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# NEETS' LABOUR MARKET TRANSITIONS.
# A SURVEY FOR ARGENTINA

Matias Golman*

**Resumen**

Este estudio aborda el fenómeno Ni-Ni en Argentina, utilizando la Encuesta Permanente de Hogares para el período 2003-2018. El enfoque identifica los desafíos vinculados con las oportunidades de trabajo decente y la finalización de la educación. Mediante el uso de un modelo Logit Multinomial, se analizan tres posibles transiciones: encontrar un trabajo formal, hallar un trabajo informal o reingresar al sistema educativo. Como se esperaba, el género, la edad, el nivel educativo, los ingresos y los antecedentes educativos y laborales de la familia se identificaron como variables explicativas muy relevantes, pero con diferente fuerza, e incluso signos según cada transición.

**Abstract**

This study addresses the NEET phenomenon in Argentina using the country's Household Survey for the period 2003-2018. The approach identifies NEETs' challenges pertaining to decent job opportunities and education completion. The static perspective is extended by the use of a Multinomial Logit model, in which three potential transitions are analysed: finding a formal job, getting an informal job, or re-entering the education system. As was expected, gender, age, education level, income, and family educational and employment background were identified as highly relevant explanatory variables, but with different strength and even signs, depending on each transition.

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*Clasificación JEL: J21, J46, J62*

## I) Introduction

During the last decades, youth's difficulties to access and retain a job position has been part of the international agenda in both developed and developing countries. The category of NEET, stated as the share of young people not in employment nor in education or training (as a percentage of the total youth population), has been in the centre of the discussion.

The classification is being used with more frequency for its advantages in measuring the potential youth labour market entrants, as it is broader than youth unemployment, including the individuals outside the labour force not in education or training. From the opposite position, it is a better measure than the youth inactivity rate, as the latter includes those youth who are not in the labour force because they are currently enrolled in either formal or informal education, and thus cannot be considered currently available for work.

The core importance of the indicator relies on its competence for identifying the young individuals particularly at risk of both labour market and social exclusion, as they are neither improving their future employability through investment in skills via schooling or training nor gaining experience through employment (Contini *et al.*, 2019). In addition to the unemployed and the discouraged youth workers, the youth figuring as totally inactive are viewed as occupying an unconstructive and potentially threatening position in the social topography (Robson, 2008). A long-term duration in the state can lead to potential scarring effects on successive generations, and concomitant economic and social impacts (Maguire, 2015).

However, there is still an ongoing debate about the usefulness of the indicator for policy implications that do not take into account the complexity of youth marginalization. As a matter of fact, young individuals characterized as NEET could be associated with diverse underlying vulnerabilities, and there are specific circumstances where being a NEET could not even be related with a weak labour-market position at all. This is the case of those in transitional states, as well as those who have made the decision not to work or study, in order to take care of their relatives or young children (Yates and Payne, 2006). With that in mind, country-specific analysis must be performed before daring to outline any general conclusion about the scope and relevance of the category.

The objective of this essay is to determine which characteristics of the youth that conform the NEET indicator influence the diverse labour market transitions. In particular, it aims to identify the main drivers for youth to transition from being NEET to a formal position, an informal job or to education.

The hypothesis that guides this study is, therefore, that youth mobility to decent employment is highly sensitive to its socio-demographic characteristics, but also to relevant macroeconomic factors and general labour market features, making them more vulnerable to exclusion or exposed to non-registered jobs than adults. With regards to the methodology, a multinomial logit is performed as to determine the attributes associated with the different labour market destinations.

The outline of the rest of the article follows with the literature review. Later, in Section 3, there is a description of the source of information used for the analysis. Section 4 presents youth educational and employment features, with special emphasis on NEETs' characteristics. The econometric methodologies employed are set out in Section 5. The results from the analyses are presented in Section 6, while the main conclusions are outlined in Section 7.

## II) Review of Literature

The use of the NEETs indicator as a method to comprehend youth particular vulnerabilities dates back to the late 80s, when changes in the UK unemployment benefit regime left aside youth under 18 and limited the entitlements of those under 25. Facing youth unemployment's official denial, new ways of estimating the incidence of labour market vulnerability among young people surfaced (Maguire and Thompson, 2007).

Most of the studies acknowledge NEET indicator advantages for bringing into the frame of marginality groups that were previously considered only as non-actives, such as young mothers or those with disabilities (Furlong, 2006). Also, the proliferation of non-standard forms of employment, the growing complexity of youth transitions and the wakening of full-time routes through education required a new labelling that could collapse different exposures to career stagnation (Bynner et al, 1997; Roberts, 1995).

Nonetheless, several studies recognise that the fusion of those not in education nor in training regardless their status of employment could be non-informative, as long as the decision of participating actively in the labour market would also be related with diverse attributes and needs. This suggests a grouping of individuals with little control over their situation with those exercising choice, thereby promoting a state of confusion about factors associated with an apparent state of disadvantage. That entailed that most of the studies in the literature ended up disaggregating the discrete categories to understand or to effectively target policies (Contini et al. 2019).

Furlong (2006) found that those young individuals that have never experienced being NEET possessed highly different characteristics from those who were considered NEET at least in one period; the author stated that the first group had a more positive educational experience as well as more advantage family backgrounds (with their parents more likely to have degrees, to work in professional and managerial occupations, and less likely to be unemployed). The main difficulties associated with getting a job were related to a perceived lack of suitable opportunities or to qualification deficits. Nonetheless, personal and circumstantial issues (from family and housing problems, to health and lack of transport) were also identified as constrains, especially for young women.

Kelly and McGuiness (2015) did a study for Ireland, comparing the evolution of the NEET indicator before and after the Great Recession, and contrasting it with youth unemployment and adult unemployment. Using a probit model of the determinants of transitioning to employment, they found that being male, old or with higher education positively influence getting a job.

When it comes to the applicability of the indicator to non-developed countries, diverse outlooks can be found in the literature. On one side, authors like Quintini and Martin (2014) recognised the utility of the indicator for emerging economies, as it captures both the risk of unemployment and the inactivity resulting from discouragement and marginalization, which may reflect the accumulation of multiple disadvantages such as the lack of qualifications, health issues, poverty, and other forms of social exclusion. On the other side, ILO (2015) argued that in low-income countries there are limited options for educational attainment as well as lack of social safety nets. In this context, most young individuals are engaged to some form of income-generating activity. Although employment is sometimes the only option for youth in non-developed countries, the quality of available jobs offers little scope for youth to gain a stable, prosperous livelihood.

Argentina, as a historically upper middle-income country, present both a high level of unemployment and substantial levels of informal jobs, which indicate that both perspectives could apply. The labour market presents not only frictions to those willing to work, but also most of those effectively finding a job have no guarantee of its quality conditions nor a stable growth path. Much research was conducted during the last decades pertaining to the Argentinian youth labour market features, looking at their transitions to and from employment or at the vulnerabilities associated with their performance in comparison with adults.

The topic has been addressed using diverse frameworks. While some researchers have studied NEETs' characteristics using a static perspective within a sociological framework (Saraví, 2004; Miranda, 2015; De la Torre and Baquerin de Riccitelli, 2017), others have done qualitative studies

performing local surveys, in order to get new approaches of youth employment paths or their experiences during professional trainings (Longo, 2010; Gentile, 2018; Fridman, 2015).

When it comes to longitudinal perspectives, Pérez *et al.* (2013) and Pérez and Busso, (2015) built transition matrices using Argentina's Household Survey (*Encuesta Permanente de Hogares*), but combining them with qualitative analysis. By characterizing households for their income and using a social class approach, both studies emphasised the role of the households' social and economic capital to determine youth's career paths.

One of the main concerns in recent literature is related to the effect of being NEET on the quality of a future job. Studies referring developed countries are primarily worried that belonging to this category for long term could worsen youth's insertion and promote the so-called new forms of employment (ILO, 2016). In most developing countries, however, jobs with a low degree of protection are not so atypical, and youth careers have been since several decades exposed to weak conditions for several decades. The linkage between youth's features and the quality of their future jobs has been conventionally elaborated by reports of the International Labour Organisation (Vezza and Bertranou, 2011; Bertranou and Casanova, 2015; Bertranou *et al*, 2017).

Finally, there is still a gap in local literature for longitudinal analysis with econometric approaches that focus specifically on NEETs. Most of the recent econometric studies analysing youth's occupational mobility concentrated on young workers already employed and their transitions to other positions, unemployment or inactivity. In that sense, both Maurizio (2011) and Álvarez and Fernández (2012) analysed youth's transitions starting from an employment status and examined the socio-economic vulnerabilities associated with precarious rotations. This article will try to bridge the gap and analyse the transitions to employment from jobless and out-of-education youth.

**III) Source of Information**

The analysis was done using Argentina's Household Survey, which has been constructed under the same methodology since 2003. In a strict sense, the survey provides cross-sectional data; nonetheless, due to its 2(2)2 setup, it is possible to build longitudinal data out of the rotating panels, and thus follow an individual for two consecutive quarters.

A point to consider is that the amount of changes that are measured when comparing two successive waves of the survey can underestimate those effectively occurred. While comparing two observations with three months' difference, the transitions identified are those contrasting initial and final state. The individuals could have performed two or more movements during the period between two waves, without them being captured.

