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Tél : + 221 33 820 57 56  
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## Context of the study

Focusing on equity and efficiency in Zimbabwe from June 2014 to September 2015, the study on public resources allocation in education is one component of a broader GPE funded project related to improving reporting on education finance, jointly implemented by UNESCO Institute for Statistics (UIS), UNESCO International Institute for Educational Planning (IIEP Paris and IIEP Pôle de Dakar).

For all countries involved in the project, the work includes an analysis of the public spending for education and the preparation of financing tables. Zimbabwe participated in stream A of the project, which deals with the allocation of public resources. In Zimbabwe, the analysis of public spending for education was complemented by additional analyses on equity in resource allocation and public spending efficiency.

This technical manual explains the methodology that was used to develop the various analyses described in the report.

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# 1. Detailed picture of government spending for education 2012–2014

The objective is to provide a detailed analysis of public spending for education and within the education sector from 2012 to 2014 in order to address the following questions:

- How much is the government spending for education?
- How much is being spent for each level of education?
- How much is being spent for staff and other types of expenditure?
- What is the unit spending per student?

Data are organized to produce a comprehensive picture of government spending on education as well as unit costs at various levels of the education system.

## 1.1 Framework for analysis

The framework for the analysis follows the general lines set for analysing the financing of education in the participating countries and allows for the creation of financing tables to establish the structure of government spending for education and to calculate unit costs. The framework is based on a vision of the domain of education seen as a list of activities within levels of education.

Economic agents involved in the domain are classified in two categories: the providers or producing units, mainly educational institutions that are delivering the activities, and the financing units that are funding but not delivering the educational services. Beneficiaries, represented by the students, are recorded by level of education and production units.

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

Each dimension is associated with a list or classification; those classifications form the structure of the education accounts. However, in order to design the financing tables providing the comprehensive picture of government funding, some dimensions are combined. Levels of education and production units are combined, as providers are typically delivering at a specific level of education. Activities and economic transactions are also combined, though sufficient details are maintained to support analyses of production costs.

### ***Levels of education and production units***

The education system of Zimbabwe is organized into the following levels: Infant, Junior, Secondary, Teacher Education, Technical and Vocational, and University.

The cost of education cannot be reduced to teaching activities at the school/institution level alone; activities such as the general administration of the system and school supervision done by the central and district offices of the ministries in charge of education must also be included.

Levels of education and status of institutions are the main criteria to characterize educational institutions. Educational institutions are, for the most part, state-run or grant-aided, and their activity is most often limited to one level of education. Parallel to those publicly funded schools, private schools are contributing to the delivery of education services.

The 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 are not receiving government funding.

**Table 1. Classification of production units by level of education**

<b>Infant education</b> Government and government-aided schools Independent schools Administrative offices	<b>Teacher education</b> Teacher colleges Administrative offices
<b>Junior education</b> Government and government-aided schools Independent schools Administrative offices	<b>Technical education</b> MOHTESTD Polytechnics Technical colleges Administrative offices
<b>Secondary education</b> Government and government-aided schools Independent schools Administrative offices	<b>Higher education</b> Universities Colleges Administrative offices

### ***Economic transactions and activities***

The classification by 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 strives to set apart pedagogical expenses (teachers, equipment, and materials).

**Activities** of educational providers include teaching activities, management, school meals and accommodation, medical care, and other support to students. As for a National Education Account, the activities of educational providers have been grouped as follows to highlight the difference between activities of a day school and activities for ancillary services: teaching activities and management; and meals, boarding, medical care, and transport organized by the school.

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

**Table 2. Classification of activities and economic transactions**

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

### ***Financing tables***

The classifications outlined in Tables 1 and 2 are combined to form financing tables used for establishing the structure of government spending for education and for calculating unit costs. A financing table can be created for each government department involved in education financing.

## 1.2 Sources of information

Government expenditure for education is allocated according to different votes within the government's budget, corresponding to the ministries in charge. The Ministries of Primary and Secondary Education (MOPSE) and the Ministry of Higher and Tertiary Education, Science and Technology Development (MOHTESTD) are the main departments 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, Mechanisation and Irrigation Development; and the Ministry of Youth, Indigenisation and Economic Empowerment supervise technical colleges or training institutions.

Data analysed included actual MOPSE expenditures for 2012 to 2014, data from the payroll (to distinguish budget costs for teaching and non-teaching staff), and enrolment data from the EMIS. Expenditures for culture and arts that were included until 2013 in the Ministry of Education's budget were not considered.

Similar data were mobilized for the Ministry of Higher Education. For other ministries, information was taken from the budget estimates books.

This picture was complemented by an estimate of government "social charges" for pensions and funeral assistance for permanent teachers and non-teaching staff. The pension scheme for retired civil servants is managed by the pension office within the Civil Service Commission. Pensions are paid from the government budget under the constitution and statutory appropriation, without contributions charged to the various ministries. A similar scheme exists for funeral assistance. Temporary teachers are not part of those schemes; they contribute to the National Social Security Authority, as do private sector employees.

## 1.3 Data processing

For the purpose of the analysis, all data are gathered and processed into one Excel file, Government Spending for Education Structure & Trend September 2015.xlsx, with a worksheet for calculating each of the four components of government expenditure (MOPSE, MOHTESTD, other ministries, and social charges), and a worksheet to recap data in the financing tables.

Enrolment figures by level of education and provider are then introduced to calculate unit costs directly from the financing tables.

### ***Calculating MOPSE actual expenditure***

Data are processed in the 'MOPSE' worksheet of the Excel file using the following steps:

- Step 1: Initial classification of budget lines. This classification aims to regroup all budget lines with the same classification by level, provider, activity, and object of expenditure. The initial classification of levels follows the budget structure (Primary, Secondary in 2012 and 2013, Infant, Junior, and Secondary in 2014). General administration costs are grouped under level "All".
- Step 2: Budget figures are totalled following the initial classification.
- Step 3: Classification is further refined using data from the July payroll to separate employment costs for teaching staff and non-teaching staff. When it's necessary, enrolment figures by grade are used to disaggregate expenditures for primary education between Infant and Junior levels. Managed funds by levels are used to disaggregate administrative costs initially classified as level "All".
- Step 4: At this stage, budget expenditures are entirely classified.

