

# **OCCUPATIONAL INSTABILITY OF YOUNG WORKERS. SOME EVIDENCES FOR ARGENTINA**

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## **Abstract**

The study of occupational instability –transitions in and out of employment and between different occupations– is of great importance not only in order to improve the understanding of the functioning of the labor market, but also to evaluate the dynamics of the workers' households' welfare. In particular, the analysis of labor dynamics allows to take into account one of the important dimensions of the Argentine labor market because it gives evidences about the intensity and characteristics of labor turnover and income instability, This is very relevant for the case of the young, given that, apart from facing higher unemployment rates than adults, young workers insert with a higher probability in precarious jobs, characterized by a higher instability.

The main aim of this paper is to analyze and characterize the labor turnover of the young workers in the Argentine labor market. In particular, to investigate if younger people face higher risks of leaving a given occupation and, in that case, the possible reasons for this phenomenon. For this, the econometric approach will be based on two parts: on the one hand, the analysis of the probabilities of leaving a job; on the other hand, the modeling of the different destinations of those who leave an occupation. For this purpose, the paper applies duration models through a semi-parametric specification from a complementay log-log model

This study is the first attempt to model the occupational dynamics of young workers in Argentina based on duration models. Using micro-data from Permanent Household Survey (EPH) corresponding to 28 main urban areas from 1995 to 2003, hazard functions for young workers are estimated and then compared with those of other groups of workers, controlling by other characteristics of the individuals and their jobs.

Evidence suggests that young people present greater instability and, therefore, a smaller survival rate in the occupation. Also, when young workers are dismissed or quit to a certain job, they face higher probabilities of going to economic inactivity or unemployment than of going to another occupation, in comparison to adults. Therefore, in general terms, the high degree of labor instability that face the young workers cannot be understood as a sign of efficient resource allocation in the labor market but rather as a consequence of the reduced overall availability of jobs that affects this group strongly.

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## INTRODUCTION

The study of occupational instability –transitions in and out of employment and between different occupations– is of great importance not only in order to improve the understanding of the functioning of the labor market, but also to evaluate the dynamics of the workers' households' welfare.

An increase in occupational rotation that takes place together with a rise of unemployment tends to affect welfare in a negative way, while widening the fluctuations of income and, therefore, increasing the uncertainty of households about future income. This situation is particularly difficult for families with low income, since it is associated to higher levels of vulnerability to social risks. Besides, frequent rotation among different jobs - with or without episodes of unemployment in between - might be associated to low (or none) coverage by the social security and could threaten the degree of social integration of the individual.

High occupational mobility might not allow workers to acquire general or specific skills on a job. For the case of youth who abandon school in order to take part of the labor force, the lack of formal education and the absence of possibilities of learning on the job might negatively affect their future opportunities of inserting in a high quality job.

During the nineties, open unemployment in Argentina reached unprecedented high levels while the incidence of precarious employment also grew. Both phenomena led to higher occupational instability, as short-term occupations are typical among unregistered jobs. Occupational turnover might also have been stimulated by modifications introduced to labor regulations such as the establishment of new types of fixed-term, lower cost contracts and the trial period.<sup>1</sup> Therefore, higher unemployment has been accompanied by increasing occupational turnover during the last decade of the 20<sup>th</sup> century, even beyond the effects of macroeconomic instability that characterized that period.

This instability shown by the Argentine labor market during the nineties does not homogeneously affect all workers. On the contrary, there were groups that experienced higher rotation rates than others. Particularly, young people and women constitute groups under risk facing lower survival rates in a particular job and, consequently, higher probabilities of leaving to another job, unemployment or inactivity.

The aims of this paper are, in the first place, to analyze and characterize the labor turnover of the young workers in the Argentine labor market. In particular, to investigate if younger people face higher risks to leave a given occupation in relation to adult workers. In that case, in the second place, to investigate the possible reasons for the higher instability and, specifically, to distinguish

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<sup>1</sup> Hopenhayn (2001) analyzed the effects of regulations on instability in Argentina. Similar studies for other countries can be found in Saavedra and Torero (2000), for Peru, and in Calderón-Madrid (2000) for Mexico.

voluntary and involuntary transitions among young workers. Finally, for the latter group, to characterize them according to different attributes, especially, their educational level and family income in order to verify the existence of inequities in the opportunities in the labor market.

For this, the econometric approach will be based on two parts: on the one hand, the analysis of the probabilities of leaving a job; on the other hand, the modeling of the different destinations of those who leave an occupation.

This study is the first attempt to model the occupational dynamics of young workers in Argentina based on duration models. Using micro-data from the official regular household survey – Permanent Household Survey (EPH) –, hazard functions for young workers are estimated and then compared with those of other groups of workers, controlling by other characteristics of the individuals and their jobs.

## 1. DATA

Data on labor market transitions used in this paper are taken from the regular household survey of Argentina, the Encuesta Permanente de Hogares (EPH) carried out by the National Statistical Office (INDEC), which covers urban areas and collects information especially on labor market variables. This work uses micro data corresponding to 28 main urban areas from 1995 to 2003,<sup>2</sup> the period for which the information necessary for this kind of study is available. In order to have enough observations, transitions of the October 1995 – May 2003 period have been pooled.

Panels of data corresponding to four waves were constructed for those individuals who stay on the sample during the four moments of observation and where employed in at least one of them. By comparing the situation of an individual in a given wave to that of the same person in the following one (i.e. five or seven months later), it is possible to assess if he/she has experienced changes in diverse variables, including occupational variables. Additionally to using the panel structure of the sample, this paper also uses retrospective information in order to apply duration models. Specifically, we analyze the labor instability of the current employed at the moment of the interview. All those people are asked about how long she/he has been at her/his present job, information from which we can build the variable “tenure” –one of the most important variables in labor duration models–. From this information only the incomplete duration of the episode can be drawn. However, the fact of being able to observe the individuals in four successive waves allows to know which of these episodes come to an end during the period of observation. In these cases an approximation of the complete duration can be known. In the episodes which are still in progress at the time of the fourth interview, their duration is right censored because the only fact that we know

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<sup>2</sup> In 2003 the EPH underwent methodological changes and started publishing quarterly results. The last information available obtained with the traditional methodology is for May 2003. For details about the survey’s methodology, see [www.indec.gov.ar](http://www.indec.gov.ar).

is that the complete duration is as a minimum (i.e. longer than) the elapsed tenure in the last observation.

Also, the same variable “job tenure” *in*  $t+1$  is used in order to identify whether a person employed both in  $t$  and in  $t+1$  remained in the same job or moved to another one. When individuals who are employed in two successive moments answer to the question about job tenure more than five (for those interviewed in October) or seven (for those interviewed in May) months, it is considered that the person did not change jobs. The survey does not investigate the causes associated to job separation; hence, it is not possible to distinguish a dismissal from a voluntary quitting.<sup>3</sup>

The analysis is restricted to individuals between 15 and 64 years old in the case of men and up to 59 in the case of women. This is due to the fact that 65 and 60 are, respectively, the ages of compulsory retirement in Argentina and the restrictions aim at minimizing the bias that could arise due to transitions to inactivity by older people. The study is also restricted to those workers who inform having been at the same job not more than 60 months. Finally, individuals who work for public employment programs have been excluded from the analysis. The final sample contains 68.219 individuals from which 17.671 (26%) have experienced multiple employment events: 14.461 (21.2%) two, 2.925 (4.3%) three events or 285 (0.4%) four events.<sup>4</sup>

## 2. THE CHARACTERISTICS OF YOUNG WORKERS

In this work, individuals have been classified as young if they are from 15 to 25 years old<sup>5</sup>. Also, in some cases, two different subgroups were distinguished: adolescents (15-17 years old) and young adults (18-25 years old) in order to capture different behavior in the labor market.

This section characterizes the young people who belong to the labor force, making a distinction between those who are employed and those who are unemployed, and by comparing these with two reference groups: inactive young and active adult people.

First of all, it is important to analyze the relationship between the attendance to an educational institution, the educational level and the rate of participation in the labor market. As shown in Table 1, among the young labor force the attendance rate is lower than for the inactive young people (26% and 80% respectively). Different reasons could account for this. One might be that individuals in

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<sup>3</sup> By using the whole longitudinal dataset (the four interviews of each individual) it is also possible to account for multiple occupation events that can be experienced by each individual, a goal that is not attainable by using data of two successive waves as it is usual in previous studies about this topic for the Argentine labor market.

