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*Overcoming Inequality: why governance matters*

**Education for All Global Monitoring Report 2009:  
Governance, management and financing of  
educational equity-focused policies in Chile**

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# **Education for All Global Monitoring Report 2009: Governance, management and financing of educational equity-focused policies in Chile**

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## **I. Introduction**

The governance, management and financing of educational systems play a crucial role for the achievement of the EFA goals, particularly as regards overcoming inequality and exclusion. Of course, inequality and exclusion are not only the result of educational policies, but it is the democratic ideal that educational policies should countervail the influence of other factors, such as family characteristics, leading to unequal learning opportunities. The strategies and resources devoted to achieve social equity vary widely between countries and States.

The issue of social equity is highly ideological and divisive. Different political parties and social actors assign different priorities to the achievement of a more integrated society and the reduction of inequality. More conservative movements resist social change and if the status quo is highly unequal, they will attempt to block initiatives directed towards social equality and inclusion. In many Latin American countries, conservative movements opposed compulsory primary schooling well advanced the Twentieth Century arguing it will increase labour costs and social unrest. On the opposite side, more radical movements (such as socialists and communists parties) promoted during the sixties and seventies the expansion of a strong uniform public educational system asphyxiating, whenever possible, private schooling.

Aside the ideology of political actors, it is impossible to approach the issue of equity and social inclusion without an understanding of institutional and political change. The mechanisms of school and training finance as well as the formal and informal rules and enforcement mechanisms constituting the governance system are major determinants of

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the incentives faced by the actors, the resources they might mobilize and their choice set. Within the constraints imposed by high level institutions such as the Constitution and the Civil Code or culture, values, norms, conventions and habits, the finance and governance mechanisms of the educational sector determine the behaviour of the actors and the outcomes they achieve. If the educational system is to compensate social and economic inequalities, the finance and governance mechanisms must incorporate incentives, rules, resources and enforcement mechanisms to induce certain behaviours on the part of teachers, principals, school inspectors, parents, and other stakeholders in order to do so. The change of these institutional arrangements largely occurs in the political arena, both in the Executive and Legislative powers. They depend therefore in the balance of political power between social and political actors, the political agenda of those in power to produce educational policy change and the capacity of technical advisors to produce sensible solutions. The experience of social practice and the increasing knowledge made available about processes and outcomes in the educational sector feed back to individuals and coalitions acting in the political arena influencing institutional and policy change. This model of policy change centred in the governance and financing system as second level institutions determining the incentives of stakeholders is summarised in Figure 1.

In the Latin American context, the Chilean experience is particularly interesting. On the one hand, it has achieved one of the highest graduation rates of secondary education in the developing world, internal efficiency has improved steadily and, more recently, it has exhibited some improvement of learning results according to the international PISA test. On the other hand, during the last eighteen years the country has followed a coherent strategy of incremental systemic reform as the political coalition in power since 1990 has assigned to education a top priority in her agenda and built on National consensus to redirect resources and transform gradually the educational system. However, in none other issue the strategy and emphasis of the reformers has changed so sharply as regard equity and social exclusion.

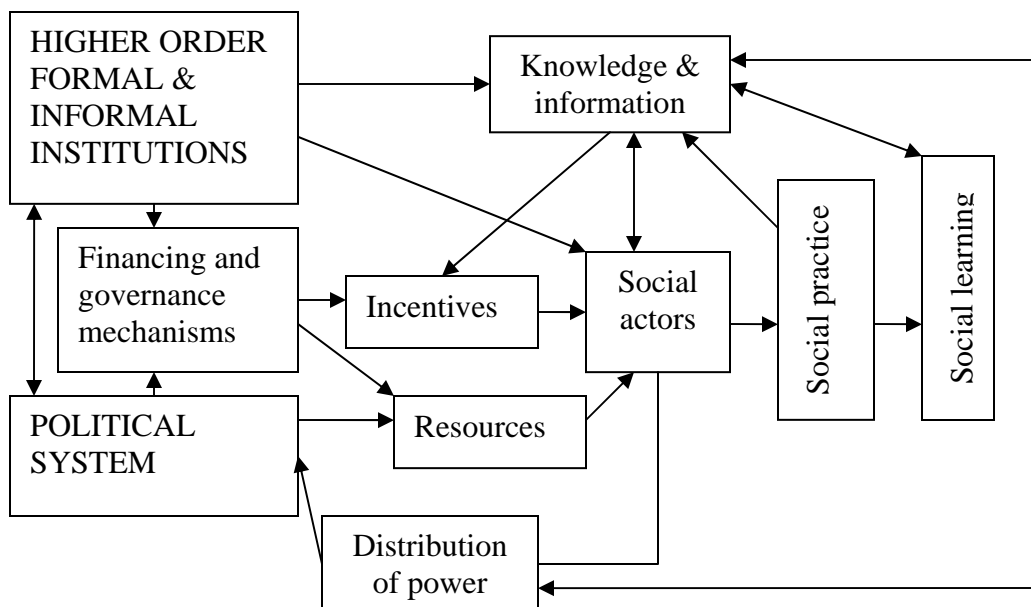


Figure 1: Financing and governance mechanisms in an institutional context

The paper is structured as follows. Section II summarises the different strategies and political scenarios surrounding the theme of equity and social exclusion, explaining in some depth the basics of the financing, management and governance systems and its evolution through time. It will be argued that, as in most Latin American countries, the issue of equity has been only recently addressed with great political support while the issue of social exclusion is still incipient in the academic and political arenas. Section III provides a bird eye look to the key indicators, showing achievements in secondary education enrolment but stagnant quality and persistent inequality and segregation. Section IV discusses in greater detail the more recent developments, and the linkages between social practice, social learning, knowledge production and the political system that has produced such results. It will be explained how academic and political consensus has arrived to a radical transformation first of the financing system to support social equity and later of the governance and accountability system to change the incentives faced by the actors. Section V concludes.

## II. Different emphasis and strategies through time

## **1) Financial reform under dictatorship**

A military regime reformed the provision of social services in Chile in 1981 inspired in Friedman (1955). Fischer et al., (2006) provide a comprehensive account of these transformations in the pension, health and school systems and González (2000) describes the key issues of the reform of the higher education system.

In primary and secondary education two key administrative and financial reforms occurred. First, the administration and property of fiscal schools, accounting for roughly 78% of total enrolment in 1980, was gradually transferred to the municipalities in a process concluding in 1987, except for a handful of vocational secondary schools that were handed over to entrepreneurial associations on a 5 year concession basis. Second, aside from the later ad-hoc mechanism that granted subsidies irrespective of enrolment to 72 high schools, a voucher like system paying an amount per child daily attendance was introduced for all municipal and private subsidized schools. A new administrative figure was created: “the Sostenedor”, which might be a municipal department of education, a municipal corporation administering jointly education, health and cemeteries or a private individual or firm, whether for or non-profit. The requisites to receive the state subsidy were very mild, restricted to fulfilling only basic infrastructure and teacher staff requirements. Alongside the transference of fiscal schools to municipalities, teachers labour contracts started to be ruled by the Private Labour Code.

The intention was that private and municipal schools competed for attracting students. The official diagnosis behind these reforms was a perception of low quality of the public educational system (by then responsible for 78% of total enrolment), attributed to the lack of incentives for improving performance due to its monopoly character and the inflexible public service labour Code applicable to fiscal school teachers. The effect of competition was expected to be the flourishing of best performing schools as they attract more pupils and their income expands and the pressure for change in low performing schools as they lose students and their income shrinks. Ultimately the system aggregate quality level

would progress due both to the pressure to improve in each school as well as the reallocation of students to the best schools<sup>1</sup>.

Other reasons in favour of vouchers have been given in the literature but were not invoked by the government. For instance, vouchers proponents expect a higher participation of parents in schools and in supporting their pupils, a more diverse supply from schools, more innovation and lower administrative costs due to a smaller bureaucracy. In Chile, these “side-effects” do not appear to be relevant: participation in general is low, educational supply is not particularly diverse and the reduction in personnel at the Ministry level was matched by the increase in administrative staff at the municipal level (Montt and Serra, 1994). It might be more important<sup>2</sup> the transparency achieved in the transference of resources, as schools received resources according to objective criteria: students’ attendance, geographic location and type of education. This eliminates the possibility of more discretionary allocations such as those influenced by school, supervisor or private lobbying capacity or the inequity of resource allocation that results from more experienced and qualified teachers preferring to live in particular areas of the country. Another important consequence is that increases in enrolment do not longer depend on negotiations between the Ministry of Education and the Ministry of Finance about the number of classrooms or teachers. Any increase in attendance must be automatically financed according to the value of the subsidy. This does not mean that actual enrolment does not have practical consequences for the Ministry of Education budget, as the Ministry of Finance includes an estimate of expenditure on vouchers which crucially depends on expected enrolment increase.

The subsidy was differentiated for primary, lower secondary and upper secondary education. Four types of vocational secondary education were distinguished and received a different amount per student, in all cases above general secondary education. “Special education” schools also received a higher voucher per student.

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<sup>1</sup> A hidden motive behind decentralization and privatization was the purpose to reduce the strength of the powerful National Teacher Union, which remained very active despite fierce and violent repression against Union activity by the dictatorship.

<sup>2</sup> On the other hand, the risk of investment was decentralized to the municipalities or privatized. However, the reaction of the private sector to the reallocation of population was much faster than municipalities’ response.

A “rural” special provision was later introduced for those schools located in sparsely populated areas. This special provision attempted to account for the fact that basic and secondary educational provision has declining average costs in a long range of enrolment and therefore a voucher adequate to finance urban schools of average size is not appropriate to cover the costs of small rural schools.

The voucher was originally defined to cover all operational costs (according to the current costs of fiscal schools in 1980). Municipalities had access to the FNDR (National Fund for Regional Development) to repair or improve existing schools or to build new schools. One might guess that the exclusion of private schools from applying to infrastructure funds implies that the reformers expected that only charity organizations would enter the newly created market, as they had to finance capital expenditures from their own resources. However, the new legislation explicitly allowed for profit organizations to administer schools perhaps with the intention of allowing a higher level of competition or a more diverse supply. As we will see in the next section, shared financing will further foster that kind of provision since 1993 and today they represent roughly half of private supply.

Despite the need to inform families about the quality of education in each school was a requirement for competition to work, the military regime did not published those results, despite a national testing mechanism was developed since 1982. Perhaps there was a fear to unmask the high differences between private and public elite schools and the rest of the country<sup>3</sup>.

Together with the introduction of the voucher system, the function of inspection was introduced. The role of inspectors was very different from the traditional school supervision which was almost abandoned during the period. Their task was to check the accuracy of the information provided by schools on their daily attendance records. The voucher was not paid according to enrolment but on the basis of average monthly attendance, later changed to three months moving average.

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<sup>3</sup> Nevertheless, these were evident at the secondary school level as the results of higher education selection exams were public.

In 1982, short after the introduction of the education financing reform, a big economic crisis started. GDP fell by 15% and official unemployment figures jumped above 30%. An orthodox fiscal adjustment was transferred to the social sectors through cutting social expenditures. By 1989, despite five years of rapid growth in the second part of the 80s the balance was terrifying: the average voucher fell by 25% in real terms during the decade; teacher wages are estimated to have fallen between 20% and 40% and teacher employment declined by 10% (Montt and Serra, 1994, Rojas, 1998).

## 2) 1990-1994: Supply side programs

Since the return of democracy in 1990, the centre-left coalition that opposed the dictatorship has ruled the country. Contrary to initial expectations, especially of the powerful Teacher Union, the democratic government has not dismantled the reforms, but shifted their initial concern from “access and quality” to “quality and equity”. During the first period, the Ministry of Education policy circumvented the new administration of schools and disregarded (or interfered) the market mechanisms. The most important example was a special Teacher labour code enacted in 1991 (named “Estatuto Docente”) as a special concession to the Teacher Union which nevertheless always complained about that legislation. Its original version was the most rigid piece of labour legislation ever enacted in the country and most of its articles applied only to the Municipal sector, from a pay scale dependent mainly on experience to the impossibility both of reallocation of teachers between schools of the same municipality as well as employment termination, even after the compulsory age of retirement (60 years old for women, 65 for men). The objective of introducing a National pay scale was to eliminate differences between teachers of similar experience, eradicating employers’ discretion in remuneration setting. Casuistic evidence suggested that discretion was used during the dictatorship to pay higher salaries to major’s political employees or parenthood, discrediting the possibility of fairness in remuneration setting at the Municipality level. Note that this was due to the lack of accountability and transparency of the system and the possibility of unbalanced exercise of power during the dictatorship period. However, until today, the municipalities

are the public institutions less trusted by citizens (together with political parties), which partly explains why the Estatuto Docente is still in place to date.

