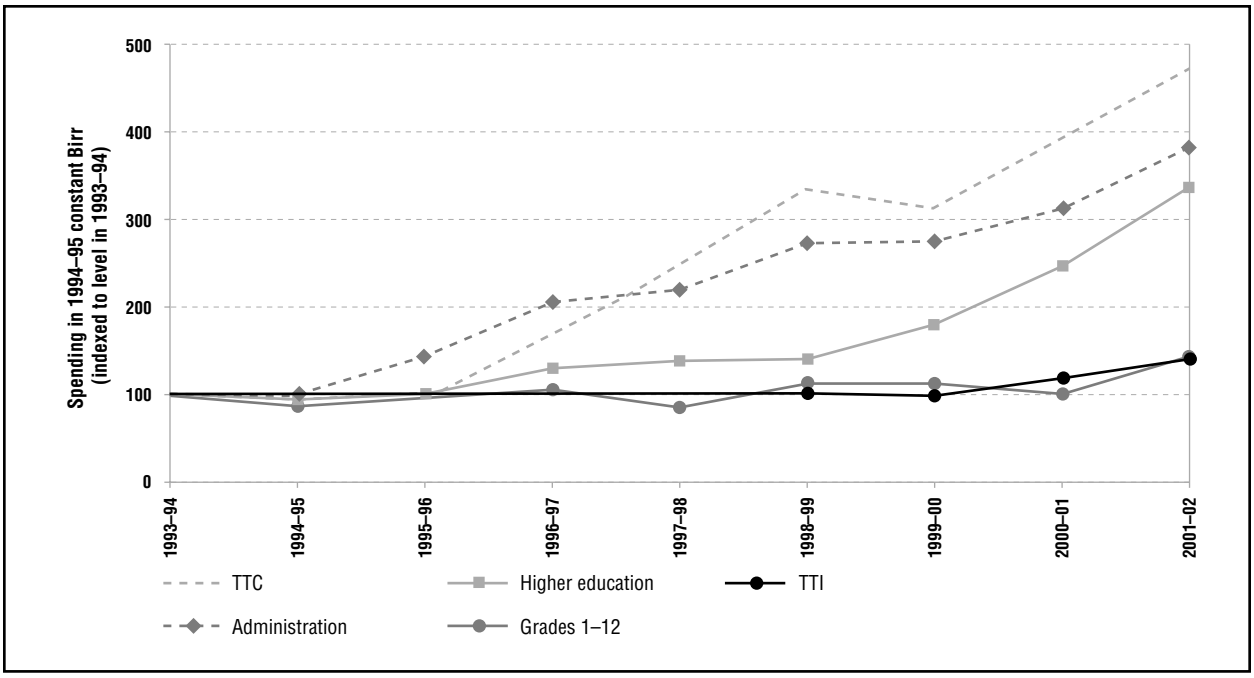
Note: country group averages are population weighted; to improve cross country comparability, the ratio for Ethiopia refers to Grades 7–12.

Figure A4:
Relation between GDP Per Capita and Coverage in Higher Education in Low-Income Countries, circa 2000



