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Zimbabwe
Ministry of Primary and Secondary Education
Ministry of Higher and Tertiary Education, Science and
Technology Development
Zimbabwe National Statistics Agency



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Pôle de Dakar
EDUCATION SECTOR ANALYSIS

REPORT ON THE ANALYSIS OF PUBLIC EXPENDITURE ON EDUCATION IN ZIMBABWE

Focus on equity and efficiency



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Abbreviations and acronyms

COFOG	Classification of the Functions of Government – developed by OECD and used by Zimbabwe National Accounts
ECD	Early childhood development
EMIS	Education Management Information System
GCE	General Certificate of Education
GDP	Gross domestic product
GER	Gross enrolment ratio – compares students enrolled to population in corresponding age group
GPE	Global Partnership for Education
GRA	Global and Regional Activities – a GPE programme
IIEP	International Institute for Educational Planning – specialized UNESCO agency
MICS	Multiple Indicator Cluster Survey – household survey designed to fill data gaps for monitoring the situation of women and children
MoPSE	Ministry of Primary and Secondary Education
MoHTESTD	Ministry of Higher and Tertiary Education, Science and Technology Development
NEA	National Education Account
NSSA	National Social Security Authority
PICES	Poverty Income Consumption and Expenditure Survey
PTR	Pupil/teacher ratio
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality
SADC	Southern African Development Community
SDA	School Development Association
SDC	School Development Committee
SLE	School life expectancy
UIS	UNESCO Institute for Statistics
UNESCO	United Nations Educational, Scientific and Cultural Organization
US\$	United States dollar
ZIM\$	Zimbabwe dollar, previous national currency
ZIMSTAT	Zimbabwe National Statistics Agency

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Executive summary

The Zimbabwean economy has experienced severe challenges in recent years. Indeed, in 2008, the peak of a ten-year crisis, the real gross domestic product (GDP) was one-third lower than in 2000. The year 2009 marked the dollarization of the economy and also the beginning of a period of recovery. Therefore, between 2009 and 2014, the average annual growth in GDP was 8.4%, but compared with 2000 growth was only 2.3%. The performance of the economy is however better than the demographic growth rate, 1.1%, but not enough to lift the population out of poverty. According to a 2011 Poverty Income Consumption and Expenditure Survey (PICES) survey, 72% of the population were living below the poverty line.

In this context of tremendous socio-economic difficulties, the government maintained a high priority for education in its budget allocation. During the three years 2012–2014, the sector's budget averaged 29% of the overall government budget and 8.4% of the country's GDP. This is quite high when Zimbabwe is compared with its neighbours in the Southern African Development Community (SADC) or with most African countries.

Nevertheless, the majority of education expenditure is allocated to salaries at school level, which absorb no less than 95% of the sector budget, leaving a very narrow margin for other recurrent, and especially capital, expenditure. Distribution across the levels of schooling indicate that infant and junior education accounted for 50% of the budget in 2014, while secondary education absorbed 27% and higher education 17%. When compared with enrolment at different levels in 2014, the government spent US\$216 per student in junior, US\$328 in secondary and US\$3,309 in higher education (fifteen times the unit cost of junior education).

As salaries constitute the major part of the budget at school level, it is worth analysing teacher remuneration and distribution within the system. On average, in 2013, early childhood development (ECD) and primary teachers earned roughly US\$526 per month, representing six units of GDP per capita. The analysis indicates a strongly coherent distribution of teachers according to enrolment figures, with a coefficient of determination of 92% in primary and 93% in secondary education. Zimbabwe appears to be one of the continent's top-performing countries in terms of teacher allocation to schools. In fact, the degree of randomness (indicator of inconsistency in teacher distribution) for primary schools is the second-lowest among selected African countries where similar analyses have recently been conducted. Concerning textbook distribution to schools based on enrolment, the coefficient of determination dropped to 56%, so there is plenty of scope for improvement.

The fact that the government is spending fifteen times more per student at the higher education level than at lower levels leads to an excessive concentration of public resources in the hands of the few students who have access to the higher level. Indeed, it is estimated that the 10% most-educated students are benefiting from 53% of overall public expenditure on education, a situation that leaves Zimbabwe among the least-equitable countries in sub-Saharan Africa. At the same time, more than 90% of students currently enrolled in higher education and almost 80% of those who have ever accessed it belong to the fifth-wealthiest socio-economic quintile. These two facts combined indicate that a greater share of public expenditure on education is going to members of the wealthiest households. While further effort is required to make government expenditure on education more equitable, it is clear that children from a lower socio-economic background should be prioritized in order to help them attain and achieve a higher level of schooling.

Finally, with 5.7% of GDP allocated to education during the past ten years, Zimbabwe is achieving 10.3 years in terms of school life expectancy (SLE). When compared with selected African countries (including Botswana, Ghana, Malawi, South Africa, United Republic of Tanzania) where the same calculation was recently made, Zimbabwe appears slightly above the average trend line. In other words, in terms of efficiency, the Zimbabwean education system is among the top performers of the selected countries. Nevertheless, countries such as South Africa or Cabo Verde are allocating almost the same share of their wealth to education while achieving better results than Zimbabwe. This indicates that the Zimbabwean education system could be made more efficient. With the same share of GDP allocated to education, the system could provide higher SLE if it were managed in the same way as the South Africa or Cabo Verde systems.

Preamble

The importance of comprehensive and comparable education finance data has grown alongside national demands relating to better education planning, management and resource mobilization. Financing has become a key issue in national and international efforts to achieve educational goals. However, many countries face challenges in accurately tracking financial flows to education. Education sector reviews often only provide brief overviews of public expenditure, leaving out contributions from donors, parents and communities. There is often a lack of detail on where the money goes and whether it is used effectively. At international level, many countries have difficulty reporting complete and detailed education finance data on a regular basis to the UNESCO Institute for Statistics (UIS), which limits effective monitoring progress towards Education for All and the Millennium Development Goals.

With funding from the Global Partnership for Education (GPE)'s Global and Regional Activities (GRA) programme, UIS, the International Institute for Educational Planning (IIEP) Paris and IIEP Pôle de Dakar (all UNESCO agencies) are combining their expertise in a project aimed at improving national reporting systems on education finance flows. The three partner organizations will provide direct and in-depth technical support to eight countries in three regions to develop and implement sustainable methodologies to collect, produce, and report and use quality education finance data.

The overall goal of this collaborative project is to improve the completeness and quality of education finance data available for national policy-making and international reporting. To that end, it has the following specific objectives:

1. To develop, test and agree on methods for
 - tracking budget allocations within the country to assess equity and efficiency;
 - estimating private expenditure on education;
 - monitoring external contributions to education.
2. To develop international expertise and methodologies on National Education Accounts (NEAs), and put them into practice by implementing comprehensive NEAs in two countries.
3. To set up/harmonize sustainable methods for the collection, reporting and analysis of government expenditure on education.

To reach these objectives, all participating countries received technical support for data collection and analysis on government expenditure on education in order to inform sector planning and review, as well as training on reporting these data to UIS for international comparisons. In addition, the participating countries were split into four streams (A, B, C, D), each tackling a specific challenge of education finance data collection and analysis.

- Stream A countries focused on public resources allocation within the system with support from IIEP Pôle de Dakar, documenting how resources to education are used in order to examine potential problems of efficiency and equity in their distribution.
- Stream B countries focused on private expenditure on education with support from UIS through analysis of household expenditure surveys, training of national teams to use these data to estimate private expenditure on education, piloting surveys of educational institutions and related organizations on payments received from households, and analysing school census questionnaires and their treatment.
- Stream C countries focused on external funding for education with support from IIEP, mobilizing information on the ways in which donor funds to the education sector are managed and reported, and reviewing their integration in the government budget.
- Stream D countries carried out complete NEAs with support from IIEP Paris, UIS and IIEP Pôle de Dakar. NEAs are thorough education financing mapping exercises covering the different sources of funding (government, private, donors), where it goes (to education providers, regions, etc.) and what it is being spent on (salaries, other current expenditure such as teaching materials, infrastructure). They have been implemented in a few countries, but such mapping exercises are far more common in the health sector, where National Health Accounts have existed since the 1970s and have been implemented at least once in over a hundred countries.

The Government of Zimbabwe, through MoPSE, has agreed to participate in Stream A activities. By doing so, Zimbabwe joined seven other participating countries: Guinea (Stream A), Viet Nam and Côte d'Ivoire (Stream B), Senegal and Lao People's Democratic Republic (Stream C), Uganda and Nepal (Stream D). The focus of the present report is on public resources allocation to the education system, with particular attention paid to the efficiency and equity aspects of their distribution. This report is the fruit of an eighteen-month collaboration between a team of experts from UNESCO/IIEP Pôle de Dakar and a technical team of senior staff from MoPSE, MoHTESTD and ZIMSTAT. The first two chapters of this document describe the education financing structure and analyse the government budget in relation to various aspects such as level of schooling and nature of expenditure, the third chapter focuses on equity of distribution, while the fourth chapter looks at the efficiency of financing.

CHAPTER 1. Financing of education in Zimbabwe

1.1. Demographic and macro-economic context

Zimbabwe is a landlocked country in Southern Africa, with a total population of 13.1 million at the 2012 census, spread over a surface area of 390,757 km². It is divided into ten provinces (Bulawayo, Harare, Manicaland, Mashonaland Central, Mashonaland East, Mashonaland West, Masvingo, Matabeleland North, Matabeleland South and Midlands), with each province also divided into districts. Although the country has sixteen official languages, the three most widely spoken are English, Shona and Ndebele.

In the twenty years from the 1992 to the 2012 census, the growth rate of the population was constant at 1.1%, considerably reduced from 3.1% during the previous ten years 1982–1992. This, combined with decreasing death and birth rates, means that the Zimbabwean population is in its second phase of demographic transition. The school-age population, 3–18 years old, accounted for 40.5% of the total population in 2012, while primary schoolchildren age 6–12 represented 18.5%.

Zimbabwe is classified as a poor country. According to the Human Development Index of 2013, the country ranked 110th out of 149 countries in the world, below the African average. The economic crisis that peaked in 2008 took thousands of Zimbabweans into poverty. According to the Multidimensional Poverty Index derived from the 2011 PICES survey, 41% of the population were multidimensionally poor, 25% near multidimensional poor, and 72% living below the poverty line in 2011, up from 55% in 1995.

This impoverishment of the population is a consequence of the severe challenges the economy had faced during the period 1998–2008, resulting in a crisis in 2008 when inflation was at its highest – 231 million per cent. According to the Medium Term Plan 2010–2015, GDP was estimated to have reduced by 50% from 1998 to 2008, and the economy was largely informal, with brutal shortages of basic utilities and foreign currency. This resulted in the adoption in February 2009 of a multicurrency payment system, with a revised national budget in US dollars. Since this dollarization of the economy in 2009, GDP in constant prices had grown at an annual average of 8.3%, and GDP per capita at 5.6%.

1.2. Structure of the education system

The education system in Zimbabwe consists of nine years of primary schooling and six years of secondary schooling before students can enter university, college, or other higher-education institution.

Primary-cycle education is broken down into two subsectors: infant school and junior school.

Infant school starts in the year children turn 4 years old, and lasts until the age of 7. It comprises four grades of schooling: ECD A, ECD B, Grade 1 and Grade 2.

Junior school starts at age 8 and ends at age 12, from Grade 3 to Grade 7, when pupils take their first national examination.

Secondary education consists of lower secondary (Forms 1–4) and upper secondary (Forms 5–6). Students entering Form 1, usually age 13, are enrolled in government, non-government, private and mission schools. According to policy, students should be enrolled by zone for schools, but this does not apply to boarding schools.

Based on their Forms 1 and 2 reports, students are assigned to courses and tracked classes for their O-level studies in Forms 3 and 4 (equivalent to Grades 10–11). To receive an O-level General Certification of Education (GCE) certificate, a student needs to have passed at least five subjects including one at Grade C or better. Entrance to A-level programmes is quite competitive, with the majority of O-level students either entering the workforce or proceeding to a vocational course, a technical school or a nursing or primary-school teaching college. Only those with the best scores will find a place on an A-level programme. Students typically take their O-level exams when they are 15–17 years old. At A level (Forms 5 and 6) students usually choose between science, commercial and arts subjects.

Tertiary education is offered at institutions of higher learning comprising agricultural colleges, teachers' colleges, polytechnics and universities.

Agricultural colleges offer certificates and diplomas in a three-year course that is expected to cover all facets of agriculture. A minimum of five O levels is required for admission, including mathematics, English and a science subject.

Technical and vocational colleges equip students with technical skills that can be applied directly to the local industry. The colleges also offer tuition in other fields such as business studies and social sciences. Industry plays a pivotal role in offering apprenticeships. A minimum of five O levels is a prerequisite for admission to polytechnic colleges.

