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Human Development Department

LCSHD Paper Series No. 63

Teacher Salaries and Professional Profile in Mexico

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February 2001

*The authors are particularly grateful to the HD Sector Leader for Mexico, Eduardo Velez Bustillo, who provided invaluable support. Please send any comments to gacevedo@worldbank.org. Special thanks to Vicente Paqueo, Guilherme Sedlacek, Eduardo Velez, Dulce Maria Nieto, Francisco Martinez, Daniel Lederman, Claudia Piras, William D. Savedoff, Marcelo Giugale, Kin Bing Wu, William Maloney and Laural Rawlings for valuable comments and discussion. Valuable comments were also received from the Impact and Evaluation Group, the Economic Policy Group in July 2000, the participants attending the CIDE seminar in September 2000 and the LACEA network in October 2000.

The World Bank

Latin America and the Caribbean Regional Office

Abstract

Teachers' salaries have often been highlighted as very important issue in discussions of school improvement. The level and structure of teacher remuneration are said to affect their morale and their ability to focus on and devote adequate time to teaching well. This paper examines who the teachers are, whether the teachers are underpaid and whether the teachers face lower or higher risk and uncertainty of having their standard of living reduced than their counter parts face. The results show that that teachers in basic education consistently work fewer hours than their occupational counterparts. By means of regression analysis, it is shown that teachers in basic public schools are better paid early in their professional life compared to the other occupational groups and because the retirement benefits are usually generous, teachers hold on to the profession.

MAIN ABBREVIATIONS & ACRONYMS

ANMEB	**National Agreement for the Modernization of Basic Education** **(Acuerdo Nacional para la Modernización de la Educación Básica**
ENIGH	**National Household Survey of Income and Expenditures** **(Encuesta Nacional de Ingresos y Gastos de los Hogares)**
ENEU	**National Urban Employment Survey** **(Encuesta Nacional de Empleo Urbano)**
INEGI	**National Institute of Statistics, Geography, and Information** **(Instituto National de Estadística, Geografía e Informática)**
SEP:	**Ministry of Education** **(Secretaría de Educación Pública)**
SNTE:	**National Union of Education Workers** **(Sindicato Nacional de Trabajadores de la Educación)**

1. INTRODUCTION

Good quality of education is critical in the new era of global competition and technological change. Mexico's future development depends on the people's ability to make opportune adjustments in their ability to take advantage of new opportunities quickly and decisively. Good basic education that can be accessible to all is a necessary element for a sustainable, poverty-reducing development strategy.

This paper and two other companion papers[1] examine teacher's incentives and professional development in Mexico in pursuit of the long-term goal for improving student learning performance. Teacher's incentives include direct and indirect monetary benefits and an assessment of non-monetary benefits offered to teachers as extrinsic motivators. Direct monetary benefits comprise salary and allowance offered to teachers. Indirect monetary benefits include all other resources provided to teachers. Measures of professional support include training, teacher's guides, didactic material, instructional supervision and monetary incentives. Non-monetary incentives refer to things like parents and student's perception on the part of the teacher's work, choice of location for the next assignment, and work recognition.

This paper is divided into the following sections: a background succinctly places our objectives in context. Section 3 describes the data. Section 4 examines teacher's profile with respect to other professions or occupations. Section 5 analyses public and private teachers' income structure and professional profile with respect to other groups by means of regression methods in order to determine whether teachers are underpaid or overpaid. Section 6 has the conclusions.

2. BACKGROUND

Today, Mexico is a federal country with a population of almost 97.4 million people spread unevenly over an area of nearly 2 million square kilometers. Over 74.68 percent of them live in urban areas. The country is relatively young. Twenty-four percent of the population is between 5-14 years old. The share of this age group in total population is the highest among OECD countries, whose average is about 14 percent. The pace of demographic growth has been dropping dramatically in recent times. As a result, the population under 6

[1] Lopez-Acevedo and Salinas (2000a) Professional Development and Incentives for Teacher Performance in Schools in Mexico. The World Bank Mimeo. Lopez-Acevedo and Salinas (2000b) Factors that Affect Learning Achievement in Mexico: The Case of Mexico D.F., Nuevo Leon and Tabasco. The World Bank. Mimeo.

years old has been decreasing at the rate of 0.5 percent a year, while the 6-14 age group has been increasing by no more than 0.1 percent a year. By the end of the century the total number of persons in this age group will have virtually stabilized.

The basic education system consists of (i) early childhood education (or pre-school), which is optional for children 3 to 5 years old and (ii) mandatory primary education with an official entry age of 6, which should be completed in 6 years. In fact, due to late enrollment and grade repetition, however, the target population is 6 to 14 years; (iii) mandatory lower secondary school consist of a 3-year cycle, and it is intended for children ages 12 to 16.

Throughout the time, the Mexican educational system became highly centralized in the hands of the Federal Government. This centralization is reflected by the growing share of Federal schools in total enrollment, which rose from 64 percent in 1970 to 72 percent in 1990. However, in May 1992, the states and the federal governments structures together with the National Union of Workers in Education (*Sindicato Nacional de Trabajadores de la Educación*, SNTE) signed the National Agreement for the Modernization of Basic Education (*Acuerdo Nacional para la Modernización de la Educación Básica*, ANMEB). This agreement was created in response to the demand for a decentralized educational system. In this context, the states should have more participation. There have been previous attempts to decentralize the educational system but they were not successful due to constraints in the states and federal government structures and to the opposition of the SNTE. Therefore, the ANMEB is part of a long process that yielded satisfactory results until May 1992 when the Federal Government, State Governors, Federal agencies and the SNTE signed the agreement.

In this context, the federal government modified its educational discourse, placing more emphasis on the quality of educative content instead of the previous accent on educational coverage. *Carrera Magisterial* was created as part of the ANMEB in 1992.[2] It was aimed to raise the quality of basic public education through: i) teachers' professional training; ii) new learning presence in schools; and iii) improving working conditions. This represents an effort on the part of the government to provide better support for and recognition of the

[2] The impact of Carrera Magisterial is examined in Lopez-Acevedo and Salinas (2000a) Professional Development and Incentives for Teacher Performance in Schools in Mexico. The World Bank Mimeo. Lopez-Acevedo and Salinas (2000b) Factors that Affect Learning Achievement in Mexico: The Case of Mexico D.F., Nuevo Leon and Tabasco. The World Bank. Mimeo.

valuable work of teachers.[3] One component of *Carrera Magisterial* is the training of teachers; another is a merit payment system in which professional staff on a voluntary basis are evaluated and rewarded with salary increases for their performance as classroom teachers, school directors, supervisors and individuals who work on technical-administrative tasks. The evaluation is based on performance (35 points), experience (10 points), professional skills (25 points), educational attainment (15 points) and completion of accredited courses. There are five levels of promotion ("A", "B", "C", "D", "E"), the salary rewards allocated to each one of these levels represent a salary increase but do not represent a change in post assignment. The promotion ladder attaches considerable importance to seniority within *Carrera Magisterial*, rural posts or teaching in under-developed areas. Promotion within *Carrera Magisterial* is complex because of the different levels (*escalafones).*

The government is the predominant provider of basic educational services. It owns close to 91 percent of primary and secondary schools, which account for 90 percent of the enrollment.[4] At university level, however, the private sector plays a much bigger role. It accounts for close to half of the enrollment (46 percent). The educational system in Mexico is now so extensive that there are over 483 thousand schools (excluding preschools) staffed by more than a million teachers, of which 84.3 percent are in public schools. Teachers represent 2.8 percent of the full time labor force out of only 20.1 percent are private school teachers.

In 1999, the public schools teacher's share[5] was 42.82 percent of the total number of government personnel. All teachers in basic public education are affiliated to SNTE. All teachers in upper secondary and tertiary education have a syndicate or are independent (Autonomous or State Universities).

3. THE DATA

The National Household Income and Expenditures Survey (*Encuesta Nacional de Ingresos y Gastos de los Hogares*, ENIGH) is collected by the National Institute of Statistics, Geography, and Information (*Instituto Nacional de Estadística, Geografía e Informática*, INEGI). This survey is available for 1984, 1989, 1992, 1994 and 1996. Each survey is representative at national level, urban and rural areas. The annex shows the

[3] The *Carrera Magisterial* Program, which has several parts, is governed by the Comisión Nacional Mixta consisting of officials of the Ministry of Education (*Secretaría de Educación Pública*, SEP) and SNTE.