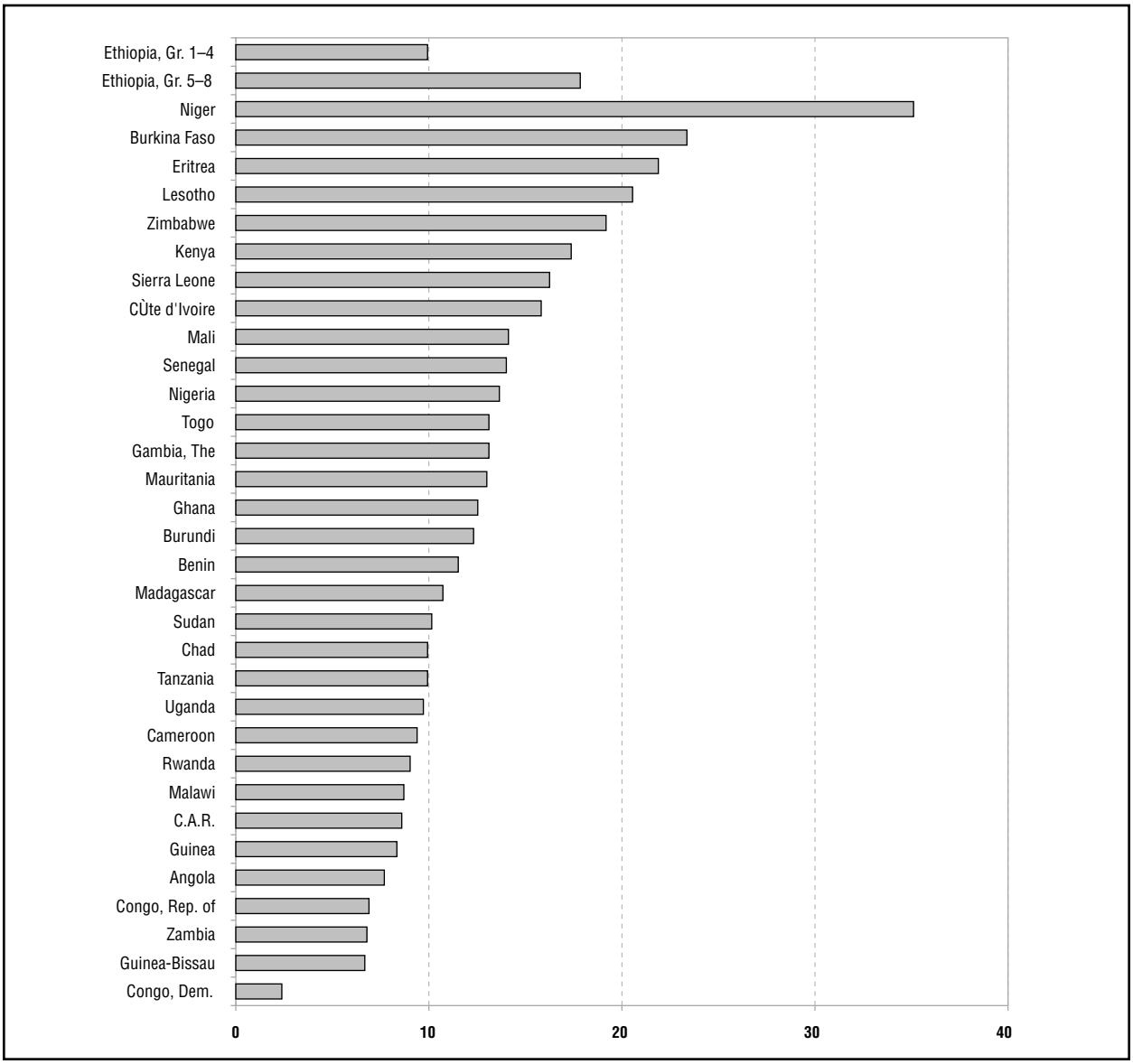
Note: GDP, gross domestic product; PPP, purchasing power parity; data for Ethiopia refer to 2001–02 and include students in evening and Kiremt courses, adjusted to full-time equivalents assuming that such students take 1.5 times as long to complete their studies as those in regular programs .

Figure A5:
Trends in Recurrent Spending on Selected Components of Education, Ethiopia, 1993-94 to 2001-02