Despite this limitation, the information allows obtaining a reasonable overview of the short-run labour dynamics of the NEETs or their insertion into education. By keeping only NEETs in the first wave, it is feasible to identify any potential change of state during two consecutive surveys, and therefore appreciate if the individuals had found a job or got themselves into a study or training. On the contrary, if no change of state is recognised in the second survey, it means the individual had remained under the group of NEETs.

It is possible that for each quarterly merged panel the amount of observations from the NEET category could not be enough to perform a deep analysis. To overcome this drawback, the methodology consisted not only in having merged consecutive panels, but also in having appended them for the entire period, and thus a bigger dataset was constructed for the 15-year available information.

The identification strategy will consist in a multinomial logit, where the dependant variable takes value 1 if the individual had found a formal job in between surveys, 2 if she/he found an informal job, 3 if she/he stayed as NEET and 4 if she/he started to study. Socioeconomic and personal information will define the explanatory variables in order to distinguish the characteristics associated with transitions. In addition, macroeconomic effects will be considered using time and regional fixed effects. The study is restricted to young NEETS aged between 15 and 29 at the first survey, and the characteristics of the population refer also to the first of the two consecutive surveys.

**IV) NEETs' features**

The term NEET has been coined to identify young individuals not engaged in education, employment or training, with the aim of expanding the focus from youth unemployment to include those who have given up looking for work or who are detached from the labour market. The common attribute that places them in the same category is precisely to stay out of some of the key socialisation and social integration institutions during that stage of life (Saraví, 2004). This concept implicitly acknowledges both education system and labour market as the two essential spheres of social inclusion. If young individuals are not receiving any sort of training, they could be at risk of being marginalised from labour market in the middle and long run, and thus social exclusion could become permanent (Miranda, 2015; Bertranou *et al*., 2017).

The importance of this broader array of vulnerabilities among the youth has increased during the past years, and a big expression of its late significance is its proposal as the sole youth-specific

target for the post-2015 Sustainable Development Goals (SDG)[1]. The vagueness of the borders between unemployment and inactivity, and the fluidity of transits between one state and another constitute a distinctive feature of the youth labour market (Freeman and Wise, 1982). This flexibility could substantiate the inclusion of both indicators under the same category.

Following ILO Definition[2], the NEET indicator is constructed as:

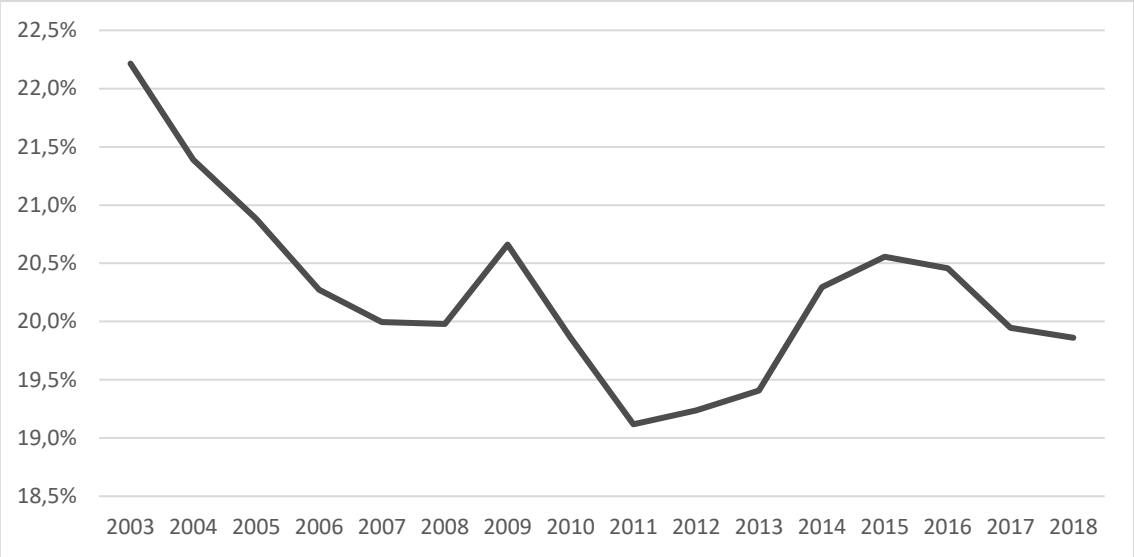
$$\text{NEET rate (\%)} = 100 \times \frac{\text{(Number of youth - number of youth in employment - number of youth not in employment who are in education or training)}}{\text{Total number of youth}}$$

When considering the relevance of the category for Argentina, it is mandatory to quantify how many young individuals are covered by the classification. With a total population of near 44.4 million (DESA, UN; 2019), and a share of population between 15 and 29 year old people of 24.3%, by 2018 the projected amount of youth not in employment, education nor training was expected to be of near 2.15 million. Gender disparities are clear: 64% of NEET are women.

As can be seen in Graph 1, the rate of young people under this category was not stable along the period. During the first years, tied with the sound economic growth, the dynamic of NEETs presents a decreasing trend. Although it displayed an important bump during the international crisis, the dynamic kept its downward tendency until 2011. During the years of economic stagnation, opportunities for young people became scarcer, and the indicator raised again. After that, the combination of a major education assistance of the young people and a decrease in real wages that pushed the young adult into employment (mainly informal) reduced again the rate of the category.

[1] The second target within Goal 8 is specifically "by 2020 substantially reduce the proportion of youth not in employment, education or training (NEET)" (ILO, 2015).
[2] See ILO (2013).

*Graph 1 - Share of youth between 15 and 29 years not in employment, education nor training, by year.*




*Own computation on Encuesta Permanente de Hogares - INDEC data*

However, in line with most of the existing literature, it is acknowledged that the NEET category is usually collapsing diverse vulnerabilities. Among other attributes, either age, gender or family income would delimit the scope of youth preferences and available opportunities. (De la Torre and Baquerin de Riccitelli, 2017). Graphs A.1, A.2 and A.3 from the Annex illustrate the disparities across these mentioned sub-groups of NEETs.

Especially worthy of note is the discrimination of NEETs by income, as most of the youth under this condition seem to be also in households with the highest level of economic vulnerability. Paz and Cid (2012) stated that poor households face a big dilemma. They have difficulty sending youths to education (due to the large direct costs associated) and they have incentives for them to work (high opportunity cost). Consequently, income has a strong relation with dropping out of mandatory education. Since the probability of coming back to the education system once adolescents have dropped and engaged in any labour activity is relatively low, it is expected that this group will maintain a low educational level and therefore face worse conditions to competition in the labour market (Álvarez and Fernández, 2012; Bertranou *et al.*, 2017).

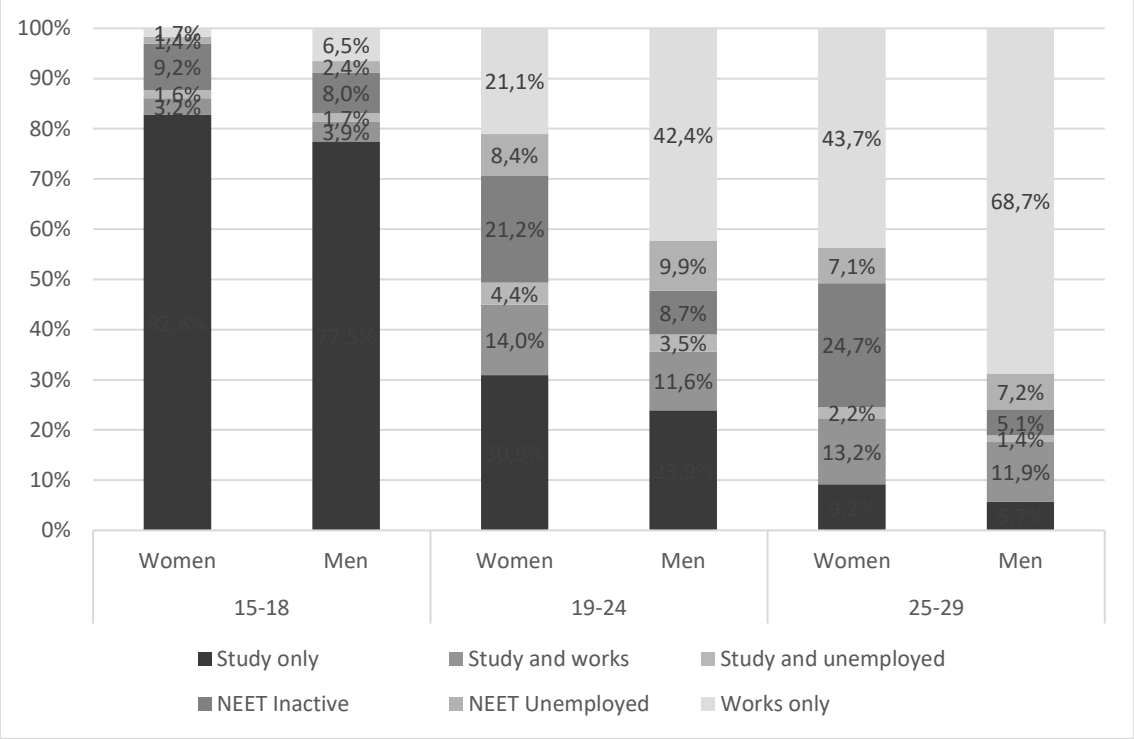
This heterogeneity of the NEET category means that both research and policy must begin with a disaggregation to identify the distinct characteristics and needs of the various sub-groups (Furlong, 2006).