[4] The share of public school enrollment is about 94 percent (primary), 93 percent (lower secondary) and 78 percent (upper secondary).

sample sizes. The ENIGH surveys identify several variables such as educational attainment, personal income and number of hours-worked per week by each family member. Total income is differentiated into several items, which are aggregated into eight broad categories. i) Labor earnings; ii) income from self-employment; iii) property income and rents; iv) monetary transfers; v) other current income; vi) monetary and non-monetary financial income; and vii) non-monetary income such as imputed rent, in-kind transfers, gifts and auto-consumption.

The National Urban Employment Survey (*Encuesta Nacional de Empleo Urbano*, ENEU) is also a micro-leveled data set collected by INEGI and contains quarterly wage and employment data of the last twelve years (1987-1999). The annex shows the sample sizes. Currently, the data is representative of the 41 largest urban areas in Mexico, covering 61 percent of the urban population following the 2500 inhabitants or more criteria and 92 percent of the population who live in metropolitan areas with 100,000 or more inhabitants.

The data is from household surveys, which fully describe family composition, human-capital acquisition, and experience in the labor market (the variables contain information about social household characteristics, activity condition, position in occupation, unemployment, main occupation, hours-worked, earnings, benefits, secondary occupation, and job search). As the ENIGH, the sampling design was stratified, in several stages (where the final selection unit is the household), and with proportional probability to size. This statistical construction allows us to make comparisons of different years.

4. TEACHER'S PROFILE WITH RESPECT TO OTHER OCCUPATIONAL GROUPS. A DESCRIPTIVE ANALYSIS

Definitions

The definition of teacher refers to all those individuals whose main occupation is public or private instruction. A combination of descriptive statistics is used to examine the income structure and professional profile of basic public/private school teachers with respect to other occupational groups. In this paper, teachers were divided into the level they taught, urban-rural location, and public-private schools. Following other authors, several occupational groups were chosen in order to provide a yardstick for comparing teachers' salary structure and professional profile.

[5] Federal, State plus Autonomous schools teachers.

From the ENIGH survey, occupational groups included people employed in agriculture, fishing and forestry (*the agricultural* group); people employed in low-skilled activities such as street vendors and servants (*the low-skilled* group). The *mix-skilled* group includes professionals; technicians; artists, and sportsmen; managers and directors in the public as well as in the private sector; managers and workers in the manufacturing industry; administrative workers; and, workers in the service sector .The criteria for constructing the latter group was a set of possible alternative occupations available to the teacher.

In addition to the *mixed-skilled* group, the ENEU survey allows us to construct a group based on a comparable teacher´s educational background. Thus, two groups were added to the previous comparable group definitions: Those individuals who have *Upper Secondary in Education but are not teaching (Upper Secondary in Education not teaching*) and those individuals who have a B.A (University degree) in education but are not teaching (*University degree in Education not teaching*). The annex provides a detailed description of each one of these groups. Next, it is identified who the teachers are.

Formal years of schooling, age and gender

The teacher years of schooling were computed as the total number of formal years of education as reported in the surveys. Tables 1a, 1b and 2 show that in urban areas, teachers have more years of schooling than in the other groups such as *the low skilled group* and *the agricultural group* but less years of education *than other professionals with a B.A in Education not teaching*. In urban areas, the teachers' average years of schooling has increased by 2 years from 1988 to 1999. The distribution of teachers' years of schooling in basic education is less dispersed compared to *the mixed-skilled group*. It is shown, by region, that the average teachers' years of schooling in the basic urban schools is similar to those in rural areas. However, there is a difference that increases with the level of instruction. Basic education teachers have on an average of 14 years of formal schooling just below OECD countries (16 years) but slightly above other Latin American countries (with an average of 12 years).

Table 1: Years of Schooling in Urban Areas

Type of Occupation	1988			1994			1999		
	Mean	Median	S.D.	Mean	Median	S.D.	Mean	Median	S.D.
Primary Teacher in Public School	12.6	11.0	3.9	14.0	14.0	3.0	14.6	17.0	2.9
Primary Teacher in Private School	12.5	11.0	2.2	14.3	17.0	3.0	14.4	15.0	2.9
Lower-Secondary Teacher in Pub. School	14.7	16.0	2.8	15.9	17.0	4.1	16.2	17.0	3.5
Lower-Secondary Teacher in Priv. School	14.1	15.0	2.5	15.6	17.0	2.4	15.2	17.0	2.9
Upper-Secondary Teacher in Pub. School	16.4	17.0	1.3	16.2	17.0	2.2	16.7	17.0	2.0
Upper-Secondary Teacher in Priv. School	15.8	16.0	1.7	17.3	17.0	9.3	16.7	17.0	1.6
University Teacher in Public School	17.0	17.0	1.5	17.6	17.0	1.2	17.6	17.0	1.5
University Teacher in Private School	17.0	17.0	1.2	17.6	17.0	4.9	17.4	17.0	1.6
Prof. With Upper-Secondary in Education not teaching	11.1	11.0	0.6	11.3	11.0	0.9	11.3	11.0	0.9
Prof. With an University degree in Education not teaching	18.4	18.0	0.5	17.0	17.0	0.0	17.0	17.0	0.0
The mixed-skilled group	**9.0**	**9.0**	**4.5**	**9.5**	**9.0**	**4.8**	**9.9**	**9.0**	**4.5**
The agricultural group	4.8	4.0	4.2	5.6	6.0	4.2	6.1	6.0	4.5
The low-skilled group	6.2	6.0	3.6	6.6	6.0	3.7	6.9	6.0	3.7

Source: Own calculations based on ENEU survey

Tables 2 and 3 show that public primary urban teachers and public lower-secondary rural teachers are older than teachers of higher levels. Basic public education teachers are older than their counterpart in private schools. Primary school teachers are as old as agricultural workers. Moreover, this group tends to be older on average than the *mixed-skilled group* but younger than *the Professionals with a B.A in education not teaching.* The largest age group of public school teachers is from 37 to 41 years old, when this group retires shortages could possibly be expected.

Table 2: Worker's Profile based on ENIGH96

Type of Occupation	Age		Years of Schooling		Women Share %	
	Urban	Rural	Urban	Rural	Urban	Rural
Primary Teacher in Pub. School	39.0	32.9	14.1	14.4	72.3	65.3
Primary Teacher in Priv. School	35.1	n.d.	14.1	n.d.	94.9	n.d.
Lower Secondary Teacher in Pub. School	36.7	41.5	15.5	13.5	38.4	23.7
Lower Secondary Teacher in Priv. School	34.1	n.d.	14.8	n.d.	57.6	n.d.
Upper Secondary Teacher in Pub. School	36.5	27.7	15.4	15.1	42.5	63.5
Upper Secondary Teacher in Priv. School	34.7	n.d.	15.4	n.d.	66.4	n.d.
University Teacher in Pub. School	38.0	n.d.	17.5	n.d.	34.5	n.d.
University Teacher in Priv. School	38.9	n.d.	16.1	n.d.	31.0	n.d.
The mixed-skilled group	**34.1**	**32.9**	**8.9**	**5.7**	**32.8**	**37.2**
The agricultural group	41.0	35.9	4.2	3.7	19.6	23.2
The low-skilled group	35.6	34.1	6.2	4.4	49.4	58.0

n.d.: No data in the survey

Source: Own calculations based on ENIGH96 survey

Table 3. Age by Occupation in Urban areas

Type of Occupation	1988			1994			1999		
	Mean	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**
Primary Teacher in Public School	33.9	32.0	9.6	36.4	35.0	7.8	39.5	38.0	8.6
Primary Teacher in Private School	31.4	27.0	11.7	34.9	33.0	9.1	36.2	35.0	10.7
Lower-Secondary Teacher in Pub. School	38.1	39.0	9.1	37.8	36.0	9.1	39.2	39.0	9.1
Lower-Secondary Teacher in Priv. School	28.4	28.0	5.8	34.1	33.0	9.1	37.2	37.0	10.5
Upper-Secondary Teacher in Pub. School	36.2	35.0	10.5	37.4	36.0	9.2	41.0	41.0	9.6
Upper-Secondary Teacher in Priv. School	33.6	30.0	9.2	33.4	31.0	9.2	37.1	36.0	9.5
University Teacher in Public School	39.7	38.0	10.1	42.9	41.0	12.2	45.0	46.0	11.4
University Teacher in Private School	29.9	26.0	9.7	41.7	39.0	11.7	36.6	36.0	11.0
Professionals with Upper-Secondary in Education not teaching	34.1	31.0	10.0	40.4	39.0	11.5	40.8	40.0	12.7
Professionals with a University degree in Education not teaching	36.6	38.0	5.1	39.9	38.0	10.3	40.3	39.0	9.9
The mixed-skilled group	**33.2**	**30.0**	**12.9**	**33.2**	**31.0**	**12.5**	**34.0**	**32.0**	**12.5**
The agricultural group	43.4	43.0	16.7	42.8	42.0	16.9	43.9	43.0	16.1
The low-skilled group	36.1	34.0	14.9	34.2	32.0	14.8	35.7	34.0	14.7

Source: Own calculations based on ENEU survey

Table 3 in the annex shows women share and number of children in urban areas. It follows that a large majority of teachers at primary and lower-secondary school levels are female both in urban and rural areas. In upper secondary school level, men and women are equally represented. Only a third of the teachers in tertiary school level are female. While a large share of the teaching labor force is female, less than a third work in other occupations or in agricultural activities. More than half *of the Professionals with an University Degree in Education not teaching are females.* Female teachers' salaries can be a primary source of income for the family since 24 percent of them in primary public schools are household heads. Alternatively, 14 percent of the females in *the mixed-skilled* group are household heads.

