

# Shared Financing: Debunking the Segregation Myths

**When going through the evidence, we can affirm that shared financing is related to the system's growing diversity, since families belonging to higher income quintiles, who are willing to pay for their children's education, are choosing this type of schools instead of attending private paid schools.**

In the context of the tax reform, a credit on the Second Category and/or Global Complementary tax was proposed concerning the middle class expenditures on education. The purpose is to help tax payers who have education expenses, and foster the human capital investment. This particular point has raised polemic and protests, once more, against shared financing in the school education. Parallel to this, a bill regarding a school subsidy increase is being discussed, which includes an indication to fix a maximum amount of CLP\$80,000 for shared financing payment.

Why this eagerness to criticize and end with shared financing? Public discussion is full of asseverations taken for granted, even though they lack solid support. They repeat that shared financing generates segregation, impairs municipal education and that it should be eliminated. Our objective is to clarify this information and demonstrate that there is no concluding evidence hereon, that shared financing allows attracting more resources for education, and that parents are willing to pay for a better education for their children. These are freely made decisions and the tax reduction helps those who invest on human capital and middle class families who are way behind being rich, and thus can somehow alleviate their tax burden.

## School Financing

Public schools (municipal and private) are financed by means of the subsidy granted by the Ministry of Education for each student (US\$6,400 millions in 2012). Additionally, municipal schools receive extra money from the Ministry of Education (MINEDUC, in Spanish), the SUBDERE (Undersecretary of Regional Development and Administration) and the municipalities (US\$830 millions in 2011); and private subsidized and municipal schools can charge a co-payment to the families, the so-called shared financing (US\$480 millions in 2010). Exempt from this payment are:

priority students subscribed to the SEP (preferential school subsidy - Law Nr 20,248) and students among the vulnerable enrollment's 15% in each school (Decree Nr 196/2005).<sup>1</sup>

Shared financing is expressed in Education Subsidy Units (USE, in Spanish) which is currently equal to CLP\$19,100.474 and it is adjusted according to the public sector wages. The maximum monthly cost is 4 USE (CLP\$76,400). In addition, there is a discount on the total subsidy which is granted to the educational institution, according to the amount paid for shared financing. This is illustrated in Table 1.

Table 1

DISCOUNTS ON THE INSTITUTIONS' TOTAL SUBSIDY BY SHARED FINANCING SEGMENT

Segment of monthly shared financing (USE)	Discount on institution's subsidy (%)
Less than 0.5	-
Between 0.5 and 1	10%
Between 1 and 2	20%
Between 2 and 4	35%

Source: Subsidy Law.

Table 2 shows the evolution of schools with co-payment, and Table 3, the evolution of the monthly average cost per student, which has not specially increased in the last years. Although today the fixation of the maximum co-payment is not restrictive, it will be at some time or another.

Table 2

NUMBER OF SCHOOLS WHICH CHARGE SHARED FINANCING

Year	2004	2005	2006	2007	2008	2009	2010
Municipal	114	120	119	115	121	114	109
Private Subsidized	1,839	1,917	1,962	1,911	2,117	2,148	2,173
<b>Total</b>	<b>1,953</b>	<b>2,037</b>	<b>2,081</b>	<b>2,026</b>	<b>2,238</b>	<b>2,262</b>	<b>2,282</b>

Source: Prepared by LyD based on data from the MINEDUC.

Table 3

MONTHLY AVERAGE CHARGE PER STUDENT (CLP\$ EACH)							
Year	2004	2005	2006	2007	2008	2009	2010
Municipal	2,302	2,527	2,502	2,434	2,715	2,617	2,744
Private Subsidized	12,194	12,918	13,683	14,736	15,876	16,447	16,738
<b>Total</b>	<b>11,618</b>	<b>12,307</b>	<b>13,044</b>	<b>14,039</b>	<b>15,164</b>	<b>15,751</b>	<b>16,070</b>

Source: Prepared by LyD based on data from the MINEDUC.

## School Segregation

School segregation has been raised as one of the basic issues within the education debate, and shared financing has been declared its major responsible. However, there is no evidence to date sustaining these statements.

Elacqua (2009)<sup>2</sup> believes that municipal schools have a greater number of vulnerable students than private subsidized schools with shared financing, but this does not mean that the latter are subject to a more diverse environment, but that they concentrate in a single sector. Through Lorenz curves, he finds that the municipal sector is less segregated than the private subsidized (especially profit ones), which is a good way of measuring segregation among two groups. Valenzuela et al. (2006)<sup>3</sup> calculate the Duncan segregation level and analyzes correlations (not causality). He concludes that communes with greater number of schools with co-payment are more segregated. Both works use a dichotomic definition of vulnerability (you are vulnerable or not vulnerable without distinguishing nuances and according to an arbitrary definition), assuming that students within each group are homogenous. When doing this, the diversity within each group and the mobility among groups, which in the case of Chile is enormous, are denied. The studies on racial segregation distinguishing between white and black people are something else. We know that in school segregation matters, the vulnerability degree is an ongoing element and different definitions of two groups can produce different results.

