**Allocation and Equity Issues in Public Budget Allocation**

March 2010

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## ABSTRACT

*This study reviews briefly the budgeting status of the education sector in Peru. Two context factors called the attention, the decentralization of sector provision and the implementation of a pilot program for Result Based Budget which tries to link the learning outcomes of 2nd graders to budget allocation. Both factors should have shaped budget allocation and distribution.*

*Peru has reached an interesting level in coverage but not so in quality, in that sense, one can say that Peru has been efficient but not effective reaching quality. An important characteristic in Peru is that decentralization began in 2004 and regional governments are still not that experienced running the sector. On the other side, the Ministry of Education still implements local activities without care of constructive regulation.*

*Equity is still an issue in the sector and this policy brief reveals and measure the problem in two perspectives, at the regional level and at the final beneficiary level. Using the* Program Budget Analysis *approach, this study takes a comprehensive look and explores the budget allocation of different government levels among education levels from pre school to terciary education budget programs. Additionally, the paper utilizes the* Benefit Incidence Analysis *to explore the budget distribution among population quintiles.*

*The findings show regional disparities; some regions receive practically twice in comparison to the rest of the territories, but no clear policy to reduce those disparities is in place. The BIA discovers that the distribution favors quintiles 2 and 3. The latter coincides with what citizens and politicians already know; An interesting amount of resources goes to the terciary level, used by the less poor, and much less to preschool.*

# I. Education Sector Overview

Before analyzing the Program Budgeting itself, it would be useful to briefly contextualize the public expenditure on Education for the Peruvian case. In 2007, Peru’s GDP grew 9.0 percent (the highest growth rate observed since 1994). With this result, the Peruvian economy accumulates six years of consecutive growth in per capita terms. The current process of expansion has been taking place in a context marked by the dynamism of investment, macroeconomic balances and growing employment, and economic agents’ confidence.

That stable macroeconomic environment has boost funding sources, which have increased 38% between 2000 and 2006 (that means, 8 billion Nuevos Soles, in constant prices). To date, total funding sources fluctuate between 25 and 26 billion Nuevos Soles (1994 constant prices). That would explain why public expenditure increased significantly during this period.

The boom in the mining sector, whose exports represent nearly two thirds of total exports, has also resulted in an increase of fiscal resources and has caused a change in the fiscal structure of the national and sub national governments. The latter governments are the main budget implementers, as discussed later in this document.

Figure 1: Evolution of the public budget composition

Source: Ministry of Economics and Finance (MEF) and Financial Administration Information System (SIAF).

Figure 1 shows that even though economic growth has been strong, the percentage of spending on education has remained constant (approximately 17% of State budget). If an international education expenditure comparison is done (among Latin-American countries), it is clear that the education expenditure as a proportion of GDP in Peru is much lower than the international average. As can be seen in Figure 2, this sector represents 2.5% of Peruvian GDP, just above Ecuador in the ranking, whereas Mexico doubles that proportion and Bolivia triples it. That problem becomes even more worrying if it is taken into account a very likely misallocation of educational resources.

Figure 2: Regional comparison about Education expenditure as a proportion of GDP (%)

Source: World Bank, 2006.

Regarding public administration, Peru is experiencing a decentralization process. In 2004, Education expenditure was decentralized and executed by its 24 regions. Nowadays, they execute over 50% of public budget. The Ministry of Education (MINEDU) is the main agent for establishing policies, administering and monitoring funds, though it is also a budgeting executor, like the regions.

Besides, there is a budget accountability plan taking place, which involves a budget approval according to the results of each sector (“Presupuesto por Resultados”). However, up to now no more than 8% of the budget is executed under those requirements.

## The Structure of Education Sector

In Peru, there is not expenditure autonomy at a school level. Budget is allocated to what are called *Pliegos (Budget agencies)* and *Unidades Ejecutoras ( budget units)*. A *pliego* refers to an institutional organization that is capable of expending State resources. Below the *pliegos* are the *unidades ejecutoras (UE)*. They are the last institutional units that play an administrative and accounting role.

The main institution is the Ministry of Education (MINEDU). According to the General Law of Education (Ley N°28044) the MINEDU’s major functions are to ensure equal access for students and to coordinate with other institutional agents in order to guarantee an effective use of resources and to promote a budgeting decentralization process. The MINEDU is one of the most important *pliegos*. Even though it should move to a more normative agency, it still holds some executing activities that should be executed by regional governments.

Besides National government, the regional level also plays maybe the most important role in budget execution and policy implementation. At this level, educational projects are designed, executed and monitored at this level. A Regional government is also in charge of the modernization of the decentralization systems and the coordination with the MINEDU regarding measurement of educational attainment. Regions are in charge of paying salaries to teachers, which absorbs a great part of the budget, but however, does not have authority over human resources policies. They are considered *pliegos*, as well and have under their authority the Regional education Directorates (DRE) and the Local Management Education Units (UGEL),

On regards to local government (more than 1,800), this level of administration is also a *pliego* and shares some powers and functions with the other two. Local governments are in charge of the supervising the schools (IE) located in their district. Local governments have also the function of promoting the Consejo Participativo Local de Educación (COPALE) and boosting community’s participation on the monitoring process.

The Regional education Directorates (DRE) are institutional organisms (part of the Regional Government) accountable for ensuring equal access to school and for raising the quality of educational performance. They are also in charge of promoting Sports, Culture, Recreation, Science and Technology. For this purpose, they work with the UGEL.

On the other hand, the Local Management Education Units (UGEL) are also part of the regional government, with autonomous functions in its jurisdiction, in order to boost decentralization. They work directly with schools and teachers, specifically on capacity building and strengthening teaching skills, as well as promoting community’s participation. They depend from the DRE and not all of the UGELs are executing budget unit.

Finally, schools are the last and most important educational unit in the General Law of Education. There are public and private schools and in theory, both of them are obliged to follow the local educational project.

According to the General Law of Education, civil society is encouraged to participate on the definition and developing of the local educational project. Even when they cannot vote, they do have power for influencing on final decisions and for monitoring teacher’s performance and school administration. In some cases, student’s parents can also monitor the school budget execution.

## Current status of the education sector

As Crouch (2006) explains, there is a paradox for the Peruvian case: budget spending has been efficient in terms of educational coverage. Figure 3 shows Primary school coverage almost full (above 96% for both urban and rural areas). It can also be noticed that there is no gender differences regarding access to education.

However, there is a slight under-coverage for Secondary School and a deeper one for Preschool (especially on rural area and extreme poor communities[[1]](#footnote-1)). Even though there have had important advances in Preschool coverage since 1985 until these days (see Appendix B.1), there is still a lot of work to do. This is why the National Education Council (CNE) is prioritizing full coverage in Preschool. Besides that, coverage program is not considered a long-run challenge.

**Figure 3: Educational coverage by age range, sex and urban/rural area (2008)**

Source: Ministry of Education (MINEDU) - Estadística de Calidad Educativa (ESCALE).

Nevertheless, one of the main social problems in Peru is the educational quality. The PISA 2000 evaluation[[2]](#footnote-2) showed dramatic results: Peru ranked the lowest learning performance of all the participant countries (for both Math and Reading tests). As can be seen in Figure 4, Japan ranked first in Math with 557 points, whereas Peru, with 312 points, could not even achieve the minimum required level. Something similar happened for Reading: Peru got 307 points and ranked last.

When results were reviewed on detail, it was found no significant difference between test score of men and women. However, when public schools with private schools were compared, a huge gap was found, showing clearly that public education needs a lot of effort to improve quality.

Figure 4: Math and Reading Score Ranking for PISA 2000 evaluation

Source: PISA 2000.

Similar conclusions were obtained when national evaluations were analyzed. The “National Student Evaluation” (ECE) is the main national test, administered annually by the MINEDU. Table 1 show the 2008 ECE results; it is quite evident the low quality performance. In Reading, just 16% of students achieved the second level, while 53.1% got level 1 and 30% were below it. In the case of Math, it is worst: just 9.7% could achieve the highest level and 54.1% of students were below level 1. Moreover, it was also clear the existence of private/public gap, as well as the urban/rural gap.