In order to put NEET classification into a wider framework and properly understand its importance, Graph 2 displays the composition of each age group by its school attendance and labour participation, *i.e.* the characteristics that demarcate the category, for 2018. As it was

expected, the youngest group is more attached to education and thus their NEET rate is the lowest. The oldest group, on the contrary, is more committed to labour activities, and consequently presents a lower student condition rate than the age groups in the middle. As a matter of fact, this last critical segment encompasses those with issues finishing mandatory education, those having difficulty in their transition to work, and those that have not defined if they will continue their studies. It is interesting to note that regardless of age, women are more attached to the student state than men, either by fully dedicating themselves to education or by combining it with being active in the labour market. This contrasts with the proportion of young men that only work, which not only increases with age but also widens the gap with only working women.

The structural low labour participation of women is strongly depicted in the graph, as inactive rate is increasing while education is diminishing. As identified in most of the available literature, women are in a more vulnerable position when it comes to school-to-work transitions, facing more barriers than men to access good quality jobs. Lack of outside demand for productive work by women, due to social or cultural reasons, discourages many young women from being active in the labour force (Matsumoto and Elder, 2010). Education appears not only as a refuge, but also as a way of gaining competitiveness through human capital to overcome social bias to hiring men. Disparity is well captured in Graph A.2 from the Annex, where it can be noticed that in average women are twice as exposed to being both out of the labour market and educational institutions than men, whose NEET rate along the period is on average 10pp.

*Graph 2: Composition of youth by school attendance, labour participation and gender. Year 2018*



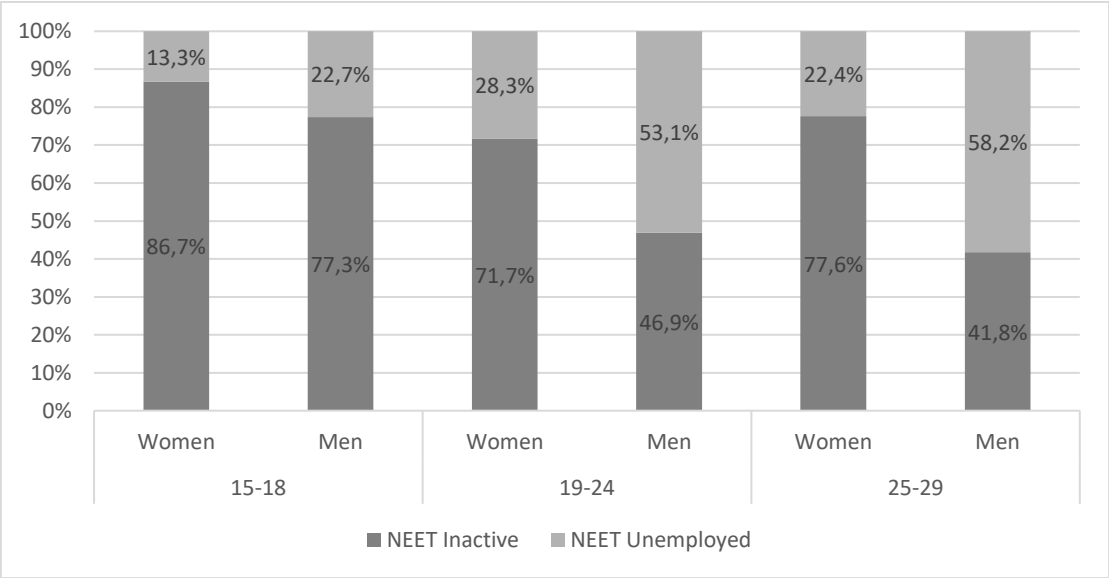

*Own computation on Encuesta Permanente de Hogares - INDEC data*

While picturing the relevance of NEETs in the total framework of youth's activities, it is possible to see that the category doubles its relevance after secondary school, but it is still not trivial for teenagers, affecting near 11% of them. While pure inactivity affects always less than 10% of men, it has an increasing weight for women. In fact, almost one out of four women between 25 and 29 years old declare not being under education nor active in the labour market.

While zooming the picture to the NEETs, Graph 3 presents its distribution between unemployed and inactive, by gender. As it is usually highlighted in the international literature, the majority of the first subcategory corresponds to young women tending to the household, many of which are thus excluded from participating in the labour market. Nonetheless, putting a negative connotation on their home-care contributions with the label of "jobless" is a matter that requires careful consideration (ILO, 2015). The feminist economy broadly questions this statement, arguing that the denial of the valuation of the activities that support the material basis of family reproduction is a fact that consolidates the subaltern position of women, especially in the sectors of low economic resources (Miranda, 2015). From that perspective, not considering household care and reproductive tasks as an economic activity turns the individuals involved invisible and undervalued.

For men, not only is the quantity of individuals under the NEET category significantly lower, but also the distribution after mandatory education is encompassed in a more egalitarian way, with even a bias to activity. As mentioned before, in low-income countries most of the working age population cannot afford being long-term unemployed or inactive, and thus informal employment may appear as the only income-generating opportunity.

*Graph 3: Characterisation NEETS by labour participation and gender. Year 2018*




*Own computation on Encuesta Permanente de Hogares - INDEC data*

Trying to focuse more on the significantly inactive proportion of youth, Graph A.4 and A.5 located in the Annex show that there is a huge gender disparity when it comes to family care work. The main outcome from the Graphs is that women in NEET composition are in majority taking care of family responsibilities, and thus being unpaid for working at home. This dual scenario where women dedicate themselves to family care work and men express their higher participation in the labour market while remaining unemployed emerges as a structural feature of NEET category in Argentina: while 20% of NEET women declared to be unemployed on average since 2008, unemployment affected near 44% of NEET men. On the contrary, while 11% of men declared to do domestic work, 63% of young women claimed to take care responsibilities.

When considering only those declaring themselves as inactive (*i.e.* not counting unemployed individuals), it is possible to see that, on average, 4 out of 5 inactive young women not in education nor training declare as the main reason for being inactive their participation as domestic worker at their own home. This contrasts with the share of 20% of inactive men not in education nor training.

Although the Graphs presented in the Annex collapse the information of NEET for all age groups, it is important to note that there are relevant differences between teenagers, fully young people, young adults, and adults, for both genders. Table 1 presents the percentage of family carers within the inactive NEET population, by gender, for 2018. It is possible to grasp that performing home activities, either by taking care of a family member or by doing domestic tasks, accounts for a bigger percentage of those young women not in education nor training, nor actively looking for a job.

*Table 1: Percentage of inactive NEETs that are family carers*

| **Gender** | **15-18** | **19-24** | **25-29** |
|---|---|---|---|
| **Women** | 53 | 74 | 88 |
| **Men** | 18 | 22 | 28 |

*Own computation on Encuesta Permanente de Hogares - INDEC data*

As a conclusion, although young women present a structural bias to inactivity, after mandatory education this is mainly explained by home care activities. The extent to which performing this role is an expression of vulnerability requires a deeper discussion that exceeds this article. Nonetheless, it has been argued that the lack of social institutions that may take care of young children or older relatives could explain women's detachment from the labour market.

Finally, the considerable number of young men that are not employed, in education nor training, and neither seeking a job nor helping at home is indeed alarming[3]. When most of employment indicators stabilised in 2008, this group remained steady in a value close to 40% of total male NEETs the following years. This fraction is perhaps the most exposed to marginalisation. As several authors have stated, an important part of these young people live in low-income families, where social networks and job opportunities are even scarcer.

**a) Where are the NEETs going?**

Youth tend to experience diversified paths into adulthood, irregular educational careers, delayed entrance in the labour market, and intermittent working careers (Contini et al, 2019). Mobility in and out of the labour market, however, does not affect all young people with the same intensity. It is important to understand the underlying differences in the category. Table 2 presents a disaggregation of transition rates for NEETs, considering their initial job status.

[3] This group is commonly known as "Status zero" because of the difficulty in being assigned a status, and therefore falls under the common categories (Saraví, 2004).

One clear warning is NEETs' state dependence by distinguishing feature. Almost 67% of those not working nor being enrolled in education or training remained in the same state in two consecutive surveys. The studies that have delved into the consequences of remaining as NEET over time emphasise the risks of social exclusion, pertaining to both material and cultural deprivation, as well as a detriment in future employment opportunities or reduced lifetime earnings (Thompson, 2011; Bynner and Parsons; 2002).

The second concerning issue pertains to the quality of the employment that NEETs were able to obtain. More than 83% of transitions to employment were done to informal positions. In Section 4, it was stated that young people are characterised for their high informality rate affecting on average 56% of those workers aged below 29 along the period. This means that the younger population transitioning to employment and coming from a NEET state was increasing the informal employment rate.

