

THE DECENTRALIZATION OF EDUCATION IN CHILE: AN ECONOMIC ASSESSMENT *

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This paper provides an assessment of the devolution of Chilean education to the municipal level, from the standpoints of efficiency and equity. The main question it tries to answer is whether decentralization has fulfilled its promise of providing more efficient social services in a productive and allocational sense. A second important question concerns the equity dimension: has equity been preserved in the experience of education municipalization?

The answer to the first question is somewhat negative. Efficiency failures in municipalized education services, the author concludes, probably originate in restrictions on individual and local public choice deriving from insufficiencies in the very mechanisms through which the process is implemented. On the other hand, the system of financing municipal education, he argues, has managed to preserve equity as regards the availability of resources per borough.

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The decentralization of education in Chile has its roots in the extensive reforms which were made in social services and labor legislation at the beginning of the 1980s. These had the effect of extending the macroeconomic reforms, and those relating to the working of markets, introduced in the middle of the 1970s, to the social arena. There were three main guidelines which accompanied these reforms: market elements (competition, choice); state subsidiarity (targeting, privatization) and geographical decentralization.

The decentralization of education involved transferring to the municipalities the administration of public sector establishments at the preschool, primary and secondary levels. Municipalities became responsible for the hiring and firing of staff (including school heads), as well as wage setting and the purchase of supplies, etc. Central government retained responsibility for drawing up general regulations (minimum curriculum, universal coverage conditions. etc.), as well as the tasks of administrative and technical supervision, and the provision of basic finance for the sector.

The educational devolution process was accompanied by the introduction of market features involving the incorporation of the private sector as a provider of state-subsidized education, and the implementation of a per-capita subsidy to finance schools in the municipal and private subsidized sector. The per-pupil subsidy is meant to cover the all of the schools' operating costs as well as promoting competition between establishments to attract and retain students. That, in turn, should redound in greater efficiency and higher quality in the educational services provided. There are two important foundations to devolution processes. In the first place, decentralization works in favor of greater economic efficiency. This occurs both in the productive arena —minimizing costs for given output— as well as in the allocation sphere —providing services in accordance with customer preferences. In the second place, devolution is consistent with the deepening of democracy, since it brings people closer to the levels of decision-making.

Economic efficiency gains arise from the possibilities offered by the decentralization process: providing for the needs or preferences of local communities in a differentiated way; bringing together demanders and suppliers of the goods and services provided at the local level; providing fiscal responsibility by turning the community into participants in the financing of this public service, and introducing competition in the provision of goods and services provided by local governments. On the other hand, decentralization involves risks in terms of equity. Differences in borough socio-economic levels can lead to an unequal distribution of the goods and servi-

ces provided by local governments *viz à viz* the distribution that would result from a centralized framework (Bahl and Linn, 1992; Shah, 1991).

This article aims to assess the decentralization of education in Chile from the efficiency and equity standpoints. The main question which has to be answered in any appraisal of devolution processes is whether decentralization has fulfilled its promise of providing more efficient social services in a productive and allocational sense. The second important question in the assessment relates to the equity dimension; that is: has equity been preserved in the decentralization of social services?

The paper is organized in three sections in addition to this introduction. The second section describes the evolution and workings of the devolution process in the education sector. The third section contains the essence of the paper, providing an assessment of the process from the efficiency and equity viewpoints, and the fourth section presents the conclusions of the study. An appendix outlines the structure of the Chilean education system as well as the workings of the subsidy mechanism.

1. The education decentralization process

1.1 The 1980 reform

Up to the end of the 1970s, the public education sector in Chile was highly centralized. The Ministry of Education decreed norms and curriculum contents; it hired and paid teachers, built and repaired educational infrastructure, as well as acquiring and distributing school supplies, such as text books and teaching materials. The Ministry directly managed more than 90 percent of the sectoral budget, employing a staff of officials representing a fifth of all the teachers in the system.

At the beginning of the 1980s a profound structural reform was undertaken in the education system. The main feature of this was the devolution of school establishments in the public sector, with administration being transferred to the municipalities. The reform also favored the incorporation of the private sector as a provider of State-subsidized education.

As well as this, the reform introduced a per-capita subsidy mechanism to help finance schools in the municipal and private subsidized sectors. The per-pupil subsidy was intended to cover all school operating costs, as well as promoting competition between establishments for attracting and retaining students (see Appendix). This in turn, would redound in greater efficiency and higher quality education services.

According to Castañeda (1991), the main objective of the educational reform was to solve the problems of the centralized system. These were (i) low quality and efficiency levels associated with a lack of systemic incentives for attracting and retaining students; (ii) low teacher salaries as a result of high administration costs; (iii) inadequate supervision of both schools and teachers; (iv) rigid study programs that did not respond to local needs; (v) low level of community participation in school issues.

A more in-depth reading of the reform's foundations reveal its consistency with the socio-economic model applied in Chile since the mid-1970s. The educational reform incorporated elements of choice and competition which were essential to the free market regime and state subsidiarity which were in place at the time. Thus, the reform transferred significant and important functions and decision-making powers to the agents comprising the educational "market": parents, schools, municipalities and private administrators. The subsidy mechanism has its inspiration in the workings of the "vouchers" system suggested in Friedman (1955), aimed at allocating sectoral resources by means of a quasi-market. Likewise, a greater private sector presence in education supply reinforces the educational reform's consistency with the socioeconomic organization being implemented in the country.

The decentralization process modified the economic and administrative functioning of the sector in a fundamental way. By contrast, pedagogical and curricular norms suffered lesser changes. Significantly, the reforms were introduced by the Ministry of Finance and Planning together with economists from the Ministry of Education. Participation by educators, teachers and staff in the sector was virtually nil, reflecting, on the one hand, the prevalence of liberal-minded technocracy in the country's reform process and, on the other hand, a lack of confidence in educators deriving from their traditional proximity to positions on the political left and their association with the status quo.

1.2 The municipal devolution contract and the labor regime

The transfer of public-sector schools to municipal administration was formalized by means of a contract between the Ministry of Education and the mayor in representation of the municipality.

Through this contract the Ministry of Education freely handed over ownership of buildings, furniture, equipment and installations used in the functioning of each of the establishments transferred. Staff employed in educational establishments were also transferred.

The contract established that the transfer of responsibility for the education service is definitive and the municipality is obliged to provide it continuously, rationally and in a permanent way. Likewise, the municipality commits itself to maintaining establishments in adequate working order and providing the human resources and other necessary inputs, including infrastructure maintenance in the schools transferred.

The Ministry assumes the technical supervision and inspection of the transferred service, as well as responsibility for financing establishments through the per-pupil subsidy which has to cover school operating costs.¹ In addition, the Ministry will continue providing school text books to students in the sector as well as infant lunches for pupils who were previously beneficiaries of the School Lunch Program.

The municipality has three options regarding the administration of the transferred establishment. Firstly it can set up Municipal Education Departments to manage schools directly. In this case the Municipality must draw up a separate budget for establishments which must be approved by the municipal council and be governed by the provisions of public administration regarding the management and control of financial resources. The second alternative is to delegate administration to municipal corporations, comprising juridical non-profit making entities constituted under private law, with participation from the mayor in their management, and operating outside the financial regulations of public administration. This option was discontinued in 1988, but remains in force for cases set up prior to that. The third option—known as delegated management—is similar to the previous alternative except for the fact that the mayor has no participation in management, while the municipality can contribute to financing by means of contributions or subsidies.

Prior to decentralization, teachers enjoyed privileged treatment within public administration on questions of job stability and wages. However, the functioning of the decentralization system, as well as the subsidy and competition scheme, require greater labor flexibility. For this purpose, the special regime favoring teachers was abolished, and they were offered the alternative of working as public sector officials or as private employees. The State encouraged the latter alternative by paying an indemnity for termination of the status of public sector official. Immediately afterwards, the municipality would hire the teacher as a private employee, subject to the

¹ The construction of new municipal schools was channeled through a regional investment program (National Regional Development Fund), through which the municipalities put up projects of a social nature, which compete for investment funds allocated annually to each region in the country.

labor market conditions ruling in the private sector. This meant the wage would be set according to market conditions and the teacher could be dismissed due to a fall in the number of students enrolled or any other cause contemplated in the legislation.

1.3 The stages of the devolution process

The development of the decentralization process during the period 1980-1993 has been conditioned by changes in both the political and the economic environment. In this regard, four clearly defined stages can be distinguished: the initial impulse (1980-1981), the adjustment period (1982-1986), the final push (1987-1989) and the transition to democracy (1990-1993).

