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Labor Participation and Earnings for Young Women in Argentina

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Labor Participation and Earnings for Young Women in Argentina

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Labor Participation and Earnings for Young Women in Argentina.*

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CEDLAS – UNLP

1. Introduction

This paper is aimed at studying the determinants of labor market performance of young women in Argentina, concentrating on three particular results: employment chances, job quality, and earnings. Many factors contribute to determine the degree of success or failure of women in the labor market. Using data from the Permanent Household Survey (EPH) and the Special Module on Education 1998 (SME) –both with nation-wide coverage– we explore the effects of different individual's characteristics such us age, educational attainment, attendance situation, and marital status.

Besides those traditional factors explaining labor market results, we are particularly interested in assessing the role of secondary school education and family environment. Concerning the former, secondary school characteristics may be important determinants of performance at the labor market. On the one hand, it is possible to think of a self-selection mechanism that assigns individuals with different characteristics to different types of school. For example, women participation in technical schools is very low, even though there is no admission process and schools are free –most technical schools are public. Here the type of school is in fact revealing the type of individual. On the other hand, schools with different characteristics imply, in general, differences in the quality and orientation of education. So, the type of school indicates the "amount" or "quality" of human capital acquired by the individual over the educational process.

But secondary education cannot be simplified to school characteristics. There are also many situations related to the educational process that are certainly expected to contribute to future labor market performance. Dropping out of school, delaying entry to the following educational level, failing schooling years, etc. are signs of either poor educational performance or low attachment to the educational process, which could end up on poor labor market results.

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* A shorter version of this paper appears in Giovagnoli, Kit, Marchionni and Paz (2005, Section III), and it is part of the *Educate Girls Globally*–EGG project on "Urban Female Employment in Latin America" financed by the *Inter-American Development Bank*–IADB.

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From the SME we have information on high school characteristics and past educational performance for year 1998 and for the same individuals covered by the EPH. As for high school characteristics we know the type of school –public or private–, school orientation –humanistic, technical, commercial, or other orientation–, and if standard or special program for adults was given. Unfortunately, the SME lacks information on other school attributes that could have been interesting to analyze, such us gender composition of school –only boys-only girls-mixed–, particular contents of curricula besides school orientation –idioms, sports, etc.–, and religious or not religious education. As for past educational performance, the SME also provides information on school abandonment and years failed, but not on grades.

As for the second group of factors we are interested in, family environment is also expected to influence individuals´ educational and labor performance. Family educational background, birth order of children, family size, and household structure, among others, are likely to reflect the way roles are assigned between parents and children, and among children of different characteristics, determining educational and labor decisions within the household. Other family and social attitudes towards education are unfortunately not available from the EPH or the SME.

The methodological approach adopted consists on estimating Probit models for the probability of being employed or having a particular type of job, and Mincer equations to study the determinants of hourly earnings. Since our interest is focused on women, the obvious comparison group is composed by men. Therefore, we estimate separate models by gender, and then test the hypothesis that there is no statistically significant difference between them.

The rest of this paper is organized as follows. Section 3 deals with description of data sources and discussion of preliminary evidence based on an unconditional analysis. Section 3 concentrates on estimating probability models for employment situation and type of job. Two job characteristics are considered: formality and belonging to a leading economic sector. Earnings equations are presented and estimated in Section 4, where sample selection problem is discussed and accounted for. Finally, Section 5 concludes. Tables and figures are presented in the Appendix.

2. Data description and preliminary evidence

This section describes the data to be used and discusses some of its main features by means of an unconditional analysis. Therefore, the results coming from this section should be considered as preliminary evidence to help us understand and interpret those that will come from the multivariate analysis performed in later sections of this paper.

The information we use throughout the paper comes from two complementary sources. One is the Permanent Household Survey –*Encuesta Permanente de Hogares* (EPH). The EPH is a household survey carried out by the National Institute of Statistics and Censuses (INDEC) since the 70's. Through the years, new conglomerates have been incorporated to achieve a better coverage of urban areas. At present, the EPH covers 70% of the urban population and 61% of the national population, sampling 29 conglomerates twice a year, in May and October.[1] The survey provides a wide range of demographic and socioeconomic variables. Information on labor related issues and income is particularly detailed. Also, the EPH contains information on educational attainment, current school or college attendance situation, and high school orientation for those with at least some secondary education but who had never attended college.

[1] The 29 urban conglomerates can be grouped into six geographical regions. (1) GBA (Greater Buenos Aires): Buenos Aires City and its conglomerate; (2) NOA (North-West): S. S. de Jujuy-Palpalá, Salta, Tucumán-Tafí Viejo, Catamarca, La Rioja, and Santiago del Estero-La Banda; (3) NEA (North-East): Formosa, Resistencia, Posadas, and Corrientes; (4) Cuyo (Central-West): San Juan, Mendoza, and San Luis-El Chorrillo; (5) Pampeana (Central-East): Paraná, Concordia, Rosario, Santa Fe-Santo Tomé, Córdoba, Río Cuarto, Santa Rosa-Toay, La Plata, Bahía Blanca, and Mar del Plata-Batán; (6) Patagonia (South): Neuquén-Plottier, Comodoro Rivadavia, Río Gallegos, and Tierra del Fuego.

In May 1998 a Special Module on Education (SME) was added to the regular EPH to gather additional information concerning formal and informal education. The SME presents two main features. First, like the EPH, it has nation-wide coverage, and second, it can be matched to the May 1998 regular EPH.

The SME contains three types of questionnaires according to the attendance situation of the individual surveyed: “she/he is currently attending school”, “she/he has attended” or “she/he has never attended”. For those individuals with at least some secondary education, the data base contains information on the type of secondary school –private or public. For each individual with secondary education –complete or incomplete– as her/his maximum educational level we also know about her educational history: years failed and high school abandonment, and primary education performance –repetition, abandonment, and delayed entry to high school. Finally, the survey gathered information on informal education as training courses, and reasons for taking these additional courses –need to increase the chances of finding a job or to improve the productivity at work.

As discussed in the introduction, our interest is focused on exploring the potential effects of secondary education on labor market results, especially employment and wages. Secondary education in Argentina typically starts at the age of twelve or thirteen –actually, thirteen by the end of June of the first year– and it takes at least five years for a high-school student to complete the level. Taking this into account, what would be the relevant age range to consider? On the one hand, employment issues are rather irrelevant for individuals before the age of fifteen –less than 0.5% of individuals from this age group are employed. On the other hand, it is likely that as individuals age, secondary education effects on labor market performance become weaker. For older people it is expected that college education and experience or training at work be the relevant determinants of labor market results, instead of secondary education characteristics. Therefore, we concentrate the analysis on individuals between 15 and 24 years old.

Since we are also interested in assessing the impact of family environment, we focus our analysis on those youngsters living with their parents. Although this group represents 76% of individuals between ages 15 and 24, it is important to point out that this choice could introduce selectivity issues into our sample. It is likely that youngsters living out of their parents´ households be economically independent. Therefore, they have probably more chances to be employed and to earn higher wages than those still living with their parents. Taking this into account, the results coming from the analysis should not be interpreted as representing average 15 to 24-year-olds but only those who have not yet moved out from their parents´ home.

We define two samples according to data availability. The first one –*sample 1*– only includes individuals with incomplete or complete secondary education, but who had never attended college. For this sample we have information on various high school characteristics –public or private school, school orientation, standard or adult programs, and educational history of the individual–, besides the usual demographic and socio-economic characteristics of the individual and her/his family –age, gender, educational attainment, labor market variables, parental education, and household structure and composition. Sample 1 contains valid information of 7,668 individuals –3,654 females and 4,014 males– from the 29 main Argentinean cities.

It is important to point out that this sample includes very diverse individual types from an educational and labor perspective. There are youngsters attending high school who plan to continue studying at the university and with no perspectives to participate in the labor market until they graduate. There are other youngsters who have dropped out of high school and who have no plans to go back. There are also individuals who have completed secondary education. Some of them are maybe planning to go to college in the near future while others might be considering the high school diploma as the end of their formal education. Throughout the unconditional analysis of this section, all these groups appear somehow mixed up, but the multivariate approach adopted in later sections takes this heterogeneity into account.

To build the second sample –*sample 2*– we add to sample 1 individuals with at least some college education, increasing the sample size to 10,646 –5,376 females and 5,270 males. Unfortunately, we lack information on secondary school orientation and educational history for the new group, and this is the reason to keep two separate samples. Table 1 in the Appendix describes both samples.

Table 2 defines all the relevant variables and Table 3 reports basic descriptive statistics for the two samples by gender and on the aggregate. From this last table, 28% of the individuals in sample 1 are employed, 59% are out of the labor market (inactive), and 12% are unemployed. As expected, inactivity is much frequent among women. 68% of women are neither employed nor looking for a job, while the percentage is 52% for

men. Unemployment rate –the share of unemployed individuals on total active individuals– is considerably higher for females than for males (35% and 28% respectively). Figures are almost the same for males in sample 2, but the percentage of employed females is higher (25%) and the unemployment rate lower (30%). As indicated by the stars to the left of variable names, employment and activity rates differ significantly by gender.

For those who are employed, there is information on various job characteristics. One of those job attributes is formality. Following Gasparini (2003), we use two alternative definitions of formality. The first definition considers that workers with retirement benefits are formal workers. Unfortunately the EPH allows implementing this definition only for wage earners, who represent 86% of total workers approximately. Dummy variable *formal_1* equals one if formal salaried worker, and equals zero otherwise. The second definition applies to all workers, not only salaried ones, and considers as formal workers entrepreneurs, salaried workers in large firms and in the public sector, and self-employed professionals. Binary indicator *formal_2* equals one when individual is a formal worker according to this definition.

For both definitions, formality is more frequent for males than for females when considering sample 1. Only 33% of female salaried workers have retirement benefits while the corresponding percentage for males is 43%. According to the later definition, 42% of female workers and 49% of male workers have a job in the formal sector. When sample 2 is considered, the share of formal workers is larger but does not vary significantly between genders.

Concerning sector of activity, employed women seem to be more likely to have a job in a leading sector – financial sector, public administration, defense, education, health, and professional and personal services. Here, leading sectors are defined as those having the highest wages. In sample 2, for instance, mean hourly wages for individuals working in a leading sector are $3.74 against $2.63 for workers from other sectors. The gap considerably shrinks in sample 1, where the corresponding figures are $2.53 and $2.28.

As for full-time jobs, they are more frequent among working males and present, on average, lower hourly wages than part-time jobs –the latter not shown in the table. Again, mean-wage gap is narrower in sample 1.

Mean hourly wages are 13% higher for men than for women in sample 1. At the time of the survey (1998) Argentina was under the Convertibility monetary regime, where one Argentinean peso was equivalent to one U.S. dollar. Therefore, an employed female between ages 15 and 24 earned 2.15 dollars per hour on average, while an average male from the same age group earned 2.4 dollars per hour, being the difference statistically significant. Hourly wages are higher for the second sample –almost 3 dollars per hour–, which is natural because of the higher educational level of this group, and there is no difference on average wages between genders when other relevant characteristics are not considered.

As for attendance rates, they are higher in sample 2 where 67% of individuals were attending school (or college), while the corresponding figure for sample 1 is almost 10 percentage points lower. For both samples school attendance is more frequent among females, though the difference is not significant in the first sample.

For sample 1, 84% of individuals have not completed yet or have already dropped out of high school. For the second sample, educational attainment is higher for women than for men. There are two important facts to point out here. First, only individuals with incomplete educational levels report to be attending school (or college). Second, given the age range being considered –maximum age is 24–, we have to think of college graduates in our sample as the best students from their cohort. Although the only thing we know for sure is that they are the firsts in graduating, other sources indicate that they are in general the ones with the highest grades too.[2]

Concerning school type, 77% of individuals from the first sample and 70% from the second come from public high schools. Public education is free in Argentina, which explains why average students from public schools usually come from lower socio-economic strata than average students from private ones. Table 5, for instance, reports the share of individuals from public schools by household per capita income quintiles. The relation is

[2] See for instance Di Gresia, Porto and Ripani (2002)

clear: private secondary education is more frequent among richer individuals. Similar patterns are found when considering other characteristics of the family that indicate its socio-economic status.[3]

From the EPH it is possible to distinguish among four main school orientations: humanistic, commercial, technical and other orientations. An important fact to point out is that enrollment in technical schools is mostly composed by men –for our samples only 17% of technical students are women.[4] The group labeled as "other orientations" concentrates less than 1% of the students and it is composed mostly by art schools. Unfortunately, information on school orientation is available only for individuals with at least some secondary education but who have never attended college, i.e. individuals from sample 1.

There are special programs designed for students who had not started secondary education at the age of 18. Because of enrollment in such schools is composed mostly by adults, this educational mode is usually referred to as *adult education*. Students from these programs are generally characterized by a poor educational performance –drop out, failure– but they still make the effort to obtain a high-school diploma. From the SME we know that only 7% of individuals in sample 1 have attended such schools and that this educational alternative is more common among males, who are in turn more likely to fail during their educational process.

To reflect educational history at the secondary level we consider two variables available from the SME for individuals in sample 1: *failed* –equal to one if the individual failed at least one high-school year– and *drop_out* –equal to one if she/he abandoned at least for one year his/her secondary education and then returned to school. Repetition appears to be much more common than drop out –30% and 9% respectively–, and both phenomena are more frequent among males.

It is well documented in the literature that family environment is expected to affect children's education and labor participation decisions. From an economic perspective, household characteristics such as family structure, family size, and parental and other children's educational attainment are likely to influence education and labor participation by altering the cost-benefit scheme where these decisions are taken. From a sociological perspective, there are many ways in which families affect children's decisions. For instance, Nock (1988) and Weiss (1979) stress the role of the family in providing a hierarchical structure of authority needed to succeed in institutions characterized by such structures, like the educational system or the labor market. Other views focus on the importance of family in providing role models for children –Hess and Camera (1979)– or in controlling stress and conflict –Loh (1996).

As a proxy to family educational environment we use parental education. There are two empirical problems that limit the possibility of including both parents educational attainment. The first one has to do with the existence of single parent families for whom we lack information on one of the parents. Second, in two-parent families there usually is strong correlation between mother's and father's education, making it difficult to empirically identify both effects separately. Therefore, instead of incorporating each parent's educational attainment into the analysis, we choose to define a parental-education variable as the maximum between household head's and his/her spouse's educational attainment. Naturally, for single parent families we just consider the educational level attained by the household head. As expected, individuals in sample 2 have parents with higher education than those in sample 1.

Family educational environment could be also captured by the educational level attained by sisters and brothers of the individual in the sample. Here we define a dummy variable –*edu_sibling*– equal to one if there is another son or daughter of the household head with a higher educational level than the individual in the sample. 27% of individuals in sample 1 and 21% of those in sample 2 have at least one sibling who is ahead in her/his studies. Besides family educational environment, other children's education could be an important determinant of the roles played by each household member –particularly those related to the labor market–, and so does the age of the child relative to those of his/her siblings: more than half of the individuals in our samples are the eldest children living in their household.

Family structure could also affect the way roles are assigned between parents and children, and among children with different characteristics. Here, we consider two types of families according to the gender of the household head. Female headed families have gained participation over the years in Argentina. Most single

[3] For more on this see Giovagnoli, Kit, Marchionni and Paz (2005, Chapter 4).

[4] Again, for more on this topic see Giovagnoli et. al (2005, Chapter 4).

parent families are headed by a woman, and very few women are the head of two parent families. Participation of female headed families on total households has considerably increased since mid seventies. Marchionni (2004) reports that the share of this group of households in the Greater Buenos Aires almost doubled in the last three decades, from 7.5% in 1974 to 14% in 2000. During the nineties, the expansion of this type of household coincided with that of the share of poor people living in such families. A possible explanation is that female headed families face more restrictions –compared to other household types, for instance two parent families– to alleviate the effects of the increasing unemployment that has characterized Argentina over the last years. And probably because of this, labor behavior of children from female headed families differs from that of children from other household types. Approximately 20% of individuals in both of our samples live in households headed by a woman.

As for other factors that could affect participation decision, we consider parents´ employment situation since it is expected to affect the way roles are assigned among household members. 82% of individuals in our samples live in households headed by an employed father or mother, and there are no differences in proportions by gender. Regarding resources available to the family, we consider total income of the other family members –i.e. total family income minus income of the individual in the sample. Individuals in sample 2 are, on average, 19% richer than those in sample 1 where the other members of the family make almost $1,200 Argentinean pesos per month –equivalent at that time to the same amount in U.S. dollars. For a non working individual with the average family size of 5 members, per capita income would be of around $240 per month.