Although access to formal jobs do not differ significantly between genders -considering total transitions to employment-, there is a big disparity when age is being under consideration. The youngest population is more exposed to vulnerable outcomes, and almost 94% of their transitions to employment when leaving education are done to an informal job. When considering NEETs' transitions, gender has a significant role in determining whether youths are changing their state to employment, education or just remaining as NEETs in the second survey. While only 16.4% of women transitioned to employment, 36.2% of men found a job. This enormous difference is explained mainly because of women's higher state dependence, as almost three out of four women remained NEET, in contrast with one out of two men.

When it comes to age difference, education popped up as the biggest destiny for the youngest group. On the contrary, access to formal jobs had a positive association with age, as well as those remaining as NEETs. However, when identifying those that remained in the same state by the second survey, it is possible to see that the trend for those initially unemployed was indeed downwards (as a result of them having got jobs in a larger quantity) while for those inactive it was highly increasing, resulting in almost 80% of those between 24 and 29 years old having stayed in the same state.

*Table 2: Transition rates from NEET state to formal employment, informal employment, education or NEET state. Period 2003-2018*

| Variable | | Formal Employment | Informal Employment | Education | Remain NEET |
|---|---|---|---|---|---|
| **Baseline** | | | | | |
| | NEET | 3.8% | 19.4% | 10.0% | 66.8% |
| | Unemployed | 7.1% | 31.4% | 6.8% | 54.7% |
| | Inactive | 2.6% | 15.0% | 11.2% | 71.2% |
| **Gender** | | | | | |
| Men | NEET | 5.9% | 30.3% | 12.4% | 51.3% |
| | Unemployed | 7.8% | 39.1% | 6.1% | 46.9% |
| | Inactive | 4.6% | 23.8% | 17.0% | 54.6% |
| Women | NEET | 2.7% | 13.7% | 8.8% | 74.9% |
| | Unemployed | 6.2% | 22.2% | 7.5% | 64.1% |
| | Inactive | 1.9% | 11.7% | 9.0% | 77.4% |
| **Age** | | | | | |
| 15 to 18 | NEET | 1.0% | 14.9% | 24.2% | 59.9% |
| | Unemployed | 2.0% | 27.0% | 12.7% | 58.3% |
| | Inactive | 0.8% | 12.5% | 26.5% | 60.2% |
| 19 to 24 | NEET | 3.8% | 21.1% | 9.2% | 65.8% |
| | Unemployed | 6.3% | 30.8% | 7.5% | 55.3% |
| | Inactive | 2.7% | 16.8% | 9.9% | 70.5% |
| 24 to 29 | NEET | 5.2% | 19.2% | 3.6% | 72.0% |
| | Unemployed | 10.0% | 33.9% | 3.5% | 52.6% |
| | Inactive | 3.5% | 13.9% | 3.7% | 79.0% |

Own computation on Encuesta Permanente de Hogares - INDEC data

To sum up, in this descriptive section it was stated that NEETs' transitions stress complexity and non-linearity, as previously stated in Furlong (2006). The need for considering NEETs' heterogeneity to understand where they transit to is the main reason for performing a robust econometric model that includes the possible outcomes and control for socio-economic conditions, family background and macroeconomic/regional influences.

## V) Methodology for the Econometric Analysis

### 1) Multinomial Logit

The methodology was selected for its faculty to predict categorical placement in a dependent variable based on multiple independent variables. In that sense, the Multinomial regression is an extension of the binary model, when the dependent variable is nominal with more than two levels. This can be thought as simultaneously estimating binary logits for all possible comparisons

among the outcome categories (Long, 1997). Like binary logistic regression, it uses maximum likelihood estimation to evaluate the probability of the categorical membership (Starkweather and Moske, 2011). One of the attractive aspects of this methodology is that it does not assume normality, linearity or homoscedasticity.

Citing Long (1997), the specification of the probability of each of the transition states on the second survey as a non-linear function of the explanatory variables can be demonstrated as follows:

Let $y$ be the dependent variable with J nominal outcomes (transitions to formal employment, informal employment, education and remaining as NEETs). The categories are numbered 1 through J but are not assumed to be ordered. Let $\Pr(y = m|x)$ be the probability of observing outcome $m$ given $x$. A probability model for $y$ can be constructed as follows:

- Assuming that $\Pr(y = m|x)$ is a function of the linear combination $x\beta_m$. The vector $\beta_m = (\beta_{0m} \dots \beta_{km} \dots \beta_{Km})'$ includes the intercept $\beta_{0m}$ and coefficients $\beta_{km}$ for the direct effect of $x_k$ on outcome $m$. The coefficient for the effect of having children in the household on the probability of transitioning to formal employment is different from the coefficient for the effect of having children in the household on the probability of transitioning to education.
- To ensure that the probabilities are nonnegative, it is necessary to take the exponential of $x\beta_m$: $\exp(x\beta_m)$. While the result is nonnegative, the sum $\sum_{j=1}^{J} \exp(x\beta_m)$ does not equal 1, which it must for probabilities.
- In order to make the probabilities add up to 1, $\exp(x\beta_m)$ is divided by $\sum_{j=1}^{J} \exp(x\beta_j)$:

$$\Pr(y_i = m|x_i) = \frac{\exp(x_i\beta_m)}{\sum_{j=1}^{J} \exp(x_i\beta_j)}$$

With this normalization, it follows that $\sum_{m=1}^{J} \Pr(y = m|x) = 1$.

Although probabilities add up to 1, they could be unidentified since more than one set of parameters can generate the same probabilities of the observed outcomes. As a matter of fact, multiplying the previous equation by $\exp(x\lambda)/\exp(x\lambda)$:

$$\Pr(y_i = m|x_i) = \frac{\exp(x_i\beta_m)}{\sum_{j=1}^{J} \exp(x_i\beta_j)} \times \frac{\exp(x_i\lambda)}{\exp(x_i\lambda)}$$

$$= \frac{\exp(x_i\beta_m + x_i\lambda)}{\sum_{j=1}^{J} \exp(x_i\beta_j + x_i\lambda)}$$

$$= \frac{\exp[x_i(\beta_m + \lambda)]}{\sum_{j=1}^{J} \exp[x_i(\beta_j + \lambda)]}$$

While the values of the probabilities are unchanged, the original parameters $\beta_m$ have been replaced by $\beta_m + \lambda$. Accordingly, for every nonzero $\lambda$ there is a different set of parameters that results in the same predictions. That is, the model is not identified.

To identify the model, constraints are required to be imposed on the $\beta$'s so that for any $\lambda \neq 0$ the constraints are violated. A commonly used constraint for the Multinomial Logit is that one of the $\beta$s is forced to equal 0, such as $\beta_j = 0$. The choice is arbitrary and thus it is possible to assume that $\beta_1 = 0$.

Adding this constraint to the model results in the probability equation:

$$\Pr(y_i = m|x_i) = \frac{\exp(x_i\beta_m)}{\sum_{j=1}^{J} \exp(x_i\beta_j)} \; where \; \beta_1 = 0$$

Since $\exp(x_i\beta_1) = \exp(x_i 0) = 1$, the model is commonly written as

$$\Pr(y_i = 1|x_i) = \frac{1}{1 + \sum_{j=2}^{J} \exp(x_i\beta_j)}$$

$$\Pr(y_i = m|x_i) = \frac{\exp(x_i\beta_m)}{1 + \sum_{j=2}^{J} \exp(x_i\beta_j)} \; for \; m > 1$$

The coefficients of the Multinomial logit model estimated by maximum likelihood are a consistent and normally distributed estimator in large samples. Therefore, t-statistics and confidence intervals for the coefficients can be constructed (Stock and Watson, 2003).

However, in this study odds ratios were used to report the results, rather than predicted probabilities. Predicted probabilities, as the name suggests, predict the likelihood of an event occurring. They require thus the defining of a 'typical' case in the model. Conversely, the more variables in the mode and the more categories within variables, the less representative of the sample the typical case becomes (Stanwick *et al.*, 2017).

The Multinomial Logit expressed in terms of odds can be obtained as follows: the odds of outcome $m$ vs outcome $n$ given $x$, indicated by $\Omega_{m/n}(x)$, equal

$$\Omega_{m/n}(x_i) = \frac{\Pr(y_i = m|x_i)}{\Pr(y_i = n|x_i)} = \frac{\frac{\exp(x_i\beta_m)}{\sum_{j=1}^{J} \exp(x_i\beta_j)}}{\frac{\exp(x_i\beta_n)}{\sum_{j=1}^{J} \exp(x_i\beta_j)}} = \frac{\exp(x_i\beta_m)}{\exp(x_i\beta_n)}$$

Combining exponents leads to the odds equation:

$$\Omega_{m/n}(x_i) = \exp\left[x_i(\beta_m - \beta_n)\right]$$

Taking logs shows that the Multinomial Logit is linear in the logit:

$$\ln \Omega_{m/n}(x_i) = x_i(\beta_m - \beta_n)$$

The difference $(\beta_m - \beta_n)$ called a *contrast*, is the effect of x on the logit of outcome $m$ vs outcome $n$.

