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careers and incentives

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Introduction

Purpose and Background

Since the early 1990s, Uruguay has implemented a number of transformations in the educational public sector. These reforms became part of a more decisive sectoral reform in 1994, when a full package of measures at the primary, secondary and technical reform was launched by CODICEN, the Central Directorate Council¹ for these educational branches.

Primary objectives of the educational reform have been the overall improvement of the teaching pool, a progressive reallocation of personnel within the system, and only in a subsidiary way, performance-oriented measures.

Unlike other reforms in the region, changes at the school level have not involved transformations of similar importance in the managerial structure of the system, thus allowing to partially isolate and examine the effects produced by the former.

Recently, public schools with special programs introduce contractual variations within otherwise homogenous arrangements. In so far special programs involve a distinct set of rights and duties, they structure different sets of incentives, namely tools for the achievement of an agreed and specific target. This study describes teaching contracts, the incentives they institutionalize, and their effects upon teaching performance.

Incentives can be monetary and non-monetary, individual and collective, attached to processes or to outcomes. Previous research suggests that “reforming teacher pay through merit pay and career ladders has not been successful” (Firestone, 1995). Moreover, in the U.S., “through three eras of implementation – the 1920s, the 1960s and the 1980s – individual merit pay plans for teachers have failed to improve schools or to motivate teachers to higher performance” (Oddey & C. Keller, 1997).

The literature documenting the ineffectiveness of merit and career-ladder pay is predominantly US-based (Murlis, 1992). The failure of individually based monetary incentives has renewed policy interest for collective, school-based incentives, whether monetary or non-monetary, extrinsic or intrinsic. These incentives have been implemented for some time now. However, “there is no research on the effects of school-wide incentives over a number of years and little research on the effects of existing programs on schools that fail to achieve their goals” (Firestone, 1995).

Incentives in Uruguayan public schools are both monetary and non-monetary, unlike private schools, allocated to schools, and not just to individuals. Therefore, we will examine the effects of schools that have introduced each of these four incentives with schools that have introduced none.

Ultimately, all Uruguayan public teachers participate in a single internal labor market. Wages are adjusted by seniority and the career ladder is based upon seniority. Allocation of teachers to schools also relies on a tournament and rank system, though heavily constraint by

¹ CO.DI.CEN is an autonomous agency (rather than a ministry) that has regulatory (though not financial) autonomy.

seniority. Recent reforms have sought to create incentive mechanisms that, for the first time, attempt to change the allocation effects of the rank and tournament system. Rationale for these special programs draws from an assessment and a critique of the seniority and rank and tournament system. The best teachers are entitled to choose first, and thus, tend to choose the best schools. The new programs offer monetary and non-monetary incentives in order to induce better teachers to choose schools with children from underprivileged backgrounds.

Note that the ongoing reform does not change the rank and tournament system as the allocation system. Instead, it establishes incentives to make poor schools more attractive. In effect, since 1992, a monetary incentive seeks to recruit good teachers in schools where children show high levels of unmet basic needs, low attendance, and high repetition in the first grade. Teachers working in these, Priority Requirement Schools (PRS), receive a 20% increase over basic wages. Additionally, Full Time Schools (FTS) created in 1989, establish contractual relations by whom teachers work more hours with the same children and families, in exchange for a second, basic wage. Since 1996 an extra fifth percent of the basic wage was allocated to those teachers who remained in the classroom rather than requesting their transfer to other public offices (ANEP, 1997).

Therefore, the set of special programs examined in here belongs to two different waves of reforms. In fact, the current nationwide reform “inherited” PRS and FTS and just recently managed to place these programs within a broader strategy for improving the quality of teaching received by underprivileged children.

Contrasting with these monetary incentives, School Improvement Projects (SIP) are an example of non-monetary reward and the closest case to a performance-based incentive program. Since 1994, three hundred and four schools have applied for the financing of innovative projects aimed at improving school performance, whether alternative pedagogic approaches, conflict resolution, or scientific experimentation (MECAEP, 1998).²

A second set of issues dealt in this study involves enrollment in teaching careers. For both, public and private sectors, the training of Uruguayan teachers is mostly public, following a standard curriculum (PRIS-OPP-BID, 1994). Although private institutes can train teachers under public supervision, practically all teachers in the country undergo a similar, public training in any of twenty two institutes spread across the country. In 1994, there was only one private, religious institute where seventy teachers were being trained versus almost three thousand in public institutes

The average age for joining a teaching career could suggest that teachers-to-be explore teaching after a short and unsuccessful university experience (PRIS-OPP-BID, 1994; ANEP, 1997). The profile of the population entering the career seems to be different in Montevideo from the rest of the country. However, there are no studies either characterizing or explaining these profiles.

² Since 1996, a training program encourages teachers working in schools located in the poorest urban neighborhoods (either covered by the PRS program or not). The program provides an incentive for teachers to undergo special training and implement projects targeted at improving the school's educational performance. Since this program has not been implemented long enough, this research does not assess its impact.

In 1992, teaching training was shortened to three years, with the expectation of attracting more students and increasing the supply of licensed teachers in the country. Quantitatively, results are positive; since 1995 the number of students entering training institutes has doubled (ANEP, 1999). Qualitatively, however, effects are still unknown both regarding the profile of students joining these institutes and their professional performance. Concerning teaching careers, the primary goal of this research is to examine and explain major factors behind joining a teaching career. Additionally, the investigation identifies filters leading to changes in the demographic and socioeconomic composition of the teaching body.

Regarding students, we therefore examine two issues. First, we want to address determinants for high school students to choose a teaching career. Secondly, we examine whether the current cohort of teachers-to-be shows any peculiarity in its motivational profile, as compared to teachers already in workforce.

Research Design, data sources and analysis

This study is structured around a set of simple hypothesis. First, we believe that specific characteristics of teachers' *training* have an impact on the profile of teaching candidates. Equally, or even more importantly, the perceived and objective features of the career influences who chooses a teaching career. Third, the teachers' performance and distribution among schools and between these and managerial positions will depend on the system of *competition and incentives* structured in career ladders.

In order to assess the effects of enrollment upon the pool of future teachers, we conducted a census of students of "magisterio" in Montevideo, the largest of the twenty-two training institutes in the country. We are particularly interested in the socioeconomic and attitudinal profile of students, and in determining how certain traits of training (i.e., length of studies) affect the quantity and quality of candidates.

Additionally we utilize secondary data and household surveys (1981-1998) to respectively analyze historical enrollment patterns as well as to compare teacher's profile with other groups of the population.

Assessment of the effects of special programs involves three primary indicators: school mobility, teaching profiles, and teaching performance. Teaching mobility relies on a diachronic analysis of time series for all urban teachers in the country for the period 1989-1997. For the purpose of this investigation, we set a data base including this archival data, the Annual Statistical Brief (*Resumen Estadístico Anual*), allowing the matching of concrete behavioral information regarding performance, particularly absenteeism and turnover.

Teaching profiles draw from survey data. Developed to the purpose of this research, the survey collects data on socioeconomic, attitudinal and institutional characteristics of teachers, as well as self-perception regarding performance.

We use that same survey and archival data to examine the effects of incentives upon performance. The essential technical issue for incentive plans is how to evaluate teachers' performance (Hanushek, 1991). What makes for a good teacher? Is there any indicator or set of

indicators that we can use to assess teaching quality? What are these indicators? Triangulating data, we attempt to approach these problems, using different data analysis techniques.

Our research draws from a pool of data sources which includes archival and survey data. The former comprises variables concerning the labor history of urban teachers in the country for the period 1989-1997. The latter involves two 1999 surveys designed by the IADB project coordinators (one to teachers and another one to teaching students), national household surveys for various years, and interviews to qualified informants.

Primary tools for data analysis are descriptive statistics and multivariate models. The former we primarily use to characterize teachers' profiles among schools while the latter included Kaplan-Meier estimators for the analysis of teachers' mobility among schools as well as logit regressions aimed at explaining teachers' performance.

Report Structure

We first characterize institutional arrangements governing labor contracts and career mobility for teachers, and examine whether special programs implemented in the country introduce changes in this institutional environment (Section I). We then describe the social standing of the teaching workforce, to examine the extent of attraction that the occupation poses to those that can become teachers. Additionally, we examine the historical evolution of enrollment in teaching, and current motivational profile of students as compared to teachers (Section II). Next, we focus on the effects of special programs from the standpoint of teachers' school turnover during the nine-year period for which we have collected archival data for the national teaching body as a whole (Section III). Section fourth examines the profile of teaching bodies, paying particular attention to distinct characteristics of teachers according to school types. Finally, we examine the impact of special programs upon teachers' performance (Section V).

I. Labor Arrangements for Public Teachers³

Formal labor arrangements described here provide the “rules of the game” upon which teachers make their career decisions and upon which special programs may or may not introduce variations.

Public teachers are civil servants with lifetime employment and career ladders. Moreover, since even private schools tend to consider public teaching as a set of specific skills acquired on the job, our case constitutes a virtual monopoly. Coupled with stable working arrangements, each national administration in office may set specific goals. This is the case starting in 1990 and even more so, in 1994, with the initiation of a full-blown educational reform.

In effect, within the public system, recent reforms have created at least three subsystems of contractual arrangements: ordinary schools, Priority Requirement Schools, and Full Time Schools. Educational improvement projects constitute a forth incentive system that is carried out by any of the former three. We will focus first upon across-the-board contractual arrangements and then specify the variations introduced by special programs.⁴

1. Rights and Duties

“Today’s teachers work in hierarchical systems of state, district, superintendent and principals’ authority that define teaching tasks and often prescribe highly specific zones of teacher autonomy and participation” (Louis & Smith, 1990:24). Though teachers may have work autonomy, they also perform under external control regarding employment arrangements, availability of resources, broad goals and narrow prescriptions for how they will apply their knowledge and skills (Riehl, 1991: 884.). Though describing the United States, these authors portray the situation of Uruguayan teachers as well.

Public teachers are hired twenty hours a week (five days a week, from Monday to Friday), most of which involve direct work with children. In 1997, teachers worked 194 days (from mid-March to mid-December), 182 with children and 12 on administrative tasks, before and after the school year. Teachers have holidays twice a year, lasting two and 8 weeks, respectively. In recent years, active school days have increased.

The teaching curriculum is nationally established (last time updated in 1986, upon re-democratization), providing guidelines for each grade, including goals, contents, suggested activities, and didactic support. Drawing from this program, teachers themselves devise annual plans (namely, goals, contents and activities) and are free to organize their syllabi.

³ The current description of contractual arrangements draws from interviews and relevant legislation in place for the period under analysis (1991-1997). The former were conducted to authorities and qualified informants whose names are included in appendix 3. The latter primarily revolved around the EFD, but also included key complementary resolutions (e.g., regarding absences).

⁴ For primary teachers, the most important regulation is the “Teaching Servants’ Act”⁴ (*Estatuto del Funcionario Docente*, thereafter EFD) approved in January of 1995 (EFD, art. 38). Additionally, a large number of circulars specify the implementation of this act. Private education is regulated on similar Constitutional and legal grounds to public education but have their specific normative regulation, instead of the Teaching Servant Act. (See Circular # 14). Updating of the Teaching Servant Act is constant and conducted both by CO.DI.CEN and by the Primary Educational Council.

2. Occupational Careers

As stated before, teachers' careers take place in an Internal Labor Markets (ILM), which are characterized by entry ports at the bottom of the hierarchy, promotion from within and stipulated within-the-firm job ladders.

Rosenbaum (1984) provides a thorough analysis of actual mobility within complex bureaucratic organizations, elaborating on tournaments as models for personnel allocation. DiPrete (1989) extends this research, providing a comprehensive analysis of hiring and promotion mechanisms within ILMs. Other authors provide insights regarding specific aspects of promotions in bureaucratic organizations, such as evaluation criteria for newcomers (Halaby, 1978) and the existence of job ladders (Baron, 1986).

The dynamic principle of the system we are describing is the filling of vacancies. There are three pillars for the matching of personnel and vacancies: *certification* requirements to enter the job ladder; *job ladders* establishing who can move to what positions; and competition mechanisms stipulating requirements and procedures for the selection of candidates through *tournaments & ranking*. In the following section, we provide a more thorough description of these aspects.

In the Uruguayan public system, all the hiring is done at the bottom and all the vacancies are filled by promotions (including senior positions that also come through the ranks). The job ladder establishes clear and well-defined promotion opportunities within the organization, leading to match workers and vacancies.

As in civil service, promotion is formally based on merit competition. Specific mechanism for access and mobility within and across job ladders involves tournament and ranking of competitors. This mechanism aims at avoiding privileges and protecting individuals' rights to choose where to work based upon merits. Ranking plays an important role to choose available positions as well as to wait in line for vacancies.

Teachers are tenured and untenured. Percentages of tenured teachers range from 15 to 70%, depending on the province. The lower the rates of untenured teachers working at a given school at any given point in time, the higher the rates of mobility among positions.

Among untenured teachers, there are temporary (i.e., shortly replacing on-leave tenured employee) and substitute teachers (i.e., taking over when a position lacks the tenured employee and for as long as there is a tenure call).

Exit from a position may be due to retirement, lateral or upward mobility and vacancy chains constitute the dynamic principle of personnel allocation.

Regardless of job ladders, all teachers are ranked according to seniority (grades one to seventh). After the 4th grade, teaching job ladders bifurcate in two: teaching and managerial (including principals and supervisors of different ranking); the former involves automatic promotion by seniority; the latter involves merit competition and increases with job difficulty, responsibility and requirements.

Ordinary schools and those with special programs belong to the same job track and career ladder. However, allocation to schools with special programs, concretely Priority Requirement Schools, hold specific (higher) requirements and work in these schools may be used as means to access to the managerial ladder.

Upward mobility is always incremental (i.e., contests move one tier at the time and winning does not guarantee more than one position at a time). Failure in tournaments does not prevent teachers for following rounds though decreases the chances of winning (i.e., they are demerits). The rate of upward mobility is a function of the rate of exit from higher grades, the rate of organizational growth, and the distribution of growth among grades in the hierarchy.

All the hiring and promotion is centrally conducted by either CO.DI.CEN or the Primary Council. The creation of new positions is also handled by CO.DI.CEN.

2.1 Certification and enrollment

Public schools require that teachers be licensed from any of the country's training institutes, which grant teachers with a degree of "primary school teacher." Unlike other countries where credentials are multiple and their regulations constitute a problem, in Uruguay credentials are only granted by these public institutes and are, therefore, standard. In addition, certification is standard for all primary teachers (except of teachers for children with special needs).

Strictly speaking, the public educational system does not recruit personnel. Instead, upon application, all certified teachers are eligible. Moreover, due to the current demand for personnel, all applicants are almost certainly hired (see below). Finally, hiring is universal and informal networking seems unnecessary to entering the system.

2.2 Tracks and job ladders

In ILM, job ladders should play a central role creating incentives for performance: career trajectories, represented by job promotion opportunities to higher paying jobs, motivate workers who are insulated from competitors from outside the organization.

All teachers join a job ladder that ranks personnel from the first to the seventh grades based upon seniority. Schools do belong, however, to different categories, which set up different tracks: ordinary and targeted at children with special needs.⁵ While ordinary and practice, school tracks are entered upon tournament performance, schools for children with special needs require of special training altogether.⁶

All special programs we examine in this research are ordinary schools. However, calls for Full Time teachers have included some specific requirements, particularly, seniority and experience in this kind of school.

⁵ In 1999 ordinary schools were divided into different tracks (i.e. priority requirement, full time and ordinary schools).

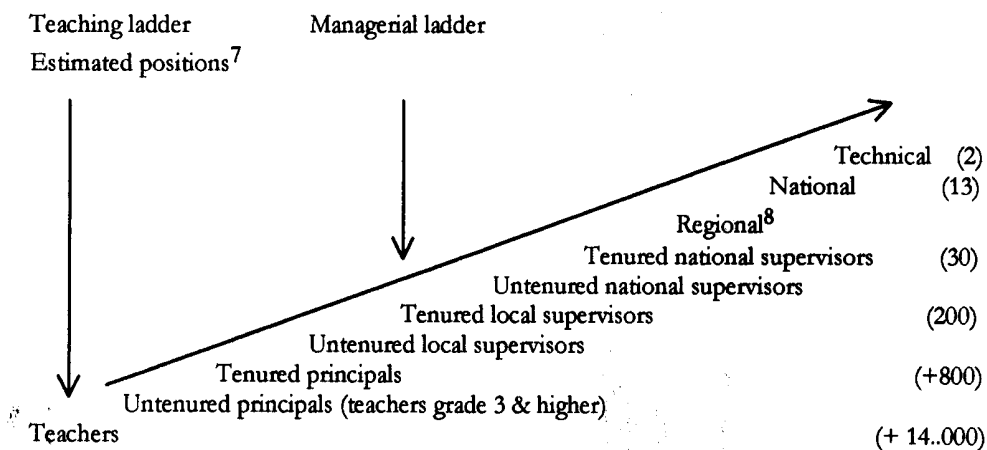
⁶ In fact, practice schools comprise a different track altogether. However, until 1998 tournaments did not take place and teachers would enter upon tournaments for ordinary schools. Thus, here we consider them together.

After the fourth grade in their career, teachers may enter a managerial job ladder. A primary weakness of the teaching job ladder is that it pushes career-oriented teachers outside the classroom. This is not particular to the Uruguayan system but in fact occurs in most educational systems in the region, where promotions usually involve leaving the classroom (Tenti Fanfani, 1998).

Graph 2 draws the job ladder for teachers. The relation between teaching and managerial positions is ambiguous. On the one hand, there is continuity from the former to the latter. On the other hand, tournaments for managerial tasks require of specific skills. We can talk of a single job ladder that bifurcates upon the third grade. In other words, starting with the fourth grade, teachers may decide to engage in managerial tasks or to remain in the classroom.

Teaching job ladders are province-bound and teachers moving across provinces require transfers. Managerial positions, however, are national (i.e., there is only one tournament and ranking for the country as a whole). Principals, the connecting position between teaching and managerial ladders, used to be province-bound until 1996 and are currently national.

Graph 1. Public Teachers: Teaching and Managerial Ladders.



Job ladders typically involve a temporary movement from tenure to untenured positions of a higher rank and only later a competition for its tenure. The final destination within the job ladder is up to individual decisions. The only requirement is to remain in any tenured position a minimum amount of years (two for teachers and three for principals and supervisors). Additionally, for those who are interested in upward mobility, decisions to participate in competitions are highly determined by the call for tournaments, which have been irregular.⁹

Turnover rates in one rank are therefore influenced by whether tournaments for positions of

⁷ Rough estimations aimed at giving a sense of the distribution of positions within the job ladder. Estimations do not distinguish between tenured and untenured positions. Figure for national supervisors include regional supervisors, as well, since both share same grade (10th of the grading scale).

⁸ Formally eliminated in 1997.

⁹ Annual just for teachers. Calls for principals took place in 1986, 1994, and 1998. Calls for local supervisors were in 1986, 1989, 1992 and 1998. Finally, calls for other supervising positions were made in 1992 (province's) and 1998 (practice schools).

a higher rank are available or not.

2.3 Performance Evaluation and Promotion System

Formally, both principals and supervisors assess teachers' performance, the former primarily concerning institutional matters and the latter concerning classroom activities and technical performance. Furthermore, the former advises teachers in devising annual plans and giving them coherence at the school level.

In practice, principals spend most of their time coping with administrative affairs. Each teacher plans her work by herself. In most Latin American, public systems suffer of a number of problems. On the one hand, their responsibility and authority is severally constrained, their primary duty being the administrative enforcement of basic employment rules (e.g., absences). On the other hand, principals have very few means to reward individual performance, and receive little or none specialized training on school management that would equip them to carry out these responsibilities (Burki & Perry, 1998).

Performance evaluation that counts is that conducted by supervisors'. Principals (and often support personnel like secretaries) have discretionary capacities over few but important administrative affairs, primarily related to the actual registration of absences.¹⁰

Local supervisors are in charge of assessing performance for between 50 to 90 teachers. The input for the evaluation is half-an-hour visits to the classroom. Evaluation relies upon their subjective judgement. This is, in fact, the most standard form of teaching evaluation in public systems worldwide (1991). Teaching scores tend to be inertial between one year and the previous one. If unsatisfied, teachers may challenge scores. There are no statistical records for the frequency of appeals but they seem to be rare. When they occur, complains are taken care of as "internal trials" led by CO.DI.CEN and solved before getting to court.

While some organizational rules bring principals' and teachers' interests together (for example, when evaluated by supervisors), others may bring principals and supervisors together (for example, to evaluate teachers).