The standard economic approach sees participation in the labor market as a time consuming activity that competes with other uses of time, particularly school attendance. Labor participation, schooling and the timing of both activities arise as the result of a utility maximization problem whose solution is a function of the household production function and the family investment function.[5] Table 5 illustrates the relationship between participation in the labor market and school attendance when considering our samples. The table suggests that labor participation and employment are strongly and negatively related to school attendance, especially for males. Most youngsters in sample1 are both inactive and attending school or college –55% of the females and 45% of the males–, while 23% are working but not attending school –this situation is much more common for males (28%) than for females (16%). The same pattern is present in sample 2 but with lower inactivity rates and higher employment rates.

Before we proceed to the multivariate analysis, it is relevant to explore the relationship between labor participation, employment, and each of the variables we have described so far. Each row of Table 6 reports the estimated probability of being employed given a single particular characteristic, and so does Table 7 but focusing on labor participation. For example, the first row of Table 6 shows that almost 15% of the females in sample 1 who have not completed high-school education are employed –the rest of these females (85%) is either unemployed or inactive. The same row in Table 7 indicates that 22% are active. Therefore 7% of females in sample 1 who have not completed secondary education are unemployed and 78% are inactive.

Considering educational level, individuals with incomplete high school present the lowest chances to participate in the labor market or to be employed, maybe because they are still attending school. Both for incomplete and complete high school, employment and participation are higher for males.

For sample 2 it is also possible to explore employment and participation situation for higher educational levels. Chances to be active or employed are higher for individuals with a diploma, both from high school or college. Again, inactivity appears to be much more frequent among individuals who have not yet completed the corresponding educational level, probably because they are still attending school or college.

Except for college graduates, employment is higher for males. Almost every college graduate is active, but unemployment is higher for males than for females in this group –33% and 16% respectively– which makes women with a college degree more likely to be employed than men with the same education.

Concerning type of secondary school, individuals from public ones are more likely to participate in the labor market than those coming from private schools. Despite of this, employment rates for the two groups are similar in sample 2, indicating higher unemployment among people from public secondary schools. Of

[5] This approach relies heavily on Becker´s (1965) and (1981) works.

course, this kind of evidence does not mean that the public or private nature of school has an effect on employment by itself since we are not yet controlling for many other factors –such as educational attainment or socio-economic characteristics of the family– potentially correlated with the type of school, participation decision, and employment situation.

Next, we consider the relationship between secondary school orientation and employment. As we noted above, from the EPH it is possible to distinguish among 5 orientation types: humanistic, commercial, technical and other orientations. Individuals from technical schools are the most likely to get a job, which is not surprising when we take into account that 83% of the students enrolled in these schools are males, that males are more likely to be employed than females, and that technical education qualifies students in very specific areas with many job opportunities –electricity, electronics, construction, computing, etc. To a lesser extent, the same argument holds for commercial schools.

As expected, we find higher employment rates among people from adult schools. Despite of having failed at some point in their educational process, people in adult programs persevere, which is probably what makes them more likely to be employed.

As for educational history and performance at the secondary educational level, repetition does not seem to affect the chances to be working, but females who drop out of high school are much more likely to be employed than those who never quit school. Those who interrupted the educational process delaying entrance to secondary school are also more likely to be employed than those who started high school right after finishing primary education.

Parental education appears to have a negative effect on employment, particularly for men in sample 1. We have to wait to the conditional analysis in later sections to see whether there is still an effect of parental education on employment once we control for family income, children educational level and other individual characteristics potentially correlated to parental education. Having a sibling with a higher educational level also appears to decrease the chances to be employed, especially for females. This could be associated either to peer-group effects among siblings or to the fact that children can be considered as substitutive factors in the household production function. Reinforcing the idea of substitution among children, and between children and their parents, the evidence suggests that being the eldest child living in the household increases the chances to be employed –particularly for males–, and that there is a positive effect on employment of belonging to a family headed by a woman. But again, given the unconditional nature of this analysis we should not put too much emphasis in this kind of results.

Finally, sons and daughters from families with employed household head appear to have less chances of being working, especially if they are still attending school –as indicated by the interaction variable *intera_att_hhempl*.

3. Employment situation and job characteristics. Estimation of probability models.

This section is aimed at studying the determinants of employment situation of young females in Argentina, particularly those related to family environment and secondary education characteristics such as school characteristics and past educational performance. The methodological approach consists on estimating reduced-form models for the probability of being employed against the alternative of being unemployed or out of the labor force. Therefore, the dependent variable is a binary choice indicator taking on the value one when the individual is employed and zero otherwise –variable *employed* defined in Table 1.

Another possibility would be to study the determinants of labor participation and then, conditional on that, to explore what influences the probability of being employed versus being unemployed. However, there are several arguments to believe that the distinction between inactivity and unemployment is far from obvious,

especially for youngsters who have a low attachment to the labor market –Flinn and Heckman (1983).[6] Because of this and given the goals of this paper, we concentrate the study on employment probability though we also estimate models of the determinants of participation in the labor market.

As for the exogenous explanatory variables, we consider characteristics that could affect participation decision and employment opportunities: age in years and its squared, marital status, school attendance situation, educational attainment, high school characteristics, educational history –failure, abandonment, delayed entry–, variables that proxy family educational environment and attitudes –parental education, siblings´ education, birth order, household structure, family size–, economic variables –family income and employment situation of the household head–, and geographic controls. By means of this analysis, it is possible to estimate the effect of changes in any of these exogenous characteristics on employment probability, while keeping constant all the other variables included in the model. To allow for the possibility that effects differ by gender, we estimate separate models for females and males, and then we test the statistical significance of the difference.

Besides studying the determinants of employment, we are also interested in exploring what may influence –and at what extent– some job characteristics: formal or informal, and belonging or not to a leading economic sector. Again, separate models by gender are estimated.

This section is split into three parts. The first part concentrates on the estimation of employment probability models, while the other two parts deal with the estimation of the probability of particular job characteristics linked to job quality. First, we study the chances of having a formal job. Then, we distinguish between economic leading sectors and non-leading sectors, and estimate models for the probability of having a job in a leading sector.

3.1. The probability of being employed

Models for the probability of a binary indicator conditional on a set of exogenous variables are frequently called *binary choice models*. The name comes from the fact that it is possible to motivate these models from a situation where an individual has to choose between two alternatives. When it is assumed that the unobservable factors affecting the utility function follow a standard normal distribution, the specification that results for the binary choice model is the *Probit Model*. The binary choice model for the employment situation is represented by equation (1) below. Equation (1) means that the probability of individual i being employed given her/his characteristics, summarized by vector x_i of dimensions $K\times1$, is equal to the value of function $F(.)$ evaluated at point $x_i'\eta$, where η is also a $K\times1$ vector of unknown parameters. In the Probit specification, function $F(.)$ is the c.d.f of a standard normal random variable, i.e. $F(.)\equiv\Phi(.)$.[7] Vector of parameters η is estimated by the maximum likelihood procedure using standard econometric software.[8]

$$\Pr(employment_i = 1 \mid X = x_i) = F(x_i'\eta) \qquad \text{for } i = 1, \ldots N \tag{1}$$

[6] Nevertheless, we also performed the analysis of employment probability using sequential models, first to explain participation and then employment among active individuals. The results are markedly similar to those reported here, and they are available after request.

[7] When the unobservable factors affecting utility are assumed to follow a logistic distribution, the resulting model is called *Logit*. It can be shown that there is an equivalence between models Probit and Logit. Throughout these paper we concentrate in the Probit specification. For more on binary choice models see for instance Long (1997) and Wooldridge (2002).

[8] Actually, identification of vector η in the Probit specification relies on the assumption that the variance of unobservable factors for observation i equals 1. See, for example, Long (1997) and Wooldridge (2002).

The expression for the change in employment probability caused by a marginal increase in variable x_k, for k = 1, …, K, is given by equation (2) below, and it is obtained by differentiating equation (1) for that particular variable.

$$\text{(2)} \qquad \frac{\partial \Pr(employment = 1 \mid X = x_0)}{\partial x_k} = \eta_k \;\; f(x_0^{'}\eta)$$

Where $f(.)$ is the standard normal p.d.f., i.e. $f(.) \equiv \phi(.)$. Equation (2) is known as the marginal effect of variable x_k on employment probability or *marginal effect of* x_k.

Marginal effect on employment probability of any of the covariates is not linear. Therefore, to evaluate the impact on employment chances of different individual's characteristics it is important to understand what determines the sign and magnitude of marginal effects. First, the sign of marginal effect of x_k depends exclusively on the sign of the corresponding coefficient, i.e. an increase on x_k increases the probability of employment if η_k is positive, and decreases it when η_k is negative. Second, the magnitude of the change in employment probability resulting from a marginal increase in x_k depends not only on the value of η_k and x_k, but also on the values of all the other covariates at point $X=x_0$. Suppose that as individuals age they become more likely to be employed, keeping all other variables constant. This would be true if η_{age} is positive. But the increase in employment probability caused by an increase in *age* differ according to the age, gender, education, and other relevant attributes of the individual included in vector x_i.

For discrete exogenous variables, the marginal effect measures the change in probability caused by a unitary increase in the value of the variable. For example, the marginal effect of a dummy variable x_d is the change on employment probability as a result of a change in the value of x_d from zero to one. Suppose that the variable *female* equals one for females and zero for males. A negative sign for η_{female} would imply that women have lower chances to be employed than men with similar characteristics, i.e. same age, educational level, etc.

Table 8 presents the results of estimating Probit models for the probability of being employed. For each of the two samples, separate models for females and males were estimated using the Maximum Likelihood procedure. The table also includes estimates for the difference in coefficients between genders.[9] As discussed earlier, from the sign of the estimated coefficients reported in the table it is possible to predict whether the chances to be employed increase or decrease when any of the independent variables increases, while keeping all other characteristics constant.

We also estimated binary choice models for the probability of being economically active using the same set of covariates as in the employment probability model. The corresponding estimation results are reported in Table 9. Despite the magnitude of the coefficients differ from one model to the other, the signs are the same. Moreover, when a factor is found to significantly affect employment chances generally it is also significant to explain activity, and vice versa. Interestingly, the only exception appears for family income and household head's employment situation. Therefore, we concentrate on the employment probability model in Table 8, and refer to the participation model only when it contributes to a better understanding of the point being discussed.

To begin with the general comments, goodness of fit is higher for participation than for employment models as indicated by the Pseudo R^2. Also, models for men adjust better than those for women.

Linear and quadratic terms for age are always statistically significant at 1% level across samples and genders. In the relevant range, employment chances increase with age. Despite women's coefficients are larger, age effect does not differ significantly between genders. We can think of two forces acting in opposite directions

[9] The results reported in columns 3 and 6 come from estimating a Probit model for the whole sample –i.e. males and females– that includes the original explanatory variables as well as all possible interactions with a binary indicator for gender.

on employment probability as the individual ages. On the one hand, opportunity costs of not working –i.e. potential wages– are usually higher for older people. This would push participation and employment probability up as individuals get older. On the other hand, there might be an inertial behavior related to school attendance not captured by the educational dummy variables. For youngsters still attending school, age reflects time spent in formal education. More time invested in education may induce individuals to complete the degree, keeping them out of the labor market, and thus reducing their employment chances. The estimated positive effect of age suggests that the first effect prevails.[10]

Lines in Figure 1 are the age profiles of predicted employment probability using Probit coefficients estimated from sample 1 and reported in the first two columns of Table 8. Thick lines represent predicted probabilities for individuals who started attending a public secondary school right after finishing primary school, but who are not currently attending nor have yet graduated from that school. As for the other characteristics, we consider that at least one parent is a college graduate while all other dummies are set equal to zero. Family size and income are fixed at the sample means. Profiles illustrate how employment probability increases at a decreasing rate as individual ages. The slope of these lines is the marginal effect of age on employment probability for the chosen values of the covariates. Similar shapes of dashed and solid lines indicate that marginal effects do not significantly differ between genders, even though men of this group always have higher probability of being employed than women.

As noted earlier, just a few youngsters in our samples are legally married or in a de facto cohabitation, but this is a strongly significant attribute decreasing employment chances of women while increasing those of men. It is possible that being married also captures the fact of having children, but from the EPH we cannot match children with their parents when none of the latter is the household head. Of course, there can be individuals with children in our sample –especially women– who are single. Our model does not control for this situation.

As expected, attending school decreases the chances to be employed, especially for men, and the effect is reinforced –though not significantly– for individuals living in a household whose head is employed. Thinner lines in Figure 1 illustrate employment probability-age profiles for the same individuals described earlier but who are currently attending school. The figure highlights two important results. First and more obvious, employment probabilities are considerably higher for individuals who are not attending school than for attending individuals. Second, men's employment probability is much higher than that of women when considering individuals who are not currently at school. But for the group who attends school, chances to be employed do not differ by gender.[11]

Concerning educational attainment, it explains females´ chances of being employed but not males´. Beyond attendance situation, having graduated from high school or from college increases the relative probability of females to be employed. Figure 2 illustrates again the age profile of employment probability for the same individuals in Figure 1 who do not attend school. As can be noted, the gender gap in employment probability is narrower among high school graduates.

The only high-school characteristic available for the two samples is type of school –public or private. The fact of having attended a public instead of a private secondary school appears to be significant only for males and in sample 1. For that group, the estimated chances to be employed increase when high school is public given all the other characteristics included in the model. Instead, when considering estimated results for sample 2 we find no significant difference between public and private schools. To understand why the results differ from one sample to another, it is important to distinguish between changes in model specification and changes in sample composition. To explore this, we estimated model for sample 2 including an interaction variable

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[10] Sosa Escudero and Marchionni (2000) find evidence consistent with our results when studying school attendance decisions in Argentina for children between 13 and 19 years old.

[11] There is a possibility that attendance effect on employment differs as individual ages. To evaluate this hypothesis, new probability models including an interaction variable between age and attendance situation were estimated. The interaction was significant only for sample 2 suggesting that the detrimental effect of attendance on employment chances attenuates with age. The new variable is highly correlated with educational attainment, capturing much of its effect and making interpretation cumbersome. Therefore, and according to the main goals of this paper, we chose to discuss a model specification that excludes this interaction variable.

equal to one for individuals from public secondary schools but who have never attended college –i.e. individuals in sample 2 who are also in sample 1. What we get is that the effect of school type on employment differs by educational level. For less educated men, public school has again a significant and positive effect on employment. In contrast, the effect is also significant but strongly negative for men with at least some college education –i.e. those in sample 2 but not in sample 1. Similar results are obtained from the participation probability model.

Individuals in sample 2 belong, on average, to families from higher socio-economic strata than those in sample 1. Of course, contrast is stronger when comparing individuals from the first sample against those in sample 2 but not in sample 1. It is expected that participation in the labor market for youngsters like the ones we are considering –i.e. living with their parents and still in schooling age– be higher in sample 2 than in sample 1 once controlled for age. Even though some dimensions of socio-economic status are controlled for in our models –current family income and parental education– others might not since we do not have information on them. If those omitted dimensions were correlated with the type of school, their effect on employment situation would be captured by the public-private dummy variable. In fact, there is evidence suggesting that this correlation could be strong. Only 23% of individuals in sample 1 come from a private school, while the figure corresponding to the second sample is 30%, and 44% when considering individuals in sample 2 but not in sample 1. This evidence, though not conclusive, suggests that the effect on employment of the type of school might not have to do with the school characteristics by themselves but with unobserved factors –probably characterizing the whole family– that determine both high school choice and the likelihood to continue studying beyond secondary level.

Concerning high school orientation, it is surprising that it appears to have no effect on the probability of being employed once controlled for all other factors. In contrast, people with adult secondary education have higher employment chances than others from schools with standard programs. Despite of having failed at some point in their educational process, people in adult programs persevere. Perseverance or maybe a hard working attitude is what probably makes them more likely to be employed.

Educational history seems to be relevant to explain employment situation for females but not for males. To delay high school entrance and to abandon secondary education for at least one year increase employment probability of females in a magnitude that goes from 32% to 135%, depending on the age considered –see Figure 3. This effect may be capturing the detrimental impact on employment of a higher educational commitment beyond current attendance situation. The effect is so strong for women that it makes them more likely to be employed than men of similar characteristics.

Repetition significantly reduces employment chances only for females. Failing a high-school year indicates bad performance and maybe less employment opportunities available. In fact, repetition does not explain participation decision though it influences employment situation –see Table 9.