On the other hand, the regression analysis of Valenzuela et al., where they link shared financing to segregation, presents serious endogeneity problems, and therefore, bias in their estimations, a limitation that the authors themselves recognize. Although it is a valuable contribution to understand a phenomenon which has not been studied much in Chile, it does not constitute enough scientific evidence to justify public policies, and least of all if it adversely affects an important sector of the population.

Gallego and Hernando (2008)<sup>4</sup> simulate the impact on wellbeing and segregation from moving from a co-payment system like the current one to one without co-payment where the students are randomly distributed in the

schools (where school segregation replicates the residential one). They find that the sector paying shared financing is favored by this measure, while for the rest it is not relevant, and furthermore, there is a minimum impact on reducing segregation. Likewise, they find that the most vulnerable ones are benefited by the possibility of choosing schools in other communes, since in this way they run away from they segregated neighborhoods. The results constitute evidence that school segregation depends more on factors associated to the demand (parents' choice) and not the offer. This hypothesis seems to be endorsed by the results of the CEP Surveys which show that 70% prefers subsidized private education above municipal one, and that this choice is mainly due to the search for quality and discipline. If the search for diversity is not a very relevant attribute (only 25% mentions it, versus 70% advocating for academic quality), it has no sense imposing it, sacrificing other attributes that people do appraise.

On the other hand, some people misinterpret the meaning of segregation, because they argue that the municipal sector is more inclusive since it receives a greater number of vulnerable children. Nevertheless, this does not mean that the environment is therefore more diverse, because you have to take into account the group's heterogeneity. According to the OECD, an inclusive school system is where students' distribution by socioeconomic characteristics within the school correctly reflects the general distribution of these in the country's population. By contrast, a non-inclusive or segregated school system is where school students are very similar, even when knowing that within the population there are great socioeconomic differences, which can in fact be appreciated when comparing schools.

Next, we replicate a version of the inclusion indicator used by the OECD for different countries in its report Education at a Glance 2011. Therefore, we used data from the 2009 CASEN Survey. Table 4 shows the inclusion indexes based on this methodology<sup>5</sup>, but instead of using a socioeconomic level indicator (which considers education and work of the parents and household goods), the student's income per capita is used.<sup>6</sup> It has been distinguished by type of schools and, in the case of the private subsidized, by the cost of shared financing. The first column shows the proportion of students in each category on the system's total, and the second column shows the value of the mentioned index.

Table 4

**INCLUSION INDEX: PRIVATE SUBSIDIZED EDUCATION CONTRIBUTES IN GREATER PROPORTION TO THE SYSTEM'S DIVERSITY**

	<b>Student %</b>	<b>Index</b>
General	100%	68%
Municipal	48.6%	42%
Private Subsidized	51.4%	91%
w/o Shared Financing	19.1%	38%
w/ Shared Financing	32.2%	123%

Source: Prepared by LyD based on 2009 CASEN Survey.

A higher inclusion index indicates that this sector contributes with greater diversity. The school system has 68% inclusion, which in absolute terms does not tell much, but simply that the socioeconomic diversity within schools represents 68% of the total diversity in the system. This value equals the weighted sum of the indexes of each one of the subcategories.

Most interesting is to analyze the way this 68% is composed of. The contribution to the system's total diversity coming from the municipal sector is 42%, while the contribution of the private subsidized sector is much higher (91%). This means that, on the contrary of what many believe, the private subsidized system receives a larger number of students from different income levels. Moreover, separating by whether they charge shared financing or not, we find that schools with co-payment contribute with greater diversity of students to the system.

Table 5

**MUNICIPAL SCHOOLS HAVE A STUDENT REPRESENTATION WHICH IS LESS REPRESENTATIVE OF THE POPULATION**

<b>Quintile</b>	<b>MUN</b>	<b>PS</b>
q1	35%	23%
q2	29%	24%
q3	20%	22%
q4	11%	20%
q5	5%	11%

Source: Prepared by LyD based on 2009 CASEN Survey.

Additionally, Table 5 shows the composition of students by dependence on the school they attend to and by their origin quintile<sup>7</sup>. In 2009, private subsidized institutions included a greater diversity of students according to the source quintile, while municipal schools were more segregated. The student distribution of the former is pretty close to the population

distribution of the country in quintiles (20% in each). In both cases, the low diversity degree comes mainly from a minor participation of students coming from higher income families.

Thus, we can see that shared financing is related to the system's growing diversity, since families belonging to higher income quintiles, who are willing to pay for their children's education, are choosing this type of schools instead of attending private paid schools.