The initial impulse stage occurred in the years 1980-1981, when educational decentralization was introduced in a context of economic boom. These years were characterized by the presence of surplus fiscal resources, originating in reforms to the public sector carried out in the 1970s, and the macroeconomic boom which preceded the debt crisis.²

The availability of means of financing made it possible to use economic incentives to facilitate the transition to a new institutional framework in education, and a financial stimulus was offered to the first municipalities adopting the decentralized school administration scheme. The change in labor regime for teachers was encouraged through indemnities for renouncing public-sector-official status, and an attractive level of school subsidy was made available for financing the operations of educational establishments. The cost of these measures meant a 53 percent increase in resources destined to education in the fiscal-municipal sector between 1980 and 1981. (See Table N° 1).

Against this background, 87 percent of public-sector schools transferred to municipal management, representing 78 percent of teachers and 83 percent of students in the public sector. In addition, by 1982 some 67,000 teachers, or 77 percent of the teaching force in the municipal sector, had accepted the change in job status, thereby acquiring the status of private-sector employees.

The second stage of decentralization corresponds to the period of macroeconomic austerity in adjustment to the external debt crisis. In this period (1982-1986), the economy had to generate significant surpluses both

² The fiscal surplus in the 1980-1981 period averaged 3.2 percent of GDP.

domestically and externally, and this led to a sharp fall in indicators of output and employment. Fiscal revenues fell sharply in the period: between 1982 and 1986 total public sector income was on average 18 percent lower than it had been in 1980.³

TABLE N° 1 FINANCIAL RESOURCES IN MUNICIPALIZED EDUCATION
(Indexes)

	Total (1)	Resources per Pupil	Primary Education Subsidy	Secondary Education Subsidy
1980	100.0	100.0	n.a.	n.a.
1981	153.0	150.4	100.0	100.0
1982	136.3	151.1	97.0	91.8
1983	106.3	121.2	80.0	75.76
1984	101.4	120.8	79.8	75.6
1985	103.7	136.5	73.8	69.9
1986	100.7	127.3	79.1	74.9
1987	92.7	123.5	74.5	70.5
1988	105.2	142.2	72.5	66.4
1989	92.2	127.7	77.5	71.0
1990	89.2	125.7	73.2	67.0
1991	95.9	136.3	69.5	63.7
1992	107.9	151.4	72.5	66.4
1993	120.8	168.8	73.9	67.7

Notes: (1) This refers to total public sector resources destined to the sector, including the subsidy, municipal contributions, investment spending, assistance programs, the MECE and P-900 programs and various teacher benefits (redundancy payments, Teacher Statute and others).

Source: Based on statistics from the Ministry of Education.

The austerity program made reduced spending on public-sector programs obligatory. The policy applied in the education sector was to hold down the value of the subsidy in relation to the trend in the price index, and, between 1981 and 1985, the subsidy fell in real terms by 26 percent in primary education and 30 percent in the case of secondary education (see Table N° 1).

At the same time, the economic crisis had detonated strong popular discontent, which was expressed in lengthy protests against the military

³ Figures from the *Contraloría General de la República* (Comptroller General of the Republic).

regime. In this context, conservative political sectors with more populist and centralist economic positions, compared to the technocratic groups that had implemented the structural reforms, assumed importance in the government.

The new government team introduced a set of measures to alleviate the political and economic cost of the decline in financing for municipal education. These included provision for payment of a supplementary salary for teachers, operating outside the subsidy mechanism; the prohibition of teacher dismissal in the municipal system; the transfer of extraordinary funds to finance the deficits being faced in educational management by most municipalities, and the suspension of entry of new private schools so as to avoid competition for students and financing.

Each of these palliative measures represented restrictions on the choice and competition framework which had inspired the educational reform of 1980, and were a reflection of the political survival strategy adopted by the military government, which came to dominate over purity on economic issues. The neglect of economic reforms was also a response to the perception in certain government circles that the political difficulties were partly caused by the economic strategy led by the liberal-technocratic sector. In addition to this, and very importantly, support for municipalized education has to be understood in the context of that time, when municipalities and mayors were the representatives of the government in each borough. Thus, the government's political survival strategy required municipalities to be responsive to this task.

The third stage of decentralization corresponds to the period between 1986 and 1989, characterized by economic recovery and strengthening of the government's political resolve. In this period, liberal groups regained positions of influence inside the government and promoted reforms which have been delayed or weakened during the period of crisis and adjustment. The objective at this stage was to consolidate the market economy by completing the unfinished reforms and reinforcing economic growth.

During these years the transfer of educational establishments to the municipalities was finished. In addition, the sector was freed from restrictions on the entry of new schools and the dismissal of teachers, and at the same time public resource transfers to finance deficits in municipal administration and the supplementary salary for teachers were both suspended.

Notwithstanding the recovery of the economy and public finances, the value of the school subsidy remained at low levels in this period, in response to a policy of containing fiscal spending, aimed at generating surpluses in order to finance a recovery of economic growth in a context of

external capital restriction. In this way, the 1980s decade ends with a subsidy which is substantially lower than its initial levels (Table N° 1).

The fourth stage in the devolution process corresponds to the democratic transition years 1990 to 1993. This period is characterized by an ambitious plan for the recovery of spending in social sectors, aimed at compensating for inherited deficits and incorporating the equity dimension more actively into the framework of economic development.⁴

The transition government proposed two basic lines of action in the area of school education. In the first place a big effort was made to strengthen the subsidized education system, in which the implementation of the MECE Program (Educational Quality Improvement Program) has been notable. This has the basic objective of “raising the floor” of public sector education —both urban and rural— by strengthening infrastructure and inputs, and transforming schools and teachers into active agents for change through contested projects for the development of school establishments.⁵ As well as this, the P-900 program attended to the needs of 10 percent of the most backward schools and consisted of improvements in infrastructure, personalized attention for children with learning difficulties, the provision of text books and teaching materials, teacher training, etc. This program was later absorbed into the MECE project.

Secondly, a Teaching Statute was passed in order to attend to teachers’ claims. The teacher union was demanding compensation for the deterioration in wages and job stability suffered during the military regime. The Statute visualizes the implementation of a professional teaching career for municipal teachers, including official status in the job; the introduction of a minimum wage and a set of benefits based on teachers’ experience and responsibility, as well as an increase in resources available for teacher training.

As is shown in Table N°1, the amount of resources destined to municipalized education grew by 34 percent between 1990 and 1993. However the value of the school subsidy remained practically unchanged over this period, reflecting the fact that the increase in resources was funneled into the measures mentioned above.

These programs directly channeled resources to schools and teachers, separately from the subsidy mechanism. In this sense, they were centralized programs, as the central government decided the destination of

⁴ See Larrañaga (1994a).

⁵ Other objectives of the MECE program include strengthening the management capacity of the Ministry and extending the coverage of pre-school education.

the funds. In contrast the use of resources transferred through the subsidy is determined by the municipal administrators.⁶

Finally, by the end of 1993 a Shared Financing Law was passed, aimed at complementing the school subsidy resources with financial contributions that can be made by parents to finance their children's education. Access to this mode of financing is voluntary for private subsidized establishments and subject to approval by the parents in municipalized secondary education establishments. Municipal schools at the primary level were excluded from this new scheme.

2. Efficiency and equity in decentralized education

2.1 Private subsidized education: a reference point for assessment

The evaluation of the decentralization process in education is made difficult by the financing problems that influence the relation between municipal management and the outcomes of the education process. Fortunately, in the case of the education sector a control variable is available—private subsidized education—which makes it possible to isolate the effects of changes in financing on municipal school performance, from those associated with educational management.

Private subsidized schools belong to non-profit making organizations (religious congregations, foundations, etc.) as well as avowedly profit maximizing individuals or groups. The origin of the private subsidized sector goes back to the earliest days of education in Chile. At the end of the 1970s, before the educational reform, about 15 percent of school enrollments belonged to this type of school. However, the sector received a fiscal subsidy covering part of its costs⁷ and payable exclusively to non-profit making organizations. The 1980 reform gave a strong boost to the private subsidized education sector by making it eligible for the complete school subsidy and allowing the entry of suppliers with profit-making motives.

The fact that private subsidized schools and municipal schools are subject to a similar financing framework makes it possible to evaluate the

⁶ Thus, teachers' demands for benefits from the central government involves their transfer through special channels, different from the subsidy, so as to ensure the total take-up of the resources allocated.

⁷ Estimated at 30 percent by the end of 1970s (Espínola, 1993).

municipalized sector. In this regard, suppose that the educational outcome R is a linear function of financing F and the management of the establishment G . Then, in municipalized establishments (m) we have, $R_m = aF_m + bG_m$, whereas in private subsidized schools (p) we have $R_p = aF_p + bG_p$. So, if $F_p = F_m$, it follows that $R_m - R_p = b(G_m - G_p)$. That is, the difference in performance between the two types of establishment depends on the difference in the management variable, independently of what happens with financing.