Concerning family educational environment, when controlling for school characteristics and educational history no room is left to parental education to significantly affect children's employment. When concentrating in sample 2, instead, we find that more educated parents imply, in general, lower chances of their daughters to be employed. Also, having at least one parent graduated from college lowers the probability of finding an employed son, and the effect does not differ significantly by gender. Though not significant at 10%, coefficients for *maxsupc* estimated from sample 1 are similar to those obtained from the second sample.

Given all the other variables, individuals with siblings who are more advanced in their studies have less chances to be employed, being the effect for men and women statistically equivalent. There are at least two complementary explanations consistent with this evidence. On the one hand, role assignment among siblings could determine that the one with the highest education is the one who goes to work in the first place, maybe because he/she has the highest opportunity cost of not working –potentially higher wage– or the lowest opportunity cost of working –in terms of human capital not yet accumulated. On the other hand, there could be peer-group effects among siblings encouraging, for example, educational commitment of the less educated brothers and sisters.

It is important to note here, that all these variables that are meant to approximate family educational environment are also probably capturing the effects of economic resources available to the family that go beyond current family income.

Being the eldest child living in the household decreases females´ employment probability, both in absolute terms –at least in sample 1– and relative to men. It could be the case that eldest daughters stay inactive to help with home tasks. The chances to be employed for a male are not significantly affected by birth order.

Figure 4 illustrates the effect of birth order and siblings´ education. Thick lines represent predicted employment probability-age profiles for eldest sons and daughters who attend high school. If instead of eldest children we considered individuals with more educated siblings, the profiles move downwards, indicating lower employment chances. This evidence indicates that the detrimental effect on employment of being the eldest child living in the household is not as strong as the one corresponding to siblings´ education.

Concerning household structure, living in a family headed by a woman increases males´ chances to be employed as it does living in a larger family. Both situations potentially indicate the need for more resources –possible not fully captured by current family income– and a particular way to assign roles between children and parents, and among children with different attributes. For some reason, sons go to work instead of their sisters –or before them. This result is consistent with evidence presented in Sosa Escudero and Marchionni (2000), where it is found that as family gets larger it becomes more likely to take boys out of the school system than girls –possibly to "send" them to work.

As for economic variables, sons and daughters of employed household heads are more likely to be employed. Nevertheless, employment of household head has an extra effect for men attending school that almost compensates the former, though the interaction variable is significant only at 15% for sample 1. When participation model is considered we find that household head's employment is not a relevant factor at 10% significance level.

Concerning family income, once household head's employment situation is controlled for, current income of the other members of the household appears to significantly decrease participation probability while is found irrelevant to explain employment chances. This suggests that current resources available to the household affect labor supply but not demand.

Finally, and concerning geographical controls, living in the Greater Buenos Aires (GBA) region increases employment probability of both men and women. Only for the region of Cuyo (Central-West) there exists a significant difference by gender.

To summarize the discussion of estimation results from employment and participation models:

Factors affecting females´ chances to be employed but not males` are: marital status, high school or college diploma, educational history, parental education and birth order.

Household head's employment situation, household structure and family size are significant for males but not for females.

Variables such as age, attendance situation, adult high school and siblings´ education are relevant factors affecting both men and women chances to be employed, and the difference by gender is not statistically significant.

As the individual ages, employment probability generally increases at a decreasing rate.

Employment probability is lower for individuals attending school.

Graduating from high school or college increases employment probability of women relative to men.

To have attended public secondary schools increases employment probability only for men with at most a high school diploma. In contrast, it lowers employment chances of men with some college education.

School orientation does not seem to affect employment chances.

People from adult secondary programs have more chances to be employed.

Educational history seems to be relevant to explain employment situation only for females.

According to model for sample 2, more educated parents imply lower chances of their daughters to be employed.

Birth order and siblings´ education affect activity and employment probability.

Family size increases employment probability only for men.

Employment situation of the household head increases the chances to find employed sons and daughters, but it does not affect their decision to participate in the labor market.

Family income affects participation decision but not employment chances.

3.2. The probability of having a job in the formal sector

In this part we estimate models for the probability of having a formal job adopting a Probit specification. The goal is to explore whether secondary education and family environment variables contribute to determine the fact of being in the formal or informal sector, and how the effects may differ between genders.

We use the two alternative definitions of formality discussed in Section 2. Out of the 1,847 employees in sample 1, we have 1,562 salaried workers for whom we know whether they have or not retirement benefits. The share of formal workers in total salaried workers is almost 40% when formality if proxied by retirement benefits. Instead, when considering as informal those salaried workers in small firms, self employed or family workers, formality represents 47% of total workers in sample 1. For the second sample the share reaches 54%.

According to Gasparini (2004) and using the first definition, formality in the labor market has dramatically fallen over the years. The share of salaried workers with social security rights dropped 6 points in the 1990s and 7 points since 1998. In contrast, formal employment has not significantly changed in the last decade if the second definition is considered.

Tables 10 and 11 report the results of estimating models for the probability of having a formal job using as dependent variables *formal_1* and *formal_2* respectively. In both cases, the set of explanatory variables is the same as in the employment probability models discussed in part 3.1 above.

Formality is poorly explained by the covariates as indicated by the Pseudo R^2, especially when considering second definition. Unlike participation and employment models, goodness of fit is higher for females.

As for participation and employment probability, age significantly increases the chances of being formal irrespectively of the gender, sample and definition of formality considered. Figure 5 illustrates the predicted age profiles using Probit coefficients estimated from sample 2 –reported in columns 4 and 5 of Table 10– and considering men and women from a public high school, but who are neither attending school nor have completed secondary level. As for the other independent variables, we set complete secondary as the maximum educational attainment between parents, and consider that the household head is employed. Once again, family size and income are fixed at their sample means, and all other dummy variables are set equal to zero. Profiles illustrate how probability increases at a decreasing rate as individual ages. The slope of these lines is the marginal effect of age on having a formal job for the chosen values of the other variables.

Even though attendance situation and marital status were strongly significant factors explaining participation and employment situation, they do not affect the probability of having a formal job.

More educated individuals are more likely to have formal jobs. Coefficients for females are larger than those for males, indicating a stronger effect of educational attainment on females´ chances of being in the formal labor market. Figures 6 and 7 show education effects on *formal_1* probability for women and men respectively, while Figure 8 compares these effects between genders. The corresponding effects for *formal_2* probabilities are illustrated in Figures 9 to 11. Among individuals with incomplete secondary education, men are more likely than women to have a formal job. However, when making the same comparison among college graduates, females have higher probability of being in the formal labor market.

As for high school orientation, salaried women from technical schools seem more likely to have a formal job compared to similar women from other schools, but given that women represent a negligible share of enrollment in such schools this result is somehow irrelevant. Adult education significantly decreases the chances of having a formal job for women and for both definitions of formality.[12] Neither type of school nor

[12] When dependent variable is *formal_2*, *adult* is significant for women at a 11%.

individual's educational history appear to be relevant in determining formality, though they explain participation and employment chances.

Concerning parental education, it significantly affects chances of having a formal job, especially for women and when the first definition of formality is considered. In general, children's chances to have a formal job are higher when parents have at least a primary school diploma, but no other clear pattern appears to be present.[13]

The larger the family the smaller the probability of being a formal salaried worker, but family size is not a significant variable to explain *formal_2*. Neither are other family characteristics such as birth order, siblings´ education, and family structure, nor economic variables such as employment situation of household head and family income.

Again, regional differences are present. Particularly, workers from NOA (North-West) and NEA (North-East) –the poorest areas of the country– appear to have significantly lower chances to be formal. The only region with higher formality than GBA is Patagonia (South) –though the difference is not statistically significant.

3.3. The probability of having a job in a leading sector

In this part we study the determinants of the probability of having a job in a leading sector given that the individual is employed. As in the Probit models estimated before, our main goal is to explore in what extent secondary education and family environment help to explain this particular job characteristic. Dependent variable is *leading*, defined as a binary indicator equal to one for individuals working at the financial sector, public administration, defense, education, health, or professional and personal services. The set of covariates is the same as for employment, participation and formality models estimated earlier in this section.[14] Estimation results are reported in Table 12

As in the case of formality, the Pseudo R^2 corresponding to the models for the probability of having a job in a leading sector is small, especially for men.

In general, age appears to have a non significant effect on the probability of having a job in a leading sector. The exception is for women in sample 1 where the effect is positive and significant. As can be seen in Figure 12, profiles for women are increasing and concave, but those for men are practically linear, and the slope is not significantly different from zero –i.e. a horizontal line.

Males attending school are considerably more likely to be employed in a leading sector than those who are not currently attending school, while attendance situation is not significant for females from either sample. Thus, keeping all other things constant, attending school decreases chances of women relative to men to be employed in a leading sector –see Figure 12.

Besides attendance situation, higher educational attainment is associated not only to higher employment probability but also to better jobs in terms of formality and sector of activity, and once again the effect is stronger for females. A woman with at least some college education has twice the chances to find a job in a leading sector than a similar woman with no college education. But when this woman finally graduates from college, her chances to have such a job are even higher, increasing more than three times.

Unlike the evidence found for formality where type of school appears to have no effect, women from private high schools are more likely to get jobs in leading sectors than those coming from public ones. This might be suggesting that private schools deliver a higher quality education than public ones, and that this is perceived by employers. Even though coefficients for men are also negative, they are no statistically significant.

Concerning secondary school orientation, men from technical schools have lower probability of being working in a leading sector than men from other schools. It is to expect that males with technical degrees

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[13] Unlike specification for employment probability models, here the omitted category for parental education is never attended school or primary incomplete. Inclusion of category *maxnone* is not possible because it predicts perfectly the event of not having a formal job.

[14] *Other* perfectly predicts having a job in a leading sector. Therefore we do not include this variable and we take out of the sample individuals with *other*=1, loosing 140 observations approximately.

work as non-professional self employees –electricians, constructors, etc. Therefore, school orientation appears to affect the type of job obtained once employed, but not the chances of getting a job.

As for family environment, parental education significantly affects men's probability of having a job in a leading sector but not women's. In the contrary, siblings' education significantly increases women's chances of having such jobs –both in absolute terms and relative to men's. So does being the eldest child, but the effect is significant only when considering sample 2.

Total income of other members of the family has a positive and significant effect on the probability of having a leading-sector job, which is illustrated by the positive slope of lines in Figure 13. Thick lines correspond to individuals attending private secondary schools but who have not graduated yet. Parental education is college complete while family size is set equal to 5 members. All other dummy variables are set equal to zero. Thin lines correspond to similar individuals but who have at least one sibling with higher education.

Concerning geographical differences, women from the GBA are in general more likely to have jobs in leading sectors, except when comparing against Patagonia. On the other hand, almost all regional dummies are positive –though generally not significant– for men's models.

4. Determinants of hourly wages. Estimation of Mincer Equations.

This section is aimed at studying and discussing the main determinants of earnings for youngsters in Argentina, focusing on differences by gender and the role played by secondary education and family environment. Earnings equations, usually known as Mincer equations after Mincer (1974), are reduced form equations where the dependent variable is some measure of labor earnings –typically log of hourly wages–, while the set of exogenous variables includes age and squared age –as a proxy to potential labor market experience–, educational attainment, gender, and other controls such as a binary indicator of full-time job.

One problem concerning estimation of Mincer equations is that wages are only observed for working individuals. Ordinary least-squares (OLS) estimation would produce biased estimators if, as expected, the mechanism that selects individuals in and out of the sample were correlated with potential earnings. Therefore, we use Heckman´s (1979) two-step procedure –also known as Heckit– to obtain consistent estimators when sample selection is present. Of the 3614 women in sample 1, we observe the wage offer for only 582 working women (16%). As for the second sample, we observe wages for 984 out of 5314 women (18%). Censored observations are less common among men –29% in the two samples.[15]

The covariates included in the selection equation estimated in the first step are the same as in the employment probability model in part 3.1 of the previous section. As for the second step –the Mincer equation itself– we define the dependent variable *lwage* as the log of labor income per hour perceived in the main job. Wages are measured in Argentinean pesos of 1998. At that time 1 peso was equivalent to 1 U.S. dollar. Among the covariates we include age and its squared, educational attainment, a set of dummy variables indicating type of school –public or private–, school orientation, special adult programs, and educational history. Also, a dummy variable indicating if full-time or part-time job and five geographic controls are added.

Table 13 reports estimation results corresponding to the second step of Heckman´s method, but those of the selection equation are omitted since they are equivalent to the Probit estimates presented in Table 8. Since earnings equations are assumed to be linear and dependent variable is in logs, the corresponding coefficients measure the constant semi-elasticity of hourly wages to marginal changes in the exogenous variables.

Age has a significantly non-linear effect on log hourly wages, both for men and women, but the effect differs by gender. Figure 14 illustrates predicted wage-age profiles using Heckman´s coefficients estimated from

[15] Because of some individuals with missing wages, our samples loose observations when Mincer equations are estimated –134 in sample 1 and 182 in sample 2. Nevertheless, Probit estimates of the employment probability model do not differ significantly when considering full samples –as in Table 8– or incomplete samples –as in the first step of Heckman´s procedure estimated in this section.

sample 1 –reported in the first two columns of Table 13. Here we consider individuals with full-time jobs, and who started attending a public secondary school right after finishing primary school, but who have not yet completed that educational level. All other dummies are set equal to zero. The slope of these lines is the marginal effect of age on hourly wages, which differs by gender. Age profiles of wages are steeper and more concave for females, suggesting that women's wages increase faster than men's, at least for the youngest individuals in the relevant range. Hourly wages of fifteen-year-old females represent only 60% of males´ of the same age. The wage gap between genders shrinks with age, and at some point women start to earn more per hour than similar men.

Educational attainment has also a significant positive effect on wages, and again there are differences by gender. Based on estimation results from sample 2, for instance, females with a high school degree earn 20% more per hour than females who did not complete that level. The effect for males, though significant, is weaker: high school graduation increases men's hourly wages by only 9%. Higher educational levels imply even higher wages, especially for females. Figure 15 depicts wage-age profiles for females with different educational levels. Lines move upwards as educational level increases. Comparing college to high school graduates, for instance, hourly wages increase 46% for women and only 32% for men –see Figure 16.[16]

The fact of having attended to a public instead of a private secondary school significantly affects wages of men but not of women in both samples. Males from public schools in sample 1 earn 14% less than those from private ones. The corresponding figure for the other sample is 11%. Once again, private schools appear to improve labor conditions. They contribute to increase females´ chances to get jobs in leading sectors while appear to be associated to higher wages for males.

Despite of no having effects on employment probability, high school orientation appears to significantly affect wages. Given all the other characteristics, females from commercial schools obtain lower wages than those from the other school orientations, while males from technical schools make 13% more per hour than those who attended other schools.

As for educational history, although estimated coefficient present the expected signs, only repetition has a significant effect on wages, and that is only for females. A woman who had failed at least one high school year makes 13% less per hour compared to another similar woman who has never failed. This might indicate that the same attributes that make her fail school also make her less productive in the labor market and –as discussed earlier– less likely to find a job.

Full-time indicator is a highly significant variable across samples and genders. Full-time jobs imply lower hourly wages for both men and women. Compared to a female working on part-time basis and earning 2 pesos per hour, an employed female in a full-time job would earn only 1.56 pesos. Making the same comparison for a male, his hourly wage would decrease from 2 pesos to 1.24 pesos. Similarly when considering sample 2, but in this case the effects do not differ significantly between genders. Figure 17 illustrates this effect, suggesting that –keeping all other variables fixed– women's hourly wages relative to men's are lower among part-time workers, though they are higher when compared to women in full-time jobs.

Heckman´s two-step method estimates in the first step the nonselection hazard –what Heckman (1979) referred to as the inverse Mills´ ratio– which is incorporated as an extra regresor in the model estimated in the second step. This new variable captures the variation on employment probability among individuals, avoiding the bias that self-selection behavior can cause on the OLS estimates using data for working individuals alone. The strong significance of the inverse Mills´ ratio on females´ earnings equations indicates that selection is present. Moreover, the positive value of the corresponding estimated coefficient indicates that women with higher employment chances are also those with higher wages. Therefore, the sample of observed wages is biased upward compared with what we would have observed if women decided whether to work randomly. On the other hand, sample selection is not present –at least not significantly– among men.

[16] A long standing discussion related to estimation of Mincer equations is the possibility that returns to education be biased due to omitted variables, particularly those linked to individuals´ innate ability –see for example Card (1994). Unfortunately, as usual, we do not have information available to control for this potentially harmful omission. Nevertheless, if this problem had similar consequences for both genders, comparisons between males and females are still informative on relative returns to education

Finally, significant differences in hourly wages by region are present. Ceteris paribus, Patagonia –south of Argentina– has the highest hourly wages, followed by GBA and Pampeana region (Central-East). All the other regions present lower earnings per hour. For instance, females in NEA –the poorest region of Argentina– earn almost 40% less per hour than similar females from GBA, and the corresponding figure for men is 19%, being the difference between genders statistically significant.

