# EDUCATION, GENDER AND YOUTH IN THE LABOR MARKET IN ARGENTINA ${ }^{\prime}$ 

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#### Abstract

The main goal of this paper is to show the importance of secondary education in the results of Argentine youth in the labor market, both empirically and with existing data, and differentiating impacts by gender. The evidence suggests that secondary education promotes greater participation in the labor force and it does so in a higher degree among young women than young men. Also, compared with primary education, secondary school increases the employment opportunity of youth and has a positive effect on remuneration for both gender, but effect is more positive among boys than among girls.


JEL Codes: [I21] [J13] [J16]

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# Education, Gender and Youth in the Labor Market in Argentina 

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## I- Introduction

The main goal of this paper is to show the importance of secondary education in the results of Argentine youth in the labor market, both empirically and with existing data, and differentiating impacts by gender. The labor market "results" of youth were operationalized by means of the indicators participation in remunerated economic activity, employment, unemployment and remunerations. Education was assessed in its two traditional dimensions - school attendance and school achievement.
This relation education-youth labor was analyzed over a period of profound economic and social transformations in Argentina - 1974-2002. During this period, there were important crises and diverse institutional changes, such as hyperinflation and periods of stability, de facto and democratic governments, low unemployment periods and others of unprecedented growth for open unemployment ${ }^{2}$. In the education field specifically, the period examined includes the sanction and launch of the Federal Education Law (1993), which represented an important transformation after Law 1420, which organized the Argentine educational system since 1884 and had been in force for over a century ${ }^{3}$.

Without losing sight of these macro aspects of Argentina's economic and social reality, we concentrated on the micro relationship between education and labor. According to the vast literature on the subject, a higher educational level increases the probability to participate in the labor force as well as to find a job - it reduces the probability to be unemployed-, and it raises the current value of the remuneration flow of employees throughout their life cycle. All these empirical observations are theoretically based on the economic analysis of labor, and are at the same time intertwined - higher education levels lead to higher salaries when productivity increases (Becker, 1965 and 1981). This is a factor that individuals take into account when they assess the benefits and the costs of participating in the labor market. For simplicity, if we suppose that the reserve salary does not change, higher salaries will generate a greater tendency to participate, and inactive people will leave that state to find a remunerated job.
If we do not consider the reserve salary invariable among people, we must include the time value of the alternative to remunerated employment in our reasoning. This is clear, for example, in the decision to participate of married women. The cost of their participation in the labor market is given by the value of the domestic production that has to be sacrificed to dedicate time to a remunerated job. Ceteris paribus, the lower the level of the domestic production is, the lower the reserve salary will be. For youth, the situation becomes more complicated. In their case, time can be distributed among human capital accumulation, work (work in domestic units could be included here, too) and idle time (or time not dedicated to work or human capital accumulation). This indicates that the decision to participate in the labor market is not independent of the decision to accumulate human capital and that both processes are correlated.

[^1]By "youth" we mean individuals between 18 and 29 years of age. The lowest age was chosen under the supposition that the individual has had enough time to complete secondary school. The current structure of the Argentine educational system provides general basic education (EGB), which comprises nine years of mandatory schooling, and three more years of Polimodal education (secondary level for us here). In very general terms, before 1993, when the transformation took place, and under Law 1420, the educational system was structured with 7 years of primary school and a secondary level of 5 years for the bachelor and the business orientation tracks, and of 6 years for the technical track. This institutional configuration does not affect our analysis as the data source used matches "primary" education with "general basic" education and "secondary" with "Polimodal."
In the next section, we will describe the methodology and the data used in our empirical analysis. In Section III, we will present the results of the unconditional or descriptive analysis (section A) and the conditional or explanatory analysis (Section B). The conclusions and the agenda for subsequent research are included in section IV.

## II- Methodology and Data

The methodology chosen for our analysis consists of two clearly differentiated parts: one is descriptive (unconditional) and the other is explanatory (conditional). In the first part, we propose following the evolution of fourth dimensions of the labor market, and two of education. For the labor market, we will examine population participation in the labor force, the probability of getting a job and last but not least, the remunerations earned by employed workers. In the case of education, we are particularly interested in aspects related to school attendance on the one hand, and educational achievement on the other.
Our database includes the labor, educational and socio-demographic situation of youth between 18 and 29 years of age interviewed in the urban area of the Greater Buenos Aires in the month of October every year from 1974 to $2002^{4}$. Our data source is the Permanent Household Survey (EPH), conducted by the National Institute for Statistics and Census (INDEC), the main socio-demographic data production organism in the country.
Our pooled database contains data from years 1974, 1980, 1986 and 1991 to 2002. Thus, we are covering almost 30 years of Argentine history in topics relevant to our research. Please note that this database includes individuals from a wide range of generations: from people born in 1944, who were 29 years old in the 1974 wave, to those born in 1984, who were 18 in the 2002 wave. Therefore, the number of fiveyear births (or cohorts, or generations) covered surpasses the number of years considered in this study by almost one decade ${ }^{5}$.

The dependent variables of the explanatory analysis are three: a) the probability to be active, b) the probability to be employed, and c) the monthly remunerations earned by youth. Among all the independent variables included, special attention is given to those related to education - school attendance in the first place, and then the educational achievement of youth. The latter variable has been treated with a battery of dummies according to the maximum level reached. The reference category always was having completed basic education. For secondary school, two situations were also

[^2]differentiated according to whether the youth had completed the level or not. This is justified by the theoretical suspicions that a certain inflation of credentials could have occurred recently.

Given the need to control other factors that could impact on the results of youth in the labor market, several control variables were included. They can be grouped in the following dimensions: a) individual: age and marital status of youth; b) family: demographic charge of households, education, gender and labor market status household heads, to assess the situation of youth reported as "children" (son or daughter) in the survey; and c) contextual: diverse unemployment rates for each survey date: of the groups 18-24, 25-29, 30-54, both for men, women and for the total population.
The general structure of the estimated models is the following:

$$
\mathrm{Y}_{\mathrm{i}}=\mathrm{Y}\left(E \mathrm{EM}_{\mathrm{i}}, \mathrm{Z}_{\mathrm{j}}\right), \forall \mathrm{i}=1,2, \ldots, \mathrm{n} y \forall \mathrm{j}=\mathrm{i}, \mathrm{f}, \mathrm{c} .
$$

Where $Y_{i}$ is the output of the labor market that is being studied (activity, employment and remunerations), achieved by an individual $i$, and which depends on $E M_{i}$ (a binary variable that indicates whether the young individual has $(=1)$ or does not have $(=0)$ secondary education) and $Z_{j}$, a matrix that has the control characteristics used and includes representative variables of individual factors (i), family factors (f) and contextual factors (c). Whatever the specification of the model described is, our null hypothesis establishes that the parameter $E M_{i}$ is equal to zero and that it is independent of the gender of youth. With this we try to imply that secondary education - compared to basic education - does not have an impact on the results achieved by youth in the labor market once the other factors included in the analysis are controlled.

In all cases we have estimated models for the whole group of youth irrespective of their gender and position in the household. The next step was to work with boys and girls separately, and then with those who are reported as "children" (sons or daughters) when the survey was conducted. The latter step was taken because we are convinced that this category (sons or daughters of the household head) more clearly reflects the particular characteristics of the "youth" we want to capture for the analysis - a young individual who has already become a head of household or a spouse will show behaviors that are more linked to adulthood than youth.
The models estimated are related to:
a. Determinants of economic participation (participation equations)
b. Determinants of employment (employment equations)

## c. Determinants of remunerations (modified Mincer equations)

In the first two cases we worked with a probit specification, while for c) we estimated a heckit model one because we believe that the problem of sample selection can be important among youth.

## III- Results

Results are presented in two sections. In section A, general and descriptive findings are discussed. We analyze the evolution of activity, employment and unemployment, and monthly remunerations earned by youth throughout the period examined. Results also include the analysis of school attendance and the structure of educational achievement. Section A concludes with an analysis based on the typologies of activities performed by young people: only study, study and work, only work and neither work nor study. Section B presents the results of the explanatory analysis. In this section we talk about the results of regressions that assess the impact of secondary education on the labor market.