Teacher colleges offer three-year diploma programmes in education for primary- and secondary-school teachers – primary and secondary at separate institutions. Centres that train primary-school teachers require at least five O-level passes at Grade C or better for admission. Post O-level teacher training is three years, whereas post A-level teacher training is two years. However, polytechnic colleges are now offering teacher training in technical and vocational education in a four-year course.

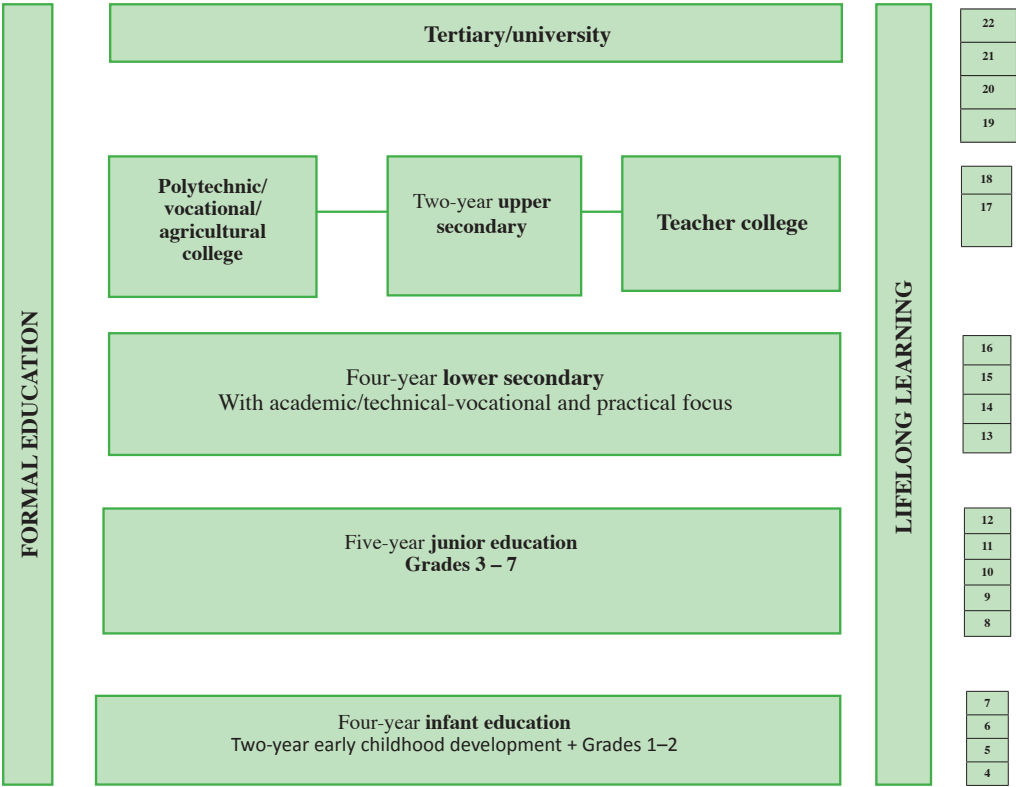
Preference for admission to undergraduate studies in **universities** is given to students with satisfactory A-level passes. However, there is also a mature entry facility for those aged 25 and over, with five O levels and relevant working experience.

After completing their undergraduate courses, students can be admitted into the postgraduate studies of their choice depending on the area of specialization. Those who gain a Master’s degree can then study for a doctorate.

Non-formal education refers to part-time study in the evening, day and study groups. Students follow either academic or professional courses. The government and private institutions run evening classes. In government-run schools, students pay minimal fees and teachers are paid by the government. In private institutions, students pay tuition fees while the respective institutions may supply tuition/learning materials. Some teachers are paid by their private institution, others are paid by the government. Non-formal education has significantly expanded due to dropouts and repeaters who fail to find places at formal institutions.

At the administrative level there are ten Education Regions for primary and secondary education: Manicaland, Mashonaland Central, Mashonaland East, Mashonaland West, Matabeleland North, Matabeleland South, Midlands, Masvingo, Bulawayo and Harare. Each province is headed by a Provincial Education Director, overseeing a team of District Education Officers who are responsible for the schools in each of the seventy-two districts.

FIGURE 1.1: STRUCTURE OF THE ZIMBABWEAN EDUCATION SYSTEM



1.3. Patterns of public financing of education

At government level, the responsibility for formulating and implementing policy pertaining to education is shared between the **Ministry of Primary and Secondary Education (MoPSE)** and the **Ministry of Higher and Tertiary Education, Science and Technology Development (MoHTESTD)**. MoPSE is responsible for infant, junior and secondary education and MoHTESTD is responsible for teacher education, technical and vocational education and the university level. Some other ministries, such as Health, Labour and Social Welfare, Agriculture, Youth, supervise and fund specialized institutions, mainly at college level. Each ministry has a separate vote on the government budget, vote 15 for MoPSE and vote 16 for MoHTESTD.

Education services are delivered in government, government-aided and independent institutions. Independent schools are not subsidized and their funding relies on fees charged to the students.

Infant, junior and secondary schools follow similar funding patterns.

MoPSE is directly responsible for the remuneration of teaching staff for government and government-aided schools. The District Education Office, based on school enrolment, establishes the number of schools. When permanent teachers are insufficient, temporary teachers are recruited to fill the vacant positions. The government remunerates permanent teachers and some temporary teachers; a very few temporary teachers are paid by the schools through levies raised from parents. Government-aided schools are allowed to increase the number of teachers to reduce the pupil/teacher ratio using resources mobilized through the School Development Association (SDA) and School Development Committee (SDC).

The pension scheme for retired civil servants is managed by the Pension Office of the Public Service Commission (former Civil Service Commission). Pensions are paid from the government budget under the constitutional and statutory appropriation, without contributions being charged to the various ministries. A similar scheme exists for funeral assistance. Temporary teachers are not part of these schemes but contribute to the National Social Security Authority (NSSA) scheme like private-sector employees, where social charges are paid by employees and employers.

Operational expenditures are the responsibility of the respective ministries and the SDCs. Under this partnership schools are authorized to complement government funding through levies and contributions from parents. Funds collected at school level are managed by the SDC and can be used for capital and operational expenses, including the recruitment of additional teachers.

Technical and vocational education is delivered by government colleges. Salaries are paid directly by the ministry and provisions are made under different budget lines for operating and capital expenditure.

Teacher colleges may be government-owned or government-aided, and are funded following similar patterns to secondary schools.

Public universities in Zimbabwe are fully autonomous and funded through government grants and fees paid by students. All resources are received in the university accounts and used for teaching and non-teaching staff salaries, administrative costs, services and investment. Unlike the other levels of education, staff are fully managed and paid by the university.

CHAPTER 2. Government expenditure on education

This chapter presents government expenditure on education for the past ten years, in order to show how its efforts for the sector have evolved over a long period, preceded by a detailed analysis of expenditure for the three years 2012–2014.

2.1. Detailed analysis of government expenditure on education 2012–2014

This section analyses public expenditure on education and within the education sector from 2012 to 2014, in order to address the following questions:

- How much is the government actually spending on education?
- How much is allocated to each level/province of education?
- How much is allocated to staff and other types of expenditure?
- What is the unit expenditure (per student) for each level of education?

The framework for the analysis follows the general lines set for analysing the financing of education in National Education Accounts, based on a vision of the domain as a list of **activities** within **levels of education**.

The economic agents involved in the domain are classified into two categories: the providers or **producing units**, mainly the educational institutions that deliver the activities, and the **financing units** that fund but do not deliver educational services.

To complete this framework, economic transactions are analysed by nature of operation or **object of expenditure**, remuneration, recurrent or capital.

Beneficiaries, represented by the number of students, are recorded by level of education and production unit.

Each dimension is associated with a list or classification. These classifications form the structure of the National Education Accounts.

However, in order to design the financing tables to providing a comprehensive picture of government funding, some dimensions were combined. Levels of education and production units were combined as providers are more often delivering at a specific level of education; activities and economic transactions were combined, however maintaining sufficient details for analysis of production costs.

The Zimbabwean education system is organized into levels: infant, junior, secondary, teacher education, technical and vocational, and university.

The cost of education cannot simply be reduced to teaching activities at school/institution level alone and has to include activities such as the general administration of the system and school supervision carried out by the Central and District Offices of the ministries in charge of education.

Level of education and status are the main criteria characterizing educational institutions. Educational institutions are, for the most part, state-run or grant-aided, and their activities are most often limited to one level of education. Parallel to publicly funded schools, private schools also contribute to the delivery of education services.

Categories of providers can easily be combined with levels of education to form a common nomenclature of both levels and providers. Categories of private providers are not reflected when they do not receive government funding.

Classification of production units by level of education

Infant Education	Teacher Education
Government and government-aided schools	Teacher colleges
Independent schools	Administrative offices
Administrative offices	Technical Education
Junior Education	MoHTESTD polytechnics
Government and government-aided schools	Technical colleges
Independent schools	Administrative Offices
Administrative offices	Higher Education
Secondary Education	Universities
Government and government-aided schools	Colleges
Independent schools	Administrative offices
Administrative offices	

Economic transactions and activities

The classification by **economic transaction** or object of expenditure used for analysing the financial flows for education is based on the classical distinction between personnel costs, other recurrent expenses, and investments, but also aims to separate expenses of a pedagogical nature (teachers, equipment and materials):

Activities of educational providers include teaching, management, school meals and accommodation, medical care and other support to students. As in a National Education Account, those activities have been grouped into two: (1) teaching activities and management; (2) meals, boarding, medical care and transport organized by the school. This basically corresponds to the difference between the activities of a day school and ancillary services.

Scholarships or assistance grants paid to families and students are analysed as transfers between financing units and recorded separately.

Those various dimensions have been combined in the following nomenclature.

Classification of activities and economic transaction

Activities	Object of expenditure
Teaching	Teaching staff
	Non-teaching staff
	Teaching materials
	Other recurrent expenditure
	Capital expenditure
Ancillary services	Expenses for school meals and boarding
Administration and supervision	Staff salaries and allowances
	Other recurrent expenditure
	Capital expenditure
Scholarships and support to families	

Financing tables

The two classifications are combined to form a **financing table** that will be used for structuring government expenditure on education and calculating **unit costs**. A financing table can be created for each government department involved in education financing. Table 2.1 shows the total government expenditure on education in 2014. The other two years of this detailed analysis are given in Tables 2.2 and 2.3.

Table 2.1: Government expenditure on education, 2014 (thousands US\$)

	Teaching activities						Ancillary services	General administration			All activities
	Salaries		Other recurrent		Capital	Meals board- ing		Staff	Other recurrent	Capital	
	Teaching staff	Non-teaching staff	Teaching material	Other							
Infant											
Government-aided schools	193,348	294	255	236	400	0	1,486	433	36	196,488	
Private schools	193,348	294	255	5	400	0				194,302	
Administrative offices				231			1,486	433	36	231	
Junior											
Government-aided schools	392,614	440	745	777	812	0	3,020	881	73	399,362	
Private schools	392,614	440	745	8	812	0				394,619	
Administrative offices				769			3,020	881	73	769	
Secondary											
Government-aided schools	312,506	877	300	717	797	0	4,799	1,400	115	321,511	
Private schools	312,506	877	300	17	797	0				314,497	
Administrative offices				700			4,799	1,400	115	700	
Teacher											
Teacher colleges	43,760	18,754	0	241	0	0	1,138	290	2	64,185	
Administrative offices	43,760	18,754		241	0		1,138	290	2	62,755	
Technical											
MoHTESTD polytechnics	8,812	3,777	0	908	0	0	184	47	0	13,728	
Technical colleges	7,037	3,016		83	0					10,136	
Administrative offices	1,775	761	0	825	0		184	47	0	3,361	
Higher											
Universities	0	0	0	190,277	6,041	0	4,068	1,038	6	201,430	
Colleges	0	0	0	188,532	6,041					194,573	
Administrative offices				1,745	0		4,068	1,038	6	1,745	
TOTAL	951,040	24,142	1,300	193,156	8,050	0	14,695	4,089	232	1,196,704	

Table 2.2: Government expenditure on education, 2013 (thousands US\$)