In both cases, resources handled by principals in order to assure compliance are few, indirect, or merely, formal. From teachers' standpoint, best lateral and hierarchical mobility depends on following the guidelines of principals and supervisors' (and, whenever there is a conflict, the latter rather than the former).

Principals hold some discretion over registering absences, largely depending on informal relations among principals and teachers. We have no evidence regarding how frequently and under what circumstances principals use this capacity. Still, there are an unknown number of unregistered absences, indicating that principals may sometimes choose not to punish absenteeism. Beyond absences, there are a number of reasons why principals may sanction

¹⁰ For instance, teachers have five days off for paperwork and other non-health related, unexpected situations which cannot be Mondays or Fridays. However, occasionally, teachers may miss class on those days and have principals register them, say, on Wednesday, or just not register them at all. Other than that, principals cannot decide to cut trees down, have outsiders take pictures inside schools, or teachers take students outdoors, without having permission from local supervisors.

teachers.¹¹ To the least, sanctions have an impact upon the annual teaching evaluation. Very frequently, sanctions have a more lasting effect, namely preventing teachers from applying to higher positions. As far as principals concern, however, they rarely initiate investigations and the actual application of sanctions by the administration very much depends on personal characteristics and takes on punitive measures by local and province supervisors.¹²

Regarding occupational mobility, teachers have one of two options: to remain teachers or to move into the managerial ladder. The former involves only one tournament for entering the system as well as annual screenings. The later entails as many tournaments as positions in the job ladder are attained. Those who remain teachers have three options: grade mobility every four years, lateral mobility and intra-school mobility. If they wish to advance into managerial tasks they are required to participate in tournaments specifically designed for that purpose.

Incoming personnel entering at the bottom of the job ladder constitute a specific case of the more general tournament and ranking mechanism that matches people with jobs. Therefore, we will refer to it when we describe tournaments. In all these cases, teachers' position in the ranking is not determined by absolute productivity levels, but by their rank order in relation to other job candidates according to characteristics deemed relevant by CODICEN.¹³

Tournaments for untenured positions involve calls whereby teachers are ranked according to merits. Tournaments for tenured positions involve special competitions whereby teachers are ranked either by merits or by a combination of merits and skills. Finally, a third kind of tournament involves applications for lateral mobility whereby teachers are ranked by grades and a set of established criteria.

When applicants are tied regarding specific requirements, they are ranked by grade, qualified seniority, teaching aptitude, seniority in the current grade, and seniority as a teacher, in that order. The allocation and re-allocation of teachers is province-bound. Therefore, similar procedures are replicated in each of the supervising offices of the country.¹⁴

3.1.1 Qualified seniority

Qualified seniority involves the evaluation of seniority (20 points), teaching aptitude (100 points), and computed annual teaching activity (20 points), for 140 points (*EFD*, art. 42). In this additive index, teaching aptitude is expected to measure qualitative aspects of performance (i.e., how good a teacher somebody is). Computed activity, in turn, is expected

¹¹ Sanctions may be due to different reasons: from recurrent absences or late arrivals that may merely deserve a verbal call, to embezzlement of school resources leading to terminate the contract. These two examples are among the most frequent minor and serious sanctions, respectively. From a verbal call to a dismissal, there is a range of available sanctions and investigation procedures. They go from oral and written observations to unpaid, forced, temporary leave during investigation proceedings, or definitive separation from position once guilt has been proved. Mild sanctions can be conducted by principals (e.g., verbal calls). However, most require to be approved by local supervisors (e.g., verbal call with written record on personal file) and still other, serious sanctions involve province supervisors and national authorities (e.g., suspected embezzlement).

¹² For instance, a Northern province, Salto, has an average of two annual investigations of principals, one of two found guilty and fired. Disciplinary lay-offs are unknown.

¹³ Employers are the national educational authorities because promotions, and generally, all filling of vacancies is centrally conducted. Except for the administrative notification of vacancies to local supervisors, principals do not have a say in this process.

¹⁴ Until 1995, supervising offices or "jurisdicciones inspectivas departamentales" were located in each of the 19 provinces of the country. In 1996 one the provinces of Canelones was divided into two offices, each with separate calls for applicants.

to measure a quantitative aspect of performance (i.e., days person actually delivered class). Finally, seniority tracks the time served in the system.

This system of ranking constitutes a generic and general standard that affects all types of mobility. Yet, its importance is quite different depending on which form of mobility we are considering. Qualified seniority is not important for grade promotion itself. Grade promotion operates mainly through sheer seniority (i.e. years on the job). However, as we shall see this index plays a larger role for lateral and achievement mobility.

“Qualifying boards” comprised of two school supervisors and the province supervisors are in charge of annually scoring teachers. Teachers can appeal, but objections usually question the results of one or both annual visits rather than final scores.

Estimation of the index involves, first, measuring *seniority* as one point a year until reaching twenty (maximum score in the index).

Secondly, *teaching aptitude* (TA) involves a number of aspects:

- TA formally ranges from “objectionable” to “excellent,” going through “warned”, “acceptable”, “good” and “very good”. Real range of variation, however, is from “good” to “excellent” (75 to 100 points, respectively).

Formally, TA involves a combination of performance evaluation conducted by principals (primarily regarding institutional performance) and supervisors (primarily regarding in-classroom performance).¹⁵ Additionally, includes objective merits or demerits like training and disciplinary calls. In practice, TA draws from supervisors’ biannual visits to classrooms.¹⁶ Upon each visit, teachers receive reports, having therefore the opportunity to appeal for reconsideration.

Formally, scores should not reflect seniority. In practice, evaluation scores for newcomers are consistent with research showing that discretionary criteria have a greater bearing on newcomers than on veterans. Placing greater control of future status on the hands of superior officials helps organizations buttress organizational authority where loyalty born out of long service is absent (Halaby, 1979:481).

Formally, annual scores should be independent from previous ones. In practice, scores tend to be stable and inertial over time. Interviewees agree that since 1985 evaluation criteria has shown more flexibility than ever before, partly due to attempts to change the police-like role of supervisors during military rule (1973-1984).

Informal relations between supervisors and teachers are crucial for teaching aptitude scores. First, range of variance is much less than formally established. Secondly, it is institutionalized that scores are either maintained or increased, yet hardly ever lowered. Although scores are annual and expected

¹⁵ Supervisors are expected to assess input-oriented items such as overall technical capacity & organization of particular contents for the year; adequacy of learning process (including to students’ social background); work environment, cooperation, initiative, training; and output-oriented items such as learning, respect and promotion of self-determination among students. Principals are expected to assess aptitude & preparation of classroom work, support to institutional operation and interaction with the environment.

¹⁶ The first visit produces guidelines for teaching improvement and the second the actual evaluation. Annual scores reflect both of these visits, eventually picking up insights from principals’ report. Supervisors usually see principals as under pressure by their fellow teachers and thus more likely to avoid trouble than to exert strict control and supervision, whether administrative or technical. There has recently been a move towards giving more attention to principals’ assessment of teaching performance, at least when supervisors’ assessment is not conclusive (e.g., teachers rank unevenly among dimensions). So far, however, principals are still marginal.

to evaluate each specific year, teachers perceive them as a single score. Third, when scores are indeed increased or exceptionally dropped, they tend to remain the same for several years.

Computed activity (CA) is calculated by dividing total number of classes taught over the number of classes that is formally expected for each particular year.

Formally, unauthorized absences always have a negative effect upon CA while authorized may or may not, depending on their cause (see table 2). Yet, records of all absences can be considered later (e.g., concerning achievement mobility). Additionally, all absences but maternity leaves may prevent teachers from participating in tournaments and promotion, because more than five annual absences a year may constitute a demerit in the call.

As shown below, in addition to having an effect upon tournament and ranking, computed activity has a direct effect upon wages and social benefits, including retirement privileges.

Table 1. Type of Absences & Effects upon Computed Activity.

None ^{1/}	Partial /	Total ^{2/}	Rationale
Maternity & nursing Mourning Serious illness	Sickness Wedding & parenthood Blood donation	Five days permit Unpaid leaves Others	Private
Training Fellowships & tests	---	---	Professional
Special services Committees	Special motives	---	Institutional

Source: CEP (^{1/}Art. 50, EFD, ^{2/} Art. 70 & 73, EFD, ^{3/} Art. 71 & 72, EFD).

Grade mobility

All teachers enter the ranking system in the first grade and make their way up the scale. Every four years teachers are promoted one grade until reaching the seventh. After reaching a certain grade (i.e., seniority), teachers are eligible to apply to other positions within the system. See below:

The only requirement for seniority mobility is to have annual evaluations involving qualitative and quantitative performance. Unless teaching aptitudes reach half or less of total score (which is extremely rare), upgrading is automatic. That is, in practice, seniority alone determines grade mobility, while qualified seniority operates only as an extreme case or veto mechanism for promotions, rarely, if ever, used (EFD, art. 39).

Lateral mobility

Transfers are neither seniority nor achievement mobility but simply involve switching positions among the same kind of schools (i.e., ordinary, practice and full time schools). Most frequently, teachers pursue the transfer because the school of destination is more conveniently located or has better transportation. Transfers can be within or among provinces. In both cases, what matters is that origin and destination schools have to be of the same kind (i.e., compensations are constant).

Though rare, permuting is another available mechanism that involves exchanging positions between two teachers with similar positions and grades who are interested in the other's school (Circular # 274.). The difference between permutes and transfers, is that the former requires two teachers with same grade to switch while transfer just requires a vacancy in the destination school.

Intra-school mobility

This mobility depends on decisions made within the school. This is the case of secretaries. Though not all schools have them, when they do, secretaries are chosen by principals from the school's teaching body. Still, temporary principals frequently keep former secretaries in order to assure continuity in the school's administration, or to back her work up as a newcomer to the school.

Tournament and achievement mobility

Teachers participate of two kind of tournaments, depending on whether competing for tenure or untenured positions: contests and applications, respectively.

Contests are mandatory for entering the system and for achievement mobility, and take place simultaneously in all provinces. General regulations are drawn from the General Guidelines for Tournaments (*Reglamento General de Concursos* or RGC) and specific guidelines are elaborated for each contest. These guidelines establish eligibility to participate and characteristics of the tournament. Competition may involve merit evaluation, skills', or both.¹⁷ The outcome of the tournament is the ranking of participants to choose among available positions.¹⁸

Committees are made of five members: four designated by the authorities and one elected by applicants. The latter is expected to defend the right of the applicant and appeal (this fifth member was recently eliminated). Though they may not be, committee members are generally teachers and supervisors of a ranking higher than those being evaluated.

Applications for temporary, untenured positions are targeted at non-ordinary schools such as Training and Full Time Schools, until specific tournaments were devised starting in 1998. Before these tournaments were devised, merit-based applications were the allocation mechanism at work. Priority Requirement Schools, which we describe below in more detail, for the purpose of personnel allocation, are considered as ordinary schools. In other words, teachers who choose these schools participate of the general tournament and rank. In addition, applications are an important allocation mechanism for principals and supervisors in between calls for contests specifically devised to this purpose.

Ranking criteria are formally three: training; previous qualification in the same "track" or type of school (i.e., evaluation by respective qualifying board); and average teaching aptitude

¹⁷ The Council of Primary Education decides the format of the contest. Typically, however, contests asses skills for initial stages of the career (more precisely, entering teachers); merit and skills for intermediate stages (teachers applying for principals & school and province supervisors); and merit for higher positions (regional supervisors and above). Skills involve theoretical and practical exams.

¹⁸ Entering teachers in ordinary schools need to score 40 out of 60 points in order to gain the right of choosing a effective position. All others need to reach 2/3 of total scores

for number of years established in the call. In practice, all three mechanisms reinforce favoring the most senior candidates and act as gatekeepers (e.g., training usually involves courses only irregularly available, and, altogether, the three requirements score higher for those who are most senior in the track).

When tied, applicants are ranked according to their grade; average of qualified seniority scores for a given number of years; teaching aptitude; seniority in his or her grade; and seniority as teachers.

4. Wages and Social Benefits

Among teachers, *wages* are established according to seniority. Seniority is the only mechanism for teachers to increase their salaries without leaving the classroom. *Special social compensations* are established according to school type. *Social benefits* target all teachers. Except when working on temporary basis, all technical personnel, whether teachers, principals or supervisors, are paid year-round and including Winter and Summer breaks.

All teaching personnel, whether in the teaching or managerial ladders, are ranked in a single, seniority-based teaching grading scale, and paid accordingly. For teachers, grades reflect seniority. Special compensation benefits add to grade-dependent wages. Until 1996, basic wages for personnel in the managerial ladder, whether principals or supervisors, also had their wages established upon seniority. Added to basic wages, compensations reflected job characteristics. Compensations for principals also reflected school type and compensations for supervisors their hierarchical location at the local, province or national levels.¹⁹

For personnel in the managerial ladder, a major departure from seniority-based pay was introduced in 1996. Since then, grades are allocated according to job characteristics and hierarchical position rather than seniority.²⁰ Thus, in theory, a principal who remains in his or her position for more than four years will still have the same grade. Each of these grades merged what before were basic and special compensation benefits, which nevertheless remain as such for teachers.

Since 1996, all personnel receive a thirteenth salary as well. This is a special benefit that rewards teachers with none or relatively few absences during each half of the school year (those missing none days of work receive 15% over the teaching entry wage, while those missing five receive half of that amount).²¹ In 1996, rewards were 15% over the Basic Teaching Unit (see below). Since 1997 the criteria was made more flexible and attendance brackets were established.²² Additionally, as other public servants do, teachers receive a set

¹⁹ Until 1996, special compensations benefits were cumbersome because they mixed teachers and principals, were numerous and reflected various criteria. Since 1996, as a result of a reorganization of the scale system, the ranking and related wages and special compensations benefits have been considerably simplified.

²⁰ Given requirements to apply for a managerial position, the variance of seniority among principals and supervisors is not one to seven but four to seven.

²¹ All personnel contribute 15% of their salaries (over wages but not social benefits) and a wage tax depending on income brackets (1, 3 and 6% of their income for 1-3, 3-6 and more than 6 NMW, respectively). Circular # 14, 1997.

²² Conflicting information indicated that the actual amount of this money received for this special compensation benefit varies each year depending on the amount of people who receives the reward.

of social benefits involving premiums paid to personnel under certain circumstances (e.g., wedding, and family allowances).²³

Teachers

Wages increase by grade, thus every four years (table 2). Entry level teachers earn the minimum, basic salary. The first grade constitutes the entry teaching wage or Basic Teaching Unit (BTU) and it is used to estimate several special compensation benefits. The wage differential among grades is 7% and the number of years needed to reach the maximum wage, namely the 7th grade, is 25 years. Then teachers receive a 20% compensation over the BTU, and another 5% upon twenty-five and thirty-five years, respectively.²⁴

Current wage compression between entry and maximum grades is 50%. Meanwhile, a teacher in her mid-career earns about 1,20 times the entry salary. Considering the entry salary of a principal, monetary incentives are likely to encourage teachers towards managerial positions. In order to retain teachers in the classroom, since 1996, teachers receive a compensation benefit of 5% over their wages (i.e., not over the BTU, but their actual wages). In 1997, this percentage was increased to 7.5%. Notice that data concerning wages corresponds to 1997, last year examined in here regarding the special programs. In 1997, differences in hourly wages between the first and the seventh grade were US\$ 1.75.

Table 2. Teachers: Wages *per Month*, by Grade.
(As of January, 1997)

Grade	Monthly US\$	Hourly US\$
1	275.5	3.44
2	294.8	3.69
3	315.5	3.94
4	337.6	4.22
5	361.2	4.52
6	387.2	4.94
7	415.1	5.19

Source: CO.DI.CEN, 1996; Hacienda, CEP, 1997.

As we shall see below when we examine special programs, specific compensations for teachers depend on the type of school they work.

Principals

In joining the managerial ladder, teachers move from twenty to either thirty or forty-hours a week contracts. Actual wage increase from a teaching to a principal position depends on several factors.

²³ Benefits involve: premiums for wedding and children allowances (once in a life time), family allowances, *hogar constituido*, and health care (all permanent benefits). Premiums are based on the National Minimum Wage (NMW), US\$ 90.6 as for January of 1997, and updated accordingly. Allowances are either estimated according to wages or the NMW. In 1997 family allowances ranged from US\$ 14.5 to US\$ 7.2 and *hogar constituido* from US\$ 21.7 to US\$ 36.2. Finally, health care fees targets employees pay 15 to 20% of health fees for personnel under four NMW who does not have the benefit otherwise.

²⁴ In 1999 wage increases prioritized lower grades, thus distorting the initial scale among grades. These changes, however, are beyond the scope of this research.

Until 1996 the wages for principals comprised basic and special compensation benefits. Wages were estimated as two Basic Teaching Units. Special compensation benefits were estimated according to school type, school size and working schedule. Principals with the larger student body earn more, as do principals in Full Time and Practice schools (table 3).

Since 1996, the ranking of principals' earnings has not changed. However, principals are now no longer ranked by seniority but just by the position, they fill. The first grade for principals is established according to the fourth grade for teachers and ranges among grades depend on the kind of school.

While the first step into the managerial ladder does not involve significant wage changes (from teachers grade 4 in double schedule to vice-principals), it does notoriously improve working arrangements (thirty or forty hours in the same school and without constant teaching demands). Furthermore, the next step upwards does include a major wage improvement in wages (An improvement of thirty percent minimum for similar hourly load and quite larger if the school is larger). Finally as we shall see below, this move into the managerial ladder allows teachers to then move one step further as supervisors.

Table 3. Principals: Wages *per* Month by Grade.
(As of January, 1997)

Grade	Position	US\$
1	Rural ^{2/}	675.1
2	Viceprincipals ^{3/}	552.0-735.9
3	Rural clusters	776.4
4	Ordinary (small)	582.4/776.4
	Ordinary (medium)	614.2-819.1
5	Full time (small)	819.1
	Ordinary (large)	648.1-864.1
	Full time (medium)	864.1
6	Practice ^{3/}	
	Full time (large)	911.6-683.7
	Practice ^{4/}	911.6

Source: CO.DI.CEN, 1996; Hacienda, CEP, 1997.

^{1/} 30 and 40 hours, respectively. ^{2/} For ordinary schools, large = 700 & more; medium = 401-700; small = 400 and less students. For Full Time Schools, large = 400 & more; medium = 301-400, and small = 300 and less students. ^{2/} With at least one other teacher. ^{3/} Serving as practice schools if the number of students require them to. ^{4/} Practice schools are formally considered as such.

Supervisors

Teachers cannot access to supervising positions without becoming principals first. Once they enter this track, supervisors are ranked among six grades and wage increases among grades are 7%. In 1996, the lowest supervisor earns 4.82 times the teaching entry salary. Sixth grade supervisors earn the maximum possible wage within the managerial job ladder (table 4).

The incentives to apply for principals, already takes teachers out of classrooms. The wage scale for supervisors indicates a large premium for leaving not just the classroom, but the school as a whole. As we have argued, the system has ingrained incentives for the best and most risk prone individuals to leave the teaching positions.

Table 4. Supervisors: Wages *per* by Grade.
(As of January, 1997)

Grade	Position	US\$
1	Local, ordinary schools	995.5
2	Local, practice schools	1065.0
3	Province	1139.4
4	Regional ^{5/}	1219.4
5	Sub- national supervisor ^{5/}	1304.9
6	National supervisor	1396.0

Source: CO.DI.CEN, 1996; Hacienda, CEP, 1997.

^{5/} Positions formally eliminated recently.

5. Special programs and Their Incentive Schemes

Special programs have introduced contractual variation among public schools described in the previous sections. Regarding rights and duties, performance evaluation, careers and wages, we provide the following synthetic table.

Table 5. Differences between Special Programs and across -the-Board Labor Arrangements

	Rights & Duties	Performance Evaluation	Careers	Wages	US\$ (1997)
PRS	None	None	None	20% over entry wage	55.1
FTS	Double schedule	None	Since 1998 specialization in the track	Additional entry wage	275.6

Source: CEP, CO.DI.CEN, various documents.

A third program, the Educational Improvement Program was indeed aimed, though not exclusively, at improving teachers' performance, primarily by strengthening collective school practices among teachers. This program does not involve specific formal arrangements and was excluded from the study.

Priority Requirement and Full Time Schools were first implemented as compensatory mechanisms for teachers willing to work in the poorest and most underachieving schools (PRS), or willing to remain in the same school for a longer working schedule (i.e., FTS). For the most part, these rewards did not expect performance changes associated to them. They were, strictly speaking, programs aimed at changing allocation of human resources.

Table 6. Schools and Teachers under Special Contracts, 1997
As absolute numbers & percentage of total teachers and schools.