<sup>4</sup> Data on transitions coming from this source face limitations. However, the information to be used provides a reasonable picture of labor market dynamics, since it makes it possible to identify almost every type of transition experienced by workers.

<sup>5</sup> The reason for the selection of the lower limit is based on ILO declarations. In particular, 15 years old is the minimum age to work according to the Convention C138 (Minimum age convention, 1973). The upper limit coincides with the age at which a career should be finished without delay.

the first group are older than the others (in average) and, thus, could already have completed secondary school but did not continue studying at university. In order to take this factor into account, Table 1 also presents the figures of young people that left school uncompleted, defined as those who do not attend an educational institution and have not completed secondary school (school desertion<sup>6</sup>). Observing these results, even controlling for the possible differences by age inside this group, it is the case that young active people and especially unemployed, present higher rates of school desertion (45.5% and nearly 49% respectively) than those who are not part of the labor force (16%). Therefore, these results indicate the existence among young people of an inverse relationship between the attendance to school and participation in the labor force. This fact might be outlining a critical situation in which a group of young might be obliged to leave their studies in order to work for the market and complement the family income.<sup>7</sup>

Given the possible heterogeneity inside the young group, it is important also to consider separately the results for two groups of young individuals: from 15 to 18 years old, enclosing individuals at school age, and between 19 and 25 years old.

Characteristics of the household people live in and their position in it are important facts in their partaking in the labor market. The proportion of household heads is higher for the group of young actives, than for non-actives, explained by the higher percentage of household heads among young adults. On the contrary, as expected, almost all active adolescents insert into the labor market as secondary workers (Table 2). Also, an inverse relationship between young active and household head working is observed (Table 2). In particular, in the case of young people who are not household heads, about 75% of non-actives live in households whose head is employed, while this proportion is 5 p.p. lower for young actives.

Finally, regarding the income level of the household individuals belong to, apparently there are not large differences between the young who enter the labor market and those who do not, especially in the extremes of the income distribution (Table 2). However, the deciles distribution of the young in the labor force results of very different situations in each of the defined subgroups. As shown in Table 2, 35% of young people who are in the labor force at age of attending secondary school live in households of the 1st and 2nd deciles of the per capita income distribution (the poorest households), while only 24% of those who stay inactive belong to that group. Also, while approximately 50% of the young adults (19 to 25 years old) in the labor force live in households in the lower half of the distribution, this figure rises to 73% in the case of adolescents in the labor force. Finally, in comparison, adult labor force is less concentrated in lower deciles than the whole

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<sup>6</sup> School desertion includes school dropouts and and push-outs, given that they cannot be differentiated with the available information.

<sup>7</sup> Also, it is interesting to point out that among young people, 9% deserted school (i.e. her/his educational level is lower than complete secondary school and do not attend to a formal educational institution) and are neither working nor searching a job.

group of young under 26. These results are the expected and consistent with those presented for Argentina by Feldman (1996), who shows, based on national results of the population census of 1991 that the proportion of adolescents from 14 to 17 years old who are part of the labor force is significantly higher among those who lived in poor households. Consistently with this picture, it is also observed that 71% of young actives who desert from school are members of households in the lower half of the income distribution, with a very similar distribution to that of adolescents in the labor force.

In general terms, the higher propensity of being part of the labor force shown by some subgroups of young people could have different explanations. Younger members of the household might have to work in order to help maintaining the households' income, but they might also want to work in order to gain specific skills at a job (or due to other reasons) regardless their households' particular situation. The empirical evidence analyzed shows, on the one hand, a positive correlation between participation in the labor force and school desertion and, on the other hand, a negative relationship with the household economic situation, which would indicate that, at least for a group of young people, the first hypothesis would be true.

After analyzing the participation of young people in the labor force and the relationship with household characteristics and educational attendance, it is relevant to study the characteristics of their jobs. Young workers' performance at the labor market is very different to that of adults. Table 3a shows average activity, employment and unemployment rates for the period 1995-2003. First of all, as expected, activity rate is significantly lower for young than adults. They also perform worse in their search for a job (i.e. they have a higher unemployment rate) and, if they succeed at inserting in the labor market, they do in worse conditions. In particular, nearly 11% of active adults are unemployed while this rate reaches 28% in the case of the young actives. But, as mentioned previously, the difficulties in finding a job are only one aspect of the global hardship that this group faces in the labor market. Compared to adults, young workers are in more precarious occupations, highly concentrated in unregistered positions. Young wage earners who are not covered by social security represent up to 47% of young workers, while the proportion among adults, who are concentrated in registered positions, is of 20 % (Table 3a). Inversely, only 37% of the young work in registered positions, compared to 48% of adults. Inside the group of wage earners, the unregistered jobs represent about 60% for the young workers while this figure falls to a half in the case of adults.<sup>8</sup> Non-wage earners are a smaller proportion of young workers, among whom a very small proportion is employer.

The higher precariousness that face young workers could be associated to the personal characteristics as, for example, educational level or to characteristics of the occupation where they

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<sup>8</sup> Paz (2004) also finds that youngest workers are particularly affected by the lack of protection in their jobs.

work as industry, job skill, etc. However, these figures could also be indicating an occupational segregation phenomenon against this group of workers, resulting in a high proportion of low skill and bad quality jobs being offered to this group. In order to consider both possibilities, Table 3a shows the different mentioned dimensions.

Similar proportions of young and adult workers completed secondary (about 70% in both cases). However, in comparison with young workers, adults are overrepresented both in lower and high educational levels: while 35% of adults only completed primary school, that rate falls to 22% for the young; on the contrary, among adults 17% has an university degree, while only 5% of the young do, probably explained by the difference in age of both groups. For this reason, the fact that there is no complete displacement in the distribution of the educational level between both groups, suggests that the differences in the incidence of precarious jobs are not completely explained by differences in the workers' skills.

In order to observe this aspect in more detail, Table 3b shows the non-registered workers as a percentage of wage earners for each educational level. The young show a higher proportion of non registered jobs that cannot be accounted for only by their educational level. For example, while 22% of adult wage earners with complete secondary school level are working in non-registered jobs, this figure climbs to 44% among young.

Regarding the industry, young workers are highly concentrated in commerce, restaurants and hostelling (30%) and less in manufacturing (in a slightly higher proportion than adults) (Table 3a). On the other hand, the proportion of young public employees (7%) is much smaller than that of adults (17%). In this sense, it is interesting to point out that there are no differences in the relative importance of construction and domestic service between the two groups of workers. If this was the case, it could be accounting for the differences in the proportion of non registered jobs, given the higher precariousness characteristic of these industries. In order to achieve a better understanding of the occupational performance of the young, it is necessary to analyze the kind of occupation they perform in each industry. In particular, it is observed that youth work predominantly as blue collar workers or in other occupations that demand low or no skills at all.

In relation to the skill of the occupations<sup>9</sup>, up to 43% of young workers are employed in unskilled jobs in comparison to 24% of adults. Again, these differences do not necessarily correspond to lower educational levels. As shown in Table 3c, in each educational level, the incidence of unskilled jobs is lower among adult workers. For example, 31% of young workers with

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<sup>9</sup> The skill of an occupation refers to the qualifications required in order to perform the corresponding tasks successfully. According to the Clasificador Nacional de Ocupaciones (INDEC, 1998) four categories are considered: professional, technical, low skill and unskilled.

secondary education and more perform unskilled jobs in comparison to 10% in the case of adults, indicating the potential presence of overeducation phenomena<sup>10</sup>.

Finally, the young work in average fewer hours than adults (Table 3a). Although all workers are concentrated in the group that works more than 35 weekly hours, part time jobs are comparatively more important for young workers. This might be a choice of young workers who study and decide to devote fewer hours to work, or the result of less success in the labor market. This is probably the case for 57% of young workers who work less than 35 hours a week, but informed willingness to work more hours.

Tables 3a and 3b also show figures for the sub-group of young workers who belong to households in the lowest half of the per capita family income distribution (46% of young workers). In almost all analyzed dimensions they show a worse performance in the labor market in comparison with the rest of the young and the adult workers. In particular, in comparison with the all workers, this subgroup has higher unemployment rate and incidence of unskilled and non-registered jobs, reaches lower educational levels and is overrepresented in the domestic services and construction.