**Table 3. Calculating MOPSE actual expenditure**

Step1: initial classification of budget lines by level provider, activity and object						
	level	provider	activity	object	YEAR ENDING 31 DECEMBER 2012	
Service					Vote	Expenditure
					\$	\$
<b>1. ADMINISTRATION AND GENERAL</b>						
<b>CURRENT EXPENDITURE</b>						
<b>A. Employment costs</b>	All	Offices	Admin	Staff	<b>5,953,000</b>	<b>6,110,968</b>
Basic salaries					3,899,000	3,137,305
Housing allowance					874,000	1,235,723
Transport allowance					1,016,000	1,123,342
Other Allowances					164,000	614,598
<b>B. Goods and services</b>	All	Offices	Admin	Staff	<b>2,678,000</b>	<b>2,125,916</b>
Communication,Information and services					645,000	230,182
Education materials,supplies and services					37,000	3,998
Hospitality					6,000	0
Medical supplies and services					24,000	0
Office supplies and service					194,000	89,586
Rental and hire expenses					881,000	1,085,761
Training and development expenses					91,000	128,494
Domestic travel expenses					245,000	241,225
Foreign travel expenses					110,000	94,858
Utilities and other services					236,000	107,316
Financial Transactions					18,000	839
Institutional provisions					169,000	138,658
Other goods and services not above					22,000	4,999
<b>C Maintenance</b>					<b>391,000</b>	<b>457,438</b>
Physical Infrastructure	All	Offices	Admin	Capital	22,000	3,700
Technical and office equipment	All	Offices	Admin	Capital	40,000	21,862
Vehicle and mobile equipment	All	Offices	Admin	Capital	125,000	146,360
Fumigation and cleaning services	All	Offices	Admin	recurrent	24,000	5,000
Fuels oils and lubricants	All	Offices	Admin	recurrent	180,000	280,516
<b>1V.PRIMARY EDUCATION</b>						
<b>CURRENT EXPENDITURE</b>						
<b>A. Employment costs</b>	primary	gvt	teaching	staff	<b>449,784,000</b>	<b>430,445,033</b>
Basic salaries					265,299,000	222,236,667
Housing allowance					90,695,000	87,287,105
Transport allowance					87,742,000	84,891,513
Other Allowances					6,048,000	36,029,748
<b>B. Goods and services</b>					<b>840,000</b>	<b>225,345</b>
Communication,Information and services	primary	gvt	teaching	staff	73,000	29,395
Education materials,supplies and services	primary	gvt	teaching	staff	300,000	0
Office supplies and service	primary	gvt	teaching	staff	25,000	5,951
Rental and hire expenses	primary	gvt	teaching	staff	110,000	20,699
Training and development expenses	primary	gvt	teaching	staff	180,000	88,660
Domestic travel expenses	primary	gvt	teaching	staff	90,000	77,948
Foreign travel expenses	primary	gvt	teaching	staff	10,000	0
Utilities and other services	primary	gvt	teaching	staff	32,000	0
Institutional provisions	primary	gvt	teaching	staff	10,000	2,692
Other goods and services not above	primary	gvt	teaching	staff	10,000	0



### Step2: sub-totals according to initial classification

Service	level	provider	activity	object	YEAR ENDING 31 DECEMBER 2012	
					Vote	Expenditure
					\$	\$
	infant	gvt	teaching	staff		
	infant	gvt	teaching	teaching Materiel		
	infant	gvt	teaching	recurrent	100,000	50,000
	primary	gvt	teaching	staff	449 784,000	430,445,033
	primary	gvt	teaching	teaching Materiel	300,000	0
	primary	gvt	teaching	recurrent	630,000	265,890
	primary	gvt	teaching	capital	0	0
	primary	gvt	teaching	support	235,000	0
	primary	gvt	teaching	recurrent	500,000	31,215
	primary	gvt	teaching	recurrent	0	0
	primary	gvt	teaching	recurrent	7,200,000	0
	secondary	gvt	teaching	staff	227,927,000	225,554,255
	secondary	gvt	teaching	teaching Materiel	840,000	220,180
	secondary	gvt	teaching	recurrent	810,000	275,370
	secondary	gvt	teaching	capital	1,530,000	6,894
	secondary	gvt	teaching	support	0	0
	secondary	gvt	teaching	recurrent	0	0
	secondary	gvt	teaching	recurrent	0	0
	secondary	gvt	teaching	recurrent	4,800,000	799,999
	non formal	nfc	teaching	recurrent	70,000	0
	all	offices	teaching	staff	7 291,000	6,410,321
	All	offices	admin	recurrent	4 301,000	3,080,346
	All	offices	admin	capital	4,792,000	3,447,604
	all	gvt	teaching	staff	93,000	0
					<b>711,203,000</b>	<b>670 587,107</b>
					<b>711,203,000</b>	<b>670 587,107</b>

### Step3: refining detailed classification

Service	level	provider	activity	object	YEAR ENDING 31 DECEMBER 2012	
					Vote	Expenditure
					\$	\$
	junior	pvt	support	support		
	primary	gvt	teaching	staff	449,784,000	430,445,033
					payroll july 2012	
					Teaching staff	Non Teaching Staff
				Bulawayo	1,600,291	9,670
				Midlands	5,136,068	4,183
				Manicaland	5,724,811	2,944
				Mash west	4,283,009	3,314
				Mash East	3,854,221	1,388
				Mash Central	2,946,498	353
				Masvingo	5,273,713	927
				Mat North	2,142,760	353
				Mat South	2,713,089	740
				Harare	2 989,414	26,766
				All	36,663,874	50,638
			payroll	teaching		36,663,874
			payroll	non teaching		50,638
	primary	gvt	teaching	teaching	99,86%	429,851,347
	primary	gvt	teaching	non teaching	0,14%	593,686
		gvt & pvt	enrolment	ecd		352,846
		gvt & pvt	enrolment	g1&2	32%	850,996
		gvt & pvt	enrolment	g3&7	68%	1,815,555
			enrolment	primary		2,666,551
			ecd qualified teachers			2,880
			primary teachers			72,591
	Infant	gvt	teaching	teaching	34,5%	148,349,942
	junior	gvt	teaching	teaching	65,5%	281,501,405
	Infant	gvt	teaching	non teaching	39,87%	236,704
	junior	gvt	teaching	non teaching	60,13%	356,981



**Table 4. Calculating other ministries' actual expenditures**

Step1: initial classification of budget lines by level provider, activity and object							
	level	provider	activity	Object	2012 Budget	2013 Actual Estimated	2014 Actual Estimate
<b>Ministry of Defence Vote 4</b>							
<b>I Administration &amp; General</b>							
E Programmes							
National Defence College	Tertiary	Colleges	Teaching	recurrent	1,100 000	1,170,214	1,037,677
capital transfer	Tertiary	Colleges	Teaching	Capital	147,376		
<b>Ministry of Agriculture Vote 8</b>							
<b>I Administration &amp; General</b>							
<b>Current Expenditure</b>							
F Agricultural Colleges							
Chibero							
Esigodini							
Gwebi							
Kashinga Phikelela							
Maozwe Veterinary							
Mlezu							
Rio Tinto							
Shamva							
Head Office							
All	Tertiary	Colleges	Teaching	recurrent	1,300,080	1,377,110	382,454
Construction							
construction for colleges	Tertiary	Colleges	Teaching	Capital			0
<b>Ministry of Mines Vote 9</b>							
Capital Transfer							
Zimbabwe School of Mines	Tertiary	Colleges	Teaching	recurrent	0	0	324,848
<b>Ministry of Health Vote 15</b>							
Nothing Provided							
<b>Ministry of Youth Vote 17</b>							
II Vocational Training Centres							
A Employmen Costs	Technical	T Colleges	Teaching	staff	1,626,319	1,933,415	2,198,228
B Educational Materials	Technical	T Colleges	Teaching	material	80,628	17,436	
B Goods & services Others	Technical	T Colleges	Teaching	recurrent	349,104	251,833	825,010
C Maintenance	Technical	T Colleges	Teaching	recurrent	89,367	14,639	0
E Capital	Technical	T Colleges	Teaching	capital	82,833		0
Ministry of Justice, Legal and Paliamentary Affairs							
Judicial College	Tertiary	colleges	teaching	recurrent	0		0
<b>Total sum</b>					<b>4,775,706</b>	<b>4,764,647</b>	<b>4,768,218</b>