Programs	Coverage	
	Schools	Teachers ^{1/}
PRS	61 (7.2%)	1.868 (18.3%)
FTS	57 (6.7%)	429 (4.2%)
Total urban schools ^{2/}	850 (100%)	10.209 (100%)

Source: Based on data provided by the DEE, CEP.

^{1/} Teaching positions rather individual teachers.

The coverage of the programs under examination vary both regarding the number of urban schools and the percentage of the national teaching body they represent (table 7).

Until 1999, schools with these special programs did not have specific tournaments designed for teachers to enter them. In the case of Full Time Schools, however, vacancies were filled

following stricter requirements regarding primarily the seniority of the applicant.

Programs depart from one another regarding *rewards* they formally offer to teachers. Altogether, combine extrinsic and intrinsic rewards, instrumental and inherent to the task, respectively (Knoke & C. Wright-Isak, 1982). PRS and FTS primarily rely on extrinsic rewards, namely monetary bonuses. EIP relies upon intrinsic both intrinsic and extrinsic rewards, namely training likely to promote professional development, but also career advancement by autonomy and creativity.

The table below shows wage differentials between ordinary schools and schools with special programs (including rural schools for the sake of comparison). Notice that Full Time Schools are forty-hour contracts while Priority Requirement and schools without special contracts involve only twenty.

Table 7. Teachers' Wages according to School Type, 1997
(As US\$, March 1997).

Career stage	None	PRS	FTS	Rural
Initial (Grade 1)	275.5	330.6	551.1	358.16-440.8
Middle (Grade 4)	337.6	392.5	613.2	420.3-502.9
Final (Grade 7)	415.1	470.2	690.7	497.8-580.4

Source: Based on data provided by the *DEE, CEP*.

In Priority Requirement Schools, the monetary incentive is in exchange for the same hours of work, but with children whose learning difficulties are higher than in non-PRS schools. These schools may be attractive options for teachers who are working in ordinary schools, regardless of whether they work in one or two schools. Young teachers are likely to work in schools with negative sociocultural background anyway, thus increasing the appeal of the PRS monetary bonus of 20%.

Full Time Schools may be attractive options for teachers who are willing to work forty hours, seeks earning more than the standard twenty-hours wage, but does not want to work in two different schools (whether due to the largest workload or to commuting). The complementary (entry salary) wage is similar to the one that would be earn in a second school, if the teacher is in the initial stages of her career. However, one FTS involves less work than two ordinary schools due to support teachers, less hours of direct teaching and less commuting time. The incentive lowers for older teachers. The more senior the teacher, the larger the gap (almost one third for final grade) between the wage she would if working at two ordinary schools (where both wages correspond to her current grade) and the compensation for an FTS. This should, ex-ante, promote a higher recruitment among junior teachers

Additionally, the impact of the incentive will be heavily influenced by seniority and the opportunity costs associated with it. Seniority determines wages and chances to have more than one teaching position if not joining a special program. For instance, if not joining a FTS school, a senior teacher may choose to work in two schools.

6. Attitudes and Implicit Organizational Contracts

Having described the specifics of formal arrangements for schools according to whether they have special programs, we address the effects of these programs upon different attitudes that refer to a number of factors. First, *informal contracts* examines teachers' implicit expectations concerning what their principals may expect from them as well as what they actually expect from their principals. The index includes items such as expectations concerning performance evaluation and feeling treated as professionals (for a detailed characterization of the index see appendix 3).

Secondly, *organizational citizenship* addresses to what extent teachers are willing to perform beyond their contractual duties. Third, *disciplinary climate* addresses schools' flexibility regarding disciplinary rules, from authority to custom-based, as well as typical responses to violations of these rules.

Finally, indicators related to *principals* address whether directors perform as principals, as well as the actual number of principals teachers perceive. Results for all these indicators are presented in table 8.

Table 8. Attitudes and Implicit Informal Contracts according to Special Programs
(As means in indexes)

Special Program	Informal contracts ^{1/}	Organizational citizenship ^{2/}	Disciplinary Climate ^{3/}	Director as Principal ^{4/}	Multiple Principals ^{5/}
None (N=421)	2.62	3.67	.2688	.67	1.74
PRS (N=121)	2.46	3.63	.2712	.55	1.81
FTS (N=57)	2.56	3.48	.1923	.58	1.81
Total (N=599)	2.58	3.64	.2624	.64	1.76
F test & significance	2.885; .057	.535; .586	.725; .485	3.382; .035	.248; .781

Source: Survey of Montevidean Teachers, 1999.

^{1/}CONTIN = from lowest (1) to highest (5) implicit contracts; ^{2/}CIUDOR = from lowest (1) to highest (5) access to non formally established activities; ^{3/}DISCIP = from lowest (0) to highest (3) disciplinary problems; ^{4/}PRINCIPA = yes or no principal as the most important role in deciding what and how to do things in the school (0,1); ^{5/}MULTIPRIN = from lowest (1) to highest (5) number of principals. All of these questions are formulated as Likert scales.

The comparison of means indicates, first, that special programs do not involve important differences in teachers' perception of *informal contracts*. Overall, teacher's options revolve around the "neither/nor" category of the Likert scale, meaning that they depart from formal as well as informal understanding of contractual relations and expectations. Yet, we need taking into consideration that in Likert scales, "neither/nor" values have a difficult interpretation: they can either mean a middle range value or quite a distinct situation, namely, the refusal to actually respond a particular item according to established options.

Secondly, *organizational citizenship* as measured by teachers' acceptance of labor requirements that go beyond the labor contract, does not show statistically significant differences among teachers according to school type. For the teaching body as a whole, responses revolve around "I would accept somewhat unhappy" and "I would only accept if they pay me extra hours." As such, the average opinion does not fall onto the most extreme "I would not accept."

Actually, responses regarding those activities that teachers would consider as part of their role-performance and, therefore, part of their expected behavior, are not very encouraging. On the

one hand, a larger proportion of teachers disagree with statements that, normatively, would be considered positive professional attributes (see table 9.a. below). On the other hand, a large proportion of teachers does not agree with the school treating them as professionals (see table 9. b. below).

Table 9. Implicit contracts, negative responses:

a. Concerning issues schools could expect from teachers:	
-	82% disagree with having to update their knowledge
-	81% disagree with thinking it is important to keep closely in touch with parents
-	68% disagree with being continually evaluated concerning their performance
-	62% disagree with considering criticism from higher rank personnel ("superiores")
-	56% disagree with having to make an extraordinary effort to accomplish the (annual) plan
b. Concerning issues teachers could expect from schools:	
-	77%, disagree with thinking that their work helps the effective functioning of the school
-	74% disagree with being able to make decisions about their own work
-	70% disagree with feeling that work with their pupils allow them to grow
-	68% disagree with being treated as professionals
-	45% disagree with being able to deal with children with special needs

Source: Survey of Montevidean Teachers, 1999.

Third, teachers show a better perception of *discipline* in Priority Requirement and ordinary that in Full Time schools, where this perception is considerably lower. In here, however, a similar cautionary note regarding the interpretation of the middle value of a Likert scale index is required.

Forth, the issue of the *number of principals* teachers identified in their schools does not show statistically significant differences among school types. On average, the mean of principals perceived is close to two. Generally, school directors are those to be most frequently considered as principals (slightly more than 60% of teachers), followed by colleagues (15%). Special programs do not introduce large differences among teachers' perceptions. However, ordinary schools show a larger proportion of teachers pointing at principals are those who matter the most concerning what to do in the school and how.

Table 10. Principals: Importance of Different School Personnel and Participants:^{1/}

	To help her solve work problems	For her keeping good relations to help with school work
Principals	2.14	4.78
Vice-principals	2.70	4.61
Supervisors	2.72	4.20
Colleagues	--	4.84
Support community boards	3.90	3.70
Unions	2.96	2.66

Source: Survey of Montevidean Teachers, 1999.

^{1/} Responses range from no important (1) to very important (5). Middle value (3) more-or-less important.

Finally, when asked how important *good relations* with principals, supervisors, colleagues, unions and others are in *helping her work in the school*, on average, teachers declare colleagues, principals and vice-principals to be very important (4.84, 4.78 and 4.61, respectively). Supervisors are on

average considered important. Finally, unions rank under community support boards typically made of parents (“Comisiones de Fomento”) (2.66 and 3.70, respectively).

Asked about the relative importance of a good relation with different school members by special programs indicates that differences are only statistically significant regarding principals (5%), supervisors (10%) and unions (5%). Still, teachers in all school types tend to consider very important and supervisors important, while having a good relation with unions is considered of little or more or less importance as far as going about their work in the school.

When it comes to *solving work problems*, however, results are quite different: neither principals nor vice-principals are that important but on average considered as having low importance. Supervisors rank slightly higher, averaging as more or less important, as do unions. Finally, on average, teachers declare that community support boards are as important to solve work problems.

These responses seem to point to the relative perception of inefficiency of principals, with whom there is more agreement that good relations are necessary than in their centrality for problem solving. A similar interpretation can be extended to supervisors, though opinions regarding the importance of good relations with them and their problem solving capacity seem to be more consistent. In short, supervisors seem to be perceived as less central for teachers' work than supervisors are.

Concerning the importance of school personnel to help solve work-related problems, responses show no statistically significant differences among special programs (with the exception of higher importance attributed to community support boards among teachers in Full Time Schools, significant at 1%). Similarly, differences regarding the importance of developing good relations in order to help their schoolwork show no distinct patterns between schools with and without special programs.

II. Who have Become Teachers and who Become Teachers Today²⁵

Rights and duties, career rules, performance evaluation and wages and benefits define the basic set of incentives and regulations that affect teacher's performance. They also constitute the reality to which students are either drawn or not drawn to when choosing an occupation. In other words how much one expects to receive as a wage, what are the chances of mobility, and which the responsibilities, strongly define the desirability of such a career and thus the quantity and quality of candidates.

Yet, these traits of the teaching career do not operate in a vacuum or monopoly. Rather, competing offers are present in the labor market. Therefore, career choices among potential candidates depends not on the abstract characteristics of the teaching profession itself, but on the comparisons they make between various options and the degree to which these options fit their expectations, requirements and working possibilities. In what follows we attempt to evaluate precisely this competitive realm. We concentrate our comparison in female dominated occupations, since teaching in our country is a female segregated profession.

1.1 Who have Become Teachers

Teachers are a predominantly female profession and a predominantly secondary or support salary within the households. In here, we pay particular attention to both issues, since they are likely to have important consequences for how sensitive they are to monetary incentives like Priority Requirement and Full Time monetary supplements.

Sex-segregation as a key determinant of a teaching careers and performance

In Uruguay, primary teachers comprise a sex-segregated profession (Jacobs, 1993). In 1997, 96% of all positions in the country were filled in by women.²⁶ Moreover, the sexual composition of the teaching body has been stable over time. On the one hand, teaching is seen as highly compatible with women's responsibilities in the domestic sphere, as wives and mothers. Schoolwork hours generally permit teachers to be at home when their own children are not at school or need care (Riehl, 1994). On the other hand, teaching is seen as a typical sex-typed occupation (Epstein, 1970), namely that primary characteristics of the job, taking care of children, is socially seen as more suitable for women than for men. Both aspects suggest that teaching performance in the workplace needs to be examined as a highly interrelated with women's domestic arrangements and private responsibilities as mothers and wives.

In order to understand teachers' orientation towards work and, by extension, the organizational tools that may increase teaching performance, we ought to consider the

²⁵ Household surveys are conducted by the national institute of statistics (Instituto Nacional de Estadística, INE) and provide a representative sample of the country's urban population (i.e., Montevideo and cities of 900 and larger). Samples are independent for Montevideo and the rest of the urban country. Limitations primary two. First, small number of teachers makes data strongly indicative but by no means representative of the teaching population. Secondly, variables included are socio-demographic and socioeconomic while not attitudinal. Both representative samples and a broader set of variables are examined drawing from a survey of Montevidean teachers later in this report.

²⁶ Archival data examined in here was made available for the purpose of this study. Its primary limitation is that the unit of observation is the teaching position rather the individual teacher. Therefore, if teachers hold more than one position within or among schools, we are counting her twice.

gender dynamics of the profession. For all its insights, the most recent literature on incentives downplays the sexual composition of the educational profession as relevant to “get incentives right” (Murnane, 1991, Singer *et al.*, 1991; Hanushek, 1991; Hartry et al, 1994; Firestone, 1994). Instead, this literature deals with gender-neutral workers.

Research on work motivation, commitment and climate strongly documents the importance of engendering the analysis in order to understand what encourages motivation, commitment and, overall, performance among workers. Especially when looking at the basic traits that define the teachers’ profile, we must not forget boundaries between careers and personal lives to be blurred. For instance, we know that extending hours for teachers to interact with peer may be seen as an intrinsic reward for male workers but disrupt domestic arrangements for women with family responsibilities (Riehl, 1994).

For example, age is directly related to the reproductive role of women. Not only women are expected to interrupt their permanence in the labor market more, but also they are likely to accommodate working arrangements to childbearing and tendering. In 1997, nearly one every two teachers were below 40 years and one every five below 30 years. Additionally, nearly 90% of all teachers were below 50 years. However, older teachers are not necessarily free from private demands, women fewer than 40 years are expected to have strongest family demands related to childbearing and child rearing.

Regardless of ongoing changes in the sexual division of labor within the Uruguay society, as mother and wives, women still play the central role in the organization of the household. Women may not only be highly involved with children but also with other family members, such as parents and grandparents. Thus, looking at labor as well as family arrangements can provide a full picture of decision rules at work.

Primary characteristics drawn from the 1997 households survey indicates that:

- Teachers combine working and family responsibilities: only or 4 to 5% of all teachers less than 40 years old (in Montevideo and the rest the country, respectively) are active.
- The proportion of teachers in socially integrated households is about 30% higher than among the population as a whole, but lower than in other non-female professions. Largely, teachers live in households where income levels are similar to that of other female professions such as nurses and social workers while considerably lower than mainstream professionals.
- About 80% of all teachers live in households with at least two breadwinners. Additionally, about 70% of all teachers are married or live with their partners and between 50% and 54% (in Montevideo and the rest of the country, respectively), are most of them as spouses of the head of the household. For most teachers, income plays a secondary role in the maintenance of the household. Since monetary incentives do not dramatically change income levels for teachers, it is not likely that these incentives will prevail over other, non-monetary incentives, such as working arrangements.

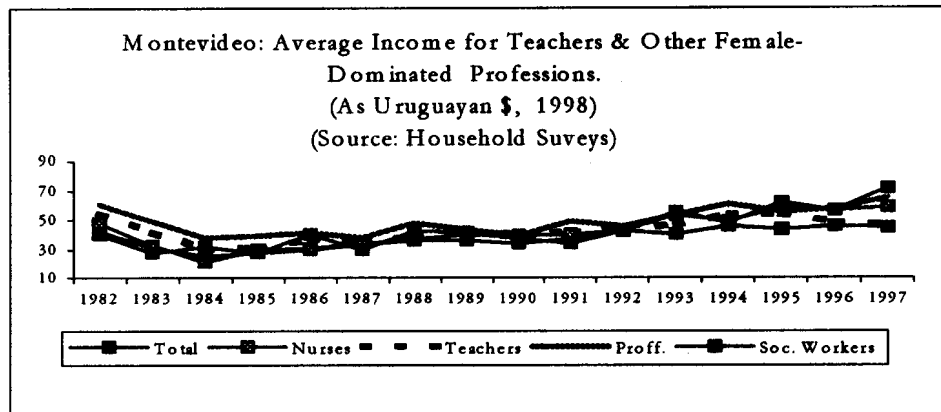
For a further characterization of the labor participation, family arrangements and socioeconomic profile of the teaching labor force and their households see appendix 1.

Wage differentials

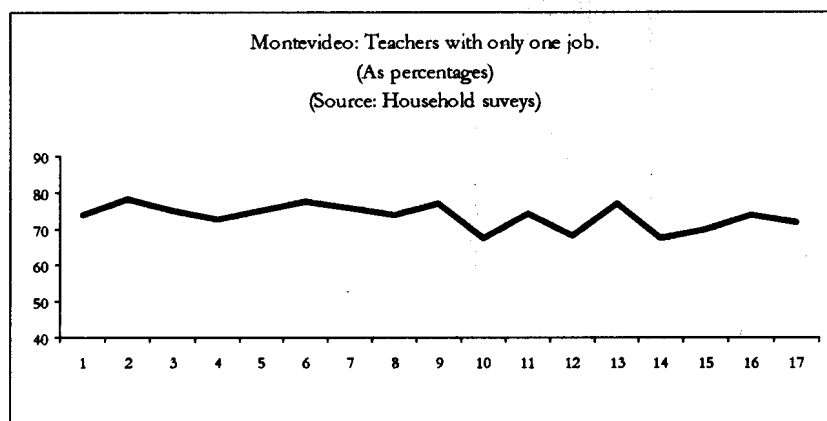
When examining total wages, teachers earn lower wages than other female professions. Social workers and nurses were selected as professions that both require post secondary education and are highly feminized. Yet, they involve university training. Though their mean income is higher than the population's, it is still lower than these other professionals are. However, when examining hourly income, the income gap between teachers and other female-dominated professionals considerably decreases (graph 1).

Most teachers hold a single position (graph 2). Thus, most teachers are likely to contribute the second salary to the budget of the household. If this is the case, in order to understand teachers' profiles and performance, it is very important to examine, not just teachers' income but households' socioeconomic status.

Graph 1.



Graph 2.



Cohort effect

Differences among cohorts could be such that incentives have a different impact depending on them. Evidence suggests the importance of paying attention to cohorts. In the rest of the country, cohorts show similar levels of social integration. In Montevideo, however, those who studied in the 1960s show higher levels of social integration than those who studied in the 1990s do.

Table 11. Teachers & Other Female Professions in Socially Integrated Households by Cohorts, 1997.^{1/}
(As Percentages)

Decade of Study	Teachers		Nurses & Social Workers	
	Montevideo (N=297)	Rest of the country (N=364)	Montevideo (N=157)	Rest of the country (N=50)
1960s	96.6	97.8	93.2	100.0
1990s	86.7	97.6	81.0	100.0

^o Source: Based on Households' Survey Data provided by INE.

Cohort were estimated as age of teachers = expected age to begin teaching career (18 years old).

Figures could just be reflecting life cycles (i.e., decreasing socioeconomic levels when people are in their 20s and starting a new family). However, in the rest of the country, levels of social integration are similar among cohorts while in Montevideo they are not. This could indicate that in the 1990s, and same as other female professions like nursing, a teaching career in Montevideo attracts people of a lower socioeconomic status than before (10% less social integration in the 1990s than in the 1960s). Therefore, explanations may transcend specific features of the teaching career (such as the shortening of the training period and a secured employment) and reflect factors such as the larger, and therefore more diverse, pool of students enrolling in secondary education.

Table 12. Cohorts according to Households' Educational Level, Montevideo and Rest of the Country, 1997.^{1/}
(As Percentages)

Years of education. ^{1/}	Montevideo		Rest of the country	
	60s (N=175)	90s (N=30)	60s (N=184)	90s (N=41)
Up to 8.99	20.5	43.4	17.4	24.4
9-11.99	23.4	23.3	29.9	53.7
12 & more	56.0	33.4	52.8	21.9
Total	100%	100%	100%	100%

Source: Based on Households' Survey Data provided by INE.

^{1/}Household educational levels are measured as the average of years of formal education undertaken by member of the households 14 year-old and older.

When examining so-called "educational climate", findings are consistent: teachers indeed show better educational indicators in the 1960s, while those with the worst educational environment are those who studied in the 1990s. Here, actual figures matter less than their direction of change.

However, the importance of cohorts for teachers' profile does not seem that important when we actually examine their motivational profile. Drawing from survey data we establish whether there are any significant differences between the motivational profile of teachers-to-be and those who are already part of the labor market. More specifically, we establish the relative importance of different motivational dimensions behind choosing a teaching career. Additionally, we establish whether the relative importance of each of these factors is similar for both groups.

For both teachers and teachers-to-be we survey the relative importance of each factor *at the time they chose a teaching career*. However, we can expect actual professional experience to reshape teachers' interpretation of what were their priorities back when they decided to become teachers. In addition, among teachers, we have teachers belonging to various cohorts. In short, the comparison of both groups cannot pretend but to give an overall sense of whether the motivational profile of teachers-to-be is remarkable different from that of teachers'.