In practice there have been differences in the treatment each educational management mode receives. Municipalized schools have received complementary financing in several instances in addition to the subsidy: municipal contributions, supplementary salaries, the MECE and P-900, programs etc. In addition, the municipal sector inherited infrastructure from the public sector schools. In contrast, the private subsidized sector has had to assume infrastructure costs⁸ without receiving complementary support from the State except for transfers made in the framework of the Teacher Statute. Despite this financing advantage, the private subsidized sector is superior to the municipal sector in two key outcomes of the educational process. These are (i) the results of the SIMCE tests and (ii) parental preferences as revealed by their choices of educational establishment. This would appear to be proof of greater efficiency in educational management: that is, if $F_m > F_p$ and $R_p > R_m$, it must follow that $G_p > G_m$.

The SIMCE tests are the most widely used indicator for measuring the quality of Chilean education. The tests assess the achievement of pedagogical objectives for the universe of students in fourth and eighth grade in the areas of Spanish and Mathematics. Table N° 2 presents a comparison of SIMCE test scores for municipal establishments and private subsidized schools at the same socioeconomic level, according to a classification made by the Ministry of Education. Private subsidized colleges obtain higher points than municipal schools within each socioeconomic group, except in the rural poor sector where the presence of private establishments is minimal (it is not represented in Table N° 2).

More formally, the econometric study made by Aedo and Larrañaga (1995) shows that the difference in SIMCE test scores between the two types of school persists after controlling for socioeconomic variables. In addition, this study detected that part of the points gap is the

⁸ The cost of the use of capital would be about 30 percent of total costs in private subsidized establishments (Salas and Gaymer, 1993).

result of a supply selection bias in the choice of students. This means that private subsidized schools select their students in some way, so the final results are influenced by the better “mix” of students present in those schools.

TABLE N° 2 SIMCE TEST SCORES BY SOCIO ECONOMIC GROUP(1)

	Socio-economic level	Mathematics	Spanish
Municipal	High	64.6	65.3
Private- subsidized	High	68.9	71.5
Municipal	Medium	58.9	62.7
Private- subsidized	Medium	60.6	64.7
Municipal	Low	51.5	54.3
Private- Subsidized	Low	53.7	57.3

Note :(1) SIMCE points 1993 for large cities. The gap between establishments is generalized for other localities, except for the rural or poor category.

Source: Lehmann (1994), based on Ministry of Education figures.

A second indicator favoring the private subsidized sector is parental choice of educational establishment.

In this regard, Table N° 3 shows the trend in school enrollment in the period 1980 to 1983, classified according to type of establishment. The figures clearly show an increase in enrollment at private subsidized schools and a fall in enrollment at municipalized establishments. The preference of parents constitutes significant proof of the advantages of private subsidized education over municipal education.

The performance differences between the private subsidized and the municipal sector are particular notable when one considers the financing advantages enjoyed by the municipal sector: the average teacher salary at municipal schools is 39 percent higher than the average wage in the private subsidized sector, and the pupil-teacher ratio at the primary level in municipal schools is 23.0 compared as against 35.5 in the private subsidized sector.⁹

⁹ Larrañaga (1994b).

TABLE N° 3 ENROLLMENT BY TYPE OF SCHOOL: 1981-1993
(in thousands)

Year	Fiscal-Municipal	Private subsidized	Private-Fee paying
1981	2216.0	430.2	195.5
1982	2120.5	553.6	145.0
1983	2041.8	643.9	183.8
1984	1969.0	758.8	158.7
1985	1936.3	832.5	194.7
1986	1871.7	913.9	182.3
1987	1797.9	911.0	196.2
1988	1781.4	939.4	209.8
1989	1745.6	954.6	217.7
1990	1717.2	960.5	228.2
1991	1698.8	949.0	234.4
1992	1721.4	963.0	245.6
1993	1725.6	973.5	256.7

Source: Ministry of Education, *Compendium of Statistical Information*.

How then can the advantage gained by the private subsidized sector, in SIMCE test results and family preferences, be explained? Why does municipal education, with greater financial resources available to it, deliver a less satisfactory product? In short, what are the factors limiting the efficiency of the municipalized sector?

These questions set a frame of reference for assessing municipalized education. The following two sections present a review of supply and demand aspects of the economic and financial organization of the municipal system, which affect the efficiency of its performance. Subsequently, the equity dimension of the financing system is discussed.

2.2 Restrictions on efficiency: the supply side

“Centralized” administration

Municipalities administer educational establishments either through municipal departments or through private corporations. In either case, this represents a centralized form of administration in that the management unit consists of the set of educational establishments in the borough. In this way, resources obtained from the per-capita subsidy are channeled through a common municipal fund to be later used in financing all schools.

This form of administration breaks the link between the school, the subsidy mechanism and its associated incentives. There is no guarantee that a high-performance school which is attracting a large number of students will receive the greatest amount of resources from the corresponding per-capita subsidy. Nor is there any certainty that a school of poor performance or falling enrollment will receive the appropriate signals via a consequent reduction in the financial resources available to it. It is therefore likely that an establishment which shows good education results will be subsidizing another one suffering management difficulties or problems of pedagogical performance. The outcome is to discourage the efforts of the former and permit the inefficiency of the latter.

In brief, municipal administration acting as intermediary between fund sources (the Ministry) and resource use (the schools) can undermine the essence of the subsidy mechanism, which is to direct resources towards the most effective schools and thereby raise the quality of the education system.

How centralized is the administration of education establishments? How disconnected are schools from the incentives and signals supplied by the financing mechanism?

In this regard, results are available from a survey carried out towards the end 1992 on management issues in Chilean secondary education.¹⁰ In particular, the survey enquires about the degree of influence that school principals, or heads, have on decisions relating to staffing, budget, administration and curriculum.

Table N° 4 presents a selection of the results obtained for municipal establishments providing general education (scientific-humanistic). The results are categorical in showing the scant or zero degree of participation by the head in key aspects of school management. For example, it can be seen that most heads have no influence whatsoever on staff dismissal (62 percent of cases), staff hiring (45 percent of cases), wage setting (85 percent), setting incentives for teachers (74 percent), and deciding budgetary allocations (66 percent). At the other extreme, heads with a great deal of influence in such decisions were an absolute minority (between 2 and 8 percent of cases).

¹⁰ This survey forms part of an economic appraisal of secondary education carried out in the preparatory phase of the MECE project. The sample consisted of 152 establishments with a total of 92,046 students from the Metropolitan, II, VII, VIII, IX and XII Regions. See Salas and Gaymer (1993).

TABLE N° 4 AUTONOMOUS MANAGEMENT IN MUNICIPAL ESTABLISHMENTS? (1)

	Influence of School Principal				Total
	None	Little	A lot	Did not reply	
Hiring of staff	45	47	2	6	100
Dismissal of staff	62	28	0	10	100
Salaries	85	8	2	6	101
Incentives	74	11	2	13	100
Budget	66	25	2	8	101

Note: (1) This refers to secondary establishments of scientific-humanistic type.

Source: Survey of Secondary Educational Establishments. Salas and Gaymer, (1993).

Thus in the great majority of cases key decisions on resource allocation in schools are taken at the municipal level, either in the Municipal Department mode or the Corporation, without a great deal of involvement on the part of school principals. The problem with this is that nobody knows a school's needs and capacities better than its head. Centralization and municipal administration therefore has negative implications for efficiency in the use of educational resources.

Municipal contributions: Deficits or inefficiencies?

The municipalities have had recourse to the concept of "deficits" in defining their own contributions to the educational establishments under their administration. However, municipal contributions could originate from four types of factors.

Firstly, the municipalities can complement the central subsidy with their own contributions when education is a goal of special importance for the local community. The essence of the devolution process is rooted precisely in the expression of local preferences and needs, as well as in the autonomy to decide how borough resources should be used. In this case, municipal contribution would be fully consistent with the efficiency of decentralization.

Secondly, in line with the municipal approach, borough contributions might be in response to reduced central financing. Indeed, the municipalities have had to cut other expenses in order to pay for education and health services, a development the World Bank identifies as the greatest risk involved in the decentralization process in Chile.¹¹

¹¹ World Bank (1992).

Thirdly, municipal contributions could be made in response to problems of municipal management and administration. Here it might be easier to pressure the central government for greater resources than to implement the austerity measures required. In this case, the concept of “deficit” would indicate the temporary use of municipal resources to supplement the insufficiency of the central government contribution, which in the end would have to assume responsibility for the financing of municipal schools.

Fourthly, deficits might be partly explained by the effect certain public regulations, which introduce rigidities into wage-setting and the hiring and firing of teaching staff, have on costs.¹²

More precise information on the determinants of municipal contributions to education are to be found in a study by Winkler (1993). This author used regression analysis to study the correspondence between the municipal contribution per pupil attending municipal schools and a set of explanatory variables derived from the theory of public choice along with prior empirical data. The sample used covered 290 municipalities in 1990.

Table Nº 5 presents the main results obtain by Winkler. The estimated parameters represent elasticities, as the variables were expressed in logarithmic terms. An asterisk indicates statistical significance of the respective variable.