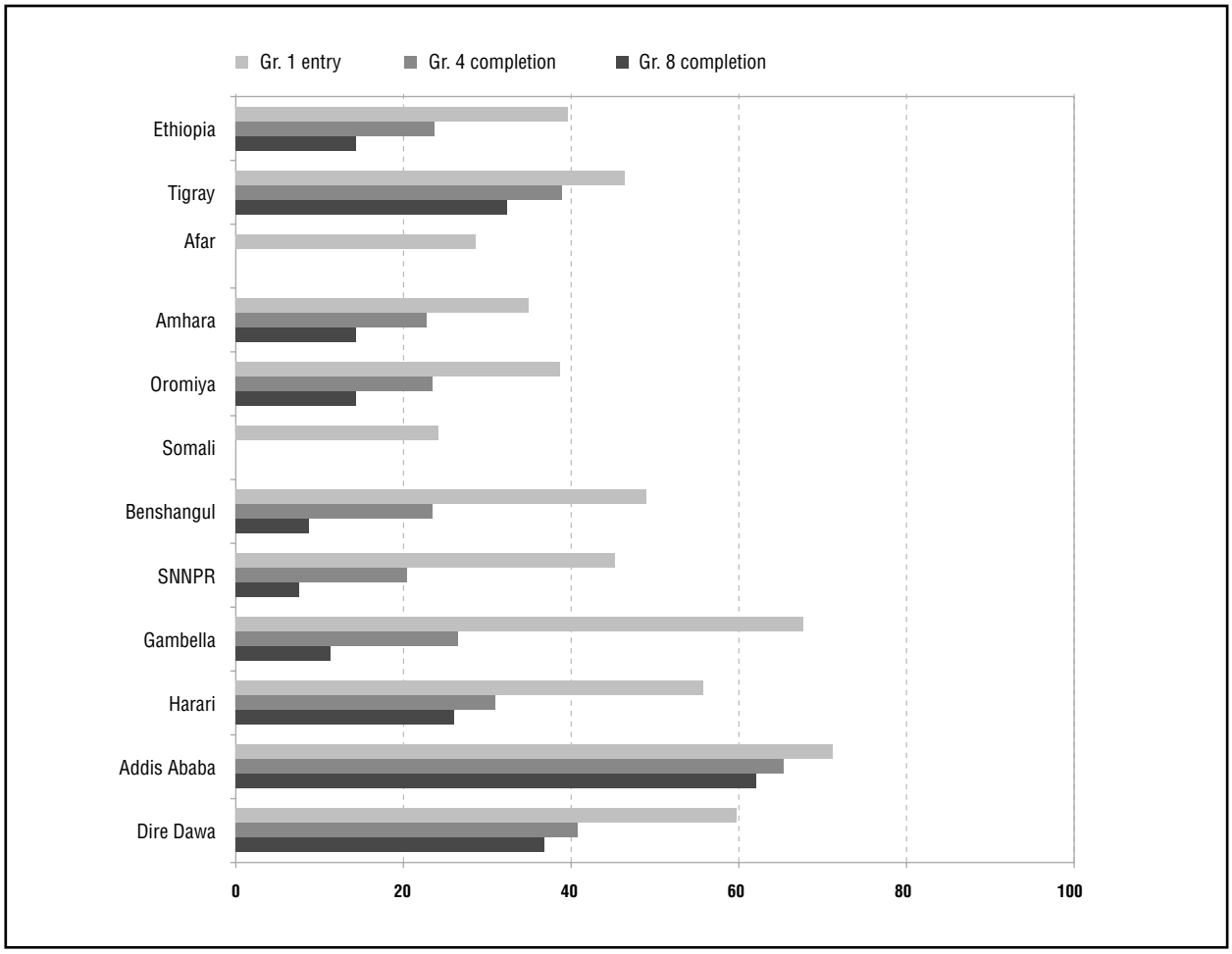
Note: TTI refers to teacher training institutes; TTC teacher training colleges.

Figure A6:
Spending Per Pupil in Primary Education, Ethiopia and Other African Countries, circa 2000