	Teaching activities				Ancillary services	General administration			All activities		
	Salaries		Other recurrent			Capital	Meals boarding	Staff		Other recurrent	Capital
	Teaching staff	Non-teaching staff	Teaching material	Other							
Infant	181,304	268	128	554	0	0	1,193	511	1,145	185,103	
Government-aided schools	181,304	268	128	46	0	0				181,746	
Private schools				508						508	
Administrative offices							1,193	511	1,145	2,849	
Junior	362,646	413	373	1,730	0	0	2,390	1,025	2,294	370,871	
Government-aided schools	362,646	413	373	38	0	0				363,470	
Private schools				1,692						1,692	
Admin offices							2,390	1,025	2,294	5,709	
Secondary	292,551	821	449	1,454	16	16	3,852	1,722	3,697	304,562	
Government-aided schools	292,551	821	449	154	16	16				293,991	
Private schools				1,300						1,300	
Administrative offices							3,852	1,722	3,697	9,271	
Teacher	37,601	16,115	0	254	0	0	909	189	13	55,081	
Teacher colleges	37,601	16,115		254	0	0				53,970	
Administrative offices							909	189	13	1,111	
Technical	7,832	3,357	17	318	122	122	154	32	2	11,834	
MoHTESTD polytechnics	6,271	2,688	52	52	122	122				9,133	
Technical colleges	1,561	669	17	266	0	0				2,513	
Administrative offices							154	32	2	188	
Higher	0	0	0	198,205	14,059	14,059	4,071	848	60	217,243	
Universities				195,658	14,059	14,059				209,717	
Colleges	0	0	0	2,547	0	0				2,547	
Administrative offices							4,071	848	60	4,979	
TOTAL	881,934	20,974	967	202,515	14,197	14,197	12,569	4,327	7,211	1,144,694	

Table 2.3: Government expenditure on education, 2012 (thousands US\$)

	Teaching activities						Ancillary services	General administration			All activities
	Salaries		Other recurrent		Capital	Meals boarding		Staff	Other recurrent	Capital	
	Teaching staff	Non-teaching staff	Teaching material	Other							
Infant	172,635	275	0	195	0	0	1,257	519	581	175,462	
Government-aided schools	172,635	275	0	195	0	0				173,105	
Private schools				0						0	
Administrative offices							1,257	519	581	2,357	
Junior	327,583	415	0	121	0	31	2,382	984	1,101	332,617	
Government-aided schools	327,583	415	0	121	0	31				328,150	
Private schools				0						0	
Administrative offices							2,382	984	1,101	4,467	
Secondary	261,634	843	220	1,075	7	0	3,821	1,578	1,766	270,944	
Government-aided schools	261,634	843	220	275	7	0				262,979	
Private schools				800						800	
Administrative offices							3,821	1,578	1,766	7,165	
Teacher	27,827	11,926	0	782	1,069	0	755	221	4	42,584	
Teacher colleges	27,827	11,926		782	1,069					41,604	
Administrative offices							755	221	4	980	
Technical	6,868	2,944	81	1,398	1,137	0	185	54	1	12,668	
MoHTESTD polytechnics	5,543	2,376		960	1,054					9,933	
Technical colleges	1,325	568	81	438	83					2,495	
Administrative offices							185	54	1	240	
Higher	0	0	0	180,845	20,179	0	4,123	1,207	20	206,374	
Universities				176,704	20,032					196,736	
Colleges	0	0	0	4,141	147					4,288	
Administrative offices							4,123	1,207	20	5,350	
TOTAL	796,547	16,403	301	184,416	22,392	31	12,523	4,563	3,473	1,040,649	

Sources of information

Government expenditure on education is split by a series of votes on the budget, corresponding to the ministries in charge. The Ministry of Primary and Secondary Education (MoPSE) and the Ministry of Higher and Tertiary Education, Science and Technology Development (MoHTESTD) are the main ministries in charge of the education sector. In addition, the Ministry of Public Service, Labour and Social Welfare, the Ministry of Defence, the Ministry of Agriculture, Mechanization and Irrigation, and the Ministry of Youth, Indigenization and Economic Empowerment, are supervising technical colleges or other specialized training institutions.

Data on actual expenditures of MoPSE for 2012 to 2014 were mobilized, as well as data from the payroll (to distribute staff budget costs between teaching and non-teaching staff) and data on enrolment from the Education Management Information System (EMIS). Expenditures for culture and arts that until 2013 were included in the MoPSE budget were not considered.

Similar data were mobilized for MoHTESTD. For the other ministries, information was taken from the budget estimates books.

This picture was complemented by an estimate of the social charges for government for pensions and funeral assistance for established permanent teachers and non-teaching staff. The pension scheme for retired civil servants is managed by the Pension Office of the Public Service Commission. Pensions are paid from the government budget under the constitutional and statutory appropriation, without contributions being charged to the various ministries. A similar scheme exists for funeral assistance. Temporary teachers are not part of those schemes but contribute to the National Social Security Authority (NSSA) scheme as for private-sector employees.

2.1.1 Government expenditure on education

In 2014, the actual government expenditure on education amounted to US\$1.2 billion, up from US\$1.1 billion in 2013, an increase of 4.5% within the period. This increase is lower than the 10.2% observed in 2013 compared with 2012.

Government expenditure covers expenditure on education by all ministries, for all levels of education from infant to university, and all categories of education providers, government, government-aided and private institutions. It includes administration and supervision costs of the education system.

In addition to the expenditures made from the budgets of the two ministries in charge of primary and secondary education (vote 15 on the budget), and of higher education (vote 16), the total amount includes the expenses accrued by other ministries for the funding of colleges or technical education under their supervision (Defence, Agriculture, Mines, Youth).

Government expenditure also includes the social charges for pensions covered by the Public Service Commission's budget. The salaries/employment costs for education staff must include all social charges for the employer. For permanent civil servants, ministry budgets are not charged with contributions to the pension scheme. Civil servants no longer contribute to the scheme either. A percentage of charges for pensions (excluding war pension) is calculated for the whole public service (15.3% of employment costs in 2013), and applied to the employment costs for education staff.

MoPSE, in charge of infant, junior and secondary education, manages the largest share, with two-thirds (66.6%) of government expenditure on education in 2014, and MoHTESTD, in charge of higher education, technical and teacher education, manages 22%. The remaining contributions are mainly for the pension scheme, complementing employment costs for the permanent staff of the two ministries (11%). Other ministries represent a very small share of total expenditure, 0.4% (Table 2.4 and Figure 2.1).

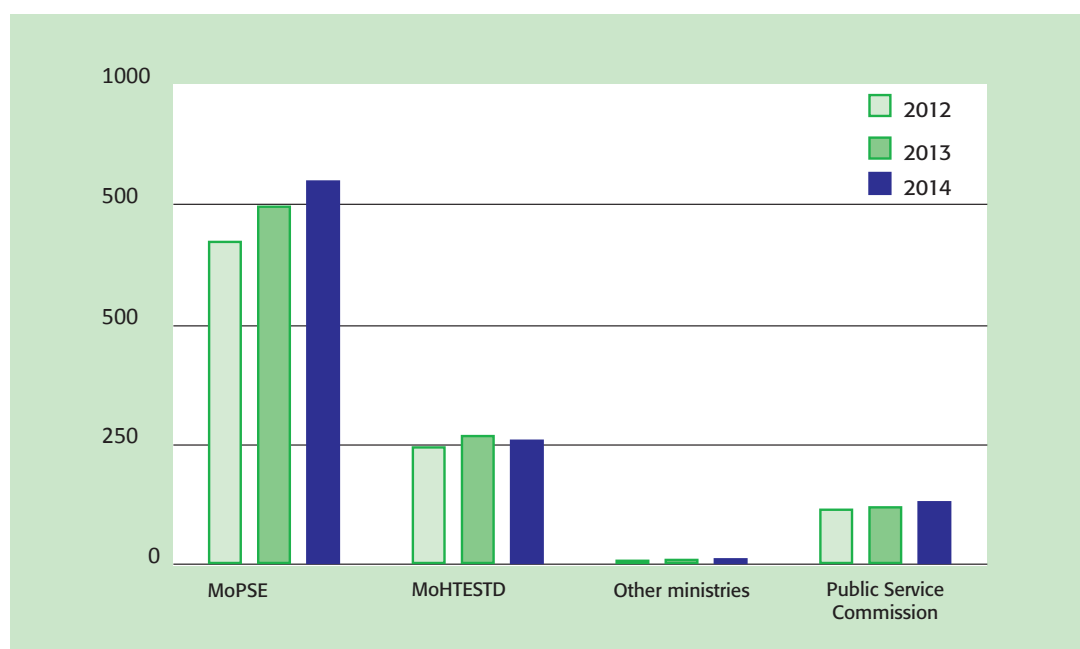
TABLE 2.4: GOVERNMENT EXPENDITURE ON EDUCATION, 2012–2014 (millions US\$)

	2012	2013	2014	Variation 2014/2012 (%)
Government expenditure on education	1,038.9	1,144.7	1,196.7	15.2
Ministry of Primary and Secondary Education	670.6	748.1	796.5	18.8
Ministry of Higher Education	247.4	270.1	263.9	6.6
Other ministries	4.8	4.8	4.8	-0.2
Public Service Commission (charges for pension)	116.1	121.7	131.6	13.3
MoPSE (%)	64.4	65.4	66.6	
MoHTESTD (%)	23.8	23.6	22.0	
Other ministries (%)	0.6	0.4	0.4	
Public Service Commission (%)	11.2	10.6	11.0	

Source: Author's calculation using MoPSE 2014 data

Total government expenditure on education increased from US\$1,039 million in 2012 to US\$1,197 million in 2014, a variation of 15.2% in two years. MoPSE expenditure increased considerably over the three years, by 18.8%.

Figure 2.1: Education expenditure by ministry, 2012–2014 (millions US\$)



Source: Author's calculation using MoPSE 2014 data

Government expenditure on education represents a substantial share of overall public expenses, 29.9% in 2014, almost one-third of the budget, indicating the high priority given to the sector.

Compared with GDP, government expenditure on education represented 8.4% of the wealth created by the economy in 2014, quite a high level compared with the majority of countries.

The share of GDP in 2014 was slightly lower compared with 2013 (8.5%), despite the increase in the share of education within the government budget. This is mainly due to the decrease between 2013 and 2014 of the share of GDP allocated to overall government expenditure (28.2%, down from 29.8%) (Table 2.5).

Table 2.5: Expenditure on education in comparison with government expenditure and GDP, 2012–2014

	2012	2013	2014	Variation 2013/2012 (%)	Variation 2014/2013 (%)
Government expenditure on education	1,038.9	1,144.7	1,196.7	10.2	4.5
Total government expenditure	3,609.2	4,026.6	4,001.7	11.6	-0.6
Education as % of total government expenditure	28.8	28.4	29.9		
Gross domestic product	12,472.4	13,490.2	14,197.0	8.2	5.2
Total government expenditure as % of GDP	28.9	29.8	28.2		
Government expenditure on education as % of GDP	8.3	8.5	8.4		
Expenditure on education at 2009 prices (millions US\$)	9,376.3	996.6	1,028.1	6.4	3.2

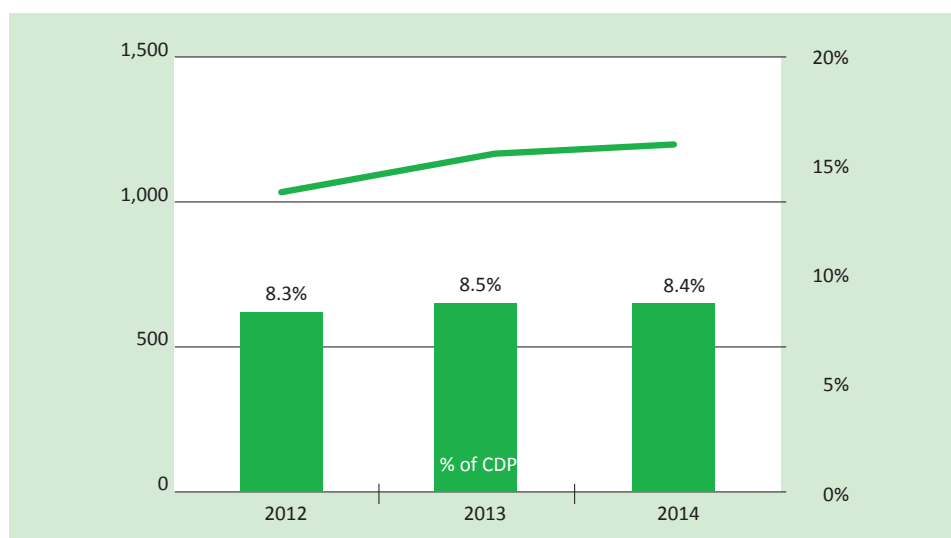
Source: Author's calculation using MoPSE 2014 data

These figures show that Zimbabwe appears to be allocating a bigger share of its wealth to the education sector in comparison with sub-Saharan African countries, where the average during recent years has been less than 5%. This is also higher than SADC countries that are devoting an average of 6.3% of GDP to the sector.