The governance and financing system was not considered a relevant issue by the first democratic government. The Ministry of Education focused on redressing a deteriorated public educational system inherited from the dictatorship in a context where most initiatives required to be negotiated with the right wing opposition<sup>4</sup>. Alongside an inadequate conduction of governance and financial issues, several well designed supply side programs and mechanisms were put in place to attenuate the unequal distribution of graduation from high school and of learning results at all educational levels (see Cox, 2003, Garcia-Huidobro, 1999, Cox and González, 1997). Since 1992, the MECE basic education program provided textbooks, libraries and computers for students and on the job training for teachers, repaired infrastructure and financed school formulated improvement projects on a competitive basis. Rural schools were the subject of the MECE rural program. Later, the MECE secondary education program extended the benefits of the basic education program adding a youth extracurricular program to address different interests and concerns of secondary education students. The purpose of these initiatives “was to provide a new floor for the whole public education system”. Note that these programs disregarded the decentralized nature of the publicly financed educational system, circumventing the administrator of the school (the “Sostenedores”) and relating directly with the school director and teacher staff. Supervisors were given a new role to perform as they acted as transmission chains of the Ministry of Education programs to the schools. Many supervisors considered that municipal schools were their exclusive responsibility and attempt, still today, to have a certain pedagogical leadership over the school, in the understanding that the municipal role was only administrative support. In fact, this produced an undefined responsibility over school’s bad performance, especially in the municipal sector.

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<sup>4</sup> A situation prevalent during all the democratic period as the government majority of almost 60% of the votes was not reflected adequately in control of the Congress due to non-elected members and a binomial system of representation that elected the two most voted candidates of the two most voted lists in each electoral jurisdiction. A list of candidates might appoint the two representatives of an electoral jurisdiction if and only if she doubled the votes of the second most voted list.

Note nevertheless that several expenditures that remained centralized might have a justification on efficiency grounds (see González, 1999, for economic reasons for partial decentralization). For instance, the school meal program, that gradually increased its coverage, produced externalities that municipal authorities might fail to consider and obtained lower prices due to higher volumes. The office in charge of the administration of the program moved from a system of internal production to private provision through competitive bidding during the 80s. By the end of the 90s the competitive bidding process was highly sophisticated through the introduction of operation research technologies, with an estimated impact equivalent to 40 million dollars that was transferred to the beneficiaries through better food supply (see Epstein et al., 2004).

In 1993, as an exchange coin for a tax reform aimed at increasing social expenditure, the right wing opposition obtained two laws fostering the role of the private sector in education. First, 40% of donations by firms to private subsidized and municipal schools were deduced from taxes and the rest of the donation could be imputed to firm's expenditures for taxes purposes. Second, a system called "shared-financing" was introduced allowing topping-up the voucher by families in private subsidized schools and municipal high schools. While in private subsidized the decision to switch to that system was the resort of the "sostenedor", municipalities could introduce fees in their high schools only if the majority of parents voted in favor. Fees were compulsory for all students attending the school irrespective of their socioeconomic background and exemptions were voluntary for the "Sostenedor". The justification for shared financing was to allow parents caring more for their child education to select schools with per student expenditure above the median voters' preferences. However, both measures increased the potential for increasing inequality in the system.

### 3) 1994-2000: an encompassing reform

The second Concertación government attempted to reconcile market and supply side interventions in a more harmonious educational policy, redirecting government support to areas where market failures were more evident, such as teacher training and curricular

reform, and complementing market incentives with other mechanisms when they were not expected to produce adequate results.

As a consequence of the Estatuto Docente and the wage increases that followed, the Municipal sector, except for a few high income communities or with a more able management, was almost bankrupt by 1995 when a reform to the Estatuto Docente and the first real increase of the student subsidy not linked directly to teachers' wages were approved by Congress. The voucher structure attempted to correct the real costs of the different types of education provision. This adjustment followed the results of very simple accountant modelling of average student costs for different types of schools. For instance, a rural floor was introduced, guaranteeing a minimum income level to schools located in frontier or inaccessible zones, equal to the rural subsidy for 20 students. This accounted for the fact that schools with enrolments of two or ten students require at least one teacher. The special rural provision was also increased, with the consequence that its expenditure tripled between 1994 and 1996. The subsidy for special education was also increased to a total of three times the basic education subsidy as their maximum class size was of 15 students as compared to 45 in primary education.

The reform to the Estatuto Docente included a limited possibility of labour contract termination in response to changes in enrolment or fusion of schools. A public contest for selection of new municipal school heads for a period of five years was introduced.

In any case, the "Estatuto Docente" reintroduced de facto centralized wage bargaining between the Ministry of Education and the National Teacher Union, with the exclusion, until today, of the Sostenedor, who is the real employer of teachers<sup>5</sup>. The resources to finance the real wage increases are given as an increment of the voucher, on a student basis, with a negative consequence on all municipalities with below average students-teacher ratios or above average experienced teachers. Baytelman et al (1998)<sup>6</sup> reported

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<sup>5</sup> The municipality must just pay for the wage increase bargained between the Ministry of Education and the Teacher Union after the Congress approves the terms of the agreement in laws requiring the increase of the different components of the teacher wage package.

<sup>6</sup> This study used 1995 data of teacher experience and other determinants of wage expenditure and income from vouchers for each municipality collected by the Ministry of Education and data on other municipal income and expenditures in education provided by the Ministry of Internal Affairs.

that by 1995, 85% of voucher income was devoted by municipalities to teacher wages with a standard deviation of 14. 50 out of a total of 341 had expenditures above 100% of vouchers' income while 37 spend less than 70%. Since 1996 onwards these figures were used to “inflate” the value of the voucher above the increase in the cost of teacher wages. For instance if the later is 100 million dollars for the municipal sector, the former might be 116 million<sup>7</sup>. With that formula most municipalities will not have problems to pay the wage increase with the voucher increase and those spending a lower fraction of their voucher income in teacher wages will be better off. On the other hand, the wage increases have not, in general, been mandatory for the private sector except in the few cases that had voluntarily decided to apply the wage provisions of the Estatuto Docente. Nevertheless, the increment of the voucher is received by both sectors, although private institutions might use all the resources for other purposes (except for the period 1995-1996) and must only comply with minimum wage requirements (see next section).

During 1994 and 1995 two special vouchers were introduced on a competitive project basis. First, low income-low performing schools could apply to a subsidy financing two more daily hours of work for all their basic education students. Second, schools might apply for a “reinforcement” voucher to give additional lectures during the second semester to low performing students at risk of repetition. These provisions were applicable only to schools not working with two different student shifts in the same day, which were a majority of total enrolment. These initiatives were abandoned without evaluation of their impact due to the full school day reform described below.

In 1996, a reform giving budget priority to education was launched. First, schools were required to increase the length of the school day up to a maximum of 42 hours per week in secondary. The purpose was to emulate top performing elite private schools that already worked for longer hours. To accomplish this, it was necessary that almost all urban schools moved gradually from a double shift use of infrastructure to a single shift. To do so, the Ministry of Education created a special fund for infrastructure awarded on a competitive basis giving priority to the vulnerability of the student population and lower

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<sup>7</sup> Corresponding to  $100 * 14 / 85$ , where 14 is the above mentioned standard deviation and 85 is the fraction of the voucher spend on wages on average.

costs projects. The funds were awarded according to the need of infrastructure expansion required to attend in a single shift all the students enrolled in both shifts in the school, according to the minimum infrastructure requirements established in the legislation. After the school expansion is completed, the Ministry started paying a higher value of the voucher established such as to match the increase in costs due to the longer hours<sup>8</sup>. Top performing schools could apply to be exempted from the initiative. Most rural schools, which were not working in double shifts extended time from the beginning of the process as they did not required additional infrastructure. An additional voucher for infrastructure maintenance was introduced and paid every January (at the beginning of the vacation period) following international recommendations that maintenance is cheaper than repairing deteriorated buildings. This voucher also moved in the direction of reducing differences between municipality and private schools regarding infrastructure.

Other initiatives were directed to teachers. In each of the fifty three provinces an annual prize for the best school teacher was awarded. School communities had to propose candidates to a provincial committee. International short term “pasantias” (visits) were established, whereby groups of teachers were given the opportunity to visit highly respected international experiences and to see these experiences at work. A competitive fund of projects to improve the faculties of education of universities belonging to the “Consejo de Rectores” (ie those existing before 1981) was established. Along with a reform that updated the curriculum from preschool to secondary education, massive teacher training in the new curriculum was undertaken, gradually as the new curriculum was implemented at a rate of two courses per year, starting from first grade. The purpose of these initiatives was to improve teacher’s morale, social status, motivation and quality.

The negotiation with the union by the end of 1994 included a new minimum wage applicable to all teachers working either with the municipal or the private sector. The objective was to undermine the notion that teachers were low paid<sup>9</sup>, a true fact in 1990 but modified afterwards. With the same objective, initial and average wage levels for teachers were communicated to the press and for an equivalent of 44 hours instead of the

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<sup>8</sup> Again the value of the voucher was set using very simple accountant models.

<sup>9</sup> The purpose of this measure was to improve initial wages without increasing all the other wage components of a pay scale sharply increasing with seniority established in the Estatuto Docente.

30 hours per week standard, as most teachers were expected to have that contract with the implementation of the full school day and that figure is more comparable with the rest of the population working by then an average of 48 hours, down to 45 recently.

The 1994 negotiation also included a supply-side incentive scheme named SNED (National Evaluation System of publicly financed Schools) that started to function in 1996. The system gave an incentive to teachers of the 25% best performing schools, according to an index that mainly computed SIMCE scores (the national system of school evaluation), change in SIMCE scores and whether schools selected their students before admission or not (selective schools were given the lowest score in that variable). Schools were compared only within “homogenous groups” resulting after the application of cluster analysis that included socioeconomic level of the student population, size and geographical location. This was the first initiative that explicitly incorporated the national and international evidence that raw tests scores were highly correlated with socioeconomic status. One of its intentions was to increase awareness of that fact. The other was to extend incentives to teachers and rural schools. Most Sostenedores failed to pass their incentives to their teachers. This is one of the problems of the voucher system currently implemented as most teachers had to exert harder effort for higher quality or if their class size increased but received nothing in exchange. Only a few well managed municipalities created incentives for their teachers when enrolment in their schools increased. For instance, the municipality of Rancagua was one of the first that offered this incentive restricted only to teachers that actually performed 95% or more of their class load during the year<sup>10</sup>.

Average SIMCE tests scores for each school started to be published since 1995. Scores per student are available for academic purposes since 1997 and equating guarantees comparability through time since 1998.

A compulsory scholarship for schools with shared financing was introduced in 1997 to attenuate the incentives of schools to exclude students unable to pay the average fee. The percentage of scholarships increased with the amount of the average fee charged to

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<sup>10</sup> Medical licenses to justify absences are extremely high among municipal teachers.

parents, as reported in Table 1. Scholarships might be full or partial discounts of the average fee, but must add up to the percentage indicated in the Table. Finally, in recognition that parents expect a long term relationship with the school they chose for their children, shared financed schools were obliged to inform by the end of the school year the maximum real increase that might experience the average fee for the next three years aside next year actual increase. Some improvements in consumer protection legislation, an issue long neglected in the country, were applicable also by extension to education. However, the relationship between schools and parents is still very asymmetric, as schools make explicit duties and responsibilities for parents and students but they do not make commitments themselves. Self-regulation of opportunistic behaviour by schools relies mostly in reputation effects.

Table 1: Discount of voucher applicable to schools with shared financing and public and private contribution to the compulsory scholarship fund

Average charge between	Discount of the fiscal subsidy as a % of average charge	Fiscal contribution to the scholarship fund	School contribution to the scholarship fund
Up to 0,5 USE	0	0	5%
0,5 to 1 USE	10%	100%	5%
1 to 2 USE	20%	50%	7%
2 to 4 USE	35%	20%	10%

Source: Ministry of Education.

Note: 1 USE is actually equivalent to \$15,187.215 (almost US\$ 33.7).

#### 4) The turn of equity and accountability

A key concern at the turn of the century was the unequal graduation rate from secondary education and the unequal distribution of educational quality. This is reflected in several

initiatives both in terms of special programs as well as in terms of regulation and resources.

The program “Liceo para todos” was launched in 2000 with the specific objective of improving graduation rates. It consisted of special supports to low performing high schools, including a scholarship mechanism to be awarded by school teachers to students at risk of dropping out in exchange for their school attendance. A special voucher for the retention of students at risk was also given to schools, in exchange of their compromise for reducing dropping out. Lately, programs for low performing schools scaled up using private sector assistance.