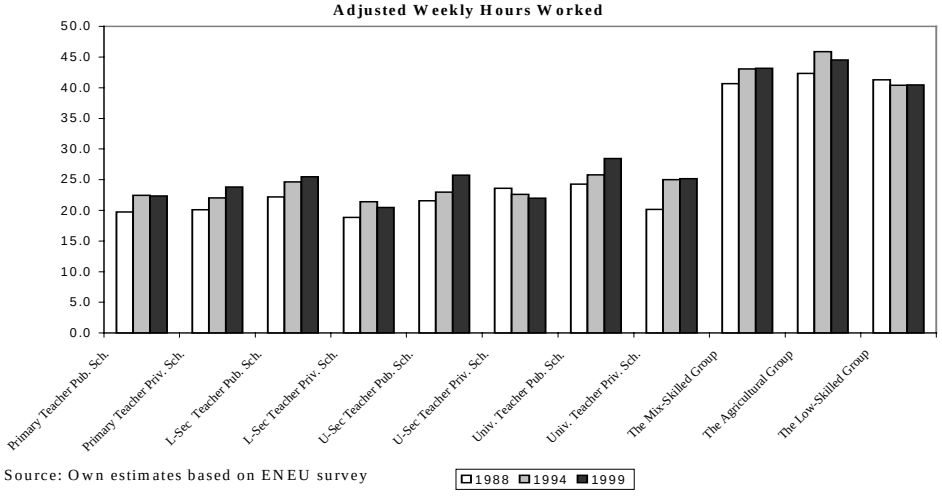
Hours-worked

"Teaching time" is sometimes used as a proxy indicator of the workload of a teacher. Based on the ENEU, tables 4 and 5 in the annex show weekly working hours and adjusted weekly working hours (two month vacation) for 1988,1994 and 1999, public and private teachers and other counterparts. Teachers have worked substantially less number of hours than *Professional with a B.A in Education not teaching*.

Figure 1 shows that working hours did not substantially increase from 1988 through 1999. The teacher group has worked consistently less than their counterparts. Other relevant fact is that *The mixed-skilled group* exhibits a higher variation in the number of hours-worked through time. Primary public school teachers work

fewer hours than primary private school teachers. These trends become even more pronounced when using adjusted weekly working hours.

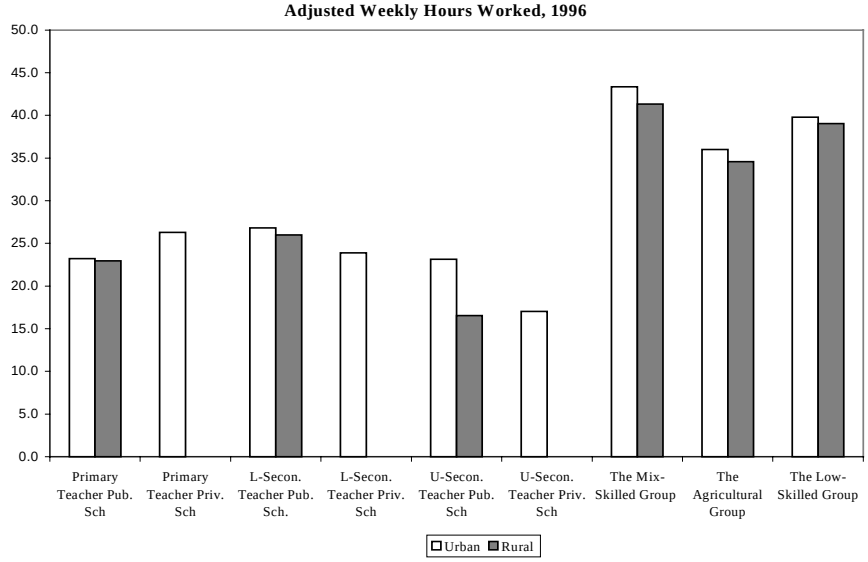
Figure 1
Adjusted Weekly Hours Worked



Source: Own estimates based on ENEU survey

Based on the ENIGH, the main and secondary occupations listed on table 4 show the hours-worked, the adjusted hours-worked and the total number of hours-worked by region. Figure 2, shows that hours-worked vary across school levels, sectors and regions. Public primary urban/rural school teachers work on an average of 32 hours per week while those in private schools work on an average of 34 hours. Public and private primary school teachers work significantly less than other comparable counterparts or groups. This pattern changes in lower and upper secondary school level, since public school teachers work more hours on average. On the other hand, *university teachers in public schools* and *the mixed-skilled group* work on an average of 47 hours per week while people employed in *the agricultural group* or *the low skilled group* work on an average of 43 hours per week. There is not a significant difference in the weekly hours-worked between public school teachers in urban areas and those teachers in the rural areas. Summarizing, the total hours-worked for *the Professionals with a B.A in Education not teaching, the mixed-skilled group, the agricultural group* and *the low-skilled group* is higher than the total hours-worked for teachers of basic education. This result also holds true in urban and rural regions.

Figure 2
Adjusted Weekly Hours Worked, 1996



Source: Own estimates based on ENIGH survey

Secondary Occupation

As it was mentioned above, teachers work fewer hours than the other occupational groups. Alternatively, it is relevant to examine how many hours on average teachers devote to their secondary occupation. Table 4 shows the secondary occupation shares by occupational categories, in other words, the percentage of people that have a secondary occupation. On the whole, for all occupational groups the secondary occupation share is larger in the rural areas than the share of a secondary occupation is for the urban areas, except for the upper secondary teachers in public schools. In particular, note that the secondary occupation share for teachers in basic public schools is significantly larger than the secondary occupation share for the teachers in basic private schools. Yet, if one compares the secondary occupation share for the teachers in basic public schools with regards to the upper secondary teachers occupation share the pattern is the opposite, especially in the urban areas.

In addition, one can compare the teacher secondary occupation shares and the hours-worked in secondary occupation relative to *the mixed-skilled* group. The table below shows that the secondary occupation shares of teachers in public schools are larger than the shares of secondary occupation for *the mixed-skilled* group. Nevertheless, one has to take into account the following facts. 1) *The mixed-skilled* group has the longest hours worked among all the occupational categories. And, 2) the relative difference of hours worked in the main occupation and the total hours worked (including the hours worked in the secondary occupation)

between *the mixed-skilled* group and these kinds of teachers remains almost unchanged in urban areas and increases in rural areas.

Table 4. Mean Weekly Hours-Worked and Secondary Occupation Shares

Type of Occupation	Hours-worked Main Occupation		Adjusted[1/] Hours-worked Main Occupation		Hours-worked Secondary Occupation		Hours-worked Total Hours		Secondary Occupation Share		
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Nal.	Urban	Rural
Primary Teacher Pub. Sch	29.4	29.1	23.2	23.0	2.3	3.4	31.8	32.6	13.4	12.3	21.2
Primary Teacher Priv. Sch	33.4	n.d.	26.3	n.d	0.4	n.d	33.8	n.d	3.0	3.0	n.d.
L-Secon. Teacher Pub. Sch.	34.0	33.0	26.8	26.0	2.1	2.3	36.2	35.3	16.4	14.6	25.6
L-Secon. Teacher Priv. Sch	30.3	n.d	23.9	n.d	0.4	n.d	30.7	n.d	2.5	2.5	n.d.
U-Secon. Teacher Pub. Sch	29.4	21.0	23.2	16.5	3.7	0.0	33.0	21.0	22.0	22.2	0.0
U-Secon. Teacher Priv. Sch	21.6	n.d	17.0	n.d	7.4	n.d	29.0	n.d	30.5	30.5	n.d.
The mixed-skilled group	**46.0**	**43.9**	**43.4**	**41.3**	**1.2**	**5.6**	**47.2**	**49.5**	**8.7**	**6.1**	**24.4**
The agricultural group	38.2	36.7	36.0	34.6	5.2	6.8	43.4	43.5	25.6	18.5	27.6
The low-skilled group	42.2	41.4	39.8	39.0	1.2	3.4	43.5	44.8	7.7	6.5	15.4

Source: Own calculations based on ENIGH96 survey

1/ Following OECD, it is assumed that teachers worked on average 41 weeks per year and non teachers worked on average 49 weeks per year

Income, Labor Earnings and Salaries

Teachers' salaries have often been highlighted as a very important issue in school improvement discussions. The level and structure of teacher remuneration are said to affect their morale and their ability to focus on and devote adequate time to teaching well. It could also determine the capacity of the education system to attract and retain good teachers. Table 5 presents several definitions of salaries and personal income sources, since much of the argument over teacher compensation refers to what is meant by the term "underpaid". An issue that may hamper the comparison of net earnings across occupations and locations is non-regular and additional benefits, and the way certain allowances are made available to teachers. The labor earnings and salary figures tell us something about fairness of compensation while total income refers to the teachers' standard of living. It is clear from the table below that labor earnings is the largest share of all the teachers' total income. This suggests that the teachers' standard of living basically depend on what they obtain as labor income. On the other hand, the total incomes for *the mixed-skilled* group, *the agricultural* group, and *the low-skilled* group are more uniformly distributed among other income sources.