Table 13. Students and Teachers: Motivations to Choose a Teaching Career, 1999.
(From higher to lower importance)

Motivation	Students			Teachers			DIFFER.
	Mean	Deviat.	Coeff. Variab.	Mean	Deviat.	Coeff. Variab.	
Like to Work with Children	2.83	0.37	0.13	2.83	0.39	0.14	-0.00
Like to Teach	2.69	0.50	0.19	2.62	0.56	0.21	-0.07
Social importance of education	2.63	0.59	0.22	2.82	0.43	0.15	+0.19
Professional development	2.06	0.71	0.34	1.85	0.78	0.42	-0.21
Like the freedom in the classroom	2.01	0.75	0.37	2.43	0.67	0.28	+0.42
To work & take care family	2.00	0.77	0.39	1.91	0.81	0.42	-0.09
Provides labor stability	1.77	0.75	0.42	2.05	0.76	0.37	+0.28
Lack of other employment opportunities	1.29	0.62	0.48	1.62	0.78	0.48	+0.33
Retirement benefits	1.16	0.46	0.40	1.49	0.74	0.50	+0.33
Vacations	1.15	0.44	0.38	1.55	0.73	0.47	+0.40

Source: Survey of Students at Teaching Training Institute, Montevideo & Survey of Montevidean Teachers, 1999.

Responses range from little (or scarcely) or non-important (1), important (2) and very important (3).

Data analysis indicates that these motivational profiles are fairly similar: the relative importance of each factor is similar for both groups, going from vocational motivations ranking the highest, to instrumental motivations ranking the lowest.

For teachers as well as for students, vocational reasons (namely, "like to work with children" and "like to teach") rank the highest, closely followed by normative motivations (i.e., "the social importance of education"). Both vocational and normative motivations are considered as nearly very important. In the third place, there is intrinsic motivation, namely the enjoyment of the task at hand *per se* (i.e., "professional development" and "like the freedom of the classroom"), considered as important. Instrumental dimensions are important only in the fourth place and as considered as important-to-scarcely important.

Although responses are similar for all dimensions, homogeneity is the largest and the lowest in the vocational and instrumental dimensions, respectively (differences range from .03 to

.10, to .30 to .38, respectively). Teachers value instrumental dimensions more than students in all its dimensions, with the exception of “allows to work and to take care of the family” do which students value slightly more than teachers do.

When comparing the motivational profiles of teachers among age groups, we also find, for the most part, homogeneity. Exceptions are two: the appreciation of having long vacations increases with age, and the appreciation of personal development is similar and higher among younger and most senior teachers (20-29 and 50 and more years-old, respectively) than among intermediate age groups.

In short, motivational profiles are largely homogenous. When they are not (as in the case of instrumental dimensions), they correspond to expectations, namely, that those already professionals and in the labor market, have a better appreciation for the instrumental dimensions of their career.

If the socioeconomic composition of the student body has indeed changed as some observers suggest (and we cannot test with available data), this seems not to reflect in major changes in their motivational profile.

1.2 Who are becoming teachers today

Drawing from a combination of longitudinal and cross-sectional data we examine who decides to become a teacher in Uruguay and why. First, we overview recent historical changes in students' enrollment and explore career and structural reasons behind these changes. Secondly, we analyze determinants of teaching preferences.

Enrollment Patterns and Trends: Overview and Hypothesis

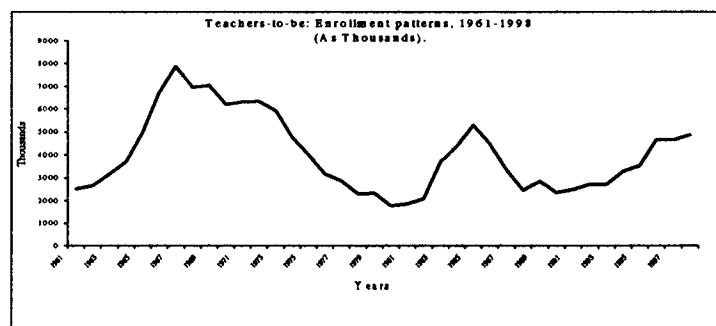
The country's teaching body currently comprises more than 16.000 primary school positions. Teachers competing for these positions must be licensed from any of 23 Training Institutes (*Institutos de Formación Docente* or *IFD*), one located in Montevideo and the others in at least one in each state of the country.²⁷ Besides, training institutes also provide teachers to private schools, which hardly ever hire non-licensed personnel. Students entering training institutes must have completed six years of secondary education. No admission exam is required. Therefore, and unlike other countries in the region, Uruguay has a national teaching body with a standard training, except for particular areas, lasting through the history, from 3 to 4 years.

Between 1961 and 1998 teachers-to-be grew at an annual rate of 2.5%, from 2.526 in 1961 to 4.885 in 1998 %. During that same time, children attending primary schools grew at an annual rate of .33%. In fact, in the 1950s schools had already reached universal coverage of children aged 6 to 11 years old (at the time, 10.4% of the population). Between 1950 and 1994 the number of primary school children entering the system each year was of 900 (from 10.132 in 1950 to 58.762 children in 1994). These figures indicate that the expansion of teachers-to-be cannot merely be due to demands coming from an expansion of primary school students. What

²⁷ Mandatory and specialized training for teachers goes back to the 19th century. The first (“Normal”) school was created in 1826. From then on, training was mandatory. Mandatory training was only exceptionally avoided and those candidates had principals assessing their skills.

is then that accounts for important and non-linear variations in the pool of future teachers throughout the period?

Graph 3.



The Role Played by Curricular Requirements

Requirements to enter into training institutes have changed over time. Before engaging in a more complex analysis, we explore a very simple hypothesis: the more the requirements, the less the enrollment. Specifically, we discuss educational credentials required (whether basic or higher secondary school), as well as the number of years involved in teaching training (whether three or four). If our hypothesis is correct, we can then explore whether structural, macroeconomic and educational factors specify this initial relation. For an overview of primary requirements in teaching curricula between 1939 and 1992, see appendix 2.

The 1992 curriculum, last to be introduced, reduced the length of teachers' training from four to three years. Additionally, specialization for either primary or pre-school children is attained within this same period of time. With the application of this plan, enrollment grew in 78.7% (from 2.933 to 4.885 students). At the same time, the expansion of mandatory pre-primary education has brought in 30.000 new students to the system between 1996 and 1999, thus expanding the number of teaching positions. Despite a 7% increase in teaching wages between 1995 and 1997, in 1997 wages are 12% lower than maximum values registered between 1985 and 1997. However, the expansion of teaching posts takes place at the same time that 1997 unemployment rates are 11.4% (against 8.3% in 1993). In short, unlike before, during the 1990s an increased educational coverage during Educational Reform may play as a pull-factor, thus explaining the expansion of teaching candidates.

Other Factors Behind Enrollment Trends (1988-1997)

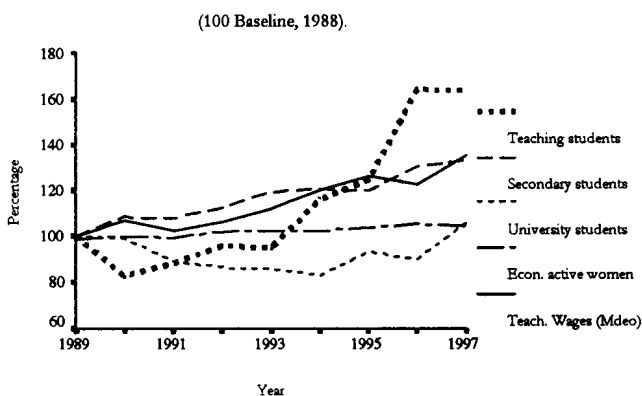
Regardless of the importance of curricular changes, and though curricular changes took place several times throughout this century, the peak in enrollment is unprecedented and its reasons peculiar to this historical period.

With more-or-less degrees of freedom, career enrollment involves choice. Factors behind career choice are complex and may range from structural constraints such as the lack of other educational options, to motivational triggers, whether vocational, normative or instrumental. Here we first address the role played by structural, contextual, factors around the expansion of teaching enrollments.

First, increasing *enrollments in secondary education* led to a diversification in the socioeconomic profile of students searching for tertiary education, namely increasing the pool of students with lower socioeconomic background. Secondly, *university enrollments* during the 1990s was relatively stable and diminished in careers that have usually competed with teaching enrollments (i.e., Psychology, the Social Sciences and the Humanities).

Graph 4.

Teaching, Secondary & University Students, Econ. Active Women,
and Wages among Teachers, 1988-1997.



Source: based on data provided by CODICEN & CEP, & INE.

Third, throughout the period, the rate of *female participation in the labor market* remained high, by extension reflecting a sustainable demand for education and jobs. Fourth, *unemployment rates* were high throughout the 1990s, increasing in 1996 and 1997.

Finally, and coupled with the actual expansion of coverage and special programs that have increased the number of teaching positions, the ongoing educational reform may have improved the “positioning” of the teaching career.

In short, female labor participation, university enrollments, the increasing number of high school graduates, and high unemployment rates, all may help explain increasing enrollment in teaching training institutes.

Meanwhile, the structural trend that could have deterred this enrollment are the decline in teaching wages, although studies conducted in the 1980s showed that there was no significant relation between wages and teaching enrollment. In fact, studies showed that wages had reached such a low level as to neither promote nor deter students, specially females, to enter into a teaching career (OPP/BID, 1992).

Profile and Career Orientation of Current Students

Structural changes such as an increasing active population, higher rates of a female labor force, drops in national wages or shortage of alternative jobs, may explain variations in both the

number and profile of students. However, numbers may change while socioeconomic and attitudinal traits remain the same, as well as the other way around.

The primary question we seek to answer in this section refers to the motivational and socio-demographic variables that have an effect upon the actual occupational/professional choice of becoming a teacher.

Drawing from survey data, we first present a sociodemographic and socioeconomic profile of future teachers and secondly examine the primary reasons leading students to choose a teaching career.

The socio-demographic background of students is highly homogeneous: nearly all students are women ages 19 to 22 years old. Socioeconomic background, however, does show relevant variations. Most students come from households where parents have completed secondary education (53% and 47% for fathers and mothers, respectively). Though about a third of all students come from homes with fathers who have completed tertiary education, a fifth of all students come from households where parents have only completed primary school. Additionally, seven out of ten students completed their secondary education in public schools, which is almost the same proportion that for Montevideo as a whole.

We develop an *index of socioeconomic status* comprising educational attainment of parents, type of secondary school attended, working status, and house ownership (index ranges from 1 to 4). Most students rank in the medium categories, 25,6% and 36,4% respectively.

Characterization of Preference towards Teaching

First, one out of five students do not plan to *study another career after becoming teachers*. Yet, among those who do plan to study another career, most plan to become high-school professors, while the others lean towards Psychology and Social Studies. The important proportion of students interested in other reaching-related career make responses to this question, difficult to interpret. To the purpose of including this indicator in a preference index, anticipation of a professor career is considered as strong preference for teaching.

Secondly, only a tenth of all responds state they would like their children to become teachers under the present conditions. One out of five do not have a strong opinion either way (most of them arguing they would accept whatever decision their children make). Overall, responses to this question cannot be interpreted as disagreement with children becoming teachers, but preference towards they making their own decisions.

Finally, we examine whether *teaching was the first career choice*. Responses indicate that the student body splits into halves, those who did and those who did not enter into another career before deciding to become a teacher. Among those who did enter into another career, more than half previously started other careers clearly leaning towards the humanities.

Cross-tabulations show that teaching as a first choice is higher among students who Are not currently employed (71% in contrast to 44% among those who do work), that report the influence of their family and friends in choosing this career (68%, as compared to 57% among those who did not), that report a lower performance in secondary school (69% in

comparison to 54%), and whose fathers have attained primary education (70% in comparison to 57% for fathers who also have attained with tertiary education). We could therefore risk saying that some of these students are first in their family to accessing tertiary education and that their parents, likely working class, are willing to invest in their upward social mobility.

Caveats of interpretation in mind, the *preference index* combining all three indicators (rank 0 to 3) suggests that most students concentrate in the medium values (2 and 3): 39 and 44 in the medium to weak and medium to strong values, respectively. Less than a 5% shows the strongest preference among those had teaching as a first choice, are not interested in studying another career or whose second anticipated career is as professors, and who wish her children to become teacher.

Most students show a medium to weak and a medium to strong preference. Those showing strong preference are a small proportion. However, among those whose fathers have completed primary education, two thirds show a strong preference towards teaching.

Orientation towards Teaching

Regarding motivations, scholars typically distinguish between extrinsic motivations such as income, prestige, and occupational mobility and intrinsic satisfaction such as gratification drawn from students' accomplishments (Lortie, 1975). Additionally, scholars point at a normative rationale, reflected in a calling, a sense of service and of helping others (Allen & Glen, 1996). Normative orientations are particularly important to approach highly feminized professions, where socially expected sex-traits such as nurturing and care-taking, are basically transposed onto professional expectations.

We thus try to identify primary motivations for choosing a teaching career by developing a cluster analysis of a set of statements.²⁸ Results show that students are strongly driven by an intrinsic satisfaction of teaching and a sense of service to society, which is congruent with other studies regarding the motivation factors of choosing the teaching career.²⁹

In effect, the cluster with the high average (2,65) can be defined as the *normative and expressive* orientation cluster, and includes five variables such as "the importance of education for society" and "working with kids." Thus, the normative and expressive dimensions are highly intertwined and may be the recognition that altruistic considerations are mostly associated to the development of kids mediated by the power of education. No less than 90% of the students give importance to any of the 5 variables that are included in this dimension. It seems to be a universal orientation.

²⁸ Cluster analysis includes a wide variety of procedures aimed at establishing homogeneous groups of variables. In here, we apply hierarchical agglomerate analysis, which search for N x N similarity matrix based on entities and sequentially merge the most similar cases; need N - 1 steps in order to make a similarity matrix, that is, at the first step all the variables are individual cluster and at the final step, all of them are merged into large groups; these groups do not overlap. In our survey, available questions include 26 items regarding reasons to chose a teaching career, responses scoring from not important to very important. Among these questions, cluster analysis identifies six sets of variables (Aldenderfer & Blashfiel, 1988).

²⁹ Research conducted in the U.S. concerning the reasons leading to choose a teaching career shows that roughly 30% of the students are motivated by a serving to society. Moreover, this has remained stable during the last two decades (Allen & Glen, 1996).

The second cluster with the highest average (2,29) refer expectations regarding *work environment*, including “opportunity for creation and innovation” and “share knowledge and skills.” They resemble a positive evaluation of the professional opportunities of the teaching career. Lowest indicator within this cluster was “teaching suits my skills well” (77.8%).

The third cluster (means = 2,02) is closely related to the previous dimensions and refers to expectations of *professional development*. No less than 70% give importance to the three variables that are included in this dimension. We can say that Clusters number 2 and 3 convey in fostering a professional ethos highly optimistic and idealistic.

Cluster 4 with an average below 2 (1,68) is mostly tied to the *labor opportunities* of the teaching career (variables such as “working stability” and “a quick means to having a job”). Six out of ten students give importance to labor stability. This high value may be reflecting not only the shortage of working opportunities but also the increasing importance of getting a stable job. Nevertheless, we can argue that the significance of the labor issue arise within a context of clear supremacy of the normative and expressive orientations.

It is worth noting that the proportion of students who attach importance to labor stability is larger among students with lower socioeconomic background. In effect 74% of those whose father has primary level education consider it an important dimension, against 47% of students whose father hold tertiary education. The same pattern can be seen regarding the proportion of students who see “a quick way of getting a job” as either important or very important (59.6% and 33.1% , respectively).

Results from the multivariate analysis concerning preference towards teaching are presented in appendix 4. Most satisfactory model allows to identify four significant or nearly significant variables: performance in secondary school, external influence towards teaching and self-reported performance in high school, suggesting that the educational level of the student’s father is not as important as it seemed to be. All of these variables but high school performance show positive relations with teaching as a first career choice.

III. Teachers' Careers: School Mobility³⁰

In this section we examine the impact of special programs upon school mobility, defined as the likelihood of teachers to remain in the same school the following years. Mobility is one of the primary problems previous diagnoses, authorities and technical cadres identify among Uruguayan public teachers. In addition, mobility sets public schools apart from private schools, where after the first, "trial" year, teachers tend to be stable to the point that retirement is the primary reason to leave schools.³¹

As the literature on turnover rates documents, turnover has negative effects upon commitment and coherence of the labor force.³² In the case of schools, lack of accountability and the weakness of schools as managerial and programmatic units, adds to these negative effects, precisely at a time when educational reform seeks to increase organizational strength at the school level.

Drawing from 1989-1997 cohort data, we examine the likelihood of teachers moving to a different school. Additionally, we establish whether special programs introduced variations in the pattern and likelihood of school permanence (or "survival").

Using Kaplan-Meier estimates, calculations allow us to know the probability that a teacher will remain in the same school the following year, for the first to the ninth year she has been in the same given school.

In order to establish the impact of special programs, we first estimate probabilities for the urban teaching national body at large. Secondly, we compare teachers' permanence function for each year in the school before and after special programs were implemented. A complete explanation of Kaplan-Meier estimators is included in the appendix 3 (includes clarification between estimation with and without censored data, which, nevertheless, show a similar pattern).

As described in section II, mobility reflects individual decisions as made on the bases of a tournament-and-rank system. The only exception or fixed regulation regarding school mobility concerns tenured teachers and establishes that they ought to remain at least two years in the position they were given as such.

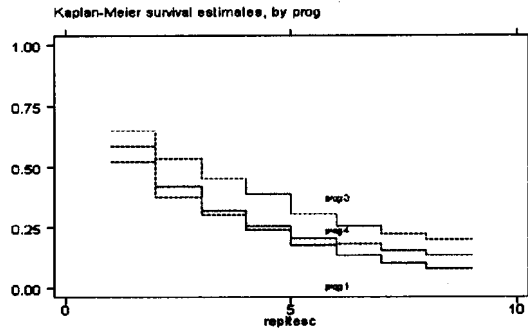
Below, we show the mobility patterns of teachers according to special programs, between 1989 and 1997. Graph 8. represents the probability that teachers remain in the same school the following year, for teachers who have been in the school one to nine years. The x-axis corresponds to years while the y-axis corresponds to the result of the probability function of school permanence. Each step represents the probability of school permanence for teachers who have been in the same school for as long as one, two, three years and so on, until reaching the ninth year.

³⁰ This section was developed with the collaboration of Andrés Masoller and Dardo Curti.

³¹ Interviews to directors of five private schools.

³² Insert literature on the effects of turnover upon performance and other work-related factors.

Graph 5. School Permanence by Special Programs, 1989-1997



As it would be expected, the overall probability of teachers to remain in the same school decreases with every year, i.e., chances of a teacher to remain in the same school after six years are less than after three years. Thus, regardless of whether schools have special programs, the overall patterns of teachers' mobility among schools are, from left to right, that of a descendent ladder.

Yet, closer attention to this pattern according to school type shows that the probability of school permanence at both the beginning and end of the ladder varies from one to another. Except for the first three years, the lowest probability of school permanence appears to be among schools without special programs: these teachers have the lowest probability of permanence throughout the years.

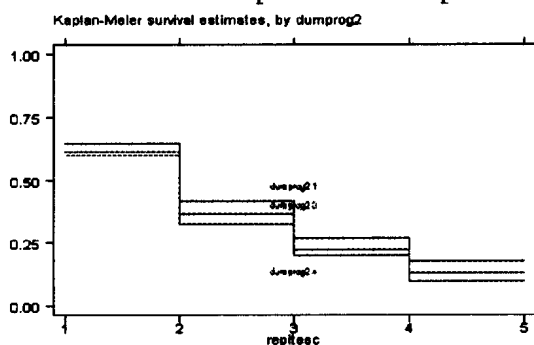
Meanwhile, the highest permanence takes place among teachers in schools with both special programs, Priority Requirement Schools (PRS) and Full Time Schools (FTS). Teachers in PRS show the highest survival function throughout the period, while teachers in FTS show an in between position: above teachers in ordinary schools and below teachers in PRS. However, and interestingly enough, during the first three years teachers in FTS show higher mobility than teachers in ordinary school, to consistently revert among teachers who "survive" the initial three years in the same school. We will come back to this issue below, when we seek to control this first presentation of results with a number of other variables.

Differences among teachers according to school types could be due to selection factors (or selection bias). In effect, it could well be the case that special programs were implemented in schools with higher school permanence *prior* to the implementation of special programs. Alternatively, differences in school permanence among teachers according to school type could be in effect, due to the impact of special programs themselves.

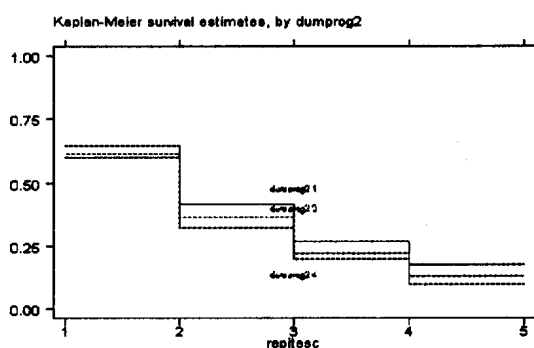
In order to distinguish program selection bias from program impact, we estimate school permanence according to school type as in 1994,³³ for both before and after 1993. By making the universe of schools classified under each school type constant after performance, we control for selection bias.