### Step3: refining detailed classification

Teacher Ed	Colleges	Teaching	Staff	33,023,000	34,160 816
		teaching		70%	
		non teaching		30%	
Teacher Ed	Colleges	Teaching	teaching	23,116,100	23,912,571
Teacher Ed	Colleges	Teaching	non teaching	9,906,900	10,248,245
Teacher Ed	Colleges	Teaching	recurrent	1,150,000	781,627
Teacher Ed	Colleges	Teaching	capital	2,075,000	1 069,306
TecVoc	Tcolleges	Teaching	Staff	6,674,000	6,805,029
		teaching		70%	
		non teaching		30%	
TecVoc	Tcolleges	Teaching	teaching	4,671,800	4,763,520
TecVoc	Tcolleges	Teaching	non teaching	2,002,200	2,041,509
TecVoc	Tcolleges	Teaching	recurrent	2,000,000	959,991
TecVoc	Tcolleges	Teaching	capital	2,727,000	1,053,750
Tertiary	university	Teaching	recurrent	186,814,000	176,703,946
Tertiary	university	Teaching	capital	30,226,000	20,032,356

### Calculating social charges for pensions

Data are processed in the "CSC" worksheet of the Excel file

At Step 1, a percentage of social charges for the whole civil service is calculated from the actual expenditures for pensions (excluding war pensions) reported in the budget estimates books and the total employment costs of government reported in the budget outturns (available on Zimtreasury.gov.zw website). In 2013, the percentage of social charges for pensions was thus calculated to be 15.33 per cent (see Table 5).

**Table 5. Calculating social charges for pensions**

<b>Step1 : calculation of % charges from Civil Service Commission Budget</b>				
<b>Detail expenditures by scheme - Civil Service Commission budge</b>				
	Period	2012, up to September	2013, up to November	2014, up to October
	Source	2013 estimate book	2014 estimate book	2015 estimate book
State Service pensions		162,139,019	222,482,448	236,571,040
Refunds of contributions		8,442,927	16,021,313	9,767,337
Commutation of pensions		44,126,750	38,121,901	34,999,075
Awards on supplementary Act		3,700	1,524	1,250
Funeral Assistance		8,100	0	0
State Service Disabilities benefits		2,410,710	3,399,393	3,763,074
Old Age pension		5,359	4,202	3,670
<b>Sub total non war pensions</b>		<b>217,136,565</b>	<b>280,030,781</b>	<b>285,105,446</b>
War pensions		23,672	26,226	27,131
War victims compensation		5,166,351	6,664,537	8,023,601
War veteran pensions		63,550,464	81,121,312	88,418,476
Ex Political prisoners pensions		12,622,981	15,392,344	15,984,346
<b>Sub total war pensions</b>		<b>81,363,468</b>	<b>103,204,419</b>	<b>112,453,554</b>
<b>Total for the period</b>		<b>298,500,033</b>	<b>383,235,200</b>	<b>397,559,000</b>
<b>Number of months</b>		9	11	10
<b>estimate for 12 months</b>		<b>398,000,044</b>	<b>418,074,764</b>	<b>477,070,800</b>

## Calcule of % charge for pension

From Government Outturns	From 2012 Outturns	From 2013 Outturns	From 2013 Outturns
Employment Cost	1,771,392,883	1,925,745,687	
Pensions	401,588,398	418,135,200	
revenue from pension contributions	2,149,984	10,265,934	
Net cost of pensions	399,438,415	407,869,266	
% change for pensions, including war pension	22.55%	21.18%	
<b>calculation using detailed data to exclude war pensions</b>			
Pensions excluding war pension	292,125,681	305,532,286	
revenue from pension contributions	2,149,984	10,265,934	
Net cost of pensions	289,975,697	295,266,352	
% change for pensions, excluding war pension	16.37%	15.33%	15.33%

## Step2 : Application to employment costs for education

Social Charges for pension				Social Charges for pension		
				2012	2013	2014
<b>To add another year, just copy right the formulae, after having completed the previous rows</b>						
<b>Charges for pensions MOPSE</b>						
Infant	gvt	teaching	teaching	24,284,775	24,102,506	25,704,070
Infant	gvt	teaching	non teaching	38,748	35,609	39,110
Infant	offices	admin	non teaching	176,773	158,553	197,503
junior	gvt	teaching	teaching	46,081,571	48,211,013	52,195,001
junior	gvt	teaching	non teaching	58,438	54,954	58,448
junior	offices	admin	non teaching	335,056	317,777	401,508
secondary	gvt	teaching	teaching	36,804,441	38,892,415	41,545,258
secondary	gvt	teaching	non teaching	118,623	109,177	116,623
secondary	offices	admin	non teaching	537,525	512,149	638,014
non formal	nfc	teaching	teaching	0	0	0
non formal	nfc	teaching	non teaching	0	0	0
non formal	offices	admin	non teaching	0	0	0
<b>Charges for pensions MOHE</b>						
Teacher Ed	Colleges	teaching	teaching	3,914,470	4,996,736	5,817,501
Teacher Ed	Colleges	teaching	non teaching	1,677,630	2,142,315	2,493,215
Teacher Ed	offices	admin	non teaching	106,175	120,848	151,322
TecVoc	Tcolleges	teaching	teaching	779,785	833,692	935,477
TecVoc	Tcolleges	teaching	non teaching	334,193	357,297	400,919
TecVoc	offices	admin	non teaching	26,001	20,495	24,456
Tertiary	offices	admin	non teaching	580,046	541,208	540,799
<b>Charges for pensions Other ministries</b>						
technical	T colleges	teaching	teaching	186,359	207,510	235,931
technical	T colleges	teaching	non teaching	79,858	88,933	101,113
Tertiary	Colleges	teaching	teaching	0	0	0
Tertiary	Colleges	teaching	non teaching	0	0	0
				<b>116,120,488</b>	<b>121,705,586</b>	<b>131,596,269</b>

## Financing tables

Social charges for pensions and expenditures of MOPSE, MOHTESTD, and other ministries automatically transfer to financing tables such as Table 6. Enrolment figures for government and government-aided institutions are then entered in column Q and used to calculate unit costs, as shown in Table 7.