Table 1: ECE 2008 performance results in Math and Reading, by sex, type of school and area (%)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Math** | | | | **Reading** | | | |
|  | **Level 2** | **Level 1** | **Below level 1** | **TOTAL** | **Level 2** | **Level 1** | **Below Level 1** | **TOTAL** |
| ***Male*** | 9.9 | 36.1 | 54 | 100 | 15.2 | 53.6 | 31.2 | 100 |
| ***Female*** | 8.9 | 35.6 | 55.5 | 100 | 18.7 | 52.5 | 28.8 | 100 |
| ***Public schools*** | 8 | 33.8 | 58.2 | 100 | 11.9 | 52.9 | 35.1 | 100 |
| ***Private schools*** | 15.3 | 44.5 | 40.2 | 100 | 37.7 | 53.8 | 8.5 | 100 |
| ***Urban area*** | 10.9 | 40.6 | 48.5 | 100 | 22.5 | 58.5 | 19 | 100 |
| ***Rural area*** | 6.2 | 26.1 | 67.6 | 100 | 5.5 | 41.9 | 52.6 | 100 |
| ***TOTAL*** | **9,4** | **35,9** | **54,7** | **100** | **16,9** | **53,1** | **30,0** | **100** |

Source: Ministry of Education - Unidad de Medición de Calidad (UMC).

a\. The ECE 2008 explores the learning performance of second-grade students.

Results in the table indicate that public schools are in a great disadvantage when they are compared with private schools. The same thing happens in the case of rural areas. Of course, learning performance is just one of the main indicators that reveal this quality gap. When other indicators were analyzed, like repetition rate, primary and secondary completion rates and illiteracy, though there have been great advances compared to year 2000, one can still notice that rural areas and extreme poor population (who generally match each other) are really below or delayed[[3]](#footnote-3).

## Quality of the Education Service Supply

In order to identify possible factors explaining the low quality of students’ performance; some educational indicators were analyzed at a regional level. An interesting indicator is the number of students per teacher (Figure 5). It is evident the huge deficit in Preschool, and that is another reason why the National Education Council through the National Education Project (PEN) has set the increase of coverage in this level as a national priority. Figure 5 also shows a relatively overcrowding at the Primary School level (if it is taken into account the empiric evidence about the correlation between the student/teacher ratio and the learning performance)[[4]](#footnote-4). Secondary school, on the other hand, shows a better indicator. However, one possible explanation is that a significant part of students’ drops out at this level, especially at the rural areas.

Figure 5: Number of students per teacher at all levels (2008)

Source: Ministry of Education (MINEDU) - Estadística de Calidad Educativa (ESCALE).

# II. PROGRAM BUDGETING ANALYSIS

## Methodology

To carry out a budget analysis for the Education sector, the Ministry of Economic and Finance (MEF) publishes data annually of national, regional and local public expenses, through its Financial Administration Information System (SIAF, for its Spanish acronym). This study analyzed this data set for years 2006-2009, using 2006 as the base year in order to avoid any inflation distortion.

The education programs at the regular basic education were examined: pre-school, primary school and secondary school. It was also examined tertiary education and other types of education, which included Alternative Education and Work Education. In addition, this study analyzed those public expenses referring to administration and strategic planning in education sector[[5]](#footnote-5).

For each one of these programs, it was necessary to identify how the government was allocating funds. Therefore, the present investigation divided spending between recurrent and capital costs, and wages versus non-wages costs. For a better understanding of this level of disaggregation, see Figure 6. Furthermore, the implemented budget was used instead of the planned or estimated one. As a result, this study explicitly analyzed the available information about the accrued public expenses.

Figure 6: Disaggregation of the cost items described in the SIAF

Recurrent spending

Capital spending

GOODS AND SERVICES

PENSIONS AND OTHER SOCIAL PROVISIONS

PERSONNEL AND SOCIAL OBLIGATIONS

OTHER CURRENT EXPENDITURES

INVESTMENTS

OTHER CAPITAL EXPENDITURES

INTERESTS AND OTHER DEBT CHARGES

DEBT PAYMENTS

NON-WAGES

WAGES

Source: SIAF

In the same way, this study explored the sources of spending for education sector in 2008 (in constant prices), taking 2006 as base year. This last source was split up according to the existing levels of management. However, it must be pointed out that this study included only those education programs already described above; that is, those programs referring to the acquisition of elemental and profound skills which are developed inside a classroom.

## Sources of Education Spending

Table 2: Sources of Education Spending, 2008 (In thousands of Nuevos Soles, constant prices 2006)1/

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Expenditures (amount)** | **Percent of GDP** | **Percent of sector expenses** |
| **Education** |  |  |  |
| TOTAL | 10,498,266.13 | 3.12% | 100.00% |
|  |  |  |  |
| Government | 9,758,201.49 | 2.90% | 92.95% |
| *National* | 3,068,777.04 | 0.91% | 31.45% |
| *Regional* | 5,565,138.43 | 1.65% | 57.03% |
| *Local* | 1,124,286.02 | 0.33% | 11.52% |
|  |  |  |  |
| Household | 740,064.64 | 0.22% | 7.05% |

Source: MEF – Transparencia Económica.

*¿Who does spend the money and what for?* As can be seen in Table 2, Regional government’s budget execution is 57% of total, considerably high for Peruvian standards. This spending is mostly aimed at teachers’ wages, infrastructure’s maintenance and school materials. Local government has also increased its budget participation, due to the Educational Decentralization National Plan started on 2007 (*municipalización*). An overlap of functions was found in this pilot program; however, a better coordination between governments is expected for coming years.

Peru, a middle-income country, is financed mainly by both direct and indirect taxes. At the end of 2006, the Value Added Tax (IGV, by its Spanish acronym) represents 40.8%, while Income Tax (IR) was 35% of the total of tax and non-tax revenues. Tax revenues as a percentage of GDP represent 14.9%. Besides taxes revenues, national government also collects financing sources from canon and royalties (paid by Mining sector, out from the 50% of their profits), which in turn are transferred to the regional and local governments that are affected by the mining extraction process.

These canon and royalties transfers have made the decentralization process easier, but have also caused an unequal resource allocation, between mining and non-mining regions. Another problem regarding canon and royalties is that they can only be spent on infrastructure projects. Hence, they cannot be used for other kind of educational programs. However, this limitation has been overcome by some regions, whose technicians prepared investment projects for learning improvements through capital investments with in-service coaching, in-classroom observations and monitoring and other activities mainly paid with as recurrent expenses outside the projects.

Table 3: Central Government Current Revenues

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Millions of Nuevos Soles | | | Percentage | | % of GDP | | |
|  | **2005** | **2006** | **2007** | **2005** | **2006** | **2005** | **2006** | **2007** |
| *Tax Revenue* | ***35,589*** | ***45,485*** | ***52,454*** | ***86.7*** | ***86.3*** | ***13.6*** | ***14.9*** | ***15.4*** |
| Income Tax | 11,188 | 18,414 | 22,847 | 27.3 | 34.9 | 4.3 | 6.0 | 6.7 |
| Value Added Tax | 18,302 | 21,517 |  | 44.6 | 40.8 | 7.0 | 7.0 | 7.4 |
| Excise Tax | 4,066 | 4,042 | 4,291 | 9.9 | 7.7 | 1.6 | 1.3 | 1.3 |
| Import taxes | 3,143 | 2,847 | 2,198 | 7.7 | 5.4 | 1.2 | 0.9 | 0.6 |
| Other tax revenues | 2,980 | 3,369 | 3,848 | 7.3 | 6.4 | 1.1 | 1.1 | 1.1 |
| Tax refund | -4,090 | -4,704 | -5,989 | (10.0) | (8.9) | (1.6) | (1.5) | (1.8) |
| *Non-tax Revenues* | ***5,458*** | ***7,229*** | ***8,659*** | ***13.3*** | ***13.7*** | ***2.1*** | ***2.4*** | ***2.5*** |
| *TOTAL* | ***41,047*** | ***52,714*** | ***61,113*** | ***100*** | ***100*** | ***15.7*** | ***17.3*** | ***17.9*** |

Source: MEF, Banco de la Nación y SUNAT. BCRP, Weekly Report N° 35, 2007.

