The Financing of Education in Chile

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This article reviews the main facts related to the financing system of Chilean schools in the last twenty years. During this period, dramatic changes occurred such as the reform at the beginning of the 1980s, reviewed in the first section of this paper, whose virtues and defects are still not well understood outside restricted academic circles. The second section starts by reviewing two sources of concern about the subsidies system, distinguishing those originated from corporate ideology and those generated from technical problems based on the intrinsic characteristics of the demand and supply of education, and derived, to a great extent, from the information problems affecting this "public good." The rest of the section is devoted to reviewing these problems and the formulas that have been proposed in order to surmount them, especially since 1994. The third section presents the evolution of a few selected aggregate variables concerning the school system.

With the transfer of public schools to the municipalities, teachers are no longer civil servants and are governed by the Labor Code. The changes in labor regulations governing teachers since 1990 to the present are reviewed in the following section, to subsequently review a change that has led to controversy—the system of shared financing—that allows the provider to charge families by keeping the Government's fiscal contribution with a small discount. The article finishes with some conclusions.

Finally, it must be emphasized that we have focused only on those aspects related to the management and financing of the school system, leaving aside the issues related to educational policies per se such as the higher education system.

THE "DECONCENTRATION" OF THE 1980S

The 1980s started with a far-reaching reform of Chile's educational financing and administration system. The context was a *de facto* political regime, where all the powers of the State were concentrated in a Government *Junta* and where the economic team had sufficient political backing –thanks to an ephemeral period of expansion and control of inflation– to carry out reforms in different sectors of the public apparatus. Thus, in education, the changes were developed by the Ministry of Finance and the National Planning Office in response to a diagnosis of poor quality and efficiency, accompanied by reasonable and growing levels of coverage in secondary education. Therefore, it involved the creation of institutions with adequate incentives to improve the quality of the service and efficiency in the use of the resources.

The adopted formula had a direct relation with the ideas of Milton Friedman (1962). The financing mechanism seeks to create an educational market where consumers can select from which supplier to "purchase" services, with the free entry and exit of providers and open competition between the public and private sectors, with or without the profit motive. This reform had two central policy factors:

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- The transfer of the public schools administration to the municipal governments and, in the case of certain technical-vocational high schools to business corporations, in a gradual process that started in 1981 and ended in 1987;

- Since 1981, the Law of Subsidies established a payment based on student attendance in subsidized schools, adjusted by education level and teaching method. These subsidies were extended to school providers that certified compliance with specific generic requirements established by the Ministry of Education.

The conceptual bases of these significant changes take root in the logic of utilitarian economics. The problem of poor quality in the educational system is dealt with by changing the system's "industrial organization" and reorienting teacher's incentives. With free access[1] and similar financing regardless of whether the school is public or private, a regime of free market competition for the provision of educational services is established. The fundamental assumption is that families would choose schools in a rational manner and that the principal variable on which they would base their decision would be the quality of education given by each of these schools. Without a difference in prices, competition among the different schools should center on the improved quality of the educational service being provided. Interested in attracting a greater number of students to the classroom, which can be achieved by improving attendance or increasing enrollment, schools should be concerned with making the best use possible of their resources (human, physical, and financial) in order to maximize the quality of the delivered education. In the subsidies system, schools should not only worry about students being enrolled, which is indeed a virtue, but they must also ensure that students attend classes once they are enrolled. In contrast, in the traditional educational system both of these incentives are absent, since attracting more students only implies more work for teachers.

The school system would be improved following a Darwinism selection process. Not only would each school have the incentive to improve its quality and make the best use of its resources, but the higher quality units or those adapting faster to the demands of consumers would grow, and those who performed worse (or less well), would lose students, would see their income reduced, and would tend to disappear.

The subsidy system also generates the incentive to become concerned with the preferences and needs of families. Interested in attracting and retaining students in their classrooms, schools would start responding to what people want, which is necessarily varied. Theory indicates that in sufficiently competitive environments, families with a greater inclination toward sports will seek schools with such bias, that is, schools with better facilities to practice them in and that have good trainers, etc. In the same way, families with an inclination toward literature will prefer schools that have good libraries and that place emphasis on knowledge and linguistic skills. Thus, schools will become specialized in different "market segments." These competing forces that lead to a concern over preferences and that as a consequence generate diversity, are absent in traditional financing systems, where the trend is rather the reproduction of a national common standard.

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[1] In the economic sense of the term, that is, subject to certain requirements controlled by the Ministry of Education related to the infrastructure, the availability of qualified teachers, and plans and programs. In other words, there are no entry barriers to the provision of the service, avoiding monopolistic behaviors.

A third benefit is the greater willingness of families to "get involved" both in the education of their children as well as in the demands they can make with regard to the proper management of the schools. The benefits derived from the first element are evident and are backed by a growing literature as well as in generally accepted values, which indicate that the principal responsibility for education lies with the parents. Why does this sense of responsibility or the probability that families will assume it increase with a subsidy system to the demand? The theory of the rational conduct of individuals indicates that once the student's guardians have made an investment in information with regard to the selection of a good school, the marginal costs to stay informed are reduced. At the same time, in this process the guardians can learn more with regard to their importance as primary educators and their role in the different stages of their child's education. The second element, what is expected from the school has a similar origin. Once parents have been informed on what is a good education and of its importance to the present and future of their children, they become concerned with what takes place inside the school. Endowed with greater power as a citizen, and able to threaten to punish the provider of education by removing the child from the school, parents may demand good outcomes, better treatment, sustained progress, periodic reports, etc. A gain would be made in what Anglo-Saxons call accountability.

A fourth possible benefit is the possibility of taking better advantage of families' "willingness to pay," which would increase private funding invested in the system, and is also associated to the possibility of improving the targeting of public spending. In the subsidy-type system for demand implemented in Chile, this has been made possible starting in 1993, with the law of shared financing, which we will review later.