Since the model is linear in the logit, it is simple to compute the partial derivate:

$$\frac{\partial \ln \Omega_{m/n}(x)}{\partial x_k} = \frac{\partial x(\beta_m - \beta_n)}{\partial x_k} = \frac{\partial x \beta_m}{\partial x_k} - \frac{\partial x \beta_n}{\partial x_k} = \beta_{km} - \beta_{kn}$$

For a unit change in $x_k$, the logit of outcome $m$ vs outcome $n$ is expected to change by $\beta_{km} - \beta_{kn}$ units, holding all other variables constant.

Since $\beta_1 = 0$, the equation for the comparison with outcome 1 simplifies to

$$\ln \Omega_{m/1}(x_i) = x_i(\beta_m - \beta_1) = x_i \beta_m$$

Therefore, for a unit change in $x_k$, the logit of outcome $m$ vs outcome 1 is expected to change by $\beta_{km}$ units, holding all other variables constant. This interpretation of $\beta_{km}$ is simple since the effect of a unit change in $x_k$ on the logit does not depend on the level of $x_k$ or on the level of any other variable.

**VI) Econometric Results**

Diverse specifications of the Multinomial Logit are presented in Tables 3, 4 and 5 below each specific output: it comprises the Relative Risk Rations (RRR) of transitioning to formal employment, informal employment, and education, relative to remaining NEET. As this category was selected as the baseline, for those explanatory variables with a coefficient greater than 1 the risk of NEETs to transition to some of the new states relative to the risk of remaining NEETs increases when the dummy takes value 1.

The general model includes dummy variables mentioned in the previous descriptive sections (Gender, Age group, Period). It also contains socio-economic controls, such as education, marriage status and family responsibility, as well as potential household intergenerational influences, such as education and the quality of employment of the household's head (HH). For these last two controls, dummies measuring if the adult economically responsible for the household has completed secondary education or if he / she has got formal employment were incorporated[4].

[4] Another variable controlling for the position of the young individual in the household was added (i.e. if he / she was perceived as the household's head). Therefore, these two variables were not interacted with whom the head was. In further studies, the approach could involve a gender perspective and control for mother's education, another relevant variable not distinguished in this analysis. The variable pertaining to education has value 1 if the HH has reached a level of education lower than complete secondary education

In addition, dummies that measure the place of the household in the income distribution were added, in order to control for a proxy of social class (Thompson, 2011; Miranda, 2015). Access to external transfers, either private or public, was also included to corroborate if these may have a disincentive effect on the youth. Finally, regional controls were added. Robust standard errors had been used, as suggested by Long and Freese (2014).

In addition, several comparative models were computed conditioned on the main characteristics. In that sense, it is feasible to contrast how RRR was modified for gender, age, and initial NEET classification (inactive or unemployed).

**1) Transitions from being NEET to formal employment**

One of the main outcomes of the transitions to formal employment, in contrast with those that stayed as NEETs, is the significant relevance of gender, age and education. As a matter of fact, the odds of transitioning to formal employment relative to remaining NEET are 3 times greater for men than for women, holding the other variables constant. The ratio is 3.4 times higher for older youths than for teenagers, and 10.2 higher for those with complete tertiary education than for those with complete primary education. The increasing value of the coefficient for both age and gender dummies shows that the more educated and older the NEET individual is, the higher the odds of transitioning to formal employment than of remaining NEET. These results are analogous to those found by Kelly and McGuiness (2015).

The specification of the model with explicit focus on gender, age, period and original status offers wider perspectives of the presented results. Interestingly, almost none of the coefficients change its 'sign' for any of the specifications in the sense that nearly all the values above 1 remained above 1 regardless of pre-selecting for these attributes. However, it did change the nominal value of the odds or turned some of the coefficients non-significant, implying diverse strength of the effect.

As an example, having reached complete tertiary education (or currently completing it) has twice a positive effect for transitioning to formal employment for young women than for men, exhibiting how human capital has a stronger effect for the first group. On the contrary, age seems to be a stronger attribute to foster formal employment for men than for women.

A positive effect is seen in the results concerning the attributes of being the household's head. This result shows that overseeing a family generates incentives for getting an income, and thus

and 0 if complete or higher. The variable capturing the quality of employment takes the value 1 if the HH currently has got formal employment or 0 if he / she holds an informal position.

the household's head tends to seek a job more enthusiastically. The urgency about providing for the family group, especially when there are children present, modifies the behaviour of the individual, making him/her more likely to accept offers that perhaps with fewer responsibilities he / she would not have accepted.

If the young individual is not the household's head, a positive influence is also revealed when the person economically in charge of the family group has got formal employment. Therefore, there is a certain intergenerational transmission of employment quality. Individuals coming from a family where the head is used to being part of the social security system are more likely to search for jobs with those standards, similar to the result found by Furlong (2006) with professional and managerial occupations. The result, however, does not seem significant for women and for those young individuals coming from inactivity.

The odds of transitioning to formal employment relative to remaining NEET for those initially inactive were half of those initially unemployed, showing that being actively seeking employment indeed increases the probability of finding a job. Similarly, being married or receiving external transfers means lower odds. Therefore, having extra support could induce young NEETs to remain as NEETs, perhaps as a result of waiting for better options. Interestingly, being married is one of the only variables that has a diverse effect for women than for men. For the latter, the coefficient is 2.3, meaning that they have more chances to move to employment than staying NEET.

Also presenting a below-one coefficient is the case of the variable that controls for the presence of children under 6 years old in the household. As effusively stated in the previous sections, the responsibility for doing care work for a family member, either due to one' own maternity or to look after a relative, has a negative relation with transitioning to employment, in contrast with remaining as NEET. This effect, however, is relevant for women and not for men, and especially for the oldest youths.

Table 2: Transition from being NEET to Formal Employment. Relative Risk Ratios.
Multinomial Logit. Period 2003-2018 - Control group: remain NEET