## A- Descriptive Analysis

There are two important observations to be made on the discussion that follows. In the first place, for the descriptive analysis we have differentiated two age groups among youth: young people between 18 and 24 years of age, and young adults aged between 25 and 29. As you will be able to see later on, some different behaviors are observed between these two groups, probably originating in the dynamics of the life cycle, which includes getting married, making a new household, having children and becoming economically independent from their parents ${ }^{6}$. In the second place, to follow the temporal evolution of some of the indicators, we preferred to work with youth births in five-year periods instead of calendar years, as this allows us to approximate to the probability concept implicit in the calculation of any rate more closely.

In very general terms, it could be said that the economic participation of both male and female youth decreased noticeably between the dates observed, while the participation of the group aged between 25 and 29 years does not reflect a homogeneous gender behavior: while boys maintained their participation over the generations, girls experienced a relatively marked increase (Table A1, Appendix A). As a consequence of this trend, the gender gap in the participation of young adults ostensibly decreased. In fact, while among youth born in the period 1950-54 there were 2.1 males per every active female, among those born in the 1975-79 period the proportion was 1.3 males per every active female.
This temporal activity profile is observed in any social development process. Education advances and demands more time from youth. The training requirements of employers contribute to expand the demand for higher educational levels, whether these requirements are generated by a technological change or the inflation of credentials. On the other hand, the expansion of female participation in the young adults group is part of a larger movement - the growing introduction of women into the labor force, which has been recorded in every country in the world.
The changes observed in economic participation were accompanied by similar changes in the probabilities of employment (Graphs C1 and C2, Appendix C). The employment probability of both girls and boys has decreased, while among young adults, we observed a decrease for males and an increase for females (Table A2, Appendix A). The gap between genders decreased irrespective of the age group. Among youth, the employment probabilities of males are, on average, $50 \%$ higher than those recorded for females. Among young adults, those born in the 1950-1954 period had a probability to get a remunerated job which was 2.2 times higher than that of youth of identical age and birth cohort. For those born in the 1980-1984 period instead, that gap had decreased to 1.6 , although male primacy in employment remained.
Over the years analyzed, unemployment rates reveal the most impressive changes (Graph C3, Appendix C). In the first place, it stands out that in all cases included in the analysis female unemployment is higher than male unemployment. In the second place, the probability of being unemployed sharply increased for both genders and for both age groups, but it did not rise at a similar pace - the highest increase was recorded among youth and it became overtly higher among individuals born in the 1965-69 period. Individuals in the 25-29 age group also had higher unemployment probabilities, but the rising trend was broken among those born in 1980-1984, for whom a clear fall in the unemployment probability is observed (Table A3, Appendix A). The data also reveals another very interesting phenomenon: for this age group there is an increase of female unemployment among young women born between 1960-64 and 1975-79, which is recorded in a context of increasing participation and employment. In this case, it is

[^3]clear that the expansion of female labor supply (expressed in activity rates) widely surpassed the expansion of demand (expressed in employment rates).
The evolution of remunerations earned by youth in the period under study remains to be analyzed (Table A4, Appendix A). Between 1974 and 2002, a strong retraction of the total remuneration level is observed for both genders and for both age groups considered - youth (18-24) and young adults (25-29). (See Graphs C4 and C5, Appendix C.) The global reduction was of around $65 \%$ without marked differences between genders. The demographic group with the lowest reduction in remunerations was that of females between 25 and 29 years of age. Nevertheless, towards the end of the period, the abrupt contraction experienced between 2001 and 2002 tended to equate the incomes of the groups.
The evolution of remunerations followed the course of aggregate economic activity. At the beginning of the nineties, and to a good extent due to the effects of the 1989 hyperinflation, incomes were on average $50 \%$ below the level reached in 1974. In the mid-nineties, price stability generated a recovery of the income level. From then on, income decreased until the end of the period under study. Given its short length and its effect on remunerations, the fall observed as a consequence of the convertibility crisis was the hardest.

It had been said before that at least part of the decrease in the economic participation of youth could be explained by a greater demand for education. If we follow the evolution of school attendance over the years analyzed, some evidence on this topic can be gathered. Please note that school attendance among youth has increased dramatically over time, and that this expansion is observed both among boys and girls (Table A5, Appendix A). Out of 100 boys aged between 18 and 24 and born in the 1950-54 period, 1 out of 4 were attending a school. The ratio was 1 out of 2 among those born in the 1980-84 period. For women this situation was even more pathetic - among female youth born between 1950 and 1954, 15 out of 100 were attending school, and among young women born between 1980 and 1984, the ratio was 55 out of 100 .
Although the youth group is the one that has shown the highest increase in school attendance, the young adults group has also been influenced by this expansion process, being women again those who showed a stronger advancement in the period analyzed. Although the data used did not allow us to discriminate the school level that these people were attending, the trend described for young adults suggests a rising demand for university education.
Neither can we in this case risk a hypothesis on whether this phenomenon was produced mainly by the lower employment opportunities observed in the country or by the increasing training requirements for the positions to be filled in the labor market. The fact that we were not able to discriminate between these two major and possible causes of the rise in the demand for education does not mean that we should give less importance to this task, which in our view is crucial to design policies oriented towards the labor market and the education sector. Nevertheless, trend break of school attendance towards the end of the period under study is striking. If we recall what was analyzed about unemployment, we can suspect some type of relation between unemployment and school attendance, especially among women and men from more recent generations.
Over time, higher school attendance generates a gradual improvement of the educational achievement of the population. Over the period, it is observed that in both genders there is an uninterrupted decrease in the percentage of young people (from both groups, very young or youth and young adults) with less than primary school complete as the highest educational level reached, and an equally monotonous increase in
the percentage of those who completed the secondary education level7. (Tables A6a and A6b, Appendix A; and Graphs C6a and C6b, Appendix C.)
A way to combine the previous results is to look at the evolution of alternative indicators to traditional ones over time. In this respect, we considered it convenient to assess how youth are grouped around the alternative uses of time between attending school and having a remunerated job. This implies combining information about labor market situations with data about school attendance situations. This effort led to the typology shown on Table 1.

The first feature that stands out when we assess the results for Argentina is the strong differential between genders in both youth groups - 18-24 and 25-29 years of age (Tables A7a y A7b, Appendix A). Compared with boys, there are more girls who only study or neither study nor work. The clearest differences are found in the latter quadrant. This result may respond to the greater likelihood of women performing or collaborating in tasks related to domestic production. The literature on this topic generally calls this phenomenon "juvenile exclusion" meaning the weakness or inexistence of sociability ties generated by work or study ${ }^{8}$. Nevertheless, to use this denomination for those placed in this quadrant of the typology, we should have evidence related to the voluntary or involuntary nature of the "neither study nor work" situation.

Table 1: School attendance and status in the labor market

| Status in the Labor | School attendance |  |
| :---: | :---: | :---: |
| Market | Attending | No attending |
| Employment | Study and work | Only work |
| Unemployment | Only study | Neither study nor work |
| Not in the labor force |  |  |

Evolution over time shows an increase in the proportion of youth aged between 18 and 24 from both genders who dedicate time not just to study, and a slight increase in the proportion of youth who study and work. On the other hand, we observe that the proportion of youth placed in the other two quadrants has decreased. These trends are particularly visible for women.

## B- Analysis of Determinants

The coefficients estimated for the variables included in the participation models yielded the expected signs and practically all variables were different from zero at less than $1 \%$ significance. Although it would be interesting and instructive to analyze the complete model, we are only going to discuss what is directly related to the main object of our research - the effect of secondary education on labor market results. Nevertheless, the tables included in Appendix B will give an idea of the explanatory potential and the direction of the relation of the other variables considered. The first table of the Appendix B (Table B1) shows the mean values of the variables included in the estimated equations.