A fifth element that is noteworthy is the possible reduction of the bureaucracy tied to centralized systems, a bureaucracy so large that it would barely be efficient and hardly subject to "social control." Political economists have argued that the interests of this bureaucracy can come together with those of the teachers' unions and that, in close unison, they can manipulate the political process for their own benefit and improve their salaries, without a counterpart in greater productivity. The solution to this "waste of public resources" would consist of turning over more political management to the families receiving the service, who can demand and monitor outcomes, through the decentralization or privatization of said management.

There are other benefits worth pointing out that are not covered in specialized literature, perhaps because they are more characteristic of countries with less relative development. The subsidy per student distributes resources among schools based on an objective and transparent parameter. Therefore, schools will receive resources in proportion with the real service that they provide. In contrast, traditional systems may show a probable absence of clear parameters for the assignment of resources, which leads to the exaggerated proportional investment of funds in schools that are less than efficient or in schools that have relatively greater influence. In this regard, not only incentives but the current allocation of resources can be clearly improved, rendering the system more efficient in terms of "external efficiency." However, the less efficient the allocation of resources is prior to the system change, the more necessary it becomes to take precautions through a period of transition that allows schools that are negatively affected by the change to adjust their spending to a lower income. Not taking precautions for this possibility may have aggravated the crisis that, as we will see further on, affected the reform practically from its inception.

One last benefit of the system change is related to the treatment of investment processes and the increase in coverage. This does not have relevance in developed countries where coverage of the school system is universal (close to 100%) at all levels, and where the population remains relatively stable, but it is a relevant factor in the case of developing countries, and even more relevant if the growth rate of the population is greater and coverage is lower. With the subsidies law, the Ministry of Education no longer has to annually negotiate the increase in coverage of the school system with the Ministry of Finance. An enrollment projection can be discussed, but if it is wrong, for example, because enrollment increases more than anticipated, the subsidy will be paid for the actual number of students served in compliance with the law. This gives a guarantee to private agents who decide to invest in the system, who in this way should only assume the risk of not being able to capture the expected number of students, but not the risk of the price associated with that number. As we will see further ahead, this was affected by the economic crisis that led the average subsidy per student to fall in real terms and affected private investment, which froze during a considerable amount of time (which also happened to public investment, although for more direct reasons). The privatization of investment risks can be an important externality of the change in the financing system. In Chile this is complemented with a process of regional investment in municipal schools, whose origin resides in the municipalities themselves, and where resources are allocated by the regional government. This investment, reasonably, is less subject to the risk of building schools where they are not needed, since it responds to the requirements of a local agent that has access to better information and has incentives similar to those of the private agents in making good decisions.

Finally, some authors have pointed out that presumably these decisions were not only made based on technical arguments (P.I.I.E., 1984, González and Espinoza, 1993). There is also an important underlying political reason behind the reform. With the transfer of public schools to the municipalities and its teachers governed by the Labor Code (which regulates private activities and eliminates the tenure system of the public sector), as well as the promotion of the provision of education by the private sector, the dislocation of the solid political power held by the Teachers' Union was expected, one of the few national organizations that had high levels of affiliation despite years of repression of trade unions.

In the case of the transfer of 71 technical-vocational schools to business corporations, there are two particular benefits that in any case do not justify having isolated them from the competitive system imposed by the educational subsidy:

- In the first place, the linkage of this type of teaching with the business trade associations would enable the best information on the requirements of the labor market to be translated into the classroom and workshops in an education that best meets the needs of the productive apparatus;

- Secondly, to grant the management to organizations that group companies under a single area of activity allows for the investment in human capital that is specific to the business activity but that is general with regard to each individual company. As it is known, since

Becker (1965) companies are not willing to invest individually in this type of human capital, but they are willing to incur in these costs in a group scheme.

To incorporate these schools to a different subsidy system can be justified on the basis of creating a center of excellence in the technical and professional sector, which benefits the rest of the system to the extent that there is capacity for transmission and imitation, and in order to create interest in a sector traditionally resisted within the education environment. This issue is under study at this time.

EXPECTED PROBLEMS FROM CHANGES IN FINANCING

Context

If there are so many virtues that could be attributed to a demand-based subsidy system, it is worth asking why it generates such resistance—not only in Chile but throughout the world—to the point that there are only a few countries that have adopted a financing scheme of this type. There are two responses to this fundamental question. The first is that the virtues of a demand-based subsidy system have a counterpart in a set of important problems. However, these problems were not debated in Chile until well into the 1990s. Even today there is still a shadow of confusion on the merits and defects of the financing system, which is probably due to a debate that is restricted to relatively closed academic circles.

This leads us to the second response to our original question. The strongest resistance to change has a mixture of ideological elements and corporate interests. The first ones correspond to either Statist doctrines that defend the State offering of goods and services in general, or to currents that hold that this should prevail both with regard to health and to education in order to isolate them from market forces, because they are basic human rights. Furthermore, threatened corporate interests are those of school system workers, including the bureaucracy, that place similar resistance to that manifested by the majority of unionized workers from State companies with regard to an eventual privatization.

This confluence of interests and ideologies is certainly present in Chile today, with the difference that, contrary to the majority of countries, it would have to operate to reverse the change and not to prevent it from happening. The former is more difficult than the latter, since once change is produced, with time other interest groups will crop up and will try to oppose a reversal of the situation. This, which is clearer in the case of ISAPRES (private administrators of the mandatory health insurance) and private clinics or in that of AFP (private administrators of pension funds), is also valid in the case of private education subsidized by the State, and eventually also of municipal education.

In any case, the conflict that arose was more dramatic in the first years of the 1990s. The "Coalition," in the government since the return of democracy, did not modify the foundations of the financing system due to its technical virtues, but the important differences within it became evident, not only the ideological-corporate ones but even with regard to the understanding of the system's operation, differences that also go through the right-wing opposition. This tension generated significant changes that endangered the system's comprehensiveness and own operation.