| | Relative Risk Ratios for Formal Employment | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **General** | **Women** | **Men** | **Age 15-18** | **Age 19-24** | **Age 25-29** | **Inactive** | **Unemployed** |
| **1 if men** | 3.113*** | | | 3.288*** | 3.034*** | 3.158*** | 3.542*** | 2.328*** |
| | (0.187) | | | (0.774) | (0.250) | (0.303) | (0.325) | (0.177) |
| **1 if age 19-24** | 2.648*** | 2.632*** | 3.004*** | | | | 2.823*** | 2.630*** |
| | (0.295) | (0.550) | (0.399) | | | | (0.392) | (0.497) |
| **1 if age 25-29** | 3.411*** | 3.519*** | 3.961*** | | | | 3.877*** | 3.448*** |
| | (0.396) | (0.748) | (0.566) | | | | (0.565) | (0.672) |
| **1 if year 2009-2015** | 1.106* | 1.104 | 1.097 | 1.289 | 0.990 | 1.256*** | 1.066 | 1.157* |
| | (0.0597) | (0.0855) | (0.0831) | (0.294) | (0.0745) | (0.104) | (0.0816) | (0.0885) |
| **1 if year 2016-2018** | 0.868* | 0.865 | 0.823* | 0.671 | 0.737*** | 1.075 | 0.935 | 0.800** |
| | (0.0642) | (0.0944) | (0.0829) | (0.257) | (0.0770) | (0.120) | (0.0963) | (0.0857) |
| **1 if it is an inactive NEET** | 0.540*** | 0.487*** | 0.815*** | 0.549** | 0.585*** | 0.477*** | | |
| | (0.0292) | (0.0390) | (0.0593) | (0.132) | (0.0433) | (0.0403) | | |
| **1 if household head** | 1.850*** | 1.229 | 1.678*** | 0 | 2.036*** | 1.659*** | 1.511*** | 1.911*** |
| | (0.170) | (0.174) | (0.235) | 0 | (0.308) | (0.197) | (0.223) | (0.235) |
| **1 if incomplete primary** | 0.408*** | 0.346*** | 0.369*** | 0.782 | 0.341*** | 0.425*** | 0.227*** | 0.869 |
| | (0.0794) | (0.140) | (0.0828) | (0.435) | (0.101) | (0.127) | (0.0667) | (0.230) |
| **1 if incomplete secondary** | 1.417*** | 1.084 | 1.633*** | 2.649*** | 1.327** | 1.305* | 1.448*** | 1.313* |
| | (0.138) | (0.188) | (0.197) | (0.968) | (0.179) | (0.204) | (0.195) | (0.188) |
| **1 if complete secondary** | 2.442*** | 2.557*** | 2.323*** | 4.832*** | 2.151*** | 2.589*** | 2.709*** | 1.966*** |
| | (0.229) | (0.400) | (0.279) | -1.758 | (0.280) | (0.375) | (0.348) | (0.273) |
| **1 if incomplete tertiray** | 3.835*** | 4.800*** | 2.927*** | 6.630* | 3.846*** | 3.623*** | 4.278*** | 2.993*** |
| | (0.466) | (0.870) | (0.520) | -7.184 | (0.671) | (0.641) | (0.721) | (0.533) |
| **1 if complete tertiary** | 10.18*** | 12.16*** | 5.557*** | 58.40*** | 7.927*** | 10.89*** | 14.16*** | 6.180*** |
| | -1.144 | -2.077 | (0.931) | (77.45) | -1.353 | -1.764 | -2.169 | -1.011 |
| **1 if married** | 0.751*** | 0.521*** | 2.340*** | 0.397 | 0.701*** | 0.856 | 0.554*** | 1.216** |
| | (0.0536) | (0.0461) | (0.271) | (0.241) | (0.0750) | (0.0858) | (0.0576) | (0.113) |
| **1 if there is a child < 6 in the home** | 0.852** | 0.705*** | 1.117 | 1.153 | 0.867 | 0.802** | 0.836** | 0.932 |
| | (0.0532) | (0.0583) | (0.0971) | (0.281) | (0.0766) | (0.0757) | (0.0727) | (0.0803) |
| **1 income dis (20-40)** | 0.928 | 1.012 | 0.962 | 1.300 | 1.001 | 0.772** | 0.977 | 0.929 |
| | (0.0707) | (0.118) | (0.0991) | (0.381) | (0.105) | (0.0928) | (0.106) | (0.101) |
| **1 income dis (40-60)** | 1.122 | 1.122 | 1.323*** | 1.738* | 1.159 | 0.973 | 1.162 | 1.153 |
| | (0.0856) | (0.133) | (0.135) | (0.550) | (0.124) | (0.114) | (0.127) | (0.125) |
| **1 income dis (60-80)** | 1.059 | 1.239* | 1.070 | 1.157 | 1.173 | 0.890 | 1.126 | 1.067 |
| | (0.0865) | (0.151) | (0.122) | (0.438) | (0.133) | (0.111) | (0.131) | (0.124) |
| **1 income dis (80-100)** | 1.146 | 1.401** | 1.104 | 1.441 | 1.232 | 0.972 | 1.177 | 1.178 |
| | (0.105) | (0.193) | (0.138) | (0.663) | (0.158) | (0.134) | (0.156) | (0.150) |
| **1 if HH has education lower than secondary** | 0.958 | 0.839** | 1.045 | 1.634 | 0.966 | 0.924 | 1.025 | 0.883 |
| | (0.0541) | (0.0659) | (0.0847) | (0.526) | (0.0755) | (0.0804) | (0.0792) | (0.0729) |
| **1 if HH has formal employment** | 1.154*** | 1.118 | 1.223*** | 1.491* | 1.214*** | 1.037 | 1.129 | 1.199** |
| | (0.0634) | (0.0877) | (0.0936) | (0.351) | (0.0911) | (0.0892) | (0.0855) | (0.0956) |
| **1 if the household receive a social transfer** | 0.459*** | 0.649*** | 0.202*** | 0 | 0.444*** | 0.464*** | 0.435*** | 0.539*** |
| | (0.0581) | (0.0884) | (0.102) | 0 | (0.0903) | (0.0765) | (0.0711) | (0.109) |
| **Northwest** | 0.477*** | 0.490*** | 0.438*** | 0.534 | 0.400*** | 0.563*** | 0.516*** | 0.456*** |
| | (0.0423) | (0.0619) | (0.0549) | (0.221) | (0.0511) | (0.0754) | (0.0715) | (0.0539) |
| **Northeast** | 0.556*** | 0.582*** | 0.466*** | 0.560 | 0.490*** | 0.674*** | 0.621*** | 0.435*** |
| | (0.0550) | (0.0843) | (0.0634) | (0.247) | (0.0686) | (0.101) | (0.0853) | (0.0745) |
| **Cuyo** | 0.716*** | 0.628*** | 0.784* | 0.755 | 0.688*** | 0.752* | 0.728** | 0.737** |
| | (0.0714) | (0.0909) | (0.110) | (0.333) | (0.0975) | (0.113) | (0.105) | (0.108) |
| **Pampeana** | 0.823** | 0.714*** | 0.913 | 1.082 | 0.865 | 0.759** | 0.945 | 0.728*** |
| | (0.0637) | (0.0802) | (0.0979) | (0.357) | (0.0909) | (0.0928) | (0.116) | (0.0734) |
| **Patagonica** | 1.333*** | 1.373*** | 1.224* | 1.613 | 1.313** | 1.294* | 1.432*** | 1.253* |
| | (0.113) | (0.168) | (0.145) | (0.618) | (0.151) | (0.174) | (0.187) | (0.145) |
| **Constant** | 0.0130*** | 0.0181*** | 0.0233*** | 0.00254*** | 0.0381*** | 0.0497*** | 0.00557*** | 0.0177*** |
| | (0.00218) | (0.00491) | (0.00473) | (0.00157) | (0.00746) | (0.0109) | (0.00128) | (0.00439) |
| **Observations** | 56,294 | 37,395 | 18,899 | 10,017 | 27,212 | 19,065 | 41,487 | 14,807 |
| **Standard errors in parentheses** | | | | | | | | |
| ***** p<0.01, ** p<0.05, * p<0.1** | | | | | | | | |

*Own computation on Encuesta Permanente de Hogares - INDEC data*

### 2) Transitions from being NEET to informal employment

When considering the transitions to informal employment, some similarities are found with the results presented for formal employment. This means that there are essential individual or socio-economic attributes that increase or reduce the odds of those finding a job regardless of its quality versus those who remain NEET. Gender, age, being an inactive NEET, being the household's head, being married, and receiving a social transfer have the same sign (coefficient below or above 1, for each case) for both types of jobs. However, the level of the coefficients differs significantly, denoting diverse levels of intensity of the odds.

Being a man, for example, has an RRR value of 2.6 for the multinomial output of transitioning to informal employment, noticeably lower than the value of 3.1 in the case of formal employment. This comparison illustrates young women's difficulty in accessing any kind of job, but a greater difficulty for those under social security schemes -*i.e.* the better-quality positions- as being a man seems to be a stronger attribute for transitioning to a formal job than to an informal one. The same results appear for the age variables: even though in both cases the coefficient increases with age, the value is not so high for those transitioning to informal employment, denoting the difficult struggle of the youngest to find good quality opportunities.

An interesting contrast with those transitioning to formal employment is the non-significance of the coefficients relating to education, mainly for men and for both age groups between 15-18 and 19-24. This could mean that, while having reached a level of education higher than primary school is a determinant for those seeking a formal job compared to remaining NEET, it is not a feature that influences those looking for an informal position. These results are in line with those found by De la Torre and Baquerin de Riccitelli (2017), as the authors stated that those youths being NEETs possessed education characteristics similar to those working in unprotected positions.

Although the education level seems not to have such a differential effect, income shows as a highly relevant driver of transitioning to informal positions rather than remaining NEET. As a matter of fact, while for formal employment outcome the variables incorporating the position of the household in income distribution were not relevant to distinguish the transitions from remaining NEET, they are highly relevant and with increasing negative relative effect for informal transitions. The odds of moving to informal employment relative to staying NEET for those in the richest 20% portion of the income distribution are almost half the amount than for those in the lowest 20% portion, holding the other variables constant. In other words, the lower the income, the higher the relative odds of finding an informal job.

This result reveals, on the one hand, that remaining NEET, even controlling for gender (i.e. incorporating the fact that most of NEETs are women), is a more probable outcome for those who have got some kind of economic support. On the other hand, inactive or unemployed young individuals that were not under any education scheme found it more difficult to afford not bringing any income to the household, and thus had to accept jobs even if the conditions involved some level of precariousness. Considering that transitions to informal employment accounted for 93% and 84% of the total transitions to employment for the two youngest groups, these results support the hypothesis that for most of the NEETs finding a job is not necessarily a better outcome. This could indeed reinforce their vulnerabilities, as in such environment there is no guarantee that wages or labour conditions satisfy the regulatory framework. They would thus be exposed to undermining experiences.

Table 3: Transition from being NEET to Informal Employment. Relative Risk Ratios.
Multinomial Logit. Period 2003-2018 - Control group: remain NEET