The increase of 15.1% in education expenditure between 2012 and 2014 is partially due to inflation and the rise in prices. Expressed at 2009 constant prices, government expenditure on education increased in real terms by 9.8% in the period 2012–2014 (Table 2.4).

Figure 2.2: Education expenditure by ministry, 2012–2014 (millions US\$)

Expenditure for education



Source: Author's calculation using MoPSE 2014 data

2.1.2 Structure of expenditure on education

Table 2.6 provides details of expenditure on the various levels of education for the year 2014. Total expenditure in absolute terms is presented, as well as the share of the education sector compared with total expenditure.

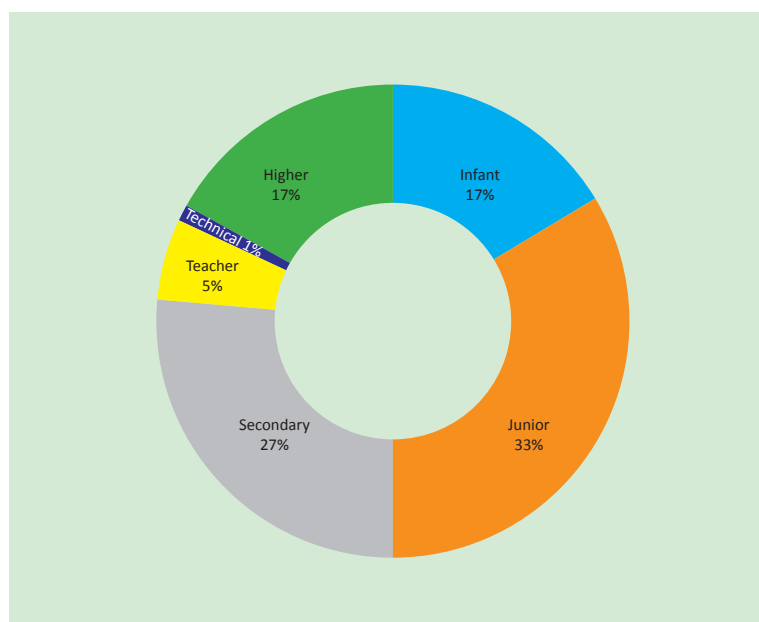
Table 2.6 and Figure 2.3 illustrate how government funds to the education sector were shared among the various levels of education in 2014. As would be expected, financing to junior and secondary schools, both enrolling higher numbers of students, account for the largest proportion of funding, at 33.4% and 26.9% respectively. Higher education received the third-largest share of 16.8%, while teacher education and technical and vocational training received the lowest share, at 5.4% and 1.1% respectively.

Table 2.6: Expenditure by level of education and object of expenditure, 2014 (thousands US\$)

	Expenditure of educational institutions					Administrative cost	Total	Structure (%)
	Teachers	Other staff	Recurrent	Capital	Total			
Infant education	193,348	294	491	400	194,533	1,955	196,488	16.4
Junior education	392,614	440	1,522	812	395,388	3,974	399,362	33.4
Secondary education	312,506	877	1,017	797	315,197	6,314	321,511	26.9
Teacher education	43,760	18,754	241	0	62,755	1,430	64,185	5.4
Technical education	8,812	3,777	908	0	13,497	231	13,728	1.1
Higher education		190,277		6,041	196,318	5,112	201,430	16.8
Total	951,040	24,142	194,456	8,050	1,177,688	19,016	1,196,704	100.0
Structure (%)	79.5	2.0	16.2	0.7	98.4	1.6	100.0	

Source: Author's calculation using MoPSE 2014 data

Figure 2.3: Share of education expenditure by level, 2014



Source: Author's calculation using MoPSE 2014 data

A breakdown of government expenditure on education indicates that it is mainly funding service delivery at institution level (98.4%), leaving less than 2% for the general administration of the system. Furthermore, salaries/employment costs on average account for the largest share of total expenditure. This leaves a very narrow margin in the system for other recurrent costs, especially for capital expenditure. For example, at infant, junior and secondary levels, teaching staff expenditure represents over 99% of the total funding of educational institutions, so other expenditure is almost non-existent.

For teacher education and technical levels, the share of expenditure on non-teaching staff is substantive, representing almost 30% of total government funding on these institutions.

For universities, the recurrent expenditure is substantive because there is actually no direct staff expenditure by government as payment is made through grants. The grants are channelled towards the employment costs of lecturers and administration staff. Capital expenditures are significant only for higher education.

Considering that university grants mainly cover staff expenditure, the government could be said to be basically funding employment costs (95% of total expenditure), reflecting public-private partnerships in the funding of the education system.

2.1.3 MoPSE expenditure by province

Information available on budget implementation does not disaggregate expenditure by province (Table 2.7), so estimates have been made using the monthly payroll of teaching and non-teaching staff.

The junior education level represents the major share of expenditures in all provinces. The secondary level received a relatively higher share in the provinces of Bulawayo and Harare.

Table 2.7: MoPSE expenditure by province, 2014 (thousands US\$)

	Infant	Junior	Secondary	All	Secondary (%)
Bulawayo	7,314	14,869	15,789	37,972	41.6
Midlands	24,157	49,110	38,148	111,415	34.2
Manicaland	27,779	56,473	46,675	130,927	35.6
Mashonaland West	19,991	40,641	26,156	86,788	30.1
Mashonaland East	18,286	37,174	33,570	89,030	37.7
Mashonaland Central	14,855	30,200	21,418	66,473	32.2
Masvingo	24,773	50,361	39,455	114,589	34.4
Matabeleland North	10,942	22,245	17,586	50,773	34.6
Matabeleland South	8,757	17,803	14,176	40,736	34.8
Harare	13,691	27,832	26,238	67,761	38.7
Zimbabwe	170,545	346,708	279,211	796,464	35.1

Source: Author's calculation using MoPSE 2014 data

2.1.4 Public expenditure per student

Table 2.8 and Figure 2.4 show the unit costs per student across each level of education for 2014.

Infant education has the lowest average unit cost with US\$158.8 per student, followed by junior schools with an average unit cost of US\$216 and secondary schools with an average unit cost of US\$328.2.

The highest average unit costs, on the other hand, are for universities with an average of US\$3,308.6 per student and for teacher education with an average of US\$3,100.7. At technical education level the average spend per student is around the same as at the secondary level.

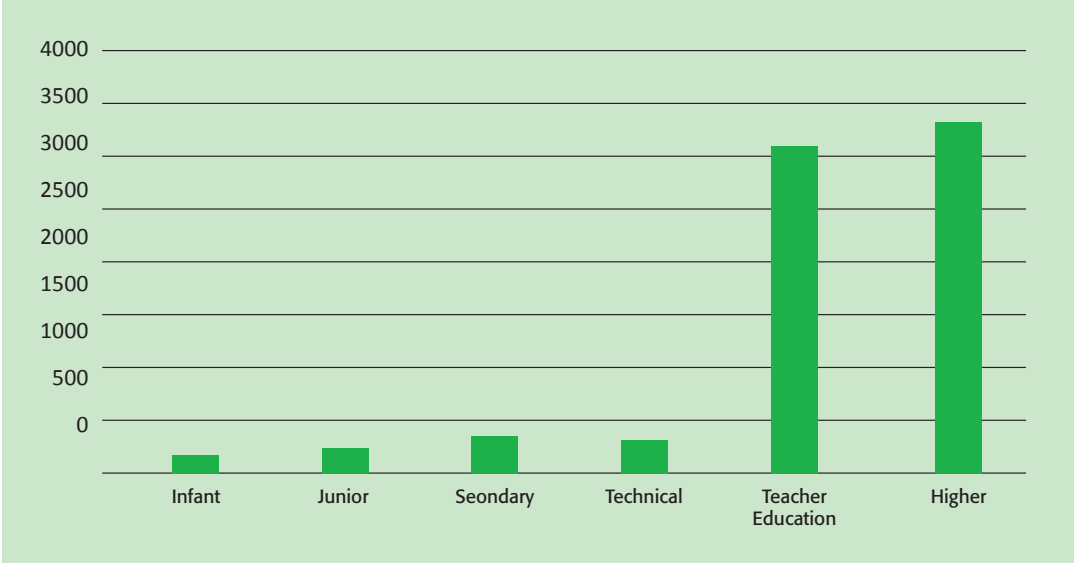
The range of unit costs is very large. Compared with the unit cost at junior education level, a university student consumes 15.3 times more government funding, and a student teacher 14.4 times. At the lower levels of the education system, the range goes from 0.7 times at infant level to 1.5 times at secondary and technical education levels.

Table 2.8: Average expenditure per student by level, 2014 (US\$)

	Expenditure on educational institutions					Administrative cost	Total	Compared with junior education
	Teachers	Other staff	Recurrent	Capital	Total			
Infant	156.3	0.2	0.4	0.3	157.2	1.6	158.8	0.7
Junior	212.3	0.2	0.8	0.4	213.8	2.1	216.0	1.0
Secondary	319.0	0.9	1.0	0.8	321.7	6.4	328.2	1.5
Technical	216.3	92.7	2.6	0.0	311.6	7.1	318.7	1.5
Teacher	2,114.0	906.0	11.6	0.0	3,031.6	69.1	3,100.7	14.4
Higher	0.0	0.0	3,123.8	100.1	3,223.9	84.7	3,308.6	15.3
Total Average	232.6	5.9	47.6	2.0	288.0	4.7	292.7	1.4

Source: Author's calculation using MoPSE 2014 data

Figure 2.4: Average expenditure per student by level, 2014 (US\$)



Source: Author’s calculation using MoPSE 2014 data

Enrolment in infant, junior and secondary education increased moderately, by 2%–5% between 2012 and 2014. Government expenditure on these levels increased by 12%–20%, a higher rate than enrolment. This translated to an increase in average cost per student of 9%–18% (Table 2.9). These increases are higher than the inflation rate of 5%, showing an improvement in real terms of the average expenditure per student. There is a greater increase in junior education, tending to reflect rising employment costs, as the number of students per teacher did not change much.

Enrolment in technical education increased by a wide margin of 61%, whereas government expenditure increased by only 8%, resulting in a decrease in average expenditure per student. In 2014 the average expenditure per student for technical education was almost the same as for secondary education.

As for higher education, there was a decrease in enrolment of 4% and a decrease in government expenditure of 2%, resulting in an average expenditure per student increase of 3%.

Table 2.9: Variation in average government expenditure per student, 2012–2014 (US\$)

	2012	2013	2014	Variation 2012–2014 (%)
Government expenditure				
Infant	175,462	185,103	196,488	12
Junior	332,617	370,871	399,362	20
Secondary	270,944	304,562	321,511	19
Technical	12,668	11,834	13,728	8
Teacher education	42,584	55,081	64,185	51
Higher	206,374	217,243	201,430	–2
Total	1,040,649	1,144,694	1,196,704	15
Enrolment				
Infant	1,203,842	1,194,263	1,237,353	3
Junior	1,815,555	1,843,049	1,849,163	2
Secondary	936,734	957,461	979,644	5
Technical	20,191	18,247	32,529	61
Teacher education	16,934	18,809	20,700	22
Higher	63,013	56,990	60,354	–4
Total	4,056,269	4,088,819	4,179,743	3
Average per student				
Infant	145.8	155.0	158.8	9
Junior	183.2	201.2	216.0	18
Secondary	289.2	318.1	328.2	13
Technical	503.8	510.8	318.7	–37
Teacher education	2,514.7	2,928.4	3,100.7	23
Higher	3,207.1	3,767.3	3,308.6	3
Total	256.6	280.0	292.7	14

Source: Author's calculation using MoPSE 2014 data

2.2. Trend in government expenditure on education since 2000

This analysis uses data from the Classification of the Functions of Government (COFOG) in the National Accounts. For reasons of data availability, the analysis covers a fifteen-year period, 2000–2014.

The details of government expenditure on education differ from the comprehensive analysis presented elsewhere. Data include only government expenditure classified as education expenditure by COFOG, and in the main do not include ministries other than education.

For the analysis, government expenditure on education is considered as a combination of the share of the budget allocated to education (showing the relative priority given to education compared with other sectors), and the weight of the budget within GDP (showing the capacity of the government to raise resources from the wealth generated by the national economy).

Trend analysis includes comparison with GDP and the government budget, structure by level (limited to school education and higher education in the COFOG classification), expenditure at constant prices and comparison with the number of students.

Education expenditures from the COFOG classification are available in Zimbabwe dollars until 2008 and United States dollars since 2009, converted into a single currency. Enrolment data come from the MoPSE EMIS.

Long-term statistical series are perturbed by the hyperinflation and extreme depreciation of the currency, which reached its peak in 2008 and led to the adoption of the US dollar in 2009. Due to that constraint, the present analysis is based on US dollar figures.