³³ We consider 1994 as the cutoff year for classifying schools (and therefore their teaching bodies) among school types, provided that there was a lag-time between 1992 when PRS and FTS programs started, and the actual implementation of the program to its stable (and current) universe of schools.

Graph 6. School Permanence Before Implementation of Special Programs, 1989-1993



Graph 7. School. School Permanence After Implementation of Special Programs, 1994-1997



Results from this data analysis are presented in the two graphs that follow (graphs 6 and 7). Findings indicate that school permanence improved across school types: the probability of permanence for teachers, regardless of the number of years they have been in the school, is higher in the second (1994-1997) than in the first (1989-1993) period.

Therefore, the reform package under implementation since 1994 may be having an important effect upon teachers' school permanence. In and of itself, this-across-the-board improvement is remarkable, particularly if we consider the magnitude of the mobility problem as diagnosed by Uruguayan authorities and technical cadres.

The overall permanence of teachers in schools with special programs showed more improvement than that of teachers in schools without them. Moreover, the implementation of special programs reverted the initial situation. Whilst schools that were later included under these programs originally had the lowest school permanence, they became, after the implementation of the programs those with higher permanence (see graphs 6 and 7). In other words, schools with special programs performed better than ordinary schools during the years 1994-1997, despite the fact that they performed worst during the years 1989-1993.

Not only did teachers working in ordinary schools inverted its "ranking" regarding school permanence but they also seem to have somewhat lowered their permanence during the second period. Indeed, it is reasonable to think that the improvement among teachers working in schools with special programs may have not only be due to these schools

discouraging teachers from moving to others, but also, by attracting teachers, pulling them away from schools without special programs.

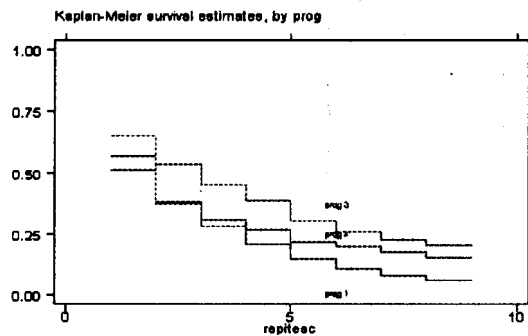
This data indicates that teachers working in Priority Requirement Schools (i.e., schools where teachers receive a 20% over an entry salary) are those with the lowest mobility among schools. Thus, the incentive that shows the best effect regarding mobility is the incentive aimed at attracting and retaining teachers in schools with children coming from negative socio-cultural background. These incentives therefore, operating in the right direction, namely, reversing a pattern by which the most senior teachers move to more conveniently located schools.

Following PRS, teachers working in Full Time Schools show a remarkable change when compared to the period before the implementation of the program. While before 1994, teachers in these schools showed a lower permanence than teachers working in ordinary schools, after the implementation of the program, teachers in these schools improved so as to perform better than those in ordinary schools.

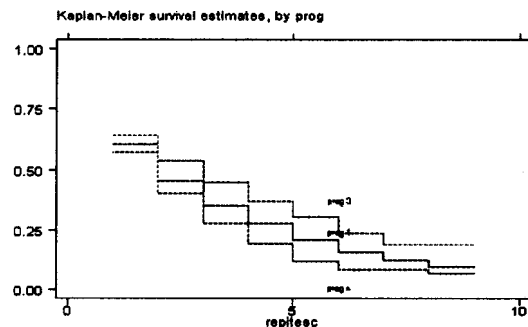
The above finding is even more remarkable considering that schools with special programs heavily draw children of a lower socio-cultural background. These are schools where the institutional “value added” is higher, as compared to highly stimulated and socialized children from a favorable socio-cultural background. Moreover, these are schools where incentives to leave the school are higher. Therefore, incentives associated with special programs to retain teachers for a longer period, seem to have an important effect, despite the strength of the socio-cultural background that should operate as a push factor, encouraging teachers to move out of those schools. To test for the actual impact of these incentives, we need to control by socio-cultural background.

Graphs 8 and 9 show teachers’ permanence according to school type and children socio-cultural background. The question to be responded here is whether or not, when the socio-cultural background is held constant, special programs actually matter

Graph 8. School Permanence, by Special programs for Schools with Negative Socio-Cultural Background, 1989-1997



Graph 9. School Permanence, by Special Programs and Schools' Positive Socio-Cultural Background, 1989-1997



The first obvious finding is that the school permanence of teachers in ordinary schools with a negative socio-cultural background is lower than for teachers in schools with a positive socio-cultural background. This is to be expected provided that permanence in the former schools shows a combination of built-in institutional mechanisms attracting teachers to the best located schools, and an absence of incentives or special programs aimed at counteracting these built-in incentives.

More interesting is that the school permanence of teachers in schools with negative socio-cultural background that do have special programs, is higher than the school permanence of teachers in schools with no programs in schools with a positive socio-cultural background. This does not necessarily indicate that special programs have indeed counteracted the effects of socio-cultural background upon teachers behavior. Instead, they are other mechanisms at work in encouraging teachers in these schools. We will seek to further elaborate on this issue below, when examining patterns according to seniority.

When comparing Priority Requirement Schools (PRS), we do not see differences between teachers working in schools with positive and negative socio-cultural backgrounds. Indeed, the primary problem in this case is that, according to the targeting criteria of the PRS program, there should be no schools with a positive socio-cultural background receiving the incentive. The worrisome issue here, and before suggesting there has been an error in the targeting of schools, could be to be reflecting what would be referred to as "maturation" errors in the application of the 1996 socio-cultural index to the period 1989-1997.

Though a similar consideration applies to Full Time Schools, this program is not expected to be implemented as targeted as formally established. In fact, there seems to have been an explicit will in having "reference cases" among schools with a different socio-cultural background to the primary recipient, i.e. schools with a negative socio-cultural background. In schools with a negative socio-cultural background, teachers show lower school permanence than teachers in schools with special programs.

As much as teachers' permanence in PRS schools does not show much of a difference between positive and negative socio-cultural background, Full Time Schools do and in a counterintuitive fashion that would require further examination. In effect, during the first year teachers in Full Time Schools located in favorable socio-cultural background show a

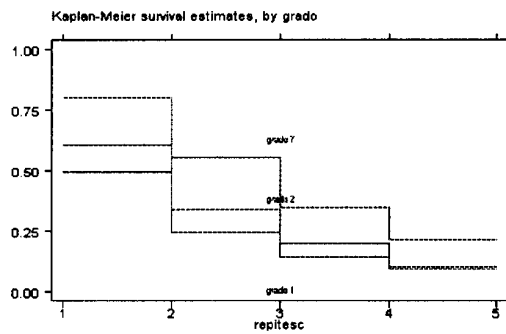
higher permanence than those located in negative background. However, the likelihood of permanence for teachers remaining in the same school at least two years is similar regardless of the school's socio-cultural background.

Moreover, among teachers who have been in the same school three years and more, permanence is higher among teachers working in schools with a negative background. This is indeed a puzzle: it is as if the incentive were working better, showing better resources, among teachers working in schools with a negative background. This, too, requires paying closer attention to teachers' patterns according to seniority.

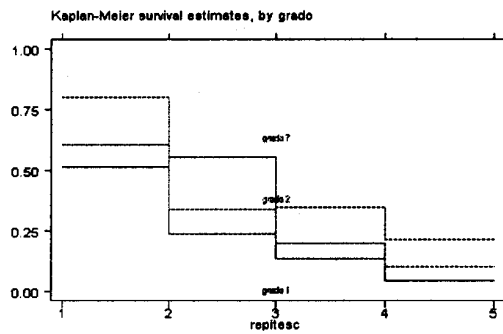
Finally thus, we examine mobility patterns by program and teachers' seniority (i.e., by grade, from one to seventh), prior and after program implementation. As data show, increases in school permanence took place across the board, i.e., regardless of their seniority (see graphs 10 and 11 for prior and after program implementation, respectively).

Graph 10. School Permanence by School Type, Prior to Program Implementation, 1989-1993.

Graph 10a. Ordinary Schools

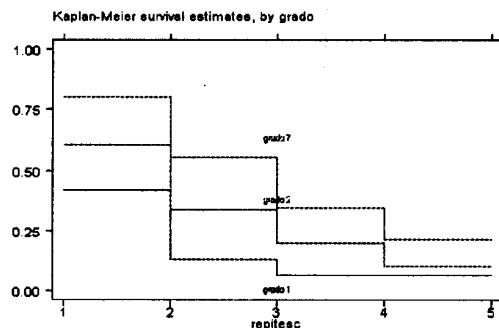


Graph 10b. Priority Requirement Schools



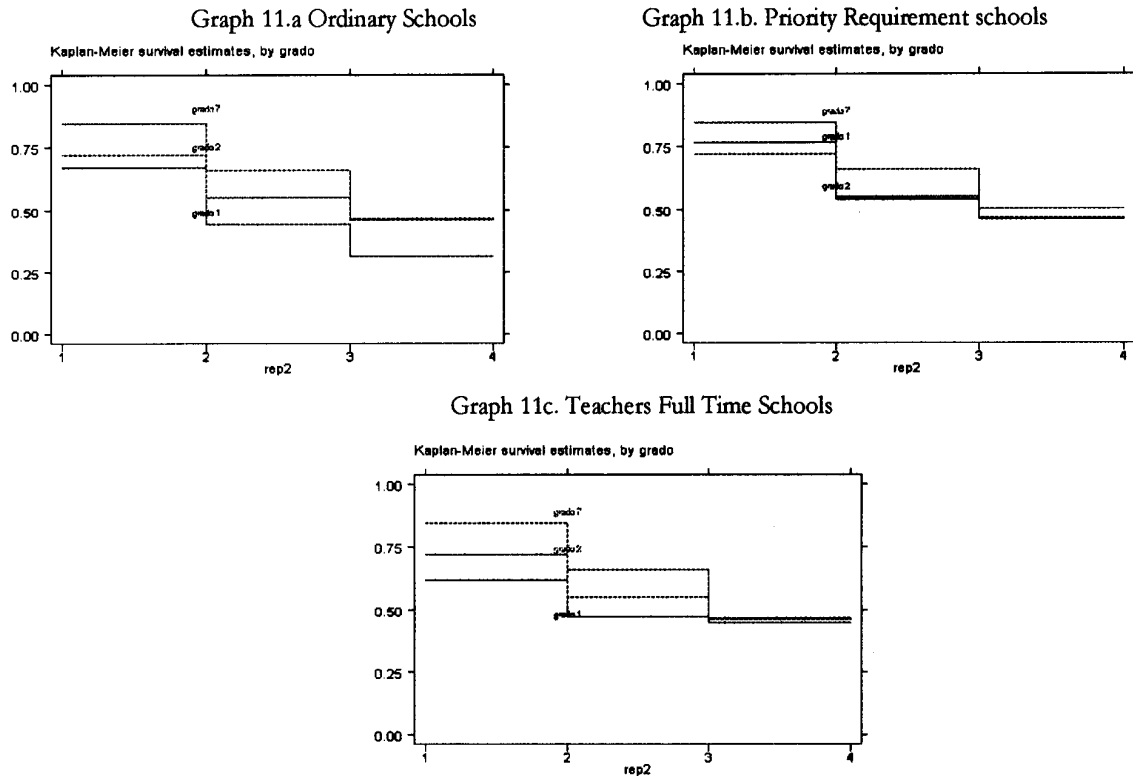
However, this increase was particularly strong among first and second grade teachers provided that it was among these junior teachers that mobility was most problematic prior to 1994. To the contrary, mobility among the most senior teachers had been lower from the onset.

Graph 10c. Full Time Schools



While among teachers grades 1 and 2, the increase in school permanence is across-the-board, regardless of the number of years teachers have remained in the school, among the most senior teachers (grade 7th), this increase is particularly important among those remain in the same school after the first year.

Graph 11. School Permanence by School Type, After Program Implementation, 1994-1993.

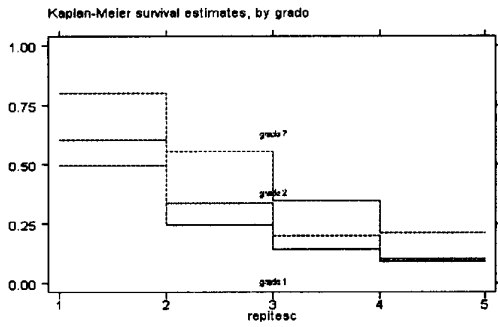


Finally, depending of their seniority, incentives have a different effect upon teachers' behavior. Graphs 12 and 13 show school permanence before and after program implementation according to school type, respectively. Data indicate that:

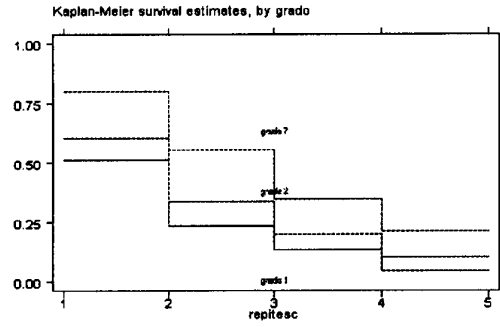
1. regardless of school type, less senior teachers (first and second grades) improved their school permanence considerably more than most senior teachers (seventh grade);
2. first and second grade teachers in Priority Requirement Schools increased their school permanence more than teachers in Full Time Schools, and both more than teachers in ordinary schools
3. among seventh grade teachers increases in school permanence is more once they remain two years in the same school two years

Incentives are estimated as a percentage of the entry, first grade, wage, regardless of their seniority. In Priority Requirement Schools, teachers earn salaries corresponding to their grade, plus a complementary 20%. In Full Time Schools, teachers earn salaries corresponding to their grade, plus a second entry wage. Therefore, in both programs, the less senior the teacher, the more the weight of the monetary incentive.

Graph 12. School Permanence by School Type and Grade, Prior to Program Implementation, 1989-1993.

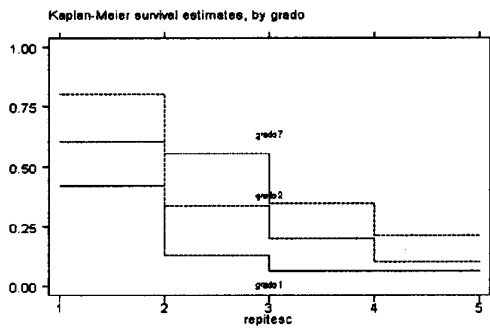


Graph 12a. Ordinary Schools



Graph 12b. Priority Requirement Schools

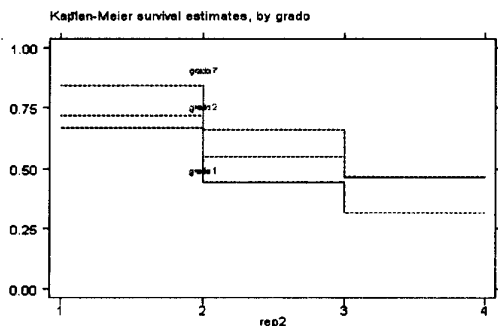
Graph 12c. Full Time Schools



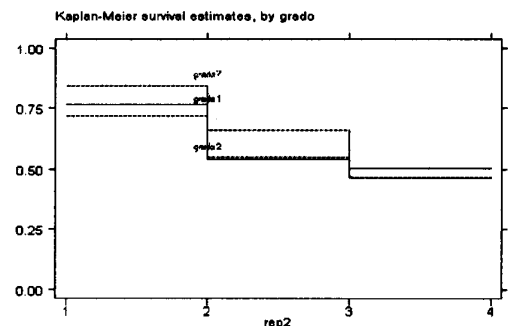
The more senior the teacher, the less weight the complement associated to PRS and the more the monetary pay-off of working in two schools rather than in just one, Full Time, school. At the same time, working in two schools involve mobility from one to the other, as well as more hours of in-classroom work. Therefore, we expect the very most senior teachers to, regardless of the pay, remain in Full Time Schools rather than to work in two schools. In other words, for these teachers, the choice tends to be between working in only one school, or in a Full Time school. This is documented by the age composition of Full Time Schools.

Graph 13. School Permanence by School Type and Grade, After Program Implementation, 1994-1997.

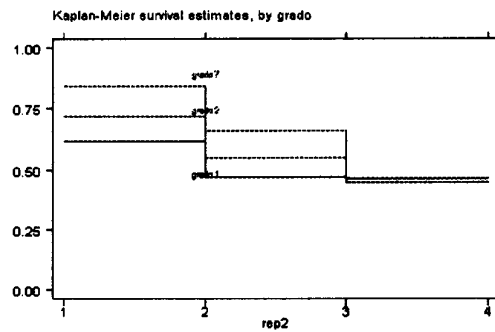
Graph 13a. Ordinary Schools



Graph 13b. Priority Requirement Schools



Graph 13c. Full Time Schools



In sum, data indicate that school permanence increases across-the-board, for all teachers, regardless of the school type where they worked. At the same time, mobility decreased more in schools with special programs than in ordinary schools, indicating an impact of these programs as incentives to lower school turnover.

What remains to be examined is whether programs actually: had an effect upon the profile of teachers recruited (i.e., for some reason inclined to be more stable than previous teachers in the same school); increase retention of teachers already working for the school, or both.

IV. The Teachers of Each Special Program: Attitudinal and Socio-Demographic Profiles

Once the impact of special programs upon school turnover has been established, we examine whether these programs have had any impact upon the *attitudinal and socio-demographic profiles* of personnel.³⁴ We focus on perceptual and socio-demographic factors included in the survey. We describe these different profiles by either cross-tabulating these variables with the presence or absence of special programs (in the case of categorical independent variables), or by comparing means (in the case of interval variables).

Examination of teachers' profiles pay close attention to special programs that involve distinct institutional arrangements, namely Priority Requirement and Full Time schools. First, we address the attitudinal composition of the teaching body across school type. To this purpose, we examine survey data and, more specifically, indexes of career satisfaction, satisfaction with the environment, and vocation (table 14). As the table shows, vocation is the variable that discriminates the most among teachers according to the school type where they work.

Concerning *career satisfaction*, the comparison of means indicates that there are not significant differences in teachers' attitudes according to school type which do show statistical significance concerning *satisfaction with the work environment*. In effect, teachers in ordinary and Full Time schools show similar scores which, in turn, are higher than among teachers in Priority Requirement Schools (PRS). At the same time, PRS teachers rank the highest regarding their *vocation*, followed by ordinary schools. Teachers in Full Time Schools show, thus, the weakest vocation of all teachers.

Table 14. Profiles by Special Programs
(As means in indexes)

Special Program	Career Satisfaction ^{1/}		Satisfaction with Work Environment ^{2/}		Vocation ^{3/}	
	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
None (N=421)	2,73	,53	2,90	,50	1,04	,75
PRS (N=121)	2,69	,35	2,80	,36	1,26	,64
FTS (N=57)	2,66	,60	2,94	,51	,72	,74
Total (N=599)	2,71	,50	2,88	,48	1,05	,74
F test	,687		2,523		8,852	
Significance	,504		,081		,000	

Source: Survey of Montevidean Teachers, 1999.

^{1/}Range 1 (lowest) to 5 (highest); ^{2/}Range 1 (lowest) to 5 (highest); ^{3/}Range 1 (lowest) to 2 (highest).

When controlling by the socio-cultural background of children with whom teachers work, the above results remain largely the same, suggesting that attitudes reflect differences across school type due to factors other than these structural factors.

As an assessment of what these attitudinal indexes actually measure, we compared means according to whether teachers consider abandoning the profession. Regardless of school type, teachers who do consider abandoning the profession systematically show lower scores in the vocation index. However, this consideration does not introduce any relevant differences in

³⁴ In turn, and according to the IADB guidelines, we present results from the multivariable examination of determinants of school type in appendix 4.

teachers' satisfaction with their work environment and career satisfaction (which are nearly non statistically significant and non significant, respectively). In short, there is a correlation between vocation and having considered dropping from the profession, which helps validate the vocation index.

However, any attitudinal pattern according to institutional type may as well be spurious and due to an unknown composition of the teaching body in terms of a very different set of variables. In order to explore this possibility and before we can present a sound interpretation of whether there is any relation between institutional arrangements and the attitudes of the teaching body, we examine teaching profiles according to a number of variables. More specifically, we first address the contractual relation between teachers and schools as embodied by the distinction between tenure and non-tenured positions. Secondly, we examine individual socio-demographic factors like age and education.