**Table 6. Financing table showing government expenditure for education in 2014 (thousand USD)**

	Teaching activities						Ancillary services	General administration			Total
	Salaries		Other recurrent		Capital	Meals boarding		Staff	Other recurrent	Capital	
	Teaching staff	Non-teaching staff	Teaching material	Other							
Infant	193,348	294	255	236	400	0	1,486	433	36	196,488	
Gvt Aided schools	193,348	294	255	5	400	0				194,302	
Private schools				231						231	
Admin Offices							1486	433	36	1,955	
Junior	392,614	440	745	777	812	0	3,020	881	73	399,362	
Gvt Aided schools	392,614	440	745	8	812	0				394,619	
Private schools				769						769	
Admin Offices							3020	881	73	3,974	
Secondary	312,506	877	300	717	797	0	4,799	1,400	115	321,511	
Gvt Aided schools	312,506	877	300	17	797	0				314,497	
Private schools				700						700	
Admin Offices							4799	1400	115	6,314	
Teacher	43,760	18,754	0	241	0	0	1,138	290	2	64,185	
Teacher colleges	43,760	18,754		241	0					62,755	
Admin Offices							1,138	290	2	1,430	
Technical	8,812	3,777	0	908	0	0	184	47	0	13,728	
MOHTESTD	7,037	3,016		83	0					10,136	
Polytechnics											
Technical colleges	1,775	761	0	825	0					3,361	
Admin Offices							184	47	0	231	
Higher	0	0	0	190,277	6,041	0	4,068	1,038	6	201,430	
Universities				188,532	6,041					194,573	
Colleges	0	0	0	1,745	0					1,745	
Admin Offices							4,068	1,038	6	5,112	
TOTAL	951,040	24,142	1,300	193,156	8,050	0	14,695	4,089	232	1,196,704	

**Table 7. Financing table showing unit costs in 2014**

Average per student, 2014									US\$
	Teaching activities				Ancillary services	General administration			Total
	Salaries		Other recurrent	Capital	Meals and boarding	Staff	Other recurrent	Capital	
	Teaching staff	Non-teaching							
Infant Education	156.26	0.24	0.40	0.32	0.00	1.20	0.35	0.03	158.80
Junior Education	212.32	0.24	0.82	0.44	0.00	1.63	0.48	0.04	215.97
Secondary education	319.00	0.90	1.04	0.81	0.00	4.90	1.43	0.12	328.19
Teacher education	2,114.01	905.99	11.64	0.00	0.00	54.98	14.01	0.10	3,100.72
Technical Education	216.33	92.72	2.55	0.00	0.00	5.66	1.44	0.00	318.70
Higher education	0.00	0.00	3,123.77	100.09	0.00	67.40	17.20	0.10	3,308.56
<b>All levels</b>	<b>227.54</b>	<b>5.78</b>	<b>46.52</b>	<b>1.93</b>	<b>0.00</b>	<b>3.52</b>	<b>0.98</b>	<b>0.06</b>	<b>286.31</b>

## 1.4 Adding subsequent years for expenditure analysis

Instructions are available in every worksheet of the Excel file to update the calculations for an additional year (such as 2015 when data becomes available).

Updating can be done by copying columns and formulae and entering data for the additional year. This has to be done step by step, with special attention to the information required to disaggregate financial estimates. To facilitate the process, cells are coloured green or yellow where data to be entered are replaced provisionally by estimates.

An additional financing table has to be copied and formulae have to be re-written or adjusted. Tables in the worksheet "For Report" have to be adjusted to the new year.

## 2. Trends in government spending for education

The trend analysis utilizes data from the functional classification of government spending in the national accounts (COFOG) over a period of 12 to 15 years. Statistical series are perturbed by the currency turmoil in Zimbabwe; hyper-inflation has led to the adoption of the currency of the United States of America for economic exchanges and accounting. Due to availability of data, the analysis covers the 2000–2013 period.

Government expenditure for education results from the combination of the share of government budget devoted to education, which shows the relative priority of education compared to other sectors, and the weight of government budget in relation to Gross Domestic Product (GDP), which shows the government's capacity to raise resources from the wealth generated by the national economy.

The analysis includes comparison of government expenditure for education to GDP and to government budget, structure by level (limited to school education and higher education in the functional classification), expenditure at constant prices, and comparison to the number of students. Data and calculations of indicators can be found in the Excel file "Government Spending for Education Structure & Trend September 2015.xlsx" worksheet "Long Trend".

### 2.1 Sources of information

Data from three main sources is entered at Step 1 in the green coloured cells between rows 12 and 27.

Table 8 shows data related to GDP current and constant prices collected from the national accounts (specifically the national institute for statistics, ZIMSTAT). Government total expenditure and government expenditure for education data come from the COFOG classification in the national accounts (see Table 9); available in Zim\$ until 2008 and US\$ since 2009, these would need to be converted to a single currency to create a clear picture of patterns and trends. Table 10 shows enrolment data from the EMIS of MOPSE.

**Table 8. GDP data from national accounts**

	From National Accounts						
	GDP current prices millions Zim\$	GDP constant prices millions Zim\$	GDP PRICE INDEX	economic growth	GDP current prices millions USD	GDP constant prices 2009 US\$	GDP prices
1999	230,207						
2000	315,003	22,582	1,395		9,512.7	8,779.3	
2001	1,776,910	22,534	7,886	-0.2%	9,445.8	8,762.3	-0.5%
2002	3,612,407	21,197	17,042	-5.9%	8,961.8	8,241.9	0.9%
2003	10,814,615	19,628	55,098	-7.5%	8,450.2	7,626.9	1.9%
2004	49,013,658	18,917	259,093	-3.6%	8,090.0	7,349.1	-0.6%
2005	205,488,364	18,152	1,132,062	-4.1%	7,842.2	7,050.5	1.0%
2006	1,010,078,001	17,494	5,773,883	-3.6%	7,011.8	6,795.0	-7.2%
2007	15,677,869,165	16,922	92,647,382	-3.3%	6,962.2	6,572.9	2.6%
2008	1,468,474,717,521,740	15,242	9,634,103,378,976	-4.7%	6,450.5	6,261.3	-2.7%
2009				30.3%	8,157.1	8,157.1	-2.9%
2010				11.4%	9,456.8	9,085.0	4.1%
2011				11.9%	10,956.2	10,166.6	3.5%
2012				10.6%	12,472.4	11,240.8	3.0%
2013				4.5%	13,490.2	11,744.8	3.5%
2014				3.9%	14,197.0	12,197.0	1.3%