## Results and Discussion

One of the national targets, set in political documents and agreements between political parties and civil society, is to increase the proportion of education expenditure to 6% of GDP. However, it is not clear which are the targets for quality learning performance. There are some efforts that aimed at this last point, like the initiative to link the budget with specific goals (“Presupuesto por Resultados”, PpR). For the case of the Education sector, national government designed a program focused on second grade, but it is on its initial phase and the budget allocated on this program is still not enough and does not have the expected results either so far.

Table 4: Recurrent and capital spending by facility level, amount (in thousands of Nuevos Soles, constant prices 2006 )

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2006** | **2007** | **2008** | **2009** | **2010 (Budgeted)** |
| **Preschool** |  |  |  |  |  |
| Recurrent | 646,958.47 | 673,580.62 | 675,560.80 | 758,145.87 | 759,789.82 |
| Wages | 580,148.39 | 601,145.50 | 601,067.89 | 707,236.28 | 672,825.63 |
| Non-Wages | 66,810.07 | 72,435.12 | 74,492.91 | 50,909.60 | 86,964.19 |
| Capital | 8,422.37 | 12,375.15 | 10,253.60 | 31,955.93 | 25,814.88 |
| **Primary** |  |  |  |  |  |
| Recurrent | 2,656,245.98 | 2,752,543.84 | 2,854,152.29 | 3,059,067.25 | 3,033,740.50 |
| Wages | 2,514,369.43 | 2,509,800.10 | 2,442,531.13 | 2,769,108.16 | 2,683,850.01 |
| Non-Wages | 141,876.55 | 242,743.74 | 411,621.17 | 289,959.09 | 349,890.49 |
| Capital | 153,512.22 | 418,832.36 | 750,100.96 | 878,601.09 | 706,420.80 |
| **Secondary** |  |  |  |  |  |
| Recurrent | 2,063,622.27 | 2,252,985.10 | 2,125,768.38 | 2,337,140.92 | 2,164,363.07 |
| Wages | 1,995,489.12 | 2,044,589.49 | 1,989,173.24 | 2,112,701.50 | 2,024,560.78 |
| Non-Wages | 68,133.15 | 208,395.61 | 136,595.14 | 224,439.42 | 139,802.30 |
| Capital | 217,842.92 | 216,932.55 | 481,556.49 | 631,622.48 | 391,410.82 |
| **University** |  |  |  |  |  |
| Recurrent | 1,263,741.17 | 1,318,434.01 | 1,370,782.47 | 1,747,730.86 | 1,666,268.88 |
| Wages | 848,183.32 | 864,881.83 | 923,624.07 | 1,242,649.55 | 1,222,627.61 |
| Non-Wages | 415,557.85 | 453,552.18 | 447,158.40 | 505,081.31 | 443,641.27 |
| Capital | 295,043.34 | 389,170.99 | 480,152.90 | 308,560.97 | 206,154.37 |
| **Other Education** | |  |  |  |  |
| Recurrent | 420,677.93 | 480,132.69 | 425,321.43 | 436,035.08 | 541,134.27 |
| Wages | 361,639.98 | 357,813.33 | 336,100.41 | 319,276.35 | 313,006.24 |
| Non-Wages | 59,037.96 | 122,319.37 | 89,221.02 | 116,758.73 | 228,128.03 |
| Capital | 16,796.63 | 34,549.62 | 33,280.62 | 57,459.35 | 38,016.14 |
| **Ministerial and Regional Administration** | | |  |  |  |
| Recurrent | 555,121.34 | 591,745.17 | 636,370.22 | 654,134.54 | 699,716.63 |
| Wages | 354,119.02 | 370,329.14 | 377,138.23 | 487,117.82 | 488,553.18 |
| Non-Wages | 201,002.32 | 221,416.04 | 259,231.99 | 167,016.72 | 211,163.45 |
| Capital | 49,043.91 | 29,627.53 | 19,672.05 | 22,672.04 | 22,945.23 |

Source: Ministry of Economics and Finance – Transparencia Económica

Table 5: Recurrent and capital spending by facility level, percentage (%)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2006** | **2007** | **2008** | **2009** | **2010 (Budgeted)** |
| **Preschool** |  |  |  |  |  |
| % Total |  |  |  |  |  |
| Recurrent | 98.71% | 98.20% | 98.50% | 98.72% | 98.72% |
| Capital | 1.29% | 1.80% | 1.50% | 1.28% | 1.28% |
| % Recurrent |  |  |  |  |  |
| Wages | 89.67% | 89.25% | 88.97% | 84.25% | 84.25% |
| Non-Wages | 10.33% | 10.75% | 11.03% | 15.75% | 15.75% |
| **Primary** |  |  |  |  |  |
| % Total |  |  |  |  |  |
| Recurrent | 94.54% | 86.79% | 79.19% | 81.95% | 81.95% |
| Capital | 5.46% | 13.21% | 20.81% | 18.05% | 18.05% |
| % Recurrent |  |  |  |  |  |
| Wages | 94.66% | 91.18% | 85.58% | 87.63% | 87.63% |
| Non-Wages | 5.34% | 8.82% | 14.42% | 12.37% | 12.37% |
| **Secondary** |  |  |  |  |  |
| % Total |  |  |  |  |  |
| Recurrent | 90.45% | 91.22% | 81.53% | 85.71% | 85.71% |
| Capital | 9.55% | 8.78% | 18.47% | 14.29% | 14.29% |
| % Recurrent |  |  |  |  |  |
| Wages | 96.70% | 90.75% | 93.57% | 90.09% | 90.09% |
| Non-Wages | 3.30% | 9.25% | 6.43% | 9.91% | 9.91% |
| **University** |  |  |  |  |  |
| % Total |  |  |  |  |  |
| Recurrent | 81.07% | 77.21% | 74.06% | 89.17% | 89.17% |
| Capital | 18.93% | 22.79% | 25.94% | 10.83% | 10.83% |
| % Recurrent |  |  |  |  |  |
| Wages | 67.12% | 65.60% | 67.38% | 67.18% | 67.18% |
| Non-Wages | 32.88% | 34.40% | 32.62% | 32.82% | 32.82% |
| **Other Education** | |  |  |  |  |
| % Total |  |  |  |  |  |
| Recurrent | 96.16% | 93.29% | 92.74% | 81.93% | 81.93% |
| Capital | 3.84% | 6.71% | 7.26% | 18.07% | 18.07% |
| % Recurrent |  |  |  |  |  |
| Wages | 85.97% | 74.52% | 79.02% | 79.39% | 79.39% |
| Non-Wages | 14.03% | 25.48% | 20.98% | 20.61% | 20.61% |
| **Ministerial and Regional Administration** | | | |  |  |
| % Total |  |  |  |  |  |
| Recurrent | 91.88% | 95.23% | 97.00% | 97.09% | 97.09% |
| Capital | 8.12% | 4.77% | 3.00% | 2.91% | 2.91% |
| % Recurrent |  |  |  |  |  |
| Wages | 63.79% | 62.58% | 59.26% | 71.40% | 71.40% |
| Non-Wages | 36.21% | 37.42% | 40.74% | 28.60% | 28.60% |

Source: Ministry of Economics and Finance – Transparencia Económica

Table 6: Recurrent and capital spending by sector, amount (In thousands of Nuevos Soles, constant prices 2006)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2006** | **2007** | **2008** | **2009** | **2010 (Budgeted)** |
| **TOTAL Education Expenditures** | | |  |  |  |
| Recurrent | 7,606,367.16 | 8,069,421.43 | 8,087,955.59 | 8,992,254.53 | 8,865,013.17 |
| Wages | 6,653,949.25 | 6,748,559.37 | 6,669,634.97 | 7,638,089.67 | 7,405,423.45 |
| Non-Wages | 952,417.91 | 1,320,862.06 | 1,418,320.63 | 1,354,164.85 | 1,459,589.72 |
| Capital | 740,661.39 | 1,101,488.19 | 1,775,016.63 | 1,930,871.86 | 1,390,762.24 |