Tenure

Differences in the proportion of tenured teachers among school types is not statistically significant (revolving between .64 in FTS and .71 in PRS). We can thus consider this as a relatively constant factor across school type. When examining the association between tenure and vocation controlled by school type, we observe that there is no clear pattern in the vocation of tenured and untenured teachers (see table 15). In other words, we see different directions and differences in the vocation of tenured and untenured teachers.

Overall, teachers with the strongest vocation are those, both tenured and untenured, working in Priority Requirement Schools. Conversely, the weakest vocation is held by tenured and untenured teachers in Full Time Schools. In between, untenured teachers in ordinary schools hold a weakest vocation than their tenured colleges.

Table 15. Vocation by School Type and Tenure
(As Means of Scores in Index Ranging from 1 to 2)

Special program	Tenured	Untenured	Difference
None (N= 357)	1.12	.98	+ 0.14
PRS (N= 95)	1.21	1.27	- 0.06
FTS (N= 44)	.62	.74	- 0.12
Total (N= 496)	1.10	1.02	+ 0.08
F & significance	9.189;.000.		

Source: Survey of Montevidean Teachers, 1999.

Results regarding vocation are quite encouraging for Priority Requirement Schools where both tenured and untenured teachers show the strongest vocation among the pool of tenured and untenured teachers in Montevideo, respectively, and therefore the smallest difference between tenured and untenured teachers.

When examining the two other attitudinal dimensions being considered here, namely, satisfaction with the work environment and career satisfaction, tenure does not make a difference regarding the former (for which tenured and untenured teachers show scores remarkably similar), and shows non-significance regarding the latter (see table 16).

Table 16. Satisfaction with Work Environment by School Type and Tenure
(As Means of Scores in Index ranging from 1 to 5)

School type	Satisfaction with Career		Satisfaction with Work Environment	
	Tenured	Untenured	Tenured	Untenured
Ordinary (N= 421)	2.90	2.90	2.90	2.90
PRS (N= 121)	2.77	2.84	2.77	2.84
FTS (N= 57)	2.97	2.87	2.97	2.87
Total (N= 599)	2.88	2.88	2.88	2.88
F & significance	3.475; .032		.794; .452	

Source: Survey of Montevidean Teachers, 1999.

Age & seniority

Age and, by extension, seniority, introduce variations regarding vocation, work satisfaction and long term career satisfaction. As table 17 shows, the average age of teachers varies from among school types, the lowest corresponding to Priority Requirement Schools (34 years-old) and the highest to Full Time schools (42 years-old), leaving ordinary schools the intermediate situation (38 years-old), slightly above the mean for the urban teaching body as a whole, though considerably closer to PRS than to FTS.

Results suggest that differences in *vocation* as well as career satisfaction could somehow be related to the age composition of one and another school type, rather than to characteristics of these schools *per se*. However, the overall bivariate correlation between age and vocation shows a non terribly strong significant coefficient of $-.153$ (pretty much the same than the correlation of $-.16$ between seniority and vocation). The direction of the relation is, however, more interesting than its strength: the older the teacher, the lessen the vocation.

Table 17. Age according to School Type.
(As Years-Old, Means and Standard Deviation)

School Type	Age	
	Mean	St. Dev.
Ordinary (N = 421)	38,1	10.7
PRS (N=121)	34,1	9.2
FTS (N= 57)	42,1	11.8
All (N = 599)	37.7	10.7
F & Significance	2.751; .000	

Source: Survey of Montevidean Teachers, 1999.

Moreover, this patterns applies to ordinary and Priority Requirement Schools as well with a stronger correlation coefficient for teachers in the latter ($-.23$ significant at the $.05$) than in the former ($-.145$ significant at $.01$). To the contrary and, though not significant, teachers in Full Time Schools show a positive relation between vocation and age whereby the older the teacher, the stronger the vocation. Further examination of this relation is presented in the table below, as means of the vocation index according to age groups.

Crosstabulation allows us to establish, first, the clearly different vocational scores of teachers of the same age group according to school type, and secondly, the specific differentiation

pattern age introduces in vocation score within each of these types (see table 18). Regarding vocation for same age groups, data indicate clear variations across programs.

Table 18. Vocation by School Type and Age
(As Means of Scores in Index ranging from 1 to 5)

Age	School Type			
	Ordinary	PRS	FTS	All
20-29 (N = 171)	1.29	1.34	.60	1.25
30-39 (N = 167)	1.02	1.43	.50	1.10
40-49 (N = 184)	.82	.78	.80	.82
50 & more (N = 85)	1.11	1.20	.92	1.09
F & significance	8.890 / .000			

Source: Survey of Montevidean Teachers, 1999.

In *Priority Requirement Schools*, teachers 20 to 29 years-old hold a high vocation that increases among teachers 30 to 39 and drops among teachers 40 to 49 to increase again among the most senior teachers. Though scoring a slightly lower, a similar patter occurs among teachers in *ordinary schools*.

Yet, in *Full Time Schools* vocation is higher among the most senior age groups. In addition, overall, teachers in FTS show a weakest vocation than teachers in PRS and ordinary schools. This is considerable the case for all age groups but teachers 40 to 49 years-old.

In short, without attaching causality and acknowledging the complex relation between age and vocation, these results do seem to suggest that there is something regarding the work environment of each school type that makes teachers of a similar age group to show more-or-less vocation towards teaching, from PRS showing the highest to FTS showing the lowest.

When examining teachers' overall appreciation of their *work environment*, Montevidean teachers are relatively homogenous, on the neutral-to-negative side.³⁵ Overall, this is the case for all age groups in all school types (see table 19).

Table 19. Satisfaction with Work Environment by School Type and Age
(As Means of Scores in Index ranging from 1 to 5)

Age	School Type			
	Ordinary	PRS	FTS	All
20-29 (N = 171)	2.94	2.85	2.82	2.91
30-39 (N = 167)	2.93	2.67	2.81	2.85
40-49 (N = 184)	2.88	2.90	2.87	2.88
50 & more (N = 85)	2.81	2.82	3.16	2.88
F & significance	2.581; .08			

Source: Survey of Montevidean Teachers, 1999.

The exception are the most senior teachers, 50 years-old and more, whose perception is neutral-to-positive. This is interesting since it is the only group in all school types that scores above the medium point of the index. The non linear relation between age and attitude

³⁵ Caveat of this interpretation concerns the actual meaning of the medium value of Likert scales utilized to measure most attitudes in the survey. This medium value can, in fact, be chosen by respondents when they do not consider the question answerable in terms of the options given to respond. If so, interpretation to the response needs not be "neutral".

towards the work environment accounts for the non significance of the bivariate correlation between these two variables.

Finally, the overall pattern of responses regarding *career satisfaction*, very much similar to satisfaction with work environment yet slightly more negative, shows no statistical significance (table 20). However, unlike the comparison of means, the bivariate correlation does show a significant negative correlation of $-.11$, indicating that the more senior the teacher, the less her career satisfaction.

Table 20. Satisfaction with Teaching Career by School Type and Age
(As Means of Scores in Index ranging from 1 to 5)

Age	School Type			
	Ordinary	PRS	FTS	All
20-29 (N = 171)	2.81	2.72	2.65	2.78
30-39 (N = 167)	2.74	2.65	2.71	2.71
40-49 (N = 184)	2.69	2.75	2.56	2.68
50 & more (N = 85)	2.62	2.37	2.72	2.62
F & significance	.747; .474			

Source: Survey of Montevidean Teachers, 1999.

In short, school types present differences concerning the age composition of their teaching body, FTS being the case that most obviously departs from the other two types of schools. Similarly, the effect of age upon the relation between school type and vocation shows important differences between FTS and teachers in PRS and ordinary schools, the former showing the lowest scores. Meanwhile, neither satisfaction with the work environment nor career satisfaction are particularly affected by age.

Education

Regarding education as measured by the proportion of teachers who have reached tertiary education, data indicate that the highest proportion of teachers who have pursued studies at the tertiary level (whether education-related or not), are FTS', while the least proportion is located in ordinary schools (see table 21).

Table 21. Higher Education according to School Type.
(As Percentages)

School Type	Higher Education (as %)
Ordinary (N = 421)	29.5
PRS (N=121)	34.7
FTS (N= 57)	38.6
All (N = 599)	31.4

Source: Survey of Montevidean Teachers, 1999.

As much as age and tenure, when controlling by education, school type does introduce statistically significant variations in how teachers score in their *vocation* (see table 22).

More specifically, we see a distinct pattern between Priority Requirement Schools and ordinary and Full Time Schools. When controlled by education, the former show virtually no difference in vocation. Moreover, scores are the highest of all. Quite to the contrary,

teachers in ordinary and FTS schools do show important and statistically significant differences between teachers who have only pursued teaching studies and those who conducted additional tertiary education.

Table 22. Vocation by School Type and Higher Education
(As Means)

Education	School Type			
	Ordinary	PRS	FTS	All
Only teaching	1.05 (N = 257)	1.25 (N = 63)	.97 (N = 29)	1.09 (N = 349)
Other tertiary studies	.99 (N = 105)	1.28 (N = 32)	.33 (N = 18)	.97 (N = 155)
F & significance	8.852 / .000			

Source: Survey of Montevidean Teachers, 1999.

Unlike regarding vocation, education does not seem to introduce significant differences in the teachers' *satisfaction with their work environment* (scores 2.96 and 2.86 for only teacher studies and other studies, respectively) (table 23).

Table 23. Satisfaction with Work Environment by School Type and Higher Education
(As Means)

Education	School Type			
	Ordinary	PRS	FTS	All
Only teaching	2.91 (N = 297)	2.77 (N = 79)	2.98 (N = 35)	2.90 (N = 411)
Other tertiary studies	2.85 (N = 124)	2.85 (N = 42)	2.86 (N = 22)	2.86 (N = 188)
Difference	.06	-.09	.12	.04
F & significance	2.523 / .081			

Source: Survey of Montevidean Teachers, 1999.

Teachers in Full Time Schools show a slightly larger gap between educational groups than teachers in other school types. In FTS more educated teachers presenting a lowest positive appreciation of their work environment. This same pattern and with relatively similar scores occurs for teachers in ordinary schools, leaving PRS teachers the exception of their most educated teachers holding a slightly higher satisfaction with their environment.

Finally, regarding career satisfaction, the comparison of means shows no statistical significance (see table 24).

Table 24. Career Satisfaction by School Type and Higher Education
(As Means)

Education	School Type			
	Ordinary	PRS	FTS	All
Only teaching	2.73 (N = 297)	2.66 (N = 79)	2.72 (N = 35)	2.71 (N = 411)
Other tertiary studies	2.71 (N = 124)	2.74 (N = 42)	2.56 (N = 22)	2.70 (N = 188)
Difference	.06	-.09	.12	.04
F & significance	.687 / .504			

Source: Survey of Montevidean Teachers, 1999.

Socio-economic status

Comparison of means of the socioeconomic status of teachers indicates there are not statistically significant differences among teachers according to school type. The index, including father's education, housing, high school and household income has a theoretical variation of 0 to 10 and an empirical variation of 5 to 10. Means, however, point to a medium-to-high socioeconomic status, revolving slightly above 7 points for teachers in all school types, with a fairly homogenous standard deviation of 1 to 1.08.

Determinants of Profiles according to School Type

Special programs are correlated to variations in the profile of teachers which indicates some relation between incentives and certain characteristics of teachers most likely to work under them. Variations across school types do not, however, concern tenure and socioeconomic status as they concern variation in teachers' attitudes towards work, career and, particularly, vocation.

Overall, the direction of differences in teachers' profiles according to special programs place Priority Requirement Schools in the most favorable situation, while Full Time Schools in the less favorable. Indeed, teachers in the latter rank lowest in terms of their vocation, satisfaction with work environment and career satisfaction, situation that remains when controlling by tenured, age and education.

Models developed to explain institutional arrangements have a scarce explanatory power (see appendix 4). When looking at individual coefficients, the first model indicates that combined, teachers in schools with special programs are more likely to identify school directors as principals, to show a higher career satisfaction, to have a lessened incidence of vocation as a reason to become teachers, a larger proportion of tenured and more senior teachers.

When comparing special programs to one another results statistically significant differences only point to career satisfaction, higher among Priority Requirement teachers than among Full Time teachers.

Table 25. Teachers' Motivations to Enter the Teaching Profession according to School Type (As percentages)

Primary Motivation	School Type (as %)			
	Ordinary	PRS	FTS	All
Vocational	59.4	66.1	50.9	59.9
Personal development	26.1	25.6	21.1	25.5
Labor stability	--	--	1.8	.2
Other career conditions	11.2	5.8	15.8	10.5
Others	2.6	.8	8.8	2.8
Does not respond	.7	1.7	1.8	1.0
Total	100	100	100	100

Source: Survey of Montevidean Teachers, 1999.

Precisely, regarding the primary reason to choose teaching as a profession, we do not find significant variations among teachers in different school types, except concerning the higher

proportion of vocation among teachers in Priority Requirement schools (table 25). Neither does the examination of second and third reasons, which show a similar distribution of responses. It is worth mentioning that schools with Educational Improvement Projects show a fairly similar pattern of responses that the rest.

What we are still to establish is whether these different profiles entail an impact upon teachers' performance that might, in turn, be associated to children's performance.

Perspectives of Abandoning the Teaching Career

Finally, we develop a multivariable model that seeks to establish what the factors behind the idea of abandoning the teaching profession are (table 26). More specifically, we examine the hypotheses that abandoning the teaching profession could be due to wages, seniority, educational level, and non monetary rewards as measured by satisfaction with the profession and the work environment.

$$L \text{ ABANDN} = f\{\text{SALARI, EXPERC, EDUFIL, SATISF, AMBIEN, VOCAC, TIPINS, TENURE}\}$$

Concerning institutional arrangements, Full Time Schools increase the chances of abandoning teaching. Meanwhile, teachers in ordinary and Priority Requirement Schools do not show statistically significant differences. Model indicates that considerations of abandoning teaching is lower among teachers who have lower vocation and who work with children from negative socio-cultural background. Surprisingly, teachers who declare to have the most career satisfaction, also show a higher probability of considering to abandon the profession.

Table 26. Determinants of Abandonment

Variables	Abandonment =1	
	Coeff.	Effect
Constant	-.3479	.7146
Wages	-2.5E-08	4.310E-07
Seniority	-.0167	.0154
Children's Socio-Cultural Background, Negative	-.7288***	.2752
Vocation	-1.3568*	.1613
Career Satisfaction	.5744**	.2727
Satisfaction with Work Environment	-.0216	.2851
Priority Requirement School	.2934	.3199
Full Time School	.6730***	.4076
Tenure	.3672	.2714
Variance of dependent variable	.2462	
N	609	
Predictive capacity of model	73.33%	

Source: Survey of Montevidean Teachers, 1999.

Reference variables: children with medium to positive socio-cultural background, ordinary schools and untenured teachers.

* Significant at .01; ** significant at .05; *** significant at .10

In short, Priority Requirement Schools show a higher vocation and less seniority, while in Full Time schools the situation is precisely the opposite. Teachers in FTS tend to be more educated than teachers in Priority Requirement and ordinary schools, and education is inversely

correlated to vocation. Among teachers in PRS, less senior teachers show the highest vocation while in FTS vocation is higher among the most senior teachers. The proportion of tenured teachers and their socioeconomic profiles are constant across school types.

That ordinary schools typically rank in between Priority Requirement and Full Time Schools, indicates that the mere presence of a special program is not enough to improve teachers' perceptions and attitudes towards teaching. Instead, what these results suggest is that the specific design of the program is very important. Though requiring further research, our data indicates that there is something about the design of the Full Time program *in so far incentive for teachers*, that does not work adequately.

We have now to address whether there is any relation between profiles and performance. This is, therefore, the subject matter of the following section. In addition to addressing the relation between teaching profiles and teaching performance, this analysis contributes to understand whether attitudinal measures included in the survey actually measure what they are expected to measure. More specifically, below we develop a triangulation of attitudinal indicators with indicators other than survey's, particularly behavioral indicators of performance.

V. Teachers' Performance: Measures and Determinants

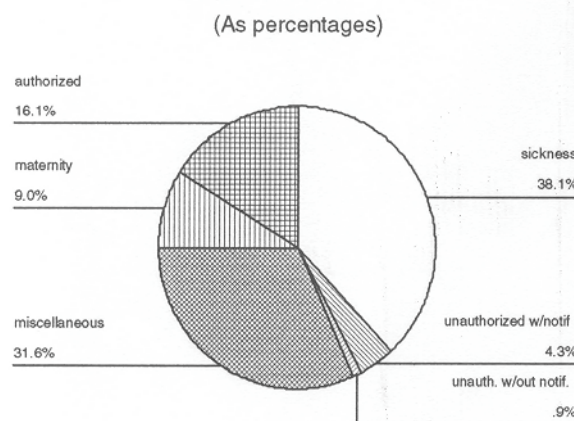
Teachers' performance is as elusive in its measurement as it is in its determinants. In this section we examine a set of proxy measures and use these measures to address their determinants. To this purpose, we regress a number of socio-demographic and attitudinal variables on performance.

First, we present the various available approximations to measuring performance. Secondly, we compare teachers by school type according to these measures. Third, we examine the correlation among these measures. Forth, we regress a set of independent variables on them.

1. Measuring Performance

Measures of performance utilized in this research are two, attitudinal and behavioral, respectively. The first set of measures draw from teachers' self-perception, as measured in a survey designed for the purpose of this research.³⁶ Measures of self-perception include an index of empowerment, an assessment of principal's perception of teachers' performance, and own evaluation of performance.³⁷

A second approximation to performance relies on absenteeism. More specifically, we rely on total number of absences and absences due to illness (in 1997 with the nearly 40% of all absences in 1997, illness-related absences represented the largest proportion of absences) (see Graph 14).



Teachers are entitled to be absent from work for a number of reasons. There is no maximum number of days for teachers to be absent. Instead, the length of the absence depends on its cause (e.g., 91 days for maternity leaves, not formally established for illness, 5 days for permits and typically one day for other causes, whether personal, such as wedding; community service and blood donation; or institutional duties, such as participation in

³⁶ Technical files for the survey and archival records on the labor history of teachers are included in appendix 3.

³⁷ The index of empowerment comprises twenty indicators. A shorter version of this indexes comprises ten of thirteen indicators following guidelines by the IADB's coordination. Alpha coefficient for the former is .9133 and for the latter .8842.

committees. Additionally, depending on the cause of the absence, absences will have full, partial or no impact upon wages and teaching evaluation (table 27).

Table 27. Types of Absences & Impact upon Wages and Teaching Evaluation.

Type of absence	Teaching evaluation	Wages
Illness	Partial or none ^{1/}	No
Maternity	No	No
Requested	Yes	No
Unauthorized, notified	Yes	Yes, single
Unauthorized, non notified	Yes	Yes, twice
Miscellaneous	Total, partial or none ^{2/}	Depends

Source: *Estatuto del Funcionario Docente*.

^{1/} Serious none: others, partial.

^{2/} Total for strikes; partial for blood donation and weddings; none for special institutional duties.

Note: Partial discounts are half a day. Late arrivals are not considered.

Medical personnel at CO.DI.CEN's "Health & welfare" office, certify sickness and maternity leaves. These physicians usually work in any of the province branches for primary, secondary and technical education. Additionally, medical reasons may lead to a reallocation of teachers from classroom duties to administrative tasks.

The permissiveness of sickness leaves is hard to assess. Still, interviews to local supervisors and authorities at CO.DI.CEN point at sickness leaves as the primary mechanism for teachers to avoid teaching while still on the payroll.³⁸ Data suggest that this might well be the case (see graph 1 below).

Teachers also have the right to strike.³⁹ These absences, however, have an effect upon wages and evaluation of teaching performance. These absences fall under the general "miscellaneous" category and their weight cannot be assessed. Most of the absences that fall under "miscellaneous", which are not due to strikes, have less of an effect on teachers' records and wages. Thus, together with sickness leaves', "miscellaneous" is the largest category in terms of the absolute number of days of class lost.

Finally, the two types of absences that carry the largest penalties in terms of wages and records, are unauthorized absences (with or without notification). Consistently, they represent the smallest cause of absence.

The correlation matrix of the various proxy measures of performance utilized is presented in table 41. This matrix shows that indexes of empowerment are almost perfectly correlated (.98). More generally, all measures of performance as self-perception are highly correlated. Correlation between attitudinal and behavioral measures of performance are not, however,

³⁸ Since 1996, Montevideo has an agreement with medical private firms in charge of visiting households whenever personnel cannot go to CO.DI.CEN's headquarters. The impact of the new system cannot be accurately established, since prior to 1996, for all practical purposes, there was no in-home certifying mechanism.