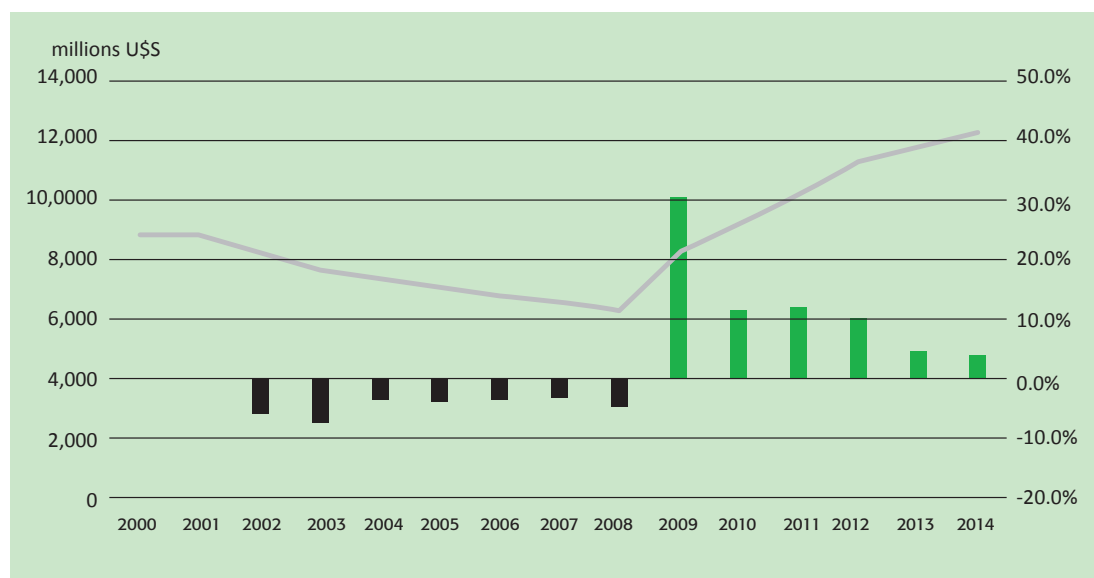
Table 2.10 and Figure 2.5 indicate that economic difficulties translated into a decline of real GDP and a negative economic growth until 2008. In 2008, the real GDP was one-third lower than in 2000. The year 2009 marks the beginning of a period of recovery with increased GDP. GDP expressed in constant US dollars was 9.1 billion in 2010, back to its 2000 level.

Table 2.10: GDP and variation of prices in ZIM\$ and US\$, 2000–2014

	ZIM\$			US\$		
	GDP current prices (billions ZIM\$)	GDP 1990 prices (billions ZIM\$)	Variation in GDP prices (%)	GDP current prices (billions US\$)	GDP 2009 prices (billions US\$)	Variation in constant GDP (%)
2000	315	22.6		9.5	8.8	
2001	1,777	22.5	465	9.4	8.8	-0.2
2002	3,612	21.2	116	9.0	8.2	-5.9
2003	10,815	19.6	223	8.5	7.6	-7.5
2004	49,014	18.9	370	8.1	7.3	-3.6
2005	205,488	18.2	337	7.8	7.1	-4.1
2006	1,010,078	17.5	410	7.0	6.8	-3.6
2007	15,677,869	16.9	1,505	7.0	6.6	-3.3
2008	1,468,474,717,522	15.2	10,398,578	6.5	6,3	-4.7
2009				8.2	8,2	30.3
2010				9.5	9,1	11.4
2011				11.0	10,2	11.9
2012				12.5	11,2	10.6
2013				13.5	11,7	4.5
2014				14.2	12.2	3.9

Source: ZIMSTAT, National Accounts

Figure 2.5: GDP at 2009 prices and economic growth, 2000–2014 (millions US\$)



Source: Author's calculation using MoPSE 2014 data

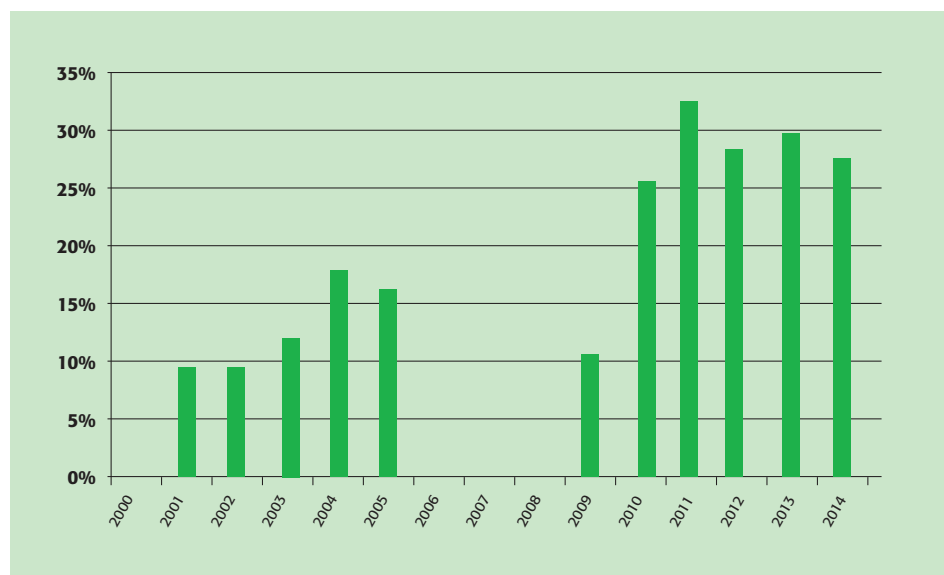
These two periods of negative and positive growth are also visible in the capacity of the government to collect resources from the economy. Since 2010, government expenditure has been over 25% of GDP, up from a level of 10–15% during the early 2000s (Table 2.11 and Figure 2.6).

Table 2.11: Central government total expenditure, 2000–2014

Year	Total	% of GDP
	(billions ZIM\$)	
2000	160	
2001	169	10
2002	344	10
2003	1,308	12
2004	8,748	18
2005	33,335	16
2006	415,513	
2007	85,090,342	
	(millions US\$)	
2009	847	10
2010	2,444	26
2011	3,593	33
2012	3,538	28
2013	4,027	30
2014	3,948	28

Source: Author's calculation using MoPSE 2014 data

Figure 2.6: Share of total government expenditure within GDP, 2000–2014



Source: Author's calculation using MoPSE 2014 data

Despite the economic difficulties, the government has maintained a high level of priority for education within its budget throughout this period, with an allocation more often between 20% and 27%. Allocations were disturbed at the peak of the crisis, with decisions limiting salaries in the public service. After the hyperinflation period the government resorted to a multicurrency system. By 2010 and 2011 most education infrastructure had deteriorated and needed rehabilitation, as well as additional infrastructure in the newly resettled areas, so the

government had to allocate the greatest share of the budget to education.

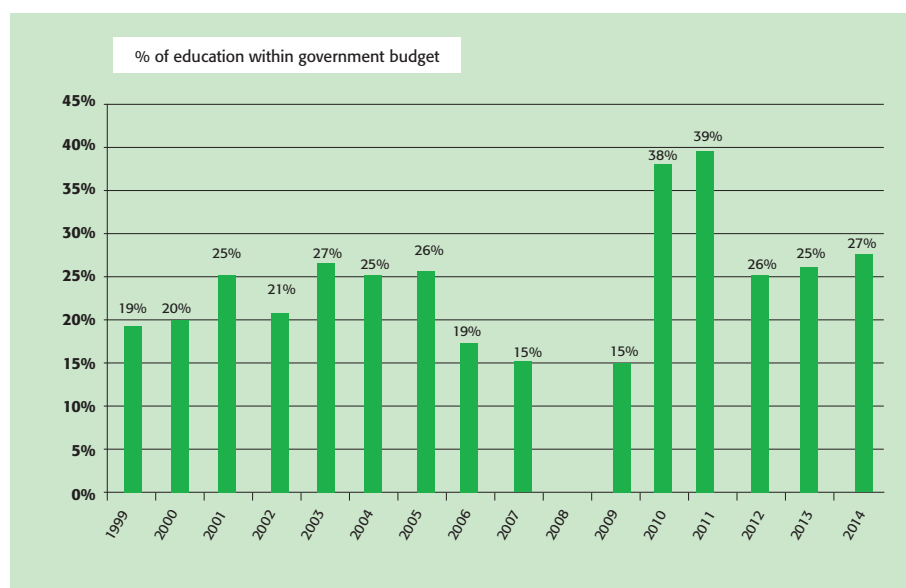
The proportion of government expenditure allocated to education depends on the level of the total budget. Compared with GDP, education expenditure closely follows the pattern of the total budget, with higher shares after 2009 (Table 2.12 and Figure 2.7). It should be noted that COFOG data on education do not include social charges for pension, thus government expenditure on education represents 7.5% of education in 2014, compared with the more comprehensive 8.4% calculated in Section 2.1.

Table 2.12: Central government expenditure on education affairs and services, 2000–2014

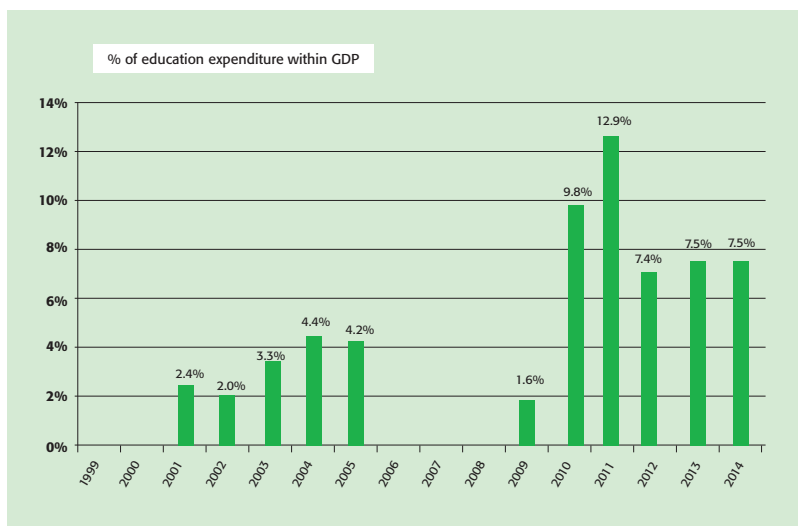
	Total at current prices	Total at current prices (millions US\$)	Total at 2009 prices (millions US\$)	Education expenditure within government budget (%)	Education expenditure within GDP (%)
	(billions ZIM\$)				
2000	31.4	949	875	20	
2001	42.1	224	207	25	2.4
2002	72.8	181	166	21	2.0
2003	353.1	276	249	27	3.3
2004	2,156.7	356	323	25	4.4
2005	8,679.2	331	298	26	4.2
2006	79,722.8	553	536	19	
2007	12,850,622.9			15	
	(millions US\$)				
2009	129.1	129.1	129.1	15	1.6
2010	928.3	928.3	891.8	38	9.8
2011	1,418.7	1,418.7	1,316.4	39	12.9
2012	921.6	921.6	830.6	26	7.4
2013	1018.2	1018.2	886.5	25	7.5
2014	1059.6	1059.6	910.3	27	7.5

Source: Author's calculation using MoPSE 2014 data

Figure 2.7: Government expenditure on education as share of total government expenditure and GDP, 1999–2014



Source: Author's calculation using MoPSE 2014 data



Source: Author's calculation using MoPSE 2014 data

Calculated in constant US\$ (2009 prices), government expenditure in 2012 stands at a level three times higher than during the period 2000–2005. The highest shares with GDP also correspond to an increase in the real value, in constant US\$, of government expenditure on education.

Analysis of distribution by level is limited to the distribution between school education (infant to secondary) and higher education, as the COFOG classification in the National Accounts do not provide more detailed distribution in education expenditure.

The share of expenditure on higher education represents between 27% and 30% in recent years, a higher level than at the beginning of the 2000s, which was around 20% (Table 2.13 and Figure 2.8).