**Table 9. Government expenditure data from COFOG classification**

	COFOG classification of Government expenditure					
	Total Central Gvt Expenditure (COFOG)	Education Affairs & Services	Education Affairs & Services in USD	Education constant US\$ 2009	Preprimary, Primary & Secondary Education	Tertiary Education
1999	89,682,841	17,358,986	0		13,853,137	3,505,849
2000	159,620,560	31,412,459	948,618,302	875,480,610	25,630,963	5,781,496
2001	169,087,521	42,061,350	223,592,178	207,412,616	34,463,537	7,597,814
2002	343,589,455	72,848,729	180,725,531	166,207,917	57,944,849	14,903,880
2003	1,307,868,754	353,145,953	275,937,484	249,052,352	280,445,221	72,700,732
2004	8,747,727,208	2,156,693,272	355,974,230	323,372,897	1,537,502,069	619,191,203
2005	33,335,204,570	8,679,233,641	331,230,283	297,791,599	6,612,800,840	2,066,432,801
2006	415,512,715,670	79,722,794,792	553,423,168	536,309,080	60,258,152,214	19,464,642,578
2007	85,090,341,875,730	12,850,622,890,092	0	0	7,244,532,605,809	5,606,090,284,283
2008			0	0		
2009	847,257,786	129,102,127	129,102,127	129,102,127	45,894,851	83,207,276
2010	2,444,314,015	928,292,385	928,292,385	891,797,196	626,608,923	301,683,462
2011	3,592,949,880	1,418,685,751	1,418,685,751	1,316,443,333	1,015,468,891	403,216,860
2012	3,537,778,330	921,595,079	921,595,079	830,586,704	674,171,178	247,423,901
2013	4,026,636,518	1,018,200,000	1,018,200,000	886,459,800	748,141,296	270,084,347
2014	3,947,987,775	1,059,600,000	1,059,600,000	910,329,027	796,466,175	263,175,014

**Table 10. Enrolment data from EMIS and population data**

	Enrolment From EMIS					Population
	Pre-primary	Primary	Lower secondary	Upper secondary	total enrolment	
1999						13.100
2000	437,454	2,460,669	435,932	408,251	3,742,306	13.500
2001	420,712	2,534,796	451,201	414,970	3,821,679	13.900
2002	403,970	2,399,250	424,947	403,509	3,631,676	11.632
2003	448,124	2,361,588	386,683	371,546	3,567,941	11.640
2004	442,097	2,395,462	394,355	383,708	3,615,622	11.730
2005	436,070	2,429,335	402,026	395,870	3,663,302	11.830
2006	430,043	2,463,209	409,698	408,033	3,710,983	12.010
2007	424,016	2,497,083	417,370	420,195	3,758,663	12.040
2008	417,989	2,530,956	425,041	432,357	3,806,344	12.122
2009	411,962	2,564,830	432,713	444,519	3,854,024	12.231
2010	405,935	2,598,704	440,385	456,682	3,901,705	12.336
2011	399,908	2,632,577	448,056	468,844	3,949,385	13.060
2012	393,881	2,666,451	455,728	481,006	3,997,066	
2013	..	..	..	..	3,994,773	
2014	..	..	..	..	4066160.0	

## 2.2 Calculating trends

Indicators are automatically calculated at Step 2 in successive tables (see Table 11) that show the following:

1. The economic and fiscal context, with the percentage of total government spending within GDP.
2. Education expenditure compared to government total expenditure, and compared to GDP.
3. Expenditures by level of education.
4. Expenditures per student, infant to secondary levels.

**Table 11. Trend analysis**

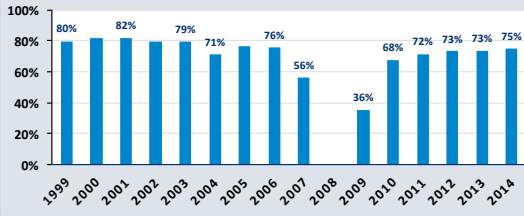
	Total Central Gvt Expenditure (COFOG) thousand zim\$ or US\$	% of government expenditure within GDP
1999	89,682,841	39%
2000	159,620,560	
2001	169,087,521	10%
2002	343,589,455	10%
2003	1 307,868, 754	12%
2004	8,747,727,208	18%
2005	33,335,204,570	16%
2006	415,512,715,670	
2007	85,090,341,875,730	
2008	0	
2009	847,257,786	10%
2010	2,444,314,015	26%
2011	3,592,949,880	33%
2012	3,537,778,330	28%
2013	4,026,636,518	30%
2014	3,947,987,775	28%

	Education Affairs & Services	Education Affairs & Services in USD	Education constant US\$ 2009	% of education expenditure within govt budget.	% of education expenditure within GDP
1999	17,358,986	0		19%	
2000	31,412,459	948,618		20%	
2001	42,061,350	223,592	207,412,616	25%	2,4%
2002	72 848, 729	180,726	166,207,917	21%	2,0%
2003	353,145,953	275,937	249,052,352	27%	3,3%
2004	2,156,693,272	355,974	323,372,897	25%	4,4%
2005	8,679,233,641	331,230	297,791,599	26%	4,2%
2006	79,722,794,792	553,423	536,309,080	19%	
2007	12,850,622,890,092		0	15%	
2008	0				
2009	129,102,127	129,102,127	129,102,127	15%	1,6%
2010	928,292,385	928,292,385	891,797,196	38%	9,8%
2011	1,418,685,751	1 418,685,751	1,316,443,333	39%	12,9%
2012	921,595,079	921,595,079	830,586,704	26%	7,4%
2013	1,018,200,000	1,018,200,000	886,459,800	25%	7,5%
2014	1 059,600,000	1,059,600,000	910,329,027	27%	7,5%

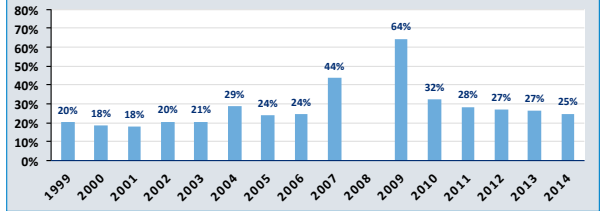
	Preprimary, Primary & Secondary Education	Tertiary Education	% of expenditure preprimary & secondary expenditure within education budget.	% of expenditure tertiary education expenditure within education budget.
1999	13,853,137	3,505,849	79,8%	20,2%
2000	25,630,963	5,781,496	81,6%	18,4%
2001	34,463,537	7,597,814	81,9%	18,1%
2002	57,944,849	14,903,880	79,5%	20,5%
2003	280,445,221	72,700,732	79,4%	20,6%
2004	1,537,502,069	619,191,203	71,3%	28,7%
2005	6,612,800,840	2 066,432,801	76,2%	23,8%
2006	60,258,152 214	19,464,642,578	75,6%	24,4%
2007	7 24,532,605,809	5 606,090,284,283	56,4%	43,6%
2008				
2009	45,894,851	83,207,276	35,5%	64,5%
2010	626,608,923	301,683,462	67,5%	32,5%
2011	1,015,468,891	403,216,860	71,6%	28,4%
2012	674,171,178	247,423,901	73,2%	26,8%
2013	748,141,296	270,084,347	73,5%	26,5%
2014	796,466,175	263,175,014	75,2%	24,8%

	Preprimary, Primary & Secondary Education	in constant US\$	Enrolment	Average per student in constant US\$
1999	13,853,137		0	
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	
2008			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