Therefore, this whole evidence points to the fact that at least a part of young workers – especially adolescents– belong to poor households, desert from the educational system and insert precariously in the labor market. These situations do not seem to support the picture of the young worker who voluntarily chooses a less formal labor relation in order to gain flexibility to continue with his or her studies or who transits more frequently among occupations by his or her own decision following an ascendant occupational path.

### **3. METHODOLOGY AND ECONOMETRIC MODEL<sup>11</sup>**

The econometric tools that have been used in this paper are duration models. From these it is possible to estimate the hazard function which indicates the probability of ending an episode immediately after time  $t$  conditional on the fact that the episode has not yet finished at that moment.

Let define the time to finish the episode of interest as a random variable  $T$  that is the duration or time span that goes from the start of a given phenomenon until its end or until the last observation available - in this case the variable will be censored if the event has not ended yet. In this paper, the variable of interest is the time elapsed in a given occupation until the individual leaves it for another occupation, or becomes unemployed or inactive.

Although the duration in a job  $t$ , ( $t \in T$ ) is an ‘intrinsically continuous’ variable, the available data allow to measure it in discrete time intervals, therefore duration is considered as

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<sup>10</sup> About overeducation of workers in Argentina, see, for example, Maurizio (1999)

<sup>11</sup> For more details , see Fernández, Maurizio and Monsalvo (2006)

‘interval-censored’. This methodological decision is sustained in two facts that result from the by which data are obtained. First, even though EPH measures the tenure in years and months, people tend to round duration in their responses, resulting in a high percentage of tied answers in certain durations. Second, for those episodes ending between two waves the exact date of finalization is unknown.

Following Prentice and Gloecker (1978) and Meyer (1990), the discrete time hazard of exiting the state in the  $a_j$  time,  $h(a_j)$ , for individual  $i$  with a vector of covariates,  $\vec{X}$ , having spent  $t$  units of time in that state and given that changes have not occurred before  $t-1$ , can be given by:

$$h(a_j, \vec{X}) = \frac{S(a_{j-1}, \vec{X}) - S(a_j, \vec{X})}{S(a_{j-1}, \vec{X})} = 1 - \frac{S(a_j, \vec{X})}{S(a_{j-1}, \vec{X})}$$

If the differences in the hazard rates between individuals were independent from the duration  $t$ , the assumption of proportionality would be correct. Then, supposing that this condition is satisfied, the hazard rate will be:

$$h(a_j, \vec{X}) = h_0(a_j) e^{\beta' \vec{X}} = h_0(a_j) \lambda$$

Where  $h_0(t)$  is known as the baseline hazard and  $\lambda$  is the effect of covariates over the hazard rate of individual  $j$  and  $\beta' \vec{X} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p$ . The survival function is:

$$S(a_j, \vec{X}) = \exp\left\{-\lambda \int_0^{a_j} h_0(s) ds\right\} = \exp\{-\lambda H_j\}$$

Where  $H_j$  is the accumulated hazard for individual  $j$ . Now it is possible to define the baseline survival function as:

$$S_0(a_j) = \exp\left\{-\int_0^{a_j} h_0(s) ds\right\} = \exp\{-H_j\}$$

Finally, the discrete time hazard function  $h(a_j, \vec{X})$  is defined by:

$$h(a_j, \vec{X}) = 1 - \exp\{\lambda(H_{j-1} - H_j)\}$$

In order to reach the requested result some transformations on the last expression are applied:

$$\log(-\log[1 - h(a_j, \vec{X})]) = \beta' X + \log(H_j - H_{j-1})$$

Similar methodology is used to obtain the baseline hazard:

$$\log(-\log[1 - h(a_j)]) = \log(H_j - H_{j-1}) = \gamma_j$$

Then, substituting this expression into that for  $h(a_j, \vec{X}) = h_j(\vec{X})$  results:

$$\log(-\log[1 - h_j(\vec{X})]) = \beta' \vec{X} + \gamma_j$$

Finally, the interval or discrete time hazard rate results in:

$$h_{ij}(t | \bar{x}) = h(j, \bar{X}) = 1 - \exp\left[-\exp(\beta' \bar{X} + \gamma_j)\right] \quad \dots[1]$$

The link  $\log(-\log(*))$  is known as the complementary log-log transformation; for this reason the proportional form is referred to as cloglog model. As usual, the regression coefficients,  $\beta$ , are interpreted as the effect of the covariates on the hazard rate of exit from the occupation in the interval  $j$ , assuming the hazard rate to be constant over the interval, while the parameter  $\gamma_j$  summarizes the pattern of duration dependence in the interval hazard. A positive coefficient indicates a greater probability of leaving the job.

Another methodological issue of importance relates to the specific form of the baseline hazard. Given that it is not possible to identify the precise pattern without making further assumptions, it is necessary to specify an either parametrically or non-parametrically estimation of the baseline hazard. In this paper, the non-parametric approach is preferred. Specifically, a piecewise baseline hazard form is used.

Up to this point, exits to all destinations have been considered jointly. However, it is possible to extend the analysis from single exit to a model with multiple destinations (competing risks) in a straightforward way if they are considered as independent. In this case, the hazard rates to each different destination are estimated considering the cases of exits to all other possible destinations as censored (like the cases in which the events have not ended yet).

#### 4. EMPIRICAL RESULTS

In this section, an analysis of the results for Argentina during the whole period October 1995- May 2003 is presented.<sup>12</sup> The piecewise baseline hazard is a linear function of dummy variables corresponding to the interval of duration in the occupation and measuring the duration dependence. Some covariables affect the baseline hazard proportionally whereas others affect it in a different way depending on the duration interval where the hazard rate is evaluated. In particular, in some regression, a dummy variable indicating if the worker is young or adult was incorporated in the baseline hazard. The aim of this is to model the possible non-proportionally effect of this variable on the hazard rates.

Several specifications of the model were used in order to estimate the occupational mobility of the young workers. Specifically, two different regressions for all workers were performed from a simple specification (Regression I) to which the non proportional effect of being young on the baseline hazard was added (Regression II). Also, separated regressions for young workers

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<sup>12</sup> The econometric approach requires expanded data set organized in such a way that there are as many data rows for each individual as there are time intervals over which the individual is at risk of exit from employment. The expanded data contains 365.435 observations.

(Regression III) and adult workers (Regression IV), for each occupational category (Regressions V-VI-VII) and for men (Regression VIII) and women (Regression IX) are included. This analysis allows evaluating if young workers have larger probabilities of leaving a job in comparison to adults, and to which destinations they arrive. Then, occupational instability of young workers is analyzed, in order to try to identify the existence of differences in the occupational paths followed by this group of workers. In particular, the aim is to evaluate to which degree these paths are voluntary or are reflecting a situation of involuntary instability that is probably associated to occupational precariousness more intensely affecting a given subgroup of young workers.

#### 4.1 The shape of the baseline hazard

As shown in Table 4 and Table 5, in all regressions the exit rates monotonically diminish as tenure at the initial observation rises. This indicates that individuals who have spent more time at the same occupation show lower exit rates which evidences the existence of negative duration dependence.<sup>13</sup>

There are, at least, four arguments for explaining the inverse relationship between exit rate from occupation and job duration are. The first points to the importance of the specific human capital that, differently to general human capital, is provided by the employer and is accumulated with experience on the job. As a result, the employer – who takes the cost of this specific training– is interested in retaining the employees in whose training he has invested. This results in exit rates declining with job tenure.

Also related to models of specific human capital, another possible explanation of the relationship between duration on the job and the probability of exit refers to the quality of the matching between the attributes of a given occupation and the actual capacities of the worker. None of them are known *ex-ante*, but are revealed during the fulfilling of the job. If one of the parts considers that the attributes of the other falls beneath the expected - the quality of matching is inadequate - it will probably decide to terminate the agreement. Given that the information about the job and the worker is usually obtained during the first months of contract, this theory provides an additional explanation for the higher rotation during the first months on the job.