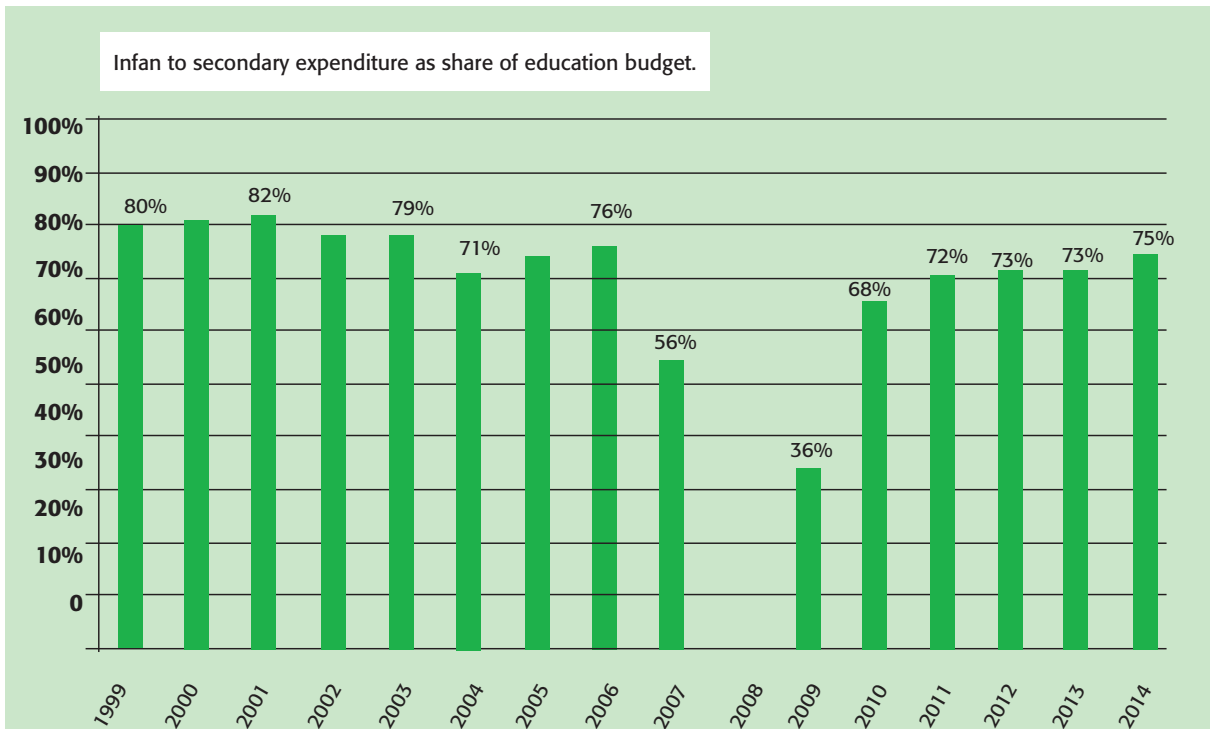
As a counterpart, the share for the lower levels of education (infant to secondary), around 80% at the beginning of the 2000s, fell below 75% towards the end of the decade.

Table 2.13: Education expenditure, 2000–2014

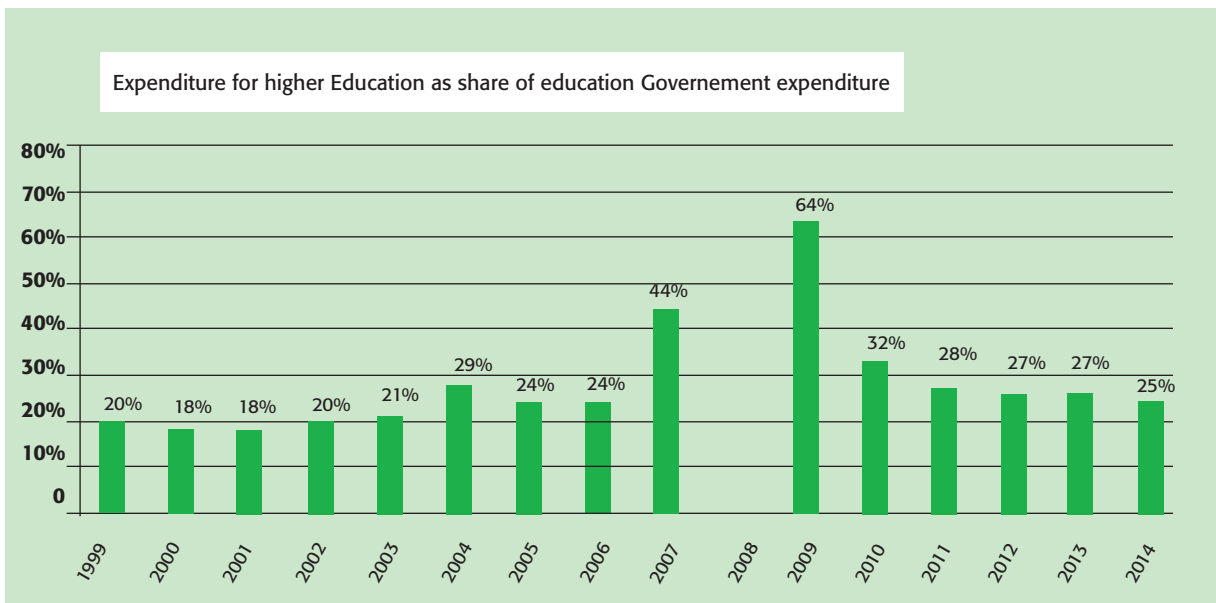
	Infant to secondary (current prices)	Tertiary (current prices, billions)	Expenditure on infant to secondary as % of education budget	Expenditure on higher education as % of education budget
	(millions ZIM\$)	(millions ZIM\$)		
2000	25,631	5,781	81.6	18.4
2001	34,464	7,598	81.9	18.1
2002	57,945	14,904	79.5	20.5
2003	280,445	72,701	79.4	20.6
2004	1,537,502	619,191	71.3	28.7
2005	6,612,801	2,066,433	76.2	23.8
2006	60,258,152	19,464,643	75.6	24.4
2007	7,244,532,606	5,606,090,284	56.4	43.6
	(thousands US\$)	(thousands US\$)		
2009	45,895	83,207	35.5	64.5
2010	626,609	301,683	67.5	32.5
2011	1,015,469	403,217	71.6	28.4
2012	674,171	247,424	73.2	26.8
2013	748,141	270,084	73.5	26.5
2014	796,466	263,175	75.2	24.8

Source: Author's calculation using MoPSE 2014 data

Figure 2.8: Expenditure by level, 1999-2014



Source: Author's calculation using MoPSE 2014 data



Source: Author's calculation using MoPSE 2014 data

As the total enrolment did not increase greatly during this period, variations in total expenditure on education translate into a higher spend per student during recent years, compared with the early 2000s (Table 2.14 and Figure 2.9).

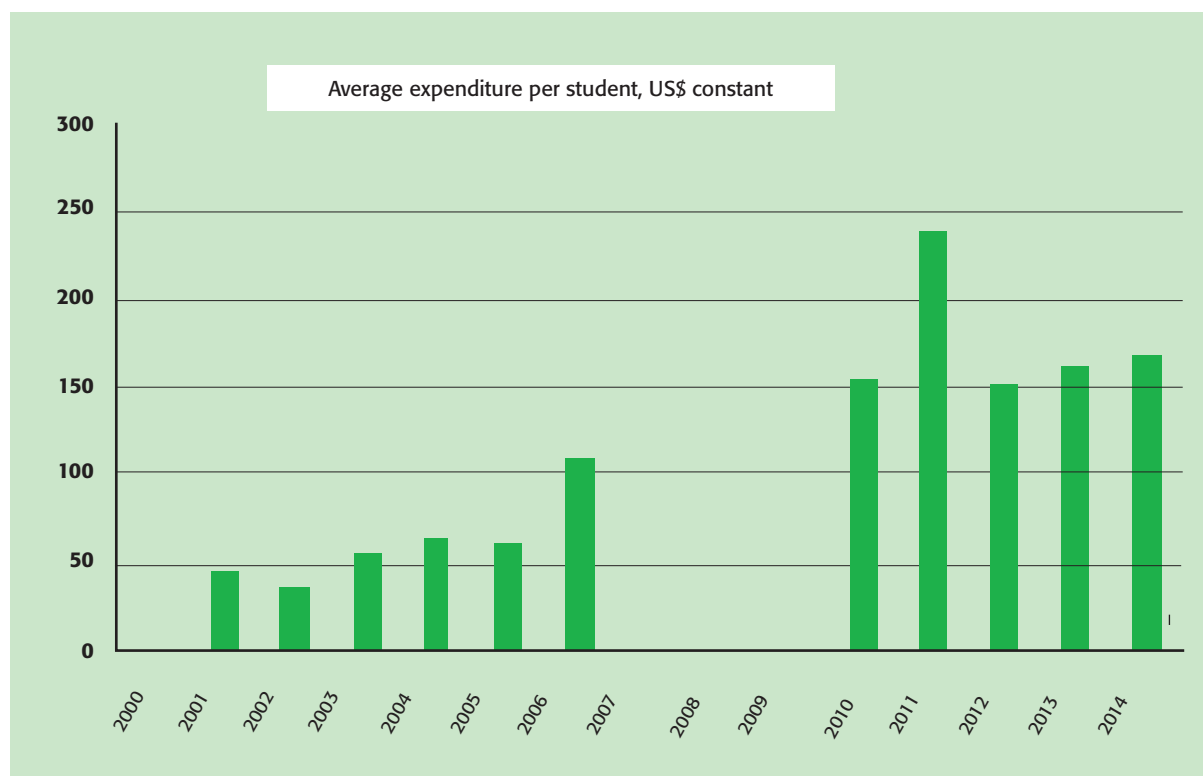
For all levels below higher education, the government was spending on average US\$168 per student in 2014, compared with around US\$60 before 2008. This higher unit cost per student results from an increase in the employment costs of teachers, rather than a change in schooling conditions or a decrease in the number of students per teacher, which is currently at a similar level to fifteen years ago.

Table 2.14: Government expenditure, total and per student, infant to secondary education, 1999–2014

	Government expenditure	Government expenditure in constant US\$ (2009 prices)	Enrolment	Average per student in constant US\$
1999	(ZIM\$)			
2000	25,630,963	714,347,494	3,742,306	
2001	34,463,537	169,946,334	3,821,679	44.5
2002	57,944,849	132,203,990	3,631,676	36.4
2003	280,445,221	197,780,950	3,567,941	55.4
2004	1,537,502,069	230,531,854	3,615,622	63.8
2005	6,612,800,840	226,890,601	3,663,302	61.9
2006	60,258,152,214	405,367,050	3,710,983	109.2
2007	7,244,532,605,809		3,758,663	
	(US\$)		3,806,344	
2009	45,894,851	45,894,851	3,854,024	
2010	626,608,923	601,974,216	3,901,705	154.3
2011	1,015,468,891	942,285,668	3,949,385	238.6
2012	674,171,178	607,596,144	3,997,066	152.0
2013	748,141,296	651,342,745	3,994,773	163.0
2014	796,466,175	684,264,136	4,066,160	168.3

Source: Author's calculation using MoPSE 2014 data

Figure 2.9: Trend in average expenditure per student, 2000–2014



Source: Author's calculation using MoPSE 2014 data

CHAPTER 3. Equity in resource allocation

3.1. Allocation of teachers to provinces and schools

Teachers' salaries and incentives make up the most substantial part of expenditure in the education budget of many countries. Indeed, during recent years, thirty-four out of fifty-four African countries dedicated more than half of their recurrent education expenditure to teachers' salaries, and, in thirteen countries among these thirty-four, salaries represent more than 80% of the recurrent budget. For this reason, government-paid teacher distribution and utilization is a real issue for the education budget, mainly in terms of equity and efficiency.