Table 5. Personal Mean Monthly Incomes by Source (Constant 1994 pesos)

Type of Occupation	Salary		Labor Earnings		Monetary Current Income		Current Income		Financial Income		Total Income	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Primary Teacher in Pub. School	1365.6	1451.4	1395.8	1537.1	1426.3	1551.5	1590.8	1644.2	90.1	165.2	1680.9	1809.5
Primary Teacher in Priv. School	1254.1	n.d.	1269.0	n.d.	1291.5	n.d.	1520.3	n.d.	78.0	n.d.	1600.3	n.d.
Lower Secondary Teacher in Pub. School	1699.4	1796.3	1722.3	1845.8	1830.7	1869.6	2011.7	1987.2	76.7	130.7	2088.3	2117.8
Lower Secondary Teacher in Priv. School	1059.1	n.d.	1074.9	n.d.	1074.9	n.d.	1265.8	n.d.	40.9	n.d.	1306.7	n.d.
Upper Secondary Teacher in Pub. School	1363.1	921.5	1431.8	931.3	1762.9	931.3	1911.1	1145.9	477.5	0.0	2388.7	1145.9
Upper Secondary Teacher in Priv. School	961.5	n.d.	992.4	n.d.	1214.5	n.d.	1748.3	n.d.	146.4	n.d.	1894.7	n.d.
University Teacher in Pub. School	2450.2	n.d.	2529.9	n.d.	2688.5	n.d.	3001.1	n.d.	115.1	n.d.	3116.2	n.d.
University Teacher in Priv. School	2546.6	n.d.	2592.2	n.d.	2680.6	n.d.	3055.0	n.d.	71.8	n.d.	3126.8	n.d.
The mixed-skilled group	**684.3**	**261.7**	**759.5**	**317.0**	**1072.8**	**492.9**	**1224.6**	**560.1**	**53.9**	**34.8**	**1278.9**	**595.4**
The agricultural group	177.5	91.5	184.1	92.6	744.8	270.9	817.9	323.1	100.8	36.3	918.8	359.8
The low-skilled group	330.8	235.5	375.7	247.1	568.8	358.2	677.1	434.0	25.1	17.6	702.2	451.7

n.d.: No data in the survey.

Source: Own calculations based on ENIGH96 survey

Tables 6 and 7 show real mean hourly salaries and mean hourly labor earnings respectively for total hours in main occupation and total hours of main occupation plus secondary occupation. The hourly salary difference between teachers and other groups is significantly high due to the spread in the variance of the latter group and because of the few number of hours-worked in the teaching group.

Table 6. Mean Hourly Salary (Constant 1994 pesos)

Type of Occupation	Mean Hourly Salary (Main Occup Hrs)		Mean Adjusted[1/] Hourly Salary (Main Occup Hrs)		Mean Hourly Salary (Total Hrs)		Mean Adjusted[1/] Hourly Salary (Total Hrs)	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Primary Teacher in Pub. School	12.2	13.1	15.5	16.7	11.4	11.4	12.4	14.8
Primary Teacher in Priv. School	9.3		11.9		9.1		16.5	
Lower Secondary Teacher in Pub. School	13.1	13.9	16.6	17.7	12.1	13.1	16.2	14.4
Lower Secondary Teacher in Priv. School	9.9		12.6		9.6		17.0	
Upper Secondary Teacher in Pub. School	15.1	11.3	19.1	14.3	13.6	11.3	15.0	
Upper Secondary Teacher in Priv. School	11.9		15.1		9.0		7.8	
University Teacher in Pub. School	15.2		19.2		14.0		12.2	
University Teacher in Priv. School	29.4		37.3		21.5		28.6	
The mixed-skilled group	**3.9**	**1.5**	**4.2**	**1.6**	**3.8**	**1.4**	**3.6**	**0.9**
The agricultural group	1.2	0.6	1.3	0.6	1.0	0.5	0.7	0.4
The low-skilled group	2.1	1.4	2.2	1.5	2.0	1.2	1.4	0.7

Source: Own calculations based on ENIGH96 survey

1/ Following OECD, it is assumed that teachers work on an average of 41 weeks per year and non teachers work on average 49 weeks per year.

Table 7: Mean Hourly Labor Earnings (Constant 1994 pesos)

Type of Occupation	Mean Hourly Labor Earnings (Main Occup Hrs)		Mean Ad.[1/] Hourly Labor Earnings (Main Occup Hrs)		Mean Hourly Labor Earnings (Total Hrs)		Mean Ad.[1/] Hourly Labor Earnings (Total Hrs)	
	Urban	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**
Primary Teacher in Pub. School	12.5	13.8	15.8	17.5	11.7	12.0	12.6	16.3
Primary Teacher in Priv. School	9.5		12.0		9.2		17.4	
Lower Secondary Teacher in Pub. School	13.3	14.4	16.9	18.3	12.2	13.6	16.6	14.6
Lower Secondary Teacher in Priv. School	10.0		12.7		9.7		17.0	
Upper Secondary Teacher in Pub. School	15.9	11.3	20.1	14.4	14.4	11.3	15.8	
Upper Secondary Teacher in Priv. School	12.4		15.7		9.3		8.6	
University Teacher in Pub. School	15.6		19.8		14.4		12.7	
University Teacher in Priv. School	29.8		37.8		21.8		29.0	
The mixed-skilled group	**4.4**	**1.8**	**4.7**	**2.0**	**4.2**	**1.7**	**4.0**	**1.0**
The agricultural group	1.2	0.6	1.3	0.6	1.1	0.5	0.8	0.4
The low-skilled group	2.4	1.5	2.5	1.6	2.2	1.3	1.8	0.8

Source: Own calculations based on ENIGH96 survey

1/ Following OECD, it is assumed that teachers work on average 41 weeks per year and non teachers work on an average of 49 weeks per year.

As shown in table 8, real monthly labor earnings have increased substantially for primary schools teachers in public schools. It almost doubled from 1988 to 1994. In real terms, the teachers' salary increase was significantly above the increase obtained by other groups. *The mixed-skilled* group has lost purchasing power, which is even more severe for people employed in *the agricultural* group and *the low-skilled* group. There is a considerable variation in teacher's labor earnings but significantly less than the earnings from other occupations. It is clear that basic public school teachers earn higher earnings than *the agricultural* group, *the low skilled group* and *the mixed-skilled* group. Moreover, it is also shown that in 1988, teachers were underpaid with respect to other *Professionals with an University degree in Education not teaching* but after 1994 this trend changed. In fact, University Teachers in Public School were earning a higher salary.