5. Final comments and conclusions

Our interest focused on exploring the potential effects of secondary education and family environment on labor market results, especially employment situation, job quality and wages for young women in Argentina. The analysis concentrates on 15 to 24-year-olds from the whole country who still live with their parents, and uses data from two complementary sources: the Permanent Household Survey and the Special Module on Education for 1998.

The methodology adopted to study employment situation and job type consist on the estimation of binary choice models. Probit models for the probability of being employed are estimated. Then, conditional on employment situation, we estimate Probit models for the probability of having a formal job and a job in a leading sector. Concerning the analysis of wage determination, hourly earnings equations are estimated using Heckman´s two-step procedure to control for selectivity. Since our interest is focused on women, we estimate separate models by gender, and then test the hypothesis that there is no statistically significant difference between them. In what follows we summarize the main results.

Educational attainment:

As expected, education increases employment probability and the chances to find better jobs in terms of formality, sector of activity and wages. Interestingly, education appears to have a significantly stronger effect for women. That is, education not only improves labor market performance of females in absolute terms but also relative to males.

Type of school:

Even though the type of school significantly affects employment chances for men, evidence discussed earlier suggests that the effect might not have to do with the school characteristics by themselves but with unobserved factors affecting high school choice and educational decisions.

Nevertheless, private schools seem to improve labor conditions. They contribute to increase females´ chances to get jobs in leading sectors while appear to be associated to higher wages for males. This might be suggesting that private schools deliver a higher quality education than public ones, and that this is perceived by employers.

Therefore, it is possible that the effect of school type on participation and employment situation just reflects the existence of a selection mechanism that assigns different individuals –with potentially different employment chances– to different school types, while differences in education quality between private and public schools could be determining job quality.

High school orientation:

School orientation appears to affect the type of job obtained once employed, but not the chances of getting a job. Men from technical schools have lower probability of being working in a leading sector than men from other schools. It is to expect that males with technical degrees work as non-professional self employees – electricians, constructors, etc. Concerning hourly earnings, females from commercial schools obtain lower wages than those from the other school types, and males from technical schools make 13% more per hour than those who attended other school orientations.

Special programs for adults:

Men and women from schools with special programs for adults have higher employment chances than others from schools with standard programs. Despite of having failed at some point in their educational process, these individuals persevere, which probably makes them more likely to be employed. Generally, the effect of adult education on the type of job and wages is not significant, but the estimated coefficients are always negative.

Past educational performance:

Educational history is relevant to explain labor market results only for women, even though they are the ones with better educational performance. To delay high school entrance and to drop out of secondary school for at least one year increase employment probability of females both in absolute terms and relative to men. This effect may be capturing the detrimental effect on female employment of a higher educational commitment beyond current attendance situation. As for high-school failure, it reduces females´ employment opportunities and wages, even though it does not explain participation. This might indicate that the same attributes that make them fail school also make them less productive in the labor market and less likely to find a job. Neither formality nor sector of activity seem to depend on past educational performance.

Family environment:

Family environment variables are meant to approximate family attitudes towards education and labor market choices, but also they are probably capturing economic resources available to the family that go beyond current family income.

Concerning parental education, it does not affect significantly children's employment once school characteristics and educational history are controlled for. Instead, estimates for sample 2 indicate that, in general, more educated parents imply lower chances of their children –especially daughters– to be employed. Even though it significantly affects formality –particularly for women– and sector of activity –only for men–, no clear patterns are usually present.

Individuals with siblings who are more advanced in their studies are less likely to be employed, being the effect for men and women statistically equivalent. But for employed females, having such siblings significantly increases the chances of having a job in a leading sector. As for birth order, the effect for females of being the eldest child living in the household is to decrease employment probability –both in absolute terms and relative to men– and to increases the chances of working in a leading sector. Role assignment among siblings and peer-group effects can help explain these results.

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Appendix

Table 1
Samples composition

Sample 1

Region	Number of observations			Percentage	
	Females	Males	All	Unweighted	Weighted
GBA	363	427	790	10.30	53.07
Pampeana	919	986	1,905	24.84	19.56
Cuyo	489	504	993	12.95	7.68
NOA	858	928	1,786	23.29	10.58
Patagonia	511	596	1,107	14.44	3.40
NEA	514	573	1,087	14.18	5.70
Total	3,654	4,014	7,668	100.00	100.00

Sample 2

Region	Number of observations			Percentage	
	Females	Males	All	Unweighted	Weighted
GBA	573	575	1,148	10.78	53.36
Pampeana	1,420	1,428	2,848	26.75	21.14
Cuyo	701	652	1,353	12.71	7.13
NOA	1,275	1,204	2,479	23.29	10.20
Patagonia	660	697	1,357	12.75	2.91
NEA	747	714	1,461	13.72	5.27
Total	5,376	5,270	10,646	100.00	100.00

Source: author´s calculations based on EPH and SME, 1998.
Note: for definitions of geographical regions see footnote 3.

Table 2
Samples and variables definitions

	Definition
Samples	
Sample 1	ages between 15 and 24, living with their parents, and with high school incomplete or complete
Sample 2	ages between 15 and 24, living with their parents, and with high school or college, both incomplete or complete
Variables	
Labor market variables	
employed	=1 if employed, =0 if unemployed or inactive
active	=1 if employed or unemployed, =0 if inactive
formal_1	=1 if salaried worker with retirement benefits, =0 for other salaried workers
formal_2	=1 if entrepeneur, salaried worker in large firm and in the public sector, or self employed professional, =0 for other workers
leading	=1 if working at the financial sector, public administration, defense, education, health, or professional and personal services, =0 if working in other sector
full_time	=1 if working at least 35 hours a week, =0 otherwise
wage	hourly wage in main job (in Argentinean pesos)
Demographic variables	
age	age in years
age_sq	squared age
married	=1 if legally married or cohabiting, =0 if other civil status
Education	
attending	=1 if attending school, =0 otherwise
hs_diploma	=1 if maximun educational level is complete secondary, =0 otherwise
some_college	=1 if maximun educational level is incomplete college, =0 otherwise
college_diploma	=1 if maximun educational level is complete college, =0 otherwise
School characteristics	
public_school	=1 if public secondary school, =0 if private
humanistic	=1 if secondary school orientation is humanistic, =0 otherwise
commercial	=1 if secondary school orientation is commercial, =0 otherwise
technical	=1 if secondary school orientation is technical, =0 otherwise
other	=1 if other secondary school orientation (artistic, rural, etc), =0 otherwise
adult	=1 if adult secondary education, =0 common secondary education
Educational history	
immediately	=1 if started secondary school right after finishing primary school, =0 otherwise
failed	=1 if failed at least one year of secondary education, =0 otherwise
drop_out	=1 if drop out secondary school for at least one year, =0 otherwise
Family environment	
maxnone	=1 if parents had never gone to school, =0 otherwise
maxprii	=1 if maximun parental education is incomplete primary, =0 otherwise
maxpric	=1 if maximun parental education is complete primary, =0 otherwise
maxseci	=1 if maximun parental education is incomplete secondary, =0 otherwise
maxsecc	=1 if maximun parental education is complete secondary, =0 otherwise
maxsupi	=1 if maximun parental education is incomplete college, =0 otherwise
maxsupc	=1 if maximun parental education is complete college, =0 otherwise
edu_sibling	=1 if sibling with higher educational level, =0 otherwise
eldest	=1 if oldest child living in the household, =0 otherwise
hh_female	=1 if living in a household headed by a woman, =0 otherwise
family_size	number of family members
Economic variables	
hh_employed	=1 if household head is employed, =0 otherwise
intera_atthhempl	=1 if attending = 1 and hh_employed =1, =0 otherwise
income_rest	total monthly income of other family members (in Argentinean pesos)

Note. Only available for Sample 1: humanistic, commercial, technical, other, adult, immediately, repeated, and drop_out. Only available for Sample 2: some_college and college_diploma.

Table 3
Descriptive statistics

Sample 1

Variables	Females			Males			All		
	Obs.	Mean	S.D.	Obs.	Mean	S.D.	Obs.	Mean	S.D.
Labor market variables									
* employed	3654	0.207	0.405	4014	0.348	0.476	7668	0.282	0.450
* active	3654	0.321	0.467	4014	0.480	0.500	7668	0.406	0.491
* formal_1	556	0.334	0.472	1006	0.429	0.495	1562	0.396	0.489
* formal_2	605	0.424	0.495	1164	0.488	0.500	1769	0.466	0.499
* leading	622	0.234	0.424	1223	0.143	0.350	1845	0.174	0.379
* full_time	602	0.630	0.483	1186	0.804	0.397	1788	0.744	0.436
* wage	582	2.146	1.465	1131	2.430	2.630	1713	2.334	2.306
Demographic variables									
* age	3654	17.991	2.526	4014	18.475	2.709	7668	18.250	2.636
* married	3654	0.038	0.192	4014	0.028	0.165	7668	0.033	0.178
Education									
attending	3654	0.615	0.487	4014	0.543	0.498	7668	0.577	0.494
hs_diploma	3654	0.175	0.380	4014	0.151	0.358	7668	0.162	0.368
School characteristics									
* public_school	3654	0.746	0.435	4014	0.798	0.401	7668	0.774	0.418
* humanistic	3654	0.450	0.498	4014	0.356	0.479	7668	0.400	0.490
* commercial	3654	0.474	0.499	4014	0.373	0.484	7668	0.420	0.494
* technical	3654	0.063	0.243	4014	0.262	0.440	7668	0.170	0.375
* other	3654	0.012	0.110	4014	0.008	0.090	7668	0.010	0.100
* adult	3654	0.065	0.246	4014	0.076	0.265	7668	0.071	0.256
Educational history									
immediately	3654	0.928	0.258	4014	0.926	0.262	7668	0.927	0.260
* failed	3654	0.282	0.450	4014	0.316	0.465	7668	0.300	0.458
* drop_out	3654	0.071	0.257	4014	0.101	0.302	7668	0.087	0.282
Family environment									
* maxnone	3654	0.006	0.079	4014	0.003	0.058	7668	0.005	0.069
* maxprii	3654	0.103	0.304	4014	0.087	0.282	7668	0.094	0.292
* maxpric	3654	0.336	0.472	4014	0.282	0.450	7668	0.307	0.461
maxseci	3654	0.246	0.431	4014	0.253	0.435	7668	0.250	0.433
* maxsecc	3654	0.157	0.363	4014	0.182	0.386	7668	0.170	0.376
* maxsupi	3654	0.063	0.244	4014	0.078	0.268	7668	0.071	0.257
* maxsupc	3654	0.089	0.285	4014	0.114	0.317	7668	0.102	0.303
* edu_sibling	3654	0.249	0.433	4014	0.289	0.453	7668	0.271	0.444
eldest	3654	0.508	0.500	4014	0.515	0.500	7668	0.512	0.500
* hh_female	3654	0.223	0.416	4014	0.187	0.390	7668	0.204	0.403
* family_size	3654	5.310	1.966	4014	5.132	1.897	7668	5.215	1.931
Economic variables									
hh_employed	3654	0.819	0.385	4014	0.825	0.380	7668	0.822	0.382
* intera_atthhempl	3654	0.520	0.500	4014	0.462	0.499	7668	0.489	0.500
* income_rest	3654	1140.46	1018.24	4014	1220.39	1234.33	7668	1183.20	1139.51

* Difference in proportions or means between females and males is statistically significant at 5% level.
Note: Weighted means and standard errors.
Source: author´s calculations based on EPH and SME, 1998.

Table 3 (cont.)
Descriptive statistics

Sample 2

Variables	Females			Males			All		
	Obs.	Mean	S.D.	Obs.	Mean	S.D.	Obs.	Mean	S.D.
Labor market variables									
* employed	5376	0.254	0.435	5270	0.366	0.482	10646	0.310	0.463
* active	5376	0.361	0.480	5270	0.489	0.500	10646	0.425	0.494
formal_1	940	0.472	0.499	1330	0.458	0.498	2270	0.464	0.499
formal_2	1013	0.535	0.499	1529	0.537	0.499	2542	0.536	0.499
* leading	1046	0.364	0.481	1599	0.225	0.418	2645	0.282	0.450
* full_time	1016	0.564	0.496	1555	0.723	0.447	2571	0.658	0.474
wage	984	2.978	2.286	1483	2.932	2.962	2467	2.951	2.707
Demographic variables									
* age	5376	18.935	2.687	5270	19.062	2.768	10646	18.999	2.729
* married	5376	0.029	0.169	5270	0.021	0.144	10646	0.025	0.157
Education									
* attending	5376	0.702	0.457	5270	0.639	0.480	10646	0.670	0.470
hs_diploma	5376	0.113	0.317	5270	0.112	0.315	10646	0.112	0.316
* some_college	5376	0.318	0.466	5270	0.240	0.427	10646	0.279	0.448
* college_diploma	5376	0.027	0.161	5270	0.005	0.072	10646	0.016	0.125
School characteristics									
* public_school	5376	0.677	0.468	5270	0.737	0.440	10646	0.707	0.455
Family environment									
* maxnone	5376	0.005	0.071	5270	0.003	0.051	10646	0.004	0.062
maxprii	5376	0.074	0.262	5270	0.069	0.254	10646	0.072	0.258
* maxpric	5376	0.274	0.446	5270	0.245	0.430	10646	0.260	0.439
maxseci	5376	0.229	0.420	5270	0.226	0.418	10646	0.228	0.419
* maxsecc	5376	0.175	0.380	5270	0.198	0.399	10646	0.187	0.390
* maxsupi	5376	0.089	0.284	5270	0.099	0.299	10646	0.094	0.292
maxsupc	5376	0.153	0.360	5270	0.160	0.366	10646	0.156	0.363
* edu_sibling	5376	0.182	0.386	5270	0.241	0.428	10646	0.212	0.409
eldest	5376	0.546	0.498	5270	0.541	0.498	10646	0.544	0.498
* hh_female	5376	0.207	0.405	5270	0.185	0.388	10646	0.196	0.397
* family_size	5376	5.053	1.842	5270	4.962	1.796	10646	5.008	1.819
Economic variables									
hh_employed	5376	0.814	0.389	5270	0.823	0.381	10646	0.818	0.385
* intera_atthhempl	5376	0.586	0.493	5270	0.535	0.499	10646	0.561	0.496
income_rest	5376	1399.33	1409.88	5270	1415.80	1522.66	10646	1407.57	1467.32

* Difference in proportions or means between females and males is statistically significant at 5% level.
Note: Weighted means and standard errors.
Source: author´s calculations based on EPH and SME, 1998.

Table 4
Share of individual from public schools by household per capita income quintiles

household per capita income quintiles	***Sample 1***			***Sample 2***		
	females	males	all	females	males	all
1	89.2	92.2	90.6	88.8	91.6	90.1
2	83.4	88.7	86.2	77.4	84.8	81.2
3	78.7	86.3	82.9	70.6	79.9	75.3
4	68.8	74.7	71.9	61.1	69.6	65.4
5	46.3	61.5	55.5	36.9	46.2	41.8
Total	74.6	79.9	77.4	67.7	73.8	70.7

Source: author´s calculations based on EPH and SME, 1998.

Table 5
Labor market participation and school attendance (*in* %)

Sample 1

	Females			Males			All		
	Attending		Total	Attending		Total	Attending		Total
	no	yes		no	yes		no	yes	
Employed	16.3	4.4	20.7	27.9	6.9	34.8	22.5	5.7	28.2
Unemployed	9.6	1.8	11.4	11.2	2.0	13.2	10.5	1.9	12.4
Inactive	12.6	55.3	67.9	6.6	45.4	52.0	9.4	50.0	59.4
Total	38.5	61.5	100.0	45.7	54.3	100.0	42.3	57.7	100.0

Sample 2

	Females			Males			All		
	Attending		Total	Attending		Total	Attending		Total
	no	yes		no	yes		no	yes	
Employed	13.8	11.6	25.4	22.4	14.2	36.6	18.1	12.9	31.0
Unemployed	7.1	3.6	10.7	8.8	3.4	12.3	8.0	3.5	11.5
Inactive	8.8	55.1	63.9	4.9	46.2	51.1	6.9	50.6	57.5
Total	29.8	70.2	100.0	36.2	63.9	100.0	33.0	67.0	100.0

Source: author´s calculations based on EPH and SME, 1998.