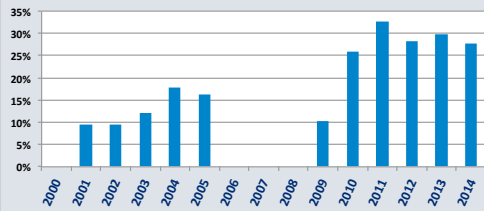
**Infant to secondary expenditure as % of education budget.**



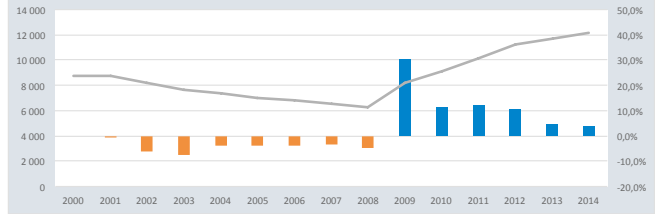
**Expenditure for Higher Education as % of education Government expenditure**



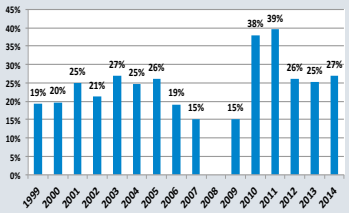
**% of total government expenditure within GDP**



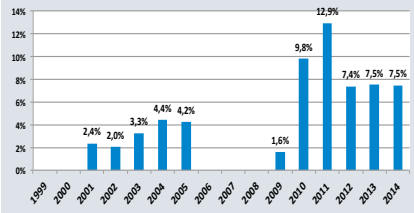
**GDP at 2009 prices**



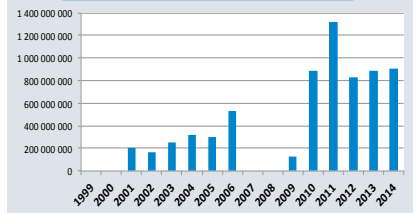
**% of education within government budget**



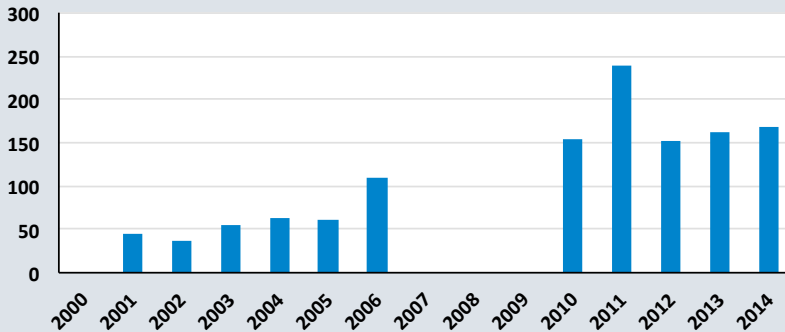
**% of education expenditure within GDP**



**Education expenditure at constant prices 2009 USD**



**Average expenditure per student, US\$ constant**



## 2.3 Adding a new year for trend analysis

Instructions are available in every worksheet of the Excel file to update the calculations for an additional year (such as 2015 when data becomes available).

Updating the trend analysis can be done by adding a row for the additional data to the table at Step 1. Cells where data should be entered are coloured green.

In Step 2, tables can be updated by copying down the last row. Data references in the charts have to be adjusted (select data, "modify series by" to select one row more).

# 3. Analysis of Equity

## 3.1 Distributive equity in allocation of teachers

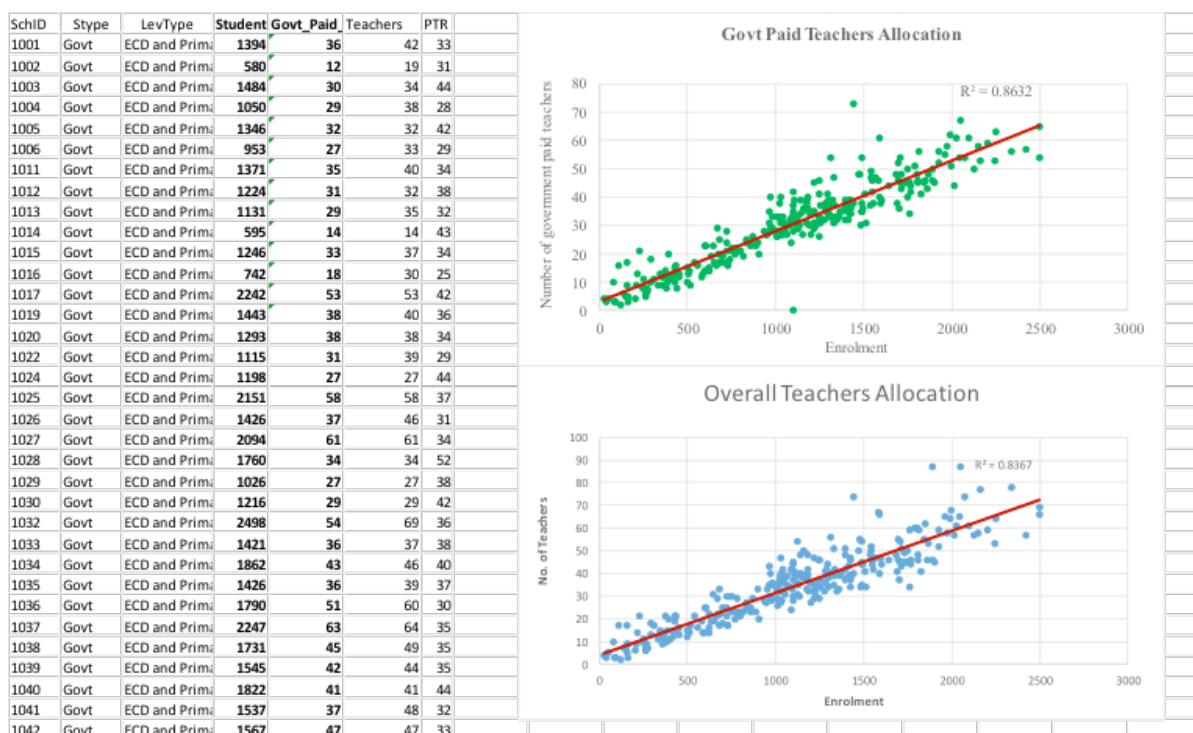
For this analysis, information on students and teachers for each individual school has been extracted from the EMIS database of the Ministry of Primary and Secondary Education. These analyses are developed in the Excel file "Government Spending for Education Equity & Efficiency September 2015.xlsx" worksheet "Teachers Allocation".

The deployment of teachers paid by the government to government and government-aided schools is based on norms of 1 teacher for every 20 pupils at the pre-primary level and 1 teacher for every 40 students at the primary level. If the number of permanent teachers appointed to the school is not sufficient to achieve these norms, the school can recruit temporary teachers to be paid by the government. Government-aided schools are authorized to recruit additional teachers using fees and contributions from parents.

Figure 1 compares the number of students with the number of teachers by school. Analyses are developed first for all teachers and then for government-paid teachers; the regression lines are shown to display the trend and the correlation coefficients.