The approval of Law 19,070, known as the Teachers Statute and approved in 1991, is the culminating point in the confrontation between two differing viewpoints on the best management model for the schooling system. The one that gained support was backed by the President of Chile, was in relative synchrony with the union, and managed to reincorporate job stability, centralized wage negotiation for each activity, and finally prevent market forces from influencing the work of teachers, all of which were established through law 19,070, at least for the municipal system.[2] A typical argument of this movement was that education is a social good that should not be governed by the same market forces as for private goods, such as bread, nor can a school be managed with the same criteria used to manage a shoe factory.[3]

The second movement, more related to economics and management, highlights the benefits of a decentralized system and the per-student financing. However, there is a contradiction in the management of municipal schools: a non-flexible regulation of the main expenditure (salaries) in contrast with flexible financing; and no improvements were made during four years toward correcting the real problems underlying the demand-based subsidy system, which were only addressed in 1994.

In order to keep a coherent line of reasoning, we will first look at the technical problems that arise from the implementation of a demand-based subsidy financing system for education (that is, the first response to the question with which we started this section), to subsequently review those brought about by the system's economic crisis in the 1980s and the legislation of 1991.

Deficiencies of competition

A demand-based subsidy system generates competition not only based on quality improvement of the education being offered, but also in the handling of other factors. On the one hand, schools may try to attract students by meeting other family needs, such as food or symbols of *status* (names in English, computers that are not utilized, special uniforms). Furthermore, the information with regard to the quality of the education offered by the school is imperfect. It is with regard to this last issue that a demand-based subsidy system critically requires a performance audit system that enables cross-school comparisons with regard to the students' learning achievements. This information, supposedly, allows families to make more informed decisions with regard to school placement of their children: assuming all else is equal (or, as found in microeconomics textbooks, Ceteris Paribus), parents will always prefer schools with the best performance. This is the role that the Quality Measuring System (SIMCE, in Spanish) fulfills. However, as long as family decision-making weigh other needs, from food to status, a perfect measurement system will not be able to eliminate other factors from being considered in such decisions.

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2 Centralized salary negotiations is not established in the law itself, but is a result of the creation of a national salary scale that explicitly sought to standardize teacher's incomes. On the negative effects of negotiation by activity see González (1996b).

3 It is difficult to disagree on the specificity of education; the differences arise with respect to the implications of such particularities. The fact that a good has the characteristics of a public good, such as occurs with the air or roads, or generates positive externalities, such as honey farming with regard to the planting of fruit trees, does not mean that there is no scarcity (resources are limited with respect to the needs that we wish to meet) and accordingly can (should) apply all instruments of economic analysis.

Even considering the foregoing, which could be addressed by offering an adequate education to families as "consumers" of education, the most pressing issue for this need to generate measurements for something that is not tangible is the possible manipulation of indicators. Indeed, perhaps the most complex outcome of the competitive mechanisms used by schools across the country is the dynamics of S-competition (Glennerster, 1993): a way to improve a school's average performance is to exclude potential or real underachievers (for example, poor students). This has serious direct negative effects on the affected students and families, distorts competition for quality education, and increases social stratification of the school system. This problem is inherent to the "imperfect information" with respect to the school system's "product," and to the need to generate measurement indicators. The target objective of educational units in that context may no longer represent the "product" itself to become the maximization of the indicator's value. Notwithstanding, it should be noted that it is impossible to avoid the information problem if one wants to place the emphasis on a performance-based system, regardless of whether this is done through a demand-based subsidy or supply-based incentives.

A measure that has addressed this issue is the National System to Evaluate School Performance (SNED, in Spanish), which was created by the law that adjusted the Teachers' Statute (Law 19,410 of 1995) and introduced in 1996. The SNED arose out of a salary agreement signed by the Teachers Association that made the changes to the Statute viable, delivering a 25% increase in subsidies to those schools with the best academic performance[4] an increase that must be transferred in its entirety to the teachers at these schools.[5] Through its philosophy the SNED seeks to reach a value-added measurement correcting the SIMCE results (Chile's Education Quality Measuring System) by the external factors affecting school performance, which according to international evidence correspond to the socioeconomic status and the cultural capital of students' families (Fuller and Clarke, 1994). This would amount to recovering, based on gross results, the value added after discounting initial inputs. Although this is the system's philosophy, the limitations of the SIMCE measuring instrument prevent the achievement of that objective at this time. In the medium term, when the measuring instruments can adapt to policy needs they may, for example, follow-up on the progress of each student, a procedure that was used in New Zealand. This would not only allow a more just comparison of the system's performance, but would also encourage institutions to "take charge" of their students in a more comprehensive manner, reducing the risk of S-competition. In addition, to reduce the chances that this form of competition occur and to attack its negative effects more directly (which may be produced by other causes), the Ministry of Education seeks to establish an information system that enables the penalization, within the SNED, of the exclusion or expulsion of students. Thus, the SNED will become an important complement to the incentives created by the subsidies system on the demand side, and should contribute significantly to correct some of the system's distortions.

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4 The SNED distributed 5,464 million pesos in 1996 among teachers from 2,274 primary and secondary schools (256 of total); the total number of beneficiary teachers was 30,600, with an annual average amount per teacher of $178,560 (approximately US$450). The methodological design and the ranking of schools are reviewed every two years.

5 Note that the use of the resources transferred by this system could very well not have been earmarked and the provider could have been given freedom to administer them.

A second category of problems is that a demand-based subsidy should adapt to rural areas. In the first place, the provision of education has large economies of scale. At elementary schools, average costs sharply decrease up to ninety students; and at high schools the minimum average cost is reached at nearly 1,200 students in England, and above two thousand in the United States (Johnes, 1993). Accordingly, the per-student subsidy should be greater in low-density population areas. Only in 1988, seven years after the full effectiveness of the changes to the financing system, the rural subsidy was created, but it was not until 1995 when the issue was decidedly addressed when based on operational cost models of different types of schools,[6] the table and floor for the rural subsidies were modified, as well as the conditions to access this subsidy increase. The practical effect of these changes was an increase that tripled the total expenditure for the rural subsidies (González 1996th). In any case, the corrections on rural subsidies should not neutralize incentives to capture higher enrollments and to take advantage of economies of scale, even in the most remote locations. Thus, for example, the merger of small schools is rewarded with the maintenance of subsidy increases based on size during the three years following the merger.