[^4]The first six univariate probit regressions enable us to examine the effect of secondary education on the decision to enter the labor force: a) for the youth group, b) for male and female youth individually, and c) for the group reported as "children of household head" (Tables B2 and B3, Appendix B). In almost all of the situations analyzed, we see that secondary education affects the probability to be active in a significant and positive way, more so after completing the level. Likewise, we observe that there are marked differentials between genders, the impact being clearly higher among women. Moreover, when we estimate separate equations by gender, we can see that having incomplete secondary studies is not different from having complete primary school only among men.
School attendance is one the variables included in the participation models. Such attribute reduces the probability of participation significantly and noticeably. Unlike the previous cases, the impact of school attendance is higher for boys, although it is also significant and strong for girls. This finding suggests that the latter are more likely than boys to combine study with work or with job searches.
Participation equations were also estimated for those reported as "children" (sons and daughters) in our database (Table B3, Appendix B). Results are similar to those mentioned in the previous paragraphs but the impact of educational variables is greater. For youth who live with a head of household, it is doubtless that secondary education increases the probability to be active more than for youth as a whole. For sons however, lack of completion of secondary school continues yielding no significance at the usual levels. Conversely, daughters with partially completed secondary school show high sensitivity to participation compared with other young women of equal characteristics who have completed only the primary level. Completion of the secondary level also yields ostensible increases in the probability of participation. School attendance discourages the participation of "sons and daughters" too. Besides, as for the whole youth group, it discourages participation more among boys than among girls, although the economic participation of daughters is more sensitive to school attendance than the economic participation recorded for the whole youth group.
Secondary education also increases the probability to be employed against being unemployed or inactive. The impact of secondary school achievement is higher among girls than among boys but unlike participation, the coefficient estimated for the variable "complete secondary studies" becomes significantly different from zero also for boys (Table B4, Appendix B). This finding is important and suggests the following hypothesis: although the participation expectations of male youth who have attended secondary school but have not completed it do not differ from the expectations of those who have completed primary school, the labor market seems to value the additional human capital acquired by these people, increasing employment opportunities for them. School attendance also decreases the probabilities to be employed, and as we found out for economic participation, probabilities decrease more for boys than for girls.
For young sons and daughters of household heads, the results mentioned in the preceding paragraphs remain true, with the exception of the significance of the coefficient estimated for the variable "incomplete secondary studies." (Table B5, Appendix B.) Therefore, we cannot reject the equality hypothesis with respect to those who have completed primary school. Employment opportunities for young daughters are remarkably higher than for their peers who did not complete basic studies. School attendance among sons and daughters has a negative impact on the probability of employment.

Secondary education is also important for the positive impact that it has on the remunerations earned by youth (Tables B6 and B7, Appendix B). The effect is relatively low but significantly higher than zero for those who have not completed the level; and it is significant and strong for those who did. Unlike the other results (participation and employment), the differences of the coefficients between genders are scarce or do not exist. This finding is particularly noticeable among the children of household heads. For daughters, having attended secondary school but not having completed it does not generate differences in
income with respect to another girl of equal characteristics who has only completed primary school. Even for the girls who have completed the basic education cycle, although the income rise is significant, it is noticeably lower than the one earned by sons.
The considerations made in the preceding paragraphs can be widened and quantified with greater accuracy if instead of looking at estimated coefficients, their significance and signs, we focus on the marginal effect that education variables have on the previously analyzed labor market results. As it is known, these elasticities depend not only on the estimated value of the coefficient but also on the particular characteristics of a group and the original values of the variables explained. By calculating them, we are able to examine not only differences between genders but also intra-gender differences, among other things. The computation of elasticities was performed by taking the group defined by sample means as the base group (Table 2).
Among the main findings, the following can be mentioned. In the first place, the greatest inequalities between genders are found in economic participation. Education encourages girls to participate in remunerated economic activity more than boys. But this apparent inequality is an inequality of impact that tends to become equal on the plane of levels. Female economic participation is low and to the extent that higher levels encourage higher participation among them than among boys, there is a tendency towards a convergence of levels as educational achievement grows.
Concerning participation in employment, we notice a greater equality of impact between genders but a differential effect of education for both genders. For men, education has a greater effect on employment than on participation; the opposite occurs with girls. This could explain female overunemployment as discussed in the previous paragraph of this section.

Table 2: Marginal effects

| Dimension/Achievement | All |  | Son/Doughter |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women |
| A- Participation |  |  |  |  |
| $\quad$ Incomplete secondary | 0.011 | 0.052 | $\mathrm{Ns} /$ | 0.075 |
| Complete secondary | 0.074 | 0.243 | 0.108 | 0.304 |
| Complete superior | 0.068 | 0.400 | 0.125 | 0.333 |
| B- Employment |  |  |  |  |
| $\quad$ Incomplete secondary | $\mathrm{Ns} /$ | 0.050 | $\mathrm{Ns} /$ | 0.059 |
| Complete secondary | 0.111 | 0.176 | 0.138 | 0.218 |
| Complete superior | 0.181 | 0.173 | 0.171 | 0.203 |
| C- Earnings |  |  |  |  |
| Incomplete secondary | 0.081 | 0.063 | 0.068 | ns |
| Complete secondary | 0.352 | 0.384 | 0.343 | 0.326 |
| Complete superior | 0.811 | 0.634 | 0.709 | 0.557 |

Note: Ns/ Is not statistically significant to the usual levels (.01, .05, .1).
Source: Own computation and tables - Appendix B.
On the plane of incomes, inequalities of impact always favor men, but it becomes more notorious for the highest educational level (Table 2). In this case, education tends to equate the income disparity observed and clearly favors male youth. Besides, although the passage from the secondary level to higher education raises the income of the youth population, it does it much less with women than with men. Although our income equations controlled a series of important factors that have an incidence on their level, the type of occupation performed is still to be included. This might reveal part of the reasons for the disparities found.

## IV- Conclusions

The objective of this chapter was to empirically analyze the relation between secondary education and labor among youth aged 18 to 29 in Argentina using microdata from the Permanent Household Survey the main source of socio-demographic data in the country. The study has a descriptive part and another one where the determinants of labor market results are analyzed.
The descriptive analysis enabled us to look at trends in participation, employment, remuneration, school attendance and educational achievement for the cohorts born between 1945 and 1984. The main related findings are summarized in the following conclusions:
For almost all groups we observe a fall in the economic participation of the youngest. Employment and remunerations also dropped, and unemployment rates abruptly rose in all age groups irrespective of gender. The exception to this rule was given by women between 25 and 29 years of age, for whom an increase in economic participation and a slight expansion in their employment probabilities were recorded. Nevertheless, their remunerations decreased as in the other demographic groups studied.
We observe a clear expansion of school attendance and consequently, of educational achievement. In this process, girls rather than boys boosted the increase in the mean educational level of the Argentine population. By combining educational data with labor market data, we were able to notice that there are increasingly higher numbers of youth who only study and who study and work. Therefore, the number of those who only work or who neither work nor study is increasingly lower.

To summarize the conclusions of the conditional analysis, let us remember our original null hypothesis secondary education does not have an impact on the results of Argentine youth in the labor market. Considering all the evidence reported in the preceding pages, we can undoubtedly reject such hypothesis. The details are:

Secondary education promotes greater participation in remunerated economic activity and it does so in a higher degree among young women than among young men. This result holds good both for the whole group of individuals and for those who are reported as children of a household head. Having completed the level is important in both cases. School attendance discourages participation, and it does so in a higher degree among boys than among girls and among those who report to be children of a household head.

Compared with primary education, secondary school increases the employment opportunities of youth and it does so in a slightly higher degree among women than among men. School attendance reduces employment probabilities for both genders, but more among boys than among girls. There is evidence of a greater capacity of women to combine productive activities with those inherent to the human capital accumulation process. The results mentioned also hold good for those who are reported as children of a household head in the database.
Secondary education has a positive effect on remunerations for both genders, but the effect is more positive among boys than among girls. The effect becomes clear as they move forward in the educational structure. Higher education increases male income more than female income and the difference is higher than for secondary school. Unlike male youth, for women who live in a household as daughters, having attended secondary school but not having completed it does not affect incomes compared to those earned by other girls of similar characteristics in every respect but who have completed only the basic education level.

The specification of models related to employment and remunerations is to be enhanced in the future. It would be convenient to have an indicator of employment quality to observe gender inequalities in the
access to jobs of different quality, as well as to quantify the importance of occupational segregation and income discrimination, two topics that will be discussed in detail in Chapter 3 of this research paper.