In order to define if schools with shared financing are good quality ones, and thus assume that the additional resources are being well used, we carried out an econometric exercise with panel data, where we compared the evolution of the SIMCE scores among children who did 4<sup>th</sup> grade in 2005 and 8<sup>th</sup> grade in 2009, and i) children who remained during this period in private subsidized schools with shared financing, and ii) who moved from a municipal school to one with shared financing. The results, distinguishing by Socioeconomic Group, is shown in Table 6, and they suggest that, on average, the decision of the parents of enrolling their children in private subsidized schools with shared financing instead of in a municipal one responds to the logic of improving their children's achievements. Those who studied in schools with co-payment improved their scores by more than 6 points above those who remained in municipal schools; and those who moved from a municipal school to one with co-payment also improved their scores. Only those belonging to the high socioeconomic group did not significantly improve with regard to those who remained in the municipal education.

Table 6

EVOLUTION DIFFERENCE IN SIMCE SCORES 2005-2009 WITH REGARD TO THOSE WHO REMAINED IN MUNICIPAL EDUCATION		
	Remained in PS with SF	Changed from MUN to PS with SF
Low and Medium Low Socioeconomic Group	6.3***	2.0***
Medium Socioeconomic Group	7.4***	6.2***
Medium High Socioeconomic Group	7.6***	0.3

Source: Prepared by LyD based on 2009 CASEN Survey. Math standardized SIMCE scores (excluding private paid education), with mean of 250 and standard deviation of 50. \*\*\*Indicates statistical significance at 1%.

If the school election responds to a search for attributes different from socioeconomic diversity, then why force families to choose something they do not want? The greater diversity of the public education system should be a direct consequence of quality improvement, inasmuch as public education is a real alternative even for families with paying capacity.

## **And what about tax credit on education expenses?**

Individual's income tax admits very few personal deductions: for interests deriving from mortgage loans and resources allotted to social security, with certain ceilings. The proposed credit adds education to this list of expenses which would receive special treatment due to its social value. If education is not a consumer good, its tax treatment should take this fact into account.

This measure should be considered pro saving and investment on social capital, which helps middle class families, and not the richest ones as some people have set forth in the public debate, to enlarge their election possibilities in educational matters, by alleviating the tax burden due to the contribution they make to finance their education.

We should make clear that in order to ensure that this benefit effectively favors those who need it, important restrictions are included, among which we highlight that only the families whose gross family income is less than UF 792 annual can apply to this benefit (CLP\$1,490,000 gross per year, or what is more relevant, CLP\$1,160,000 net per year<sup>8</sup>). Moreover, the credit is fixed as 50% of the family's expenditures with a ceiling of CLP\$200,000 annual per child, acknowledging the obvious differences of income per capita in larger families which the tax legislation tends to forget. As an example thereof, a family composed of 5 members, with a monthly income per capita of CLP\$150,000, belonging to the most vulnerable 60% (quintile III), pays today practically CLP\$130,000 a year in income tax.<sup>9</sup> If this family has two children and invests CLP\$15,000 a month for them to attend a school with shared financing of their choice, their tax burden will be reduced by 100%. It is no doubt a valuable contribution for these families, which, in view of what we have analyzed in this document, should not be refused under the segregation argument.

## In brief...

- Following a review of the main studies on the matter, there is NO serious evidence that schools with shared financing strengthen or are responsible for the segregation in the Chilean school system.
- On the contrary, if the OECD inclusion index is built based on data from the 2009 CASEN Survey, we observe that private subsidized schools with shared financing are more inclusive than municipal and private subsidized schools without shared financing.
- When comparing the origin of the students of the different types of schools according to the 2009 CASEN Survey, we observe that municipal schools have a student distribution which is less representative of the population.
- An exercise with panel data, comparing the students' performance, revealed that the children who moved from municipal to private subsidized schools with shared financing improved their SIMCE scores in relation to those who remained in the municipal sector.

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<sup>1</sup> The Subsidy Law (DFL Nr 2 of 1998) stipulates that in order to receive the subsidy, schools must have at least 15% of socioeconomically vulnerable students, unless not enough applications are presented.

<sup>2</sup> Elacqua, G. "The Impact of School Choice and Public Policy on Segregation: Evidence from Chile" Working Document CPCE Nr 10 (Center for Compared Education Policies), 2009.

<sup>3</sup> Valenzuela, J., Bellei, C. and de los Ríos, D. "Evolución de la segregación socioeconómica de los estudiantes chilenos y su relación con el financiamiento compartido", FONIDE Project Nr 211, Department of Studies and Development, MINEDUC, 2006.

<sup>4</sup> Gallego, F. and Hernando, A. "On the Determinants and Implications of School Choice: Semi-structural Simulations for Chile". Journal of LACEA Economía, Latin America and Caribbean Economic Association, 2008.

<sup>5</sup> The way of doing it is dividing the variance within (average income dispersion within schools), by the total income variance per capita (which also includes the variance among schools, that is, the income variance within the population attending school education).

<sup>6</sup> In fact, income per capita is a good socioeconomic indicator, since the correlation between income and parents' educational level is very high.

<sup>7</sup> Corresponds to the household's autonomous income quintiles, considering the country's total number of households, and not only those with children attending school education.

<sup>8</sup> Assuming a single income receiver contributing the minimum legal amount to pension funds.

<sup>9</sup> Assuming a single income receiver contributing the minimum legal amount to pension funds.