Table 6
Proportion of employed individuals conditional on specific characteristics

Characteristics	% of employed individuals given different characteristics					
	Sample 1			***Sample 2***		
	Females	Males	All	Females	Males	All
Educational attainment						
some_hs = 1	14.6	29.0	22.4	14.2	28.5	22.0
hs_diploma = 1	49.6	67.5	58.5	49.5	67.5	58.5
some_college = 1	-	-	-	31.4	43.3	36.5
college_diploma = 1	-	-	-	80.7	65.9	78.3
School Characteristics						
public_school = 0	13.7	24.5	18.9	24.1	36.6	29.7
public_school = 1	23.1	37.4	31.0	26.0	36.6	31.6
humanistic = 1	19.4	30.0	24.5	-	-	-
commercial = 1	21.8	37.6	29.3	-	-	-
technical = 1	20.0	37.4	34.4	-	-	-
other = 1	31.0	30.3	30.7	-	-	-
adult = 0	19.6	32.9	26.7	-	-	-
adult = 1	36.4	57.9	48.8	-	-	-
Educational history						
immediately = 0	37.3	42.4	40.1			
immediately = 1	19.4	34.2	27.3			
failed = 0	20.3	35.8	28.4	-	-	-
failed = 1	21.8	32.5	27.8	-	-	-
drop_out = 0	20.0	34.6	27.7	-	-	-
drop_out = 1	29.7	36.5	33.9	-	-	-
Family environment						
maxnone = 1	17.9	78.2	41.0	16.6	74.7	36.5
maxprii = 1	28.4	37.3	32.8	30.5	36.6	33.5
maxpric = 1	28.5	38.5	33.4	30.1	38.6	34.1
maxseci = 1	14.9	41.3	29.2	19.2	41.2	30.1
maxsecc = 1	17.8	37.2	28.9	22.0	40.4	31.8
maxsupi = 1	12.4	19.3	16.4	27.3	26.9	27.1
maxsupc = 1	9.7	14.4	12.5	27.1	28.0	27.6
edu_sibling = 0	22.9	36.0	29.8	27.9	38.1	32.8
edu_sibling = 1	14.0	31.7	24.1	14.4	31.9	24.3
eldest = 0	18.0	28.9	23.8	21.8	31.0	26.4
eldest = 1	23.4	40.3	32.5	28.5	41.4	34.9
hh_female = 0	19.7	34.3	27.6	25.1	35.8	30.5
hh_female = 1	24.3	37.0	30.6	26.8	40.4	33.2
Economic variables						
hh_employed = 0	24.8	38.4	32.0	29.1	37.9	33.4
hh_employed = 1	19.8	34.0	27.4	24.6	36.4	30.5
intera_atthhempl = 0	35.4	53.9	45.8	38.3	53.0	46.1
intera_atthhempl = 1	7.1	12.5	9.9	16.4	22.4	19.3

Source: author´s calculations based on EPH and SME, 1998.

Table 7
Proportion of active individuals conditional on specific characteristics

Characteristics	% of active individuals given different characteristics					
	Sample 1			***Sample 2***		
	Females	Males	All	Females	Males	All
Educational attainment						
some_hs = 1	22.4	40.7	32.3	22.0	40.2	31.9
hs_diploma = 1	77.7	89.3	83.5	77.7	89.3	83.5
some_college = 1	-	-	-	40.4	52.2	45.5
college_diploma = 1	-	-	-	96.8	98.6	97.1
School Characteristics						
public_school = 0	19.9	30.7	25.0	32.6	43.3	37.4
public_school = 1	36.3	52.4	45.2	37.8	50.9	44.6
humanistic = 1	31.4	43.2	37.0	-	-	-
commercial = 1	32.5	50.7	41.2	-	-	-
technical = 1	33.4	51.1	48.0	-	-	-
other = 1	34.5	36.7	35.5	-	-	-
adult = 0	30.6	46.4	39.0	-	-	-
adult = 1	53.8	68.2	62.1	-	-	-
Educational history						
immediately = 0	49.8	55.8	53.1			
immediately = 1	30.7	47.4	39.6			
failed = 0	30.9	47.7	39.7	-	-	-
failed = 1	35.1	48.6	42.7	-	-	-
drop_out = 0	30.9	47.1	39.4	-	-	-
drop_out = 1	48.1	55.9	53.0	-	-	-
Family environment						
maxnone = 1	65.5	83.6	72.4	54.2	79.8	63.0
maxprii = 1	48.3	62.9	55.5	48.8	62.2	55.3
maxpric = 1	40.6	55.0	47.7	42.0	54.4	47.8
maxseci = 1	26.8	51.9	40.4	31.1	52.7	41.8
maxsecc = 1	25.5	47.5	38.1	29.7	49.8	40.4
maxsupi = 1	20.3	36.1	29.6	37.7	40.7	39.3
maxsupc = 1	13.4	18.4	16.4	32.8	32.7	32.8
edu_sibling = 0	35.3	50.1	43.0	39.2	50.5	44.6
edu_sibling = 1	22.4	43.0	34.2	22.3	43.8	34.5
eldest = 0	28.0	42.1	35.5	30.8	43.5	37.2
eldest = 1	36.1	53.6	45.5	40.5	53.4	47.0
hh_female = 0	30.3	46.7	39.3	35.3	47.6	41.5
hh_female = 1	38.4	53.7	45.9	39.4	54.4	46.5
Economic variables						
hh_employed = 0	39.0	57.1	48.6	41.1	54.4	47.5
hh_employed = 1	30.6	46.1	38.9	35.0	47.7	41.4
intera_atthhempl = 0	56.6	75.8	67.4	57.1	73.8	65.9
intera_atthhempl = 1	9.5	15.7	12.7	21.3	27.2	24.1

Source: author´s calculations based on EPH and SME, 1998.

Table 8
Probability of being employed – Probit estimates

	Sample 1			Sample 2		
	(1)	(2)	(3)	(4)	(5)	(6)
	females	males	difference	females	males	Difference
age	0.851	0.511	0.340	0.865	0.683	0.182
	[0.196]***	[0.155]***	[0.250]	[0.155]***	[0.132]***	[0.203]
agesq	-0.017	-0.009	-0.008	-0.017	-0.013	-0.004
	[0.005]***	[0.004]**	[0.006]	[0.004]***	[0.003]***	[0.005]
married	-0.468	0.254	-0.722	-0.422	0.244	-0.666
	[0.137]***	[0.154]	[0.206]***	[0.119]***	[0.145]*	[0.188]***
attending	-0.812	-1.095	0.283	-0.709	-0.990	0.282
	[0.146]***	[0.123]***	[0.190]	[0.105]***	[0.099]***	[0.144]*
hsdiploma	0.156	-0.038	0.193	0.093	-0.097	0.191
	[0.081]*	[0.073]	[0.109]*	[0.075]	[0.070]	[0.103]*
some_college				0.072	-0.073	0.145
				[0.071]	[0.068]	[0.099]
college_diploma				0.393	0.146	0.247
				[0.156]**	[0.250]	[0.294]
public_school	-0.008	0.149	-0.156	-0.028	-0.037	0.008
	[0.100]	[0.090]*	[0.135]	[0.063]	[0.064]	[0.090]
commercial	0.019	0.067	-0.048			
	[0.064]	[0.060]	[0.088]			
technical	-0.098	0.062	-0.160			
	[0.114]	[0.065]	[0.131]			
other	0.229	-0.232	0.461			
	[0.191]	[0.215]	[0.288]			
adult	0.359	0.588	-0.229			
	[0.121]***	[0.095]***	[0.154]			
immediately	-0.230	-0.131	-0.099			
	[0.113]**	[0.094]	[0.147]			
failed	-0.125	-0.018	-0.107			
	[0.068]*	[0.056]	[0.088]			
drop_out	0.240	-0.073	0.313			
	[0.098]**	[0.082]	[0.127]**			

maxnone	0.240	-0.212	0.452	0.243	-0.138	0.381
	[0.359]	[0.366]	[0.512]	[0.321]	[0.346]	[0.473]
maxpric	-0.054	0.058	-0.112	-0.081	0.056	-0.137
	[0.094]	[0.089]	[0.130]	[0.083]	[0.083]	[0.118]
maxseci	-0.098	0.121	-0.219	-0.160	0.103	-0.263
	[0.104]	[0.094]	[0.140]	[0.089]*	[0.087]	[0.124]**
maxsecc	-0.079	0.028	-0.107	-0.190	-0.001	-0.189
	[0.118]	[0.101]	[0.155]	[0.095]**	[0.090]	[0.131]
maxsupi	0.003	0.022	-0.019	-0.081	0.002	-0.084
	[0.167]	[0.138]	[0.217]	[0.118]	[0.113]	[0.163]
maxsupc	-0.238	-0.224	-0.014	-0.250	-0.214	-0.036
	[0.182]	[0.141]	[0.230]	[0.115]**	[0.110]*	[0.159]
edu_sibling	-0.267	-0.161	-0.106	-0.251	-0.161	-0.090
	[0.085]***	[0.068]**	[0.109]	[0.074]***	[0.061]***	[0.096]
eldest	-0.146	0.056	-0.202	-0.081	0.053	-0.134
	[0.073]**	[0.062]	[0.096]**	[0.054]	[0.052]	[0.075]*
hh_female	-0.004	0.094	-0.098	0.048	0.137	-0.089
	[0.073]	[0.065]	[0.098]	[0.058]	[0.056]**	[0.080]
family_size	-0.005	0.022	-0.027	0.001	0.028	-0.027
	[0.015]	[0.014]	[0.020]	[0.013]	[0.012]**	[0.018]
hh_employed	0.125	0.200	-0.075	0.154	0.175	-0.021
	[0.088]	[0.079]**	[0.118]	[0.079]**	[0.074]**	[0.108]
intera_atthhempl	-0.036	-0.183	0.147	-0.082	-0.126	0.044
	[0.150]	[0.127]	[0.197]	[0.109]	[0.103]	[0.150]
income_rest	-0.000	-0.000	-0.000	-0.000	0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Pampeana	-0.226	0.000	-0.226	-0.327	-0.262	-0.065
	[0.105]**	[0.090]	[0.138]	[0.077]***	[0.073]***	[0.106]
Cuyo	-0.200	0.125	-0.324	-0.313	-0.149	-0.164
	[0.118]*	[0.103]	[0.156]**	[0.088]***	[0.085]*	[0.123]
NOA	-0.368	-0.211	-0.157	-0.579	-0.467	-0.112
	[0.109]***	[0.093]**	[0.143]	[0.081]***	[0.078]***	[0.112]
Patagonia	-0.217	-0.188	-0.028	-0.274	-0.295	0.021
	[0.121]*	[0.102]*	[0.158]	[0.091]***	[0.086]***	[0.126]
NEA	-0.249	-0.023	-0.226	-0.449	-0.326	-0.123
	[0.120]**	[0.102]	[0.157]	[0.091]***	[0.086]***	[0.125]
Constant	-9.827	-6.594	-3.233	-10.344	-8.262	-2.082

	[1.929]***	[1.522]***	[2.457]	[1.551]***	[1.296]***	[2.021]
Observations	3654	4014	7668	5376	5270	10646
Log. Lik.	-1149.32	-1613.24		-1963.85	-2263.54	
Pseudo R2	0.31	0.35		0.26	0.30	

Standard errors in brackets: * significant at 10%; ** significant at 5%; *** significant at 1%.
Source: author´s calculations based on EPH and SME, 1998.

Table 9
Probability of being active – Probit estimates

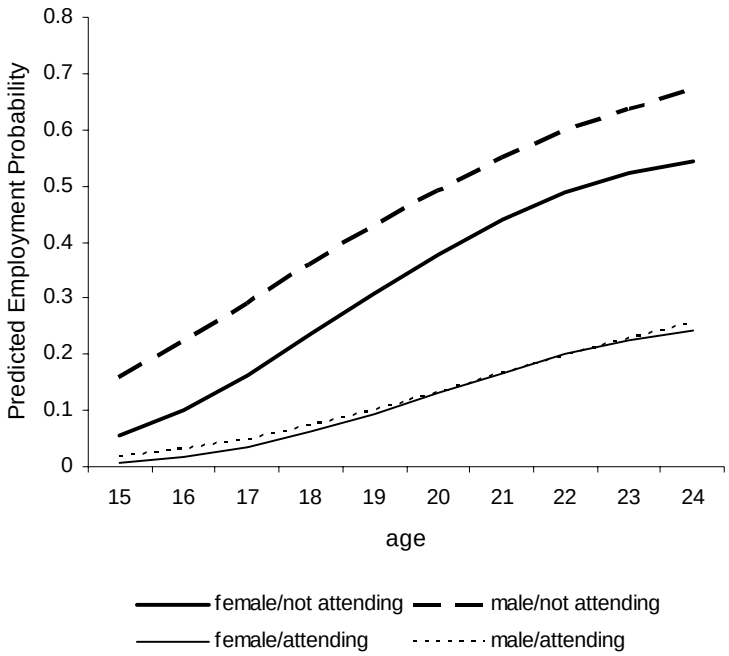
	Sample 1			Sample 2		
	(1)	(2)	(3)	(4)	(5)	(6)
	females	males	difference	females	males	difference
age	1.432	0.993	0.439	1.311	1.157	0.154
	[0.191]***	[0.174]***	[0.258]*	[0.149]***	[0.140]***	[0.204]
agesq	-0.032	-0.020	-0.012	-0.028	-0.024	-0.005
	[0.005]***	[0.004]***	[0.007]*	[0.004]***	[0.004]***	[0.005]
married	-0.563	0.501	-1.064	-0.490	0.455	-0.945
	[0.130]***	[0.248]**	[0.280]***	[0.115]***	[0.221]**	[0.249]***
attending	-1.330	-1.626	0.296	-1.136	-1.574	0.438
	[0.140]***	[0.129]***	[0.190]	[0.103]***	[0.109]***	[0.150]***
hsdiploma	0.229	-0.062	0.292	0.130	-0.171	0.301
	[0.083]***	[0.090]	[0.123]**	[0.077]*	[0.087]*	[0.117]***
some_college				0.116	-0.105	0.221
				[0.068]*	[0.070]	[0.097]**
college_diploma				0.738	0.474	0.264
				[0.198]***	[0.455]	[0.496]
public_school	0.019	0.252	-0.233	-0.009	0.001	-0.010
	[0.097]	[0.096]***	[0.137]*	[0.061]	[0.066]	[0.090]
commercial	0.070	0.130	-0.060			
	[0.063]	[0.065]**	[0.090]			
technical	0.052	0.075	-0.023			
	[0.109]	[0.072]	[0.131]			
other	0.123	-0.152	0.275			
	[0.191]	[0.224]	[0.294]			
adult	0.576	0.626	-0.049			
	[0.118]***	[0.099]***	[0.154]			
immediately	-0.193	-0.193	-0.000			
	[0.112]*	[0.100]*	[0.150]			
failed	-0.053	0.004	-0.058			
	[0.066]	[0.060]	[0.089]			
drop_out	0.271	-0.024	0.294			
	[0.096]***	[0.086]	[0.129]**			
maxnone	0.199	-0.190	0.389	0.189	-0.166	0.355
	[0.385]	[0.386]	[0.545]	[0.337]	[0.368]	[0.499]

maxpric	-0.076	0.028	-0.104	-0.063	0.022	-0.085
	[0.093]	[0.101]	[0.138]	[0.083]	[0.094]	[0.125]
maxseci	-0.124	0.006	-0.130	-0.148	0.027	-0.174
	[0.102]	[0.106]	[0.147]	[0.087]*	[0.097]	[0.130]
maxsecc	-0.107	-0.117	0.010	-0.229	-0.144	-0.085
	[0.116]	[0.113]	[0.162]	[0.093]**	[0.099]	[0.136]
maxsupi	0.158	0.114	0.044	0.016	0.007	0.009
	[0.158]	[0.146]	[0.215]	[0.114]	[0.119]	[0.165]
maxsupc	-0.317	-0.228	-0.088	-0.252	-0.281	0.029
	[0.177]*	[0.150]	[0.232]	[0.112]**	[0.117]**	[0.162]
edu_sibling	-0.296	-0.174	-0.122	-0.283	-0.161	-0.122
	[0.083]***	[0.075]**	[0.112]	[0.071]***	[0.066]**	[0.097]
eldest	-0.145	0.068	-0.214	-0.050	0.066	-0.116
	[0.072]**	[0.069]	[0.100]**	[0.052]	[0.056]	[0.077]
hh_female	0.026	0.092	-0.066	0.068	0.160	-0.091
	[0.072]	[0.071]	[0.101]	[0.056]	[0.059]***	[0.081]
family_size	-0.022	0.044	-0.066	-0.009	0.054	-0.062
	[0.015]	[0.016]***	[0.021]***	[0.012]	[0.014]***	[0.018]***
hh_employed	0.079	0.083	-0.004	0.132	0.046	0.086
	[0.089]	[0.098]	[0.132]	[0.080]	[0.094]	[0.124]
intera_atthhempl	0.092	-0.108	0.200	-0.027	-0.019	-0.008
	[0.145]	[0.135]	[0.198]	[0.106]	[0.116]	[0.157]
income_rest	-0.000	-0.000	-0.000	-0.000	-0.000	0.000
	[0.000]***	[0.000]**	[0.000]	[0.000]*	[0.000]**	[0.000]
Pampeana	-0.157	-0.042	-0.115	-0.267	-0.301	0.034
	[0.104]	[0.101]	[0.145]	[0.076]***	[0.079]***	[0.110]
Cuyo	-0.477	-0.192	-0.285	-0.543	-0.486	-0.056
	[0.118]***	[0.114]*	[0.165]*	[0.089]***	[0.093]***	[0.128]
NOA	-0.561	-0.375	-0.186	-0.674	-0.632	-0.042
	[0.108]***	[0.103]***	[0.150]	[0.080]***	[0.084]***	[0.116]
Patagonia	-0.348	-0.336	-0.012	-0.363	-0.431	0.068
	[0.121]***	[0.112]***	[0.165]	[0.091]***	[0.093]***	[0.130]
NEA	-0.591	-0.336	-0.255	-0.690	-0.642	-0.048
	[0.121]***	[0.111]***	[0.164]	[0.090]***	[0.093]***	[0.130]
Constant	-14.476	-10.642	-3.834	-13.868	-12.207	-1.661
	[1.864]***	[1.676]***	[2.507]	[1.473]***	[1.367]***	[2.009]
Observations	3654	4014	7668	5376	5270	10646