Secondly, the incentives to improve quality by means of attracting more students cannot work in areas where there is only “space” for one supplier. For the monopolist to be concerned with quality an adequate complement to the right to change schools is necessary. The dissemination of results and a greater “voice” for families at schools and high schools (Hirschman, 1973), can generate more efficient change dynamics than the option of “exit” or “dissenting vote” established by the subsidies system. Likewise, the SNED will grant additional incentives toward quality improvement.

Demand-related Issues

A third category of problems refers to the form in which the market clients make decisions with regard to selecting a school. The “rationality” of the families’ decision-making is questioned by both the availability and reliability of information and by the real ability to make good use of the same. The publication of SIMCE’s results facilitates its effective use by parents and legal guardians. The SNED will deliver additional information and will correct some of the problems associated with the use of SICME information currently disseminated. Greater and better use of information by the families and educational communities in general, may require dissemination campaigns on consumers’ rights, strengthening of parent and student organizations, information offices or user guides, etc. Recent studies have detected progress with respect to the type of information (educationally relevant) considered in the selection of schools by the families in the metropolitan area of Santiago (Aedo, 1996, and Medlin, 1996).

A fourth type of problem has its origin in that quality improvements require that deficient schools begin losing students, and ultimately close if they are not capable of improving. However, a change of school, contrary to a change in soap brand, has high costs for students. The process that would end with the closure of a school can be slow and may involve the gradual

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6 The improvement and periodic updating of models of this type should be the basis for setting the different factors of the subsidy and its readjustments.

deterioration of the quality of education for those students who continue to study there for a longer period. This situation may suggest interventions before going through that painful process, a role that would be taken by technical-pedagogical supervision and programs targeted for support. Poor systematic results, despite previous interventions, also propose the need for local administrators to be able to change management, a possibility that was created with the changes made to law 19,410 of 1995 and 19,532 of 1997, or the closure of schools and relocation of their students, which was made possible with the legal reforms of 1995 in the municipalities. The provider can also take similar measures in the case of a private school. However, the State does not have the power to penalize or to make changes mandatory in response to poor systematic results, which shows the limitations faced by the State in guaranteeing public trust in the school system.[7]

The in-depth issue or the source of the problem

The main problems affecting the subsidies system, discussed in the previous sections, are determined to a large extent by the characteristics of the "production function" of education and of the users of the educational system. A key question is whether, given those characteristics, there is a more efficient institutional design than the one implemented in Chile during the last sixteen years. A variation that delivered the subsidy directly to the families would have the advantage of emphasizing their role as buyers of the service, but would entail greater administrative costs,[8] and would not directly encourage class attendance. Another eventual advantage in terms of targeting is reviewed further ahead. However, fundamentally, this small variation has virtues and problems similar to those of the current scheme. Furthermore, the alternative paradigm from where we started, to subsidize the supply side, does not establish the correct incentives to improve quality unless achievement measurements are generated, awards and punishments are placed based on these measurements, etc., which generates similar problems to those already discussed, but with a less flexible established practice and a more complex political economy.

In the source of problems in education management, for which the described incentives seek to offer an alternative that is not unique or exclusive, underlies a special case which in the specialized literature is known as the "agent-principal dilemma," which is a specific variation of the "prisoner's dilemma." A professor faced with his/her students is a paradigmatic example of the agency problem that stems from imperfect information on the output of the educational unit (Israel, 1997). The agent-principal dilemma occurs because the principal (who generally contracts and compensates work) cannot be certain that his objectives guide the agent's activities (who carries out the work contracted by the principal) nor can he verify the efficiency and efficacy of the work performed. If what is expected from each educational unit could be specified with precision and could be measured, the problem would disappear. In the case of State funded education, the principal "State" is far from the agents "school workers," thus it

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7 In the case of the private pensions system, for example, if the pension fund administered by a given Administrator of Pension Funds (PFA) obtains a profit below a certain deviation with respect to the system's national average, it must deliver resources from its own endowment to the pension fund to cover the aforementioned difference.

8 To be paid to more than three million students instead of some ten thousand schools, who in any case would have to exchange their coupons.

needs to resort to the design of mechanisms like the subsidies system or the SNED. Due to the limitations of these formulas and their options of more traditional bureaucratic controls, increased "control" should be placed on the person receiving the service.

The subsidies system and the SNED conform a system based on incentives that explores complementary ways of solving the agency problem, but operate using the same method: they utilize the financing system to ensure that the agent's objectives coincide with those of the principal's. However, there is another very different way to address the agency problem which is "to increase control." In the specialized literature on standardized productive or administrative processes, this is achieved by increasing the amount spent on "supervision" (*monitoring*), which increases the probability of detecting deviations from the desired behavior. This can be a justification of spending on inspections, which in fact in Chile supervises school attendance and in other countries directly audits educational processes. However, with respect to the issue of education, the most extreme "increased control" can be achieved by passing on this responsibility from the State onto the family. In fact, as discussed in the first section, the subsidies system explicitly seeks this, by granting families the right to select the school. The right of choice is a form of "social participation" in public issues. The system would have gained in accountability had citizens been able to get organized, for example through Parent or Guardian Centers, an institution that was also repressed under the regime that installed the system. In the same way, the transfer of the administration of schools to the municipalities would have been strengthened if their mayors had "been accountable" toward the local community. With regard to other forms of school community participation, there are several interesting experiences in other countries, including several Latin American countries (for an account on these experiences and a summary of their virtues and defects see for example Winkler and Ferris, 1995).