A third argument points out the heterogeneity of the labor force and, especially, assesses that, for a given tenure, there are differences in occupational rotation between workers with diverse characteristics. Precisely, the probability of finding individuals with higher instability among workers on the lower duration strata is higher because they have low chances of reaching long durations. From this results that as duration rises, also does the probability of finding individuals who show more stable paths and, thus, lower exit rates from occupation. This last argumentation

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<sup>13</sup> Similar results are reported in Beccaria and Maurizio (2003) and in Galiani and Hopenhayn (2000)

finds some empirical support since there are differences in the occupational mobility rates between groups defined by some personal characteristics. Though, each of these groups shows an inverse relationship between the job tenure and the probability of exit. It seems that, besides heterogeneity, there is some tenure dependency of occupational mobility that can be explained by specific human capital models together with matching models.

Finally, besides these conceptual argumentations, the influence of labor market regulations can be brought up – especially termination costs – in order to account for this relationship between job tenure and exit rates. Most regulations associate, in a direct manner, the magnitude of the cost to the time the worker spent on the job, possibly constituting an additional dissuasive for the dismissal of the most skilled workers.

However, the effect of the job tenure is not homogeneous among young and adults. As observed in regression II for all workers, the differences in the exit rates from an occupation among both groups are not constant along different tenure durations. On the contrary, the instability gap between both groups rises with tenure, as is reflected by the fact that the dummy variable for being young is not statistically significant for the lower intervals of tenure and turns positive and strongly significant in higher duration intervals. This evidence indicates that adult workers achieve stability on their jobs at a higher rate than the young, even controlling by other explicative variables.<sup>14</sup>

#### 4.2 Observed heterogeneity and hazard rate to all destinations

Focusing on the labor instability of young workers, it is observed that the coefficient of the dummy variable for young is positive and strongly significant in all regressions, indicating that young workers as a whole face higher risk of leaving their jobs than adults, even in each occupational category and gender group. In particular, from regression I it is possible to estimate that young face hazard rates 30% higher than the estimated for adults.

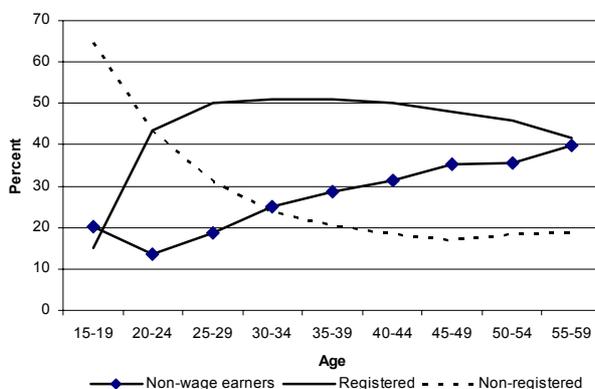
There are different possible explanations for the high instability of the young in the labor market. From the supply side, it is pointed out that the higher rotation is due to the fact that they have alternative activities, basically studying. In part for that same reason, but from the demand side, it is usually argued that the young are considered less reliable by potential employers, and thus the young are offered, in a higher proportion than other workers, jobs that are inherently more unstable, mainly those that are not covered by social security, as shown in Table 3a and in Graph 1. As age increases, the proportion of independent workers grows, while the probability of working in a registered job grows in the first age groups and then decreases slightly, stabilizing finally at higher

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<sup>14</sup> However, in the interval from 3 to 5 years, the still positive difference is smaller than for the previous interval.

age strata. Therefore, a part of the high turnover of the youngest may be due to the precariousness of their jobs.

**Graph 1.**  
**Distribution of occupations by category and age groups. 1995 - 2003**



Additionally, it is important to take into account that these workers in general have, because of their age, little experience at work and smaller tenure. Therefore, they are more affected by the higher instability that is characteristic of short tenures, as has been shown in previous analysis. In order to analyze the degree in which the young suffer some kind of occupational segregation, Graph 1 shows the distribution of the occupations by category and age group.

Despite the higher incidence of precarious jobs among young workers, it was also found that they have higher rotation rates independently from their occupational category (regressions V, VI and VII), even among registered workers. In fact, in this group of workers the young experience exit rates from the job that are, approximately, 27% higher than those of registered adult workers. These results might suggest that, even beyond some kind of segregation, younger workers show higher occupational instability. However, it is necessary to remark that the segregation might be underestimated, since the high exit rate of registered young workers might be indicating that they are higher in more unstable, though registered, jobs.

Additionally, it is among registered wage earners that largest differences between young and adults arise, which significantly diminish among non registered workers. Given the fact that, as will be shown later, non registered wage earners are the more unstable group of workers, inside this group the age has less relevance in explaining instability than among registered wage earners. On the contrary, inside the most stable group – registered wage earners– adults achieve a degree of stability that is clearly superior to that of the young. A possible explanation for this, as mentioned, might be that the young have accumulated less tenure on the job as well as less specific skills than adults due to their shorter experience in the labor market, which turns it cheaper for the employers

to dismiss these workers if they face a negative shock. On the other hand, this fact shows that in the first duration strata, even in registered posts, the most part of the workers show higher mobility as a consequence of the lower legal dismissal costs<sup>15</sup> and as an effect of the “information revelation” associated to the quality of the matching.

Differences between age groups seem to be significantly more important among men than among women (regressions VIII and IX). This fact, together with the findings for occupational category, shows that the instability gaps between young and adult workers are of greater importance inside groups of workers that are generally more stable: registered wage earners and men.

Continuing with the analysis of other dimensions that determine the stability of workers, and as has been mentioned earlier, the coefficients of the regressions for all workers suggest that the occupational category defines the groups of workers with the greatest differences in instability: registered wage-earners have the lowest exit probabilities (regression I and II). Unregistered wage earners have low legal firing costs, thus making them attractive for employment in industries with unstable demand and for unstable occupations. An employer may also decide not to register an employee in order to test the worker’s ability for longer than the official trial period, or just as an alternative to it. Consequently, the low exit rate of registered wage-earners may be explained by the existence of firing costs as well as by the fact that they receive more specific training. Moreover, employees who are not covered by social security and also self-employed workers have a greater presence in small scale and informal firms, which are regularly exposed to risks that make them more vulnerable. As they operate with low capital/labor ratios, the decision to interrupt economic activity is easier.

Schooling is inversely related to the probability of leaving a job, reflecting the highest instability of less educated workers (regression I and II). The basic argument that explains this inverse relationship is the one related with the specific human capital that was mentioned earlier. On one hand, the educational level is closely associated to the skill necessary for the job; on the other hand, general and specific human capitals are usually complementary of each other. As a result, the most educated workers receive more specific training and, therefore the employers try to retain them, and do increasingly as they acquire more experience on the job. Additionally, education increases, *per se*, the probability of reaching better jobs when employers demand educational credentials that are higher than those necessary for the job. The most educated workers are also more frequently in registered posts which, as analyzed earlier, are more stable. This is another reason for the lower rotation of workers with high educational level.

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<sup>15</sup> These are those derived from fines and compensations that the employer should pay if an unregistered employee denounces him in front of authorities.

The other variables also show the expected results: men and household heads face less instability than women<sup>16</sup> and non-household heads, although the gaps are smaller than those observed between categories (regressions I and II). The higher exit probability of women is usually explained by the responsibilities they have in the performance of some non economic activities, determined by cultural patterns and the life cycle. Additionally, these cultural patterns might be reinforced by the fact that employers, in view of the evidence of the higher rotation of women in general, tend to discriminate against them, similar to the case of young, offering them a non-proportional part of unstable jobs, even if they have the same category and educational level as men. Regarding the industry, as expected, construction activities present higher exit rate than manufacturing, while jobs in public sector are the most stable.

Finally, as a way of verifying whether all analyzed effects are present inside both age groups, two additional regressions were performed: one for the young (regression III) and one for the adult workers (regression IV). First of all, negative dependence on duration is verified among young and adults; however, and consistently with previous analysis, as tenure increases, adults achieve a higher degree of stability than young workers. In both cases, registered wage earners constitute the more stable group. However, among young workers non wage earners –mostly independent workers- form the group with the highest rotation, being non-registered wage earners in an intermediate situation. On the contrary, this last group is the most instable among adult workers. Given that the young, as a whole, present more exit from a job, the differences by gender are lower than among adults

Combining all analyzed dimensions it is possible to conclude that young women, with low education level, non-registered wage earners constitute the riskiest group because they face the highest level of labor turnover. This result is particularly important because of, as mentioned; among youth the proportion of precarious job is very high.