Table 8. Real Monthly Labor Earnings in Urban Areas (Constant 1994 pesos)

Type of Occupation	1988			1994			1999		
	Mean	Median	S.D.	Mean	Median	S.D.	Mean	Median	S.D.
Primary Teacher in Public School	862	826	239	1,660	1,590	598	1,286	1,229	917
Primary Teacher in Private School	836	875	343	1,614	1,391	910	928	819	607
Lower-Secondary Teacher in Pub. School	1,042	972	410	1,872	1,688	898	1,491	1,366	638
Lower-Secondary Teacher in Priv. School	836	804	495	1,770	1,341	1,520	1,170	956	817
Upper-Secondary Teacher in Pub. School	1,345	1,458	720	1,755	1,590	1,003	1,548	1,366	961
Upper-Secondary Teacher in Priv. School	1,024	875	742	1,661	1,490	914	1,395	1,093	1,123
University Teacher in Public School	1,840	1,702	922	2,357	2,186	1,436	2,690	1,912	3,548
University Teacher in Private School	904	972	666	2,431	1,987	1,871	1,991	1,366	1,523
Professionals with Upper-Secondary in Education not teaching	1,026	851	568	1,959	1,570	1,528	1,567	1,101	1,627
Professionals with an University degree in Education not teaching	2,249	1,653	1,207	2,867	1,987	2,553	1,981	1,639	2,194
The mixed-skilled group	**1,199**	**826**	**2,501**	**1,573**	**994**	**5,006**	**1,069**	**734**	**1,356**
The agricultural group	878	486	1,549	1,139	641	2,682	911	440	3,616
The low-skilled group	835	656	2,018	817	641	1,979	589	440	641

Source: Own calculations based on ENEU survey

Tables 9 and 10 present the teachers' hourly labor earnings (mean monthly labor earnings divided by the total number of hours-worked per month, non adjusted and adjusted respectively). In both tables, teachers' hourly earnings are higher in primary public schools compared to primary private schools. At lower secondary school level such difference is small. Interestingly, teacher's hourly labor earnings and adjusted hourly labor earnings (taking into account two months vacation) is substantially above other worker's hourly labor earnings but slightly below other *Professionals with B.A in Education not teaching*. In 1999, median hourly earnings for primary public school teachers were above the median earnings of all the comparable groups.

Table 9: Real Hourly Labor Earnings in Urban Areas (Constant 1994 pesos)

Type of Occupation	1988			1994			1999		
	Mean	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**
Primary Teacher in Public School	9.9	8.2	7.2	15.1	14.9	5.8	11.7	11.1	8.0
Primary Teacher in Private School	9.8	8.7	6.9	15.9	12.9	12.7	7.8	6.8	4.6
Lower-Secondary Teacher in Pub. School	12.3	8.8	12.4	15.4	14.8	7.2	11.9	11.4	4.9
Lower-Secondary Teacher in Priv. School	9.2	8.3	4.7	16.7	13.7	12.5	11.7	10.2	6.7
Upper-Secondary Teacher in Pub. School	14.6	10.8	11.5	16.4	15.1	10.9	12.0	11.4	6.3
Upper-Secondary Teacher in Priv. School	18.4	7.2	35.3	15.6	13.4	8.1	13.2	11.5	9.8
University Teacher in Public School	16.6	15.2	9.2	20.1	18.5	12.4	19.2	14.7	24.5
University Teacher in Private School	11.4	10.5	7.6	20.1	18.2	13.2	16.2	12.0	11.5
Professionals with Upper-Secondary in Education not teaching	**6.7**	**5.5**	**4.2**	**13.7**	**10.5**	**11.0**	**10.6**	**7.6**	**11.7**
Professionals with a University degree in Education not teaching	**15.1**	**14.7**	**6.2**	**19.4**	**15.5**	**16.3**	**13.3**	**10.7**	**16.4**
The mixed-skilled group	**7.4**	**4.9**	**15.4**	**9.8**	**5.5**	**98.1**	**6.1**	**3.9**	**7.9**
The agricultural group	5.1	2.7	9.0	6.4	3.6	15.2	5.0	2.3	15.9
The low-skilled group	5.2	3.9	11.7	5.6	4.0	75.9	3.8	2.8	4.7

Source: Own calculations based on ENEU survey

In 1999, teachers in the public education system earned higher mean hourly labor earnings than their counterpart in the private sector and in other occupations. This pattern changes at tertiary level of instruction, private school teachers earned twice the labor earnings of public school teachers. There is not a significant difference in basic public teachers' mean hourly labor earnings in urban and rural areas. Basic public teachers' hourly labor earnings are significantly above those earned by *the mixed-skilled* group, *the agricultural* group or *the low-skilled* group. Teachers in the basic public school level earned on average three times more than the earnings of other workers. Alternatively, adjusted real hourly salaries of primary teachers in public schools were higher than the adjusted real hourly salaries of those in the private schools.

Table 10. Real Adjusted[1/] Hourly Salary in Urban Areas (Constant 1994 pesos)

Type of Occupation	1988			1994			1999		
	Mean	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**
Primary Teacher in Public School	12.6	10.4	9.2	19.1	18.9	7.4	14.8	14.1	10.1
Primary Teacher in Private School	12.4	11.1	8.7	20.1	16.4	16.1	9.9	8.7	5.9
Lower-Secondary Teacher in Pub. School	15.6	11.1	15.7	19.5	18.7	9.1	15.1	14.4	6.2
Lower-Secondary Teacher in Priv. School	11.7	10.6	6.0	21.1	17.3	15.8	14.8	13.0	8.4
Upper-Secondary Teacher in Pub. School	18.5	13.7	14.5	20.8	19.1	13.9	15.2	14.4	8.0
Upper-Secondary Teacher in Priv. School	23.3	9.2	44.8	19.8	17.0	10.2	16.7	14.6	12.4
University Teacher in Public School	21.0	19.3	11.7	25.5	23.4	15.7	24.3	18.6	31.1
University Teacher in Private School	14.4	13.3	9.7	25.5	23.1	16.8	20.6	15.2	14.6
Professionals with Intermediate Level in Education not teaching	7.1	5.9	4.5	14.5	11.1	11.7	11.2	8.1	12.4
Professionals with a University degree in Education not teaching	16.0	15.6	6.5	20.6	16.5	17.3	14.1	11.3	17.4
The mixed-skilled group	**7.9**	**5.2**	**16.3**	**10.5**	**5.9**	**104.1**	**6.5**	**4.2**	**8.4**
The agricultural group	5.4	2.9	9.6	6.8	3.8	16.2	5.3	2.4	16.9
The low-skilled group	5.6	4.1	12.4	6.0	4.3	80.6	4.0	3.0	4.9

Source: Own calculations based on ENEU survey

1/ Following OECD, it is assumed that teachers work on an average of 41 weeks per year and non teachers work on an average of 49 weeks per year.

After using several definitions of teacher salaries and payments it is clear that real salaries and real labor earnings for teachers in basic public education are significantly above other occupations and groups salaries.

Income Sources

With respect to income sources, table 11 shows the income source shares for primary teacher, lower secondary teacher and other occupational groups. From such a table, one can see that salaries contribute close to 82 percent of the teachers' total incomes. Notice that the non monetary income is the second highest income source, specially housing imputed rent and gifts (8.14 percent and 13.14 percent for primary teachers in public and private schools, respectively; and, 6.4 percent and 14.2 percent for lower secondary teachers in public and private schools, also respectively). Financial income is another important income source for teachers, on average its contribution to total income is about 5 percent[6].

Yet, about 50 percent of *the mixed-skilled group* and *the low-skilled group* incomes are salaries, while in *the agricultural group* salaries just contribute 22.8 percent. Furthermore, it is clear that for these occupational groups their *own business incomes* are significantly more important to them than to the teachers group.

[6] Table 6 in the annex shows that teachers' incomes in upper secondary and tertiary levels are more evenly distributed across income categories.