This has been another line of work of the current administration. Since 1994 the creation of parent and guardian centers or student centers has been promoted. Starting in 1995, the results of the SIMCE have been disseminated, and the Annual Development Plans for Municipal Education (PADEM) have been established, which commit municipal governments to carry out the annual planning of activities, income, and expenditures of schools under their responsibility. This last instrument allows different participation processes that can include the faculty, the students, the families, and different members of the local community, depending to a great extent on the management style of the Mayor or person responsible for municipal education. The PADEM can be strengthened to give greater "voice" to the school community allowing for a better match between the supply of education and people's needs and preferences. The promotion of participation in education-related issues is justified given the pedagogical benefits on the learning process of each child, the improved motivation of and self-assessment of teachers, the contribution toward strengthening democracy and consolidating a modern concept of citizenship, and by its positive effects on the efficacy and efficiency of the school system. However, despite progress made in this area, a great deal still remains to be done in an area that is just beginning to create awareness.

THE EVOLUTION OF THE SYSTEM: 1980-1997

The Chilean economy was profoundly shaken by the international crisis of 1982. The severe fiscal crisis led to reduced government financing of social sectors. Between 1982 (the last historic peak) and 1990, total public spending on education dropped 30% and subsidies declined by 32% in real terms (Table 1).

As a result of the introduction of the subsidies system, between 1980 and 1985, the number of subsidized private schools increased to 1016 (some of which correspond to 134 private schools that moved over to the subsidies system).[9] This was accompanied by an increase in enrollments numbering 402,223 students, representing a growth rate of 93.5%. Enrollment growth stabilized beginning in 1986, when comparative growth against 1981 reached 112.4%. Until that date the enrollment for public schools reached an aggregate of 344,320 students (Table 2).

The number of schools in the system remained practically constant due to the lack of government investment and the lack of incentives for private investment from 1985 to 1994. Although in 1991 public spending in educational infrastructure in municipal governments grew, this financing went toward the repair and recovery of the deterioration accumulated during the previous decade. In 1994 the government that took office declared education as its top priority, which on the one hand, improved public spending in school infrastructure resulting in the increase of the number of public schools to 315, in spite of certain rural mergers and, on the other hand, the improvement of the subsidy, the introduction of the shared financing formula (discussed below) and on the development expectations of the system that translated into an increase of 359 subsidized private schools following a drop of 57 schools between 1990 and 1994.

[9] Table 3.11 page 35, Statistical Compendium 1996, Ministry of Education.

Table 1
Public Spending of Ministry of Education 1982-97
(in million pesos average 1997)

Year	Mineduc Expenditure	Expenditure Index	Expenditures in Subsidies	Subsidized Enrollment	Monthly Subsidy per student ($)
1982	646 542	100	324 038	2 331 434	11 582
1983	533 666	93	285 752	2 391 991	9 955
1984	583 726	90	275 895	2 458 635	9 351
1985	583 148	90	263 259	2 497 528	8 784
1986	530 378	82	298 239	2 529 018	9 827
1987	487 771	75	303 362	2 740 207	9 226
1988	504 710	78	307 511	2 746 922	9 329
1989	492 615	76	303 833	2 709 544	9 345
1990	469 688	73	286 678	2 692 125	8 874
1991	511 120	79	294 897	2 683 137	9 159
1992	578 827	90	327 891	2 728 180	10 016
1993	646 871	100	359 928	2 750 714	10 904
1994	702 094	109	409 367	2 808 823	12 145
1995	810 308	125	497 727	2 891 167	14 346
1996	925 529	143	567 903	2 969 759	15 936
1997	1 032 262	160	634 797	3 073 042	17 214

Source: Ministry of Education. Planning and Budget Division, 1997.

Note: The 1997 number corresponds to the Budget Law with the corresponding salary adjustments (including 27 billion pesos in salary increases for teachers) and subsidies.

The 1996 and 1997 budgets include resources in U.S. dollars corresponding to the “Fellowships for Teachers Abroad.”

In the period between 1990 and 1996 enrollment corresponds to the annual average registered by the subsidies system, which differs from the values shown in table 2 that correspond to average annual enrollments.

In 1997 enrollment is estimated on the basis of growth of average enrollment average for 1995-1996.

Amounts are updated on the basis of average CPI for each year.

The average CPI for 1997 is estimated at 5.5%.

Table 2
School Enrollment per school type

Year	Total	Public	Public/ Municipal	Municipal	Subsidized Private	Private	Corporation or Vocational-Technical
1981	2 841 726		2 215 973		430 232	195 521	
1982	2 819 139	425 518		1 695 038	553 600	144 983	
1983	2 869 435	369 189		1 672 593	643 868	183 785	
1984	2 886 552	341 994		1 626 968	758 842	158 748	
1985	2 963 410	331 110		1 605 185	832 455	194 660	
1986	2 967 864	316 594		1 555 059	913 925	182 286	
1987	2 962 755			1 797 953	910 968	196 200	57 634
1988	2 989 032			1 781 413	939 445	209 758	58 416
1989	2 976 011			1 745 598	954 642	217 737	58 034
1990	2 963 139			1 717 222	960 460	228 205	57 252
1991	2 938 720			1 698 842	949 038	234 442	56 398
1992	2 983 383			1 721 375	963 061	245 585	53 362
1993	3 007 628			1 725 620	973 515	256 700	51 793
1994	3 047 572			1 746 235	985 854	264 615	50 868
1995	3 111 727			1 777 750	1 005 131	282 659	46 187
1996	3 270 614			1 828 022	1 080 412	309 468	52 712

Source: Ministry of Education, Planning and Budget Division, 1997.
Nora: Enrollment as of April 30 of each year based on reports from the Regional Ministerial Secretariats.

The most visible effect of the 1981 reform is the "privatization" of school enrollment, with a fall in the number of students served from 78% in the public sector in 1980 to 57.9% in the municipal sector in 1990. Since that year to date this number remains stable, with the share of enrollments in municipal schools accounting for 55.9% of the total. Furthermore, presumably as a consequence of economic development, starting in 1988 enrollment in fully paid private schools (without State funding) grew from 7% (a figure similar to that of 1980) to 9.4% in 1996.