## Appendix A: Tables, descriptive analyze

Table A1: Activity rates, Great Buenos Aires

| Birth cohort | Male |  |  | Female |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $18-24$ | $25-29$ | Total | $18-24$ | $25-29$ | Total |
| $1945-49$ | na | 0.974 | 0.974 | na | 0.469 | 0.469 |
| $1950-54$ | 0.860 | 0.982 | 0.910 | 0.593 | 0.459 | 0.534 |
| $1955-59$ | 0.822 | 0.962 | 0.878 | 0.569 | 0.556 | 0.564 |
| $1960-64$ | 0.737 | 0.961 | 0.838 | 0.510 | 0.566 | 0.536 |
| $1965-69$ | 0.819 | 0.972 | 0.925 | 0.585 | 0.611 | 0.603 |
| $1970-74$ | 0.834 | 0.953 | 0.880 | 0.590 | 0.654 | 0.616 |
| $1975-79$ | 0.782 | 0.942 | 0.808 | 0.578 | 0.694 | 0.596 |
| $1980-84$ | 0.584 | 0.964 | 0.691 | 0.409 | 0.606 | 0.462 |
| Total | $\mathbf{0 . 7 6 8}$ | $\mathbf{0 . 9 6 1}$ | $\mathbf{0 . 8 4 0}$ | $\mathbf{0 . 5 4 9}$ | $\mathbf{0 . 6 1 1}$ | $\mathbf{0 . 5 7 3}$ |

Source: Own computation from INDEC, EPH

Table A2: Employment rates, Great Buenos Aires

| Birth cohort | Male |  |  |  | Female |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $18-24$ | $25-29$ | Total | $18-24$ | $25-29$ | Total |
| $1945-49$ | na | 0.965 | 0.965 | na | 0.457 | 0.457 |
| $1950-54$ | 0.833 | 0.973 | 0.891 | 0.559 | 0.444 | 0.508 |
| $1955-59$ | 0.802 | 0.941 | 0.858 | 0.523 | 0.527 | 0.525 |
| $1960-64$ | 0.701 | 0.923 | 0.801 | 0.478 | 0.542 | 0.508 |
| $1965-69$ | 0.758 | 0.867 | 0.834 | 0.530 | 0.533 | 0.532 |
| $1970-74$ | 0.709 | 0.817 | 0.750 | 0.473 | 0.546 | 0.503 |
| $1975-79$ | 0.592 | 0.774 | 0.622 | 0.411 | 0.561 | 0.434 |
| $1980-84$ | 0.402 | 0.878 | 0.535 | 0.236 | 1.000 | 0.319 |
| Total | $\mathbf{0 . 6 2 6}$ | $\mathbf{0 . 8 5 9}$ | $\mathbf{0 . 7 1 2}$ | $\mathbf{0 . 4 1 9}$ | $\mathbf{0 . 5 3 3}$ | $\mathbf{0 . 4 6 2}$ |

Source: Own computation from INDEC, EPH

Table A3: Unemployment rates, Great Buenos Aires

| Birth cohort | Male |  |  | Female |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $18-24$ | $25-29$ | Total | $18-24$ | $25-29$ | Total |
| $1945-49$ | na | 0.009 | 0.009 | na | 0.026 | 0.026 |
| $1950-54$ | 0.032 | 0.008 | 0.021 | 0.058 | 0.032 | 0.048 |
| $1955-59$ | 0.024 | 0.022 | 0.023 | 0.080 | 0.052 | 0.069 |
| $1960-64$ | 0.048 | 0.040 | 0.044 | 0.062 | 0.042 | 0.052 |
| $1965-69$ | 0.075 | 0.107 | 0.098 | 0.095 | 0.128 | 0.117 |
| $1970-74$ | 0.150 | 0.143 | 0.147 | 0.198 | 0.165 | 0.184 |
| $1975-79$ | 0.243 | 0.179 | 0.231 | 0.289 | 0.191 | 0.272 |
| $1980-84$ | 0.312 | 0.090 | 0.225 | 0.422 | 0.102 | 0.308 |
| Total | $\mathbf{0 . 1 8 5}$ | $\mathbf{0 . 1 0 7}$ | $\mathbf{0 . 1 5 2}$ | $\mathbf{0 . 2 3 7}$ | $\mathbf{0 . 1 2 8}$ | $\mathbf{0 . 1 9 3}$ |

Source: Own computation from INDEC, EPH

Table A4: Earning (\$ of 2002) by year and gender

| Years | 18-24 |  |  | 25-29 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Total | Male | Female | Total |
| 1974 | 1252.2 | 922.3 | 1108.1 | 1704.2 | 1114.9 | 1489.7 |
| 1980 | 989.2 | 816.2 | 912.7 | 1423.9 | 1036.8 | 1277.7 |
| 1986 | 856.3 | 694.2 | 780.3 | 1253.3 | 883.1 | 1108.8 |
| 1991 | 606.2 | 539.9 | 576.8 | 852.3 | 740.2 | 806.3 |
| 1992 | 715.1 | 611.7 | 672.7 | 1033.3 | 792.9 | 940.5 |
| 1993 | 766.7 | 625.6 | 711.2 | 1074.8 | 761.1 | 954.7 |
| 1994 | 744.5 | 627.7 | 699.1 | 1153.9 | 869.2 | 1039.0 |
| 1995 | 695.3 | 541.6 | 635.6 | 1023.4 | 778.5 | 925.9 |
| 1996 | 620.0 | 559.3 | 595.4 | 916.0 | 716.2 | 839.7 |
| 1997 | 620.8 | 570.1 | 601.5 | 893.3 | 784.0 | 853.9 |
| 1998 | 640.3 | 537.4 | 598.9 | 973.6 | 729.6 | 875.2 |
| 1999 | 599.4 | 527.9 | 569.3 | 901.6 | 801.3 | 856.7 |
| 2000 | 571.8 | 518.6 | 550.0 | 876.2 | 763.8 | 828.5 |
| 2001 | 554.1 | 465.2 | 517.1 | 812.0 | 740.3 | 780.9 |
| 2002 | 370.4 | 312.6 | 344.7 | 573.2 | 433.7 | 513.0 |
| Total | 691.0 | 583.1 | 646.3 | 1006.8 | 777.0 | 914.5 |

Source: Own computation from INDEC, EPH

Table A5: Attendance rates, Great Buenos Aires

| Birth cohort | Male |  |  | Female |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $18-24$ | $25-29$ | Total | $18-24$ | $25-29$ | Total |
| $1945-49$ | na | 0.108 | 0.108 | na | 0.061 | 0.061 |
| $1950-54$ | 0.239 | 0.071 | 0.170 | 0.152 | 0.044 | 0.103 |
| $1955-59$ | 0.316 | 0.131 | 0.241 | 0.254 | 0.081 | 0.184 |
| $1960-64$ | 0.308 | 0.096 | 0.206 | 0.265 | 0.063 | 0.167 |
| $1965-69$ | 0.300 | 0.103 | 0.161 | 0.261 | 0.096 | 0.149 |
| $1970-74$ | 0.290 | 0.135 | 0.231 | 0.338 | 0.142 | 0.257 |
| $1975-79$ | 0.348 | 0.178 | 0.320 | 0.419 | 0.205 | 0.386 |
| $1980-84$ | 0.521 | 0.074 | 0.396 | 0.553 | 0.096 | 0.429 |
| Total | $\mathbf{0 . 3 5 2}$ | $\mathbf{0 . 1 1 8}$ | $\mathbf{0 . 2 6 6}$ | $\mathbf{0 . 3 8 7}$ | $\mathbf{0 . 1 1 5}$ | $\mathbf{0 . 2 8 4}$ |

Source: Own computation from INDEC, EPH

Table A6a: School achievement (18-24), Great Buenos Aires

|  | Males |  |  |  |  | Females |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Birth cohort |  | Primary | Sec. | Superior | Total | Less than primary | Primary | Sec. | Superior | Total |
| 1950-54 | 9.8 | 52.4 | 36.5 | 1.4 | 100.0 | 15.1 | 50.8 | 31.9 | 2.2 | 100.0 |
| 1955-59 | 22.9 | 48.1 | 28.3 | 0.7 | 100.0 | 17.7 | 44.9 | 34.3 | 3.1 | 100.0 |
| 1960-64 | 21.7 | 50.0 | 27.7 | 0.6 | 100.0 | 14.2 | 46.7 | 34.6 | 4.4 | 100.0 |
| 1965-69 | 11.2 | 49.4 | 38.1 | 1.3 | 100.0 | 6.9 | 46.6 | 39.9 | 6.6 | 100.0 |
| 1970-74 | 4.5 | 54.7 | 39.4 | 1.3 | 100.0 | 3.5 | 43.0 | 48.5 | 5.0 | 100.0 |
| 1975-79 | 4.0 | 55.5 | 39.0 | 1.5 | 100.0 | 2.9 | 41.5 | 51.8 | 3.8 | 100.0 |
| 1980-84 | 3.3 | 59.1 | 37.0 | 0.5 | 100.0 | 1.5 | 47.8 | 50.5 | 0.3 | 100.0 |
| Total | 6.2 | 54.8 | 37.8 | 1.2 | 100.0 | 4.6 | 44.1 | 47.6 | 3.7 | 100.0 |