Table 11. Source of Income by Occupational Status

Source of Income	Primary Teacher in Public School			Primary Teacher in Private School			Lower Secondary Teacher in Public School			Lower Secondary Teacher in Private School			The mixed-skilled group			The agricultural group			The low-skilled group		
	Urban	Rural	Nal.	Urban	Rural	Nal.	Urban	Rural	Nal.	Urban	Rural	Nal.	Urban	Rural	Nal.	Urban	Rural	Nal.	Urban	Rural	Nal.
Labor Earnings																					
Salaries	81.24	80.21	81.10	78.37	n.d.	78.37	81.38	84.82	81.93	81.06	n.d.	81.06	53.50	43.95	52.82	19.32	25.42	22.84	47.10	52.15	47.56
Commissions	0.00	0.00	0.00	0.00	n.d.	0.00	0.00	0.00	0.00	0.00	n.d.	0.00	3.71	4.23	3.75	0.63	0.29	0.43	4.90	1.83	4.62
Compensations	0.64	3.17	0.98	0.08	n.d.	0.08	0.62	1.82	0.82	0.00	n.d.	0.00	0.75	0.77	0.75	0.03	0.01	0.02	0.86	0.37	0.82
Vacation Pay	1.15	1.56	1.21	0.71	n.d.	0.71	0.47	0.51	0.48	1.21	n.d.	1.21	0.69	0.44	0.67	0.01	0.01	0.01	0.50	0.28	0.48
Profits	0.00	0.00	0.00	0.14	n.d.	0.14	0.00	0.00	0.00	0.00	n.d.	0.00	0.74	3.84	0.96	0.04	0.01	0.03	0.13	0.08	0.13
Own Business Income	0.62	0.25	0.57	0.44	n.d.	0.44	0.67	0.55	0.65	0.00	n.d.	0.00	20.59	22.14	20.70	51.49	35.80	42.44	23.94	18.62	23.46
Income from Cooperatives	0.00	0.00	0.00	0.00	n.d.	0.00	0.00	0.00	0.00	0.00	n.d.	0.00	0.03	0.29	0.05	0.11	0.59	0.39	0.00	0.09	0.01
Rents	0.12	0.04	0.11	0.00	n.d.	0.00	0.00	0.00	0.00	0.00	n.d.	0.00	1.03	0.43	0.99	2.33	0.39	1.21	0.25	0.11	0.24
Monetary Transfers																					
Pensions	0.11	0.00	0.10	0.40	n.d.	0.40	0.00	0.00	0.00	0.00	n.d.	0.00	0.73	0.57	0.72	1.25	1.14	1.19	0.79	0.34	0.75
Other Monetary Transfers	0.68	0.06	0.60	0.55	n.d.	0.55	0.00	0.57	0.09	0.00	n.d.	0.00	1.34	3.83	1.52	5.42	11.31	8.82	2.14	5.00	2.40
Other current income	0.28	0.44	0.30	0.00	n.d.	0.00	4.52	0.00	3.79	0.00	n.d.	0.00	0.77	2.29	0.88	0.42	0.33	0.37	0.38	0.43	0.38
Non Monetary Income																					
Auto-Consumption	0.09	0.40	0.13	0.00	n.d.	0.00	0.23	0.44	0.26	0.00	n.d.	0.00	0.41	2.14	0.53	0.74	3.82	2.52	0.91	2.25	1.03
Non Monetary Payment	0.66	0.30	0.61	0.89	n.d.	0.89	1.60	0.55	1.43	0.40	n.d.	0.40	1.35	1.25	1.35	0.57	0.54	0.55	2.36	2.65	2.39
Gifts	2.61	1.80	2.50	6.24	n.d.	6.24	1.88	2.97	2.05	0.33	n.d.	0.33	2.73	3.16	2.76	2.84	4.13	3.59	3.96	5.46	4.10
Housing Imputed Rent	6.42	2.63	5.91	7.17	n.d.	7.17	4.96	1.59	4.42	13.87	n.d.	13.87	7.38	4.73	7.19	3.80	6.01	5.08	8.19	6.43	8.03
Financial Income																					
Monetary Financial Income	5.36	9.13	5.87	4.87	n.d.	4.87	3.67	6.17	4.08	3.13	n.d.	3.13	4.22	5.85	4.33	10.97	10.09	10.46	3.57	3.89	3.60
Non Monetary Financial Income	0.00	0.00	0.00	0.12	n.d.	0.12	0.00	0.00	0.00	0.00	n.d.	0.00	0.03	0.09	0.03	0.01	0.11	0.07	0.01	0.02	0.01

n.d.: No data in the survey.

Source: Own calculations based on ENIGH96

5. LABOR EARNINGS DETERMINANTS AMONG OCCUPATIONAL GROUPS USING REGRESSION MODELS

In addition to a simple descriptive comparison, Mincerian earning functions were estimated. This is done because it is known that payment differences depend on qualifications, level of education and other personal characteristics. As the main objective of this part is to determine whether teachers are underpaid or not and that in order to enrich the analysis, workers were reclassified into four occupational groups as follows: *Teachers in basic public schools* (which includes teachers in primary public schools as well as teachers in secondary public schools), *Teachers in basic private schools* (which includes the same levels as in the previous definition but in private schools), *Other government workers* (which contains all the other occupational public groups, except for teachers, with 12 years of formal schooling or more), and *Private sector workers* (workers in the private sector, except for *the agricultural group* workers and for *the low-skilled group* workers, with 12 years of formal schooling or more). These two latter groups were chosen in order to provide close comparable groups. Separate regressions by means of ordinary least squares were computed for both groups of teachers and for the comparable groups. The analysis uses the hourly labor earnings as the dependent variable and years of schooling, gender, region (urban-rural), experience (defined as age-years of schooling-6) and experience squared as the explanatory variables.

The estimates are presented in the table below.

Table 12. Determinants of hourly labor earnings, 1996

	Teacher in basic Public schools		Teacher in basic Private schools		Other government Workers		Private sector Workers	
Years of schooling	0.058	*	0.030		0.128	*	0.168	*
	(3.464)		(0.998)		(9.245)		(13.518)	
Gender (Male=1)	0.083		0.397	*	0.038		0.230	*
	(1.191)		(2.249)		(0.546)		(3.564)	
Experience	0.033	*	0.113		0.083	*	0.049	*
	(2.705)		(1.312)		(5.039)		(5.483)	
Squared experience	-0.0004	*	-0.002		-0.002	*	-0.001	*
	(-1.976)		(-0.996)		(-3.708)		(-2.59)	
Region (Urban=1)	-0.1233		Dropped		0.051		0.452	*
	(-1.561)				(0.278)		(4.873)	
Constant	1.2715	*	0.709		-0.561	*	-1.543	*
	(3.831)		(0.812)		(-2.049)		(-7.349)	

Source: Authors' estimates based on ENIGH 1996 survey.

* Significant at the 95% level

T-stat in parenthesis.

The results indicate how the coefficients (returns to different factors) vary among all the four occupational groups. Regarding the returns to education, it can be seen that the teachers in basic public schools have the lowest returns on years of schooling than both the other government workers and the private sector workers; in other words, while basic public teachers have a return of 5.8% for an additional year of schooling, the private sector workers and the other government workers have a return of 16.8% and 12.8%, respectively.

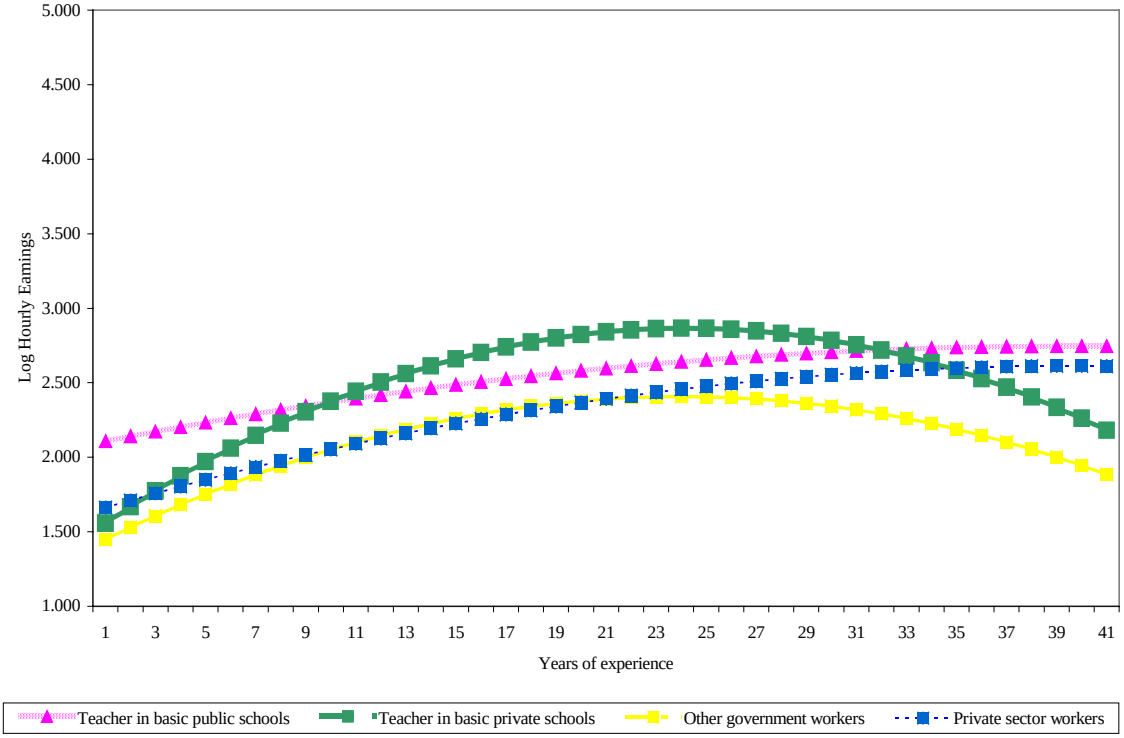
With respect to gender, one can see that in the private sector this variable has an important effect on hourly earnings, i.e. male teachers in the basic private schools have an advantage of 49.7% and male workers in the private sector have an advantage of 23%. In the public sector, gender is not significant and it could be considered as an important incentive for women to incorporate themselves to the labor market through the public sector.