#### 4.3 Destinations for workers who leave an occupation

In previous section, exit rates to all destinations were analyzed. In this section, we will try to model, in independent way, the exit to another job, unemployment and out of the labor force. Results are presented in Table 6. First of all, negative duration dependence is strongly verified in the three competing risks, especially in exits to another job and to unemployment. In the case of exits out of the labor force, although monotonicity is not verified, a lower hazard rate is observed for the higher durations. This evidence is probably indicating that the accumulation of experience in a certain job implies lower hazard rates of employment to any destination. As in previous section, the variable for young does not seem to have a proportional effect on exit rates to different

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<sup>16</sup> Similar results are reported in Cerruti (2000).

destinations. For the particular case of exits to another occupation, the same pattern than for the total exits is verified. This means that the gaps between young and adults increase with tenure. For exits out of the labor force or to unemployment, no clear behaviour is observed for the differences between both groups.

The dummy for youth is positive and strongly significant in exits towards unemployment and out of labor force, being not significant for exits to another job. These facts might be showing that the higher exit rates observed for the young in previous section are mainly due to the higher intensity of transitions from a job to non-employment status (to unemployment or out of the labor force) faced by this group in comparison to adults. This evidence is compatible with previous results. In particular, the hazard rate gap between young and adults was 17% (regression II). The competing risks analysis shows that the young have approximately a 25% higher probability of exiting to unemployment and 29% of going out of the labor force than adults. The absence of significant differences between both groups regarding exits to another job reflects compensation between higher exit rates of a job and lower probability of going to another job after leaving the current occupation for the case of young workers. Specifically, when the regression is performed only for the workers that effectively left a job, it is observed that the coefficient that accompanies the variable “young” is negative and significant in the exits to another job, while it presents the contrary sign for the cases of exits to unemployment and inactivity, in both cases significant. Therefore, it is possible to conclude that the young not only face a higher instability in their occupation, but that they also are affected by more intense transitions to unemployment and economic inactivity, which is consistent with evidence shown in Section 2.<sup>17</sup>

Complementing the analysis of the paths that are followed by the young in the labor market, several regressions were performed incorporating as possible destinations the exits to registered, non-registered and non-wage jobs for those who went to another occupation. As mentioned before, the young do not present significant differences in the intensity of transitions to another occupation with respect to adults (except when the analysis is restricted to those who effectively leave the job). However, this picture changes when the different categories of the new occupation are taken into account. In particular, the young have lower chances of going to a non-wage occupation and higher probabilities of going to a non-registered job in comparison to adults. Thus, the young workers not

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<sup>17</sup> The coefficients of all other variables have the expected signs. In relation to those who are not registered, registered wage earners face lower exit rates to any destination and especially for transitions out of the labor force. The pattern for each of different destinations in relation to education is the same that was verified for exits. Particularly, the probability of exit to another job, unemployment and inactivity decreases with educational level. For the particular case of workers with complete university, they not only have a lower intensity of exit from an occupation, but when they do, they show more frequent transitions to another job than to unemployment or economic inactivity. Men and household heads present lower probabilities of exit out of labor force and higher chances of going to another job or unemployment, in relation to women and non-head of household, respectively. Similar results are reported in Beccaria and Maurizio (2003).

only leave more frequently their jobs, but they go more often to unemployment, inactivity and non-registered jobs.

#### 4.4 Differences among young workers

A usual hypothesis assesses the voluntary character of the acceptance by the workers of occupations that are not registered on social security given the higher potential flexibility that they could achieve. For the case of the young workers, the point is that this would give them better possibilities of continuing with their studies or other non-economic activities. Even if this might be true for some cases, according to empirical evidence, this hypothesis cannot be applied for the whole group of young. In the first place, a high percentage (52%) of young workers in non-registered jobs has deserted from school. On the other hand, an important share of them belongs to households whose income is in the lower half of the distribution of per capital household income (56% compared to 28% for young registered workers). This could be evidencing a positive association between precarious occupational insertion, low educational level and the need to contribute to the low income of their households.

In order to analyze these facts, two important covariables were included in the regression that was run exclusively for the young (Regression III): per capita household income and a dummy indicating desertion. The results show, on the one hand, an inverse relationship between hazard rate and family income. On the other hand, and apparently contrary to expectations, those who deserted school are found to have lower exit rates than the rest of the young workers, controlling by educational level. As will be shown later, the negative coefficient is associated to the lower exit rates to inactivity presented by this group of workers. However, if the educational level is excluded from the regression (Table 7), the dummy that identifies desertion results positive. This is indirectly reflecting the higher hazard rates for workers with low educational level (given the fact that this dummy was defined as taking value 1 for people who do not attend to school and have not completed secondary school). It is important to keep in mind that the variable for desertion is included not only because it points to low educational level but also because it shows a situation that will probably persist in the future.

These indicators are evidencing a critical situation in which a group of young inserts early in the labor market in low quality jobs, not covered by social security and with higher rotation rates. In this case, it is possible to expect that in the future the situation of these young workers will not improve given the fact that they will not accumulate more years of formal education or an important experience on the job as a result of their high occupational rotation. Therefore, at least for this group, their unfavorable insertion cannot be thought of as a “typical” transitional situation of the youngest that will revert in the future.

The negative coefficient for the dummy “desertion” in the regression for competing risks for young workers is exclusively explained by the lower exit rates to inactivity presented by school desertors in comparison to the rest of the young workers (Table 8). This is consistent with the evidence presented in Table 1, showing that those who desert from school have higher rates of activity than those who attend school.

Additionally to the evidence previously reported respecting the involuntary character of the exits of an occupation for at least a group of young, this evidence based on the analysis of the paths that they follow after leaving a given job towards unemployment or another occupation not covered by social security, seems also to support that hypothesis. The same occurs with those individuals who are presently unemployed and had a previous occupation, for which there is information available about the causes of the ending of their last job.<sup>18</sup> Among the possible causes of job separation, dismissal and the ending of a temporary job might be considered as non-voluntary from the perspective of the worker. In the group of young unemployed with previous working experience as salaried, 37% was fired and 39% ended a temporary job, which shows that more than a half had to separate from their jobs for causes that were beyond their decision. This same picture appears in the sub-group of school desertors.

The results to which this document arrives show that a non-despicable group of young from poor households abandon school achieving low educational levels and insert in precarious jobs characterized by a high instability (what makes the move frequently between this kind of jobs and instability) that makes it difficult to obtain sufficient experience in the job. This situation, which probably might not be considered as transitory, constitutes another dimension of the intergenerational transmission of possibilities and disadvantages from parents to children and, therefore, reflects a situation of inequity. As shown in CEPAL (2000), the inequitable character of welfare transmission resides in the fact that the most important determinants of the opportunities of the present generation are conditioned, in a great measure, by the welfare opportunities of the previous generation.

## 5. CONCLUSIONS

The analysis of labor dynamics allows taking into account one of the important dimensions of the Argentine labor market because it gives evidences about the intensity and characteristics of labor turnover and income instability. This is particularly relevant for the case of the young, given that an important proportion of them enter early in the labour market as a result of the need to help to raise their households' income. Apart from facing higher unemployment rates than adults, young

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<sup>18</sup> The possible categories are: voluntary retirement of the public sector, low pay, over skilled for the job, dismissal (includes closure of the enterprise), lack of job (for the case of independent workers), ending of temporary job, retirement, other labor causes and other personal causes.

workers insert with a higher probability in precarious jobs, characterized by a higher instability. For these reasons, this group of the labor force has fewer possibilities of accumulating general and specific human capital given their early exit of the educational system. Both factors contribute to generate difficulties for a better occupational insertion in the future.

However, from the available information it is not possible to identify precisely the proportion of young who rotate voluntarily in their search for more flexibility in the labor market as a consequence of their commitment to non-economic activities, like for example studying.

From the application of the duration model, evidence was found about negative duration dependence in the hazard of exit of employment. Young people present greater instability and, therefore, a smaller survival rate in the occupation. Also, when young workers are dismissed or quit to a certain job, they face higher probabilities of going to economic inactivity or unemployment than of going to another occupation, in comparison to adults.

In general terms, the high degree of labor instability that face the young workers cannot be understood as a sign of efficient resource allocation in the labor market but rather as a consequence of the reduced overall availability of jobs that affects this group strongly. On one side, there is evidence of the involuntary character of the job separations in at least a sub-group of young workers who belong to poor households and that, in many cases, deserted from school; on the other side, the analysis of the paths these workers follow after leaving an occupation shows that most of them go to unemployment or to other jobs not covered by social security. Non-registration in social security frequently implies that the workers have no coverage against negative shocks, which amplifies the income instability.