| | Relative Risk Ratios for Informal Employment | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **General** | **Women** | **Men** | **Age 15-18** | **Age 19-24** | **Age 25-29** | **Inactive** | **Unemployed** |
| **1 if men** | 2.641*** | | | 2.661*** | 2.510*** | 2.843*** | 2.498*** | 2.461*** |
| | (0.0733) | | | (0.180) | (0.0943) | (0.148) | (0.0928) | (0.106) |
| **1 if age 19-24** | 1.451*** | 1.535*** | 1.488*** | | | | 1.530*** | 1.388*** |
| | (0.0512) | (0.0865) | (0.0689) | | | | (0.0639) | (0.0918) |
| **1 if age 25-29** | 1.511*** | 1.596*** | 1.586*** | | | | 1.465*** | 1.708*** |
| | (0.0594) | (0.0963) | (0.0872) | | | | (0.0702) | (0.123) |
| **1 if year 2009-2015** | 0.862*** | 0.788*** | 0.915** | 0.875** | 0.845*** | 0.880*** | 0.818*** | 0.931* |
| | (0.0220) | (0.0276) | (0.0352) | (0.0566) | (0.0302) | (0.0393) | (0.0264) | (0.0394) |
| **1 if year 2016-2018** | 0.831*** | 0.723*** | 0.888** | 0.741*** | 0.869*** | 0.797*** | 0.772*** | 0.911* |
| | (0.0284) | (0.0349) | (0.0442) | (0.0717) | (0.0403) | (0.0482) | (0.0337) | (0.0509) |
| **1 if it is an inactive NEET** | 0.550*** | 0.599*** | 0.636*** | 0.565*** | 0.628*** | 0.442*** | | |
| | (0.0144) | (0.0234) | (0.0237) | (0.0406) | (0.0222) | (0.0204) | | |
| **1 if household head** | 1.510*** | 1.248*** | 1.350*** | 2.027** | 1.501*** | 1.441*** | 1.318*** | 1.552*** |
| | (0.0662) | (0.0738) | (0.117) | (0.558) | (0.104) | (0.0871) | (0.0809) | (0.110) |
| **1 if incomplete primary** | 0.674*** | 0.658*** | 0.608*** | 0.787** | 0.641*** | 0.628*** | 0.622*** | 0.854* |
| | (0.0327) | (0.0534) | (0.0393) | (0.0767) | (0.0459) | (0.0579) | (0.0375) | (0.0792) |
| **1 if incomplete secondary** | 1.047 | 1.122** | 0.999 | 1.034 | 0.968 | 1.166*** | 1.118*** | 0.911 |
| | (0.0347) | (0.0540) | (0.0492) | (0.0790) | (0.0457) | (0.0689) | (0.0468) | (0.0520) |
| **1 if complete secondary** | 1.003 | 1.219*** | 0.793*** | 0.968 | 0.886** | 1.232*** | 1.173*** | 0.748*** |
| | (0.0355) | (0.0603) | (0.0422) | (0.0964) | (0.0434) | (0.0754) | (0.0520) | (0.0448) |
| **1 if incomplete tertiray** | 1.180*** | 1.435*** | 0.894 | 1.255 | 1.151 | 1.276*** | 1.388*** | 0.875 |
| | (0.0726) | (0.111) | (0.0923) | (0.516) | (0.102) | (0.118) | (0.109) | (0.0862) |
| **1 if complete tertiary** | 1.149** | 1.388*** | 0.680*** | 0 | 1.063 | 1.302*** | 1.491*** | 0.760*** |
| | (0.0786) | (0.115) | (0.0835) | 0 | (0.117) | (0.124) | (0.140) | (0.0761) |
| **1 if married** | 0.731*** | 0.561*** | 1.791*** | 0.739*** | 0.697*** | 0.809*** | 0.616*** | 1.012 |
| | (0.0226) | (0.0209) | (0.118) | (0.0856) | (0.0300) | (0.0402) | (0.0245) | (0.0513) |
| **1 if there is a child < 6 in the home** | 0.951* | 0.795*** | 1.128*** | 1.036 | 0.962 | 0.896** | 0.880*** | 1.066 |
| | (0.0262) | (0.0292) | (0.0459) | (0.0682) | (0.0370) | (0.0444) | (0.0310) | (0.0468) |
| **1 income dis (20-40)** | 0.844*** | 0.880*** | 0.861*** | 1.029 | 0.823*** | 0.794*** | 0.870*** | 0.832*** |
| | (0.0254) | (0.0366) | (0.0391) | (0.0774) | (0.0342) | (0.0427) | (0.0327) | (0.0424) |
| **1 income dis (40-60)** | 0.788*** | 0.861*** | 0.784*** | 0.918 | 0.773*** | 0.747*** | 0.809*** | 0.788*** |
| | (0.0273) | (0.0404) | (0.0414) | (0.0854) | (0.0368) | (0.0454) | (0.0351) | (0.0462) |
| **1 income dis (60-80)** | 0.718*** | 0.776*** | 0.729*** | 0.988 | 0.702*** | 0.647*** | 0.726*** | 0.732*** |
| | (0.0299) | (0.0446) | (0.0447) | (0.114) | (0.0400) | (0.0466) | (0.0388) | (0.0491) |
| **1 income dis (80-100)** | 0.625*** | 0.749*** | 0.589*** | 0.953 | 0.588*** | 0.589*** | 0.632*** | 0.629*** |
| | (0.0349) | (0.0585) | (0.0460) | (0.165) | (0.0457) | (0.0544) | (0.0457) | (0.0555) |
| **1 if HH has education lower than secondary** | 1.019 | 0.984 | 1.037 | 1.157 | 0.973 | 1.066 | 1.038 | 0.986 |
| | (0.0300) | (0.0386) | (0.0463) | (0.106) | (0.0394) | (0.0530) | (0.0387) | (0.0477) |
| **1 if HH has formal employment** | 0.816*** | 0.847*** | 0.807*** | 0.822*** | 0.850*** | 0.775*** | 0.800*** | 0.862*** |
| | (0.0230) | (0.0325) | (0.0337) | (0.0615) | (0.0325) | (0.0392) | (0.0284) | (0.0402) |
| **1 if the household receive a social transfer** | 0.892*** | 1.095** | 0.694*** | 0.799 | 0.837*** | 0.963 | 0.987 | 0.752*** |
| | (0.0349) | (0.0477) | (0.0958) | (0.150) | (0.0482) | (0.0559) | (0.0443) | (0.0644) |
| **Northwest** | 1.081* | 1.003 | 1.155** | 1.084 | 1.078 | 1.068 | 1.062 | 1.080 |
| | (0.0438) | (0.0541) | (0.0718) | (0.114) | (0.0607) | (0.0756) | (0.0580) | (0.0666) |
| **Northeast** | 0.856*** | 0.860** | 0.808*** | 0.587*** | 0.861** | 0.973 | 0.834*** | 0.829** |
| | (0.0397) | (0.0533) | (0.0564) | (0.0744) | (0.0555) | (0.0777) | (0.0488) | (0.0711) |
| **Cuyo** | 1.072 | 0.910 | 1.280*** | 0.999 | 1.106 | 1.027 | 1.058 | 1.047 |
| | (0.0511) | (0.0585) | (0.0943) | (0.120) | (0.0735) | (0.0862) | (0.0645) | (0.0853) |
| **Pampeana** | 0.908** | 0.828*** | 0.999 | 0.815** | 0.940 | 0.887* | 0.892** | 0.891* |
| | (0.0361) | (0.0439) | (0.0613) | (0.0835) | (0.0519) | (0.0618) | (0.0488) | (0.0524) |
| **Patagonica** | 0.842*** | 0.798*** | 0.851** | 0.975 | 0.821*** | 0.818** | 0.860** | 0.785*** |
| | (0.0419) | (0.0540) | (0.0638) | (0.128) | (0.0567) | (0.0703) | (0.0565) | (0.0613) |
| **Constant** | 0.341*** | 0.371*** | 0.718*** | 0.270*** | 0.529*** | 0.519*** | 0.198*** | 0.366*** |
| | (0.0229) | (0.0344) | (0.0650) | (0.0450) | (0.0449) | (0.0564) | (0.0164) | (0.0396) |
| **Observations** | 56,294 | 37,395 | 18,899 | 10,017 | 27,212 | 19,065 | 41,487 | 14,807 |
| **Standard errors in parentheses** | | | | | | | | |
| ***** p<0.01, ** p<0.05, * p<0.1** | | | | | | | | |

*Own computation on Encuesta Permanente de Hogares - INDEC data*

### 3) Transitions from being NEET to education

Transitions from being NEET to education illustrate a more altered scene than transitions to employment. Firstly, the relative risk ratio is only 1.07 times greater for men than for women, which implies that although it is a significant statistic difference, the gender odd for those young people getting back to educations instead of those remaining NEET is substantially lower than for any of the two employment destinations. Moreover, the gender variable is not significant when fixing the observations to teenagers, older youth, or those initially unemployed.

Contrary to what happened with employment transitions, age shows a marked negative odd with age. Those over 25 presented 0.15 more chances of re-entering education than of remaining NEETs relative to those below 18. Similarly, those initially perceived as inactive had 1.6 times greater odds of going back to education than those initially unemployed. This could support the idea that some of those inactive young people could be in a break from education and, as they are not fully involved in job searching, it is feasible to make them return to the education system. However, this ratio is higher when considering only men and for the youngest group, which also suggests that maternity is indeed not only a reason for remaining inactive but also for not even getting involved in education schemes. Likewise, the coefficient of the odd for the variable that controls if there is a child under 6 years old in the household is 0.64, but only significant for women. Beccaria *et al*. (2017) and Bertranou *et al*. (2017) achieved the same results using diverse methodologies.

Interestingly, when contrasting the results for the education dummies, all the outcomes have a greater odd than the baseline (young individuals who have completed primary education), even for those with incomplete primary education. This means that, in contrast to that group, the odds of transitioning to education are relatively higher than remaining NEET. The coefficient for those with incomplete tertiary education is surprisingly high (8 times bigger than for those with complete primary education). Even for those who have completed tertiary education, the odds of going through a new training are quite high, representing 3 times greater odds of transitioning than for those in the baseline.

In agreement with the results of informal employment, when controlling for the position of the household in the income distribution it is feasible to verify that, the higher the income of the family, the higher the odds of transitioning to education relative to remaining NEET. The costs associated with education may result an impediment for the poorest families to support young people's studies. Even if they cannot contribute an income, remaining at home is still cheaper than spending money and energy for reaching school.