The differences in urban and rural areas might be a key issue from the social point of view. As one can see in the table above, the public sector does not face a regional discriminatory problem, because teachers in basic public schools and the other government workers in the rural areas earn similar wages as those in urban areas. On the other hand, for workers in the private sector, region has a significant impact on hourly earnings, since a worker in this sector working in urban areas earns 45.2% more than the workers of the same sector but in the rural areas.

Another advantage of running separate regressions is that differences in the earning gradients can be estimated over the life cycle of teachers (public and private) versus the other occupational groups. Additionally, it can be evaluated the earnings variation over the life cycle by occupational groups in order to analyze whether the labor earnings dispersion is low or high. This is equivalent to a lower or higher ex-ante risk. In other words, if the earnings dispersion is low, this means that people will be able to make a more accurate prediction of what their labor earnings will be through out their lifetime. Accordingly, this interpretation shows a relationship between labor earnings and experience. Figure 3 below shows the simulation of the income profile for teachers in basic public and private schools, other government workers and workers in the private sector. In doing this, it was assumed the same level of schooling (15 years), male and in urban areas.

Figure 3

Earnings Profile for teachers and other comparable groups



Source: Authors' estimates based on ENIGH 1996

Teachers in basic private schools face the largest uncertainty about what their salaries and job tenures will be through time. Moreover, between eleven and thirty years of experience they earn more than public school teachers and the other groups. Teachers in basic public schools and the other comparable groups deal with a significant lower risk from their salaries than basic private school teachers. Teachers labor earnings in basic public school profiles are slightly flatter than the income profile for the private sector workers. At their initial stage of their professional life, teachers are paid about 79% more per hour than the private sector workers and about 77% more than the other government workers. However, as it can be seen in figure 3, the public teacher's earnings grow at a slower rate than the comparable occupations. Note that the other government workers wages grow at a significantly higher rate than the public teacher's salaries. Other government workers face significant risk through their professional life possibly due to the uncertainty of obtaining retirement benefits and the lack of a civil service career in the public sector. By contrast, the Teachers´ Union had been effective in securing teachers´ jobs and salaries. In other words, once the teacher enters the labor market as a public school teacher the union not only protects his/her position but also protects his/her flow of income

through his/her lifetime. Teachers in basic public schools are better paid early in life and the retirement benefits are usually generous, face less work pressure and uncertainty so they prefer to hold on to the profession and wait for retirement.

As argued in a companion paper (Lopez-Acevedo and Salinas, 2000b), *Carrera Magisterial* might have increased the incentives for public teachers to hold their post and because teachers can aim for one of the three *Carrera Magisterial* options namely *Tercera Vertiente* (Pedagogical Technician, *Técnico pedagogico*) before her/his retirement.

6. CONCLUSIONS

First, teachers in basic education consistently work less than their counterparts. This trend becomes even more pronounced when using adjusted weekly working hours. Close to 82 percent of the teachers' income are salaries, which suggests that the teachers' standard of living basically depends on what they obtain as labor income. On the other hand, the total income for the other occupational groups is more uniformly distributed among other income sources. Real monthly labor earnings have substantially increased for primary schools teachers in public schools having almost doubled from 1988 to 1994. In real terms, the teachers' salary increase was significantly above the increase obtained by other groups. Teacher's hourly labor earnings and adjusted hourly labor earnings (taking into account two months vacation) is substantially above other worker's hourly labor earnings.

In addition to the previous descriptive analysis, it was used regression models in order to estimate the conditional distribution labor earnings differentials among several occupations. In this analysis, it was found that the teachers in basic public schools have the lowest return on years of schooling than both the private sector workers and the other government workers.

In the private sector, gender has an important effect on hourly earnings, i.e. while in the public sector, gender is not significant. This could be considered as an important incentive for women to incorporate themselves to the labor market through the public sector. Regarding region (urban-rural), teachers in basic public schools and other government workers in rural areas earn similar wages as those earned in the urban areas. Conversely, for workers in the private sector, region has a significant impact on the hourly earnings,

since a worker in this sector working in urban areas earns 45.2% more than the workers in this same sector but in rural areas.

Teachers in basic private schools face the largest uncertainty about what their salaries and job tenures will be through time. On the other hand, teachers in basic public schools deal with a significant lower risk from their salaries. Moreover, teachers labor earnings in basic public school profiles are slightly flatter than the income profiles for the private sector workers.

Teachers in basic public schools are better paid early in life and the retirement benefits are usually generous, face less work pressure and uncertainty so they prefer to hold on to the profession and wait for retirement.

All these results suggest the following: By using several definitions of teacher's payments it is clear that real salaries and real labor earnings for teachers in basic public education are significantly above other occupations and groups. And, secondly, teachers in basic public schools face a lower risk and uncertainty of having their standard of living reduced (measured as labor income). In other words, once the teacher enters the labor market as a public school teacher the union not only protects his/her position but also protects his/her flow of income through his/her lifetime. Thus, salary increases for public school teachers is not likely to be a crucial factor on recruiting and retaining better teachers in the public schools.

ANNEX

1 THE DATA

1.1. THE NATIONAL URBAN EMPLOYMENT SURVEY

Category Selection

The individuals in the sample were classified according to their occupational status in the following categories:

- Primary Teacher in Public School
- Primary Teacher in Private School
- Lower-Secondary Teacher in Public School
- Lower-Secondary Teacher in Private School
- Upper-Secondary Teacher in Public School
- Upper-Secondary Teacher in Private School
- University Teacher in Public School
- University Teacher in Private School
- Professionals with Upper-Secondary Level in Education but not teaching
- Professionals with a University degree in Education but not teaching
- The mixed-skilled group. This group includes Professionals; Technicians; Show-business workers, arts, and sports; Managers and directors in the public as well as in the private sector; Managers and workers in the manufacturing industry; Administrative workers; And, workers in the commercial sector.
- The agricultural group. This group includes workers in agriculture, fishing and forestry.
- The low-skilled group. This group includes street vendors and workers in low-skilled service jobs; Servants, drivers, gardeners; and, Vigilant and guards

Group Selection: Must be older than 11 years; regular workers (non-seasonal workers) with positive labor earnings.[7] The table below shows the sample size.

Table 1. Sample Size by Year (11 years older)

	Number of persons	
Year	**Total**	**Group selected**
1988	124, 323	54, 507
1989	125, 820	55, 349
1990	127, 387	56, 398
1991	126, 262	56, 712
1992	235, 696	108, 510
1993	239, 394	109, 359
1994	246, 906	125, 096
1995	252, 563	128, 571
1996	262, 478	132, 567
1997	272, 356	142, 002
1998	281, 694	150, 048
1999	318, 724	167, 727

1.2 THE NATIONAL HOUSEHOLD INCOME AND EXPENDITURES SURVEY

Category Selection

For the purpose of the analysis, the individuals in the sample were classified according to their occupational status in the following categories:

- Primary Teacher in Public School
- Primary Teacher in Private School
- Lower Secondary Teacher in Public School
- Lower Secondary Teacher in Private School
- Upper Secondary Teacher in Public School
- Upper Secondary Teacher in Private School
- University Teacher in Public School
- University Teacher in Private School
- The mixed-skilled group. This group includes Professionals; Technicians; Show-business workers, arts,

[7] In this survey an additional adjustment had to be made: if the worker got a benefit at the end of the year ("aguinaldo"),

and sports; Managers and directors in the public as well as in the private sector; Managers and workers in the manufacturing industry; Administrative workers; and, workers in the commercial sector.

- The agricultural group. This group includes workers in agriculture, fishing and forestry.
- The low-skilled group. This group includes street vendors and workers in low-skilled service jobs; Servants, drivers, gardeners; and, Vigilant and guards.

The table below shows the sample size for the ENIGH 1996.

Table 2. Sample Size ENIGH 1996[1/]

Occupational Status	Sample Size
No occupation	40,161
Primary Teacher in Public School	312
Primary Teacher in Private School	28
Lower Secondary Teacher in Public School	89
Lower Secondary Teacher in Private School	10
Upper Secondary Teacher in Public School	42
Upper Secondary Teacher in Private School	17
University Teacher in Public School	36
University Teacher in Private School	5
Other Teacher in Public School	138
Other Teacher in Private School	61
The mixed-skilled group	13,263
The agricultural group	6,278
The low-skilled group	3,919
Total	64,359

1/ The total number of households in ENIGH 1996 was 14, 042

then the salary was expanded (we assumed that this benefit to be equivalent to 30 days of salaries a year).