Source: Ministry of Economics and Finance – Transparencia Económica

When one analyzes budget on detail, it turns clear the lack of clarity and overlapping and behind budget items. As it has been specified in the Assumptions section of this document, many assumptions must be made in order to clean the data to perform program analysis. The program budgeting analysis let one understand the weight of each of the input expenditure on the program budget. This is a relevant analysis considering that, for example, in many sectors wages are fixed costs that have an important weight on the total costs of the sector. The following bullets are some of the main conclusions obtained from the program budgeting analysis and other linked issues currently on debate that must be mentioned to better understand the budget process and education sector performance:

* *Wages lead the Education budget.* As Crouch (2006) and Alvarado and Morón (2008) claim, Education budget have been absorbed basically by teacher’s wages. Wages have inflated budget due to the salary raise as well as the reduction of the student/teacher ratio. Crouch (2006) compared those countries that were ranked at the top of PISA evaluation and concluded that salary spending should represent 65% or 70% of total expenditure and current expenses should be a maximum of 89%. Actually, this last point should be analyzed again for the Peruvian case, considering that there is still an infrastructure (investment) deficit in some areas of the country (mostly rural). In Peru, current expenses are 80% of total expenditure in Education sector and wages represent 82.42% of current expenditure, which means 67.61% of total expenses.
* Although wages lead Education budget, Capital is the item that has increased faster, in 2009 it reached almost three times the 2006 capital budget for the case of Preschool and four times for Primary school. This may be explained for the countercyclical policy implemented to counteract the international economic recession. Other Education Capital investment has also increased considerably, at an annual average of 80% (see Appendix A.2). In general, Primary is the level that has the higher increase (an annual average rate of 13.38% for three years). In contrast, it was found that the Non-wage item (goods and services, basically) has decreased comparing with 2006, at an annual average of -7.93% for Preschool and -5.64% for Ministerial and Regional Administration[[6]](#footnote-6).

Table 7: Recurrent and capital spending by sector, percentage

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2006** | **2007** | **2008** | **2009** | **2010 (Budgeted)** |
| **TOTAL Education Expenditures** | | |  |  |  |
| % Total |  |  |  |  |  |
| Recurrent | 91.13% | 87.99% | 82.00% | 86.64% | 86.64% |
| Capital | 8.87% | 12.01% | 18.00% | 13.36% | 13.36% |
| % Recurrent |  |  |  |  |  |
| Wages | 87.48% | 83.63% | 82.46% | 82.15% | 82.15% |
| Non-Wages | 12.52% | 16.37% | 17.54% | 17.85% | 17.85% |

Source: Ministry of Economics and Finance – Transparencia Económica

* The unclear decentralization process regarding who spend and how much is still an issue. The amount of money allocated is not the problem, but the autonomy of functions and the spending power are. In many countries, Peru included, central government is in charge of fundraising. That system works pretty well in Peru (otherwise, it has been proved that some regional governments would be in fiscal deficit if they were self-financed). However, there is a strong debate about the power of regions for deciding their spending priorities.
* There are some restrictions for budget execution, like the fact that some funding sources (like canon and royalties) cannot be used except for investment purposes. The problem is that there is a misspecification of what investment means. For example, those programs related to investment in human capital (like coaching for teachers) are actually considered current expenses and hence they cannot have access to those funding sources. It is not intended to suggest that canon and royalties should be able for any kind of spending, but certainly it is suggested that some programs that are considered current expenditure should actually be reconsidered as investments.

Figure 7: Preschool Spending per student, by regional rurality index (2008)

Source: Ministry of Economics and Finance – SIAF. Elaborated by authors.

* The funding allocation is very unequal. It is not taken into account the real costs per student or neither the poverty index by region. That problem is more serious knowing that educational costs have not been standardized. As Figure 8 shows, there is apparently a slight inverse correlation between the rurality index and the expenditure per student. The next figure, which shows for example the relationship between rurality (measured by the % of rural population) and the per capita budget in primary. The first conclusion is that the financing is favoring the more dense areas or urban areas, even though the costs to provide the service in rural areas are higher due to the low density and number of students per teacher. The figure shows that some regions have received twice or more in comparison to others.
* Budget is planned annually and it does not seem to be linked with a long-run or a medium-term educational plan. That is why the Ministry of Education has proposed a multiannual budget, which would be planned for a period of three years.

Figure 8: Primary spending per student, by regional rurality index (2008)

Source: SIAF. Elaborated by authors.

* The regional autonomy in expending is another critical point. Regional governments have many restrictions for deciding what to do with their funding sources. This problem represents a limitation for any regional management initiative, which includes a system of performance incentives, meritocracy, etc.
* As it has been already mentioned in this document, there is not a performance incentive system that links funding access with specific achievements. France and New Zealand have well-implemented this system, including incentives and disincentives depending on a good or bad performance.

Other related issue is that the sector has to have a better picture of what the costs -measured by the indicator “cost per student” - and its cost structure are -for example direct and indirect. Having the information of costs per students will improve the allocation process, and not merely following the costs of inputs such as teacher wages. Likewise, the allocation will consider the difference between urban and rural settings, due to their difference in cost structure; less dense communities will have more expensive system. As a recommendation, and agreed by several public officials, there is a need to have standard costs based on the better practice. An important contribution will be to analyze the real costs of learning materials, and not only human resources. Teacher’s productivity improves when they have the right inputs in the classroom. Contrary to that vision, in Peru, the items of goods and services, and infrastructure has been always very low.

Budget management is limited by the institutional bottlenecks and the lack of flexibility of the administrative systems[[7]](#footnote-7). One of the problems mentioned constantly by public technical and elected authorities at the regions is the transaction cost which occurs along the implementation budget process. In a recent speech of Allen Schick[[8]](#footnote-8) in Perú (July 2009), about the Result Based Budget in Peru, made reference to the complicated and excessive normative Peruvian scheme; concluding that the problem is not the programming but the implementation.

The institutional bottleneck at the end makes every sol or dollar less effective at the school level due to factors such as lack of opportunity.

* There is no link between the responsibility on budget and the responsibility on achievements. As it has been explained, not all the UGEL’s are *Unidades Ejecutoras*. For those UGEL’s that has budget execution power (that is, they are UE) is more likely that they can process their funding needs faster than those UGEL’s that are not UE (these last ones have to make and additional step in order to get more funding).
* Institutional strengthening is necessary, as well as the strengthening of manpower, information technologies, etc. There is no information system that facilitates the linkage between performance indicators and funding access. International experience suggests successful monitoring systems for education sector, but it still lacks a managing system.
* Parental involvement also can be an extra-monitoring system. At present, participatory budget has been an instrument for prioritizing and legitimizing investments, but it can also be useful for monitoring both spending and school operation.

# III. BENEFIT INCIDENCE ANALYSIS

## Methodology

The first step was to get the public school enrollment, for Preschool, Primary and Secondary Education. This data was available on the National Statistical Institute’s website (INEI). It was used the National Household Survey (ENAHO) for obtaining the required information about the regular basic education, for the year 2008. In order to be consistent with the purpose of this research, the study focuses only in the data available for public school students under 18 years of age; except for tertiary level.

The second step was to estimate the government subsidy to each Education program already described at the first section. To avoid an overestimation of the government expenditure, it was excluded the household spending on education from the SIAF data set. Then, it was calculated the per-student government subsidy for school enrollment.

Finally, using the ENAHO data set it was possible to estimate the school enrollment by household spending quintile. This last step allowed us to obtain the estimation of the government subsidy by spending quintile. It was also carried out a percentage analysis for a better understanding of collected information. Subsequently, the expenditure per quintile by level was examined (government subsidies for preschool, primary or secondary education program).

## Data sources

As it has been already mentioned, for this section of the project, two data sets were used and were easily downloaded from their respective websites. The first one was the SIAF data, to find out information about the spending on public education. On the other hand, the ENAHO data set was used to collect the required information about the household spending and some specific individual characteristics, referring basically to their educational status.

### B.1. The Financial Administration Information System (SIAF)

The SIAF, also an accounting system, is a budgeting monitoring system that could allows analyzes for different levels. The education budget can also be disaggregated by function and programs. A different classification of budget is by sources of spending; that is, how much of the government budget is coming from direct collection, taxes, canon, royalties, donations or transfers. Finally, the researcher can also identify the spending on wages, goods and services, investments, amortization, interests and debt charges, etc.