New mechanisms for attenuating segregation attributed to market forces were put in place. In 2003, a law extending compulsory education from eight to twelve years (ie. encompassing secondary education) was enacted. Expelling pregnant students, a practice believed to be common in Catholic schools, was forbidden in legislation (almost a third of adolescent women out of school argued maternity or pregnancy to explain their dropping out). In addition, in a first signal of concern with socioeconomic educational segregation, all schools receiving public funds were requested to enrol at least 15% of “vulnerable” students. However, the definition of what vulnerable means was left loose and no enforcement mechanism was created. A school below the percentage imposed by the law might argue that it reflected an insufficient number of applicants with these characteristics. Proof of deliberate exclusion of poor students is difficult, as schools are authorized to select their students on any conceivable basis. Besides, poorer families are likely to self select out of schools charging large fees. This heavily limited the practical relevance of the law, which does not seem to have changed actual behaviour.

Recently, the Ministry of Education has attempted to introduce legislation to forbid student selection by schools in pre-primary and primary education. The regulation of this issue has been, until now, consistently opposed by the right wing opposition.

Although the issue of shared financing in municipal high schools was discussed when compulsory education was extended to 12 years, it was not forbidden. Only municipal schools are legally requested to guarantee the right to (12 years of) education in case no

other places were available or families couldn't pay the fees charged under shared financed in other schools.

In 2004, a more in depth correction of market mechanisms was attained. After a long period of debate in Congress, the “Subvención Preferencial” was introduced in 2008. The reform switched from a flat voucher system - accounting only for differences in the costs of provision according to level of education and population density (for rural areas) - to a means tested voucher system, attempting to break the strong relationship between socioeconomic background and students' results (following the literature on equality of opportunities, for instance in Roemer, 1998, and Betts and Roemer, 2003).

The “Subvención Preferencial” entitled schools to receive an additional monthly subsidy of \$19.980<sup>11</sup> for each vulnerable student, roughly an increase of 48% of the regular full school day voucher<sup>12</sup>. In addition, to take account of the peer effect, nonlinear increases were established according to the proportion of vulnerable students as depicted in table 2. To award school meals and scholarships, the JUNAEB maintains individual records of students therefore no additional administrative instruments were required to identify vulnerable students<sup>13</sup>. The Subvención Preferencial will apply from preschool to 4<sup>th</sup> grade during 2008 and its coverage will be extended gradually until (4<sup>th</sup> grade 2008 students reach) 8<sup>th</sup> grade in 2012. Initially it is expected to benefit 400,000 students, increasing to 800,000 by 2012.

Table 2: Additional voucher according to concentration of vulnerable students in “USE”

% vulnerable students	Preschool to K4	K5-K6	K7-K8
Más de 60%	0,184	0,123	0,0613
Entre 45% y 60%	0,164	0,109	0,055

<sup>11</sup> Approximately 46 American dollars per month.

<sup>12</sup> The value of the voucher for primary education is \$41.825,89 per month with full school day and \$30.577,03 with 30 hours of teaching.

<sup>13</sup> The status of vulnerability was formally defined on the basis of family income, school attainment of parents, rural condition and poverty index of the municipality of residence. Automatic inclusion was granted to students belonging to Chile Solidario families, the lower third of the “Ficha de Protección Social” households (a standard instrument completed by municipal officials to assess the need of families to receive social support) and parents classified in FONASA A (extremely poor households entitled to free health attention according to the equivalent of the National Health Service).

Entre 30% y 45%	0,125	0,083	0,042
Entre 15% y 30%	0,077	0,051	0,026

Source: Ministry of Education.

Note: 1 USE is actually equivalent to \$15,187.215 (almost US\$ 33.7).

Besides equity, improving accountability has been the other issue in top of the public agenda in this period. The bad performance of the Chilean educational system in international assessments and the absence of improvement in National evaluations has been an issue of public concern, especially due to the amount of resources invested in the sector. As we will see in the next section, quality is lower in the municipal sector, but it is unclear whether this is due to lower performance or to their lower selectivity and lower socioeconomic status of their students. In a scenario of increasing resources and salaries, it was, nonetheless, natural to question what was happening inside the classroom and within the administration of municipal schools. It was apparent that the incentives provided by the voucher system were not appropriate to motivate municipal principals and teachers, especially after the Estatuto Docente insulated teacher's pay and employment prospects from their school performance.

On the first issue, a compulsory system of individual teacher evaluation was put in place<sup>14</sup>. Although considered in the original Teacher Statute, until 2005 the Teacher Union successfully opposed the implementation of this evaluation due to the possibility of dismissal. This is a comprehensive evaluation that includes from self-evaluation to video recording of classes<sup>15</sup>. Teachers classified in the worst category of performance are required to improve based on individual training and are re-evaluated by the end of the following year. In case of new failure, they are separated from the classroom and are required to engage in full time training during an additional year. A new re-evaluation takes place after that period and in case a third consecutive failure occurs, teachers might be dismissed. In that case municipalities are required to afford a generous severance pay, on top of their previous obligation to partially finance the training of the incompetent

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<sup>14</sup> Besides this compulsory scheme, a voluntary evaluation was introduced in 2003. It provides a bonus to those teachers qualified at the highest performance level and gives them the qualification of master of teachers, thereby certifying their capacity to help others to perform better.

<sup>15</sup> More information might be found in <http://www.docentemas.cl>.

teacher. This makes contract termination difficult for poor and small municipalities. However, getting rid of incompetent teachers is unlikely to validate such an expensive evaluation scheme. It must be understood partly in the context of the already mentioned public opinion distrust of municipalities, which requires limiting major's discretion. Nevertheless the system might be used to implement adequate training initiatives, detecting major weaknesses in initial teacher formation and establishing the correct incentives to human capital accumulation that should be associated to tenure. Evaluation is the road chosen for improving teacher quality as market incentives were neutralized by the Teacher Statute.

All school-head positions were forced to public contest in 2005<sup>16</sup>.

Regarding the perception of low accountability granted by parent's choice, a law creating a Regulatory and a Quality Agency in Education, following the experience of other privatized services, is being discussed in the Congress. An agreement between the opposition and the government has been reached which granted a rapid discussion of the law<sup>17</sup>. The details of this agreement in what concerns the governance of the system is presented in section IV.

### **III. A balance of the current situation in perspective**

The actual structure of the subsidy is presented in Figure 2. The rural special provision is depicted in Figure 3. The correction applies for each four years cycle (K1-K4; K5-K8; K9-K12) for schools located at five kilometres or more of populated areas. The "rural floor" applies to schools located in frontier and inaccessible zones and its number is limited to avoid abuses. Notwithstanding, casuistic evidence reports cases of teachers installing one or two student schools for their children or four private schools located

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<sup>16</sup> This measure was initially resisted by the right wing opposition as the majority of in service school heads were appointed by the military.

<sup>17</sup> At the time of writing this essay, the Ministry of Education was replaced, which casts some (very small) doubts on the translation of these agreements into legislation.

exactly at five kilometres of Porvenir, a small city in the extreme South of the country, to receive the rural subsidy.

Figure 2: Per student subsidy 2007 (in US\$ per month)

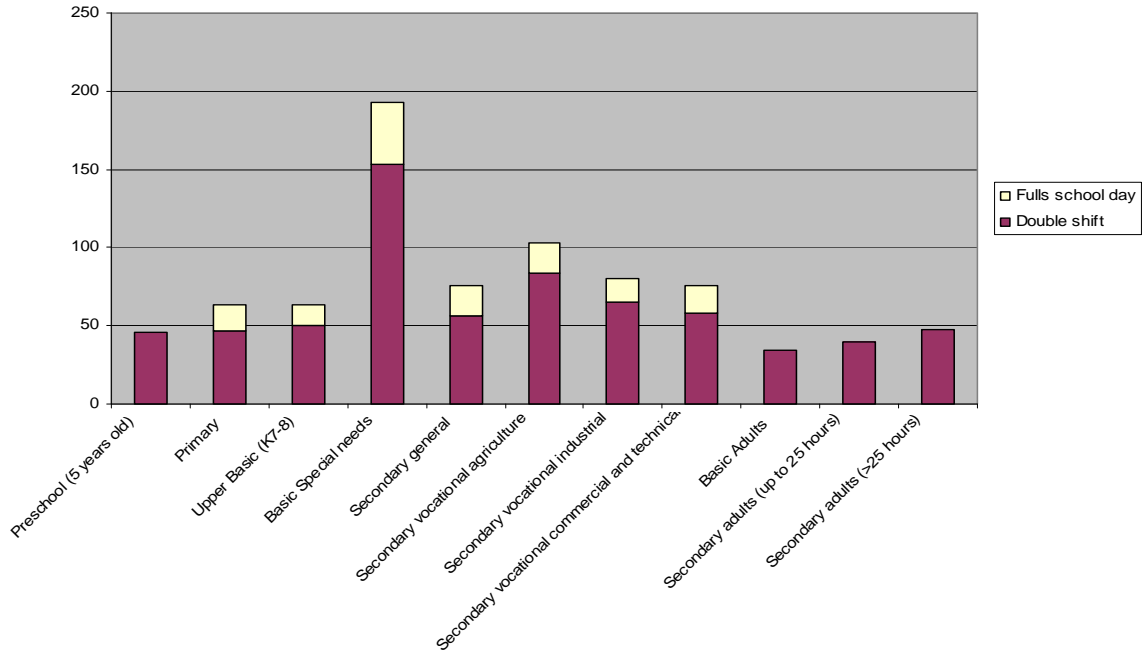
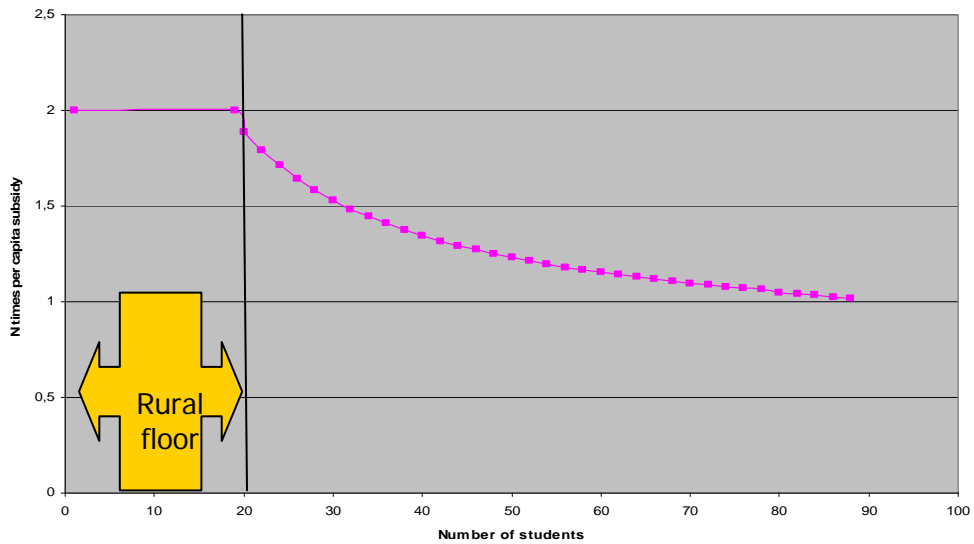


Figure 3: Factor multiplying per student subsidy in rural areas



The sustained effort in terms of resources might be appreciated in Table 3. The decline in recent years is due to a reduction in total public expenditure (as a percentage of GDP) that has lagged behind an impressive increase in fiscal income due to high copper prices. The country has a fiscal expenditure rule based on permanent income which takes into account a long run price of copper well below the actual level. This conservative rule has produced large fiscal surplus that in fact has transformed the country in net external creditor.