The results indicate that municipal contributions behave in proportion to the fiscal capacity of each municipality, which, according to the author, is consistent with results obtained in empirical studies for the United States. In addition, the variables associated with the cost of providing educational services all appear with the expected signs and statistical significance. This set of variables consists of average teacher salaries, pupil-teacher ratios and population density (as a proxy for the cost of school inputs).

Winkler’s results identify and quantify the impact of variables determining municipal contributions. However, his analysis does not discriminate between the causes of the municipal contribution. Thus, the negative relation between the pupil-teacher ratio and municipal contributions is consistent with a hypothesis of municipal inefficiency as well as with local educational preferences. The relation between physical capacity and the size of the municipal contribution may reflect a capacity to compensate for a fall in the central transfer or be an expression of local preferences, etc.

As well as this, the hypothesis of borough contributions as a function of problems in municipal administration gains force when one looks at the

¹² See discussion below.

pupil-teacher ratios in educational establishments. Table N° 6 shows the fall experienced by this coefficient over the period 1980-1993, when it declines from a initial value of 26.2 to 20.7 in the latter year.

TABLE N° 5 DETERMINANTS OF MUNICIPAL CONTRIBUTION TO EDUCATION
(percentage response)

Socioeconomic level of the borough	-0.46	(.32)
Municipal enrollment over borough population	-0.70	(.19)*
Average teacher salary	0.94	(.27)*
Pupil-teacher ratio	-1.17	(.29)*
State subsidy	-0.28	(.18)
Borough Revenue	1.00	(.12)*
Management by Corporation (dummy)	0.14	(.17)
Population density	0.10	(.04)*

Notes: Standard deviation in brackets. An asterisk indicates that a variable is significant at a 95 percent confidence level.

Source: Winkler (1994).

TABLE N° 6 PUPIL-TEACHER RATIO IN FISCAL/MUNICIPAL ESTABLISHMENTS

Year	Teachers (thousands)	Pupils (thousands)	Pupils per Teacher
1980	87.4	2,287.9	26.2
1985	81.2	2,081.9	25.6
1990	78.0	1,746.8	22.4
1993	86.6	1,793.4	20.7

Source: Martelli quoted in Espínola (1993) for 1980-1990. Ruiz (1994) for 1993.

How was it possible to reduce the pupil-teacher ratio, thereby raising the average cost of educational provision, in the 1980-1990 period when there were sharp cuts in fiscal financing? How were “deficit” municipalities able to hire 8,600 new teachers between 1990 and 1993, when the initial pupil-teacher ratio was already relatively low?

The answer to these questions points to constraints of a political nature and to a structure of incentives that restricted administrative efficiency in municipalized education. Thus, in the period 1980-1989 the municipalities were reluctant to dismiss teachers in spite of an exodus of students towards the private subsidized sector and the consequent reduction in enro-

llments in the municipal schools.¹³ As has been described above, between 1992 and 1996 teacher dismissal was prohibited in order to minimize the political cost of the economic adjustment process of those years. From 1986 onwards this restriction was lifted and about 7,000 teachers were dismissed (Ruiz, 1993). However, the figures for 1990 show that the pupil-teacher ratio that year was considerably lower than in 1985, so the dismissal of teachers was more than offset by additional falls in municipal enrollment.¹⁴

In the period 1990-1993 there were two types of factors which could explain the significant increase in the size of the teaching staff in municipal schools. In the first place, a large number of teachers, who had been retired or dismissed during the previous administration, were rehired. This measure is subject to selection bias, because the teachers taken back were those that had not managed to find more satisfactory work alternatives in the meantime. In the second place, after the mayoral elections of June 1992, extra teachers were taken on, in various boroughs, in response to compensations of a political nature.

In any event, the over supply of teachers in the end reflects the possibility of financing the associated deficit. This is made possible through municipal contributions or special transfers from central government. The possibility of operating with deficits relaxes financial disciplines on educational administration, weakens the decentralization system's incentives structure based on competition and subsidy, and detracts from the efficiency of municipalized education.

Labor rigidities and the Teacher Statute.

Labor rigidities represent a significant constraint on the efficiency of municipalized educational provision. According to information available at the Ministry of Education, the payroll represented about 90 percent of the cost structure of municipalized education, so rigidities in the hiring and firing of teachers, as well as in wage-setting, introduce a fundamental constraint on resource allocation in municipalized education.

Labor issues have been subject to variable treatment in the course of the devolution process, and the introduction of the new system in 1980

¹³ The fall in the pupil-teacher ratio is not due to a change in the composition of municipal enrollment towards rural zones. In fact, the pupil-teacher ratio in multi-teacher rural schools is 23, similar to the national average. Ministry of Education, MECE Project (1991).

¹⁴ It has to be remembered that in 1986 the prohibition on new private providers entering the subsidized system was lifted.

included a corresponding policy on labor market matters. Basically this consisted of treating teachers as private employees, subject to relatively liberal norms on hiring and firing, and where wages would be influenced by the relevant supply and demand considerations. In this context, the municipalities could adjust their teaching staff to educational needs and the availability of resources.

Later, the labor variable was made more rigid in the context of the adjustment process of 1982-1986. In these years the dismissal of teachers was prohibited, and the subsidy was supplemented by transfers exclusively for salaries. Between 1986 and 1989 the labor market treatment of teachers became more flexible again, consistent with the liberal management of economic policy.

During the transition to democracy, the new government introduced further changes in the labor regulations for teachers, reimplementing a series of rules through the Teacher Statute, aimed at assuring labor stability for teachers, and establishing a salary structure based on category factors.

The Teacher Statute was introduced in response to teachers' claims. The teachers' union had suffered significant erosion of benefits during the military regime, among which the most notable are labor stability and the relatively favorable salary framework they had enjoyed inside public administration. For that reason is not surprising that by 1986 the President of the Teachers' Union ¹⁵ was demanding, among other things, a law guaranteeing job stability, the fixing of a scale of wages in accordance with the importance of the teacher and an end to the municipalization and privatization of education.¹⁶

In effect, the Teacher Statute created a career for teachers in the municipal sector, and established incumbency status for teaching posts. The hiring of new teachers, and the promotion of those already hired, has to be decided by contests in which there is participation from the school's Teacher Council, a body set up in the Teacher Statute. A basic level of remuneration was established, to be adjusted automatically along with the school subsidy, and a series of benefits were established according to a teacher's experience, training, management or technical-pedagogical responsibilities, and working conditions. The financing of the costs associated with minimum wages and special allowances is to be covered by transfers complementary to the subsidy. The Statute also introduces the concept of a teacher

¹⁵ An organization created in 1984 by the military government, which by 1985 was led by sectors which were in opposition to the government.

¹⁶ The magazine *El Pizarrón*, May-June 1986. Cited in Montt and Serra (1994).

workforce to be determined by the respective municipalities in accordance with the Provincial Directorate of the Ministry of Education.

In fact, the Statute introduced a series of rigidities in wage and other labor issues, which severely limit the municipalities' management autonomy in adjusting their teaching staff, modifying wages, offering monetary incentives etc. Furthermore, the Statute requires complementary transfers for its financing, which may undermine the system of choice and competition provided for by the subsidy mechanism of allocating resources in the education sector.

The labor market in the education sector has features that differ from the rest of the economy. The government is the main demander, and it faces a union bargaining collectively with a credible threat capacity, in terms of strike action and the political impact of its actions. In the education sector there is a trade-off curve between wages and labor stability, whereby traditionally low wages are compensated for by staff "careers" and other concessions giving stability and certainty to job conditions.

It is possible that, during the 1980s, teachers suffered an overall deterioration in the relationship between wages and stability. However the current provisions of the Teacher Statute have gone too far in providing job guarantees to teachers, seriously complicating the fluidity of allocating resources to the sector. Thus, for example, the fixing of teaching staff workforces has caused teacher surpluses in some schools which cannot be reassigned, within the same borough, to other establishments with teacher shortages.

In addition to this, the Teacher Statute re-centralizes significant aspects of the education system. This is due to the fact that decisions on hiring and wages again come to be determined within a central framework, thereby detracting from the autonomy of local management.

Another negative aspect of the Teacher Statute is the way it focuses union pressure on central government. According to Marcel (1993), one of the advantages of a devolution process is the way it redirects social conflicts locally where there is a more efficient space for resolving them and greater consistency with socio-economic stability of the country. The Chilean experience in education has been negative on these issues. The teachers' union prefers to put pressure directly on central government rather than disperse its efforts through negotiations at the borough level. The granting of claims at the central level —such as the case of the Teacher Statute— strengthens incentives for the union to target its demands on focal points such as the basic level of remunerations, job tenure etc.¹⁷

¹⁷ Going outside the legal-institutional framework. Remember that teachers have private-employee status, where the employer is the mayor of the respective municipality.

Having said this, the difficulties relating to the Teacher Statute have been recognized by several people who pushed for its introduction in 1990, and negotiations are taking place to alter some of its more restrictive features.