2. Results

2.1 ENEU TABLES

Table 3. Women Share and Number of Children by Occupation in Urban areas

Type of Occupation	1988		1994		1999	
	Woman Share %	Number of Children	Woman Share %	Number of Children	Woman Share %	Number of Children
Primary Teacher in Public School	75.9	1.7	73.1	1.8	75.5	2.0
Primary Teacher in Private School	78.0	0.8	81.9	1.5	91.0	1.7
Lower-Secondary Teacher in Pub. School	38.0	1.7	51.7	1.5	53.9	1.7
Lower-Secondary Teacher in Priv. School	55.4	1.0	54.5	1.4	66.8	1.4
Upper-Secondary Teacher in Pub. School	27.3	1.6	47.2	1.3	34.4	1.6
Upper-Secondary Teacher in Priv. School	43.0	0.4	44.9	1.5	54.6	1.2
University Teacher in Public School	39.4	1.8	33.2	1.3	34.3	1.4
University Teacher in Private School	63.2	0.4	38.4	1.6	33.1	0.9
Professionals with Upper-Secondary in Education not teaching	**61.9**	**1.4**	**70.9**	**2.0**	**72.8**	**2.1**
Professionals with an University degree in Education not teaching	**47.1**	**0.0**	**54.4**	**1.5**	**61.5**	**1.6**
The mixed-skilled group	**29.1**	**1.5**	**30.7**	**1.5**	**32.5**	**1.5**
The agricultural group	3.6	4.0	4.4	4.5	5.7	4.5
The low-skilled group	36.3	2.8	50.5	2.6	49.2	2.5

Source: Own calculations based on ENEU survey

Table 4. Weekly Hours-Worked by Occupation in Urban areas

Type of Occupation	1988			1994			1999		
	Mean	Median	S.D.	Mean	Median	S.D.	Mean	Median	S.D.
Primary Teacher in Public School	25.0	26.7	6.7	28.5	25.0	6.4	28.3	25.0	6.1
Primary Teacher in Private School	25.5	29.2	11.0	28.0	25.0	8.4	30.2	30.0	8.3
Lower-Secondary Teacher in Pub. School	28.1	28.9	9.5	31.3	30.0	8.8	32.3	35.0	9.2
Lower-Secondary Teacher in Priv. School	23.9	25.0	10.2	27.2	30.0	9.2	25.9	25.0	10.3
Upper-Secondary Teacher in Pub. School	27.4	30.0	11.1	29.1	30.0	10.8	32.6	35.0	9.2
Upper-Secondary Teacher in Priv. School	29.9	33.6	12.2	28.7	30.0	10.8	27.9	30.0	11.7
University Teacher in Public School	30.8	35.0	12.4	32.7	40.0	15.5	36.1	40.0	10.4
University Teacher in Private School	25.6	32.0	13.3	31.7	35.0	12.3	31.9	35.0	14.2
Professionals with Upper-Secondary in Education not teaching	**40.3**	**40.0**	**9.9**	**38.4**	**40.0**	**10.2**	**40.0**	**40.0**	**11.1**
Professionals with an University degree in Education not teaching	**37.2**	**38.0**	**8.0**	**38.6**	**40.0**	**12.6**	**39.3**	**40.0**	**10.8**
The mixed-skilled group	**43.1**	**44.4**	**11.5**	**45.7**	**45.0**	**12.6**	**45.8**	**45.0**	**12.1**
The agricultural group	44.9	47.0	14.6	48.7	48.0	15.8	47.2	48.0	15.1
The low-skilled group	43.8	45.0	15.9	42.9	45.0	17.7	42.9	45.0	17.4

Source: Own calculations based on ENEU survey

Table 5. Adjusted[1/] Weekly Hours-Worked by Occupation in Urban Areas

	1988			1994			1999		
Type of Occupation	**Mean**	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**	**Mean**	**Median**	**S.D.**
Primary Teacher in Public School	19.7	21.1	5.3	22.5	19.7	5.0	22.3	19.7	4.8
Primary Teacher in Private School	20.1	23.0	8.6	22.1	19.7	6.6	23.8	23.7	6.6
Lower-Secondary Teacher in Pub. School	22.2	22.8	7.5	24.7	23.7	6.9	25.5	27.6	7.2
Lower-Secondary Teacher in Priv. School	18.9	19.7	8.0	21.4	23.7	7.3	20.4	19.7	8.1
Upper-Secondary Teacher in Pub. School	21.6	23.7	8.7	22.9	23.7	8.5	25.7	27.6	7.3
Upper-Secondary Teacher in Priv. School	23.6	26.5	9.6	22.6	23.7	8.5	22.0	23.7	9.2
University Teacher in Public School	24.3	27.6	9.8	25.8	31.5	12.2	28.4	31.5	8.2
University Teacher in Private School	20.2	25.2	10.5	25.0	27.6	9.7	25.2	27.6	11.2
Professionals with Upper-Secondary Education not teaching	**38.0**	**37.7**	**9.3**	**36.2**	**37.7**	**9.6**	**37.7**	**37.7**	**10.5**
Professionals with an University degree in Education not teaching	**35.0**	**35.8**	**7.5**	**36.4**	**37.7**	**11.9**	**37.0**	**37.7**	**10.2**
The mixed-skilled group	**40.7**	**41.8**	**10.8**	**43.0**	**42.4**	**11.9**	**43.2**	**42.4**	**11.4**
The agricultural group	42.3	44.3	13.8	45.9	45.2	14.8	44.5	45.2	14.3
The low-skilled group	41.3	42.4	15.0	40.4	42.4	16.6	40.5	42.4	16.4

Source: Own calculations based on ENEU survey

1/ Following OECD, it is assumed that teachers work on average 41 weeks per year and non teachers work on average 49 weeks per year.

2.2 ENIGH TABLES

Table 6. Source of Income by Occupational Status

Source of Income	**Upper Secondary Teacher in Public School**			**Upper Secondary Teacher Private School**			**University Teacher in Public School**			**University Teacher in Private School**		
	Urban	**Rural**	**Nal.**	**Urban**	**Rural**	**Nal.**	**Urban**	**Rural**	**Nal.**	**Urban**	**Rural**	**Nal.**
Labor Earnings												
Salaries	57.06	80.42	57.16	50.74	n.d.	50.74	78.63	n.d.	78.63	81.44	n.d.	81.44
Commissions	0.12	0.00	0.12	0.00	n.d.	0.00	0.00	n.d.	0.00	0.00	n.d.	0.00
Compensations	0.56	0.00	0.56	0.00	n.d.	0.00	1.11	n.d.	1.11	0.00	n.d.	0.00
Vacation Pay	2.20	0.86	2.19	1.63	n.d.	1.63	1.45	n.d.	1.45	1.46	n.d.	1.46
Profits	0.00	0.00	0.00	0.00	n.d.	0.00	0.00	n.d.	0.00	0.00	n.d.	0.00
Own Business Income	5.91	0.00	5.89	3.87	n.d.	3.87	0.95	n.d.	0.95	0.00	n.d.	0.00
Income from Cooperatives	0.00	0.00	0.00	0.00	n.d.	0.00	0.00	n.d.	0.00	0.00	n.d.	0.00
Rents	0.87	0.00	0.87	0.39	n.d.	0.39	0.00	n.d.	0.00	0.00	n.d.	0.00
Monetary Transfers												
Pensions	0.00	0.00	0.00	5.60	n.d.	5.60	0.00	n.d.	0.00	2.83	n.d.	2.83
Other Monetary Transfers	3.81	0.00	3.79	1.87	n.d.	1.87	2.70	n.d.	2.70	0.00	n.d.	0.00
Other current income	3.27	0.00	3.26	0.00	n.d.	0.00	1.44	n.d.	1.44	0.00	n.d.	0.00
Non Monetary Income												
Auto-Consumption	0.20	5.49	0.22	0.14	n.d.	0.14	0.01	n.d.	0.01	0.00	n.d.	0.00
Non monetary Payment	0.44	0.00	0.44	2.12	n.d.	2.12	0.75	n.d.	0.75	2.84	n.d.	2.84
Gifts	0.95	0.30	0.95	4.45	n.d.	4.45	1.77	n.d.	1.77	0.62	n.d.	0.62
Housing Imputed Rent	4.62	12.93	4.65	21.46	n.d.	21.46	7.50	n.d.	7.50	8.52	n.d.	8.52
Financial Income												
Monetary Financial Income	19.99	0.00	19.91	7.73	n.d.	7.73	3.69	n.d.	3.69	2.30	n.d.	2.30
Non Monetary Financial Income	0.01	0.00	0.01	0.00	n.d.	0.00	0.00	n.d.	0.00	0.00	n.d.	0.00

n.d.: No data in the survey.

Source: Own calculations based on ENIGH96 survey

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