In terms of coverage, Chilean education achieved 93.3% in basic education and 49.7% in secondary education in 1970, as a result of large social investments during the previous period. Toward 1982, the following census year, coverage had grown to 95.2% in basic education and 65% in secondary education. For 1992, the following and last census year, coverage in basic education reached 98.2% and secondary education reached 79.9%. Although this could be taken as the result of a natural historic process, and not necessarily a positive outcome of the subsidies system, at least one can admit that, in spite of the deterioration of spending in education, the subsidies system allowed (or did not halt) the continuity of the improvement process for education coverage in Chilean education.

In 1990 the scenario drastically changed for the sector. An increase in education spending was initiated, which in 1994 helped overcome the deterioration that occurred between 1982 and 1990, and that was accelerated that year in response to the emphasis placed on the sector by the governmental agenda. Between 1990 and 1997, total spending of the Ministry of Education grew nearly 120% and the value of the per-student subsidy increased by 94% in real terms.[10] Cox and González (1998) show how 62.6% of the growth in total spending through 1996 goes toward subsidies, including at least 11.3% coming from greater expenditures originated by the increased enrollments. Most of that increase corresponds to the financing needed to pay teachers their salary increases, which we will discuss further on. Furthermore, nearly 20% of the total growth is absorbed by programs that seek to modify the precarious situation of the subsidized system initiated at the beginning of the decade, which include two programs that were financed by and led by expert advisory services from the World Bank (basic MECE and secondary MECE), and other programs for educational improvement, social welfare, investment in school infrastructure and increase in coverage for preschool education. The increase in resources to operate the school system was the principal measure of educational policy with which the democratic government attempted to deal with the critical situation affecting the subsidies system at the beginning of the decade.

The annual presidential message of May 21, 1996, announced an ambitious strategy to intensify the reforms started in 1990. The most important measure in terms of commitment of resources was the move to a full day for all schoolchildren between the third year of elementary school and the fourth year of secondary school, in a gradual process that would end in 2002 for all subsidized schools.[11] The commitment in terms of greater spending exceeded one thousand five hundred million dollars for the five years. For more information on these pronouncements, and on their consistency within a gradual educational policy see PAL (1996) and Cox and González (1998).

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10 The "subsidy per student" shown in Table 1 corresponds to an average of the subsidy effectively paid in the system, which is the result of payments per student that vary according to the level and the modality of teaching, rural setting, and attendance. Furthermore, it includes special subsidies such as extension of classroom hours created temporarily in 1995, full-time schooling starting in 1997, educational reinforcement starting in 1995, and support for handicapped students starting in 1993. For more details please consult González (1996a) or the subsidies law itself.

11 The law that was finally approved (19,532 of November 1997) makes it possible for schools with very high performance scores in quality measurement tests to be exempted from this obligation. The double shift had become widely extended in the 1960s, as a need to respond to the pressure provoked by the fast growth in coverage.

REGULATING THE TEACHING PROFESSION

The Teachers Statute

Although reliable statistics on teacher salaries are not available, teacher salaries may have declined by more than 40% in real terms, according to Montt and Serra (1994), in addition to the layoff of close to 10% of municipal government teachers. This traumatic experience remains associated with the reform of the financing system, which together with what has been discussed in section II, would explain why a significant number of teachers wanted to reverse the changes beginning in 1990.

Furthermore, at that time the municipal authorities were not authorized representatives of the local community. They were mayors that had been designated by the outgoing de facto regime. The first municipal elections would take place only in 1992. As a result, the context was unfavorable to the sector, and in fact the group would not benefit from educational policy until 1994, which could have been offset with measures that increased the financial capacity of municipalities in general.

In summary, Law 19,070 of 1991 replaces the Labor Code for teachers that governs labor relations in all companies, for a special regime known as the "Teachers' Statute," which establishes a national regulation for their employment conditions (such as working days and holiday pay) and in the case of municipal governments it provides a common and improved salary structure , bonuses for skills enhancement, professional experience, and performance under difficult working conditions, and job security.

The salaries set by law and the constraints of personnel management had an important impact on the municipal sector strongly reducing their possibility of competing with the subsidized private sector. On the one hand, the Statute practically makes it impossible to adjust the teacher pool to fluctuations in enrollment and, therefore, to the amount of funds received. Even if certain working conditions introduced by the Statute may be considered reasonable, contract provisions in the case of the municipal sector, implied job tenure (not only the unfeasibility of getting fired but also to be transferred from one school to another), which was non-existent in all other sectors of the economy. Furthermore, the development of a salary scale based on a floor and allowances linked to seniority (experience and further training can reach 140% from the floor), sought the national standardization of teachers' salaries, based on the tradition that pay spreads could only arise from a difference in years of service. This certainly denied the market logic where salary differences are related to productivity (skills, performance, etc.) or relative scarcity.

In practice, Law 19,070 created legal responsibilities from disproportionate salaries in municipalities with a surplus of teachers or teachers with more seniority. In order to finance these diverse liabilities the law established the Supplementary Resources Fund, which was the first important distortion of the subsidies mechanism, since in the case of the municipal sector funds were not delivered in relation to the amount of services provided, but in relation to the relative cost of salaries corresponding to "teaching staff" (number of hours of teaching contracted) in 1992. Although the private sector was only required to pay the "national minimum wage" and not the other allowances, it received funding equivalent to the proportion represented in the total Supplementary Resources Fund transferred to the municipal sector based on the total expenditure of the subsidy.