Source: Own computation from INDEC, EPH

Table A6b: School achievement (25-29), Great Buenos Aires

| Birth <br> cohort | Less <br> than <br> primary | Primary | Sec. | Superior | Total | Less <br> than <br> primary | Primary | Sec. | Superior | Total |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |  |  |  |  |  |
| $1945-49$ | 21.2 | 50.7 | 24.6 | 3.5 | 100.0 | 19.8 | 48.2 | 23.7 | 8.3 | 100.0 |
| $1950-54$ | 26.8 | 44.9 | 23.0 | 5.3 | 100.0 | 16.5 | 50.1 | 24.8 | 8.7 | 100.0 |
| $1955-59$ | 22.4 | 44.4 | 26.4 | 6.9 | 100.0 | 15.0 | 42.0 | 34.8 | 8.2 | 100.0 |
| $1960-64$ | 13.2 | 46.6 | 31.7 | 8.5 | 100.0 | 12.7 | 39.2 | 32.6 | 15.5 | 100.0 |
| $1965-69$ | 4.5 | 49.6 | 35.6 | 10.3 | 100.0 | 5.6 | 42.4 | 36.3 | 15.7 | 100.0 |
| $1970-74$ | 3.3 | 50.5 | 36.3 | 10.0 | 100.0 | 4.3 | 39.0 | 39.8 | 16.9 | 100.0 |
| $1975-79$ | 3.0 | 50.0 | 39.8 | 7.1 | 100.0 | 2.1 | 40.2 | 42.8 | 14.8 | 100.0 |
| $1980-84$ | 5.4 | 49.3 | 33.1 | 12.2 | 100.0 | 4.8 | 41.2 | 35.1 | 18.9 | 100.0 |
| Total | 7.1 | 49.3 | 34.4 | 9.3 | 100.0 | 6.9 | 41.5 | 36.4 | 15.2 | 100.0 |

Source: Own computation from INDEC, EPH

Table A7a: Typology uses of time (18-24), Great Buenos Aires

| Birth cohort | Males |  |  |  |  | Females |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | study only | work <br> and <br> study | work only | Neither studies nor works | Total | study <br> only | work <br> and <br> study | work only | Neither studies nor works | Total |
| 1950-54 | 10.0 | 13.9 | 69.8 | 6.3 | 100 | 9.0 | 6.2 | 50.0 | 34.8 | 100.0 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | 100. |
| 1955-59 | 18.3 | 13.2 | 65.3 | 3.2 | 100 | 17.4 | 7.9 | 44.9 | 29.7 | 0 |
|  |  |  |  |  |  |  |  |  |  | 100. |
| 1960-64 | 21.3 | 9.5 | 59.0 | 10.2 | 100 | 19.3 | 7.2 | 39.6 | 33.9 | 0 |
|  |  |  |  |  |  |  |  |  |  | 100. |
| 1965-69 | 15.0 | 15.0 | 66.0 | 4.1 | 100 | 15.9 | 10.2 | 47.3 | 26.6 | 0 |
|  |  |  |  |  |  |  |  |  |  | 100. |
| 1970-74 | 13.8 | 15.2 | 68.2 | 2.7 | 100 | 18.5 | 15.3 | 43.7 | 22.5 | 0 |
|  |  |  |  |  |  |  |  |  |  | 100. |
| 1975-79 | 17.4 | 17.4 | 60.8 | 4.4 | 100 | 23.4 | 18.5 | 39.3 | 18.8 | 0 |
|  |  |  |  |  |  |  |  |  |  | 100. |
| 1980-84 | 36.4 | 15.7 | 42.6 | 5.2 | 100 | 39.4 | 15.9 | 24.9 | 19.8 | 0 |
|  |  |  |  |  |  |  |  |  |  | 100. |
| Total | 19.4 | 15.8 | 60.5 | 4.3 | 100 | 23.5 | 15.3 | 39.1 | 22.1 | 0 |

Source: Own computation from INDEC, EPH

Table A7b: Typology uses of time (25-29), Great Buenos Aires

| Birth cohort | Males |  |  |  |  | Females |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | study only | work and study | work <br> only | Neither studies nor works | Total | study <br> only | work and study | work only | Neither studies nor works | Total |
| 1945-49 | 1.6 | 9.2 | 88.3 | 0.9 | 100 | 3.7 | 2.4 | 41.7 | 52.2 | 100.0 |
| 1950-54 | 1.8 | 5.3 | 92.5 | 0.3 | 100 | 2.2 | 2.2 | 41.0 | 54.6 | 100.0 |
| 1955-59 | 2.7 | 10.5 | 85.0 | 1.9 | 100 | 2.7 | 5.4 | 47.7 | 44.2 | 100.0 |
| 1960-64 | 2.1 | 7.5 | 88.3 | 2.0 | 100 | 2.9 | 3.4 | 51.4 | 42.2 | 100.0 |
| 1965-69 | 1.3 | 9.0 | 88.2 | 1.6 | 100 | 3.0 | 6.6 | 54.5 | 35.9 | 100.0 |
| 1970-74 | 2.4 | 11.2 | 84.2 | 2.3 | 100 | 4.0 | 10.3 | 55.1 | 30.7 | 100.0 |
| 1975-79 | 3.1 | 14.7 | 79.5 | 2.7 | 100 | 6.1 | 14.4 | 55.0 | 24.6 | 100.0 |
| 1980-84 | 0.6 | 6.8 | 89.6 | 3.0 | 100 | 2.6 | 7.1 | 53.5 | 36.8 | 100.0 |
| Total | 1.9 | 10.0 | 86.1 | 2.0 | 100 | 3.6 | 7.9 | 52.8 | 35.7 | 100.0 |

Source: Own computation from INDEC, EPH

## Appendix B: Regressions

Table B1: Description of the variables

| Variable | Description | Obs | Mean | Std. Dev | Min | Max |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: |
| gen | Male $=1$ | 33119 | 0.488 | 0.500 | 0.000 | 1.000 |
| age | Age (years) | 33119 | 23.204 | 3.435 | 18.000 | 29.000 |
| age1 | 18-24=1 | 33119 | 0.623 | 0.485 | 0.000 | 1.000 |
| asiste | attending=1 | 32260 | 0.260 | 0.438 | 0.000 | 1.000 |
| edu1 | Less than primary $=1$ | 32701 | 0.076 | 0.266 | 0.000 | 1.000 |
| edu2 | Primary complete $=1$ | 32701 | 0.221 | 0.415 | 0.000 | 1.000 |
| edu3 | Incomplete secondary $=1$ | 32701 | 0.266 | 0.442 | 0.000 | 1.000 |
| edu4 | Secondary complete=1 | 32701 | 0.379 | 0.485 | 0.000 | 1.000 |
| edu5 | complete superior=1 | 32701 | 0.057 | 0.232 | 0.000 | 1.000 |
| h082 | Spouse=1 | 33119 | 0.166 | 0.372 | 0.000 | 1.000 |
| h083 | Children=1 | 33119 | 0.576 | 0.494 | 0.000 | 1.000 |
| g4549 | 1945-49 | 33119 | 0.033 | 0.178 | 0.000 | 1.000 |
| g5054 | 1950-54 | 33119 | 0.056 | 0.230 | 0.000 | 1.000 |
| g5559 | 1955-59 | 33119 | 0.060 | 0.238 | 0.000 | 1.000 |
| g6064 | 1960-64 | 33119 | 0.066 | 0.248 | 0.000 | 1.000 |
| g6569 | 1965-69 | 33119 | 0.160 | 0.366 | 0.000 | 1.000 |
| g7074 | 1970-74 | 33119 | 0.264 | 0.441 | 0.000 | 1.000 |
| g7579 | 1975-79 | 33119 | 0.256 | 0.437 | 0.000 | 1.000 |
| g8084 | 1980-84 | 33119 | 0.105 | 0.305 | 0.000 | 1.000 |
| conac | In the labor force=1 | 33077 | 0.703 | 0.457 | 0.000 | 1.000 |
| ocupa | employment=1 | 33077 | 0.592 | 0.491 | 0.000 | 1.000 |
| desoc | Unemployment=1 | 23244 | 0.157 | 0.364 | 0.000 | 1.000 |
| lnw | logarithm wage (months) | 16916 | 6.456 | 0.695 | 1.917 | 9.573 |
| lnhor | logarithm wage (hours) | 18100 | 3.661 | 0.526 | 0.000 | 4.942 |
| sopor1 | Children (<14)/members | 33119 | 0.145 | 0.191 | 0.000 | 0.857 |
| sopor2 | Older (>74)/members | 33119 | 0.011 | 0.053 | 0.000 | 0.750 |
| sopor3 | Members/Workers household | 33077 | 0.310 | 0.202 | 0.000 | 0.857 |
| lnv | Logarithm not labor income | 24118 | 7.056 | 0.909 | -29.805 | 10.760 |
| dtv | Unemployment rate (males) | 33119 | 9.659 | 5.620 | 1.400 | 19.900 |
| dtm | Unemployment rate (males) | 33119 | 12.951 | 6.497 | 3.200 | 21.800 |