It is interesting to remark that among the youngest –those between 15 and 19 years old– who participate in the labour market, an important proportion does not attend an educational institution and lives in poor households, indicating the need of looking for an occupation in order to help to increase the low household earnings. This constitutes an extremely critical situation because the very low educational level of the young who belong to lower income households, together with the higher rotation that difficult obtaining sufficient experience on the job, allows concluding that this situation will not be transitory but will prevail in the future. Thus, it might be expected that the present situation of low income faced by the parents will be reproduced by their children, constituting another dimension of intergenerational transmission of disadvantages and inequity.

This situation implies the necessity of public policies that allow retaining children and young people in the educational system; however, it is also essential to implement and to reinforce policies of income transferences towards the most vulnerable households in order to prevent that poor young people are expelled from school into the labor market too early. Finally, a macroeconomic regime that generates an important amount of jobs and, especially those of good

quality, jointly with an active policy that battles the non-registered jobs, will allow reducing the levels of unemployment as well as labor precariousness. This will imply, on the one hand, higher family incomes and, therefore, a reduced need of "secondary" workers; on the other hand, an improvement of the quality of the occupations where the young people are mainly employed.

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## Tables and Figures

**Table 1. School attendance, desertion and educational level of the young  
1995 - 2003**

	Young in the labor force	Young workers	Young unemployed	Young not in the labor force
	%			
School attendance <sup>1</sup>	26.27	27.25	23.77	79.66
School desertion <sup>2</sup>	45.45	44.14	48.73	16.08
Educational level of school desertors				
Incomplete primary school	7.06	7.22	6.32	11.63
Complete primary school	43.58	43.28	44.44	44.42
Incomplete secondary school	49.36	49.50	49.23	43.95

Source: Own calculations based on EPH - INDEC

1. Attends an educational institution

2. Does not attend an educational institution and his/her educational level is lower than Complete secondary school  
(ie. abandoned school before finishing secondary school).

**Table 2. Characteristics of the households  
1995 - 2003**

	Young in the labor force	Young 15-18 years in the labor force	Young 19-25 years in the labor force	Young in the labor force who deserted school	Young not in the labor force	Adults in the labor force
	%					
Household head	9,34	0,89	11,07	13,02	2,42	60,81
Household head works <sup>1</sup>	69,38	71,83	68,82	63,58	75,00	
Workers / Members in the household	2,42	2,83	2,34	2,74	3,16	2,56
Household per capita income decile						
1	10,06	18,25	8,32	15,97	12,17	8,60
2	21,23	35,10	18,29	32,59	24,87	17,78
3	32,03	49,61	28,31	46,80	37,02	27,21
4	42,89	62,55	38,74	60,68	48,14	36,68
5	52,97	72,90	48,77	71,09	59,21	46,54
6	64,41	82,08	60,69	82,30	69,31	56,73
7	74,74	88,62	71,82	90,09	78,65	67,43
8	84,31	94,29	82,22	95,83	87,19	78,18
9	94,03	98,90	93,03	99,15	94,20	88,88
10	100,00	100,00	100,00	100,00	100,00	100,00

Source: Own calculations based on EPH - INDEC

<sup>1</sup> These figures do not include young individuals who are heads of their households.

**Table 3a. Characteristics of the job of young and adult workers  
1995 - 2003**

	Young workers	Young workers in low-income- households	Adult workers
	%		
<b>Average rates</b>			
Average activity rates	43.7	40.3	73.1
Average employment rates	31.6	25.3	65.0
Average unemployment rates	27.8	37.3	11.1
<b>Category</b>			
Registered wage earners	37.15	22.98	48.46
Non-registered wage earners	47.16	57.86	20.65
Non-wage earners	15.69	19.16	30.90
Employers	4.51	0.88	17.01
<b>Educational level</b>			
Incomplete primary school	3.35	6.80	8.67
Complete primary school	19.19	32.75	26.78
Incomplete secondary school	29.60	35.15	17.76
Complete secondary school	19.49	15.99	19.22
Incomplete university	23.69	8.29	9.74
Complete university	4.68	1.03	17.83
<b>Industry</b>			
Manufacturing	17.30	18.94	15.51
Construction	9.03	15.07	8.13
Commerce	27.47	27.27	17.32
Transport	7.52	6.93	8.22
Financial services	11.86	7.04	12.39
Personal services	11.16	7.75	12.01
Domestic service	7.33	10.77	7.37
Public sector	7.05	4.74	17.16
Other industries	1.28	1.49	1.88
<b>Skill of occupation</b>			
Professional	2.41	0.61	10.86
Technical	13.00	4.96	21.41
Low skill	40.91	37.52	43.54
Unskilled	43.67	56.91	24.18
<b>Worked hours</b>			
More than 35 hours per week	65.60	65.49	71.44
Up to 35 hours per week	34.40	34.51	28.56
wants to work more hours	57.44	68.78	58.98
Average hours per day <sup>1</sup>	7.91	8.10	8.62

Source: Own calculations based on EPH - INDEC

<sup>1</sup> Worked hours are informed on a weekly basis. The average hours per day were calculated on a 5 day week basis.

**Table 3b. Proportion of unregistered wage earners  
by educational level  
1995 - 2003**

Educational level	Young workers	Young workers in	Adult workers
		low-income- households	
% of wage earners			
Incomplete primary school	87.5	88.0	54.6
Complete primary school	74.2	76.5	40.1
Incomplete secondary school	63.5	72.1	37.1
Complete secondary school	44.5	58.7	21.7
Incomplete university	43.9	67.3	19.4
Complete university	30.7	51.1	12.3
<b>Total</b>	<b>55.9</b>	<b>71.5</b>	<b>29.7</b>

Source: Own calculations based on EPH - INDEC

**Table 3c. Skills of the job and education of young and adult workers  
1995 - 2003**

Educational level	Skills				Total
	Professional	Technical	Low skill	Unskilled	
%					
<b>Young workers</b>					
Incomplete primary school	-	2.15	38.42	59.43	100
Complete primary school	-	2.58	39.69	57.72	100
Incomplete secondary school	0.39	5.82	40.08	53.71	100
Complete secondary school	0.82	10.48	49.12	39.59	100
Incomplete university	5.60	25.67	40.81	27.92	100
Complete university	17.40	55.88	18.83	7.88	100
<b>Total</b>	<b>2.42</b>	<b>13.03</b>	<b>40.89</b>	<b>43.66</b>	<b>100</b>
<b>Adult workers</b>					
Incomplete primary school	0.23	5.12	46.43	48.22	100
Complete primary school	0.86	8.02	55.24	35.88	100
Incomplete secondary school	2.26	13.44	54.45	29.85	100
Complete secondary school	6.02	28.60	47.91	17.47	100
Incomplete university	10.37	40.23	39.36	10.04	100
Complete university	45.54	40.07	11.65	2.74	100
<b>Total</b>	<b>10.94</b>	<b>21.54</b>	<b>43.61</b>	<b>23.91</b>	<b>100</b>