³⁹ Unions are national (i.e., Federación de Maestros del Uruguay, FUM) and province-based (e.g., Asociación de Maestros del Montevideo, ADEMU). Unions' concerns mostly revolve around salary and compensation-related matters. Unions do not participate in the recruitment or promotion of teachers. Though unions have actively opposed many of the policies implemented as part of the ongoing educational reform, individual leaders have shown a range of opinions and support to these policies. Teachers are entitled to join unions but neither partisan nor union activity or information cannot take place at schools, where children or parent can see it.³⁹ Leaders are not entitled to paid time for union-related activities.

statistically significant, with the exception of self-perception (performance 4), and illness-related absences. These two indicators show a weak correlation but, still, interesting for its direction: the more the illness-related absences the lowest the self-perception of performance.

Table 28. Correlation Among Various (Attitudinal and Behavioral) Measures of Performance
(Bivariate coefficients)

Measurement	1. Long Index ^{1/}	2. Short Index ^{1/}	3. Principal's Perception ^{1/}	4. Self-evaluation ^{1/}	5. Illness' absences ^{2/}	6. Total absences ^{2/}
Performance 1	---	.980**	.755**	.856**	-.097	.066
Performance 2		---	.741**	.859**	-.100	.052
Performance 3			---	.801**	-.103	.104
Performance 4				---	-.118*	.040
Performance 5						-.064

^{1/} Scores ranging 1 to 5; ^{2/} As days ranging 1 to 5. N = 329.

** Significant at .01 level; * Significant at .05 level (two tailed)

Sources: Survey of Montevidean Teachers, 1999; archival data Primary Council, 1997.

In short, while attitudinal measures are basically inter-changeable, these attitudes do not necessarily involve behavioral correlates and, when they do, they involve negative relations.

2. School Type, Work Satisfaction and Career Satisfaction as primary predictors of performance

Attempts to explain determinants of teachers' performance point to three sets of variables: institutional arrangements, career satisfaction, and work environment.

Below, we regress our proxy measures of performance on a set of independent variables after each of these three models. Thus, and in order to first examine interactions between dependent and independent variables, we describe interactions between these two sets of variables.

Concerning *school type*, our indicator of institutional arrangements, comparison of means for performance as empowerment according to school type only show slight differences (table 42). The shortest version of the empowerment index discriminates better than the longer index and as much as self-evaluation of performance. Still, results for all performance indicators revolve around the "neither/nor" category (value 3).

Overall, we cannot say that school type leads teachers to distinct self-perception of their empowerment. Differences do seem to exist, however, concerning self-perception of performance.

Still, and regardless of the indicator utilized, ordinary schools rank better than schools with special programs, followed by Full Time and Priority Requirement Schools, in this order. This could mean that teachers in ordinary schools are indeed better than teachers in schools in special programs or, alternatively, that the latter are more self-critical than the former. In order to clarify the most adequate interpretation of the relation between perceptual measures of performance and school type, we compare means for performance as absenteeism.

Table 29. Performance as Self-Perception by School Type

(As Means of Scores Ranging from 1 for Poor to 5 for Excellent)

Special program	Performance 1 (Index, long)	Performance 2 (Index, short)	Performance 3 (As by principal)	Performance 4 (Self-evaluation)
None (N=421)	2.25**	3.02*	2.32	2.15*
PRS (N=121)	2.37**	2.75*	2.14	1.71*
FTS (N= 57)	2.43**	2.81*	2.30	1.81*
Total (N= 599)	2.52**	2.95*	2.28	2.03*
F & significance	5.834; .003	8.086; .000	.999; .369	6.825; .001

Source: Survey of Montevidean Teachers, 1999.

* Significance at 1% ** Significance at 5%.

As expected from results shown in the above correlation matrix, comparison of means as measured by absenteeism bears no relation with comparison of means as measured by perception of performance. Moreover, comparison of means for absenteeism, whether total or illness-related, does not show statistically significant variations across school types (table 30). Variations are as much within as between groups (although ordinary schools show larger standard deviations than schools with special programs).

Table 30. Performance as Absenteeism by School Type
(As Means of Absolute Number of Days)

Special program	Performance 5 (Due to Illness)		Performance 6 (Total)	
	Means	St. Dev.	Means	St. Dev.
None (N=225)	5.12	14.67	16.77	22.05
PRS (N=62)	3.44	6.32	15.51	11.30
FTS (N=42)	5.64	9.12	15.74	11.20
Total (N= 329)	4.87	12.86	16.40	19.27
F & significance	.501; .606		.131; .877	

Source: Survey of Montevidean Teachers, 1999.

Regarding absenteeism, Educational Improvement Projects show no statistical differences, neither as a whole when compared schools without, nor within each school types, as it would seem more reasonable to expect.

Finally, we correlate selected indicators of performance, whether as self-perception or as absenteeism, with the other primary predictors of performance suggested by the literature: *career satisfaction* and *satisfaction with work environment*. We also include a third indicator, vocation, which will later be included in regression analysis.

The correlation matrix shows interesting results (table 31). First, all attitudes except vocation show statistically significant correlation. Moreover, strong correlation coefficients indicate either of two possibilities: a strong explanatory power of the latter by the former two independent variables, or an overlap in what these three constructs are actually measuring. The absence of statistically significant relation between empowerment with vocation, however, warns against the latter interpretation.

In fact, of all attitudinal indicators towards teaching, the vocation index seems the one with the most straightforward interpretation. This index gathers whether teachers would choose to become teachers if they were to choose a career today, and whether they would like their children to pursue a teaching career. As such, it seems "harder" than indexes that gather

opinions regarding a broad set of issues and which, in addition to very likely measure more than one dimension, may lent themselves to non-systematic normative opinions.

Table 31. Correlation among Different Measures of Performance and Primary Attitudinal Variables

	Satisfac w/ Work Env.	Career Satisfaction	Vocation
As empowerment 1 ^{1/}	.753**	.794**	-.034
As empowerment 2 ^{2/}	.746**	.779**	-.046
As absenteeism (log)	-.114	-.042	-.046

Sources: Survey of Montevidean Teachers, 1999; archival data Primary Council, 1997.

** Correlation coefficients significant at the 0.01 level (2-tailed).

Concerning performance as absenteeism, correlation coefficients show non statistical significance, though if we were to pay attention to the signs of the relations, all of the pint in the expected direction: the more the satisfaction, the less the absenteeism.

Multivariable analysis is included in appendix. 4. Models indicate that performance as empowerment is best explained by other attitudinal factors, such as satisfaction with work and the teaching career. When regressed as a continuum variable, absenteeism show none relation to variables included in the model but empowerment. However, when dichotomized and regressed into a logit regression, the probability of absence is higher among teachers working in school's with a negative socio-cultural background (Montevideo) and among the less senior teachers (rest of the country). Therefore, institutional arrangements, at least as implemented in Uruguay, do not make a difference in terms of performance, whether measured as empowerment or as absenteeism.

IV. Summary of Findings and Conclusions

Uruguay faces particularly harsh conditions to improve the performance of its teachers. On the one hand, it has witnessed a process of steady deterioration of the status and income of the profession and teachers come from more heterogeneous and apparently less favorable socioeconomic background than in the past. However, the motivational profile of students and teachers has remained basically the same, with the exception of the relatively larger concern with instrumental factors shown by teachers in the labor market, already.

In addition, the large majority of teachers live under family arrangements where breadwinners is a person other than herself and, thus, teachers' income tend to be secondary in the economic maintenance of the household. We should therefore expect factors other than monetary rewards alone or primarily, to play a central role in teachers' choices and behavior. The effects of special programs examined in here are mediated by this factor.

Concerning labor arrangements, career mobility heavily relies on seniority, favoring teachers' preferences over organizational needs, thus regressively allocating its human resources.

Special programs implemented in the country since 1992 have indeed had a positive effect upon the *mobility* of teachers in schools. More specifically, teachers under special programs lower school turnover. In turn, by reaching higher permanence rates, special programs might have better conditions to strengthen schools as organizational and managerial units than schools without special programs. The effects of special programs upon mobility decreases as seniority increases.

The *attitudinal and sociodemographic profile* of the teaching body is noticeable different when controlled by special programs. Both Priority Requirement and Full Time programs do introduce changes in this profile. Yet, variations in the profiles of teaching bodies document that the specific design of special programs is as important as the very existence of the program. While Priority Requirement, schools show profiles that are more favorable than ordinary schools, Full Time schools reallocate in a direction other than expected by reformers. The overall attitudinal profile of Full Time teachers is less favorable than that of ordinary schools.

Two aspects in the design of the Full Time program deserve further attention. On the one hand, these schools attract teachers willing to work full time for wages typically lower than a double work schedule in two different schools. On the other hand, the profile of teachers willing to work full time (usually more senior, typically more educated and with therefore less vocation than less senior teachers), may explain this situation.

The effects turnover and teaching profiles upon performance (whether measured through attitudinal or behavioral indicators indicates that special programs), have neither positive nor negative effects upon teachers' self-perception of performance or absenteeism.

Principal-agent relations are neither clear nor optimal in order to increase schools' organizational effectiveness. Finally, the incentive system linking teaching and managerial positions induces the most career-oriented teachers to leave the classroom. It is against this context that we should evaluate the success of special programs in changing performance and allocation.

A first interpretation of our data might simply indicate that a drastic reform of management and career incentives is needed in order to counteract these trends. However, it is clear that the educational reform has chosen a quite different avenue to confront these challenges. Current policy seeks the improvement of the average quality of teaching candidates to better their allocation and, only recently, to improve their performance. It does so by increasing starting wages, strengthening training, and development special programs, less geared towards improved performance than to the reallocation and retention of school personnel.

Indeed, special programs examined in here have considerably improved the permanence of teachers in the same school for a longer period, as reflected in our study of teaching turnover. Once having decreased school turnover, the profile of teachers attracted and retained becomes more important than before because it now becomes an issue to see whether incentives are attracting the right personnel for the job. Of course, gains in the probability of school permanence do not mean these gains are enough. In fact, these gains may still be short-lived and turnover continues to rapidly erode whatever gain in human resources these schools have made.

As the reform advances, it seems to face a primary bottleneck: not just to reallocate teachers but to “get the incentives right” for the right reallocation. A second bottleneck is to establish means beyond traditional evaluation mechanisms for teachers’ performance.

Appendix 1

Characterization of the Urban Teaching Body

Drawing from household survey, below we develop a characterization of the teaching labor force.¹

Participation in the labor market:

Current openings for teaching positions make it very unlikely that licensed teachers will not find a job. Therefore, unlike with other professionals, rates of activity and inactivity among teachers reflect the supply and demand heavily induced by the ILM structure previously described.

Nationwide, the female participation rate is high: 45.7% in Montevideo and 40.7% in the rest of the country. In the 1997 household survey, of all women actively participating of the labor force, 2.6% in Montevideo and 3.8% in the rest of the country were teachers. Noteworthy, retirement rights do not set minimum age but twenty five years of active service.

Rates of active participation in the labor force are, however, considerably higher among teachers than among women as a whole, reaching 57% in Montevideo and 64% in the rest of the country. Moreover, the proportion of inactive teachers in ages corresponding to the reproductive life-cycle seems very low: when looking at groups below 40 years-old, inactive teachers add up to 5% or less (3.6 and 5.2% for women in Montevideo and rest of the country, respectively). The difference between Montevideo and the rest of the country, where traditional gender roles are expected to be stronger, is minor, suggesting that teaching arrangements may indeed allow women to combine work and family responsibilities.

Table 1. Working Status of Teachers by Age Group, Montevideo and Rest of the Country, 1997.^{1/}
(As Percentages)

Age group (as years)	Montevideo			Rest of the country		
	Total (N=320)	Active (N=183)	Inactive (N=137)	Total (N=377)	Active (N=241)	Inactive (N=136)
Less than 25	3.4	5.5	0.7	4.8	6.6	1.5
Between 25 & 39	27.2	45.4	2.9	24.9	36.9	3.7
Between 40 & 54	25.9	36.6	11.7	37.9	49.0	18.4
55 & more	43.4	12.6	84.7	32.4	7.5	76.5

Source: Based on 1997 Household Survey provided by the INE.

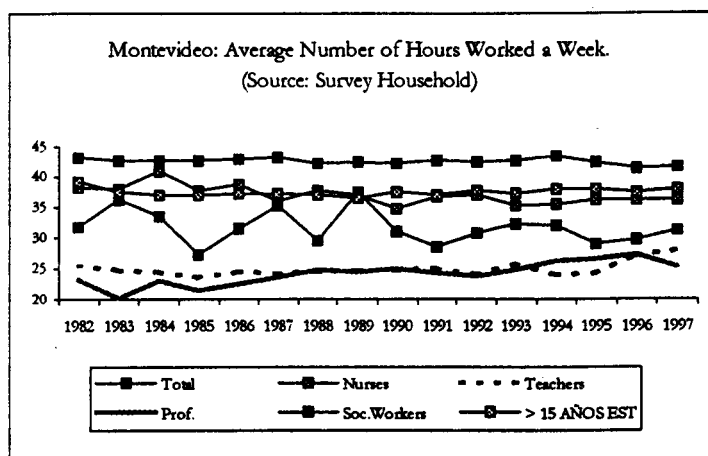
^{1/} Distinction based on the question regarding occupational status during the week prior to the survey.

In addition, the average number of hours worked a week has been stable over time and ranges from 24 to 28 hours.

The proportion of middle aged teachers (ages 40 to 54 years-old) who become inactive is relatively high (15.3 and 23.5% in Montevideo and rest of the country, respectively). Sources of inactivity could be several, from burnout, opportunity costs of leisure or others, all of which deserve further examination but go beyond the scope of this investigation, targeted at teachers who do remain active.

¹ Household surveys are conducted by the national institute of statistics (Instituto Nacional de Estadística, INE) and provide a representative sample of the country's urban population (i.e., Montevideo and cities of 900 and larger). Samples are independent for Montevideo and the rest of the urban country. Limitations primary two. First, small number of teachers makes data strongly indicative but by no means representative of the teaching population. Secondly, variables included are socio-demographic and socioeconomic while not attitudinal. Both representative samples and a broader set of variables are examined drawing from a survey of Montevidean teachers later in this report.

Graph 1.



Family arrangements

Marital status, insofar related to domestic demands, is likely to have an impact upon teachers' occupational motivation and commitment. Considering married and divorced teachers, at least seven out of ten women are likely to have important domestic responsibilities as wives and mothers (table 2).

Table 2. Marital Status of Teachers according to Working Status, 1997.
(As Percentages)

Marital status	Montevideo (N=183)	Rest of the country (N=241)
Single	24.0	22.8
Informal partnerships	4.4	1.7
Married	57.4	63.1
Divorced/separated	10.0	8.7
Widow	3.3	3.7
Total	100%	100%

Source: Based on Households' Survey Data provided by INE.

Also pointing to the important proportion of teachers who have family demands, half of all teachers are spouses to the head of the household (table 11). The difference between the proportion of spouses to the head (50 to 54%) and the proportion of married teachers (67% or more) suggests about 10% of teachers who are married, yet heads. An important proportion of teachers are themselves heads of their household, about 10% higher in Montevideo than in the rest of the country (26.4 and 17.4%, respectively). These teachers may be single women without important responsibilities or just the opposite, namely teachers who support their households on their own (to be double checked). Meanwhile, a quarter or less of all teachers are daughters of the head of the households and can be expected to have less family responsibilities (17.5 and 25.3%, respectively).

Table 3. Teachers' Relation to Head of the Household, 1997.
(As Percentages)

Marital status	Montevideo (N=183)	Rest of the country (N=241)
Head	26.8	17.4
Spouse	50.8	54.8
Daughter	17.5	25.3
Others	4.9	2.5
Total	100%	100%

Source: Based on Households' Survey Data provided by INE.

Most teachers live in nuclear families (70%) (table 4). Still, one out of five teachers live in extended households. This may be due to a number of factors such as the lack of resources to establishing autonomous households,² as well as a family strategy where older members make it possible for teachers to combine working and children care-taking.

Table 4. Composition for Teachers according to Working Status, 1997.

(As Percentages)

Household composition	Montevideo (N=183)	Rest of the country (N=241)
Individual	5.5	3.3
Nuclear ^{1/}	68.9	73.0
Extended ^{2/}	22.4	22.8
Composed ^{3/}	3.3	.8
Total	100%	100%

Source: Based on Households' Survey Data provided by INE.

^{1/}Head, spouse and children; ^{2/}Chief, spouse, children and other family member(s); ^{3/}Includes people other than family members.

The proportion of teachers in extended households is higher than among other female professions and higher in these two professional groups than among mainstream (non-female) professionals. According to previous research, the proportion of extended households is positive associated with poverty (notice that the high proportion of teachers living in extended households cannot be due to age, since teachers are not particularly younger as compared to other professionals). Regardless of its causes, and considering that teaching is a predominantly female profession, the cause for extended households is altogether different from the effect. While the cause may be economic, the effect may have an important impact upon how teachers manage to combine work outside the house with their roles as wives and mothers.

About 80% of all teachers live in households with at least two bread-winners, suggesting that, most likely, teachers provide the second salary in two breadwinner families, in fact, provided poverty rates and teachers' wages, we can be almost certain (table 5). The remaining 20% of teachers live in households where they provide the only or primary income source of the household.

Table 5. Teachers and Heads of Households by Working Status, 1997.

(As Percentages)

² Previous studies show that extended households are higher among the poor than among the general population. While between 1984 and 1993 extended households were nearly 20% among the general population, they peaked up to 30% among poor households (Operti & Villagrán, 1997).

Working Status	Montevideo (N=183)	Rest of the country (N=241)
Active	82.5	80.9
Inactive	16.4	18.7
Unemployed	1.1	0.4
Total	100%	100%

Source: Based on Households' Survey Data provided by INE.

Stability and relatively few weekly hours of work as compared to other female-dominated professions suggests that teaching largely allows for the accommodation of work demands and family arrangements.

Socioeconomic status of households:

If teachers indeed tend to contribute a secondary wage to the household, it may be that the socioeconomic status of teachers *households* does not show differences with non-teachers. Nine out of ten teachers are "socially integrated", namely, above the relative poverty line and with satisfied basic needs (Katzman, 1985). Levels of social integration are higher among teachers than among the population at large (more than 90 and 70%, respectively) and similar to other female-dominated professions. Differences showed when comparing teachers to non-female, mainstream professions among whom levels of social integration are slightly higher. The situation is similar in the rest of the country.

Table 6. Income Distribution among Urban Teachers and Other Professions, 1997.^{1/}
(As percentages.)

Quintiles	Montevideo			Rest of the Country		
	Teachers (N=320)	Female. ^{1/} (N=157)	Mainstream. ^{2/} (N=564)	Teachers (N=377)	Female (N=50)	Mainstream (N=124)
First	4	3	0	3	0	0
Second	10	14	2	6	10	2
Third	20	21	8	13	14	6
Forth	29	28	21	31	36	14
Fifth	37	34	69	46	40	78
Total	100%	100%	100%	100%	100%	100%

Source: Based on Households' Survey Data provided by INE.

1/: Nurses and social workers; 2/: Lawyers, engineers, accountants and physicians.

Comparing the distribution of households among income quintiles (table 14). In Montevideo seven out of ten mainstream professionals belong to the highest income quintile while less than four out of ten teachers and other female professionals do. In the rest of the country, the proportion of all professionals located in the highest income quintile is higher than in Montevideo while professions, follow the same pattern than in Montevideo.

Appendix 2

Historical Requirements for Students to become Teachers: An Overview

Table 1. Teachers' Training: Primary Requirements according to Curriculums.

#	Year	Required studies	Admission exam	Length	Enrollment growth	
					Period	Annual
1	1955	4 th years secondary school or normal cycle (4 years)	Yes ^{1/}	4 years (professional normal cycle)	150% (1961-71)	15.0%
2	1972	6 th year secondary school	No	4 years (professional normal cycle)	-49.9% (1972-76)	- 10.0%
3	1977	6 th year secondary school	No	3 years	84.5% (1977-85)	9.4%
4	1986	6 th year secondary school	No	4 years	-44.1% (1986-91)	- 7.4%
5	1992	6 th year secondary school	No	3 years (including specialization in the 3 rd year)	78.7% (1992-98)	9.8%

Source: Based on "Boletines del Dpto. de Investigación y Planeamiento Educativo", CEP (1961-69); Anuario Estadístico de la Dirección General de Estadística y Censo (1970-1982); División de Planes y Programas y Unidad de Planificación y Programación, Dirección de Formación y Perfeccionamiento Docente (1983-88).