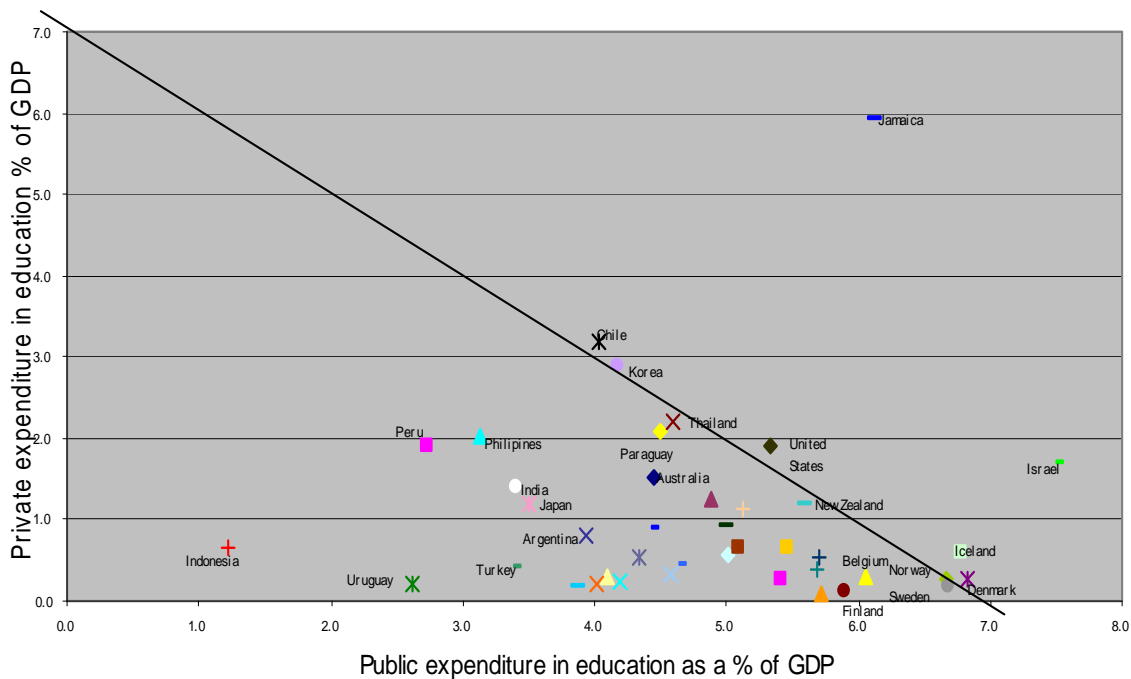
Table 3: Total expenditure in education by source (% GDP): 1990-2006

	Public expenditure	Private expenditure	Total
1990	2,4	1,4	3,8
1991	2,4	1,5	3,9
1992	2,5	1,6	4,2
1993	2,7	1,8	4,5
1994	2,8	1,9	4,7
1995	2,7	2,0	4,7
1996	3,0	2,2	5,2
1997	3,2	2,2	5,3
1998	3,5	2,6	6,0
1999	3,8	2,8	6,7
2000	3,9	2,9	6,8
2001	4,1	2,9	7,0
2002	4,2	3,0	7,2
2003	4,1	3,1	7,2
2004	3,9	3,0	6,9
2005	3,7	2,9	6,5
2006	3,4	2,7	6,0

Source: Ministry of education.

The financial effort of Chile is put in an international context in Figure 4. The straight line indicates total expenditure above 7% of GDP. According to OECD Education at a Glance only a few countries are above that figure. Both Chile and Korea use a similar combination of public and private resources to reach that level and have – except for the outlier Jamaica – the largest private investment in the sample. Almost two thirds of that impressive private expenditure is channelled to higher education where public expenditure is low as compared to other countries. This is an important part of educational financing policy in Chile: higher education is considered a profitable private investment and its financing depends largely on credits and partial scholarships. In Chile, the rest of private expenditure is mainly directed to fully private schools. Shared financing in the subsidized sector accounted only for approximately US\$400 Millions.

Figure 4: Public and private expenditure as a % of GDP: Education at a Glance



The key use of resources in the public sector is teacher salaries. Minimum teacher salaries in private institutions increased by 467% and average teacher salary in the municipal sector increased by 160% in real terms between 1990 and 2006 (Table 4)<sup>18</sup>. A recently created web site [www.futurolaboral.cl](http://www.futurolaboral.cl) allows comparison of starting salaries between different higher education graduates according to tax revenue information. For instance, 4 years after graduation average teacher salaries are \$373.100 for general basic education, \$430,611 for Spanish and philosophy and \$591.1331 for mathematics. They clearly lag behind civil engineers (\$1.337.915), doctors (\$1.348.570) and lawyers (\$1.299.610), but not distant from journalists (\$585.805), designers (\$542.452), university nurses (\$672.912) and psychologists (\$642.369) and unlike these professions are more likely to underreport independent income (from private tutoring) and work fewer hours per year. According to that same web page the salary dispersion is much

<sup>18</sup> In 1990, levels correspond to those found in a large survey conducted by the Ministry of Education in both sectors. Since 1991 average municipal salaries are obtained from annual teacher census recording years of experience and responsibility levels and the actual expenditure levels in other items. A few teachers in the private sector earned the minimum wage applicable to all workers in the economy in 1990. After 1991 this minimum level is determined by the Teacher Statute. Averages for the private sector are not recorded.

lower in teaching than in almost any other profession. This is corroborated by Mizala and Romaguera (2005) using the CASEN household survey. Vegas (2008) and Mizala and Romaguera (2005) showed that teachers' wages are above workers or professionals of similar characteristics (including years of education).

Table 4: Teacher salaries for 44 hours contracts

	Municipal sector		Voucher private
	Average	Minimum	Minimum
1990	303.023	151.831	78.089
1991	324.535	183.324	170.397
1992	379.377	203.690	196.056
1993	426.664	215.578	200.131
1994	486.099	250.158	223.740
1995	534.876	276.065	270.342
1996	574.133	303.446	302.135
1997	627.371	333.162	331.445
1998	659.713	363.067	362.802
1999	692.719	387.528	387.528
2000	723.159	410.304	410.304
2001	742.469	415.664	415.664
2002	776.932	416.750	416.750
2003	779.962	416.598	416.598
2004	794.459	417.394	417.394
2005	801.728	414.476	414.476
2006	788.018	442.911	442.911

Source: Ministry of education.

Education at a Glance shows that the student-teacher ratio is high in Chile (again similar to Korea). Table 5 shows the evolution of raw student-teacher ratios by sector, where the total number of teachers, including administrative staff in schools and municipalities is considered in the denominator. It is well known that a reduction of this indicator is not cost effective to improve quality. However, apparently as a consequence of the reduction of the population in primary school age this indicator has been declining recently, even in the private sector. If the ratio considers the number of hours teachers are hired and normalize hours to 30 per week, the total student-teacher ratio is 27 in 2006. Average class size is 31 in K1-K8 and 36 in K9-K12.

Table 5: Student teacher ratio by sector

	Total	Municipal	Voucher private	Fully private	Corporations
1998	25	23	32	18	20

1999	25	24	30	16	21
2000	24	23	31	15	23
2001	24	24	31	15	22
2002	26	24	33	17	25
2003	26	23	34	16	24
2004	22	22	26	15	22
2005	21	21	25	12	23
2006	21	21	24	13	23

Source: Own elaboration on the basis of Ministry of education figures.

Note: Teachers working in more than one school are considered in the one with higher hours per week.

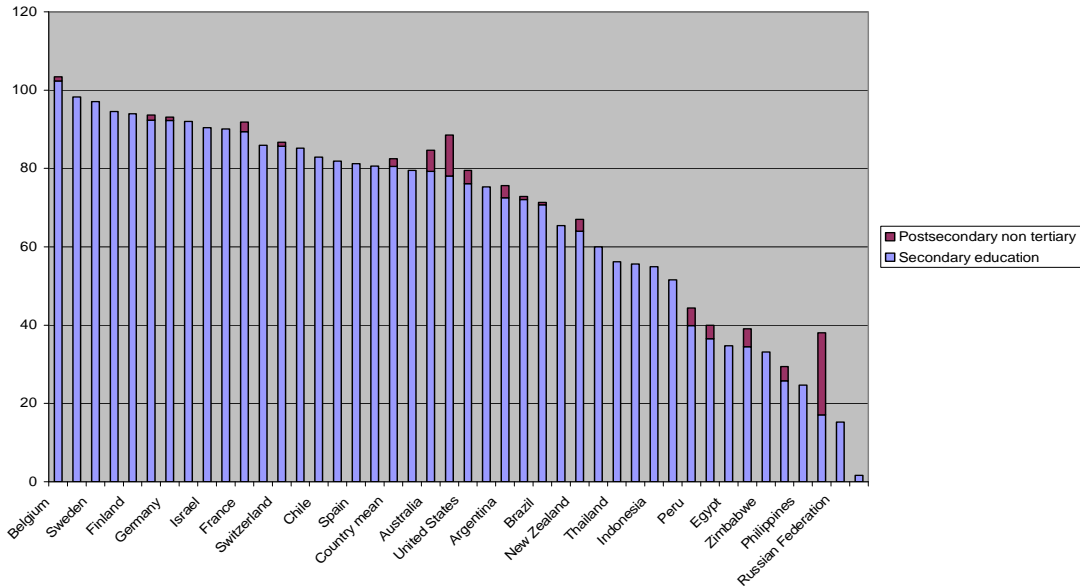
Net and gross enrolment rates according to UNESCO definitions are presented in Table 6. Enrolment rates in primary have remained fairly stable during the period, and the net rate below 90% in most years. This is partly explained by late inscription. Legislation requires being 6 years old in March for enrolment in first grade. However, the enrolment rates have climbed in secondary education. There is no gender problem behind those figures, as the net enrolment rate of women is 4 points higher than men in secondary education. Figure 4 shows the percentage of 17 years old enrolled in secondary education according to OECD Education at a glance. Chile is close to Spain and Iceland and above the OECD average.

Table 6: Net and gross enrolment rates (in percentage)

	1990	2006
Net enrolment rate primary	89,5	88,0
Net enrolment rate secondary	55,1	70,9
Gross enrolment rate primary	103,9	104,1
Gross enrolment rate secondary	79,8	96,5

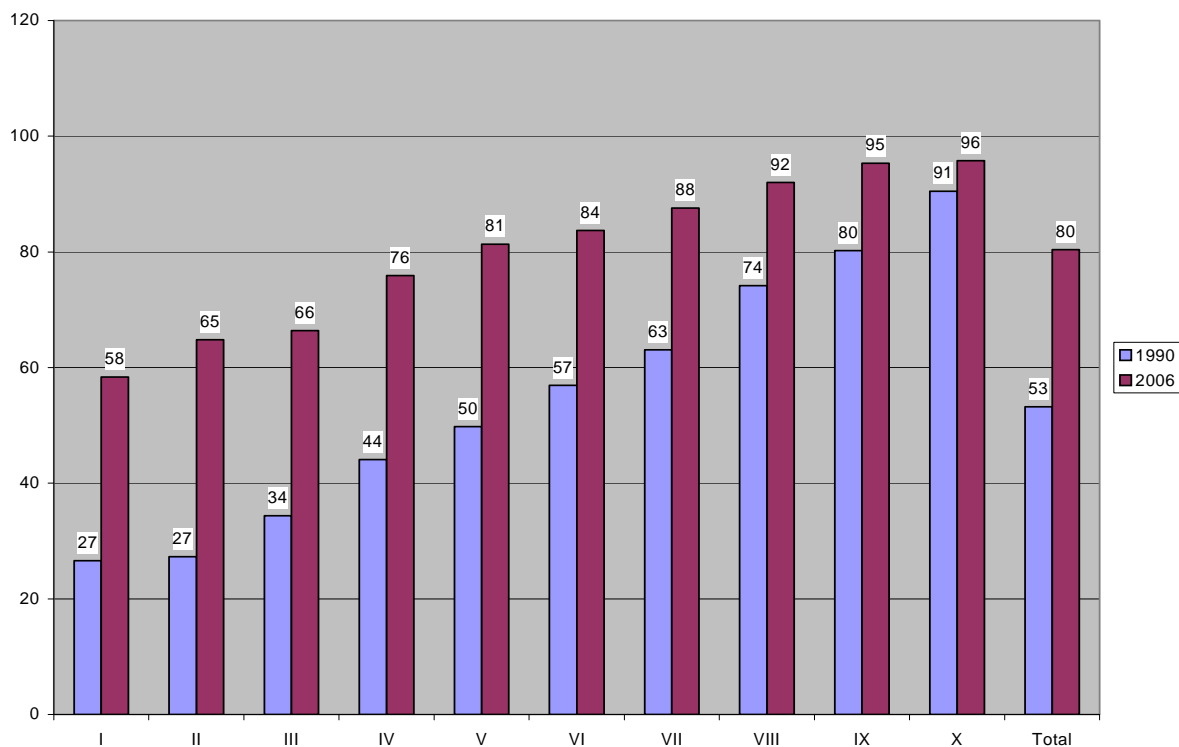
Source: Ministry of Education.

Figure 5: Net enrolment rates based on head counts at age 17



Actual educational achievement of the labour force has increased steadily. According to the INE employment survey, the labour force attained an average of 11.1 years of schooling by 2006 (compared to 8.6 years in 1990). In the 25-34 age group 27% completed higher education, 39% secondary education and only 10% did not completed basic education (K8), compared to 17%, 29% and 29% respectively of the group 25 years or more. This improvement is unevenly distributed by socioeconomic status as Figure 6 shows for graduation of secondary (differences in access to higher education are even sharper). Nevertheless, the improvement during the democratic period has been more pronounced in lower income deciles as upper income had already very high rates by 1990. Dropout rates in secondary education have fallen from 15% to 6.8% and in primary from 2.5% to 1.1% between 1991 and 2006.