2.3 Constraints on efficiency: the demand side.

The decentralization process gave parents the main responsibility for allocating resources in the educational sector. Indeed, the choice of educational establishment by parents constitutes the definitive signal for transferring fiscal resources to a school. Ideally, resources would flow towards the most effective schools, as indicated by family choices, thereby raising the overall quality of the system of subsidized education.¹⁸

How has this process worked? Have parents responded to the expectations placed on them? In the final instance, has the policy of introducing elements of choice and competition, in the allocation of public resources to education, been the correct one?

In general, choice and competition mechanisms are an efficient guide for the allocation of resources in most goods and services markets. There are, however, two types of factors which make educational choice complex compared with day-to-day family decisions in a market economy. These are the presence of significant information asymmetries in the provision of the service, and the possibility of schools' discriminating between different applicants.

The success of the policy of choice and competition in the educational arena will therefore depend on the practical significance of these difficulties, as well as their handling and the alternatives that are available.

Information asymmetries and parental choice capacity.

Information asymmetries arise in that the service provider (schools, teachers) know more than the demander (parents) about the education process and the quality of the service being provided. Parents only have access to approximate indicators at discrete points in time on these issues, so it is natural to question the efficiency of a system of resource allocation based on family decisions.

¹⁸ Individual choice would replace collective choice. Only in 1992 were mayors elected by direct vote; in addition municipalities have scant autonomy to decide the level of fiscal resources at their disposal.

In the light of this, educators stress the shortcomings of individual choice in the context of the devolution process in Chile, arguing, for example, that parental preferences for new private subsidized schools respond to their symbolic association with traditional private education. According to one educator, the new schools have stressed their private status, offering the cohesive value of uniforms and other symbolisms which have been used exclusively by traditional schools of the middle class. They adopt names associated with international education of high reputation, along with colored and sophisticated uniforms designed according to the models of elite schools, and the songs and ceremonies that stress the values of the middle class.¹⁹

The problem with this line of criticism is that the shortcomings indicated in parental capacity are not overcome through alternative decision-making schemes. For example, are Ministry of Education officials or their Provincial Directors better placed to choose educational establishments and guide the transfer of resources in the sector?

A point that illuminates this discussion is provided by the situation in a private fee-paying education. Here parents take educational decisions with reasonable information, having a relatively adequate knowledge of the virtues and defects of the different educational alternatives. Moreover, any alternative acting against freedom of choice would be strongly rejected in this sector.

Thus, in the private fee-paying education sector it is a natural principle that educational decisions should be in the hands of families, and this constitutes the main signal for allocating educational resource to schools. What are the specific attributes of parents in the private fee-paying sector which enables them to make informed decisions on the quality of the education service?

In the first place, a family's socioeconomic situation and consequent educational and cultural level is a key factor for informed decision-taking on complex issues such as education. Parents in the private fee-paying sector mostly belong to the wealthiest sector of the population, and therefore have absolute advantages here over less well-off parents with pupils in municipalized education (see Table N° 7). Secondly, the fact of paying directly for education services confers on families in the private fee-paying sector an assertive role as clients of the system, and it predisposes them to seek the best educational alternative and demand results from the schools.

¹⁹ Espínola (1993).

TABLE N° 7 SOCIOECONOMIC COMPOSITION OF SCHOOL ENROLLMENT

Family per-capita income quintile	Municipal education	Private subsidized education	Private fee-paying education
I	41.9	25.8	4.0
II	27.6	22.6	5.8
III	15.8	22.4	8.0
IV	9.8	17.9	15.2
V	4.9	11.3	67.0
Total	100.0	100.0	100.0

Note: Quintiles ranked by income level from lowest (I) to highest (V).

Source: Mideplan, Casen 1990.

The appropriate conclusion arising from these observations is the need to strengthen the capacity of parents with students in the municipalized sector to make informed educational choices. To this end, public policy should seek to enable parents to have access to all available information on the quality of the different educational alternatives, as well as promoting a more assertive role among parents as clients of the educational system.

An element which could have a significant effect on these issues would be the publication of SIMCE test results at the individual school level. This indicator has been decisive in giving precision to the diagnosis and lines of action for educational policy. However, the scores obtained in SIMCE tests were not published at the school level until 1994.²⁰ This deprived parents of vital information for educational decision-taking and put obstacles in the way of the competition mechanism which, based on the subsidy, seeks to raise education quality.

In addition to this, the subsidy acts in a similar way to a demand subsidy or “voucher” system, because, when a student changes his or her place of study, the corresponding subsidy is transferred to the new establishment. Thus, it is as if the government were giving financial resources to families for them to decide the place of study and pay the cost of education. The operation mode chosen—directly transferring the subsidy from government to the school—has clear administrative advantages over a traditional voucher system. However, the system currently in force blurs the perception of parents’ right to choose and make demands on issues of educational deci-

²⁰ Those who were opposed to publishing the scores achieved on SIMCE tests—teachers and ministry officials—argued that it was a matter of avoiding tensions in a medium which lacked resources and real possibilities for improvement.

sion. It is therefore likely that parental perceptions are that they receive free education, rather than acquiring the service in return for a payment.

A public campaign explaining the rights and attributions of parents would help engender a more assertive role on their part in demanding educational quality. Parents must keep in mind that the state transfers a subsidy per student; that their decision in choosing a school implies a transfer of resources towards that establishment, and that schools do not provide education to their children as a gift.

Having said this, a study should be made of the feasibility of implementing an explicit voucher policy: would this be cause a significant change in parental attitudes? What would the operational costs of such a system be?

Finally, it should be remembered that the capacity to choose rationally is strengthened through practice. In this sense, the act of choosing in itself develops the capacity for making informed choices. In contrast, protectionist policies which place no confidence in families' choice capacity acts as self-fulfilling prophecies, by inhibiting the development of such faculties.

Discrimination by the schools?

A second problem with schemes that use market mechanisms in the educational sector, relates to the possibility that schools may discriminate between students in admission processes, on the basis of abilities, habits, and other characteristics of the child which influence educational outcome.²¹

The corresponding arguments are of the following type. Suppose that some factor —of an objective or subjective type— causes certain schools to gain a slight advantage in parental preferences. This leads to an increase in the demand at such establishments, which in turn will have the possibility of choosing applicants of higher “teachability” levels. In turn, less able students will have to attend schools for which there is less demand. Educational outcomes will favor the first group of schools, thereby reinforcing the dynamic of differentiation. So, the educational system becomes differentiated and ends up punishing less able students, who would have required a greater compensatory effort in educational terms.²²

This is an explicit question mark hanging over the decentralization process in Chile, and, for some, the differences between the private subsidized and municipal sectors reflect this situation. As is graphically expressed by a borough

²¹ In other words, schools try to admit more “teachable” students.

²² This, in addition, would limit the role of the educational system as a place of social interaction.

personality in the educational sector: "We are municipal schools: first and foremost a service to the community. As such we have to take in all students who demand places without giving importance to their condition. We receive marginal students, students who at this moment are in a no man's land, and as primary schools we have the duty to receive them and prepare them; we have to lead them on. This is our duty, unlike in private schools. In subsidized private schools there is no remedial education group, the private school sets an entrance exam and rejects all problem students. It is hard to put it like this, but it is reality".²³

The empirical evidence tends to support this point of view. According to the survey of parents in the study by Gauri (1994), 17.4 percent of students in municipal schools had sat an entrance exam to get into the school, a percentage which rises to more than double (36.4 percent) in the private subsidized sector. On the other hand, an admission test was the norm (81.7 percent of cases) in the private fee-paying sector (Table N° 8). Thus, there is a relation between results obtained by colleges (Table N° 2), the socioeconomic condition of the students (Table N° 7), and the school's entry requirements. In short, the evidence is consistent with the hypothesis of differentiation.

In defense of the current system, two kinds of argument can be put forward. In the first place, entry selection is quantitatively least important in the subsidized sector. Most students in this sector do not have to do an entry exam to get into their schools. This is at least consistent with the logic of subsidy, which encourages massive enrollment in establishments where each student entering, beyond the break-even point, represents a net contribution to the operating results of the school (see Appendix). It is therefore difficult to set very selective admission standards in a system whose biggest challenge has been to attract a sufficient number of students to make the school's operation profitable.

TABLE N° 8 CHOICE OF EDUCATIONAL ESTABLISHMENT: DEMAND AND SUPPLY

	Municipal	Private: subsidized	Private: Fee-paying
Would feel extremely angry or annoyed if unable to choose school for their child	54.8	62.7	93.3
Sat school admission test	17.2	36.4	81.7

Source: Survey of 726 households with students in Greater Santiago, December 1993 and January 1994. Gauri (1994).

²³ Report of the Financing Commission at the Seminar "Policies and Improvements in Municipal Health and Educational Services", September 1993, Municipal Grouping of the Northern Zone of Santiago, published in *Seminarios de Apoyo a la Gestión Municipal*, Discussion Documents.

