Public Issues

Nº 987
October 15, 2010
www.lyd.org ISSN 0717-1528

Quality and Costs of Education: The Importance of a Good Analysis

Improving the quality of education is a complex task, but a crucial one to increase productivity, reduce social gaps and progress towards development.

The international evidence does not show, in the case of Chile, that quality improvement is necessarily bound to an increase of resources, as it is insistently stated in the discussion.

In the last years, the main developments in primary and secondary education have been related to coverage and infrastructure but, unfortunately, the progress in quality has been scarce. The results of the national SIMCE tests have not shown higher performances in the last 10 years, in spite of the fact that public expenditure on education has more than doubled in the same period.

Likewise, the international PISA and TIMSS tests place Chile above most of the countries of the region, but below all the countries from the Organization for Economic Cooperation and Development (OECD), except Mexico.

Fortunately, the present discussion aims precisely at improving the quality of education. In fact, the Ministry of Education (MINEDUC) entrusted an expert commission the elaboration of proposals tending to improve the teaching career and public education. A good education is an important instrument to uproot poverty, improve equal opportunities, increase productivity, and advance towards development. The effects of the current reforms in education will only be appreciated within several years, therefore it is very important that they point at the right direction and are not due to sectoral pressures.

We frequently hear that education problems are due to: (i) low expenditure on education; (ii) low salaries of the teachers; or (iii) the teaching career. However, when reviewing international studies, it seems necessary to analyze these assumptions which are always repeated in the debate, especially these days in view of the discussion concerning the Budget Law.

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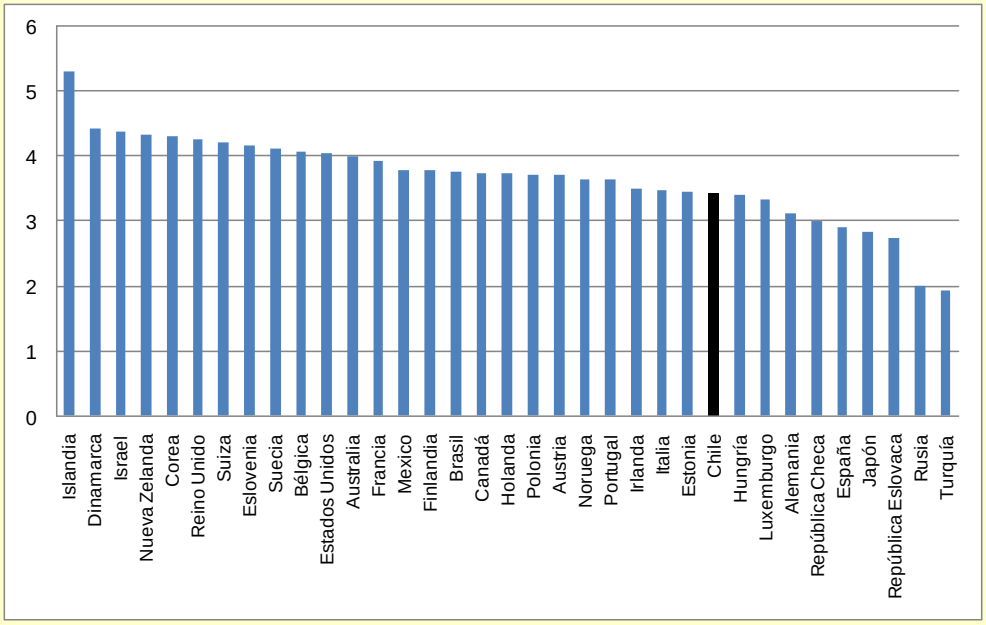
Expenditure on Education

Different actors of the national education scene are always repeating that more resources in education will entail better quality. Moreover, it is usually said that Chile spends very little in education, however, this is not so. Chart 1 shows the expenditure on education as a percentage of the GDP in the OECD associated and member countries for year 2006. In Chile, it amounted to 3.43% of the GDP on the same year.