Figure 6: 20-24 years old with at least secondary education by household income decile



There is a generalized perception of low and stagnant quality. The scores of the national standardized tests (SIMCE) are not comparable with those previous to 1997 and cannot be used to assess the overall impact of the reform. Some analysts have used the private non-subsidized schools as control group deducing that the relative performance of subsidized schools improved during the 90s<sup>19</sup>. However, the comparison is safe only from 1997 onwards where equating is introduced: results and gaps between sectors are remarkably stable since then. Table 7 summarizes the situation for 4<sup>th</sup> Grade but a similar picture can be observed in 8<sup>th</sup> and 10<sup>th</sup> Grade, for each subject except mathematics in 10<sup>th</sup> Grade where results increased 6 points between 2003 and 2006. A plausible explanation for the stability in 10<sup>th</sup> and 8<sup>th</sup> Grade is the increase of 29% and 12% in the number of students taking the test respectively. This would be consistent with an increase in quality for all socioeconomic groups while at the same time more disadvantaged students are included, reducing the National average. Similarly, the number of schools where the 4<sup>th</sup> Grade test was administered increased in 24% between 2002 and 2006 (although the

<sup>19</sup> This gap is a very imperfect measure of the quality differential but is the best measure available to date. Note that, in the absence of comparability, easier exams to inflate reported results are consistent with a reduction of the gap, as long as top scores are bounded from above.

number of students evaluated has declined due to smaller cohorts) and the latest additions are small and insulated rural schools. Up to date this sort of analysis has not been performed and the generalized opinion is that quality is stagnant despite the huge expansion of resources.

**Table 7: National standardized test results (SIMCE), average all subjects, 4<sup>th</sup> Grade**

	1988	1990	1992	1994	1996	1999 <sup>a</sup>	2002	2005	2006
Municipal	49.25	56.7	63.85	64.43	68.00	238	237	240	239
Private subsidized	56.35	58.8	70.15	70.66	73.65	257	257	261	260
Private non-subsidized	76.15	80.05	86.05	85.07	85.85	298	299	301	300

**Source: Ministry of education. Note: a/ Before 1998 scores represent percentage of success. From then onwards scores are normalized around 250 for the first evaluation.**

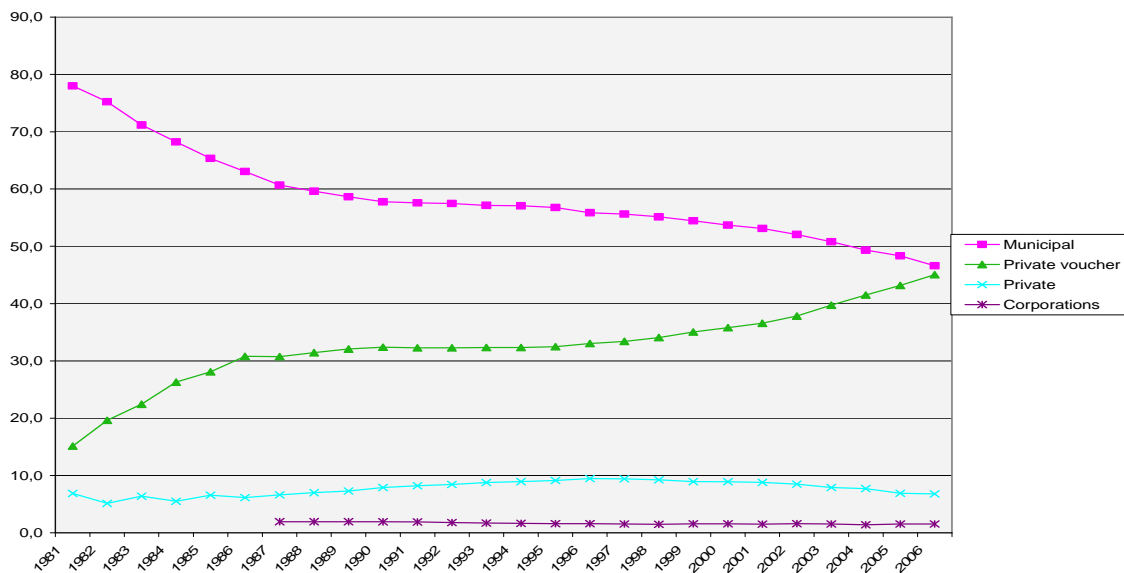
Chile has participated in several international evaluations of educational quality (TIMSS, CIVIC, PISA, IALS). Hsieh and Urquiola (2003) argued that the reduction of Chile TIMSS results between 1970 and 1999 suggested negative effects of the voucher implementation. However, the large population groups outside of the school in 1970 were likely to deteriorate the average in 1999. A fair comparison requires including all the population of a certain age. The International Adult Literacy Survey offers this possibility. The percentage of each age cohort in the lowest achievement level in IALS is increasing with age, ranging from 7 out of 10 among those aged between 45 and 65 years old, to one in three among the 15-25 cohort. Although tempting, it might be naïve to deduce from this trend a positive evaluation of the educational reform as regards the combination of coverage and quality, as long as respondents capacity to answer the questions of a tests might decline with age (or with time after leaving formal studies) or because human capital might depreciate as long as it is not adequately used. More solid evidence comes from the most recent evaluation of PISA, where Chile showed the largest improvement in results in language between 2000 and 2006 of all countries taking the test<sup>20</sup>. Inside the

<sup>20</sup> The improvement was from 409 to 442 points. Besides, Chile ranked first in sciences and in language in Latin America and second in Maths (only a few countries from the region took the tests but those with best performance in other examinations with the exception of Cuba were included).

country, the good news has passed almost unnoticed and some analysts have preferred to stress instead the distance with Finland and Japan. Of course, this positive trend needs to be confirmed by more evaluations, and it has not been National evaluations.

Perhaps the most visible effect of the 1981 reform was the sharp increase of enrolment in private subsidized schools that occurred during the first part of the 80s and after 1996 (Figure 7). In absolute terms, enrolment in municipal schools never reached again the maximum of 2,215,973 students enrolled in fiscal schools in 1981, attained its new absolute maximum in 2001 (1,889,645), gradually declining to 1,698,639 in 2006. During the period 1981-2006 total private enrolment increased by 1,321,262 students while the number of students in publicly run institutions declined by 517,334. The number of municipal schools attained a maximum of 6,456 in 1996. By 2006, it declined to 5.971 (Table 8). Interestingly this might reflect fusion of small schools or closure of bad schools. Since the shared financing system, private paid schools have switched to the voucher system, as reflected by the slight decline in the number of these schools since 1994. The number of private voucher schools increased by 167% during the period 1981-2006.

Figure 7: Evolution of total enrolment in schools by sector<sup>21</sup>



<sup>21</sup> Department of Studies, Ministry of Education. Includes preprimary, special education, primary and secondary in schools, in other words excludes enrolment in fiscal preschool institutions.

**Table 8: Types of primary and secondary schools**

Type of school	1980	1985	1994	2006
Public, centralized	6,370	808		
Municipal		5,668	6,243	5,971
Private, subsidized	1,627	2,667	2643	4,339
Private, no subsidy	802	668	860	733
Corporations			70	70
<b>Total</b>	<b>8,799</b>	<b>9,811</b>	<b>9,788</b>	<b>11,671</b>

Source: Estadísticas de la educación 2006, Mineduc.

Some authors argue that subsidized private schools provide better education and henceforth partial privatization of the school system is an improvement. Aside an ideological basis, this claim appears justified on the superior average performance of voucher private schools over municipal schools on standardized tests (see Table 7 above). However, the performance gap between the two types of school can be attributed to differences in students' socioeconomic characteristics, including their parents' education. For instance, the Ministry of Education has dealt with this problem by publishing results for different socioeconomic groups (Table 9). Within each socioeconomic group results are much closer, and municipal schools (MUN) have an advantage over private voucher schools (PSUB) for the lowest socioeconomic group.

The latest studies using student level data (available since 1997) show that some advantage of private subsidized schools on student achievement remains even after controlling for student characteristics<sup>22</sup>. Using 1997 eighth grade data and controlling for

<sup>22</sup> Besides, positive effects of private schools have being reported in different countries for other outcomes such as graduation rates, go on to college, earning a degree and higher earnings in the labor market. In Chile McEwan (2002) reports that Catholic school students in Argentina and Chile have lower repetition rates. Some authors have found lower costs per students in private schools. Winkler and Rounds (1993) obtained a similar result for Chile and the more recent McEwan and Carnoy (2000) restricted this finding

peer and self-selection effects, McEwan (2001) found that only private paid schools had a statistically significant advantage. Mizala et al. (1998) using DEA and stochastic production functions, report that private paid schools outperformed private voucher schools, and private voucher schools had a significant advantage over public schools. Mizala and Romaguera (2000b) and Sapelli and Vial (2001) found that private voucher school students outperformed public school students using tenth grade data for 1998. Contreras (2001) arrived to a similar conclusion using university admission tests. However, Bellei (2006) shows that these results depend on the selection of controls. If only variables associated with socio educational characteristics of the student household are used, private schools tend to retain an advantage. When average and standard deviation of socio economic characteristics of the school are included the later is reversed.

Table 9: SIMCE 2006 4<sup>th</sup> Grade by socioeconomic group and type of test

Socioeconomic group	Language			Mathematics			Sciences		
	MUN	PSUB	PRIV	MUN	PSUB	PRIV	MUN	PSUB	PRIV
Low	(+)238	227	-	(+)224	206	-	(+)232	220	-
Below average	235	235	-	227	227	-	236	238	-
Average	248	(+)256	-	243	(+)252	-	253	(+)263	-
Above average	271	275	-	268	(+)272	-	280	(+)284	-
High	-	289	(+)298	-	288	(+)299	-	297	(+)306

Note: (+) Indicates statistically significant advantage over other sector within the same socioeconomic group.

Control for student selection by schools and of school choice by parents has proven to be difficult to overcome. Only from SIMCE 2007 onwards two evaluations for the same cohort will allow to control for unobservable constant individual characteristics. To date studies have not controlled for the amount of resources which currently favors the private sector due to the extension achieved by the shared financing mechanism.

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only to non-religious private schools. Other authors argue that private schools might attract better teachers, promote better performance and reduce teacher absenteeism. So far there is no evidence on that issue.

With regard to competition, the effect on overall quality is mixed due to the negative effect of segregation<sup>23</sup>. McEwan and Carnoy (2000) suggest that 15 years of competition in Chile led to modest gains in achievement in public schools in the Metropolitan area. In regions outside of the capital, competition had slightly negative effects. Competition, measured by percentage private in each district, was associated with lower achievement in municipal schools in Hsieh and Urquiola (2003). However, other authors arrived at the opposite result using instrumental variables to account for the fact that the percentage of private students in the municipality is endogenous (Gallego, 2002, and Auguste and Valenzuela, 2003). The validity of this conclusion depends on the appropriate choice of instruments. In any case, the impact of competition is well below what reformers expected. This has been attributed to factors limiting competition; the decade of low funding that followed the reforms and the low quality of teachers<sup>24</sup>. Other authors suggest that the methods used for classroom teaching are responsible for the actual state of affairs.

Fischer et al. (2006) argued that several circumstances have damped competition. First, parents did not have objective measures of school quality until 1995, when SIMCE scores by school were first released, and even until recently they do not use them. Proximity and affinity with school values are declared to be important factors in determining school choice<sup>25</sup>. The amount of fees of the different schools might further narrow the choice set. Second, the Teachers Statute has considerably reduced the municipalities' flexibility in human resource management. Third, municipal schools have been shielded from competition due to the use of other municipal revenues. The lack of pressure from below

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<sup>23</sup> This is consistent with the evidence in the United States, where the effect of competition on student achievement is ambiguous, but the latest studies find that greater private school competition or more public choice are associated with higher public school performance. Evidence outside the United States is mixed.

<sup>24</sup> Fischer et al. (2006) hypothesized that the large reduction in the voucher value during the second half of the 80s is likely to have had a long-lasting negative impact on the quality of education. The decrease in teachers' salaries worsened the pool of applicants to teaching schools while existing teachers with the best outside opportunities left the educational system, and this change in the quality of the stock of teachers has long-lasting effects. The quality of teacher schools also deteriorated, partly as a result of strong political intervention by the military regime. After decades of decline, the quality of new students at teaching schools has begun to improve since 1996 (Arellano, 2000), following improvements in teacher salaries which have increased steadily since 1990 (see Table 4).

<sup>25</sup> Studies in different countries find a variety of factors affecting school choice by parents, including disciplinary climate, reputation, proximity, religion, pedagogy and peers. Surveys in Chile suggest that few parents emphasize educational considerations such as examination results (Ministerio de Educación, 2000; Centro de Estudios Públicos, 1997, Elacqua and Fabrega, 2004).

and the low quality of teaching might explain why even the best schools perform below average on international evaluations.