This analysis can be updated by copying the new data in columns A to J and adjusting the data section in the charts.

**Figure 1. Analysis of distributive equity in allocation of teachers**



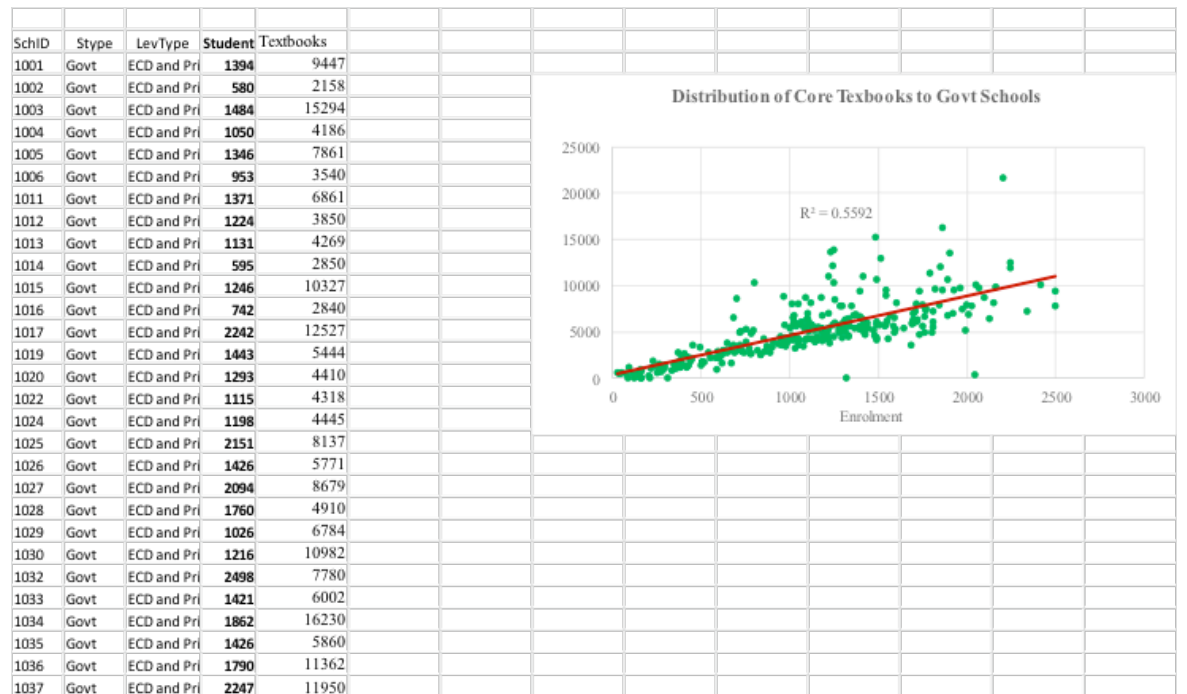
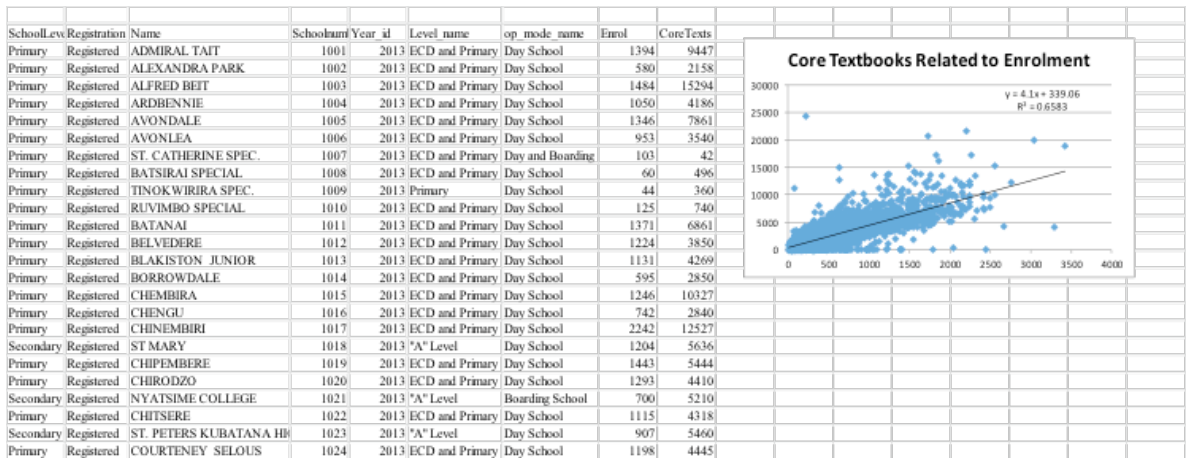
### 3.2 Distributive equity in textbooks

Information on students and textbooks for each individual school has been extracted from the EMIS database of the Ministry of Primary and Secondary Education. Analyses are developed separately for core textbooks and total textbooks, in relation to enrolment in government schools. These analyses are developed in the Excel file "Government spending for education Equity & Efficiency September 2015.xlsx" worksheets "Core Textbooks" and "Txtbks\_Gvt".

Similar to the analyses related to allocation of teachers, Figure 2 compares the enrolment with the number of textbooks. The regression lines are shown to display the trend and the calculated correlation coefficients.

This analysis can be updated by copying the new data in the tables and adjusting the data section in the charts.