Each category already mentioned can be analyzed by its expenditure cycle, so it is possible to know if the budgeting program is in the commitment and pipeline stage, accrued stage or payment cycle. Likewise, it is possible to identify the Institutional Opening Budget (PIA), which permits to make a comparison between the planned budget and the actually executed. This information is useful as an expenditure efficiency measurement .

### B.2. Population Surveys: The National Household Survey (ENAHO)

The ENAHO is a quarterly survey carried out by the National Institute of Statistics and Information Sciences (INEI). This survey is useful to make statistical inference at a national, regional and urban/rural level. The main set of variables is referred to the following sectors: Education, Health, Social Programs, Employment, Living Conditions, Family Income and Family Expenses. For the purpose of this research, the Education and Summary Modules were quite useful to collect information about the age, educational status and family expenses.

## Results and Discussion

Table 8: Per-student government subsidy for school enrollment, by facility level (2008)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **In Soles** | **Unit Subsidy** |  | **In US dollars** | **Unit Subsidy** |
| **Preschool** | 1,115.04 |  | **Preschool** | 381.86 |
| **Primary** | 1,552.95 |  | **Primary** | 531.83 |
| **Secondary** | 1,457.02 |  | **Secondary** | 498.98 |
| **Tertiary** | 4,246.00 |  | **Tertiary** | 1,454.11 |

Source: MEF. INEI. Elaborated by the authors.

a\.Average Exchange rate for 2008: S/.2.92 per dollar.

Table 8 shows the unit government subsidy by facility level. It can be seen that Tertiary Education (which includes Institutes, Universities and Post-graduate education) is by far the most subsidized level (S/.4089 per student), while Preschool is the less subsidized: the government invests approximately S/.1115 per student. These results are relatively consistent with the MINEDU’s 2003 report, which points out that public expenditure per student is 2409 PPP dollars in Universities[[9]](#footnote-9), 360 PPP dollars in Preschool and Primary school and 518 PPP dollars in Secondary school. As can be seen, Tertiary education subsidy per student has been considerably bigger than for the rest of facility levels, probable because there are a lot of additional materials usually quite more expensive and specialized (depending on the career, for example). Moreover, taken into account that Tertiary Education is not widespread enough, is expected to find that subsidy is not well focused.

Table 9 gives us an approximation of the distribution of the public expenditure. As can be derived from the school coverage described in the first section of this document, Primary school has the largest number of students for all expenditure quintiles. Tertiary education, on the other hand, not only has far fewer students, but also is seen that the majority of them come from the highest expenditure quintiles.

**Table 9: Estimated school enrollment by expenditure quintile and facility level (2008)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TOTAL** | **Expenditure quintile** | | | | | |
|  | 1 | 2 | 3 | 4 | 5 | **Total** |
| **Preschool** | 157,843 | 149,812 | 133,931 | 130,242 | 109,894 | 681,722 |
| **Primary** | 619,923 | 575,512 | 519,722 | 483,573 | 373,737 | 2,572,467 |
| **Secondary** | 310,118 | 377,776 | 436,486 | 448,080 | 410,995 | 1,983,455 |
| **Tertiary/University** | 23,830 | 42,269 | 58,238 | 120,851 | 237,987 | 483,175 |
| **Total** | 1,111,714 | 1,145,369 | 1,148,377 | 1,182,746 | 1,132,613 | 5,720,819 |

Source: MEF. INEI.

Table 10: Distribution of Benefits of Education Spending, by Expenditure Quintile (%)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Total** | **Expenditure quintile** | | | | | |
| **Education level** | 1 | 2 | 3 | 4 | 5 | **Total** |
| **Preschool** | 23.15% | 21.98% | 19.65% | 19.10% | 16.12% | 100.00% |
| **Primary** | 24.10% | 22.37% | 20.20% | 18.80% | 14.53% | 100.00% |
| **Secondary** | 15.64% | 19.05% | 22.01% | 22.59% | 20.72% | 100.00% |
| **Tertiary/University** | 4.93% | 8.75% | 12.05% | 25.01% | 49.25% | 100.00% |
| **Total** | 17.45% | 18.47% | 18.97% | 21.27% | 23.85% | 100.00% |

Source: MEF. INEI.

If one considers the access to education as a human right, a normative approach would suppose an equal distribution of public spending. However, the scarcity of resources is a key factor in understanding the need for avoiding a large government subsidy to the highest expenditure quintiles. Since the quality of education in Peru is well below international standards and considering that there are private schools which are quite better than public ones, and taken into account that the richest expenditure quintiles can easily afford it, there are reasons to expect a large government subsidy to the poor.

Table 11. Distribution of Benefits of Education Spending.

An overview (percentage)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TOTAL** | **Expenditure quintile** | | | | | |
| **Education level** | 1 | 2 | 3 | 4 | 5 | **Total** |
| **Preschool** | 1.82% | 1.72% | 1.54% | 1.50% | 1.26% | 7.84% |
| **Primary** | 9.93% | 9.22% | 8.32% | 7.74% | 5.99% | 41.20% |
| **Secondary** | 4.66% | 5.68% | 6.56% | 6.73% | 6.18% | 29.80% |
| **Tertiary/University** | 1.04% | 1.85% | 2.55% | 5.29% | 10.42% | 21.16% |
| **Total** | 17.45% | 18.47% | 18.97% | 21.27% | 23.85% | 100.00% |

Source: MEF. INEI.

Table 11 shows that the government subsidy is mainly focused on Primary education, and particularly on the three lowest expenditure quintiles (as a group they would represent approximately 28% of public education expenses). On the other hand, the Secondary education subsidy follows a normal distribution. On the whole, the total expenses (analyzed by expenditure quintiles) follow a slightly right bias in its distribution. The lowest expenditure quintile represents 17.79% of education budget, while the second quintile signifies 18.80%, the middle quintile represents 19.26%, and the two highest quintiles signifies the 21.34% and 22.81%, respectively. The ratio between the lowest and the highest quintile is 1.28. That would mean a weak bias in favor of the lowest expenditure people. According to a normative approach, this bias is still not as stronger as should be. However, for a better conclusion, it should be useful to analyze some of the coverage and quality educational indicators.

Figure 9: Basic education profile, by area of origin (Population 20-24 years old, as percentage)

Source: Ministry of Education - Estadística de la Calidad Educativa (ESCALE). 2008

Figure 9 shows that there is a vast educational quality gap between urban and rural areas. The majority of urban population, between 20 and 24 years old (81.3%), has finished Secondary school, while just 45.5% of rural population has graduated from this level.

Moreover, the difference between urban and rural areas has to be taken into account. Several of the indicators, such as the level of education measured by the students in their normative age and depicted in figure 9, certifies that the rural areas are completely behind. It provides more evidence that the way to equalize the treatment rural/urban areas would have to include other elements in their costs.

Figure 10: Distribution of benefits, by facility level and expenditure quintile, 2008

Source: National Statistics Institute. Ministry of Economics and Finance.

a\. The size of bubbles represents the amount of subsidy (in Nuevos Soles)

The figure 10 summarizes in one single diagram the distribution of resources among quintiles and levels of education. A very small and constant amount of resources is directed to preschool, a larger, actually the largest chunk of resources, goes to primary level and it is slightly progressive; the level of the amount and progressivity decreases in the secondary level. Finally, the pattern changes dramatically in tertiary level, where most of the resources go to the relative less population. This figure is actually incomplete or does not tell the entire story; one must review other indicators like coverage to complement these findings.

# IV. Equity at the regional scene

As an extension of the BIA analysis, it would have been quite useful to compare rural and urban areas. However, the data set available has some restrictions that limit a proper analysis (specifically regarding the SIAF dataset). However the team was able to perform a regional analysis and identify how much of the public expenditure is spent for each of the twenty-five regions. The BIA analysis has been extended to a group of regions and looks for patterns and differences depending on their regional location.

These regions have been regrouped taken into account their geographical, social and economic similarities. For example, the Costa Norte region (Table 12) presents that a very small percentage of the public expenditure goes to Preschool education (8.39% of the total budget for that region). About the distribution of budget for Primary school, there is a moderate concentration in the first quintiles, and it is the level that spends the most (39.40%). In Secondary Education, there is a slight focus on the middle quintiles. Finally, for Tertiary education there is a clear bias to the relative richest quintile. This is explained by the simple fact that young people who come from the lowest quintiles do not usually go to university or any kind of Tertiary education. Instead, they are forced to work in order to support household spending.