In the second place, educational establishments facing excess demand *are forced to* carry out some kind of selection policy. The natural choice of the school would be to favor access for the best students. This is in the interests of the head and the teachers, as well as parents and guardians, *whatever the organization of the educational system may be*. Therefore, the criticism of discrimination according to “teachability” transcends the quasi-market framework applied in Chile. Furthermore, practically all establishments carry out internal selection by putting students into parallel classes within the same grade. So selection exists within schools, independently of the macro framework of the system.

In this sense the possibility of a *trade-off* between efficiency and equity seems inevitable in the workings of the educational system. It would be wrong to have a policy that maximized equity at the expense of minimizing efficiency, and it would be natural to try to find some intermediate alternative, involving a certain degree of inequality. In addition, the State can implement compensatory policies aimed at safeguarding equity in the design of the school subsidy system.

Voice, public choice, rural schools

One of the benefits expected from a devolution process comes from adjusting the supply of public services to the preferences of those demanding them. Thus, through public choice mechanisms the community should participate in decision-taking regarding the type and quality of public services to be provided. The most common modes of choice are elections in which community representatives are elected; these then proceed to decide on the provision and financing of local public goods and other services provided at the borough level. There have also been experiences of direct decision-making by the local community on these issues.

The education decentralization process implemented in Chile has worked in a different way, for the subsidy mechanism has centered resource allocation on the choice of educational establishment individual parents make. In other words, the ruling system has favored an option of market “exit”, rather than “voice” as expressed through public choice, in revealing educational preferences (Paul, 1991).

Apart from this, traditional channels of public choice were suppressed in the political environment in which the devolution process was developed. As has been pointed out already, the election of borough representati-

ves only became effective from the middle of 1992 onwards. Furthermore, municipal revenues are predetermined by the central authority which fixes the rates and bases for local taxes, as well as deciding on the allocation of intergovernmental transfers.

Public choice mechanisms should have greater importance in the future, when the new municipal democracy is consolidated and boroughs are given greater autonomy on matters relating to local revenue determination. In particular the direct election of mayors should facilitate communications between the community and the local authority. In this context the demand for local public goods ought to become more closely linked to the community's preferences.

The prevalence of individual choice mechanisms in the education decentralization process raises a question concerning what is happening in rural boroughs, where the low density of educational establishments represents a structural obstacle to the functioning of the individual choice framework. The problem is aggravated by certain characteristics of rural populations, where poverty levels and geographical distribution make it difficult for people to play an active role as clients of the system, whether by exit or voice.²⁴

Rural populations are the exception rather than the rule in Chile. In 1992, only 16.5 percent of the population was living in localities defined as rural,²⁵ with enrollments in schools located in rural areas accounting for 12.1 percent of total enrollments that year (Ministry of Education 1993). This was concentrated basically in primary schools belonging to the municipal sector (see Table N° 9). 77 percent of rural schools are multilevel, i.e. with a staff of three or fewer teachers teaching more than one level at a time, and these represent the sector with the biggest deficiencies in terms of inputs and outcomes.²⁶

Due both to its characteristics and its relative size, it is obvious that the rural education sector needs to be subject to different modes of decentralization than the urban sector. For example, rural schools located five kilometers or more from a population center receive funds in addition to the subsidy in inverse proportion to the enrollment.

²⁴ In addition curriculum devolution is particularly complex in the rural context, given that it needs to integrate contents relating to modernity together with those of traditional culture. In this respect see Ministry of Education, MECE Project (1991).

²⁵ INE, National Population Census 1992.

²⁶ Ministry of Education, MECE Project (1991).

TABLE N° 9 ENROLLMENT IN RURAL PRIMARY EDUCATION

Mode	percent
Municipal	84.6
Private: subsidized	12.2
Private: fee-paying	2.3
Not well specified	0.9
Total	100.0

Source: Mideplan, Casen Survey 1990.

In addition, the relative inoperability of systems of individual and collective choice in the rural context, makes it necessary to leave the functioning of the system to the structure of supply. In this respect, the usual difficulties of decentralization also arise in rural boroughs, which have low levels of resources and technical capacity. In this context it would be interesting to evaluate mechanisms such as management commitments, participation by NGOs,²⁷ etc.

2.4 Equity and the allocation of fiscal resources

The school subsidy pays a sum of money per student attending subsidized education establishments. The amount of the subsidy can vary according to factors relating to the cost of producing educational services: the type and level of teaching, rural location, etc. However, the subsidy does not discriminate according to the socioeconomic level of the pupils. Thus, as with other conditions, a high-income student attending a subsidized establishment will receive the same state subsidy as a student of low income.²⁸

In addition to this, the municipal contribution is a rising function of the capacity to pay among the inhabitants of the borough. According to the results obtained by Winkler (1993), the elasticity between borough resources and educational contributions is equal to one in Chile (Table N° 5). The expected result is a regressive total transfer to subsidized education.

²⁷ See Paul (1991).

²⁸ The distribution of global education spending favors the lower socioeconomic sectors because: (i) the number of children per family is higher; (ii) a fraction of higher-income families send their children to fee-paying establishments

To test this proposition, Larrañaga (1995) used information at the borough level, to calculate the net subsidy per student in municipalized education. The overall subsidy, in turn, is composed of the subsidy transferred from central government and municipal contributions.

Tables N° 10 and N°11 show the financial contributions per student, made by central government and the borough, to municipal education. These tables order the order boroughs in deciles according to a borough's own revenue (per inhabitant) and according to the level of poverty in the borough. Borough income comes from property tax collection, commercial and industrial patents, driving licenses and other minor sources of revenue. The poverty indicator is that used by FOSIS,²⁹ calculated by combining different indicators of unsatisfied basic needs. The main sources of information used for building these tables were the database maintained by the Under-Secretary for Regional Development, Siecom and the FOSIS poverty indicator mentioned above.

TABLE N° 10. CONTRIBUTION PER PUPIL TO MUNICIPAL EDUCATION ACCORDING TO BOROUGH REVENUE DECILES
(for boroughs of more 10,000 inhabitants)

Decile	Subsidy contribution per pupil	Municipal contribution per pupil	Total contribution per pupil	Index of total contribution	Borough population (thousands)
1	74.5	6.2	80.8	100.0	33.7
2	69.5	5.9	75.4	93.3	47.0
3	70.9	8.3	79.3	98.1	35.9
4	73.7	5.2	78.9	97.6	26.2
5	67.8	5.5	73.4	90.8	40.4
6	63.9	7.0	70.9	87.8	38.5
7	70.9	6.1	76.9	95.1	56.6
8	68.1	6.4	74.5	92.2	70.3
9	67.6	7.1	74.7	92.4	70.5
10	66.3	25.1	91.4	113.2	90.8

Note: All figures correspond to simple averages for the respective boroughs.

Source: Larrañaga (1995).

²⁹ *Fondo de Solidaridad e Inversión Social* (Social Investment and Solidarity Fund).

TABLE N° 11. CONTRIBUTION PER PUPIL TO MUNICIPAL EDUCATION ACCORDING TO BOROUGH POVERTY DECILES (FOSIS)
(for boroughs of more 10.000 inhabitants)

Decile	Subsidy contribution per pupil	Municipal contribution per pupil	Total contribution per pupil	Index of total contribution	Borough population (thousands)
1	72.4	5.3	77.2	100.0	17.4
2	71.7	9.9	81.6	105.7	15.8
3	68.5	5.2	73.7	95.4	26.9
4	66.5	6.8	73.3	94.9	32.5
5	72.1	7.5	78.6	101.8	25.6
6	67.9	4.9	72.8	94.3	27.8
7	65.5	5.5	71.0	91.9	52.5
8	70.1	9.1	79.2	102.5	47.7
9	65.9	9.5	75.4	97.7	141.3
10	75.1	18.6	93.7	121.3	115.5

Note: All figures correspond to a simple averages for the respective boroughs.

Source: Larrañaga (1995).

The subsidy per pupil (in municipalized establishments) that each borough receives is relatively homogeneous over municipalities ordered by per-capita borough revenue decile, with a slight tendency to favor the lower-income boroughs. This result was to be expected from the subsidy structure, which makes its payment according to a pre-established formula that allows a higher level in rural or more distant boroughs.

In addition, borough contributions to educational financing are relatively constant over deciles 1 to 9, representing about 10 percent of the central transfer. However, the borough contribution in the tenth decile shows a sharp increase (three to four times), compared with the other boroughs, representing slightly less than 40 percent of the central transfer.

The sum of central and local contributions to municipalized education according to borough revenue deciles is shown as an index in the penultimate column of Table N° 10. The public contribution favors richer boroughs, as a result of the transfer the municipalities themselves make. The financing received by the remaining municipalities follows a more or less uniform pattern, showing a certain bias in favor of the lower income boroughs.