Source: Own computation from INDEC, EPH

Table B2: Participation functions (probit)

| Variable/Category | All |  |  | Males |  |  | Females |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Coeff. |  | S. E. | Coeff. |  | S. E. | Coeff. |  | S. E. |
| Gender |  |  |  |  |  |  |  |  |  |
| Male | 0.671 | * | 0.022 |  |  |  |  |  |  |
| Education |  |  |  |  |  |  |  |  |  |
| Less than primary | -0.329 | * | 0.048 | -0.699 | * | 0.085 | -0.189 | * | 0.061 |
| Incomplete secondary | 0.089 | * | 0.029 | 0.061 |  | 0.058 | 0.134 | * | 0.036 |
| Complete secondary | 0.576 | * | 0.031 | 0.447 | * | 0.063 | 0.634 | * | 0.036 |
| Complete superior | 1.268 | * | 0.063 | 0.542 | * | 0.167 | 1.390 | * | 0.067 |
| Attendance |  |  |  |  |  |  |  |  |  |
| Yes | -1.174 | * | 0.025 | -1.520 | * | 0.043 | -0.909 | * | 0.032 |
| Age group |  |  |  |  |  |  |  |  |  |
| 18-24 | -0.328 | * | 0.026 | -0.469 | * | 0.051 | -0.281 | * | 0.030 |
| House position |  |  |  |  |  |  |  |  |  |
| Spouse | -1.037 | * | 0.034 | 0.086 |  | 0.329 | -0.713 | * | 0.039 |
| Children | -0.004 |  | 0.027 | -0.226 | * | 0.048 | 0.177 | * | 0.036 |
| Birth Cohort |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | ** |  |
| 1945-49 | 0.416 | * | 0.089 | 1.469 | * | 0.305 | 0.149 | * | 0.091 |
| 1950-54 | 0.503 | * | 0.068 | 0.879 | * | 0.132 | 0.309 | * | 0.071 |
| 1955-59 | 0.474 | * | 0.065 | 0.797 | * | 0.124 | 0.305 | * | 0.067 |
|  |  |  |  |  |  |  |  | ** |  |
| 1960-64 | 0.231 | * | 0.060 | 0.380 | * | 0.111 | 0.110 | * | 0.062 |
| 1965-69 | 0.386 | * | 0.041 | 0.714 | * | 0.083 | 0.271 | * | 0.043 |
| 1970-74 | 0.398 | * | 0.031 | 0.607 | * | 0.057 | 0.311 | * | 0.036 |
| 1975-79 | 0.300 | * | 0.029 | 0.371 | * | 0.049 | 0.255 | * | 0.035 |
| Household restrictions |  |  |  |  |  |  |  |  |  |
| Children (<14)/members | -0.564 | * | 0.064 | 0.682 | * | 0.140 | -0.857 | * | 0.077 |
| Older (>74)/members | 0.288 |  | 0.183 | 0.640 | * | 0.319 | 0.291 |  | 0.225 |
| Members/Workers household | 0.916 | * | 0.062 | 1.173 | * | 0.101 | 0.699 | * | 0.082 |
| Not labor income |  |  |  |  |  |  |  |  |  |
| Natural logarithm | -0.213 | * | 0.013 | -0.229 | * | 0.024 | -0.168 | * | 0.016 |
| Macroeconomic context |  |  |  |  |  |  |  |  |  |
| Unemployment rate (male) | -0.004 |  | 0.006 | -0.006 |  | 0.010 |  |  |  |
|  |  | ** |  |  | * |  |  |  |  |
| Unemployment rate (female) | 0.009 | * | 0.005 | 0.023 | * | 0.009 |  |  |  |
| Constant | 1.597 | * | 0.107 | 2.415 | * | 0.188 | 1.202 | * | 0.114 |
| Pseudo R ${ }^{2}$ |  | 0.257 |  |  | 0.329 |  |  | 0.174 |  |
| Sample size |  | 24017 |  |  | 10686 |  |  | 13331 |  |

*, **, and $* * *$ significant at the $0.01,0.05$ and 0.1 levels, respectively.

Table B3: Participation functions (probit)

| Variable/Category | Sons and Daughters |  |  | Sons |  |  | Daughters |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Coeff. |  | S. E. | Coeff. |  | S. E. | Coeff. |  | S. E. |
| Gender |  |  |  |  |  |  |  |  |  |
| Male | 0.554 | * | 0.030 |  |  |  |  |  |  |
| Education |  |  |  |  |  |  |  |  |  |
| Less than primary | -0.632 | * | 0.085 | -0.801 | * | 0.117 | -0.570 | * | 0.129 |
| Incomplete secondary | 0.129 | * | 0.049 | 0.068 |  | 0.076 | 0.217 | * | 0.068 |
| Complete secondary | 0.694 | * | 0.052 | 0.516 | * | 0.083 | 0.870 | * | 0.070 |
| Complete superior | 1.322 | * | 0.129 | 1.029 | * | 0.324 | 1.571 | * | 0.146 |
| Attendance |  |  |  |  |  |  |  |  |  |
| Yes | -1.333 | * | 0.036 | -1.543 | * | 0.054 | -1.156 | * | 0.048 |
| Age group |  |  |  |  |  |  |  |  |  |
| 18-24 | -0.314 | * | 0.047 | -0.466 | * | 0.076 | -0.303 | * | 0.060 |
| Birth Cohort |  |  |  |  |  |  |  |  |  |
| 1945-49 | 0.444 | * | 0.170 | 1.413 | * | 0.423 | -0.013 |  | 0.192 |
| 1950-54 | 0.715 | * | 0.108 | 0.951 | * | 0.166 | 0.435 | * | 0.129 |
| 1955-59 | 0.749 | * | 0.098 | 0.873 | * | 0.150 | 0.497 | * | 0.114 |
| 1960-64 | 0.330 | * | 0.089 | 0.395 | * | 0.131 | 0.125 |  | 0.109 |
| 1965-69 | 0.583 | * | 0.069 | 0.889 | * | 0.106 | 0.281 | * | 0.087 |
| 1970-74 | 0.556 | * | 0.056 | 0.779 | * | 0.084 | 0.337 | * | 0.073 |
| 1975-79 | 0.319 | * | 0.057 | 0.413 | * | 0.084 | 0.234 | * | 0.074 |
| Household restrictions |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | * |  |  |  |  |
| Children (<14)/members | -0.054 |  | 0.121 | 0.385 | * | 0.194 | -0.215 |  | 0.161 |
| Older (>74)/members | 0.782 | * | 0.304 | 1.510 | * | 0.484 | 0.429 |  | 0.404 |
| Members/Workers household | 0.757 | * | 0.091 | 0.917 | * | 0.135 | 0.620 | * | 0.125 |
| Characteristics of household head |  |  |  |  |  |  |  |  |  |
| Male | -0.176 | * | 0.040 | -0.168 | * | 0.064 | -0.204 | * | 0.052 |
| Education (years) | -0.014 | * | 0.004 | -0.027 | * | 0.006 | -0.004 |  | 0.006 |
| Not labor income |  |  |  |  |  |  |  |  |  |
| Natural logarithm | -0.182 | * | 0.023 | -0.120 | * | 0.035 | -0.225 | * | 0.032 |
| Macroeconomic context |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | * |  |  |  |  |
| Unemployment rate (male) | -0.012 |  | 0.013 | -0.040 | * | 0.018 |  |  |  |
| Unemployment rate (female) | 0.026 | * | 0.010 | 0.053 | * | 0.014 |  |  |  |
| Constant | 1.430 | * | 0.171 | 1.635 | * | 0.254 | 1.934 | * | 0.212 |
| Pseudo R ${ }^{2}$ |  | 0.258 |  |  | 0.307 |  |  | 0.207 |  |
| Sample size |  | 10919 |  |  | 5780 |  |  | 5139 |  |

*, **, and ${ }^{* * *}$ significant at the $0.01,0.05$ and 0.1 levels, respectively.