The law established that the Supplementary Resources Fund would expire in March 1996, with the understanding that during that period the municipalities would adjust their staffing to real needs. However, the adjustment if costs exceeded revenue was not viable via prices, since salaries were set by law, nor via quantity, since there was security of tenure and far from being reduced allowances were expanded.[12] The agreement on salaries made between the Ministry and the Teachers' Union in 1993 worsened the financial situation of municipalities through excessive spending. The dramatic financing difficulties in the municipal sector, the legitimacy of the authorities elected by the community, and the revaluation of the sector and of decentralization justified the change in direction registered at the end of 1994.

Adjustments to the Teachers' Statute

The need to make the standards on teaching staff mobility more flexible to improve local management, countersigned by the National Commission for the Modernization of Education (1995), in addition to governmental policy efforts to introduce innovations to link salaries to individual performance led to laws 19,410 and 19,398 that modified the Teachers' Statute, and established a different system to readjust salaries.

This law put an end to lifelong employment, once staffing adjustments were authorized in the framework of the PADEM. Within that framework, teachers may be transferred within the same municipality, courses streamlined and even schools may be merged and established the first important subsidy increase (since the creation of the system) with no direct relation to salaries. In addition, instead of strengthening the structure based on seniority consecrated in the Teachers' Statute of 1991, the salaries agreement that put an end to the conflict between the Teachers' Union and the Ministry of Education in 1994, made an additional increase in the subsidies that was given to teachers as a bonus. The amount of this bonus was variable, since it represented the reverse function from future staffing surplus in the schools in the case of the private sector or in the municipality in the case of the public sector. In this regard it can be compared to a productivity bonus. Likewise, the concept of minimum wage was created, as well as the aforementioned incentive associated with the SNED.[13]

As a result of the 1995 readjustment, the gradual increase granted by the Statute, the Professional Improvement Unit agreed in 1993, the readjustments of the public sector related to teacher salaries contained in the Statute, and the agreement reached at the end of 1996, the average real salaries of teachers doubled between 1990 and 1997, currently reaching approximately $300,000 gross (almost US$750) for a thirty-hour week. This contrasts with the deterioration estimated at nearly 40% in the previous decade. The hourly minimum wage for the subsidized sector, in turn, has quadrupled since 1990 in real terms, reaching $184,000 in mid-1997 for a 30-hour week.

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12 While the enrollment of the municipal sector grew less than 1% between 1990 and 1993, staffing grew by almost 10%.

13 This characteristic is crucial for its success, since the recent literature on incentives indicates that awards of this type are much higher than individual bonuses when the information is imperfect and teamwork is important.

The evaluation of the changes in the standards that regulate labor contracts introduced in 1995 is pending, since up to November 1997 special programs for voluntary early retirement and retirement have been in place allowing the exit of teachers with most seniority and that are more expensive due to the enforcement of the Statute. In practice, the possibility of adjusting teaching staffing has remained restricted to once a year, where in addition all changes must be based on technical criteria reflecting greater rationalization in management and changes in school enrollment. Furthermore, teacher performance evaluations are few, and only this year was it possible to apply the qualifications provided for in the Teachers Statute—an evaluation that the Teacher's Union has systematically opposed—in accordance with regulations that have similar problems as those in the standards currently applied in the public sector.

SHARED FINANCING

Current situation

At the end of 1993, tuition standards for families under the subsidized school system were changed. These standards established such onerous discounts that they were a disincentive for contributions. The new shared financing system was opened to the entire subsidies system, with the exception of municipal primary education. The law established a table for discounts on financial subsidies that vary according to the level of tuition,[14] up to a limit of 4 ESUs (Educational Subsidy Unit) per month (approximately US$80) when the school must abandon the subsidized system and become private, without fiscal contributions. In 1994 shared financing meant the collection of almost US$50 million for schools assigned to the system; in 1995, nearly US$65 million; in 1996, US$90 million (equivalent to approximately 6.4% of total spending on subsidies in that year), and around US$110 million projected for 1997. This last year, schools with shared financing represent 27% of subsidized enrollments (824 thousand students).

Table 3
Evolution of Shared Financing

	1993	1994	1995	1996	1997
Total Enrollment	142 732	534 261	672 334	745 289	824 327
Municipal	0	17787	40 008	48 315	64 526
Private Subsidized	142 732	516 474	632 326	696 974	759 801
Collected Amount					
Total	5 945	19 303	26 228	36 250	44 385
Municipal	0	269	581	707	940
Private Subsidized	5 945	19 034	25 647	35 543	43 445

Source: Office of Payment of Subsidies, General Administration Department, Ministry of Education.
Note: The figure for 1997 is estimated on the basis of the subsidies processed in April.

[14] Before 1993 the State discounted 40% of voluntary contributions to subsidized private schools. After 1993, it is possible to collect without discounts up to 0.5 ESU (Educational Subsidy Unit), somewhat less than US$12 in 1997. Subsequently 10% is discounted for charges between 0.5 and 1 ESU, 20% for charges between 1 and 2 ESUs and 35% for a fraction of charges between 2 and 4 ESUs. The discount is fiscal savings.

Although promoted by the Executive Power, the shared financing system has been criticized by an important "cross-section" of the government coalition. This is partly due to the fact that it was approved in exchange for the tax reform of 1993, which might have prevented the broad debate on the issue that those sectors demanded at that time.[15] The apprehension with regard to the measure is based on that it has the risk of promoting the dynamic segmentation and social segregation in the school system subsidized by the State, which is counter to equity criteria. Although there is no systematic quantitative evidence available on the degree of importance of these effects, which could also be reinforced by the S-competition (in a context where system results are being emphasized, through public dissemination and results-based incentives), there are complaints of this type of behavior in municipalities that are experiencing rapid population growth, which due to poor coordination in urban planning are having problems with excess demand of educational services. This would reflect a faster price adjustment than adjustment for quantity, which would be acting as a "rationing" mechanism for the excess in demand. In the absence of shared financing schools with excess demand would have to resort to other mechanisms to allot spaces that are below requirements. Therefore, it is not clear if this circumstantial evidence shows the effects of the shared financing system itself or rather the problems of urban growth planning.