Table 12: Distribution of benefits of budget in Macro-region 1, by facility level and expenditure quintile, 2008

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Costa Norte** | **Expenditure quintile** | | | | | |
| **Education level** | 1 | 2 | 3 | 4 | 5 | **Total** |
| **Preschool** | 1.77% | 1.98% | 1.64% | 1.79% | 1.22% | 8.39% |
| **Primary** | 11.35% | 9.53% | 7.49% | 6.22% | 4.81% | 39.40% |
| **Secondary** | 4.77% | 6.40% | 6.29% | 7.18% | 5.41% | 30.05% |
| **Tertiary/University** | 1.61% | 0.95% | 2.82% | 6.75% | 10.02% | 22.15% |
| **Total** | 19.50% | 18.86% | 18.24% | 21.94% | 21.46% | 100.00% |

Source: MEF. INEI.

For the Sierra region, Table 13 shows a similar structure, but in spite of what would have been expected, there is a bit deeper bias in favor of the highest quintiles. Considering that the Sierra region concentrates the majority of the poor population and rural areas, this problem becomes more serious, since it is not legitimate that 11.42% of the Sierra region budget goes to the highest quintile whereas there is still an important shortage of quality education and a significant under-coverage in Preschool, especially for the lowest quintiles.

Table 13: Distribution of benefits of budget in Macro-region 2, by facility level and expenditure quintile, 2008

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sierra** | **Expenditure quintile** | | | | | |
| **Education level** | 1 | 2 | 3 | 4 | 5 | **Total** |
| **Preschool** | 1.92% | 1.60% | 1.48% | 1.43% | 1.15% | 7.58% |
| **Primary** | 9.79% | 9.42% | 9.00% | 7.97% | 5.99% | 42.17% |
| **Secondary** | 4.65% | 5.19% | 6.33% | 6.55% | 6.10% | 28.83% |
| **Tertiary/University** | 0.58% | 1.62% | 2.19% | 5.62% | 11.42% | 21.42% |
| **Total** | 16.94% | 17.83% | 19.00% | 21.57% | 24.66% | 100.00% |

Source: MEF. INEI.

Table 14: Distribution of benefits of budget in Macro-region 3, by facility level and expenditure quintile, 2008

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Costa Sur** | **Expenditure quintile** | | | | | |
| **Education level** | 1 | 2 | 3 | 4 | 5 | **Total** |
| **Preschool** | 1.41% | 1.59% | 2.12% | 1.48% | 1.44% | 8.04% |
| **Primary** | 6.20% | 5.58% | 5.41% | 5.57% | 4.21% | 26.97% |
| **Secondary** | 5.69% | 7.37% | 7.61% | 6.68% | 5.98% | 33.33% |
| **Tertiary/University** | 3.30% | 4.03% | 5.41% | 6.36% | 12.55% | 31.65% |
| **Total** | 16.60% | 18.56% | 20.55% | 20.10% | 24.18% | 100.00% |

Source: MEF. INEI.

The budget distribution for the Costa Sur region is quite similar to the Sierra one (see Table 14), but it must be noticed that percentage of the public expenditure allocated to Primary education (26.97%) is a bit less that for Secondary (33.33%) and Tertiary (31.65%). On the other hand, the Selva region seems to have a better distribution: Preschool represents 10.73% and the lowest quintiles are the most benefited in Primary education. Even though the fifth quintile is the main beneficiary in Tertiary education, this facility level represents 13.70% of total expenditure.

Table 15: Distribution of benefits of budget in Macro-region 4, by facility level and expenditure quintile, 2008

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Selva** | **Expenditure quintile** | | | | | |
| **Education level** | 1 | 2 | 3 | 4 | 5 | **Total** |
| **Preschool** | 2.75% | 2.32% | 2.20% | 1.96% | 1.51% | 10.73% |
| **Primary** | 13.03% | 10.44% | 8.65% | 7.09% | 5.31% | 44.52% |
| **Secondary** | 4.30% | 6.58% | 6.90% | 7.28% | 5.97% | 31.04% |
| **Tertiary/University** | 0.42% | 1.58% | 2.55% | 3.29% | 5.86% | 13.70% |
| **Total** | 17.87% | 20.92% | 20.29% | 19.62% | 18.66% | 100.00% |

Source: MEF. INEI.

Finally, the Lima region, the metropolitan area, seems to have the less equitable allocation. When total expenditure is analyzed, it is noticed that the richest quintile absorbs 28.06% of budget, whereas the poorest quintile represents just the 14.44%. This could be explained by the fact that Lima concentrates the majority of the young population who goes to Tertiary education, usually from the highest quintiles.

Table 16: Distribution of benefits of budget in Macro-region 5, by facility level and expenditure quintile, 2008

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Lima** | **Expenditure quintile** | | | | | |
| **Education level** | 1 | 2 | 3 | 4 | 5 | **Total** |
| **Preschool** | 1.99% | 2.19% | 1.77% | 1.78% | 1.86% | 9.59% |
| **Primary** | 6.12% | 6.73% | 6.29% | 7.68% | 6.39% | 33.21% |
| **Secondary** | 4.74% | 5.69% | 7.10% | 6.78% | 7.20% | 31.52% |
| **Tertiary/University** | 1.59% | 2.88% | 3.01% | 5.59% | 12.61% | 25.68% |
| **Total** | 14.44% | 17.50% | 18.17% | 21.84% | 28.06% | 100.00% |

Source: MEF. INEI.

# V. Conclusions and Policy Implications

The relationship between sector results and budget is a difficult task. In Peru, there is a pilot in one primary subprogram to link learning performance and financial levels. One of the facts that appear in this paper is that we still need in Peru a general framework of the budget organized by programs, and actually a better one. The program structure will allow us to measure the degree of commitment that the State has with education and the priorities set inside the sector. In terms of instruments, a good definition of Budget Programs can lead to an easier way to work with Result Based Budget inside each program, instead of single interventions with no clear impact.

Education in the last years has been representing between 16 and 18 percent of the public budget, and less than 3 per cent of the GDP. This low level of investment in comparison to other countries, even in Latin America, does not tell us much if one does not research the causality of such low investment, but with relative high coverage/registration in primary and secondary. This measurement can also lead us to the wrong conclusion if one does no manage the standard amount of cost per student.

Many years we have observed how preschool education is under financed and how tertiary education is favoring the less poor and still gets a big chunk of the budget. However, all the levels of education are important; as somebody indicated “education is like a table, its four legs are important, favoring one over the other ones, can cause that the table will be unstable”. For that purposes, education specialists are recommending credit schemes to facilitate tertiary education for the poor, but, it is also important to reduce dropout rates of the same poor in the secondary level.

Another interesting fact in Peru is the relative budgetary power of the regional governments, with high levels of expenditure but with little or none autonomy to spend. National government still pays 37% of the budget, while regions represent 57 percent and municipalities a little bit less. Paradoxical, not even in the decentralization process, regions have freedom to decide the majority of their expenditures because they pay the payrolls; however, the national government dominates the regulation of human resources.

Peruvian budget is paying basically for coverage and is beginning to move towards quality improvement. Coverage is relative high in primary and less in secondary level. One of the pending tasks is to increase the coverage of preschool, concentrate efforts to reduce dropouts at the secondary level in the poorest quintiles and improve the spending quality in universities.

No budget policy will be successful if it does not pay, it is, attack the main problem of low quality. Policy makers will have to invest in strategies that take into account the teaching and learning improvements and focus in cost effective strategies.

If quality has deserved a lot of attention, little of it has been given to equity. In equity, gender gaps have not been statistical important; the actual gaps have been found in learning performance between public and private schools and between rural and urban schools.

The chosen path in Peru has been to migrate to a Result Based Budge (RBB). Migration to RBB would be less costly if the country has a more organized program budget. The later would allow to organized a RBB inside each program and allow each regional government to decide their own strategies to reach their regional and national goals.