Log. Lik.	-1202.63	-1316.72	-2102.31	-1985.20
Pseudo R2	0.42	0.52	0.34	0.44

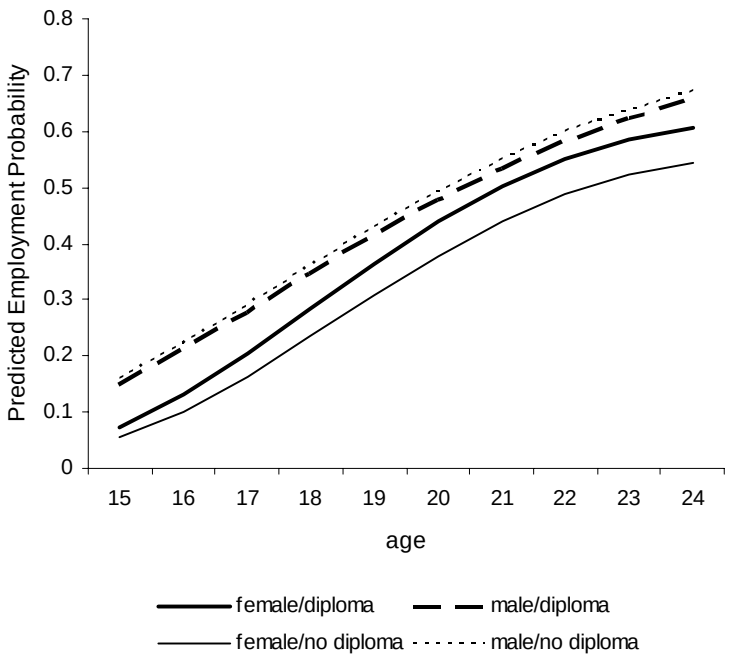
Standard errors in brackets: * significant at 10%; ** significant at 5%; *** significant at 1%
Source: author´s calculations based on EPH and SME, 1998.

Figure 1
Effect of school attendance



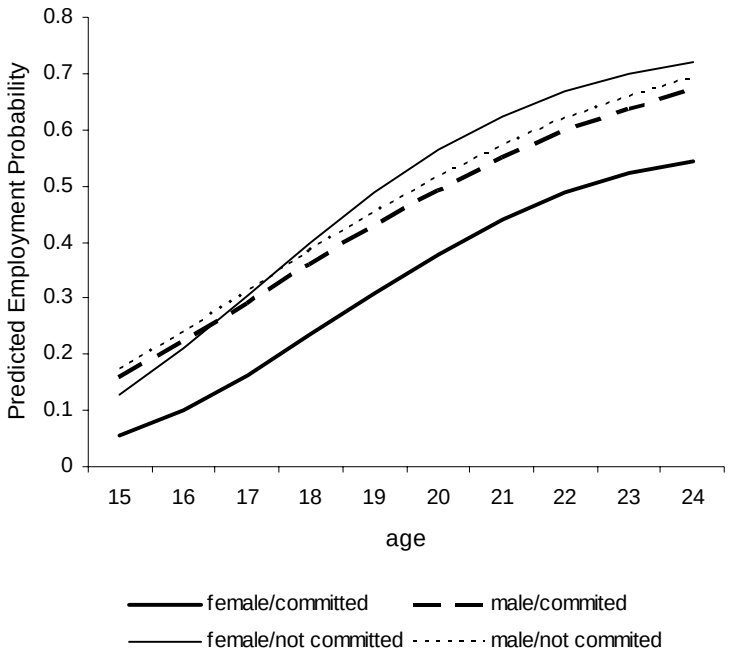
Source: author´s calculations based on EPH and SME, 1998.

Figure 2
Effect of high school completion



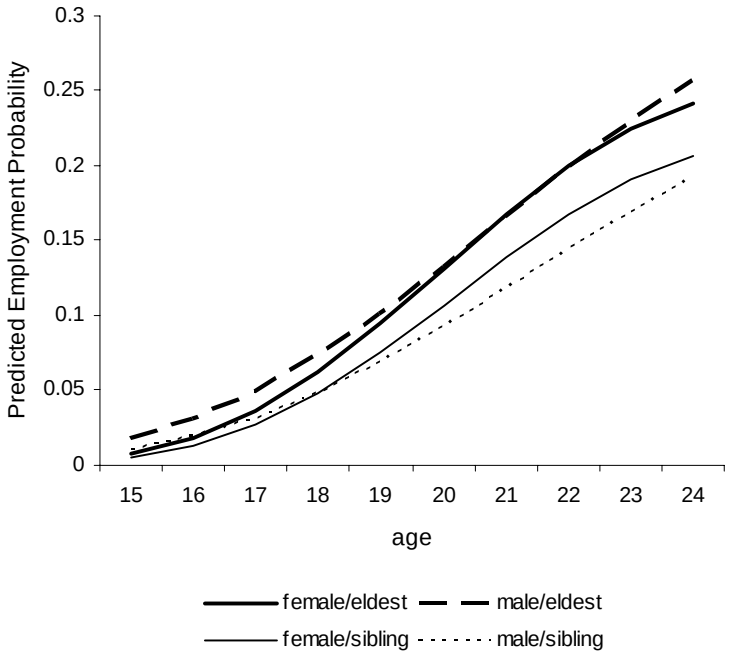
Source: author´s calculations based on EPH and SME, 1998.

Figure 3
Effect of low educational commitment (delayed entry and drop out)



Source: author´s calculations based on EPH and SME, 1998.

Figure 4
Effect of birth order and siblings´education



Source: author´s calculations based on EPH and SME, 1998.

Table 10
Probability of having a formal job – Probit estimates – Dependent variable formal_1

	Sample 1			Sample 2		
	(1)	(2)	(3)	(4)	(5)	(6)
	females	males	difference	females	males	difference
age	1.749	0.832	0.917	1.257	0.911	0.346
	[0.659]***	[0.346]**	[0.744]	[0.484]***	[0.312]***	[0.576]
agesq	-0.038	-0.016	-0.022	-0.027	-0.018	-0.008
	[0.016]**	[0.008]*	[0.018]	[0.012]**	[0.008]**	[0.014]
married	0.271	0.275	-0.004	-0.024	0.239	-0.263
	[0.315]	[0.177]	[0.361]	[0.245]	[0.170]	[0.299]
attending	0.164	0.160	0.004	-0.106	-0.026	-0.081
	[0.434]	[0.278]	[0.515]	[0.219]	[0.188]	[0.289]
hsdiploma	0.498	0.229	0.270	0.651	0.249	0.402
	[0.147]***	[0.100]**	[0.177]	[0.130]***	[0.096]***	[0.162]**
some_college				0.446	0.287	0.159
				[0.145]***	[0.124]**	[0.191]
college_diploma				1.047	0.604	0.443
				[0.220]***	[0.280]**	[0.356]
public_school	-0.045	0.136	-0.181	-0.099	0.110	-0.210
	[0.209]	[0.164]	[0.266]	[0.122]	[0.118]	[0.169]
commercial	0.098	-0.081	0.179			
	[0.135]	[0.102]	[0.169]			
technical	0.408	-0.061	0.470			
	[0.245]*	[0.110]	[0.269]*			
other	-0.114	-0.097	-0.017			
	[0.420]	[0.395]	[0.576]			
adult	-0.601	-0.125	-0.476			
	[0.304]**	[0.183]	[0.355]			
immediately	-0.040	-0.035	-0.006			
	[0.263]	[0.168]	[0.312]			
failed	-0.212	0.014	-0.226			
	[0.150]	[0.094]	[0.177]			
drop_out	-0.163	0.096	-0.259			
	[0.236]	[0.142]	[0.275]			
maxpric	0.456	0.177	0.279	0.431	0.164	0.266
	[0.207]**	[0.142]	[0.251]	[0.170]**	[0.132]	[0.215]

maxseci	0.411	0.340	0.071	0.301	0.216	0.085
	[0.231]*	[0.150]**	[0.276]	[0.183]*	[0.138]	[0.229]
maxsecc	0.396	0.424	-0.028	0.472	0.254	0.217
	[0.257]	[0.162]***	[0.304]	[0.195]**	[0.146]*	[0.243]
maxsupi	0.869	0.065	0.805	0.547	0.039	0.508
	[0.376]**	[0.244]	[0.448]*	[0.237]**	[0.195]	[0.307]*
maxsupc	0.789	0.228	0.561	0.525	0.204	0.320
	[0.385]**	[0.254]	[0.461]	[0.231]**	[0.193]	[0.301]
edu_sibling	0.037	-0.030	0.067	0.140	0.104	0.036
	[0.184]	[0.111]	[0.215]	[0.154]	[0.101]	[0.185]
eldest	-0.044	-0.076	0.032	0.078	-0.013	0.090
	[0.156]	[0.103]	[0.187]	[0.106]	[0.089]	[0.139]
hh_female	0.035	-0.108	0.143	0.090	-0.074	0.165
	[0.155]	[0.111]	[0.191]	[0.115]	[0.096]	[0.150]
family_size	-0.077	-0.061	-0.016	-0.034	-0.048	0.014
	[0.034]**	[0.023]***	[0.041]	[0.026]	[0.021]**	[0.033]
hh_employed	-0.039	0.102	-0.142	0.022	0.096	-0.074
	[0.160]	[0.115]	[0.197]	[0.133]	[0.104]	[0.169]
intera_atthhempl	0.089	-0.275	0.363	0.177	-0.181	0.358
	[0.446]	[0.291]	[0.533]	[0.228]	[0.200]	[0.303]
income_rest	0.000	0.000	0.000	-0.000	-0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Pampeana	-0.246	-0.112	-0.134	-0.388	-0.179	-0.210
	[0.201]	[0.141]	[0.245]	[0.139]***	[0.117]	[0.182]
Cuyo	0.203	-0.156	0.359	-0.142	-0.227	0.085
	[0.229]	[0.164]	[0.282]	[0.164]	[0.140]	[0.215]
NOA	-0.431	-0.332	-0.099	-0.511	-0.374	-0.137
	[0.224]*	[0.153]**	[0.271]	[0.159]***	[0.130]***	[0.205]
Patagonia	0.044	0.125	-0.081	-0.061	0.250	-0.312
	[0.234]	[0.163]	[0.286]	[0.164]	[0.141]*	[0.216]
NEA	-0.136	-0.228	0.092	-0.550	-0.258	-0.292
	[0.256]	[0.173]	[0.309]	[0.186]***	[0.151]*	[0.240]
Constant	-20.445	-10.437	-10.007	-15.163	-11.188	-3.975
	[6.857]***	[3.559]***	[7.725]	[5.072]***	[3.221]***	[6.009]
Observations	556	1006	1562	940	1330	2270
Log. Lik.	-278.44	-600.38	-878.82	-532.77	-809.19	-1341.96
Pseudo R2	0.20	0.11	0.14	0.16	0.11	0.13

Standard errors in brackets: * significant at 10%; ** significant at 5%; *** significant at 1%
Source: author´s calculations based on EPH and SME, 1998.

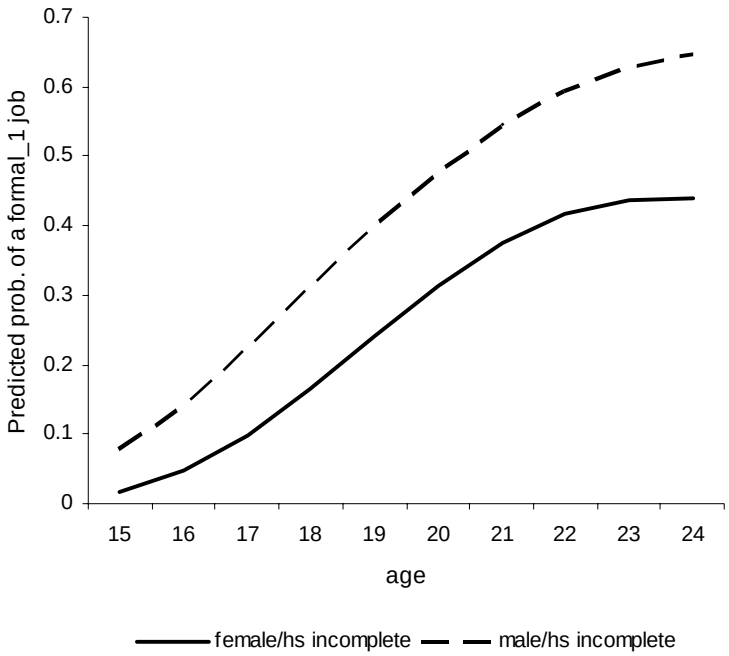
Table 11
Probability of having a formal job – Probit estimates – Dependent variable formal_2