**Figure 2. Analysis of distributive equity in textbooks**



### 3.3 Structural equity

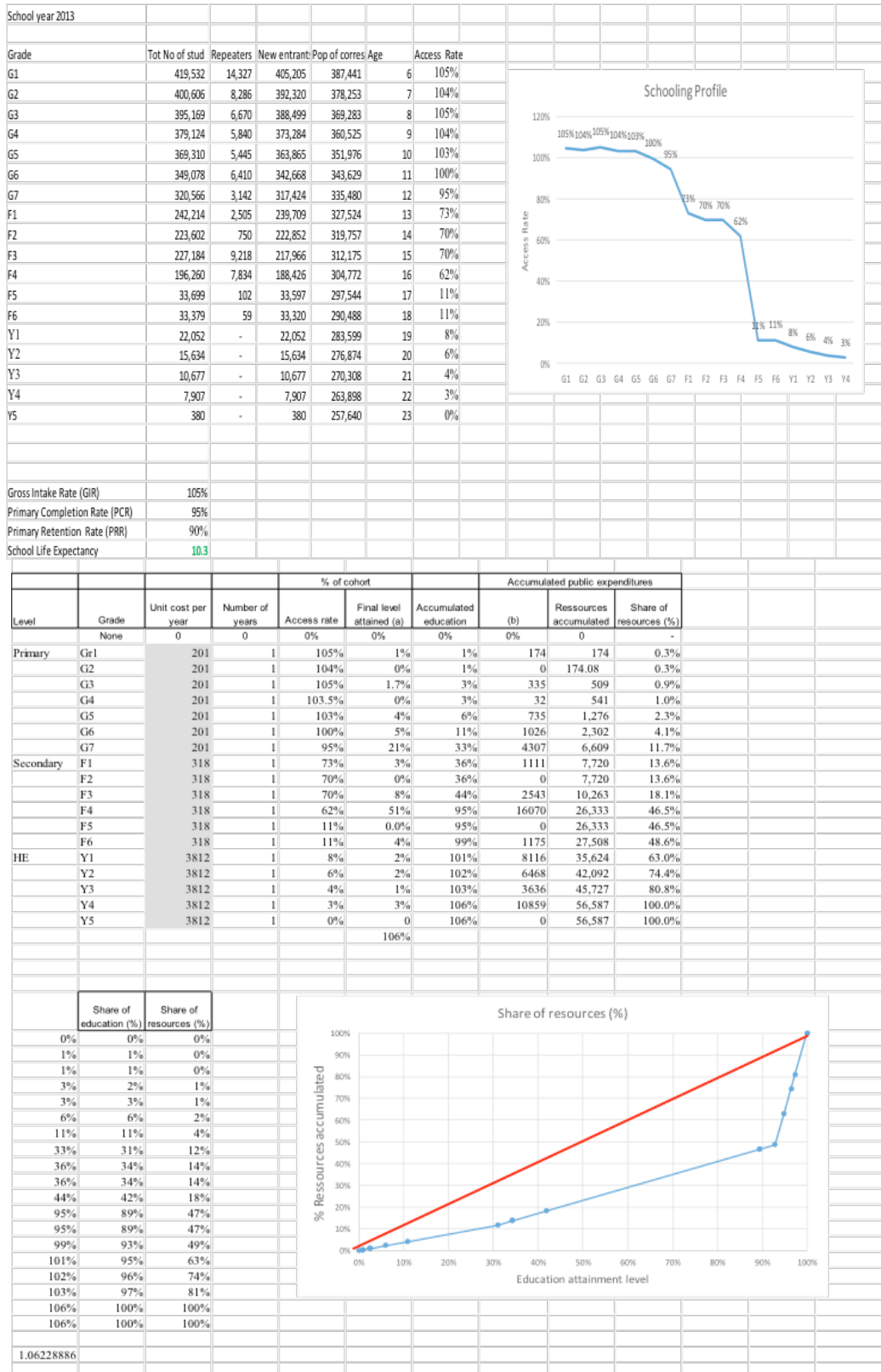
This analysis emphasizes the high consumption of public resources by those who benefit from longer studies. The main indicator is the share of public resources consumed by the 10 per cent that represent the more educated group.

To develop the analysis, information on unit spending per student and access rates at every grade of the education system (also known as "school profile") are combined to determine the percentage of the cohort leaving the education system at every stage and the accumulated benefit of government spending for education.

Access rates are calculated in the worksheet "School Prof". Education levels and accumulated resources consumed are calculated in the worksheet "Lorentz". Concentration in the consumption of resources is visualized with a Lorenz curve (Figure 3).

To update the analysis, data related to enrolment by grade, repeaters, and population must be updated to calculate access rates, and new unit costs must be entered.

**Figure 3. Analysis of structural equity**





## 4. Analysis of efficiency

### 4.1 International comparison

Based on international databases available at IIEP Pôle de Dakar, the efficiency analysis compares school life expectancy and share of GDP devoted to education.

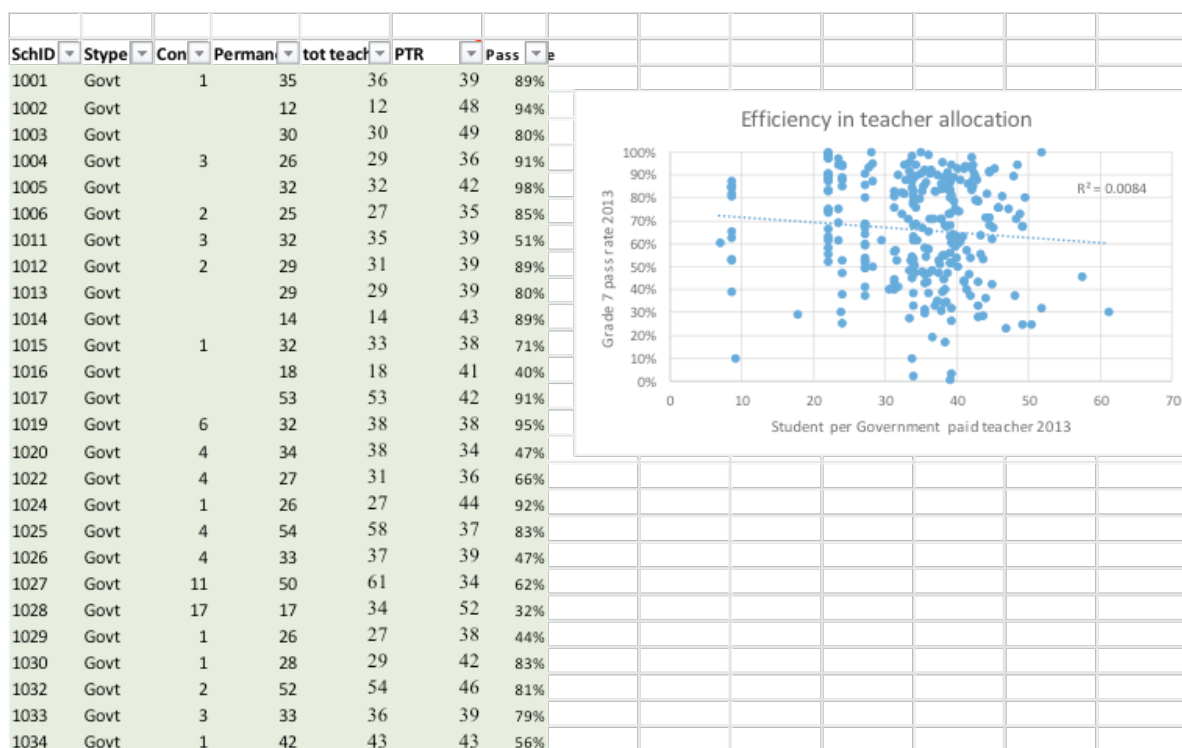
To provide some indication of comparative levels of efficiency, countries with similar levels of expenditure can be compared with regard to school life expectancy, and countries with similar school life expectancy can be compared with regard to the level of resources devoted to education.

### 4.2 Results and resources

This analysis addresses issues related to how public resources are transformed into results, linking resources and outcome indicators at the school level. Calculations are made in the "Efficiency" worksheet of the Excel file. "Results" are suggested by the average pass rate for the Grade 7 exam for the students in the school, and "public resources" are suggested by the number of students compared to the number of government paid teachers in the school (Figure 4).

This analysis can be updated by copying the new data in columns A to G and adjusting the data section in the charts.


**Figure 4. Analysis of efficiency**





Technical manual for data processing  
Government Spending For Education in Zimbabwe  
Structure, Equity & Efficiency

is available on:  
[www.iipe-poledakar.org](http://www.iipe-poledakar.org)



"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."