The perception of stagnant low quality is even more puzzling given the other policy measures introduced during the 90s: better inputs and processes; in-service training; curricular reform; and more time for instruction. Resources have tripled and teacher salaries more than doubled. Almost anything that might have an impact on educational quality, - from high to very low cost effective policies, - has been implemented during the last fifteen years.

Municipal schools enroll a larger fraction of poor students<sup>26</sup>. González et al. (2004) and González (2005) presented different aspects of the unequal distribution of students across sectors. Students from the upper 10% household income attend schools where they virtually do not mix with other socioeconomic groups. This corresponds to private paid schools, where expenditure per student is on average three times larger than in the subsidized sector (González et al, 2004). Looking from this perspective, shared financing in the voucher sector contributes to reduce the inequality of resources within the school system as a whole, although not when the non-subsidized sector is excluded from the analysis. Elacqua (2006) presented different measures of integration of vulnerable students to different groups of subsidized schools, showing that private schools admitted a smaller proportion of these students. For profit private voucher schools appear to have more students of low socioeconomic status than Catholic voucher schools that appeal to an “option for the poor” in their public discourse<sup>27</sup>.

According to González (2005) the importance of each decile in each sector (municipal, private voucher and fully private) remains stable between 1990 y 2000. Similarly, the distribution of students within each school decile does not vary between 1998 and 2003. Valenzuela (2008) finds that Chile is the country with higher segregation as measured by Duncan indexes in PISA 2006: depending on the indicator Chile shares this condition with Brazil, Liechtenstein and Thailand. Valenzuela et al. (2008) report small but

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<sup>26</sup> According to Elacqua (2006), 39% of students in municipal schools are vulnerable. The first four deciles are over represented in municipal schools (González, Mizala y Romaguera, 2002).

<sup>27</sup> Elacqua (2006) reports that 13% of students at Catholic voucher schools were vulnerable compared with 18% in for-profit voucher schools.

statistically significant increases in segregation indexes between 1999 and 2006 using SIMCE information. In addition, the distribution of SIMCE scores has become steeper in the sense that differences between upper and lower individual result percentiles have increased. It is not possible to verify a similar trend during the 90s due to data limitations.

As regard selection, a recent survey of the 100 best-performance schools of each type showed that admissions testing occurred in eighty-eight per cent of private non-subsidized schools, sixty-eight per cent of private subsidized and twenty-two per cent of municipal schools. A questionnaire attached to the 2003 SIMCE revealed that 68% of all 10<sup>th</sup> grade students passed through a selection process while entering high school, including 59% in the municipal system. However, it is not possible to verify that ex-ante selection by schools has increased after the publication of SIMCE scores, as the samples used vary<sup>28</sup>.

Before closing this section it is interesting to summarize some information regarding management issues at the decentralized level. Not much is known about the private sector (whether voucher or not) aside what has been already described. The vast majority of “Sostenedores” in the private sector administers only one school and therefore is unable to take advantage of economies of scale and scope and take advantage of their reputation. The situation is similar in the fully private sector. Nevertheless, there are interesting exceptions, with a more “entrepreneurial” (mainly non-profit) spirit, some of them taking advantage of networks and the above mentioned advantage (see García and Paredes, 2007).

The municipal sector has been more studied, especially at the request of the Ministry of Education. Recent studies show that there is impact of municipality’s and school’s management on SIMCE results (Pavez, 2005, Paredes and Lizama, 2006). Serrano et al. (2001) find that school autonomy is very limited in the municipal sector and only a fraction of municipalities can give technical support to their schools. Although there are

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<sup>28</sup> Parry (1996) reported that 15% of municipal schools and 63% of private subsidized schools in Santiago (where selection might be more widespread) applied some method of selection. Gauri (1998) reported that 18% of municipal schools, 37% of private subsidized and 82% of private schools selected their students. Elacqua and Fabrega (2004) reported 24% for municipal schools and 60% for private schools.

municipalities that do not use their own financial resources to support education and others voluntarily support their educational system, others consider education chronically under-funded by the state and a permanent drain in their own resources. Nevertheless, the later have similar structural characteristics to the former, and their most distinct trait is their lack of managerial skills<sup>29</sup>. Most municipalities exhibit some management problems such as “lack of institutional mission and strategic vision, limitations of leadership, problems of coordination and communication, lack of trust between the parties, rigid internal structure”. Many complain about legislation limiting their capacities to administer personnel and separate incompetent teachers. At that time, many considered that a teacher evaluation system was urgently required. Although after that system was implanted there has not been an assessment of its impact in municipalities, it enjoys strong support by majors.

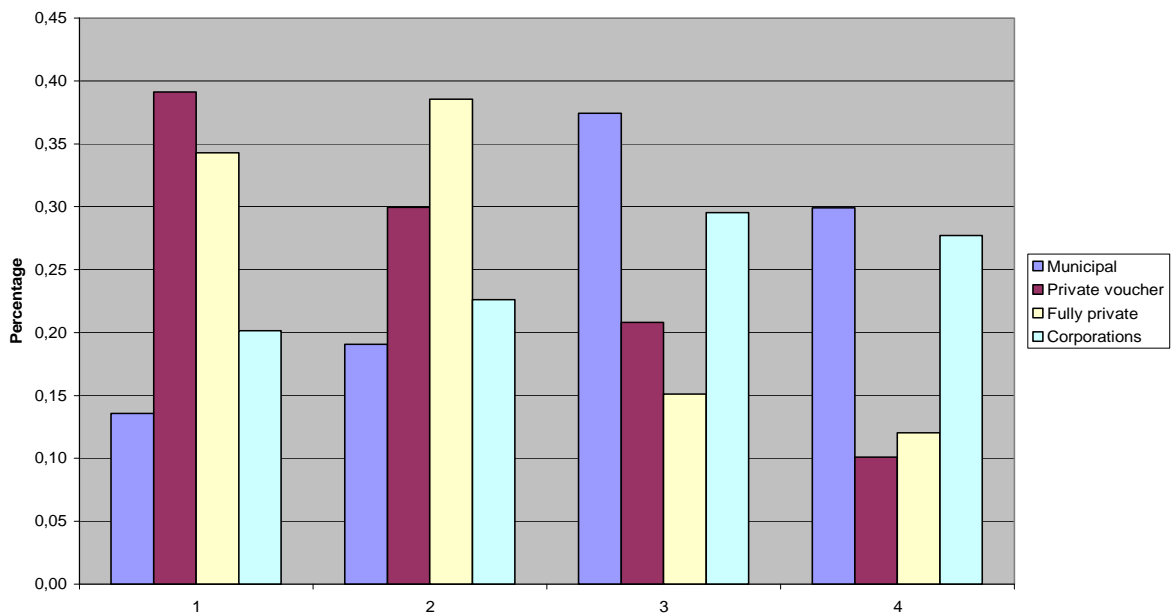
Raczynski and Salinas (2008) summarizes the findings of a handful of qualitative studies showing heterogeneous but mostly scarce administrative capacities in the municipalities. Almost all municipalities do not have separate accounting for each school, thereby are incapable of minimum sound financial management nor to say transfer the voucher incentives to schools. Most municipal schools have different teachers in charge of different projects without a unifying superior objective. Some municipalities have implemented rationalization of their personnel, but this require good legal advice to adequately use the provisions of the reformed “Estatuto Docente”, strong political support of the different representative political bodies in the municipality and resources to finance severance pay. This is more difficult for small or poor municipalities, lacking managerial skills and financial resources. However, from time to time, the central government offers support to municipalities for teacher retirement, which has reduced the proportion of teachers above 60 years old currently in service. Despite these efforts, the age distribution of teachers is very asymmetric between sectors, as figure 7 shows. The first age group corresponds to less than 35 years old, the second to 36-45, the third to 46-55 and the fourth to above 56 years old. The age distribution of private schools is biased towards younger cohorts, partly because the sector has more new schools (Table 8) but

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<sup>29</sup> Note that the “Estatuto Docente” requires that all managerial staff working in the Municipal Department of Educational Administration be teachers.

probably also because they might offer more attractive salaries to younger teachers as they not legally obliged to pay older teachers more. They also have more students per class. All these factors would imply that private institutions might have more resource to devote to other uses, and some have created more supportive organizations for their teachers (Sociedad de Instruccion Primaria and Belen Educa to mention two private Sostenedores with good results). Others, of course, might just use the resources for more profits. Research is only recently turning attention to these issues. And policies are attempting to correct historical deeply rooted inequalities and to produce more a better and more transparent institutional design such as to promote better behaviors, as we turn to look in next section.

Figure 7. Age distribution of teachers by sector



#### IV. Social change in perspective

In this section, the recent evolution of educational policy is interpreted using the model sketched in Figure 1 and the last relevant developments are summarized. The changes of educational policy since the return of democracy have not arise from a change in

objectives, - as they continue to be the improvement of quality and equity, - but from dissatisfaction on current achievements, learning about what works and what not and a growing empowerment of social actors, specially students and families.

Two key dissatisfactions were the perception of stagnant quality despite almost anything recommended in the literature has been undertaken and the unequal distribution of quality despite the improvement in opportunities of access and graduation. Learning feedbacks from these dissatisfactions: quality is not a matter of resources and salaries or competition alone; equity is not achieved levelling inputs or with more supervision to poor performers.

The empowerment of social actors has been a gradual intentioned process in a country with longstanding tradition of authoritarianism and centralized decision making (Velis, 1983; UNDP 2002). The voucher reform under dictatorship strengthened the exit option, although choice was present well before and religious schools received fiscal support for providing their service. But the 1981 Constitution gave the same high level status to the right to education and to “freedom of teaching”, a concept that has been used to defend selection of students by schools. In 2003/04 the Citizen Dialogues gave citizens the opportunity to deliberate on the mechanisms required to improve quality (Velasquez and Duhart, 2005, Velasquez and Gonzalez, 2008). Afterwards, school councils were instituted by law in municipal schools and recommended to private schools. In 2006, a large secondary school movement took over high schools and the streets of several large cities demanding better quality education for all. Although the immediate plea did not address directly that issue, students mobilizations helped to put again education at the top of the political agenda as it was in the previous two administrations.

Following her promise of a participatory and deliberative style of decision making, President Michelle Bachelet responded to high school student unrest instituting a National Education Commission, constituted by 81 members, including teacher, non-teacher staff, parent associations and student union representatives, rectors of universities and director of schools, majors of municipalities and private “Sostenedores”, politicians from all the political spectrum, experts and indigenous people representatives. Roughly

speaking two ideological positions were confronted: one for improving the decentralized system strengthening accountability, and the other proposing a return of the municipal schools to the central government. For obvious reasons, the government has followed the first line and has been working with the right wing opposition an agreement that will be described below. It is also considering avenues to facilitate associations of municipalities to jointly administer the educational service. However, the citizen demand is clear and an answer must be provided: the children right should not only be equal access opportunities but equal opportunities of learning.

The role of social learning and knowledge in this changing environment is very clear. The candidates for quality improvement were accountability and teacher abilities, formation and training. So far, the first has been given priority over the second, as it is expected that it will also produce the right incentives for teachers to accumulate human capital and improve performance. There are also limits on what the government can do in this issue given the decentralized nature of both the higher education system responsible for initial formation and training as well as the school system. Consider for instance the public concern with the quality of the universities and institutes in charge of initial teacher formation. A competitive fund for improving educational faculties was created in the late 90s and soon abandoned, perhaps due to the impossibility to introduce deeper changes in the management of institutions. However, some mechanisms might have an impact despite the difficult scenario. Long distance very low quality programs have been recently forbidden setting limits to the autonomy of institutions to deteriorate initial teacher formation. The compulsory evaluation of in service teachers would also put pressure on the quality of teacher formation and training. A public exam to certify minimum standards after graduation is being considered. Before turning to the solution being considered to solve the accountability problem it is necessary to discuss the equity issue as this solution was implemented first and paved the road to changing the governance system.

When the political decision to “*tackle the issue of equity seriously*” was mature, roughly two options were considered: scaling up supply side programs or distributing resources through an increment of the voucher to vulnerable students. There were doubts about the

possibilities to solve the problem of unequal results simply with Ministerial supply side programs. Although evaluations reported a positive impact on tests scores of P900 (Garcia-Huidobro, 1994) even after taking account of mean-reversion or noise using regression-discontinuity design (Chay, McEwan and Urquiola, 2005), the effect is small and seemingly short lived as many schools that improved their results returned back to the program a few years after “graduation” (Gonzalez et al., 2002). In some cases the best option for improving the quality of education for students attending low performing schools was enrolling them into neighbour schools with better performance: public support (P900, school meals, scholarships) only retained those students in dead end units.