	Sample 1			Sample 2		
	(1)	(2)	(3)	(4)	(5)	(6)
	females	males	difference	females	males	difference
age	1.524	1.026	0.498	0.999	0.771	0.228
	[0.460]***	[0.267]***	[0.532]	[0.360]***	[0.235]***	[0.430]
agesq	-0.035	-0.023	-0.012	-0.023	-0.017	-0.006
	[0.011]***	[0.007]***	[0.013]	[0.009]***	[0.006]***	[0.010]
married	0.137	0.051	0.086	0.067	0.008	0.059
	[0.255]	[0.167]	[0.305]	[0.215]	[0.158]	[0.267]
attending	0.040	0.151	-0.111	0.004	-0.018	0.022
	[0.368]	[0.228]	[0.433]	[0.204]	[0.165]	[0.262]
hsdiploma	0.341	0.221	0.120	0.429	0.219	0.211
	[0.136]**	[0.093]**	[0.165]	[0.121]***	[0.089]**	[0.150]
some_college				0.469	0.368	0.102
				[0.129]***	[0.112]***	[0.171]
college_diploma				1.394	0.572	0.823
				[0.237]***	[0.283]**	[0.369]**
public_school	-0.074	0.002	-0.076	-0.156	-0.111	-0.045
	[0.186]	[0.146]	[0.236]	[0.117]	[0.108]	[0.159]
commercial	0.133	-0.079	0.213			
	[0.121]	[0.092]	[0.152]			
technical	0.014	-0.030	0.044			
	[0.214]	[0.099]	[0.236]			
other	-0.293	-0.044	-0.249			
	[0.347]	[0.348]	[0.491]			
adult	-0.396	-0.107	-0.289			
	[0.246]	[0.154]	[0.291]			
immediately	0.341	-0.057	0.399			
	[0.222]	[0.144]	[0.264]			
failed	-0.004	0.072	-0.076			
	[0.131]	[0.085]	[0.156]			
drop_out	-0.208	0.128	-0.336			
	[0.196]	[0.125]	[0.233]			
maxpric	-0.099	0.106	-0.205	-0.012	0.114	-0.126
	[0.171]	[0.125]	[0.212]	[0.143]	[0.117]	[0.185]

maxseci	-0.102	0.146	-0.247	0.013	0.055	-0.042
	[0.191]	[0.133]	[0.233]	[0.157]	[0.124]	[0.200]
maxsecc	0.400	0.158	0.242	0.296	0.111	0.185
	[0.217]*	[0.143]	[0.260]	[0.171]*	[0.130]	[0.215]
maxsupi	0.543	0.381	0.162	0.166	0.050	0.116
	[0.340]	[0.219]*	[0.404]	[0.216]	[0.177]	[0.279]
maxsupc	0.347	0.139	0.208	0.265	0.009	0.255
	[0.356]	[0.228]	[0.423]	[0.210]	[0.174]	[0.273]
edu_sibling	0.006	-0.078	0.084	-0.015	-0.048	0.033
	[0.163]	[0.099]	[0.191]	[0.142]	[0.092]	[0.169]
eldest	0.043	0.107	-0.064	0.097	0.098	-0.002
	[0.136]	[0.091]	[0.164]	[0.099]	[0.080]	[0.127]
hh_female	0.076	0.089	-0.013	0.131	0.086	0.045
	[0.139]	[0.099]	[0.171]	[0.107]	[0.087]	[0.137]
family_size	0.020	0.009	0.011	0.025	0.009	0.015
	[0.029]	[0.020]	[0.035]	[0.023]	[0.019]	[0.030]
hh_employed	-0.017	0.100	-0.118	0.074	0.064	0.010
	[0.149]	[0.103]	[0.181]	[0.126]	[0.095]	[0.158]
intera_atthhempl	0.309	-0.364	0.673	0.044	-0.119	0.163
	[0.376]	[0.240]	[0.446]	[0.213]	[0.176]	[0.276]
income_rest	0.000	-0.000	0.000	-0.000	-0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Pampeana	-0.143	-0.051	-0.092	-0.285	-0.122	-0.163
	[0.181]	[0.129]	[0.222]	[0.131]**	[0.107]	[0.170]
Cuyo	-0.279	-0.171	-0.109	-0.201	-0.214	0.013
	[0.204]	[0.145]	[0.250]	[0.153]	[0.124]*	[0.197]
NOA	-0.390	-0.231	-0.159	-0.312	-0.254	-0.057
	[0.196]**	[0.137]*	[0.239]	[0.147]**	[0.118]**	[0.188]
Patagonia	0.287	0.136	0.150	0.268	0.104	0.164
	[0.214]	[0.151]	[0.262]	[0.158]*	[0.130]	[0.205]
NEA	-0.642	-0.149	-0.493	-0.546	-0.141	-0.405
	[0.233]***	[0.151]	[0.278]*	[0.169]***	[0.134]	[0.216]*
Constant	-17.033	-11.312	-5.721	-11.423	-8.697	-2.726
	[4.729]***	[2.706]***	[5.449]	[3.719]***	[2.395]***	[4.423]
Observations	605	1164	1769	1013	1529	2542
Log. Lik.	-355.39	-760.26	-1115.65	-619.42	-1001.89	-1621.31
Pseudo R2	0.12	0.05	0.08	0.12	0.05	0.08

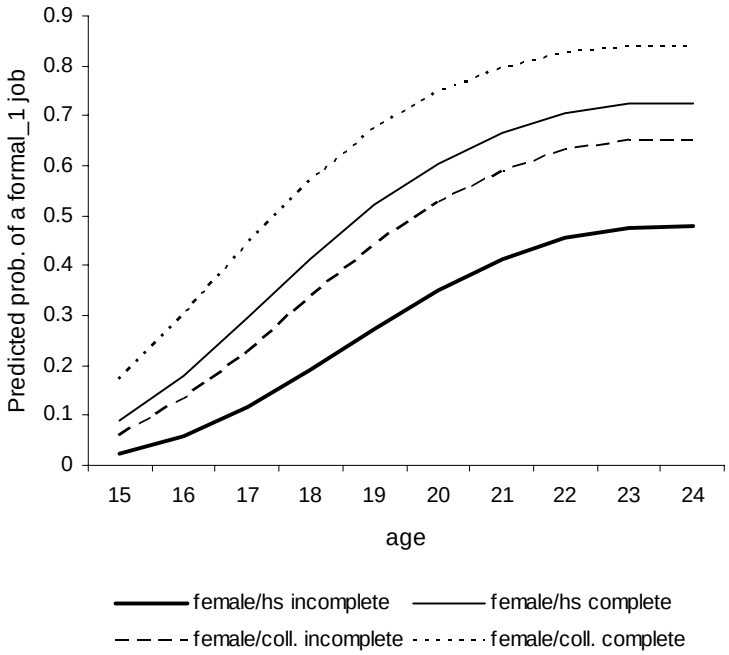
Standard errors in brackets: * significant at 10%; ** significant at 5%; *** significant at 1%
Source: author´s calculations based on EPH and SME, 1998.

Figure 5
Effect of age on formal_1 probability



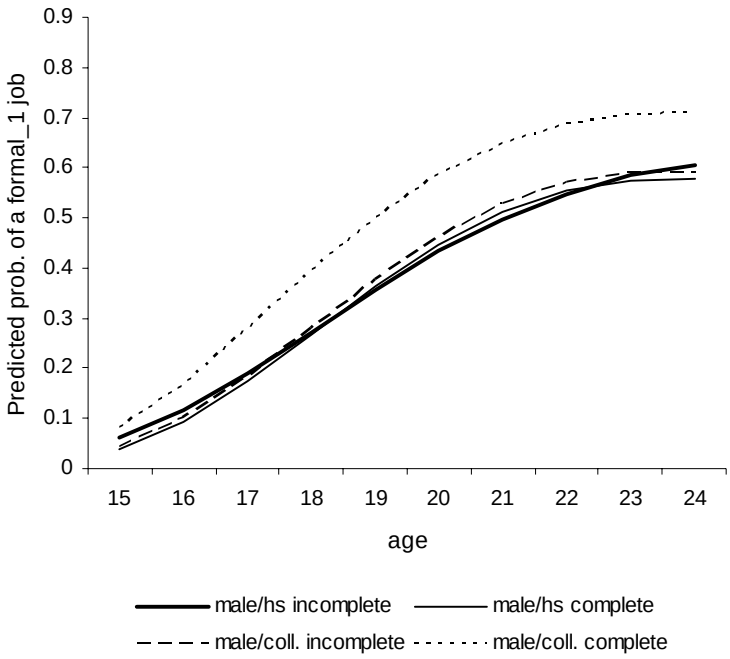
Source: author´s calculations based on EPH and SME, 1998.

Figure 6
Effect of educational attainment on formality – Formal_1 – Females



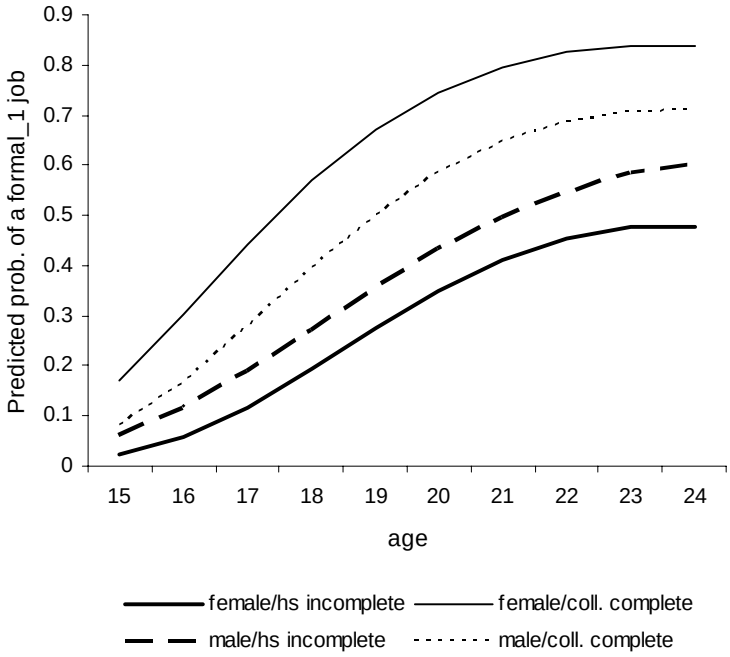
Source: author´s calculations based on EPH and SME, 1998.

Figure 7
Effect of educational attainment on formality – Formal_1 – Males



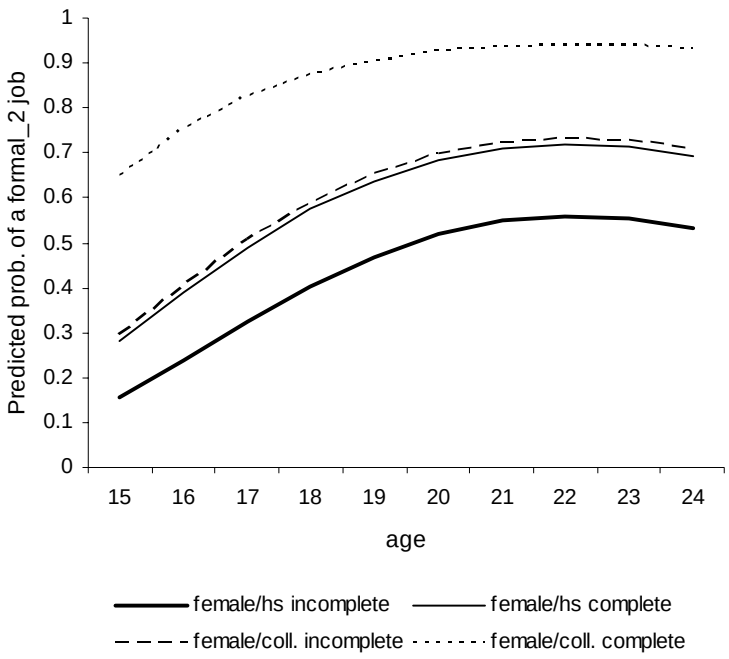
Source: author´s calculations based on EPH and SME, 1998.

Figure 8
Effect of educational attainment on formality – Formal_1 – Females vs. males



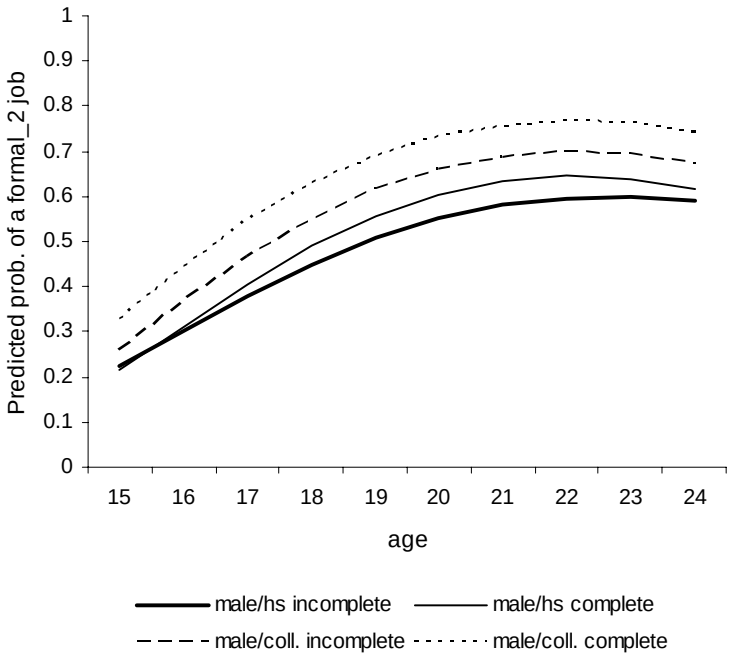
Source: author´s calculations based on EPH and SME, 1998.

Figure 9
Effect of educational attainment on formality – Formal_2
Females



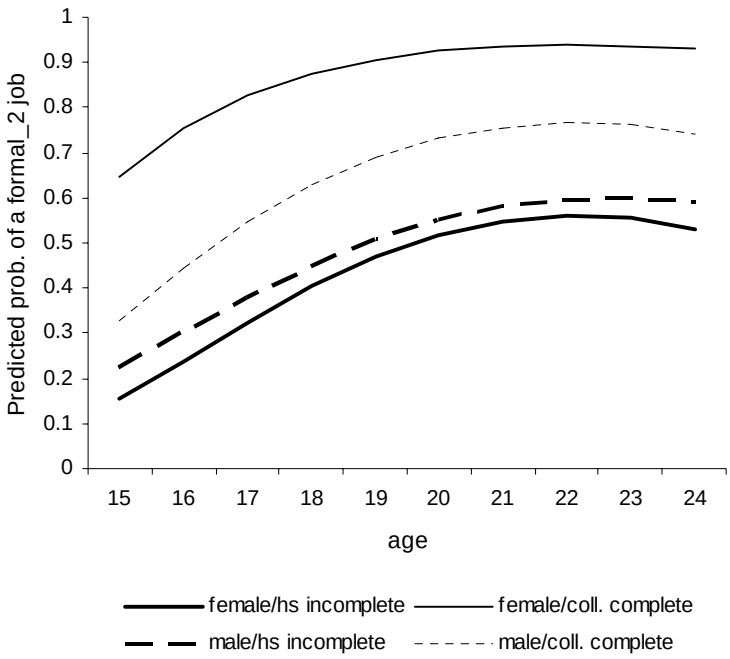
Source: author´s calculations based on EPH and SME, 1998.

Figure 10
Effect of educational attainment on formality – Formal_2 – Males



Source: author´s calculations based on EPH and SME, 1998.

Figure 11
Effect of educational attainment on formality – Formal_2 – Females vs. males



Source: author´s calculations based on EPH and SME, 1998.

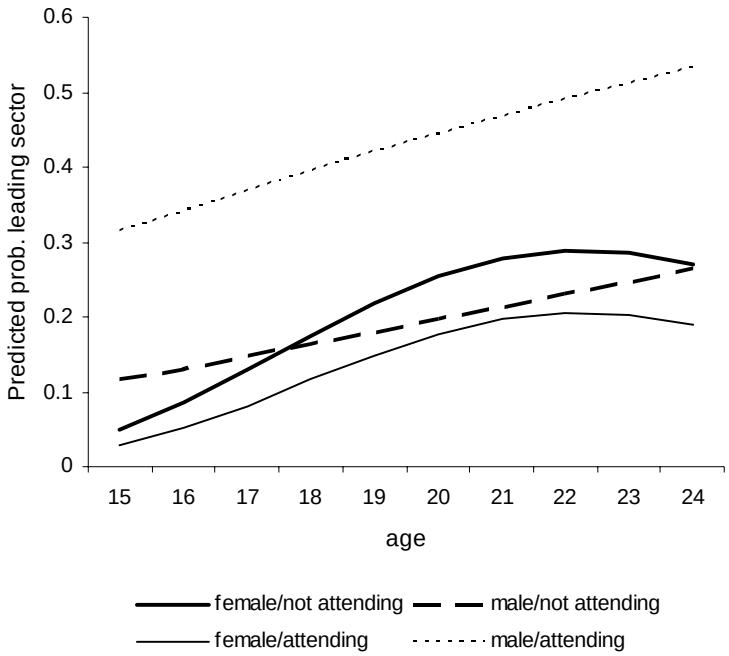
Table 12
Probability of having a job in a leading sector – Probit estimates