Source: Own calculations based on EPH - INDEC

**Table 4**  
**Hazard rate to all destinations**  
**Complementary log-log Model**

Covariates	All workers	
	(Reg. I)	(Reg. II)
<b>Baseline Hazard</b>		
3 - 6 months	-0.131 (-7.08)**	-0.131 (-5.28)**
Dummy young		-0.008 (-0.22)
6 - 9 months	-0.137 (-6.43)**	-0.173 (-6.15)**
Dummy young		0.072 (-1.69)
9 - 12 months	-0.195 (-13.74)**	-0.231 (-12.14)**
Dummy young		0.071 (2.48)*
1 - 2 years	-0.322 (-25.16)**	-0.361 (-21.20)**
Dummy young		0.073 (2.84)**
2 - 3 years	-0.492 (-37.77)**	-0.575 (-33.43)**
Dummy young		0.207 (7.92)**
3 - 5 years	-0.682 (-54.76)**	-0.737 (-45.12)**
Dummy young		0.126 (5.03)**
Men	-0.191 (-25.65)**	-0.191 (-25.70)**
Young	0.26 (36.28)**	0.153 (6.73)**
Household head	-0.133 (-18.57)**	-0.134 (-18.61)**
<b>Occupational Category</b>		
Non-wage earners	0.033 (4.81)**	0.033 (4.74)**
Registered wage earners	-0.575 (-69.86)**	-0.575 (-69.90)**
<b>Industry</b>		
Construction	0.251 (21.62)**	0.248 (21.40)**
Commerce	-0.06 (-6.10)**	-0.059 (-5.99)**
Transport	-0.131 (-9.75)**	-0.13 (-9.63)**
Financial services	-0.052 (-4.14)**	-0.05 (-4.04)**
Personal services	-0.096 (-7.89)**	-0.095 (-7.83)**
Domestic service	-0.134 (-10.86)**	-0.134 (-10.88)**
Public sector	-0.34 (-24.07)**	-0.34 (-24.05)**
Other industries	0.057 (2.91)**	0.058 (2.96)**
<b>Educational level</b>		
Incomplete primary	0.097 (9.70)**	0.096 (9.61)**
Incomplete secondary	-0.008 (-1.08)	-0.008 (-1)
Complete secondary	-0.12 (-13.98)**	-0.12 (-13.95)**
Incomplete university	-0.143 (-13.65)**	-0.143 (-13.60)**
Complete university	-0.411 (-31.38)**	-0.408 (-31.10)**
<b>Region</b>		
NOA	0.023 (2.36)*	0.023 (2.39)*
NEA	-0.036 (-3.24)**	-0.036 (-3.26)**
Cuyo	-0.045 (-4.08)**	-0.044 (-4.00)**
Pampeana	-0.004 (-0.46)	-0.003 (-0.36)
Patagonia	-0.036 (-3.13)**	-0.034 (-2.99)**
Constant	0.073 (4.34)**	0.123 (6.30)**
Observations	365,435	365,435

Absolute value of z statistics in parentheses

\* significant at 5%; \*\* significant at 1%

Source: Own calculations based on EPH - INDEC

**Table 5**  
**Hazard rate to all destinations**  
**Complementary log-log Model**

<b>Covariates</b>	<b>Young (Reg. III)</b>	<b>Adult (Reg. IV)</b>	<b>Non-wage earner (Reg. V)</b>	<b>Registered (Reg. VI)</b>	<b>Non-registered (Reg. VII)</b>	<b>Men (Reg. VIII)</b>	<b>Women (Reg. IX)</b>
<b>Baseline Hazard</b>							
3 - 6 months	-0.169 (-6.00)**	-0.123 (-4.95)**	-0.136 (-3.04)**	-0.217 (-3.45)**	-0.144 (-4.23)**	-0.071 (-2.14)*	-0.211 (-5.67)**
Dummy young			0.11 (1.35)	-0.154 (-1.57)	-0.016 (-0.33)	-0.043 (-0.89)	0.035 (0.61)
6 - 9 months	-0.11 (-3.37)**	-0.166 (-5.88)**	-0.197 (-3.63)**	-0.243 (-3.86)**	-0.242 (-6.04)**	-0.15 (-3.86)**	-0.212 (-5.14)**
Dummy young			0.071 (0.69)	-0.055 (-0.56)	0.119 (2.10)*	0.054 (0.94)	0.118 (1.82)
9 - 12 months	-0.195 (-9.02)**	-0.222 (-11.61)**	-0.113 (-3.37)**	-0.55 (-10.64)**	-0.227 (-8.65)**	-0.234 (-9.07)**	-0.241 (-8.45)**
Dummy young			0.09 (1.48)	0.021 (0.26)	0.062 (1.68)	0.118 (3.19)**	0.011 (0.24)
1 - 2 years	-0.325 (-16.53)**	-0.347 (-20.33)**	-0.192 (-6.35)**	-0.699 (-15.01)**	-0.393 (-16.86)**	-0.294 (-13.03)**	-0.438 (-16.89)**
Dummy young			0.056 (1.0)	0.045 (0.62)	0.092 (2.79)**	0.034 (1.04)	0.113 (2.77)**
2 - 3 years	-0.43 (-21.21)**	-0.557 (-32.23)**	-0.397 (-13.11)**	-0.918 (-19.72)**	-0.613 (-25.22)**	-0.557 (-24.36)**	-0.601 (-23.00)**
Dummy young			0.159 (2.84)**	0.219 (3.01)**	0.227 (6.54)**	0.231 (6.89)**	0.171 (4.04)**
3 - 5 years	-0.649 (-32.80)**	-0.718 (-43.65)**	-0.591 (-20.33)**	-1.152 (-25.46)**	-0.633 (-28.28)**	-0.738 (-34.12)**	-0.737 (-29.50)**
Dummy young			0.199 (3.63)**	0.062 (0.87)	0.023 (0.69)	0.101 (3.14)**	0.191 (4.73)**
Men	-0.151 (-11.95)**	-0.215 (-22.64)**	-0.23 (-18.17)**	-0.111 (-7.44)**	-0.203 (-16.44)**		
Young			0.205 (3.99)**	0.237 (3.47)**	0.104 (3.69)**	0.203 (6.85)**	0.103 (2.86)**
Household' head	-0.037 (-2.09)*	-0.141 (-17.17)**	-0.192 (-15.72)**	-0.053 (-3.51)**	-0.117 (-10.44)**	-0.115 (-11.64)**	-0.123 (-10.58)**
<b>Occupational Category</b>							
Non-wage earners	0.144 (11.70)**	-0.016 (-1.87)*				0.005 (0.53)	0.048 (4.38)**
Registered wage earners	-0.523 (-37.07)**	-0.603 (-58.86)**				-0.508 (-48.57)**	-0.694 (-51.23)**
<b>Industry</b>							
Construction	0.229 (11.54)**	0.26 (18.00)**	0.216 (11.48)**	0.419 (16.13)**	0.197 (10.42)**	0.322 (24.23)**	0.092 (1.62)
Commerce	0.033 (1.95)	-0.112 (-9.14)**	-0.164 (-10.20)**	0.108 (5.52)**	-0.055 (-3.28)**	-0.006 (-0.49)	-0.139 (-9.06)**
Transport	-0.109 (-4.30)**	-0.137 (-8.52)**	-0.319 (-12.77)**	0.00 (0.0)	-0.073 (-3.56)**	-0.072 (-4.67)**	-0.15 (-4.58)**
Financial services	0.0003 (0.01)	-0.078 (-5.13)**	-0.17 (-8.05)**	0.174 (7.47)**	-0.034 (-1.61)	0.001 (0.04)	-0.088 (-4.09)**
Personal services	-0.041 (-1.98)*	-0.144 (-9.58)**	-0.049 (-2.51)*	-0.267 (-10.64)**	-0.061 (-3.02)**	0.012 (0.74)	-0.198 (-10.96)**
Domestic service	-0.201 (-8.64)**	-0.144 (-9.80)**	-0.074 (-3.23)**	0.233 (4.30)**	-0.181 (-9.95)**	0.204 (5.84)**	-0.242 (-14.75)**
Public sector	-0.19 (-7.13)**	-0.409 (-24.39)**	0.341 (6.84)**	-0.41 (-19.06)**	-0.184 (-7.65)**	-0.304 (-15.36)**	-0.37 (-17.68)**
Other industries	0.027 (0.73)	0.073 (3.15)**	-0.011 (-0.31)	0.076 (2.32)*	0.11 (3.33)**	0.139 (6.47)**	-0.281 (-5.11)**
<b>Educational level</b>							
Incomplete primary	0.049 (2.02)*	0.096 (8.70)**	0.136 (8.70)**	0.223 (7.82)**	0.02 (1.38)	0.076 (5.76)**	0.119 (7.75)**
Incomplete secondary	-0.034 (-2.27)*	-0.035 (-3.63)**	-0.01 (-0.8)	0.011 (0.59)	-0.006 (-0.5)	-0.029 (-2.86)**	0.021 (1.74)
Complete secondary	-0.472 (-19.35)**	-0.079 (-7.79)**	-0.095 (-6.84)**	-0.107 (-5.78)**	-0.136 (-9.69)**	-0.132 (-11.45)**	-0.095 (-7.31)**
Incomplete university	-0.351 (-14.03)**	-0.184 (-13.21)**	-0.072 (-4.03)**	-0.23 (-10.63)**	-0.118 (-7.05)**	-0.146 (-10.15)**	-0.114 (-7.19)**
Complete university	-0.622 (-16.19)**	-0.404 (-28.05)**	-0.702 (-28.79)**	-0.168 (-7.61)**	-0.298 (-11.58)**	-0.352 (-17.55)**	-0.411 (-23.00)**
<b>Desertion</b>	-0.281 (-15.65)**						
<b>Per Capita Income</b>	-0.0002 (-7.33)**						
<b>Region</b>							
NOA	0.098 (5.55)**	-0.004 (-0.33)	0.052 (3.20)**	0.085 (4.21)**	0.001 (0.04)	0.002 (0.16)	0.058 (4.00)**
NEA	0.063 (3.09)**	-0.077 (-5.78)**	-0.047 (-2.56)*	0.057 (2.31)*	-0.041 (-2.40)*	-0.084 (-5.68)**	0.031 (1.88)
Cuyo	0.095 (4.71)**	-0.107 (-7.94)**	-0.09 (-4.73)**	0.023 (0.99)	-0.024 (-1.37)	-0.082 (-5.52)**	0.007 (0.4)
Pampeana	0.119 (6.95)**	-0.057 (-5.09)**	0.013 (0.81)	0.015 (0.79)	-0.019 (-1.26)	-0.004 (-0.33)	0.007 (0.47)
Patagonia	0.019 (0.84)	-0.054 (-4.02)**	-0.03 (-1.5)	-0.076 (-3.62)**	0.034 (1.78)	-0.033 (-2.17)*	-0.03 (-1.72)
Constant	0.438 (13.18)**	0.213 (10.12)**	0.094 (2.78)**	-0.316 (-6.22)**	0.147 (5.29)**	-0.155 (-5.98)**	0.212 (7.14)**
Observations	90,793	272,741	114,001	130,678	120,756	211,192	154,243