Chart Nº1
EXEPENDITURE ON EDUCATION (% GDP)



Source: Education at a Glance 2009, OECD

Chile is not among the countries which spend more in education, but it has similar levels than the rest and even higher than Luxemburg, Germany and Japan, all countries with good results in education.

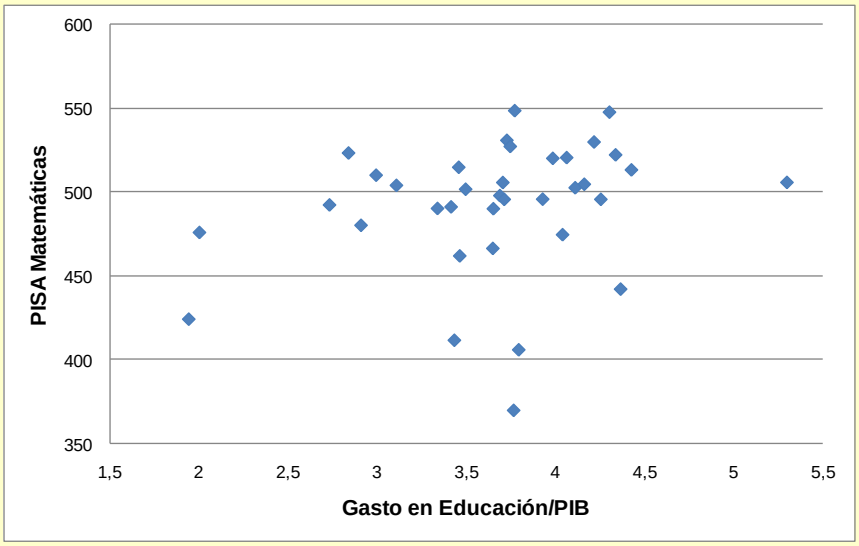
In fact, it is not very clear if there is a strong link between quality education and expenditure. Chart 2 shows that there is no clear relationship between the results of the PISA math test from 2006 and the expenditure on education as a percentage of the GDP.

Teacher's Low Salaries

Several studies have established that the quality of the teachers is an important determinant in the education outcomes (Hanushek, 2003[i], offers a review of the literature). In Chile, the quality of the teachers is a problem. Many teaching careers have encountered troubles to get accreditation and most students who decide to study education have low scores in the University Selection Test (PSU). The consequence is bad quality teachers. It is often concluded that this is a result of the low salaries received by the teachers. However, it seems that this is not so.

Chart Nº 2

RESULTS vs EXPENDITURE



Source: Self-elaboration with data from Education at a Glance 2009 and PISA 2006, OECD.