Ranking the boroughs according to the FOSIS poverty indicator preserves some of the characteristics of the distribution according to borough revenue (Table N° 11). In particular, the public contribution is at a maximum in the tenth decile as result of the local contribution made by the

wealthier boroughs. However, the distribution for the other levels follows a much more random and fluctuating pattern than in the previous case, which suggests that the definition of poverty used by FOSIS does not bear a systematic relationship to the structure of the school subsidy.

By way of warning, it should be kept in mind that the tables referred to do not consider transfers associated with assistance policies (PAE, P-900, etc.), nor the MECE reinforcement programs, which ought to be more targeted on the poorer schools or boroughs. In this way, a comprehensive calculation of the global contribution made by transfers would produce distributions that are more favorable to the poor boroughs than suggested in the tables above.

In addition, one needs to take into account that, at least in the Metropolitan Region, there is an appreciable degree of redistribution from wealthy boroughs to poor boroughs. This occurs as students from poor boroughs attend educational establishments located in the wealthier boroughs, attracted precisely by the better quality of education that can be found there.

3. Final conclusions

The main question that any evaluation of the devolution process has to answer is whether devolution to the municipalities has fulfilled its promise of providing social services more efficiently in a productive and allocation sense.

The available indicators point to a somewhat negative answer to this question. Municipal devolution has not been accompanied by perceivable efficiency gains, although the lack of comparable information prevents a comprehensive assessment comparing before and after the decentralization process.

The results achieved by municipal schools relative to those obtained by private subsidized establishments provide a decisive basis for comparison, and indeed, municipalized schools perform worse on SIMCE tests — which measure achievement of pedagogical objectives— than their private subsidized counterparts. The gap in school performance is robust, even when pupils' socioeconomic characteristics have been corrected for. Furthermore, municipal schools achieve inferior results in spite of having a lower pupil-teacher ratio (23.0 as against 35.5 at the primary level) and paying a higher average salary (39 percent higher). The use of a larger amount of inputs to generate an inferior product is a clear indication of the inefficiency of the municipalized sector.

The pupil-teacher ratio has fallen systematically in the municipalized sector, from 26.2 in 1980 to 20.7 in 1993. Such figures are a reflection, on one the hand, of parental preference for private subsidized schools (which gained about half a million students during the period 1991 to 1993, to the detriment of municipal schools), and on the other hand, of municipalities' inappropriate staffing policy that has maintained or increased teaching staff, despite the loss of students and a consequent reduction in financing associated with the per-capita payment scheme. This is an additional indication of inefficiency in municipal education management.

In general, it can be argued that the lack of efficiency in municipalized education services arises from constraints on the workings of both the system of individual choice and the local public choice system.

The municipalities administer schools through departments or corporations that monopolize the economic and financial decisions in the sector. Thus, decentralization at the municipal level implies centralized management of the group of schools belonging to the municipality. Schools do not have autonomy to decide matters within their competence on pedagogical, administrative and financial issues, as well as questions pertaining to staff management, etc. The signals provided by the subsidy are absorbed at the municipal level and not necessarily perceived as incentives by successful schools, or as a signal to cut back on the hiring of inputs in establishments that have lost students.

Labor rigidities contribute to the lack of efficiency in the municipalized education sector. In the 1980s dismissal of teachers was prohibited so as to minimize the social and political costs of the crisis and subsequent adjustment process. In the 1990s the Teacher Statute was introduced which made it difficult not only to fire teachers but also to reassign them from one school to another within the same borough.

Individual choice in the education sector has also been restricted by a lack of information on school performance as measured by scores achieved on the SIMCE tests. In this regard, the capacity of parents to make rational decisions in the educational area has been called into question, with the argument that parents of low socioeconomic level would not have the capacity to decide on complex issues such as the quality of education services. This is inconsistent with the working of a subsidy system that depends on parental decisions in seeking the best educational alternatives.

As well as this, traditional public choice channels were suppressed in the political environment in which the municipal devolution process unfolded. In fact, borough representatives have only been elected since the middle of 1992. Moreover, borough revenues are predetermined by the central

authority which fixes the rates and bases of local taxes. Thus, the municipality has scant financial leeway for implementing policies of local choice in response to the needs and/or preferences of their respective communities.

Public choice mechanisms should assume greater importance in the future, when the new municipal democracy is consolidated and boroughs are given greater autonomy on matters relating to local income determination.

Inefficiencies in municipal education management are validated by a soft budget constraint. In this way, the losses suffered by municipal administration are converted into deficits financed out of municipal resources. The concept of “deficits” is then used by municipalities to exert pressure at central government level for greater financial contributions to the decentralized education sector.

It is important not to confuse the origin of municipal contributions with these “deficits”. In general, municipal contributions work in favor of decentralization, because they reflect the expression of local preferences for certain activities, while introducing economic discipline into local demands. The “deficits” concept, on the other hand, works in the opposite direction by attempting to shift fiscal responsibility from the local to the central level.

The distinction between municipal contribution and “deficit” becomes confused due to the absence of an “anchor” to decide the appropriate level of central financing. Thus, central government can be asked to finance a minimum floor to guarantee equity between localities, leaving any complement this minimum up to local criteria. The problem here is that labor costs can make the size of the minimum contribution indeterminate—in particular when the teachers’ labor market is subject to negotiations of a bilateral type between the government and the respective union.

Such has been the Chilean experience in recent years when teachers have achieved wage benefits by exerting illegal union pressure at a national level against the central government. The obtaining of wage concessions by this type of conduct breaks the labor relation between municipal workers and the mayor, reduces the scope of local administration and reinforces the logic of centralized claims.

In short, the lack of efficiency and results in municipal education services are due more to the shortcomings and constraints in the very mechanisms by which the process is implemented, than to problems inherent in the concept of decentralization. So, the course to follow in the future consists of removing the various obstacles which obstruct municipal decentralization rather than reverting to the centralized system.

A second important question in assessing the devolution process relates to the equity dimension: has equity been preserved in the municipalization of social services?

The financing system in municipalized education has managed to preserve equity as regards availability of resources per borough. The incidence, per student, of the central contribution or subsidy is relatively uniform between different boroughs, with a certain bias in favor of the boroughs of least fiscal capacity. This result follows from the use of a formula which guarantees consistency between what is planned and what is carried out in terms of resource distribution.

Contributions made by the municipalities themselves to finance their schools represent about 15 percent of resources granted at the central level. Borough contributions only break with the egalitarian trend of the central contribution in boroughs belonging to the highest fiscal capacity decile, without causing a general stratification in terms of resources available to municipal schools. In addition, the enrollment of students from poor boroughs in schools located in wealthier boroughs generates an appreciable degree of redistribution within the municipal system in big cities.

APPENDIX

The Chilean school education system³⁰

The Chilean school education system is divided into three levels: preschool, primary and secondary.³¹ Attendance at the preschool level corresponds to children between 2 and 5 years old. Primary education lasts 8 years and is the only obligatory level. Secondary education has a scientific-humanistic variant (4 years) and a technical-professional variant (5 years).

The educational system is decentralized, with participation from the public and private sector in its production and financing. The Ministry of Education fulfills a supervisory and coordinating role, as well as designing general policies in this area. Preschool teaching, as well as primary and secondary, are imparted in municipal establishments (publicly supplied and financed), private subsidized establishments (privately supplied, publicly financed) and private fee-paying establishments (privately supplied and financed). From 1994 onwards, a fraction of subsidized education will receive private contributions through a shared financing system.

In 1992 the total enrollment in the school system amounted to nearly three million students, with the vast majority attending establishments financed by the State (Table N° 1A). The composition of the enrollment was 57.7 percent in the municipal sector, 34.1 percent in the private subsidized sector and just 8.2 percent in private fee-paying establishments. The municipal sector is particularly important at the primary level, where it covers 60.5 percent of all students, whereas the subsidized private sector has a greater relative presence in secondary education, representing 39.2 percent of the enrollment.³²

Primary and secondary education has a massive coverage in the country. Primary education coverage—defined as the percentage of children between 6 and 13 years old attending school—is practically universal (97 percent).³³ This is true at all levels of family income (Table N° 2A). As

³⁰ This section is based on Larrañaga (1994b).

³¹ This analysis excludes the higher education sector.

³² Including corporations. These are secondary education establishments of a technical-professional nature, administered by private individuals and which receive public financing.

³³ The figures refer to net coverage; i.e. total registration at the primary level, divided by the sum of total population between 6 and 13 years of age, excluding the population attending pre-school or secondary levels, plus the population of other age-groups attending primary education. Analogous definitions are applied to coverage at other education levels.

well as this, secondary education covers about 80 percent of young people between the ages of 14 and 18 years. At this level, coverage is an inverse function of the level of family income, representing 71 percent of young people in the lowest quintile and 96 percent in the highest. Preschool education, on the other hand, is more selective, with overall coverage of 21 percent but strongly associated with the level of family incomes. Thus, the likelihood of a child from the highest quintile attending a preschool establishment is double that of a child from the lowest quintile (33.6 percent as against 17 percent).