^{1/}Except when having completed cycle required with an average qualification of "good".

The *first curriculum* considered (1955) extended teachers' training to one more year compared to the 1939 curriculum, and allowed students with good qualifications to enter without the admission exam. Nevertheless, teaching training remained as secondary education. It was during the implementation of this plan that primary school became universal and most training institutes were created. Additionally, during this period teachers reached the highest wages in the last 40 years (in 1967) and enrollment grew in 150%.

With *the second, 1972 curriculum*, teaching training became tertiary education. Completed secondary education was now required and admission exams were eliminated. During the short period of time that the 1972 curriculum was implemented, enrollments declined in 49.9% (from 6.353 to 3.186), corresponding to 40.5% of the 1967 enrollment. Between 1968 and 1974, enrollments in higher-education grew 6.8% annually (departing from the prior 2.7% between 1960 and 1968). Generally, teaching enrollments diminish when requirements are similar to careers provided by the university. It must be taken into consideration that these were years of intense political conflict that led to the 1973 breakdown of democratic institutions.

The *third curriculum* (1977) maintained requirements unchanged, yet diminished the length of studies from 4 to 3 years. Meanwhile, the university established admission quotas and when demand was higher than supply, admission examinations were required. Under this curriculum enrollments at teaching training institutes grew in 84.5% (from 2.865 to 5.287 students). Once exams admissions were removed, university enrollments doubled (Bayce, 1985).

The *fourth curriculum (1986)* also maintained requirements but increased training back to four years. During its application, enrollments decreased in 44.1% (from 4.494 to 2.514 students). Meanwhile, upon democratization, not only university enrollments grew explosively but female entrance to higher-education increased (from 45% in 1974 to nearly 60% in 1988). Moreover, the relative weight of the social and human sciences in students' enrollments grew from 7.3% in 1974 to 17.2% in 1988. As four-year length careers, these careers compete with teaching for a similar pool of applicants. Finally, between 1986 and 1992 real wages for teachers diminished 25%. (Enrollments decreased the most between 1986 and 1990, while wages dropped dramatically between 1989 and 1992. Still, real teaching wages in 1985 are 35.8% less than in 1972 and 155.8% less than in 1967).

The 1992 *curriculum (1992)*, once again, reduced the length involved in teachers' training. Additionally, specialization (between regular and pre-school teachers) is attained within this same period of time. With the application of this plan, enrollment grew in 78.7% (from 2.933 to 4.885 students). At the same time, the expansion of mandatory pre-primary education has brought in 30.000 new students to the system between 1996 and 1999, thus expanding the number of teaching positions. Therefore, and unlike previous periods, during the 1990s the increase of educational coverage in a period of Educational Reform (1995 onwards) may be an important pull-factor in explaining the expansion of people entering a teaching career (while enrollments at the university level, in both social and human sciences, decrease between 20 and 25%). Despite a 7% increase in teaching wages between 1995 and 1997, in 1997 wages are 12% lower than maximum values registered between 1985 and 1997. However, the expansion of teaching posts takes place at the same time that 1997 unemployment rates are 11.4% (against 8.3% in 1993).

Appendix 3.

Data Bases: Technical Report

Archival Labor Records

Population: Uruguayan urban teachers between 1989 and 1997. Unit of analysis are positions. Number of positions varied from one year to the other. The total number of cases entered was 130078.

Statistical Archival Record: Number of cases entered by year.
(As absolute numbers)

Year	Number of Cases
1989	13235
1990	13225
1991	13691
1992	13885
1993	14119
1994	13908
1995	13664
1996	13597
1997	20754
Total	130078

Source: Statistical Archival Records, CP.

Data entering: November 1998 to March 1999 (including data entering, supervision and data cleaning).

Data: Forms are completed by each school at the end of the year. Variables include information regarding the school (e.g., location and school type), children in the classroom (e.g., number, absences, promoted to the following grade), and the teacher herself (e.g., absences, reason for absence).

Survey of Teachers

Population: 3.890 teachers, according to 1997 data (1225 in positive, 904 in medium, and 1761 in negative socio-cultural backgrounds).

Sample: Stratified according to school's socio-cultural background (positive, medium and negative). National objective test conducted in 1996 among 6th graders shows that performance was significantly correlated to schools' socio-cultural background (as measured by socio-educational and socioeconomic indexes, which are made of the difference between the percentages of students whose mothers completed and did not complete primary education and the difference between percentages of students with high and low levels of equipment, respectively). In our research design, school background is a primary independent variable, explanatory factor of institutional and educational performance. The correlation between language scores with school background is higher than for math (Eta coefficients of 0,72 and 0,67, respectively, see table1). We therefore considered sociocultural background as the estimator for our sample.

Error of 6% and confidence interval of 95.5%.

Within each socio-cultural background a random systematic sample was applied, yet with the caution of obtaining a minimum number of Full Time schools. Additionally, we selected 26 replacement schools.

Socio-cultural Background for 6th Graders according to National Tests, 1996.
(As percentages)

Socio-cultural Background	Language	Math
Very positive	84.9%	66.1%
Positive	68.2%	45.6%
Medium	57.6%	31.6%
Negative	46.3%	23.9%
Very negative	32.3%	13.3%
Total	55.7%	33.5%
ANOVA test; statistical significance	100%	100%
ETA coefficient	0.72	0.67

Source: CO.DI.CEN.

Field Work: May 26th to 12 June, 1999.

Sample and teachers actually surveyed:

Sample: Expected and Surveyed Teachers, 1999.
(As absolute numbers)

Sociocultural background	Expected	Actual	Refused	Absent	Unable/surveyed elsewhere
Positive	215	186	10	6	1
Medium	226	183	29	11	--
Negative	264	230	11	19	2
Total	704	599	50	36	3

Survey of Students

Population: Montevidean students Teaching Training Institute (*Instituto de Formación Docente*), 1st to 3rd grades. Estimated number of students, 1500.

Field Work: May 15th–May 25th, 1999. Authorities added their own administrative form to the project's opinion survey and both were administered at the same time.

Actual population surveyed: 1089 (responded survey) & 595 (responded administrative form).

Interviewees

CO.DI.CEN:

Ec. Rosario Domingo, advisor to the Director

Insp. Elsa Serra de Thebot, Planning Office
Doctor Cesar Rodríguez, Director Medical Certifications, Office of "Salud y Bienestar"

Council of Primary Education:

Insp. Nelly Filardo, Technical Supervisor,
Luis Rodríguez, Director of Hacienda
Insp. Rosario Barea, Province supervisor, West Montevideo
Insp. Jesús Safons, Province supervisor, Central Montevideo
Insp. Francisco Heredero, Province supervisor, East Montevideo
Insp. Ferreyra, Province Supervisor Salto
Insp. Neddy Fleytas, Local Supervisor Canelones
Insp. Walter Pereyra, former National Supervisor Private Schools
Teacher Margarita Presno, Montevideo
Canelones' Province Supervising Office

Unions:

Héctor Florit, general secretary *Federación de Maestros del Uruguay*

Appendix 4 – Multivariable Models

1. Determinants of Preference towards Teaching

In order to examine determinants of preference towards teaching we use a single indicator, teaching as a first choice, assuring a relatively straightforward interpretation of results.

After this short and basic descriptive exercise, we regress our dependent variable, preference towards teaching, on a set of socioeconomic and motivational variables. The former was measured as whether teaching was the first choice. Socioeconomic background was measured by an additive index including, parents' educational background, secondary school type (80% public for the country as a whole), and house ownership and working status. The index ranges from 0 to 4. Additionally, we include self-perception concerning academic performance in secondary school and self-reports that allow us to classify individuals along the normative/expressive and instrumental clusters.

The model to explain determinants of teaching preference is as follows:¹

$$L \text{ PREFER} = f(\text{PERFORMANCE, CHILDREN, WORKS, LABOR STABILITY, HIGH SCHOOL, RAZPRO})$$

Statistically significant determinants of teaching preference are performance as secondary students, attitude towards children becoming teachers, father's education and importance attached to labor arrangements such as vacations and retirement benefits (though not to labor stability). More specifically, preference of becoming a teacher is higher among those with low performance when high school students, who do not work and who do not want their children to become teachers.

Determinants of Teaching Preference

Variables	Model 1		Model 2	
	Coeff.	Effect	Coeff.	Effect
Constant	.5408	1.3965	1.0758*	.2006
Performance as secondary student	-1.5761*	.5314	-.6595*	.2166
Like children become teachers	-1.4768**	.6773	-.3347	.3095
Works while studies	-2.5451*	.6166	-1.3001*	.2247
Labor stability	.7222	.6570	---	---
High school	.0154	.5225	---	---
Father's education	.2166	.7783	---	---
Normative & vocational motivation	-.0277	1.0873	---	---
Work environment	-.2097	.7438	---	---
Professional development	-1.0153	1.3785	---	---
Expectation of rapid employment	.7854	.5713	---	---
Influence of family and friends	.1897	.6179	---	---
Labor arrangements	2.2512*	.6490	.5926*	.2252
N	117		418	
Predictive capacity of the model	80.34%		69.86%	

Source: Survey IFD Montevideo, 1999.

Reference variables: performance as students; does not want children to become teachers; does not work; low or none appreciation for labor stability; public high-school.; father's reached primary education.

Since the first model has a large number of missing cases, we run a second model including a fewer number of variables. Additionally, removing all clusters but that concerning instrumental orientation towards work, the number of cases selected in the analysis increased considerably (53.2% of the sample).

¹ Following guidelines by the IADB coordination.

Determinants of Empowerment.

Variables	Model 1		Model 2		Model 3		Model 4	
	Coef.	Error St.	Coef.	Error St.	Coef.	Error St.	Coef.	Error St.
Constant	2.358	11.194*	4.05E-02	.244	-.355	-2.293**	-.647*	-4.727
Priority Requirement	-.326*	-4.008	---	---	---	---	-.119**	-2.749
Full Time	-.167	-1.603	---	---	---	---	-.115**	-2.097
Seniority	-6.26E-03	-1.099	2.837E-03	.754	-4.65E-03	-1.372	-2.484E-03	-.776
Vocation	-3.13E-02	-.809	2.51E-02	.993	-2.34E-02	-1.030	5.19E-04	.026
Age 30-39	7.02E-02	.861	1.86E-02	.347	1.597	.111	5.91E-02	1.398
Age 40-49	7.57E-02	.640	-6.30E-03	-.081	8.38E-02	1.179	4.28E-02	.698
Age 50 & >	9.95E-02	.674	-3.44E-02	-.353	7.54E-02	.857	4.00E-02	.522
Socioec. Status	3.46E-02	1.332	-4.56E-03	-.265	3.65E-03	.235	-7.06E-03	-.519
Schooling	-1.96E-02	-.332	-3.06E-02	-.785	1.30E-03	.037	4.75E-04	.015
Sch. Sociocult. Back., Negative	.124***	1.759	-7.09E-02***	-1.795	-6.83E-02***	-1.912	-2.58E-02	-.690
Career Satisf.	---	---	.915*	25.776	---	---	.472*	12.567
Satis. Work Environ.	---	---	---	---	1.005	30.337	.668*	17.023
Tenure	---	---	---	---	---	---	7.03E-02**	1.914
Adjusted R ²	.020		.580		.650		.742	
F	2.030		74.833		103.500		109.456	
N	609		609		609		609	

Source: Survey of Montevidean Teachers, 1999.

In first model reference variables are Constant refers to teachers without tenure and with none vocation, satisfaction towards work and teaching career.

Reference variables: ordinary schools, age 20-29, positive school's socio-cultural background, and untenured.

School permanence was included in the model, yet showed no significance.

* Significant at 1%; ** Significant at 5%; Significant at 10%.

In short, the forth model indicates that special programs, tenure and attitudinal variables are significant predictors of empowerment.

Below, we develop two other models of performance as measured by absenteeism. The first model replicates model four presented above. The second also includes the index of empowerment that was before utilized as our measure of the dependent variable, performance.

$$\text{Model 5 -- ABSEENTEISM} = f\{\text{TIPINS, EXPERC, VOCAC, EDAD, SOCFIL, ESCOLA, ESCFIL, AMBIEN, SATIS, TENURE}\}$$

$$\text{Model 6 -- ABSEENTEISM} = f\{\text{TIPINS, EXPERC, VOCAC, EDAD, SOCFIL, ESCOLA, ESCFIL, AMBIEN, SATIS, TENURE, EMPOWERMENT}\}$$

Neither one of the regression models have the capacity to explain absenteeism. Moreover, no individual variables except empowerment (model 2) shows significant effects upon absenteeism. In the case of empowerment, the direction of the coefficient is as expected: the more the empowerment the less the number of absences.

This model identifies four significant or nearly significant variables: performance in secondary school, external influence towards teaching and self-reported performance in high school, all but high school performance show positive relations with teaching as a first career choice.

2. Determinants of School Type

We develop a multivariable analysis that allows us to simultaneously control by a number of independent variables (rather than the crosstabulation of two or three variables presented above). In doing this, we include a number of variables that were not considered before and which concern institutional arrangements like number of principals, implicit contracts, and disciplinary climate.

L TIPINS = f(DISCP, CONTIN, IDMULT, IDPPAL, VOCAC, SOFCIL, DESEMP, SATISF, RAZPRO, TENURE, SCHOOL PERMANENCE?)

We develop two separate models. The first compares schools with and without special programs and the second compares both special programs under examination, Priority Requirement Schools and Full Time Schools.

Determinants of School Type

Variables	Model 1 Special Programs=1		Model 2 Priority Requirement =1	
	Coeff.	Error St.	Coeff.	Error St.
Constant	1.3711	2.5967	-1.2367	2.9054
Disciplinary climate	-.0832	.0640	-.0388	.0733
Informal contract	.6255	.5517	-.1694	.6303
Multiple principals	.0820	.1773	.1526	.2041
Identity of principals	.7851**	.3628	-.3907	.4164
Vocation	-.2127	.2621	.3301	.3079
Socioeconomic profile	-.0900	.1632	-.1334	.1952
Empowerment	-1.1481	.7208	-.9564	.7997
Career Satisfaction	1.3476**	.5768	1.8944*	.6588
Motivation for teaching, personal devt.	-.0617	.3755	.5819	.4221
Motivation for teaching, vocation	-2.8956**	1.5535	-1.7668	1.7611
Tenure	1.5983*	.4661	1.9515	.5250
Seniority	-.1037*	.0260	-.1286	.0303
Variance dependent variable	.21		.22	
N	609		178	
Predictive capacity of model	70.95%		81.90%	

Reference variables: principal other than school's director, motivation for labor stability and overall labor conditions and other reasons, untenured. Institutional reference values for model 1, ordinary schools and for model 2, Full Time Schools..

* Significant at 1%; ** significant at 5%

Source: Survey of Montevidean Teachers, 1999.

3. Determinants of Teachers' Empowerment and Absenteeism

Multivariable analysis conducted to explain empowerment according to factors identified as most relevant by the literature and proposed as the axis of cross-national comparison in this research: first, institutional type, namely, in the case of Uruguayan public schools, school type, distinguishing between ordinary schools and school with special programs; secondly, career satisfaction; and third, satisfaction with work environment, both of which are measured by Likert scales included in the survey.

Models are the following:

Model 1 – EMPOWERMENT = $f\{TIPINS, EXPERC, VOCAC, EDAD, SOCFIL, ESCOLA, ESCFIL\}$

Model 2 – EMPOWERMENT = $f\{SATISF, EXPERC, VOCAC, EDAD, SOCFIL, ESCOLA, ESCFIL\}$

Model 3 – EMPOWERMENT = $f\{AMBIEN, EXPERC, VOCAC, EDAD, SOCFIL, ESCOLA, ESCFIL\}$

In addition, we develop a fourth model that combines all primary regressors within one single model:

Model 4 – EMPOWERMENT = $f\{TIPINS, EXPERC, VOCAC, EDAD, SOCFIL, ESCOLA, ESCFIL, AMBIEN, SATIS, TENURE\}$

In all cases, dependent variable utilized is the index of empowerment in its longer version. Regression using the shortest version of this index did not show important variations and are, therefore, not reported. Table 45 details findings for each of the four models.

Overall explanatory capacity improves from the first to the fourth models. Indeed, institutional types shows scarce explanatory power of empowerment.

As anticipated by the correlation matrix presented above, independent attitudinal variables considerably increase the overall explanatory power of the model. Satisfaction with work environment has a better pay-off than career satisfaction and both of them together, better than any of them alone. Moreover, when controlling by career satisfaction and satisfaction with work environment, special programs do show a statistically significant and negative effect upon performance (namely, that the presence of special programs leads to lower performance as empowerment). Finally, tenure, shows a weak, yet significant effect upon empowerment.

Educational Improvement Projects show significant effects in the first, second and fourth models (at 1%, 10% and 1%, respectively), therefore not showing statistical significance in the model that holds the largest explanatory capacity. The direction of the effect is always negative, thus confirming what we established in previous characterization of the effect of EIPs according to school types, namely that the presence of EIPs tends to lower perception of empowerment.

Determinants of Performance as Absenteeism

Variables	Model 5		Model 6	
	Coeff.	T Test	Coeff.	T Test
Constant	8.006	1.047	5.223	.678
Priority Requirement School	-2.598	-1.305	-3.272	-1.634
Full Time School	-2.598	-1.305	-.620	-.261
Seniority	-.119	-.795	-.146	-.981
Vocation	-.107	-.451	-.103	-.436
Sch. Sociocult. Back., Negative	2.020	1.211	1.932	1.165
Age 25-29	-.891	-.296	-1.322	-.440
Age 30-39	1.466	.635	1.188	.517
Age 50 & more	.293	.110	.496	.187
Socioeconomic status	.408	.591	.381	.554
Schooling	-1.769	-1.138	-1.919	-1.240
Satisf. w/Work Environment	-.654	-.316	2.608	1.025
Career Satisfaction	-1.133	-.568	1.344	.588
Empowerment	---	---	-4.930**	-2.183
Tenure	1.324	.630	1.584	.757
Adjusted R ²	-.008		-.001	
F	.713		.977	
N	309		309	

Source: Survey of Montevidean Teachers, 1999.

Reference variables: ordinary schools, school's positive socio-cultural background, age 40-49, untenured.
Models 1, 2 and 3 developed for performance as empowerment were also run. However, neither the adjusted R² nor none of the individual coefficients were significant.

* Statistically significant at 1% ** Statistically significant at 5% ** Significant at 10%

In addition to the under-specification of the model, it may be that the assumption of linear of relation is not adequate for the purpose of explaining absenteeism. Elaboration of logit regressions, show that relevant explanatory factors of absenteeism differ for Montevideo and the rest of the country (table 3). A contribution of this attempt is, moreover, to examine and compare teachers outside of Montevideo.

Model 7 -- Absenteeism = f{ TIPINS, EDAD, SOCFIL, TENURE }

Determinants of Performance as Absenteeism, Montevideo and the Rest of the Country

Variables	Model 7					
	Country		Montevideo		Rest of the country	
	Coeff.	St. Error	Coeff.	St. Error	Coeff.	St. Error
Constant	.0567	.2920	-.3853	.0857	.2023	.0774
Priority Requirement School	.0810	.0628	-.0210	.1129	.0767	.1185
Full Time School	.1178	.3667				
Sch. Sociocult. Back., Negative	.1188	.0425	.4131*	.0729	-.0364	.0564
Age 25-29	.1662*	.0632	.1500	.1006	.1638**	.0818
Age 30-39	.2027	.0518	.1266	.0846	.2255*	.0663
Age 50 & more	.0806	.0643	.2644**	.1119	-.0074	.0790
Tenure	.1113**	.0459	.1161	.0731	.1272	.0597
Variance of dependent variable	.25		.25		.25	
N	10238		3777		6461	
Predictive capacity of model	52.45%		55.39%		52.68%	

Source: Survey of Montevidean Teachers, 1999.

Reference variables: ordinary schools, school's positive socio-cultural background, age 40-49, untenured.
Models 1, 2 and 3 developed for performance as empowerment were also run. However, neither the adjusted R² nor none of the individual coefficients were significant.

* Statistically significant at 1% ** Statistically significant at 5% ** Significant at 10%

Neither in Montevideo nor in the rest of the country institutional arrangements, namely special programs, make a difference in terms of the probability of illness-related absences. In Montevideo, the socio-cultural background of the schools does show statistical significance, indicating that when this background is negative, the probability of absence increases. In the rest of the country, however, age is the single factor that matters: coefficients indicate that teachers age 20 & 29 and 30 to 39 have higher probabilities of absence.

Additionally, in neither of the previous three models do Educational Improvement Projects show a statistically significant effect.

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