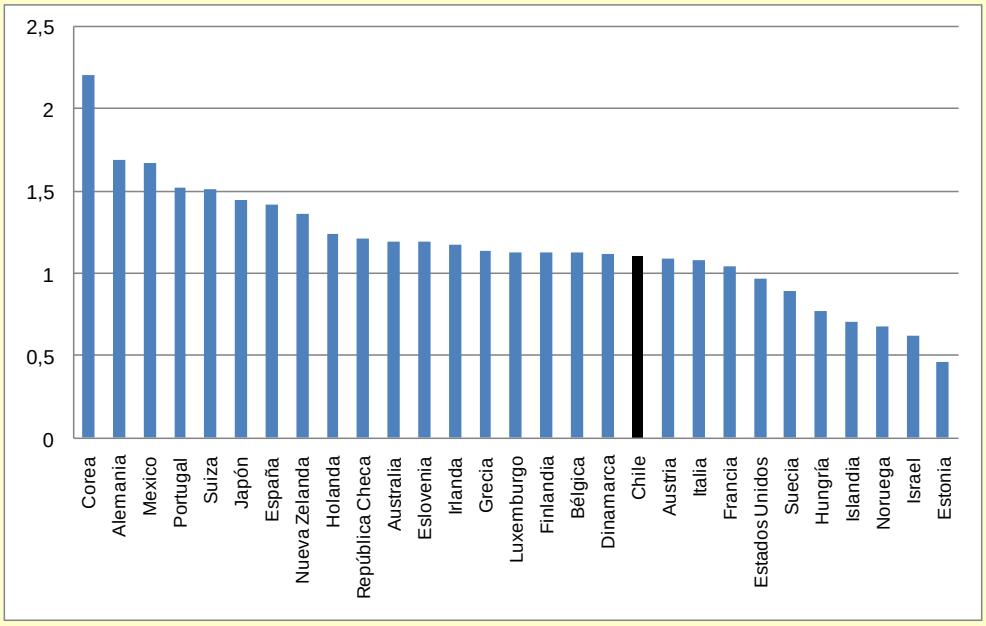
Chart 3 shows the relationship of the teachers' average salary with regard to the GDP per capita for OECD's associated and member countries, for the year 2007. In other words, how much do the teachers earn in relation to the rest of the country, a relevant measure in order to determine if studying education is attractive from the economic point of view, in relation to other available jobs in the country. In the case of Chile, the teachers earn 1.11 times the GDP per capita.

Sometimes, the absolute salary of the Chilean teachers is compared with those of more developed countries, but it is not a suitable comparison because, in those countries, the salaries of hairdressers, taxi drivers and engineers are also higher. The important thing is the salary in relation to the domestic alternatives.

The salaries of the Chilean teachers are not very different from the rest of the OECD countries and are higher than those from countries like Austria, Sweden and Norway. Therefore, it is not clear that this is the reason why good students decide not to study education.

Chart Nº 3

TEACHERS' SALARY / GDP PER CAPITA



Source: Education at a Glance 2009 and PISA 2006, OECD.

Furthermore, Chart 4 shows that there is no clear relationship between the results of the PISA math test and the salary of the teachers. In fact, this is not statistically different than zero.

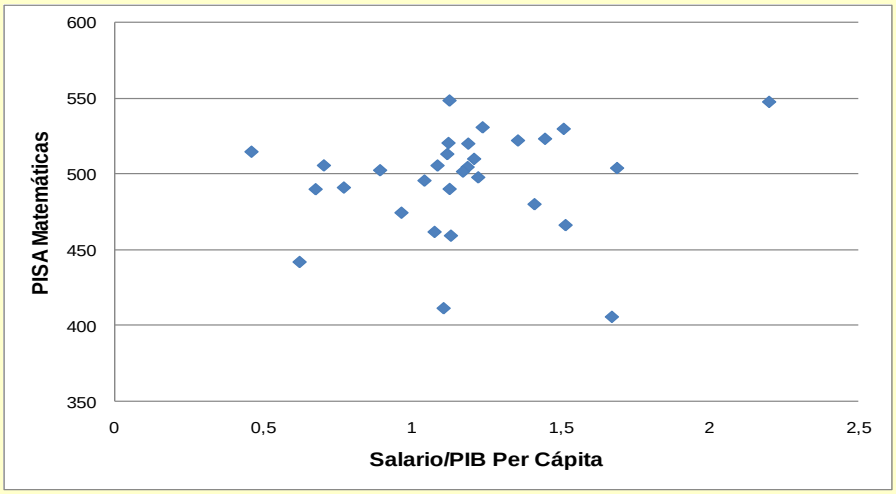
Teaching Career

The teaching career is a broad concept which involves many dimensions that are difficult to measure. Nevertheless, the salaries' evolution may be related to good performance and experience. In fact, in Chile the teachers' salaries may vary according to their performance or service years. Different

mechanisms are often proposed to increase the teachers' salaries. However, we must be careful when designing these mechanisms, because people tend to respond to incentives: if the award is given for the amount of knowledge on the subject, the incentive is to learn more and not necessarily to teach better classes.