3.1.1. Student monitoring by teachers

Table 3.1: Pupil/teacher ratio for primary and secondary schools, 2013

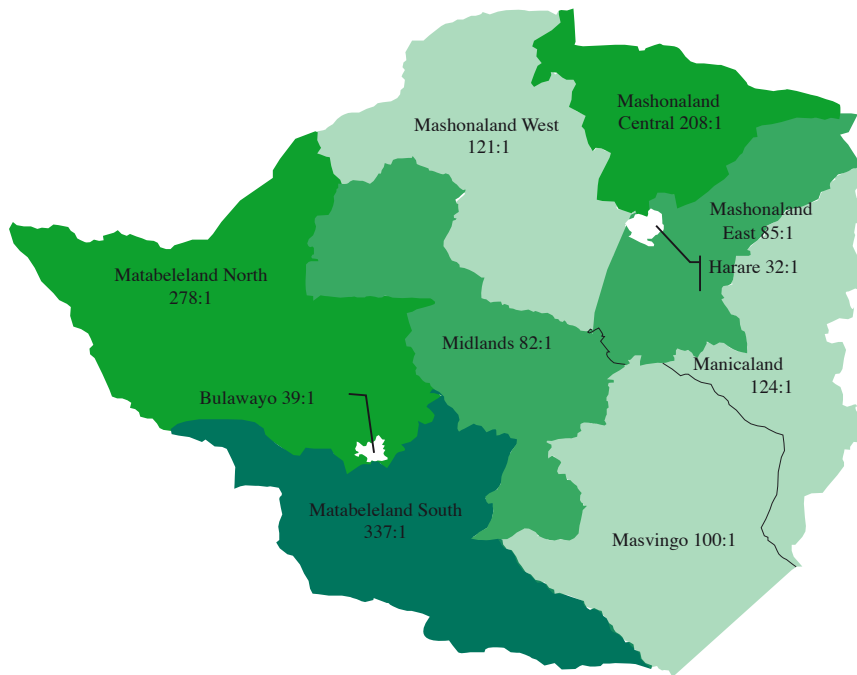
	Government-paid teachers			All teachers		
	ECD	Primary	Secondary	ECD	Primary	Secondary
Bulawayo	39	35	23	23	33	21
Harare	32	43	26	25	39	23
Manicaland	124	36	22	39	35	22
Mashonaland Central	208	39	24	38	39	24
Mashonaland East	85	37	24	32	36	23
Mashonaland West	121	38	24	38	37	24
Masvingo	100	34	23	42	33	22
Matabeleland North	278	37	20	32	36	20
Matabeleland South	337	37	25	31	36	24
Midlands	82	35	23	35	34	23
Zimbabwe	102	37	23	35	36	23

Source: Author's calculation using MoPSE 2014 data

National establishments for monitoring students require, for one teacher's post, twenty, forty and twenty students for ECD, primary and secondary education respectively. In relation to these norms, according to 2014 EMIS data, there are enough teachers to satisfy monitoring requirements at primary and secondary levels. Indeed, for those two schooling levels, the national average pupil/teacher ratio (PTR) is lower than the requirements. This is not the case for ECD, where the national average (102:1) is much higher than the norm. This poor ratio is the reason why in most ECD schools, head teachers rely on parents and School Development Committees to provide other teachers to fill the need. As shown in Table 3.1, without those parent-teachers, running ECD schools would be challenging. There is a strong need to recruit additional qualified ECD teachers.

With regard to the situation per province, Table 3.1 indicates moderate discrepancy in the PTR at secondary level, as the ratio ranges from a minimum of 20:1 in Matabeleland North to a maximum of 26:1 in Harare. A moderate discrepancy is also observed at primary level, with a minimum of 34:1 in Masvingo to 43:1 in Harare. In most regions, the ratio is lower than the norm. For ECD, however, the story is different. Based on qualified teachers on the government payroll, the PTR ranges from 32:1 in Harare to 337:1 in Matabeleland South (see also Figure 3.1). If not addressed, this scenario will impact negatively on the quality of education, as ECD constitutes the entry point into the formal learning system.

Figure 3.1: Pupil/teacher ratio (government-paid teachers) at ECD level in 2014 (average for Zimbabwe 82:1)



Source: Author's calculation using MoPSE 2014 data

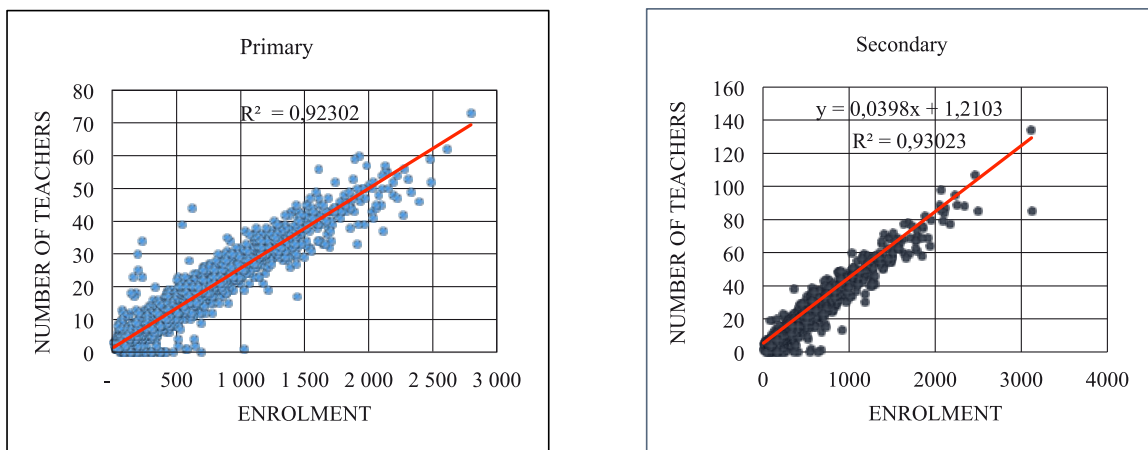
The discrepancy in ECD teacher distribution across the provinces has arisen because of the new regulations established in 2013 requiring each teacher at ECD level to be fluent in the local language of the students.

Therefore, in addition to recruiting additional qualified ECD teachers, there is also a need to distribute them equitably around the provinces.

3.1.2. Teacher allocation to schools

Teacher distribution in schools may take into account many factors (type of school, accessibility, pedagogical factors, etc.). In the present analysis, however, the criterion is the number of students enrolled in each school. The reason is that, in principle, the number of posts created in each school or the number of teachers that planners and human resources managers affect to each school should generally be based on the number of students enrolled in that particular school. Figure 3.2 shows the distribution of PSC teachers (permanent and contract) according to enrolment in government and non-government schools.

Figure 3.2: Government-paid teacher distribution to schools, 2014

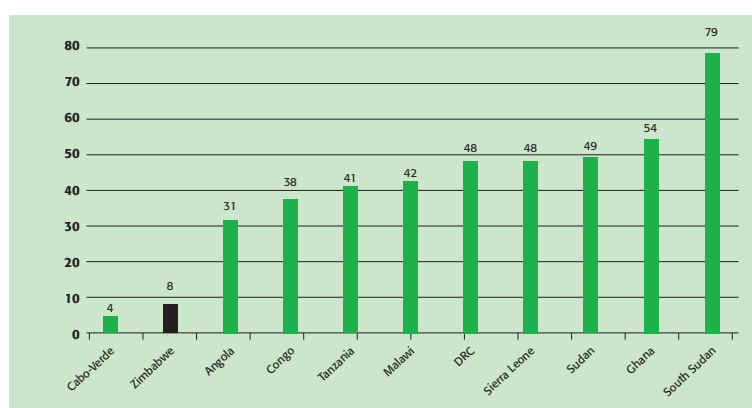


Source: Author's calculation using MoPSE 2014 data

At both primary and secondary level, the graphs indicate that the number of teachers allocated to a school is strongly correlated with enrolment in the school. The strength of the correlation is measured by the coefficient R^2 , whose values range from 0 (total absence of correlation) to 1 (perfect correlation) between the two variables. Therefore the closer the coefficient is to 1, the stronger is the relation. For Zimbabwe, the coefficient of correlation between enrolment and number of teachers at school level is set at 0.92 in the primary and 0.93 in the secondary cycle, as shown in Figure 3.2.

This high level of coherence in teacher allocation is the result of rather efficient management, with the school norm being established based on the number of students in the school, and strict deployment based on the establishment of the school. By way of an inter-country comparison, Zimbabwe seems to be one of the top-performing African countries in terms of teacher distribution to schools. In fact, the degree of randomness (indicator of inconsistency in teacher distribution) for primary schools is the second-lowest among selected African countries where similar analyses have recently been conducted (Figure 3.3).

Figure 3.3: Degree of randomness (%) in primary teacher allocation for selected African countries



Source: IIEP Pôle de Dakar database

3.2. Allocation of textbooks to schools

In Zimbabwe in 2013, each primary student was expected to have at least one textbook in each of these four core subjects: mathematics, English, Shona or Ndebele, environmental science. For secondary schools, the core textbooks are comprised of six subjects: mathematics, English language, integrated science, Shona/Ndebele language, geography and history. The government has the responsibility to ensure this is the case for each child, either in government or government-aided schools. Table 3.2 shows the average number of core textbooks per student in each province.

Table 3.2: Number of core textbooks per student, 2014

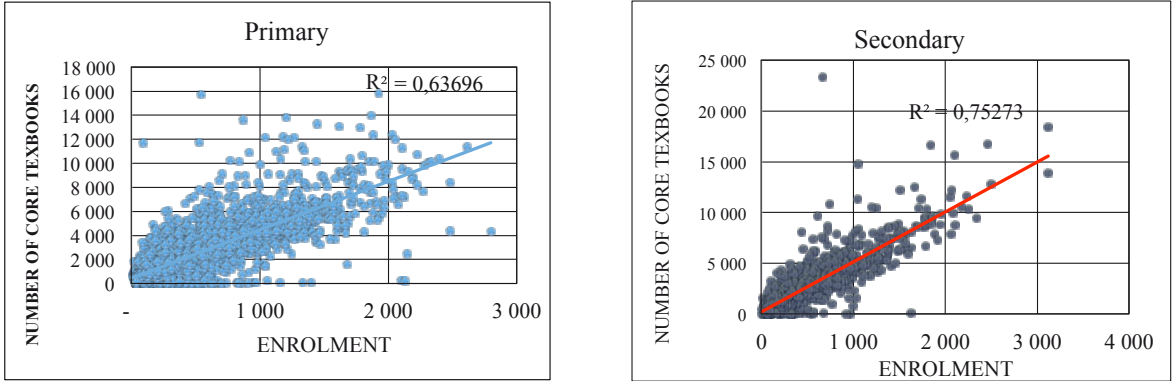
	Primary	Secondary
Bulawayo	5.0	5.1
Harare	4.8	5.6
Manicaland	4.9	5.7
Mashonaland Central	4.9	5.4
Mashonaland East	5.1	5.3
Mashonaland West	5.1	5.3
Masvingo	5.1	5.5
Matabeleland North	5.0	5.5
Matabeleland South	5.5	5.1
Midlands	4.9	5.5
Zimbabwe	5.0	5.4

Source: EMIS 2014

At national level, there are enough core textbooks for each primary student as the average ratio is five, higher than the required number of four. But due to lack of precision in the data, the sufficiency of textbooks in each specific subject cannot be documented. For secondary schools the national average ratio is five, lower than the requirements, meaning that there are not enough core textbooks to cover the needs of students at that level. Once again, the lack of precision in the data prevents discussion on the sufficiency of textbooks in each specific subject. Regarding the discrepancy per province, it seems that there is no major difference in textbook distribution as the average ratio is around five for each provinces at both primary and secondary levels.

Concerning the distribution of textbooks to schools, a positive correlation is observed between enrolment and the number of core textbooks that each primary school receives from the government, meaning that schools with higher enrolment figures tend to have a higher number of core textbooks (Figure 3.4), which is to be expected. Nevertheless, there is a discrepancy in textbook distribution to government and government-aided schools, as schools with the same enrolment figures are not receiving the same amount of core textbooks (and vice versa). This is the case, for example, where the number of textbooks allocated to government schools with 1,500 students ranges from 4,000 to 15,000. In total, it is estimated that only 56% of the variation in the number of core textbooks allocated to schools is explained by the variation in enrolment. This figure should be 100%, meaning a perfect distribution of textbooks based on enrolment figures. Textbook distribution between schools is much less coherent than teacher distribution, so there is plenty of scope for improvement in the distribution of core books to students.

Figure 3.4: Distribution of core textbooks to schools according to enrolment, 2014



Source: Author’s calculation using MICS 2014 data.

The last government-sponsored distribution of textbooks to primary schools was in 2010. There has been shifts in enrolment in some schools, resulting in some schools having an excess of textbooks whereas others have a shortfall. The distribution of textbooks did not take into account the quantities of textbooks that were already in stock as distribution was based on the enrolment that occurred during that period. This resulted in some schools having excess core textbooks. Although the policy for textbook replacement as a result of natural losses was put in place during the inception of the textbook distribution programme, cases of loss through negligence cannot be ruled out. There are schools that have no core textbooks at all, as these were established after the distribution exercise had been completed.

3.3. Who benefits most from public expenditure on education?

This section looks at discrepancies in public resources consumption for various social or economic groups, focusing first on structural imbalance of resources consumption by the students according to their level of schooling. Secondly it looks at whether children from different social and/or economic backgrounds are benefit equally from education, and therefore from public expenditure on education. For the purpose of the analysis, data from various sources (EMIS, PICES, MICS, demographic data, etc.) are computed for the year 2011/2012.

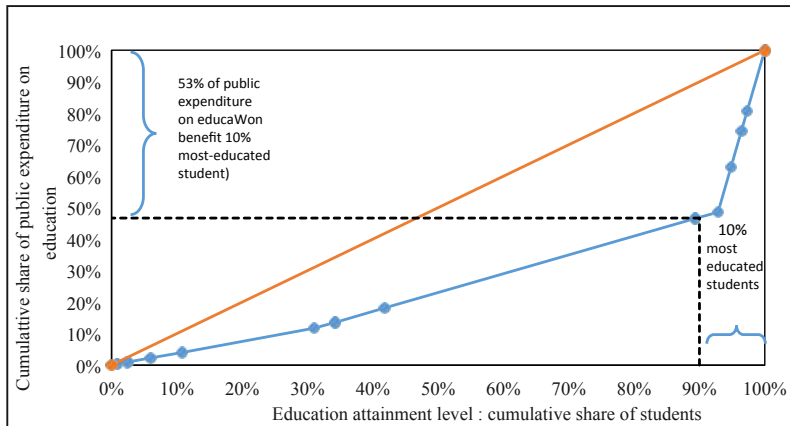
3.3.1. How much do students benefit from public expenditure on education according to their level of education?