Of course, targeting schools produced large exclusion and inclusion errors than targeting students, for instance nearly 50% when considering reaching the 20% poorest students (Gonzalez et al., 2002). The administrative costs of the targeting mechanism to identify individual students, one of the major disadvantages of individual targeting, was nearly zero, as this mechanism was already in place to distribute various fiscal benefits directed to families and students<sup>30</sup>. Other usual caveats against individual targeting are policing individual behaviour and social stigma. Regarding the first, in this case individual targeting was unlikely to distort household decisions (compare for instance with an unemployment benefit) but as regard the second, it might have larger costs of social stigma. However, social stigma might also exist if schools or geographical areas were targeted as the experience in France with ZEP reveals (Simon and Moisan, 1997). Competition, student mobility and empowerment are likely to be fostered by individual targeting as long as vulnerable students take with them their extra resources when shifting to another school.

The government selected individual targeting and dispatched the project creating the “Subvencion preferencial”. The issue of educational equity was given for the first time in Chilean history priority in terms of public resources. Initial estimates indicate that it would entail at least 50 times more resources than the P900 (Gonzalez et al. 2002). The problem now seems to be how these resources would be spent. While schools with good

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<sup>30</sup> It might be noted that Chile has a unique ID number for all residents that facilitates social policy and income tax compliance.

performance would have absolute autonomy for deciding on resources expenditure, the majority would be required to inform on resource use and receive advice by accredited “quality entities”. According to the recent agreement with the opposition, accreditation of these private or public entities will be provided by a National Agency of Educational Quality.

Levelling up the playing field, the “Subvencion preferencial” made possible to think about a better accountability design. UNDP (2007) described the situation in terms of Figure 9. Moving to the right of the X-axis indicates higher vulnerability of the population in each school. Moving up the Y-axis reflects an increase in SIMCE scores. The axes are normalized such that the origin corresponds to the mean vulnerability and mean tests scores. It is possible to plot all schools in the diagram and estimate a simple linear regression that produces the straight line with negative slope depicted in the Figure. There would be many schools above and many below the straight line. Consider schools in the Northwest quadrant. This quadrant is labelled Market because, for these schools, market incentives do the job well and provide them with adequate funding. Even if some have results that are below what should be expected given the vulnerability of their student population, their raw scores and their student mix probably would tend to attract students. They might practice cream skinning.

Consider schools in the Northeast quadrant. These are vulnerable schools exhibiting results above what might be expected given the vulnerability of their student population. They are doing the hard job and they are doing it well. Market incentives however are not likely to work well for them. They are probably located in marginal urban and isolated rural areas. Even if there might be some potential students in the area their student mixes and even their raw scores might deter applications. Only the SNED system might award them some supply side incentives. They deserve all the prizes; they get some, but too little.

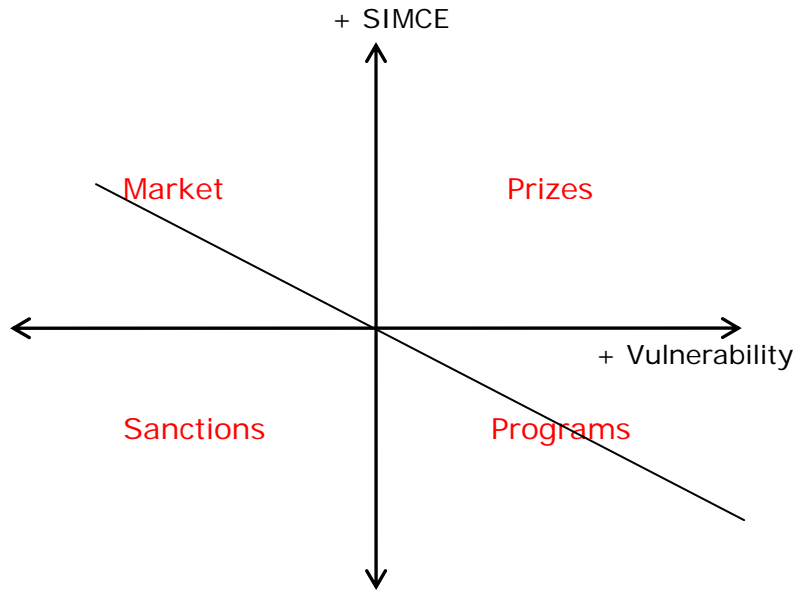


Figure 9: Negative relationship between vulnerability and results

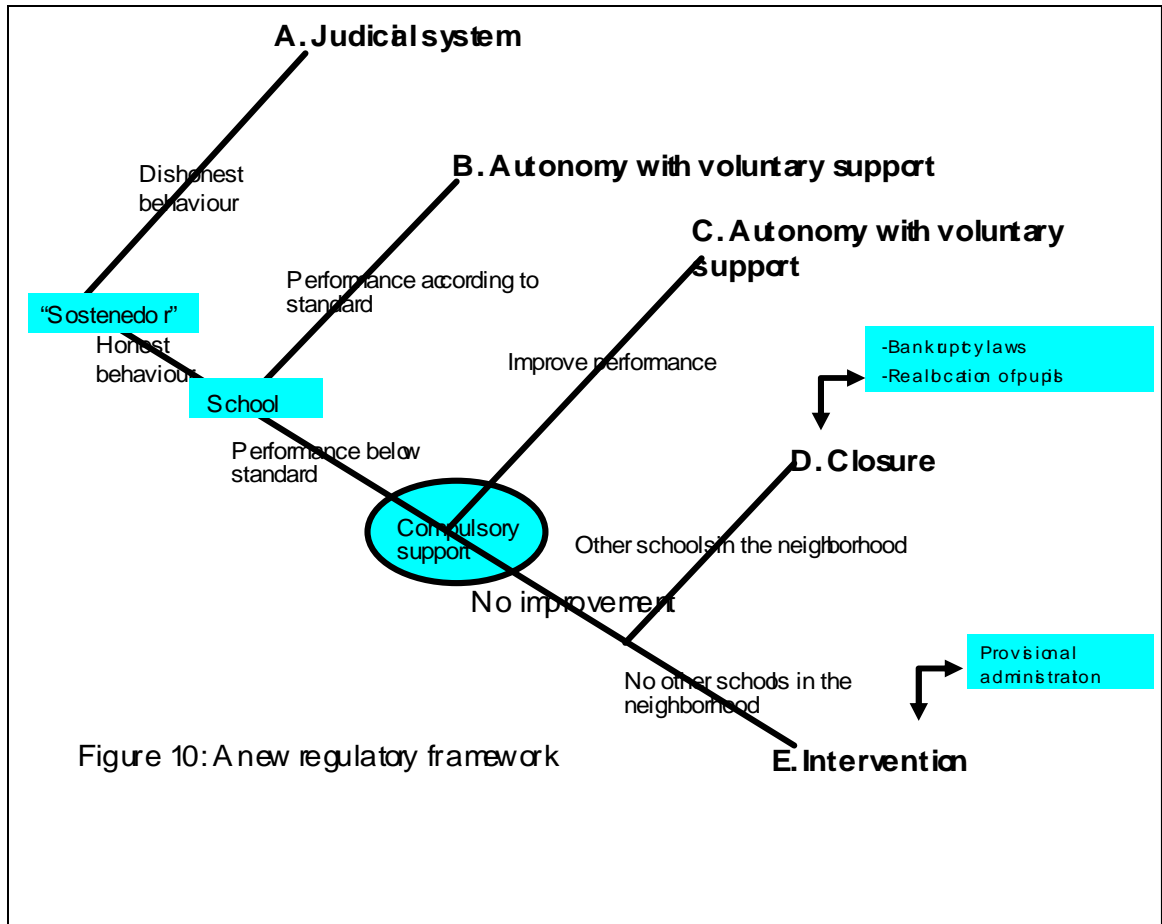
Consider now the South East Quadrant. These are schools attending vulnerable students. Some are performing according to expectations, some slightly above, others slightly below. So far the Ministry of Education has supported them with programs. It is difficult to blame them: they don't have the resources. They do not have the multidisciplinary teams required to deal with deprivation of their students or the leadership to erase their self confirming low expectations. They also do not blame themselves: the responsibility is somewhere else: the family, the Ministry. So far, this quadrant is the "poverty trap" of the educational system.

Finally, the South West Quadrant exhibits low vulnerability and lower scores than expected. These are the most inefficient providers of the system. They have the resources but they do not use them adequately. The Ministry has no alternative yet than to support them: some are even included in its programs, including P900. Worst still, some received prizes: the SNED is not only awarded considering expected scores given vulnerability but takes account of other factors such as improvements over past scores<sup>31</sup>. Why the market is not ruling them out as it would in markets for private goods? A new accountability

<sup>31</sup> Besides, SNED does not use regression analysis to control for the effect of vulnerability but uses cluster analysis to compare within homogenous groups in each region. In some regions the number of groups might be too small to adequately control for different levels of vulnerability.

framework with regulation of standards is the answer provided to this market failure. And the means tested voucher is expected to transform the downward sloping line in the Figure into a horizontal line, breaking the relationship between vulnerability and results.

Let us now turn to the new institutional design. The agreement between the government and the opposition creates a stronger governance framework, with new institutions and regulations. The key institutional changes can be described with the help of Figure 10. The first distinction to be taken into account is between honest and dishonest behaviour. The new regulatory system should not create a new set of institutions to deal with dishonest behaviour as the judicial system already performs that function. However it might better deter dishonest behaviour by using safeguards, such as guarantees deposited in custody with the “Superintendencia” of Education, the new regulatory agency in charge of enforcement.



Honest behaviour might produce schools above or below the performance standard set by the National Quality Agency. Schools above standard enjoy autonomy (Node B). If performance is or falls below standard, the school is required to receive compulsory support by accredited quality entities. If school performance improves above standard the school reaches Node C which is equivalent to Node B. However, if after four years no improvement is achieved, the school moves to Node D or E. If there are other schools in the neighbourhood, the school enters a closure process (Node D). A temporary intervention (according to bankruptcy legislation for private schools) ensures first the reallocation of students within the shortest possible time interval. An extra voucher would be, in principle, used to convince other schools to enrol the extra students, assuming that they come with a learning handicap. If there is no school in the neighbourhood a provisional administration is appointed. The provisional administrator must complete within a year his assignment and transfer the administration back to the

municipality or to a new “Sostenedor” after competitive bidding. The new administration has the right to dismiss teachers and other school personnel if the provisional administrator has not done so. In other words the Estatuto Docente is suspended in case of intervention. Note that none of the events described in the Figure was adequately considered by the institutional design of unregulated vouchers, as the original reformers had absolute faith in perfect markets without frictions and consumer rationality. For the first time, responsibility over results will be clear, resources and support will be available in time and quantity, and consequences of bad performance will be ineluctable.

## **V. Conclusions**

The changes described in section IV are expected to align the incentives of the actors towards the improvement of quality and equity in the educational system (see Figure 1). Stagnant quality would have dramatic consequences as long as the standard is moving upwards and low performers are sanctioned. This is expected to move the whole system towards better performance. A market for supporting schools is created and the National Quality Agency is likely to make reputation a valuable asset. A means tested voucher that might be fine tuned as time passes to reach a better account of the effect of socioeconomic vulnerability on students’ learning is expected to break the major obstacle to social mobility and meritocracy.

Let us look at the political actors that are making these changes possible (political system in Figure 1). There has been no dramatic change in the distribution of Parliamentary seats between the two major blocks in the past eighteen years. Why these changes did not took place before? There are at least three complementary answers. First, learning took place during the period, better information and research addressed the key issues at stake and recommendations followed (upper part of Figure 1). Second, the demand for more equality of results emerged stronger than ever (shift in the distribution of power and prevailing norms and values). Third, there are more resources, and the country already has succeeded in graduating a large proportion of its population from secondary education. It can direct attention to other issues without forgetting the 20% that stills does

not graduate from high school. The improvement of educational quality for this group, increasingly attractive due to the means tested voucher, is likely to have spill over effects in retention and graduation rates.

Why these solutions and not others? Of course, there is a lot of path dependency in the process. It is impossible to consider the reforms ignoring a quarter of a century going on with vouchers and all the learning and achievements so far. Ideology of political actors is also important. It is reasonable to hypothesize that the right wing opposition has emphasized freedom over equity. She has favoured the “subvencion preferencial” mostly on the ground of strengthening the voucher mechanism, on the basis that vulnerable students will run away from the most inefficient (mostly public) schools. For the same reason, many in that side of the political spectrum initially opposed the increases due to concentration of vulnerable students, arguing that it might reduce mobility of vulnerable students to best performing schools<sup>32</sup>. The right has also opposed forbidding selection of students by schools. And this remains an unresolved issue to date.

On the opposite side, most of the left, especially in the socialist party, has opposed market mechanisms, and disregarding and not regulating them, has let them work together with their market failures<sup>33</sup>. They have emphasized equity over freedom, but they could not oppose a change such as the means tested voucher, the biggest move towards educational equity ever attempted in the country, especially after the increase due to concentration was introduced. Their behaviour towards the new accountability proposal is more uncertain.