Table B4: Employment equations (probit bivartiate)

| Variable/Category | All |  |  | Male |  |  | Female |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Coeff. |  | S. E. | Coeff. |  | S. E. | Coeff. |  | S. E. |
| Gender |  |  |  |  |  |  |  |  |  |
| Male | 0.694 | * | 0.019 |  |  |  |  |  |  |
| Education |  |  |  |  |  |  |  |  |  |
| Less than primary | -0.328 | * | 0.029 | -0.244 | * | 0.059 | -0.384 | * | 0.033 |
| Incomplete secondary | 0.106 | * | 0.018 | 0.089 | * | 0.035 | 0.126 | * | 0.023 |
| Complete secondary | 0.399 | * | 0.022 | 0.348 | * | 0.041 | 0.454 | * | 0.027 |
| Complete superior | 0.873 | * | 0.041 | 0.722 | * | 0.104 | 0.960 | * | 0.047 |
| Attendance |  |  |  |  |  |  |  |  |  |
| Yes | -0.755 | * | 0.023 | -0.939 | * | 0.034 | -0.600 | * | 0.030 |
| Age group |  |  |  |  |  |  |  |  |  |
| 18-24 | -0.211 | * | 0.022 | -0.322 | * | 0.036 | -0.173 | * | 0.029 |
| Birth Cohort |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | * |  |
| 1945-49 | 0.448 | * | 0.065 | 1.679 | * | 0.229 | 0.206 | * | 0.084 |
| 1950-54 | 0.552 | * | 0.049 | 0.924 | * | 0.087 | 0.395 | * | 0.064 |
| 1955-59 | 0.555 | * | 0.047 | 0.803 | * | 0.081 | 0.448 | * | 0.060 |
| 1960-64 | 0.365 | * | 0.044 | 0.521 | * | 0.071 | 0.273 | * | 0.057 |
| 1965-69 | 0.400 | * | 0.033 | 0.511 | * | 0.052 | 0.348 | * | 0.043 |
| 1970-74 | 0.358 | * | 0.028 | 0.434 | * | 0.042 | 0.305 | * | 0.037 |
| 1975-79 | 0.195 | * | 0.029 | 0.176 | * | 0.041 | 0.204 | * | 0.038 |
| Household restrictions |  |  |  |  |  |  |  |  |  |
| Children (<14)/members | -0.829 | * | 0.058 | 0.426 | * | 0.104 | -1.259 | * | 0.075 |
| Older (>74)/members | 0.218 |  | 0.173 | 0.179 |  | 0.261 | 0.290 |  | 0.222 |
| Members/Workers household | 0.601 | * | 0.054 | 0.831 | * | 0.077 | 0.492 | * | 0.074 |
| Constant | -0.452 | * | 0.042 | 0.140 | * | 0.059 | -0.397 | * | 0.054 |
| Wald test chi2(34) | 6194.8 |  |  | 2699.9 |  |  | 2654.9 |  |  |
| Wald test rho $=0$ (chi2) | 2017.1 |  |  | 230.8 |  |  | 1068.3 |  |  |
| Sample size | 24017 |  |  | 10686 |  |  | 13331 |  |  |

*, **, and $* * *$ significant at the $0.01,0.05$ and 0.1 levels, respectively.

Table B5: Employment equations (probit bivartiate)

| Variable/Category | Sons and Daughters |  |  | Sons |  |  | Daughters |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Coeff. |  | S. E. | Coeff. |  | S. E. | Coeff. |  | S. E. |
| Gender |  |  |  |  |  |  |  |  |  |
| Male | 0.423 | * | 0.027 |  |  |  |  |  |  |
| Education |  |  |  |  |  |  |  |  |  |
| Less than primary | -0.511 | * | 0.059 | -0.387 | * | 0.070 | -0.697 | * | 0.090 |
| Incomplete secondary | 0.104 | * | 0.032 | 0.069 |  | 0.045 | 0.149 | * | 0.043 |
| Complete secondary | 0.475 | * | 0.039 | 0.413 | * | 0.057 | 0.559 | * | 0.053 |
| Complete superior | 0.894 | * | 0.078 | 0.594 | * | 0.150 | 1.065 | * | 0.094 |
| Attendance |  |  |  |  |  |  |  |  |  |
| Yes | -0.894 | * | 0.031 | -0.969 | * | 0.045 | -0.818 | * | 0.043 |
| Age group |  |  |  |  |  |  |  |  |  |
| 18-24 | -0.292 | * | 0.039 | -0.288 | * | 0.056 | -0.314 | * | 0.055 |
| Birth Cohort |  |  |  |  |  |  |  |  |  |
| 1945-49 | 0.579 | * | 0.142 | 1.492 | * | 0.355 | 0.222 |  | 0.174 |
| 1950-54 | 0.684 | * | 0.084 | 0.797 | * | 0.117 | 0.604 | * | 0.121 |
| 1955-59 | 0.655 | * | 0.074 | 0.715 | * | 0.108 | 0.595 | * | 0.101 |
| 1960-64 | 0.373 | * | 0.069 | 0.353 | * | 0.095 | 0.368 | * | 0.098 |
| 1965-69 | 0.439 | * | 0.058 | 0.492 | * | 0.079 | 0.395 | * | 0.083 |
| 1970-74 | 0.409 | * | 0.051 | 0.463 | * | 0.071 | 0.344 | * | 0.074 |
| 1975-79 | 0.115 | ** | 0.052 | 0.145 | * | 0.072 | 0.079 |  | 0.075 |
| House restrictions |  |  |  |  |  |  |  |  |  |
| Children (<14)/members | 0.012 |  | 0.111 | 0.254 |  | 0.158 | -0.157 |  | 0.158 |
|  |  | ** |  |  |  |  |  |  |  |
| Older (>74)/members | 0.494 | * | 0.267 | 0.594 |  | 0.384 | 0.463 |  | 0.378 |
| Members/Workers household | 0.649 | * | 0.079 | 0.645 | * | 0.108 | 0.662 | * | 0.113 |
| Characteristics household head |  |  |  |  |  |  |  |  |  |
| Male | -0.139 | * | 0.035 | -0.080 |  | 0.051 | -0.200 | * | 0.049 |
|  |  |  |  |  | * |  |  |  |  |
| Education (years) | -0.009 | ** | 0.004 | -0.011 | * | 0.005 | -0.008 |  | 0.005 |
| Head employed | -0.032 |  | 0.029 | 0.044 |  | 0.032 | -0.108 |  | 0.037 |
|  |  |  |  |  |  |  |  | ** |  |
| Head unemployed | -0.118 | ** | 0.048 | -0.105 |  | 0.066 | -0.128 | * | 0.066 |
| Constant | -0.051 |  | 0.076 | 0.276 | * | 0.102 | 0.035 |  | 0.106 |
| Wald test chi2(34) | 3085.3 |  |  | 1885.4 |  |  | 1318.5 |  |  |
| Wald test rho=0 (chi2) | 581.7 |  |  | 0.2 |  |  | 411.1 |  |  |
| Sample size | 10919 |  |  | 5780 |  |  | 5139 |  |  |

*, **, and $* * *$ significant at the $0.01,0.05$ and 0.1 levels, respectively.