Simply because they stay longer in the system, students with a higher level of education consume more public education resources than those with lower educational attainments. In an ideal world (a hypothetical country) where resources are equally distributed between students, those with a given share of education should consume

exactly the same share of resources. This is not always the case. In Zimbabwe, data indicate that 90% of least-educated students are consuming approximately 47% of the resources for education. In other words, the 10% most-educated, as shown in Figure 3.5, are using 53% of public expenditure.

This is a consequence of two phenomena. On the one hand, there is a relatively high unit cost for secondary and higher education, compared with the unit cost of infant and junior education. As a reminder, the public expenditure per student for higher education is more than fifteen times higher than for junior school. On the other hand, only a few students have access to higher education (2% of the corresponding age group, compared with more than 100% for junior or more than 50% for secondary). These two facts lead to a high concentration of resources for the few who have access to the top level of education.

Figure 3.5: Equity in the distribution of Zimbabwean public education expenditure

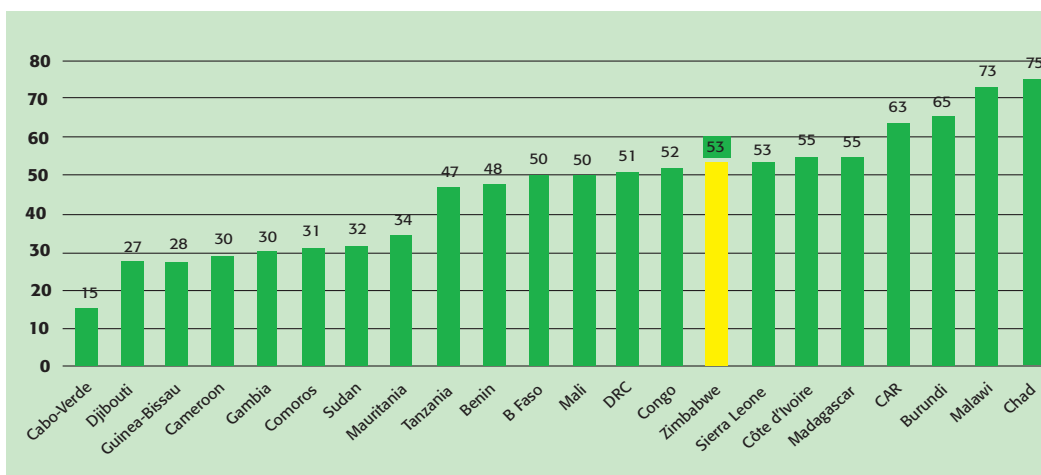


- 1) The data needed to draw up the Lorenz curve are: the distribution of a cohort according to highest educational attainment (share of a cohort who never enrol, reach Grade 1, Grade 2, Grade 3, ... , Form 7, higher education) and data on the level of per student expenditure at each level of education.
- 2) The share of education expenditure received by the 10% most-educated students can be derived graphically from the Lorenz curve as shown.
- 3) The Gini coefficient can be calculated as the ratio between (a) area between the diagonal OB and the Lorenz curve, and (b) area of the triangle OAB.

Source: Author's calculation using MICS 2014 data

Nevertheless, the high accumulation of resources by the 10% most-educated students is not the prerogative of Zimbabwe, even if the country surpasses the average situation in sub-Saharan Africa. Indeed, throughout the continent (see Figure 3.6), the share of public resources used by the most-educated students ranges from 15% (Cabo Verde) to 75% (Chad). Among SADC countries where such data are available, Malawi appears to have a less equitable resource distribution than Zimbabwe, whereas Tanzania has a more equitable system than Zimbabwe.

Figure 3.6: Share of resources being used by 10% most-educated students: comparison in selected African countries



Source: Author's calculation using MoPSE 2014 data

3.3.2. How equitably do children from different backgrounds benefit from public expenditure on education?

Other than the percentage of resources used by the most-educated students, it is important to look at children's participation in school according to their socio-economic class. Thanks to MICS 2014 data, this analysis can be done, substituting the wealth index quintile of children's families for their socio-economic class. Table 3.3 indicates the gross enrolment ratio (GER) according to the wealth index.

Table 3.3: GER (%) according to wealth index quintile, 2014

	Preschool	Primary	Secondary	Higher*
20% poorest	61.9	108.4	34.1	0.0
Second	67.0	108.3	47.0	0.0
Middle	69.1	111.2	54.2	0.2
Fourth	52.9	107.0	53.6	0.7
20% wealthiest	71.1	104.1	75.0	9.8
Total	64.3	108.1	52.3	2.1
20% wealthiest / 20% poorest	1.1	0.96	2.2	306.6

Source: Author's calculation using MICS 2014 data

*The 19–23 age group has been considered for higher education.

While access to the primary cycle is universal for every child whatever economic class their family belongs to, this is not yet the case for preschoolers, secondary and especially higher education students. The opportunity to be enrolled in primary education is almost the same for every child, whether from a lower or higher socio-economic background. But this opportunity in the secondary cycle is 120% higher for the 20% wealthiest families' children and more than 200% higher for the same children in tertiary education, indicating a relatively important economic imbalance in access to secondary and tertiary education in Zimbabwe. Giving every child an equal opportunity to access the higher levels of schooling is a major challenge for the country.

Furthermore, more than 90% of students currently enrolled in higher education and almost 80% of those who ever attended higher education belong to the fifth quintile of revenue, the wealthiest socio-economic class. It is a fact that tertiary education in Zimbabwe is almost exclusively a prerogative of members of wealthy households. Furthermore, as shown above (Section 3.3.1), the 10% most-educated students consume 53% of public expenditure on education. These two facts indicate that a greater share of public expenditure on education is being channelled to members of the wealthiest families. While further effort is required to make government expenditure on education more equitable, it is clear that children from a lower socio-economic background should be prioritized in order to help them attain and achieve a higher level of schooling.

CHAPTER 4. Efficiency in public expenditure

This chapter analyses to what extent government spending on education helps the system to achieve the desired results. The results can be apprehended in different ways: Grade 7 examination results (pass rates), student learning outcomes (average scores in reading and mathematics assessments during national assessment, or international evaluations such as SACMEQ), or school life expectancy.

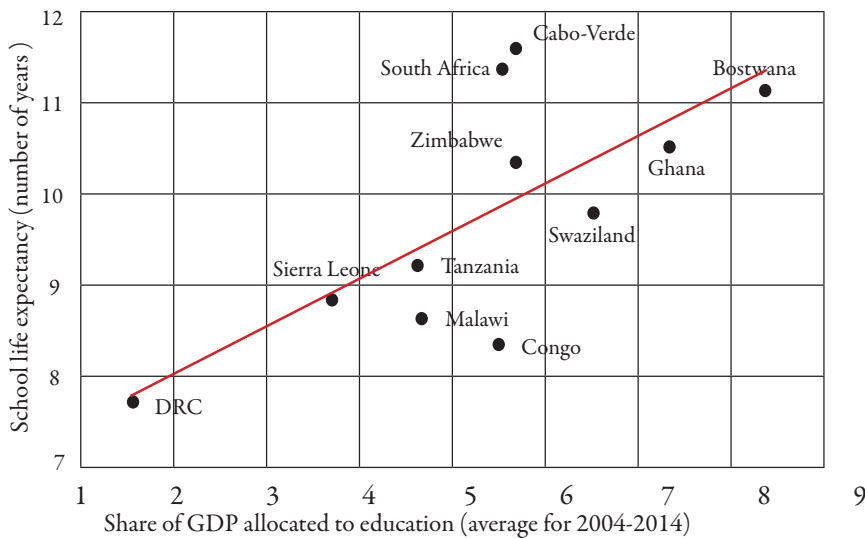
4.1. Comparison with other countries

For comparison purposes, we considered the results in terms of school life expectancy, defined as the average number of schooling years the children of a given country may hope to complete (repeated years are not included) given the prevailing conditions offered by an education system.

This result is confronted with the average share of GDP during recent years. In Section 2.2 of this report, we note that the government allocates 7.4% of the country's GDP to the education system in 2012. This share of the budget is used to pay salaries and allowances, to ensure the general functioning of the sector and also to build/maintain infrastructure. During the past ten years, the average share of GDP going towards education is 5.7%. Concerning the results, EMIS and demographic data indicate that the SLE in 2013 is approximately 10.3 years. This means that in the prevailing conditions of the Zimbabwean education system, a child enrolled in school hopes to achieve more than ten full years of study, that is to say at least reach the final year of lower-secondary education (Form 4). The system is therefore providing 1.8 years of schooling out of 1% of GDP.

One way to ensure whether this result is satisfactory or not is to compare Zimbabwe with selected African countries, as shown in Figure 4.1.

Figure 4.1: International comparison of school life expectancy in relation to the share of GDP allocated to education



Source: Author's calculation using MICS 2014 data

The trend line indicates that countries allocating a larger share of their GDP to education obtain higher SLE. In this sense, Zimbabwe is slightly above the average trend of the selected countries. In other words, in terms of efficiency, the Zimbabwean education system stands among the top performers of the selected countries.

Nevertheless, countries such as South Africa or Cabo Verde allocate almost the same proportion of their wealth to education, but at the same time achieve better results than Zimbabwe. While with 1% of GDP Zimbabwe is achieving 1.8 years of complete schooling, Cabo Verde and South Africa are achieving over 2 years. This leaves room for improvement in the efficiency of the Zimbabwean education system. With the same share of GDP allocated to education, the system could provide higher SLE if it were managed in the same way as the South Africa or Cabo Verde systems.

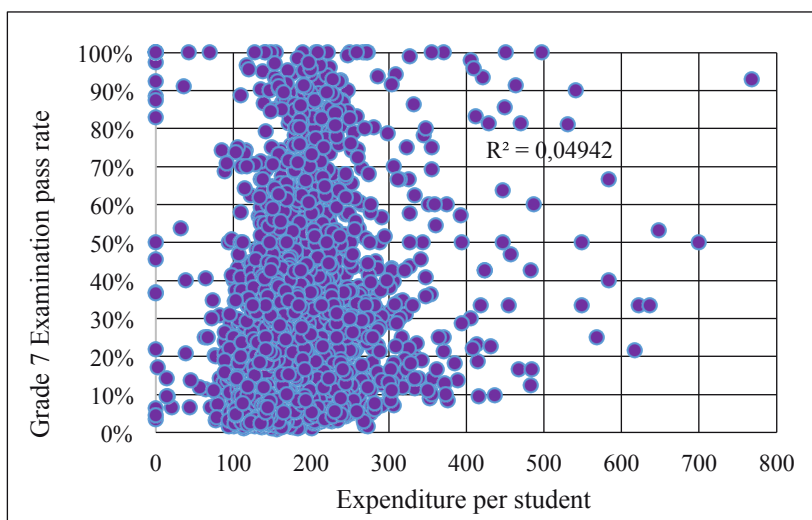
4.2. Results in relation to resources at school level

This section analyses the resources at school level in relation to examination results. Are schools producing better results with higher resources? To address this, EMIS data have been mobilized to calculate Grade 7 pass rate for individual public- and government-subsidized primary schools.

Figure 4.2 shows no correlation between expenditure per student (resources committed by government per student) to student achievement in the national summative examination after completing the primary-school cycle.

Differences in student achievement between schools cannot be explained by the level of government expenditure per student. Differences have to be found among many other factors such as teacher motivation and morale, socio-economic background, management patterns, culture/religious beliefs, learning environment, teacher quality, school ethos, teacher supervision, school location and proximity, etc.

Figure 4.2: Grade 7 examination results in relation to average expenditure per student at school level



Report on the analysis of public
expenditure on education in Zimbabwe
Focus on equity and efficiency

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Pôle de Dakar
EDUCATION SECTOR ANALYSIS

"With funding from the Global Partnership for Education (GPE)'s Global and Regional Activities (GRA) programme, UIS, the International Institute for Educational Planning (IIEP) Paris and IIEP Pôle de Dakar (all UNESCO agencies) are combining their expertise in a project aimed at improving national reporting systems on education finance flows. The three partner organizations will provide direct and in-depth technical support to eight countries in three regions to develop and implement sustainable methodologies to collect, produce, and report and use quality education finance data."