In addition, since the mid 90s there has also been an important alliance between the Ministry of Education and the powerful Ministry of Finance. The later has always been keen to accept more expenditure in education provided it responded to a good

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<sup>32</sup> Note that this might only happen if the school with concentration of vulnerable students is able to retain them, which requires either valuable educational offers or bribes from the part of the school or parental laziness. The first is the objective of the voucher mechanism while the later imply the mechanism would not work.

<sup>33</sup> At the Centre of the political spectrum opinions are more divided between state and market fundamentalists but in any case give more consideration to market and state failures.

institutional design and a means tested voucher sounded acceptable for mainstream economists, especially as compared to alternative proposals.

Interests groups are also important for opposing revolutionary changes. More than half of enrolment is private. The influence of private “Sostenedores” can not be denied or minimised. Besides, although some majors have threatened to return schools to the State due to under funding, the vast majority sees an opportunity in the new legislation. The government has committed additional 100 million dollars to improve municipal capacities to administer education.

A major learning of the Chilean experience is that the issue of quality can not be solved by vouchers alone. It is the integrity of the governance and financing system, the incentives and the enforcement mechanisms that emerge from the institutional design that matter. Parental choice even with good quality indicators is influenced by other variables and schools might compete on other grounds and, worse, might cream skim. Poor students might find themselves locked in poor under funded schools. Small remedial programs are not enough to reverse that state of affairs. It is up to time to tell if the solutions summarised in this document will produce the major improvement of equity and quality that the country expects. Patience and perseverance will be required.

Another lesson is that the institutional design and financing matter to achieve the objectives of educational policies. The big shift of resources provided by the “Subvención Preferencial” is a major step in the Latin American context where the issue of social equity has been tackled mostly through equality of inputs, meals or scholarships. Without compensating with large amounts of resources the influence of family characteristics, equity of opportunities will not be more than an empty concept in the political discourse, not a feasible achievement.

This also applies to the long neglected issue of social integration, the melting pot role expected to be fulfilled by the educational system. This issue has so far been outside the mainstream political discourse. It is a difficult problem to solve, but it will not be solved unless resources and incentives are directed to address it. Given the actual refusal by the right wing opposition to consider forbidding selection in preschool and primary education

(a small step towards social integration justified for the time being more on equality of opportunities and fair competition) it is difficult to foresee major changes in the near future. Other emerging issues are the increasing concentration of the generation of elites from certain schools, especially private schools, and the promotion of neutrality towards different beliefs, which some believe is difficult to achieve outside public institutions.

## REFERENCES

- Arellano, J.P. (2000): *Reforma educacional: prioridad que se consolida*, Santiago de Chile, Editorial Los Andes: Sanrtiago.
- Auguste, S. and J.P. Valenzuela (2003) Do student benefit from school competition? Evidence from Chile. Mimeo. University of Michigan.
- Bellei, C. (2006) The private-public school controversy: the case of Chile, PEGP conference, Kennedy School of Government, Harvard University.
- Betts, J.R. and J. Roemer (2007) Equalizing Opportunity for Racial and Socioeconomic Groups in the United States through Educational-Finance Reform, in L. Woessmann and P.E. Petterson (eds.) *Schools and the Equal Opportunity Problem*, MIT Press: Cambridge, 209-238.
- Centro de Estudios Públicos (1997) Tema especial: Educación en Chile: ¿Qué piensan los padres? Estudio Nacional de Opinión Pública, Noviembre - Diciembre 1996. Santiago, Chile
- Chay, K.Y., P.J. McEwan and M. Urquiola (2005) The Central Role of Noise in Evaluating Interventions That Use Tests Scores to Rank Schools, *American Economic Review* vol. 95 (4), September, 1237-1258.
- Contreras, D. (2001) 'Evaluating a voucher system in Chile: Individual. family and schools characteristics'. Documento de Trabajo 1175. Departamento de Economía, Universidad de Chile. marzo.
- Cox, C. (2003) (ed.) Educational Policies for the turn of the Century: the Chilean school reform, Editorial Universitaria: Santiago.
- Cox, C. and P. González (1997) Education: From Improvement Programs to Reform, in René Cortázar and Joaquín Vial (ed.) Building Options: Economic and Social Proposals for the Next Century, CIEPLAN- Dolmen: Santiago.
- Elacqua, G. (2006) Public, Catholic, and for-profit school enrollment practices in response to vouchers: Evidence from Chile. Escuela de Gobierno, Universidad Adolfo Ibáñez.
- Elacqua, G. and R. Fabrega (2004) El consumidor de la educación: el actor olvidado de la libre elección de colegios en Chile, unpublished manuscript, Universidad Adolfo Ibáñez.

- Epstein R, Henríquez L, Catalan J, Weintraub G, Martinez C, Espejo F. (2004) “A Combinatorial Auction Improves School Meals in Chile: A Case of OR in Developing Countries”. *International Transactions in Operational Research*, Vol. 11 (6).
- Fischer, R., P. González and P. Serra (2006) “Does Competition in Privatized Social Services Work? The Chilean Experience”, *World Development*, Vol. 34 Issue 4, April, pp. 647-664.
- Friedman, M. (1955) *The Role of Government in Education*. In Solo, R.A. (Ed.) *Economics and the Public Interest*. New Brunswick, N.J.: Rutgers University Press
- Gallego, F. A. (2002) *Competencia y Resultados Educativos: Teoría y Evidencia para Chile*, Central Bank of Chile, Working Paper 150.
- García, C. and R. Paredes (2007) *Management and effective results in vulnerable groups*, Mimeo, Catholic University of Chile.
- García-Huidobro, JE (1999) (ed.) *The Chilean Education Reform*, Editorial Popular: Madrid.
- García-Huidobro, JE (1994) Positive Discrimination in Education: Its Justification and a Chilean Example, *International Review of Education*, 40 (3-5), 209-221.
- Gauri, V. (1998) *School Choice in Chile*, Washington D.C.: The World Bank.
- González, P. (2005) Education equity, vouchers and private administration of education, in J.E. García-Huidobro (ed.) *Educational Policies and Equity*, UNESCO, UNICEF and Ford Foundation: Santiago.
- González, P. (2004) Sobre la equidad del sistema educacional, *Persona y Sociedad*, vol. XVIII 3, pp. 9-20.
- González, P. (2000) “Higher Education: ¿Pending issues?”, *Revista Perspectivas en economía, política y gestión*, vol. 4(1), pp. 89-120.
- González, P. (1999) “Financing, Incentives and Educational Reform”, in J.E. García Huidobro (ed.) *The Chilean Education Reform*, Editorial Popular, Madrid, Spain.
- González, P., A. Mizala and P. Romaguera (2004) Vouchers, inequality and the Chilean experience, Occasional Paper # 94, Teachers College, Columbia.
- González, P., A. Mizala and P. Romaguera (2002) “Differentiated Resources for the school system in Chile”, Working Paper 150, Centro de Economía Aplicada.
- Hsieh, C.-T. and M. Urquiola (2003) When schools compete: How do they compete. An assesment of Chile’s nationwide school voucher program. Working Paper No. 10008. National Bureau of Economic Research
- McEwan, P. J. (2002) Public subsidies for private schooling: A comparative analysis of Argentina and Chile. *Journal of Comparative Policy Analysis*, 4, 189-216.
- McEwan, P. (2001) The Effectiveness of Public, Catholic, and Non-Religious Private Schools in Chile’s Voucher System. *Education Economics*, Volume 9 (2)
- McEwan, P. J., & Carnoy, M. (2000) The effectiveness and efficiency of private schools in Chile's voucher system. *Educational Evaluation and Policy Analysis* 22(3), 213-239.

- Ministerio de Educación de Chile (2000) SIMCE: Encuesta a los padres y apoderados, Santiago, Chile: Ministerio de Educación.
- Mizala, A. & P. Romaguera (2005) “Teachers’ salary structure and incentives in Chile” en Vegas, E. (ed.), *Incentives to Improve Teaching: Lessons from Latin America*, World Bank Press.
- Mizala, A. and P. Romaguera (2001) ‘Factores socioeconómicos explicativos de los resultados escolares en la educación secundaria en Chile’, *El Trimestre Económico*. LXVIII(4). 515–549.
- Mizala, A. & Romaguera, P. (2000a) School Performance and Choice: The Chilean Experience, *Journal of Human Resources*, Winter. Cambridge University Press.
- Mizala, A.& Romaguera, P. (2000b) Determinación de factores explicativos de los resultados escolares en educación media en Chile, Documento de Trabajo, Serie Economía N°61, Centro de Economía Aplicada, Universidad de Chile, Santiago.
- Mizala, A., Romaguera, P.& Farren, D. (1998) Eficiencia técnica de los establecimientos educacionales en Chile, Documentos de trabajo, Centro de Economía Aplicada, Serie Económica n°38.
- Montt, Pedro y Pedro Serra (1994) “La Descentralización Educativa en Chile: El Traspaso de la Educación a los Municipios”, Documento de Trabajo N°3, ILPES, Santiago, Abril.
- Paredes, R. and O. Lizama (2006) Restricciones, gestión y brecha educativa en escuelas municipales, Documento Centro de Políticas Públicas, Universidad Católica de Chile.
- Parry, T. (1997) ‘Achieving balance in education decentralization: a case study of education decentralization in Chile’, *World Development*, vol. 25(2), pp. 211-225.
- Parry, T. (1996) ‘Will pursuit of higher quality sacrifice equal opportunity in education? An analysis of the education voucher system in Santiago’, *Social Science Quarterly* 77(4): 821–41.
- Pavez, A. (2005) Municipios efectivos en educación, Estudio de caso 81, MGPP, Agosto.
- Raczynski, D. and D. Salinas (2008) Fortalecer la educación municipal. Evidencia empírica, reflexiones y líneas de propuesta, In Bellei, C., D. Contreras and J. Valenzuela (eds.) *La agenda pendiente en educación*, Programa de investigación en educación de la Universidad de Chile y UNICEF, Santiago, pp. 105-134.
- Roemer, J. (1998) *Equality of Opportunity*, Harvard University Press: Cambridge MA.
- Rojas, P. (1998) Remuneraciones de los profesores en Chile. *Estudios Públicos* 71, 122-175.
- Sapelli, C. and B. Vial (2001) ‘Evaluating the Chilean Education Voucher System’, mimeo Pontificia Universidad Católica de Chile. Santiago, Chile.
- Serrano, C., I Fernández and A. Pavez (2001) Descentralización de la educación en Chile. Balance y perspectivas, in D. Raczynski and C. Serrano (eds.) *CIEPLAN*: Santiago.
- Simon, J. and Moisan, C. (1997), *Les déterminants de la réussite scolaire en zone d’éducation prioritaire*, París, INRP-Centre Alain Savary.

- UNDP (2007) Estudio sobre la focalización de las escuelas básicas, Mimeo, Santiago.
- UNDP (2002) *Nosotros los chilenos. Un desafío cultural*. Informe Nacional sobre Desarrollo Humano, Santiago.
- Valenzuela, Juan Pablo (2008) "Segregación en el Sistema Escolar Chileno: en la búsqueda de una educación de calidad en un contexto de extrema desigualdad" Segunda Escuela Chile Francia: Transformaciones del Espacio Público 2006", de la Universidad de Chile, pp 45-69.
- Valenzuela, J.P.; Bellei, C. y De los Ríos, D. (2008) Evolución de la Segregación Socioeconómica de los Estudiantes Chilenos y su Relación con el Financiamiento Compartido. Informe Final, FONIDE, Ministerio de Educación
- Vegas, E. (2008) ¿Cómo mejorar las políticas de desarrollo profesional docente a fin de atraer, perfeccionar y retener profesores efectivos? In Bellei, C., D. Contreras and J. Valenzuela (eds.) La agenda pendiente en educación, Programa de investigación en educación de la Universidad de Chile y UNICEF, Santiago, pp. 48-78.
- Velasquez, J. and P. González (2008) Expanding the possibilities of deliberation: the use of data mining for strengthening democracy with an application to education reform, Mimeo, Department of Industrial Engineering, University of Chile.
- Velásquez, J.D. and J.J. Duhart, 2005. "Citizen Dialog for the Quality of the Education in Chile", Multidisciplinary Program for the Social Dialog, University of Chile, 141-186.
- Velis, C. 1980. The centralist tradition in Latin America. Princeton: Princeton University Press.
- Winkler, D. & Rounds, T. (1993) Municipal and Private Sector Response to Decentralization and School Choice: The Case of Chile, 1981-1990. World Bank, Latin America and Caribbean Region, Technical Department, Washington D.C. Processed.