TABLE N° 1A: SCHOOL EDUCATION ENROLLMENT
(in thousands) (1)

Mode	Pre-School	Primary	Secondary	Total
Municipal	127.5 (52.7)	1,230.2 (60.5)	346.9 (51.4)	1,721.4 (57.7)
Private: subsidized	80.9 (33.5)	656.0 (32.2)	264.7 (39.2)	1,016.5 (34.1)
Private: fee-paying	33.3 (13.8)	148.7 (7.3)	63.5 (9.4)	245.6 (8.2)
Total	241.8 (100.0)	2,034.8 (100.0)	675.1 (100.0)	2,983.4 (100.0)

Notes: (1) Percentage structure by level in brackets.

Source: Larrañaga (1994) based on "Compendium of Statistical Information 1992", Ministry of Education.

TABLE N° 2A: EDUCATIONAL COVERAGE BY INCOME LEVEL, 1990
(percentages)

Education	I	II	III	IV	V	Total
Pre-school	17.0	17.8	21.4	24.4	33.6	21.0
Primary	95.6	96.2	97.4	98.2	98.2	96.7
Secondary	71.4	79.6	77.8	86.1	96.2	80.2

Source: *Population, Education, Housing, Health, Employment and Poverty*. Casen 1990, MIDEPLAN (1992), Santiago de Chile.

These coverage figures have benefited from a big expansion in school enrollment over the last three decades. The most significant advances have occurred in secondary education where coverage has risen from 20 percent in 1960 to 80 percent at the present time, and in preschool education with an increase from 2 to 21 percent. As a consequence of the above, average schooling in the population currently stands at 9.25 years, which is a relatively high figure by regional standards.

Chilean education has, therefore, achieved quantitatively significant targets. The challenges for the future focus on the quality and content of the current education system. In particular, the municipalized sector shows the biggest deficiencies here, and significant changes are foreseen in its future operation and structure.

The operation of the per-capita subsidy

The per-capita subsidy as an instrument for transferring financial resources to education establishments plays a central role in the working of decentralized system. As well as financing education management itself, the subsidy introduces elements of choice and competition into an area traditionally governed by the classical public administration framework. The subsidy assigns parents the role of clients in the system, so that family decisions are now decisive in the allocation of resources in the education arena. The subsidy favors establishments that can attract and retain students, while punishing those that fail in this objective. Thus, the framework tries to use competition between establishments to induce efficient use of resources and effective educational outcomes.

The working of the system rests on the average attendance of students at each establishment. Resources received monthly by each school are determined on the basis of average attendance over the previous three months. The system is based on self-declaration by the establishment, subject to a periodic and random control by supervisors dependent on the Provincial Directorates of the Ministry of Education.

The subsidy is structured in a rate system which takes account of differences in the cost of providing the service according to the type and level of education, as well as the geographical location of the school. Table N° 3A shows the subsidy structure currently in force. The subsidy expressed in a unit of account known as the *Unidad de Subvención Escolar* (School Subsidy Unit), or *USE*, whose monetary value is adjusted periodically to compensate for increases in the price level.

TABLE N° 3A. THE SUBSIDY STRUCTURE

Type of Education	Value of subsidy (1)
Pre-school	0.909
General primary (Grades 1-6)	1.000
General primary (Grades 7-8)	1.107
Adult Primary	0.474
Special differential primary	3.000
Secondary: Scientific-humanistic	1.245
Secondary: Professional-technical	
Agriculture and maritime	1.970
Industrial	1.480
Commercial and technical	1.300
Adult Secondary	0.563

Note: (1) Expressed in USE (School Subsidy Unit).

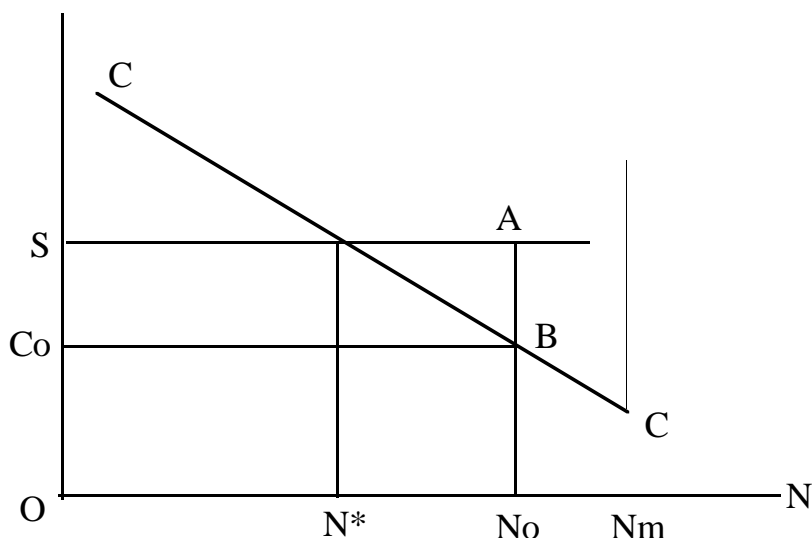
Source: Ministry of Education.

The subsidy mechanism pays a flat rate per student attending each municipal or private subsidized school. However, the educational cost per student is a decreasing function of the number of the students, due to the presence of economies of scale in educational provision. Clearly there are some costs that are fixed and others which rise more slowly than the number of students. Such is the case with the number of teachers, management personnel, infrastructure, public utility services, etc.

The relation between revenues and average costs is shown in Figure N°1. The horizontal axis represents the number of students (N), and the vertical axis measures average cost and revenue (per student). The gap between the subsidy (S) and average cost (C) per pupil gives the surplus(or loss) per student. Thus, if N_0 is the number of students, the per-capita surplus is represented by the distance $S-C_0$. Alternatively, the total surplus earned by the school is equal to the difference between total revenue (area $OSAN_0$) and total costs (OC_0BN_0), i.e. the rectangle C_0SAB .

Thus, there is a minimum number of students (N^*) which makes the operation of the school viable. The surplus on educational management rises with the number of students above a threshold N^* , up to a maximum number of students (N_m) compatible with the physical infrastructure of the establishment. Schools with enrollment below N^* run into losses since average costs would exceed the value of the subsidy.

FIGURE N° 1 AVERAGE REVENUES AND COSTS



The relation between enrollment and operating results has served as a basis for establishing a special subsidy in the case of rural schools whose enrollment is structurally low due to the density of the area. Thus, rural schools located more than five kilometers from the nearest population center receive an additional subsidy whose value rises inversely with the number of students. Graphically, this would be equivalent to the average revenue function having a negative slope (like the average cost curve).

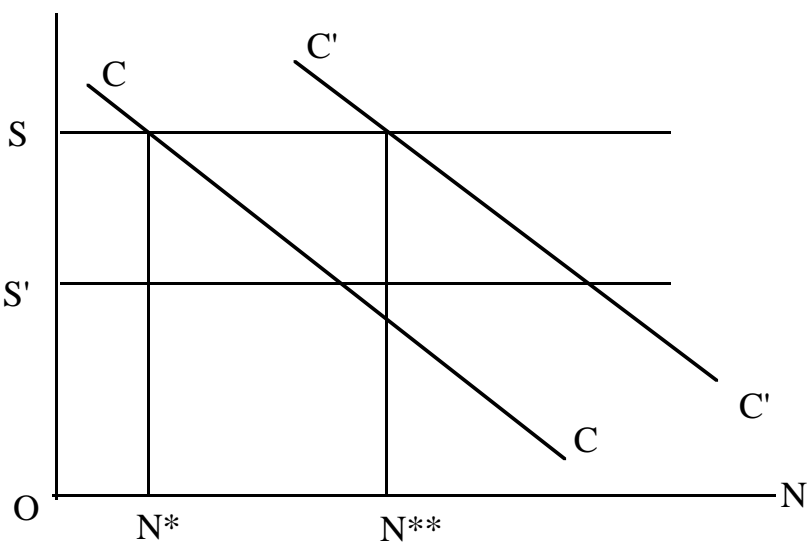
There are significant differences in the efficiency of educational management between schools. For example, there are municipal schools which operate with a low pupil-teacher ratios and consequently high average costs.³⁴ This situation is represented by the cost curve $C'C'$ in figure N° 2. Clearly the higher-cost school will have a high probability of incurring losses, thereby requiring a particularly high minimum enrollment (N^{**}) in order to avoid this situation.

On the other hand, the effects of a low level of subsidy are represented by the level S' , below the normal level S . The reduction in the subsidy level increases the probability of incurring losses, thereby again requiring high enrollment to achieve a break-even result in the

³⁴ Due to overstaffing of teachers not reflected in quality gains.

establishment's operations. Alternatively, schools can cut costs by paying lower wages and/or lowering the quality of other inputs so that the cost curve intersects S' at the level N^* .

FIGURE N° 2 AVERAGE REVENUES AND COSTS II



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