The open question is whether the cost of equity that shared financing may generate is compensated or not by the benefits from greater resources contributed to the system. These possible costs imply the need for mechanisms that neutralize potential segregation. This is the objective of the changes introduced into the law for a full school day, where a scholarship fund was created in each school, increasing in relation to the tuition level, and that operates with resources provided by the provider and a reduction of fiscal discounts, which may be used for total or partial scholarships for students from poor families. Many Church schools have already been operating with scholarship systems of this type for moral reasons, an initiative backed by the FIDE (an organization that groups these institutions).

The Scholarship Fund operates in each school[16] and is established with two sources of funds. First, fiscal funds originating from a reduction in discounts: 100% of the discount on the subsidy for charges between 0.5 and 1 ESU (there are no discounts for charges lower than 0.5 ESU, which means that the delivery of fiscal resources would represent the transfer of more public resources than those delivered to public schools); 50% of the discount for charges between 1 and 2 ESUs; and 20% on charges between 2 and 4 ESUs. Secondly, with the resources collected from parents and guardians, which represent 5% if the charges do not exceed 1 ESU, 7% exceeding 1 ESU and up to 2 ESUs, and 10% in excess of 2 ESUs and up to 4 ESUs.

In addition, the above-mentioned law established that the provider assigned to shared financing must inform the school community, in addition to the value of the charges for the following year, the maximum increase for the following two years. This is based on the belief

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[15] Something similar occurred with the law on donation for educational purposes, which has had quite less impact (nearly US$5 million since its approval). There is a pre-agreement between the Executive Branch with the Confederation of Production and Trade in order to do make this law more operational, but it that does not have sufficient support among pro-government lawmakers that refuse to increase tax exemption.

[16] The alternative of one communal formula was rejected because the Municipality is a natural agent for this type of system, an interested party as the administrator of some schools.

that the relationship between the school and the families is long-term and recognizes the cost to the students implied by change of schools, eliminating the possibility of substantive and unforeseen modifications in tuition that could have required the sudden withdrawal of students from the school.

Future Outlook

The argument of organizations in favor of the shared financing system is that until 1993, only 8% of students in the country paid for their education. This number has increased to 32%. Most of these families could have contributed before, but they were unable to do so because the discount of the fiscal subsidy was onerous. To the extent that many of those families belong to the high-income strata, the desirability of the previous situation was debatable. Clearly the shared financing law of 1993 was born out of the need to change that situation. However, current policy not only has “undesirable” collateral effects, but is not the only way to correct this problem. For example, a more direct solution would require that the fiscal subsidy be proportionate to a family’s income—and consequently that the subsidy be granted per family. However, this requires an accreditation system along with other associated administrative costs making its implementation rather difficult, unless social policies are coordinated so as to take advantage of economies of scale in the analysis of the family as object of these policies, and whose situation determines the value of different social transfers. The design should take care of not affect the incentives to declare or receive income through formal ways. It has been suggested that in the case of education the change to a system in which the transfer is received effectively by families before they arrive to the school will favor the psychological perception of a “consumer” with the right to demand product quality.

The foregoing would represent a huge change in the financing system, and therefore a decision of that type is not foreseeable in the medium term, and besides a finished design and a cost-benefit analysis, it would require pilot experiments to evaluate the different alternatives. A more viable short term decision would be to encourage—within the schools assigned to shared financing—the providers to support low-income students who have trouble paying tuition, which was the option chosen by the Executive Power in Law 19,532 of November 17, 1997.

SUMMARY AND CONCLUSIONS

In terms of education financing and management, Chile is probably the country that has experienced the most profound changes in the past two decades. Faced with similar problems, other nations and States are currently considering similar changes. This tendency must overcome ideological and institutional resistance, which must remain in effect, although with greater challenges, once changes have been carried out. In fact, these same forces, strengthened by the sector’s financial crisis and the association of the reform to that crisis and to the management of a de facto regime that had just lost the elections, were powerful in Chile at the beginning of the decade, and obtained the approval of Law 19,070, the Teachers’ Statute.

The benefits associated with this radical change in Chile are enormous. However, the problems brought about by the change are just as important. Therefore, in order for a demand-based subsidies system to be successful it requires improvements that should respond to:

- The incentives to compete for different variables of service quality, especially excluding students with real or low potential performance;
- The differences of average cost per student other than efficiency and the limitations of competition , both especially with regard to rural areas;
- The problems of information and rationality with which families make their decisions about choosing a school;
- The psychological costs for students, associated with changing schools, and the gradual deterioration that precedes the closure of low quality schools.

These problems are inherent in a system that is organized on the basis of the improvement of results, regardless of the predominant forms of financing, ownership, and labor regulation. However, the institutional framework created in Chile was especially appropriate for achieving the sought objective (to maximize quality):

- Diversity of actors: private for or not-for-profit, and public, yet local, close to concrete problems experienced by people and with adequately internalized budget constraints;
- Absence of entry barriers to the system, in addition to compliance with uniform and stable rules necessary for the efficient provision of educational services in rural areas;
- Existence of a quality assessment system.

The problems generated by the demand-based subsidy system were addressed especially beginning in 1994, at a moment when labor constraints introduced in 1991 had thrown the municipal system into a deep crisis.

We have highlighted two solutions that are currently in place:

- The SNED, which places important requirements on the current achievement measurement mechanisms that seek to provide information on the value added by the school, eliminating competition incentives by factors other than quality in education.
- The PADEM, which intends to improve local management through planning processes and more flexible management practices, strengthening the role of the municipality as local government, and coordinating the needs of citizens with regard to school offerings.

Two lines of work that should be enhanced in the future include the improvement of the regulation of the school system and the incentive of social participation. Both lines of work are key in achieving two closely related objectives: a better matching of educational offerings to the needs of the people; and greater support of citizens (that the subsidies system has already granted with the inherent rights of “consumers”) in the defense of the “right to education.”

Note: Translation from the Spanish original done by Aracely Barahona-Strittmatter.

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