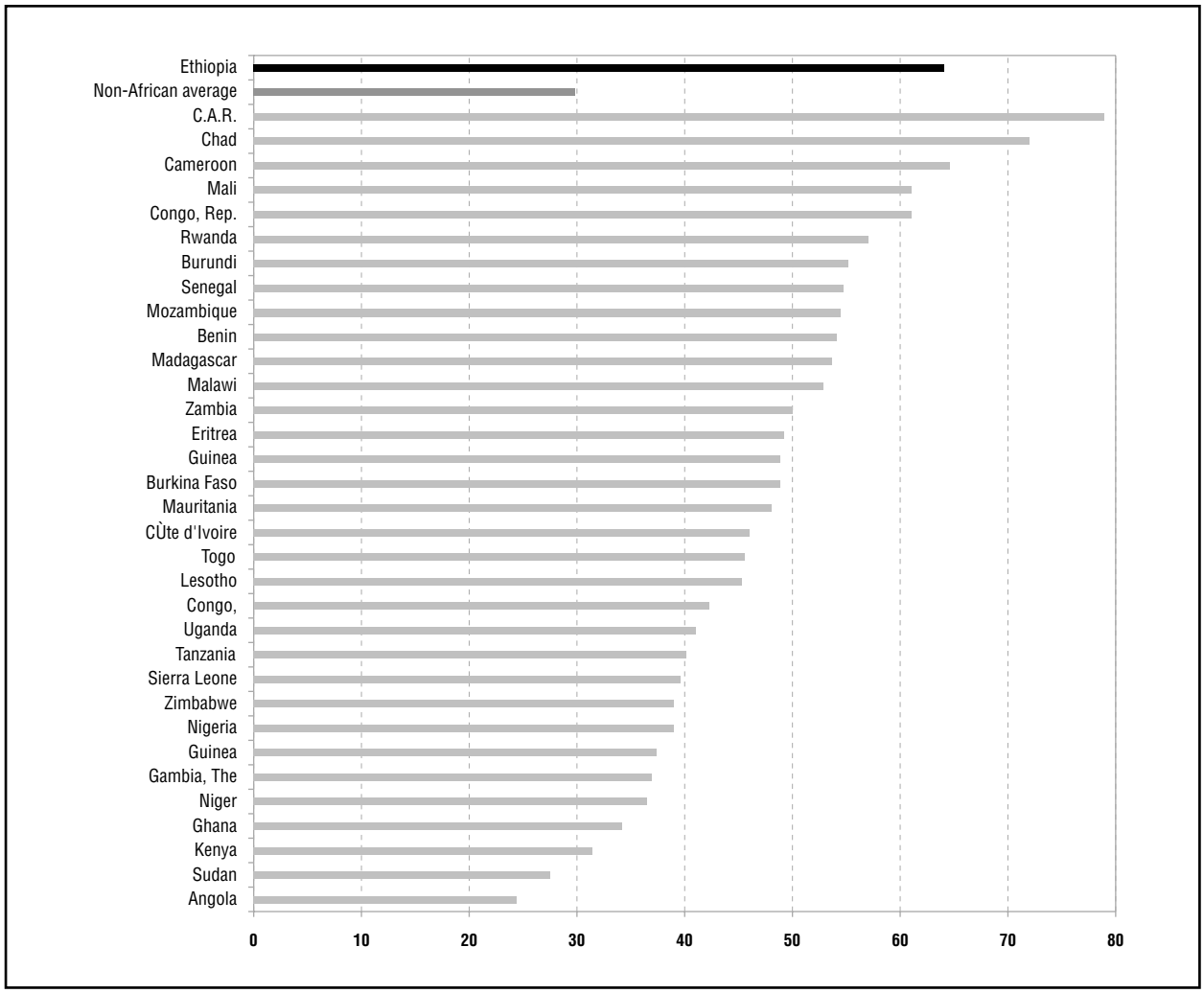
Note: for countries other than Ethiopia, the data refer to spending per pupil in primary education, typically Grades 1–6.

Figure A7:
Cohort Entry Rate to Grade 1 and Completion Rates in Grades 4 and 8 Across Regions, Ethiopia, circa 2000



Note: data on completion rates unavailable for Afar and Somali.

Figure A8:
Primary School Pupil-Teacher Ratios in Ethiopia (2001-02) and Other Countries (circa 2000)



Note: Ethiopia's ratio refers to the weighted average for the country's eight year cycle, while those for the other countries typically refer to primary cycles that last five or six years. C.A.R. stands for Central African Republic. The non-African average refers to the data for 21 countries which in 2002 have yet to achieve universal primacy school completion, and whose data are included in the source cited below.