Chart Nº 4

RESULT vs SALARY

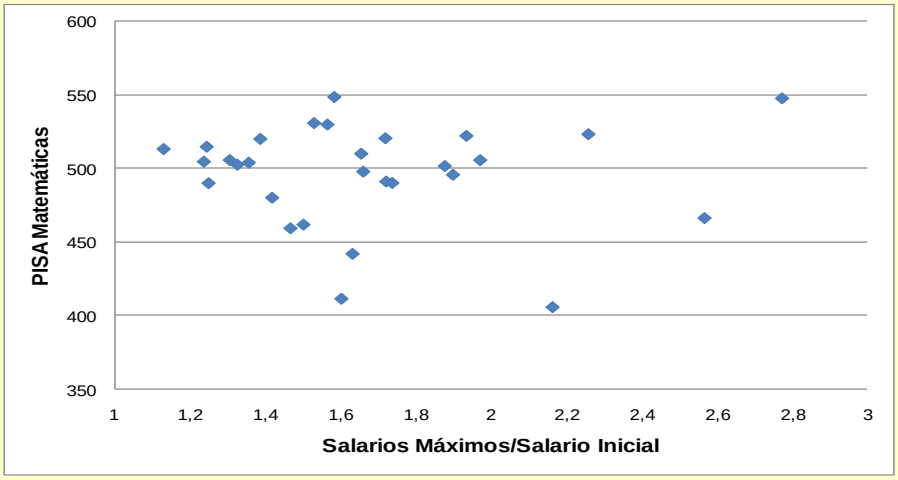


Source: Self-elaboration with data from Education at a Glance 2009 and PISA 2006, OECD.

The sole fact of increasing the awards or salary differentials does not necessarily achieve the objectives pursued. Actually, an important item of the teachers' salary is their service years, which will probably not generate incentives to teach better classes. Chart 5 shows the relationship between the results of the PISA math test, the proportion between the salaries of the teachers who are on top of the scale and the salaries of those who are initiating their career. No significant relationship was found.

Chart Nº 5

RESULT vs SALARY DIFFERENCE



Source: LyD with data from Education at a Glance 2009 and PISA 2006, OECD.

In a study about the determining factors in quality education, Ammermüller et al. (2004)[ii] did not find that the academic grades of Licensed, Master or Doctor have relevant effects on the student's performance. Although the evidence regarding this point is not conclusive, the study includes more controls than most of similar researches and, moreover, it considers eleven countries of rather different characteristics (7 from Eastern Europe and 4 from Western Europe).

Conclusion

To improve the quality of education is a complex task, but a crucial one to increase productivity, reduce social gaps and progress towards development. The international evidence does not show clear relationships between the quality of education and its possible causes. The reason is the great number of factors involved and that they are not incorporated to the studies, because data are not available. In this scenario, it is easy to mix up correlation with causality and to propose measures that seem right, but probably are not. An example thereof is that good schools have good headmasters, then, we just need to put good headmasters in bad schools to improve education. It is possible that this measure succeeds, but the logic is wrong. Good schools also have better painted walls; however, we know that painting the bad schools will not improve its results.

Increasing supplies in the schools will not be that effective if the effort does not go along with an adequate incentive scheme. The complexity itself of the education process makes it very difficult to design adequate incentive

schemes. Bad results are a clear reflect of the fact that the incentives' goals are not well designed. We can clearly see this in the immobility of teachers and headmasters. In more general terms, a school gains practically nothing if it improves its SIMCE results by, say, 10 points. And after all, there are no incentives to do it. If they had, we should not worry about evaluating the teachers or how schools organize their resources. The teachers and headmasters know who teaches bad classes, regardless of what the measurements say.

[ii] Ammermüller, Andreas; Hans Heijke and Ludger Wössmann, "Schooling Quality in Eastern Europe: Educational Production during Transition", Economics of Education Review, Vol. 24, 2005, p.579-599.