	Sample 1			Sample 2		
	(1)	(2)	(3)	(4)	(5)	(6)
	females	males	difference	females	males	difference
age	0.914	0.123	0.791	0.466	0.002	0.465
	[0.481]*	[0.302]	[0.568]	[0.374]	[0.260]	[0.456]
agesq	-0.021	-0.002	-0.019	-0.009	0.002	-0.011
	[0.012]*	[0.007]	[0.014]	[0.009]	[0.006]	[0.011]
married	0.271	-0.200	0.472	0.185	-0.156	0.340
	[0.267]	[0.208]	[0.338]	[0.218]	[0.191]	[0.289]
attending	-0.264	0.713	-0.977	0.181	0.449	-0.268
	[0.463]	[0.243]***	[0.522]*	[0.210]	[0.175]**	[0.273]
hsdiploma	0.127	0.133	-0.006	0.151	0.152	-0.001
	[0.150]	[0.107]	[0.185]	[0.133]	[0.102]	[0.168]
some_college				0.339	0.157	0.181
				[0.137]**	[0.120]	[0.182]
college_diploma				1.383	1.086	0.296
				[0.220]***	[0.260]***	[0.341]
public_school	-0.343	-0.038	-0.305	-0.329	-0.013	-0.316
	[0.196]*	[0.168]	[0.258]	[0.116]***	[0.116]	[0.164]*
commercial	-0.169	-0.131	-0.038			
	[0.132]	[0.102]	[0.167]			
technical	-0.140	-0.364	0.224			
	[0.239]	[0.118]***	[0.266]			
Adult	-0.453	-0.019	-0.434			
	[0.285]	[0.170]	[0.332]			
immediately	0.181	0.037	0.144			
	[0.246]	[0.165]	[0.296]			
failed	-0.019	0.004	-0.023			
	[0.145]	[0.098]	[0.175]			
drop_out	-0.149	-0.094	-0.055			
	[0.217]	[0.149]	[0.263]			
maxnone	-0.005	0.870	-0.875	-0.355	0.592	-0.947
	[0.659]	[0.618]	[0.904]	[0.591]	[0.566]	[0.819]
maxpric	-0.289	0.413	-0.703	-0.261	0.387	-0.649
	[0.191]	[0.167]**	[0.254]***	[0.159]	[0.153]**	[0.221]***

maxseci	-0.040	0.378	-0.418	-0.016	0.399	-0.416
	[0.207]	[0.176]**	[0.271]	[0.169]	[0.158]**	[0.232]*
maxsecc	0.018	0.541	-0.523	0.091	0.406	-0.315
	[0.239]	[0.184]***	[0.301]*	[0.182]	[0.164]**	[0.245]
maxsupi	0.465	0.753	-0.288	0.125	0.543	-0.418
	[0.343]	[0.247]***	[0.422]	[0.224]	[0.203]***	[0.302]
maxsupc	-0.115	0.201	-0.317	0.016	0.380	-0.363
	[0.379]	[0.285]	[0.474]	[0.218]	[0.205]*	[0.299]
edu_sibling	0.469	-0.156	0.625	0.383	-0.114	0.497
	[0.174]***	[0.115]	[0.209]***	[0.148]***	[0.104]	[0.180]***
eldest	0.187	-0.024	0.211	0.193	-0.027	0.220
	[0.153]	[0.105]	[0.186]	[0.105]*	[0.089]	[0.138]
hh_female	0.129	0.066	0.063	0.004	0.047	-0.043
	[0.148]	[0.115]	[0.187]	[0.112]	[0.097]	[0.148]
family_size	0.023	-0.026	0.049	-0.005	-0.028	0.024
	[0.031]	[0.025]	[0.040]	[0.025]	[0.022]	[0.033]
hh_employed	-0.126	-0.125	-0.001	-0.152	-0.136	-0.016
	[0.156]	[0.120]	[0.197]	[0.132]	[0.108]	[0.170]
intera_atthhempl	0.848	-0.402	1.250	0.137	-0.010	0.147
	[0.469]*	[0.255]	[0.534]**	[0.217]	[0.185]	[0.285]
income_rest	0.000	0.00013	-0.000	0.00009	0.00013	-0.000
	[0.000]	[0.000]**	[0.000]	[0.000]**	[0.000]***	[0.000]
Pampeana	-0.102	0.197	-0.298	-0.090	-0.017	-0.073
	[0.198]	[0.159]	[0.254]	[0.137]	[0.122]	[0.184]
Cuyo	-0.387	0.222	-0.609	-0.049	-0.046	-0.003
	[0.231]*	[0.182]	[0.294]**	[0.161]	[0.145]	[0.217]
NOA	-0.183	0.298	-0.482	0.026	0.188	-0.162
	[0.214]	[0.166]*	[0.271]*	[0.153]	[0.131]	[0.202]
Patagonia	0.377	0.258	0.119	0.443	0.152	0.291
	[0.229]*	[0.181]	[0.292]	[0.162]***	[0.145]	[0.217]
NEA	-0.441	0.436	-0.876	-0.137	0.385	-0.521
	[0.256]*	[0.178]**	[0.312]***	[0.177]	[0.147]***	[0.230]**
Constant	-10.722	-3.251	-7.471	-6.278	-2.064	-4.214
	[4.948]**	[3.060]	[5.818]	[3.873]	[2.654]	[4.695]
Observations	603	1209	1812	1027	1585	2612
Log. Lik.	-290.18	-527.67		-554.88	-761.91	
Pseudo R2	0.10	0.07		0.15	0.09	

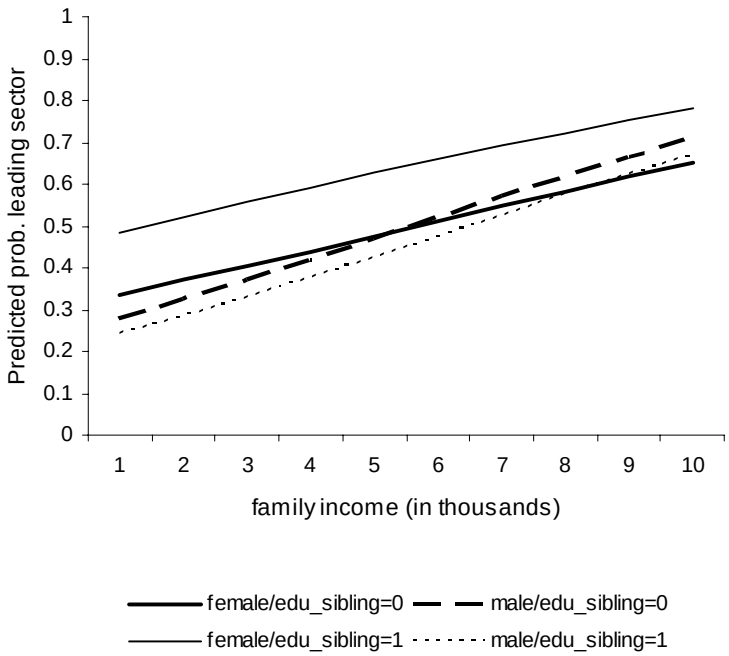
Standard errors in brackets: * significant at 10%; ** significant at 5%; *** significant at 1%.
Source: author´s calculations based on EPH and SME, 1998.

Figure 12
Effect of attendance situation



Source: author´s calculations based on EPH and SME, 1998.

Figure 13
Effect of family income and siblings´education



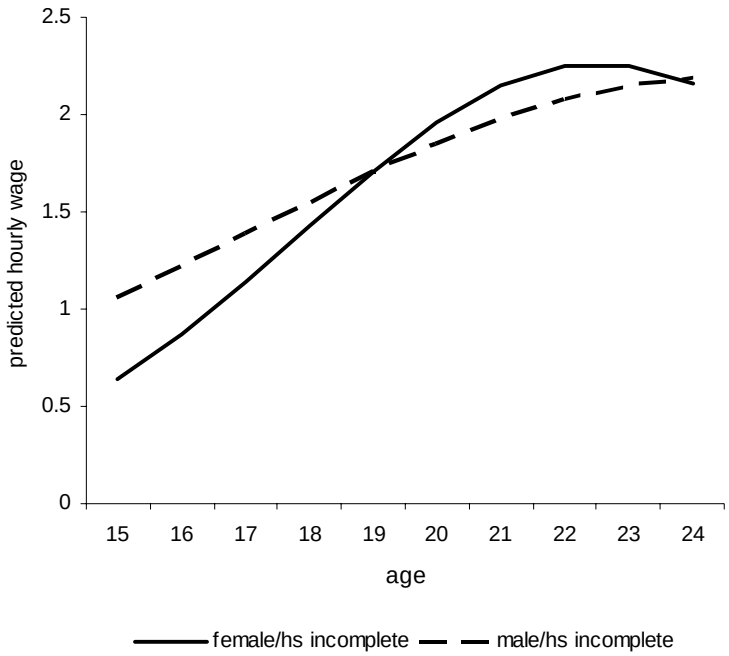
Source: author´s calculations based on EPH and SME, 1998.

Table 13
Earnings equations – Heckman´s two-step procedure

	Sample 1			Sample 2		
	(1)	(2)	(3)	(4)	(5)	(6)
	females	males	difference	females	males	difference
age	1.007	0.386	0.621	0.752	0.348	0.404
	[0.204]***	[0.124]***	[0.231]***	[0.162]***	[0.112]***	[0.194]**
agesq	-0.022	-0.008	-0.015	-0.016	-0.007	-0.009
	[0.005]***	[0.003]***	[0.006]***	[0.004]***	[0.003]**	[0.005]**
hs_diploma	0.191	0.069	0.121	0.205	0.087	0.119
	[0.064]***	[0.040]*	[0.071]*	[0.055]***	[0.039]**	[0.065]*
some_college				0.264	0.206	0.058
				[0.051]***	[0.048]***	[0.069]
college_diploma				0.664	0.412	0.253
				[0.095]***	[0.121]***	[0.150]*
public_school	0.004	-0.137	0.141	-0.017	-0.113	0.096
	[0.085]	[0.065]**	[0.102]	[0.050]	[0.047]**	[0.067]
commercial	-0.108	0.010	-0.118			
	[0.055]**	[0.041]	[0.065]*			
technical	0.039	0.132	-0.094			
	[0.098]	[0.044]***	[0.102]			
other	-0.001	0.007	-0.008			
	[0.157]	[0.176]	[0.226]			
adult	-0.022	-0.027	0.005			
	[0.102]	[0.062]	[0.114]			
immediately	0.022	0.034	-0.012			
	[0.098]	[0.063]	[0.112]			
failed	-0.132	-0.026	-0.105			
	[0.060]**	[0.038]	[0.068]			
drop_out	-0.008	-0.011	0.003			
	[0.083]	[0.056]	[0.096]			
full_time	-0.220	-0.376	0.156	-0.274	-0.306	0.032
	[0.050]***	[0.043]***	[0.067]**	[0.037]***	[0.036]***	[0.052]
Pampeana	0.018	-0.097	0.115	-0.170	-0.174	0.005
	[0.085]	[0.057]*	[0.097]	[0.060]***	[0.048]***	[0.075]
Cuyo	-0.193	-0.199	0.006	-0.316	-0.226	-0.091
	[0.097]**	[0.066]***	[0.111]	[0.070]***	[0.057]***	[0.088]
NOA	-0.222	-0.231	0.009	-0.358	-0.286	-0.072
	[0.090]**	[0.061]***	[0.103]	[0.067]***	[0.053]***	[0.083]
Patagonia	0.204	0.159	0.045	0.052	0.099	-0.047
	[0.100]**	[0.068]**	[0.114]	[0.072]	[0.059]*	[0.090]
NEA	-0.388	-0.190	-0.198	-0.516	-0.305	-0.212
	[0.103]***	[0.067]***	[0.117]*	[0.077]***	[0.060]***	[0.095]**
Inverse Mill´s ratio	0.495	0.072	0.424	0.369	0.080	0.289
	[0.105]***	[0.063]	[0.119]***	[0.080]***	[0.054]	[0.095]***
Constant	-10.851	-3.544	-7.308	-7.954	-3.165	-4.789
	[2.184]***	[1.304]***	[2.468]***	[1.749]***	[1.180]***	[2.078]**
Observations	3614	3920	7534	5314	5150	10464
Censored obs	3032	2789	5821	4330	3667	7997
Wald Chi 2	378.64	516.17		769.51	847.94	

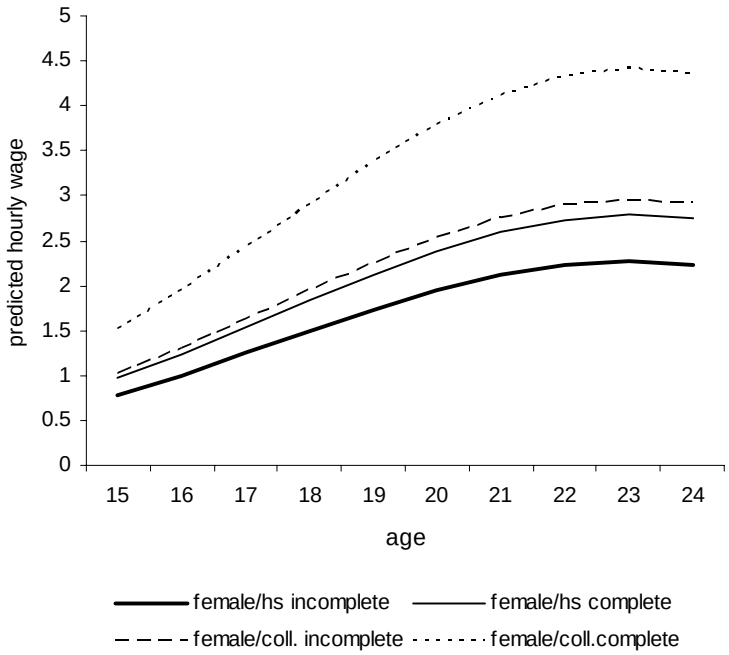
Standard errors in brackets: * significant at 10%; ** significant at 5%; *** significant at 1%
Selection equation not shown. See Table 8.
Source: author´s calculations based on EPH and SME, 1998.

Figure 14
Wage-age profiles



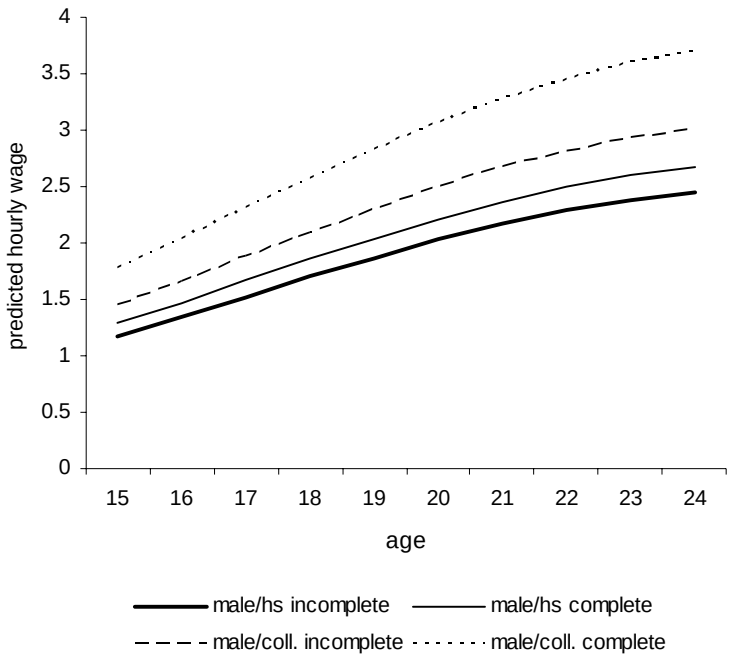
Source: author´s calculations based on EPH and SME, 1998.

Figure 15
Effect of education on hourly wages - Females



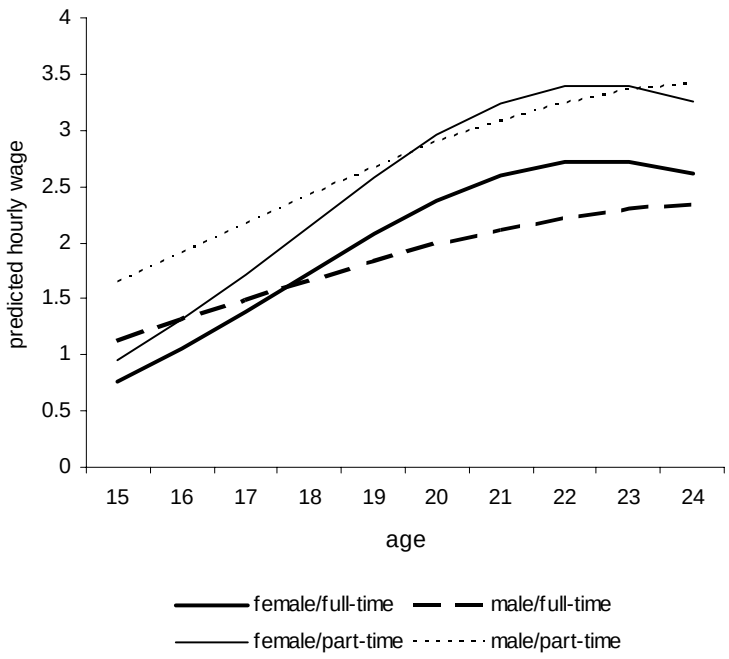
Source: author´s calculations based on EPH and SME, 1998.

Figure 16
Effect of education on hourly wages – Males



Source: author´s calculations based on EPH and SME, 1998.

Figure 17
Effect of full-time or part-time job



Source: author´s calculations based on EPH and SME, 1998.

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