As it was mentioned at the beginning of this paper, the results obtained in the analysis confirms what other NGO and academicians have found, and emphasizes the message already passed to political decisions makers: relative good coverage, bad quality, little money spend at the macro level, and not clear targeting strategies in the distributions of funds. The solutions will come when there is a stronger political decision to improve education.

# VI. Assumptions Made

## For Program Budget Analysis

The SIAF data set includes information on the Institutional Opening Budget (PIA, for its Spanish acronym), Institutional Adjusted Planning Budget (PIM) and on the accrued expenditure. This study has considered this last information for years 2006, 2007 and 2008. Nevertheless, considering that during the analysis the accrued expenses in 2009 were still in course, for this specific year it was taken into account the PIA information. That is to mean: it was assumed that at the end of the year, the PIA and the accrued expenditure will match up (or at least will be nearly close).

Furthermore, It was excluded from this analysis those programs that, even when are quite important as part of the comprehensive training system, they certainly might be regarded as complementary educational programs. Hence, the following programs were not taken into account for the analysis: Science and Technology, Gymnastic and Sports, Culture, Preparedness for Natural Disasters and, at last, Training and Improvement (aimed at teachers). In order to bring consistent results off, it was also excluded from the administration spending those institutional entities intimately related to the programs mentioned above: the National Institute of Culture, the Peruvian Institute of Sports, the National Council for Science and Technology, etcetera.

One of the main obstacles to the progress of this research was the change made in 2009 about the content and definitions used in the SIAF data set. This change represented an impediment for a proper year-to-year comparison of the educational spending for each program or subprogram. For example, the expenses aimed at literacy and adult education were included as part of the Primary Education budget until 2008. However, that was not the best procedure, considering that the primary education program refers essentially to regular basic education. As a result, in 2009 the SIAF delimited this category and created a new program: Alternative Education. This study was particularly careful to sort those subprograms out just as the same way that it was done for the year 2009. For the purpose of this research, these subprograms (Adult Education and Literacy) were included in the Other Education analysis. In the same way it was treated the Work Education program and the Adult Education program, considered as Secondary Education’s subprograms until 2008. This study analyzed them as part of the Other Education budget.

A similar procedure was used for the case of the Student Grant program. The most of this spending was aimed at college students. Consequently, it was reasonable to think that this expenditure should be considered as part of the Tertiary Education budget’s analysis. Nevertheless, Student Grant spending was treated by SIAF as a detached program. This analysis includes the Student Grant in the Tertiary Education budget.

About the education infrastructure, it is clear for the purpose of this research that the infrastructure spending should be regarded as an investment, either as part of the Primary Education budget or as part of the Secondary Education budget (it must be taken into account that this program budget refers basically to the construction and maintenance of the education buildings). The SIAF data set did not allow us to discern the exact allocation of the infrastructure expenses as part of regular basic education’s investment. For this reason, this study has assumed that the infrastructure spending must be distributed both the Primary and the Secondary Education expenditure. This study prorates this investment mount based on the percentage of Primary and Secondary enrollments.

About the budget’s categories, it was found that the SIAF the Consultancy Services Hiring (CAS, for its Spanish acronym) as part of the spending related to the Goods and Services category. However, for the purpose of this analysis, it has been assumed that CAS must be considered as part of the Wages expenses. Otherwise, this category could be underestimated and the analysis could lead us to mistaken conclusions.

Finally, in relation to the sources of spending, this study assumed that the mount of expenditure which comes from households is what the SIAF defines as Direct Collection Sources (RDR, for its Spanish acronym). This category refers to the income generated by the institutions directly involved. In the case of the Education sector, these institutions are on the whole schools and campus universities. Since the sources that they collect are basically based on enrollment payment and APAFA[[10]](#footnote-10), the assumption made is quite valid.

## For Benefit Incidence Analysis

The strongest assumption made is about the government subsidy estimation. It would not be possible to discern the socioeconomic status of each student in their schools. Moreover, it would be even more difficult for the government to accurately distinguish the expenditure quintile that benefits from its subsidy, inside each one of the public schools. As a consequence, the estimation of the per-student government spending was made assuming that the government spends equitably on every student of a public school, without considering their socioeconomic status.

On the other hand, to bring the per-student government subsidy off, it must be taken into account that the SIAF data includes information about the Direct Collection Sources (RDR, for its Spanish acronym). This category refers to the income generated by the institutions directly involved. In the case of the Education sector, these institutions are on the whole schools and campus universities. Since the sources that this category collects is based on enrollment payment and APAFA, the government subsidy was calculated without it, in order to estimate just the government subsidy and keep the household expenses out of the analysis.

# VII. Challenges to Conducting this Work

The main challenges to this research were basically linked to the data set. On the one hand, this data was entirely available and updated on the website. That was a great advantage as much as let the analysis find out consistent results. Nevertheless, there were some obstacles that hindered this research. For example, the redefinition of the entries in the budget that the SIAF did for the year 2009, demanded to be particularly careful about the reclassification and the interannual analysis. Moreover, it must be pointed out that the data set has been organized in such a way that turns difficult to get any kind of detailed information. That was a big challenge to obtaining the specific information requested by this project to make a correct year-to-year comparison.

Furthermore, the fact that the data set does not allowed identifying how much spending is assigned both to rural and urban areas hindered this key analysis. Even when it was possible to complete a rurality index in the ENAHO by region (taking the percentage of rural population as a reference to examine the budget assigned to rural areas), problem was that for the SIAF data set the disaggregated information can only be evaluated at a regional level, not by rural area. As a consequence, regions were reclassified to macro-regions (that is, regions that share some important geographical and socio-economic characteristics were regrouped). To see the list of what regions regrouped to what macro-region, see Appendix C.1.

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# X. Appendixes

## Appendix A: Budget growth rate

Figure A.1: Budget annual growth over the year 2006, by facility level and budget items

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2006** | | **2007** | | **2008** | | **2009** | | **2010 (Budgeted)** | |
| **Preschool** |  | |  | |  | |  | |  | |
| TOTAL |  | | 4.67% | | 4.64% | | 20.56% | | 19.87% | |
| Wages |  | | 3.62% | | 3.61% | | 21.91% | | 15.97% | |
| Non-Wages | | 8.42% | | 11.50% | | -23.80% | | 30.17% | |
| Capital |  | 46.93% | | 21.74% | | 279.42% | | 206.50% | |
| **Primary** |  |  | |  | |  | |  | |
| TOTAL |  | 12.87% | | 28.28% | | 40.14% | | 33.11% | |
| Wages |  | -0.18% | | -2.86% | | 10.13% | | 6.74% | |
| Non-Wages | | 71.10% | | 190.13% | | 104.37% | | 146.62% | |
| Capital |  | 172.83% | | 388.63% | | 472.33% | | 360.17% | |
| **Secondary** |  |  | |  | |  | |  | |
| TOTAL |  | 8.26% | | 14.28% | | 30.13% | | 12.02% | |
| Wages |  | 2.46% | | -0.32% | | 5.87% | | 1.46% | |
| Non-Wages | | 205.87% | | 100.48% | | 229.41% | | 105.19% | |
| Capital |  | -0.42% | | 121.06% | | 189.94% | | 79.68% | |
| **University** |  |  | |  | |  | |  | |
| TOTAL |  | 9.55% | | 18.74% | | 31.92% | | 20.12% | |
| Wages |  | 1.97% | | 8.89% | | 46.51% | | 44.15% | |
| Non-Wages | | 9.14% | | 7.60% | | 21.54% | | 6.76% | |
| Capital |  | 31.90% | | 62.74% | | 4.58% | | -30.13% | |
| **Other Education** | |  | |  | |  | |  | |
| TOTAL |  | 17.65% | | 4.83% | | 12.81% | | 32.38% | |
| Wages |  | -1.06% | | -7.06% | | -11.71% | | -13.45% | |
| Non-Wages | | 107.19% | | 51.12% | | 97.77% | | 286.41% | |
| Capital |  | 105.69% | | 98.14% | | 242.09% | | 126.33% | |
| **Ministerial and Regional Administration** | | | | | |  | |  | |
| TOTAL |  | 2.85% | | 8.59% | | 12.02% | | 19.61% | |
| Wages |  | 4.58% | | 6.50% | | 37.56% | | 37.96% | |
| Non-Wages | | 10.16% | | 28.97% | | -16.91% | | 5.06% | |
| Capital |  | -39.59% | | -59.89% | | -53.77% | | -53.21% | |