Table B6: Earnings functions (Heckman selection model)

| Variable/Category | All |  |  | Male |  |  | Female |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Coeff.. |  | S. E. | Coeff.. |  | S. E. | Coeff.. |  | S. E. |
| Gender |  |  |  |  |  |  |  |  |  |
| Male | 0.225 | * | 0.012 |  |  |  |  |  |  |
| Education |  |  |  |  |  |  |  |  |  |
| Less than primary | -0.113 | * | 0.025 | -0.066 | * | 0.032 | -0.159 | * | 0.041 |
| Incomplete secondary | 0.080 | * | 0.014 | 0.080 | * | 0.017 | 0.093 | * | 0.025 |
| Complete secondary | 0.384 | * | 0.013 | 0.348 | * | 0.017 | 0.427 | * | 0.022 |
| Complete superior | 0.739 | * | 0.021 | 0.824 | * | 0.031 | 0.706 | * | 0.033 |
| Ln hours | 0.604 | * | 0.009 | 0.596 | * | 0.014 | 0.601 | * | 0.012 |
| Age group |  |  |  |  |  |  |  |  |  |
| 18-24 | -0.121 | * | 0.011 | -0.128 | * | 0.015 | -0.094 | * | 0.016 |
| Birth Cohort |  |  |  |  |  |  |  |  |  |
| 1945-49 | 0.871 | * | 0.033 | 0.992 | * | 0.043 | 0.707 | * | 0.050 |
| 1950-54 | 0.818 | * | 0.025 | 0.874 | * | 0.033 | 0.720 | * | 0.039 |
| 1955-59 | 0.633 | * | 0.025 | 0.650 | * | 0.032 | 0.588 | * | 0.037 |
| 1960-64 | 0.438 | * | 0.024 | 0.443 | * | 0.032 | 0.420 | * | 0.035 |
| 1965-69 | 0.304 | * | 0.018 | 0.270 | * | 0.024 | 0.324 | * | 0.028 |
| 1970-74 | 0.225 | * | 0.017 | 0.214 | * | 0.022 | 0.221 | * | 0.025 |
| 1975-79 | 0.069 | * | 0.017 | 0.049 | * | 0.022 | 0.084 | * | 0.026 |
| Lambda | 0.144 | * | 0.017 | 0.059 | * | 0.026 | 0.140 | * | 0.024 |
| Constant | 3.596 | * | 0.042 | 3.894 | * | 0.059 | 3.585 | * | 0.061 |
| Number of observations |  | 20282 |  |  | 8762 |  |  | 1520 |  |
| Censored |  | 8004 |  |  | 1883 |  |  | 6121 |  |
| Wald test chi2(24/22/22) |  | 0369.6 |  |  | 031.9 |  |  | 652.6 |  |

*, **, and ${ }^{* * *}$ significant at the $0.01,0.05$ and 0.1 levels, respectively.

Table B7: Earnings functions (Heckman selection model)

| Variable/Category | Sons and Daughters |  |  | Sons |  |  | Daughters |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Coeff. |  | SE | Coeff. |  | SE | Coeff. |  | SE |
| Gender |  |  |  |  |  |  |  |  |  |
| Male | 0.176 | * | 0.014 |  |  |  |  |  |  |
| Education |  |  |  |  |  |  |  |  |  |
|  |  | * |  |  | ** |  |  |  |  |
| Less than primary | -0.102 | * | 0.042 | -0.093 | * | 0.050 | -0.093 |  | 0.074 |
| Incomplete secondary | 0.064 | * | 0.019 | 0.066 | * | 0.023 | 0.071 | * | 0.034 |
| Complete secondary | 0.326 | * | 0.018 | 0.306 | * | 0.022 | 0.361 | * | 0.030 |
| Complete superior | 0.602 | * | 0.029 | 0.690 | * | 0.048 | 0.596 | * | 0.042 |
| Ln hours | 0.596 | * | 0.013 | 0.578 | * | 0.020 | 0.609 | * | 0.018 |
| Age group |  |  |  |  |  |  |  |  |  |
| 18-24 | -0.097 | * | 0.016 | -0.097 | * | 0.022 | -0.084 | * | 0.024 |
| Birth Cohort |  |  |  |  |  |  |  |  |  |
| 1945-49 | 0.855 | * | 0.057 | 0.911 | * | 0.079 | 0.808 | * | 0.080 |
| 1950-54 | 0.749 | * | 0.037 | 0.763 | * | 0.049 | 0.720 | * | 0.055 |
| 1955-59 | 0.575 | * | 0.035 | 0.560 | * | 0.047 | 0.579 | * | 0.051 |
| 1960-64 | 0.390 | * | 0.032 | 0.368 | * | 0.043 | 0.415 | * | 0.048 |
| 1965-69 | 0.208 | * | 0.028 | 0.156 | * | 0.038 | 0.263 | * | 0.042 |
| 1970-74 | 0.165 | * | 0.027 | 0.140 | * | 0.036 | 0.182 | * | 0.040 |
| 1975-79 | -0.014 |  | 0.027 | -0.048 |  | 0.037 | 0.025 |  | 0.041 |
| Lambda | 0.169 | * | 0.023 | 0.105 | * | 0.031 | 0.203 | * | 0.035 |
| Constant | 3.733 | * | 0.060 | 4.029 | * | 0.085 | 3.615 | * | 0.084 |
| Number of observations |  | 9125 |  |  | 4781 |  |  | 4344 |  |
| Censored |  | 3067 |  |  | 1226 |  |  | 1841 |  |
| Wald test chi2(24/22/22) |  | 4763.1 |  |  | 2325.7 |  |  | 2298.6 |  |

[^5]
## Appendix C: Graphs




Graph C3
Unemployment rates (18-29) by birth cohort and gender Great Buenos Aires


Graph C4
Earning by gender (18-24)
Great Buenos Aires, 1974-2002


## Graph C5

Earning by gender (25-29)
Great Buenos Aires, 1974-2002


## Graph C6a

Educational Achievement Indicators
Males (25-29), Great Buenos Aires, 1974-2002


## Graph C6b

Educational Achievement Indicators
Females (25-29), Great Buenos Aires, 1974-2002


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[^0]:    ${ }^{1}$ This document presents some of the advances of the research project called "Urban Female Employment in Argentina," which is promoted by Educate Girls Globally (EGG), a non-government organization, and financed by the Inter-American Development Bank. The overall objective of the project is to analyze the relationship between secondary education and the labor market for young women in Argentina. The opinions and conclusions expressed in this paper are those of the author and do not necessarily reflect the opinions or policy of the sponsoring institutions.

[^1]:    2 "This phenomenon is likely to have introduced important changes in the social or economic of structure of household, mainly due to the increasing participation of women in the labor force" (Sosa Escudero and Marchionni, 1999).
    ${ }^{3}$ The importance on the role of government on the trends in education levels in developing countries it is analyzed, among others, by King and Lillard (1987) and Deininger (2003).

[^2]:    ${ }^{4}$ Up to year 2002, the EPH was conducted twice a year. Since May 2003, the on-going EPH was finally put in place, presenting some changes in data capture instruments as well as in survey methodology.
    ${ }^{5}$ With the exception of year 1990, our database contains almost every year in the decade of the nineties, which was crucial for the economic and social development of Argentina. In these years, the labor market shows traits that will define its current situation - high and persistent unemployment and an uncontrolled increase in labor precariousness. From the point of view of education, in 1993 the Federal Education Law becomes effective. It is the first major structural transformation of the educational system, and substitutes Law 1420, from 1884.

[^3]:    ${ }^{6}$ Some evidence supports this hypothesis: while the proportion of household heads among youth is approximately $7 \%$, among young adults it rises to $27 \%$. Something similar occurs with those who report to be spouses - $9 \%$ for the former group and $28 \%$ for the latter.

[^4]:    ${ }^{7}$ Although it is not directly related with our specific research topic, it is worth noting the clear increase in the proportion of young women aged between 25 and 29 who report to have concluded higher studies. The steadily rising trend of female educational achievement draws a contrast with the erratic behavior of this indicator among male individuals of the same age group. This result is coherent with the trend observed for school attendance among the 25-29 year group. The higher attendance of young women is clearly reflected in the higher educational achievement of this demographic segment.
    ${ }^{8}$ See, for example, Filmus et al. (2003) and ILO (2004).

[^5]:    *, **, and ${ }^{* * *}$ significant at the $0.01,0.05$ and 0.1 levels, respectively.