Absolute value of z statistics in parentheses  
\* significant at 5%; \*\* significant at 1%  
Source: Own calculations based on EPH - INDEC

**Table 6**  
**Hazard rate to different destinations (competing risk)**  
**Complementary log-log Model**

Covariates	Destination		
	Another job	Unemployment	Out of labor force
<b>Baseline Hazard</b>			
3 - 6 months	-0.113 (-3.16)**	-0.072 (-1.57)	-0.044 (-0.91)
Dummy young	-0.003 (-0.04)	-0.11 (-1.62)	0.054 (-0.82)
6 - 9 months	-0.136 (-3.34)**	-0.101 (-1.93)	-0.081 (-1.47)
Dummy young	0.219 (3.44)**	-0.151 (-1.87)	0.03 (0.39)
9 - 12 months	-0.262 (-9.44)**	-0.224 (-6.31)**	0.063 (1.73)
Dummy young	0.25 (5.84)**	-0.06 (-1.15)	-0.129 (-2.54)*
1 - 2 years	-0.461 (-18.73)**	-0.243 (-7.82)**	-0.002 (-0.05)
Dummy young	0.306 (7.94)**	-0.194 (-4.18)**	-0.038 (-0.83)
2 - 3 years	-0.671 (-26.81)**	-0.536 (-16.88)**	-0.068 (-2.03)*
Dummy young	0.429 (10.84)**	0.172 (3.65)**	-0.104 (-2.19)*
3 - 5 years	-0.885 (-37.54)**	-0.593 (-19.91)**	-0.2 (-6.22)**
Dummy young	0.403 (10.58)**	-0.029 (-0.64)	-0.086 (-1.87)
Men	0.274 (21.89)**	0.325 (21.31)**	-0.897 (-70.87)**
Young	0.033 (0.98)	0.223 (5.49)**	0.251 (5.97)**
Household' head	0.264 (23.07)**	0.045 (3.29)**	-0.759 (-55.69)**
<b>Occupational Category</b>			
Non-wage earners	-0.206 (-18.29)**	-0.072 (-5.43)**	0.329 (28.93)**
Registered wage earners	-0.42 (-33.78)**	-0.345 (-22.87)**	-0.837 (-52.53)**
<b>Industry</b>			
Construction	0.383 (21.87)**	0.344 (17.50)**	-0.43 (-16.43)**
Commerce	-0.018 (-1.12)	-0.263 (-14.14)**	0.05 (3.02)**
Transport	0.009 (0.44)	-0.121 (-5.16)**	-0.304 (-10.95)**
Financial services	0.053 (2.69)**	-0.042 (-1.89)	-0.116 (-5.18)**
Personal services	-0.028 (-1.41)	-0.128 (-5.63)**	-0.069 (-3.41)**
Domestic service	0.05 (2.35)*	-0.308 (-12.04)**	-0.087 (-4.57)**
Public sector	-0.075 (-3.52)**	-0.882 (-28.63)**	-0.148 (-6.09)**
Other industries	0.193 (6.79)**	-0.052 (-1.5)	-0.115 (-2.81)**
<b>Educational level</b>			
Incomplete primary	0.038 (2.43)*	0.021 (1.08)	0.188 (11.34)**
Incomplete secondary	-0.029 (-2.34)*	-0.011 (-0.78)	0.022 (1.67)
Complete secondary	-0.114 (-8.22)**	0.014 (0.86)	-0.151 (-10.33)**
Incomplete university	-0.271 (-15.35)**	-0.195 (-9.27)**	0.091 (5.49)**
Complete university	-0.084 (-4.28)**	-0.402 (-14.91)**	-0.589 (-25.45)**
<b>Region</b>			
NOA	-0.25 (-16.78)**	-0.165 (-9.34)**	0.501 (28.41)**
NEA	-0.269 (-15.59)**	-0.367 (-17.02)**	0.538 (27.65)**
Cuyo	-0.09 (-5.40)**	-0.57 (-24.88)**	0.449 (22.64)**
Pampeana	-0.231 (-16.14)**	0.035 (2.13)*	0.252 (14.15)**
Patagonia	-0.123 (-7.20)**	-0.243 (-11.32)**	0.301 (14.10)**
Constant	-1.292 (-44.30)**	-1.679 (-46.77)**	-1.463 (-39.02)**
Observations	365,435	365,435	365,435

Absolute value of z statistics in parentheses

\* significant at 5%; \*\* significant at 1%

Source: Own calculations based on EPH - INDEC

**Table 7**  
**Hazard rate to all destinations. Young workers**  
**Complementary log-log Model**

Covariates	
<b>Baseline Hazard</b>	
3 - 6 months	-0.171 (-6.07)**
6 - 9 months	-0.115 (-3.51)**
9 - 12 months	-0.199 (-9.22)**
1 - 2 years	-0.329 (-16.80)**
2 - 3 years	-0.434 (-21.47)**
3 - 5 years	-0.642 (-32.55)**
Men	-0.105 (-8.44)**
Household' head	-0.057 (-3.24)**
<b>Occupational Category</b>	
Non-wage earners	0.146 (11.90)**
Registered wage earners	-0.567 (-40.58)**
<b>Industry</b>	
Construction	0.221 (11.22)**
Commerce	0.028 (1.64)
Transport	-0.142 (-5.66)**
Financial services	-0.018 (0.86)
Personal services	-0.068 (-3.27)**
Domestic service	-0.153 (-6.63)**
Public sector	-0.221 (-8.39)**
Other industries	0.006 (0.17)
<b>Desertion</b>	0.031 (2.84)**
<b>Per Capita Income</b>	-0.00026 (-9.56)**
<b>Region</b>	
NOA	0.075 (4.28)**
NEA	0.064 (3.17)**
Cuyo	0.078 (3.88)**
Pampeana	0.1 (5.87)**
Patagonia	0.014 (0.62)
Constant	0.114 (4.23)**
Observations	91,079

Absolute value of z statistics in parentheses

\* significant at 5%; \*\* significant at 1%

Source: Own calculations based on EPH - INDEC

**Table 8**  
**Hazard rate to different destinations (competing risk). Young workers**  
**Complementary log-log Model**

Covariates	Destination		
	Another job	Unemployment	Out of labor force
<b>Desertion</b>	0.4379 (12.78)	0.2936 (7.74)	-0.9341 (-36.13)
<b>Per Capita Income</b>	-0.0002 (-4.17)	-0.0008 (-12.7)	0.0002 (4.72)
<b>Observations</b>	<b>90,793</b>	<b>90,793</b>	<b>90,793</b>

Absolute value of z statistics in parentheses

\* significant at 5%; \*\* significant at 1%

Source: Own calculations based on EPH - INDEC