Appendix A.2: Geometric mean for budget growth, 2006-2009

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RECURRENT AND CAPITAL SPENDING BY FACILITY LEVEL, %** | | | | | |
|  | **2006** | **2007** | **2008** | **2009** | **2010 (Budgeted)** |
| **Preschool** |  |  |  |  |  |
| TOTAL |  | 4.67% | 2.32% | 6.85% | 4.97% |
| Wages |  | 3.62% | 1.80% | 7.30% | 3.99% |
| Non-Wages | | 8.42% | 5.75% | -7.93% | 7.54% |
| Capital |  | 46.93% | 10.87% | 93.14% | 51.63% |
| **Primary** |  |  |  |  |  |
| TOTAL |  | 12.87% | 14.14% | 13.38% | 8.28% |
| Wages |  | -0.18% | -1.43% | 3.38% | 1.69% |
| Non-Wages | | 71.10% | 95.06% | 34.79% | 36.65% |
| Capital |  | 172.83% | 194.31% | 157.44% | 90.04% |
| **Secondary** |  |  |  |  |  |
| TOTAL |  | 8.26% | 7.14% | 10.04% | 3.01% |
| Wages |  | 2.46% | -0.16% | 1.96% | 0.36% |
| Non-Wages | | 205.87% | 50.24% | 76.47% | 26.30% |
| Capital |  | -0.42% | 60.53% | 63.31% | 19.92% |
| **University** |  |  |  |  |  |
| TOTAL |  | 9.55% | 9.37% | 10.64% | 5.03% |
| Wages |  | 1.97% | 4.45% | 15.50% | 11.04% |
| Non-Wages | | 9.14% | 3.80% | 7.18% | 1.69% |
| Capital |  | 31.90% | 31.37% | 1.53% | -7.53% |
| **Other Education** | |  |  |  |  |
| TOTAL |  | 17.65% | 2.41% | 4.27% | 8.10% |
| Wages |  | -1.06% | -3.53% | -3.90% | -3.36% |
| Non-Wages | | 107.19% | 25.56% | 32.59% | 71.60% |
| Capital |  | 105.69% | 49.07% | 80.70% | 31.58% |
| **Ministerial and Regional Administration** | | | |  |  |
| TOTAL |  | 2.85% | 4.29% | 4.01% | 4.90% |
| Wages |  | 4.58% | 3.25% | 12.52% | 9.49% |
| Non-Wages | | 10.16% | 14.48% | -5.64% | 1.26% |
| Capital |  | -39.59% | -29.94% | -17.92% | -13.30% |

## Appendix B: Main indicators

Figure B.1: Evolution of the education coverage rate, by age range

Source: Ministry of Education - ESCALE.

Table B.1: 2000-2007 comparison of Education coverage rate, by sex and age range

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 3-5 year old | | 6-11 year old | | 12-16 year old | |
| Sex | **2000** | **2007** | **2000** | **2007** | **2000** | **2007** |
| Female | 66,4 | 70,1 | 98,8 | 97,8 | 83,1 | 86,8 |
| Male | 59,8 | 70,9 | 98,6 | 97,8 | 85,1 | 89,1 |

Source: Ministry of Education – ESCALE.

Figure B.2: Education coverage rate, by age range and region (2007)

Source: Ministry of Education – ESCALE.

Figure B.3: % of public school enrollment, by facility level and regions (ordered by rurality index), 2008

Source: Ministry of Education – ESCALE.

Figure B.4: Education coverage rate, by age range and poverty index (2007)

Source: Ministry of Education – ESCALE.

Figure B.5: Repetition rate in public schools, by facility level, sex and area (2007)

Source: Ministry of Education – ESCALE.

Figure B.6: Repetition rate in public schools, by facility level and poverty index 2007)

Source: Ministry of Education – ESCALE.

Figure B.7: Primary repetition rate, by regions and type of school (2007)

Source: Ministry of Education – ESCALE.

Figure B.8: Secondary repetition rate, by regions and type of school (2007)

Source: Ministry of Education – ESCALE.

Figure B.9: Completion rate, by facility level, poverty index and area (2007)

Source: Ministry of Education – ESCALE.

Figure B.10: Completion rate, by facility level, age range and sex (2007)

Source: Ministry of Education – ESCALE.

Figure B.11: Primary completion rate, by age range and region (2007)

Source: Ministry of Education – ESCALE.

Figure B.12: Secondary completion rate, by age range and regions (2007)

Source: Ministry of Education – ESCALE.

Figure B.13: Math Learning Performance Comparison between regions, by level achieved, 2008

Source: Ministry of Education - ECE 2008.

Figure B.14: Reading Learning Performance Comparison between regions by level achieved, 2008

Source: Ministry of Education - ECE 2008.

Figure B.15: % of second-grade students who achieved level 2 on the ECE 2007, by region (2007)

Source: Ministry of Education – ESCALE.

Figure B.16: Evolution of Illiteracy rate above 15 year-old population, by area

Source: Ministry of Education – ESCALE.

Figure B.17: Evolution of Illiteracy rate above 15 year-old population, by poverty index

Source: Ministry of Education – ESCALE.

Figure B.18: Illiteracy rate for population over 15 years old, by area and sex (2007)

Source: Ministry of Education – ESCALE.

Figure B.19: Illiteracy rate for population over 15 years old, region (2007)

Source: Ministry of Education – ESCALE.

Figure B.20: Number of Preschool students per teacher, by region

Source: Ministry of Education – ESCALE.

Figure B.21: Number of Primary students per teacher, by region

Source: Ministry of Education – ESCALE.

Figure B.22: Number of Secondary students per teacher, by region

Source: Ministry of Education – ESCALE.

## Appendix C: Methodology

Table C.1: Regroup of regions into macro-regions

|  |  |  |  |
| --- | --- | --- | --- |
| **Sierra** | Cajamarca | **Costa Sur** | Ica |
| (Macro 2) | Ancash | (Macro 3) | Moquegua |
|  | Huancavelica |  | Tacna |
|  | Huánuco | **Selva** | Amazonas |
|  | Junín | (Macro 4) | Loreto |
|  | Pasco |  | Madre de Dios |
|  | Arequipa |  | San Martín |
|  | Apurímac |  | Ucayali |
|  | Ayacucho | **Lima** | Callao |
|  | Cusco | (Macro 5) | Lima |
|  | Puno | **Costa Norte** | La Libertad |
|  |  | (Macro 1) | Lambayeque |
|  |  |  | Piura |
|  |  |  | Tumbes |

1. See Appendix B.4. [↑](#footnote-ref-1)
2. The last year Peru participated in this international standardized exam. Peru has also participated in PISA 2009 evaluation, but those results have not been published yet. [↑](#footnote-ref-2)
3. See Appendix B for more information about these last rates. [↑](#footnote-ref-3)
4. http://www.nationmaster.com/correlations/edu\_pup\_tea\_rat\_pri\_lev-pupils-teacher-ratio-primary-level [↑](#footnote-ref-4)
5. It was excluded for the analysis the following education programs: Education for Natural Disasters Preparedness, Training and Improvement (aimed at teachers), Culture-based education, Gymnastics and Sports. [↑](#footnote-ref-5)
6. See Appendix A for more information. [↑](#footnote-ref-6)
7. We are referring here at the national norms of human resources and procurement basically. [↑](#footnote-ref-7)
8. Considered one of the most knowledgeable professors on Result Based Budget at the international level, Maryland University. Speech at the Seminar organized by the Municipality of Lima and IDB in Lima August 13 y 14 , Swisshotel. [↑](#footnote-ref-8)
9. Unlike this document, in the MINEDU´s report Universities and Institutes have been considered separately. [↑](#footnote-ref-9)
10. APAFA is a Spanish acronym referred to the Parents Association (“Asociación de Padres de Familia”). The funds obtained by the APAFA are administrated by both the administration of the school and the Board of Directors of the APAFA. [↑](#footnote-ref-10)