Two important variables that are relevant in the analysis of transitions to education are those related to the household's head. In fact, if the education of the individual in charge of the household where the young person lives is below a complete secondary level, the odds of transitioning to education are 0.69. These findings support the role of intergenerational influence of disadvantages, where family background influences the education paths of the youth (Filmus *et al.*, 2001; Furlong, 2006; De la Torre and Baquerin de Riccitelli, 2017). Similarly, if the household's head has got formal employment, there is a higher chance of the young individual returning to school than of remaining NEET. Stability of family income could induce individuals to make riskier decisions, such as staying in education instead of waiting for a labour opportunity. In that sense, the result is even higher for those that were originally unemployed, which suggests that under the frustration of not finding a job, making the decision of going back to study and therefore increase human capital is also affected by the family's income solidity.

Table 4: Transition from being NEET to Education. Relative Risk Ratios.
Multinomial Logit. Period 2003-2018 - Control group: remain NEET

| | Relative Risk Ratios for Education | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **General** | **Women** | **Men** | **Age 15-18** | **Age 19-24** | **Age 25-29** | **Inactive** | **Unemployed** |
| **1 if men** | 1.077** | | | 1.048 | 1.110** | 0.989 | 1.095** | 0.957 |
| | (0.0380) | | | (0.0561) | (0.0582) | (0.109) | (0.0439) | (0.0729) |
| **1 if age 19-24** | 0.332*** | 0.324*** | 0.364*** | | | | 0.317*** | 0.450*** |
| | (0.0122) | (0.0162) | (0.0201) | | | | (0.0130) | (0.0424) |
| **1 if age 25-29** | 0.159*** | 0.167*** | 0.151*** | | | | 0.147*** | 0.236*** |
| | (0.00848) | (0.0112) | (0.0143) | | | | (0.00907) | (0.0280) |
| **1 if year 2009-2015** | 1.103*** | 1.170*** | 1.013 | 1.063 | 1.127** | 1.092 | 1.088** | 1.144* |
| | (0.0389) | (0.0542) | (0.0555) | (0.0596) | (0.0595) | (0.104) | (0.0433) | (0.0889) |
| **1 if year 2016-2018** | 1.128*** | 1.253*** | 0.956 | 1.017 | 1.133* | 1.302** | 1.138** | 1.055 |
| | (0.0523) | (0.0765) | (0.0685) | (0.0803) | (0.0755) | (0.154) | (0.0598) | (0.109) |
| **1 if it is an inactive NEET** | 1.636*** | 1.506*** | 1.976*** | 2.238*** | 1.533*** | 1.268** | | |
| | (0.0688) | (0.0893) | (0.119) | (0.193) | (0.0856) | (0.129) | | |
| **1 if household head** | 1.075 | 0.924 | 1.332 | 0.896 | 1.281** | 0.909 | 1.085 | 0.930 |
| | (0.0968) | (0.0990) | (0.237) | (0.311) | (0.153) | (0.143) | (0.110) | (0.188) |
| **1 if incomplete primary** | 1.386*** | 1.378*** | 1.316*** | 1.059 | 2.049*** | 2.422*** | 1.408*** | 0.948 |
| | (0.104) | (0.148) | (0.139) | (0.105) | (0.289) | (0.541) | (0.112) | (0.260) |
| **1 if incomplete secondary** | 2.043*** | 1.990*** | 2.130*** | 1.930*** | 2.420*** | 1.626** | 2.069*** | 1.908*** |
| | (0.119) | (0.160) | (0.182) | (0.147) | (0.280) | (0.337) | (0.131) | (0.292) |
| **1 if complete secondary** | 2.190*** | 2.107*** | 2.214*** | 1.582*** | 3.043*** | 2.466*** | 2.205*** | 2.185*** |
| | (0.132) | (0.171) | (0.200) | (0.139) | (0.345) | (0.476) | (0.146) | (0.330) |
| **1 if incomplete tertiray** | 8.012*** | 8.127*** | 7.291*** | 4.164*** | 9.745*** | 11.74*** | 8.736*** | 6.191*** |
| | (0.616) | (0.803) | (0.925) | -1.019 | -1.254 | -2.295 | (0.759) | -1.096 |
| **1 if complete tertiary** | 3.455*** | 3.268*** | 3.137*** | 4.633* | 3.922*** | 4.867*** | 3.946*** | 2.706*** |
| | (0.335) | (0.393) | (0.547) | -4.146 | (0.614) | -1.041 | (0.456) | (0.540) |
| **1 if married** | 0.250*** | 0.244*** | 0.440*** | 0.238*** | 0.247*** | 0.328*** | 0.235*** | 0.382*** |
| | (0.0132) | (0.0139) | (0.0853) | (0.0294) | (0.0188) | (0.0339) | (0.0135) | (0.0503) |
| **1 if there is a child < 6 in the home** | 0.694*** | 0.592*** | 0.936 | 0.775*** | 0.656*** | 0.647*** | 0.683*** | 0.739*** |
| | (0.0260) | (0.0274) | (0.0572) | (0.0443) | (0.0383) | (0.0666) | (0.0285) | (0.0634) |
| **1 income dis (20-40)** | 1.129*** | 1.170*** | 1.103 | 1.158** | 1.139* | 1.065 | 1.141*** | 1.103 |
| | (0.0508) | (0.0686) | (0.0780) | (0.0787) | (0.0785) | (0.139) | (0.0572) | (0.114) |
| **1 income dis (40-60)** | 1.225*** | 1.217*** | 1.290*** | 1.224*** | 1.305*** | 1.034 | 1.218*** | 1.291** |
| | (0.0602) | (0.0784) | (0.0989) | (0.0958) | (0.0940) | (0.146) | (0.0672) | (0.140) |
| **1 income dis (60-80)** | 1.417*** | 1.437*** | 1.457*** | 1.497*** | 1.374*** | 1.452*** | 1.492*** | 1.205 |
| | (0.0759) | (0.101) | (0.121) | (0.135) | (0.108) | (0.204) | (0.0905) | (0.141) |
| **1 income dis (80-100)** | 1.601*** | 1.682*** | 1.566*** | 2.053*** | 1.557*** | 1.337* | 1.687*** | 1.355** |
| | (0.102) | (0.144) | (0.150) | (0.239) | (0.142) | (0.222) | (0.122) | (0.192) |
| **1 if HH has education lower than secondary** | 0.654*** | 0.633*** | 0.684*** | 0.582*** | 0.703*** | 0.725*** | 0.632*** | 0.761*** |
| | (0.0240) | (0.0302) | (0.0395) | (0.0369) | (0.0367) | (0.0677) | (0.0261) | (0.0628) |
| **1 if HH has formal employment** | 1.077** | 1.075 | 1.087 | 1.136** | 1.089* | 0.960 | 1.043 | 1.210** |
| | (0.0384) | (0.0506) | (0.0600) | (0.0674) | (0.0560) | (0.0909) | (0.0422) | (0.0937) |
| **1 if the household receive a social transfer** | 0.688*** | 0.702*** | 1.027 | 0.611*** | 0.677*** | 0.815 | 0.699*** | 0.753 |
| | (0.0499) | (0.0547) | (0.232) | (0.107) | (0.0688) | (0.112) | (0.0548) | (0.146) |
| **Northwest** | 1.272*** | 1.266*** | 1.277*** | 1.079 | 1.425*** | 1.296 | 1.111 | 1.792*** |
| | (0.0734) | (0.0961) | (0.114) | (0.0994) | (0.125) | (0.206) | (0.0742) | (0.209) |
| **Northeast** | 0.948 | 0.954 | 0.903 | 0.794** | 1.011 | 1.122 | 0.852** | 1.271 |
| | (0.0612) | (0.0820) | (0.0890) | (0.0802) | (0.0996) | (0.197) | (0.0613) | (0.210) |
| **Cuyo** | 0.924 | 0.917 | 0.938 | 0.726*** | 1.112 | 0.973 | 0.801*** | 1.449** |
| | (0.0633) | (0.0818) | (0.102) | (0.0788) | (0.115) | (0.181) | (0.0618) | (0.223) |
| **Pampeana** | 0.970 | 0.946 | 1.002 | 0.846* | 1.065 | 1.010 | 0.897 | 1.124 |
| | (0.0549) | (0.0705) | (0.0880) | (0.0746) | (0.0929) | (0.161) | (0.0593) | (0.128) |
| **Patagonica** | 1.089 | 1.112 | 1.041 | 1.071 | 1.185* | 0.923 | 0.982 | 1.381** |
| | (0.0723) | (0.0970) | (0.107) | (0.116) | (0.118) | (0.178) | (0.0748) | (0.193) |
| **Constant** | 0.193*** | 0.228*** | 0.159*** | 0.203*** | 0.0449*** | 0.0294*** | 0.368*** | 0.115*** |
| | (0.0181) | (0.0280) | (0.0219) | (0.0299) | (0.00694) | (0.00787) | (0.0366) | (0.0247) |
| **Observations** | 56,294 | 37,395 | 18,899 | 10,017 | 27,212 | 19,065 | 41,487 | 14,807 |
| **Standard errors in parentheses** *** p<0.01, ** p<0.05, * p<0.1** | | | | | | | | |

*Own computation on Encuesta Permanente de Hogares - INDEC data*

## VII) Conclusions

The objective of this study was to determine the characteristics of NEETs that influence diverse labour market transitions in Argentina for the period 2003-2018. The main observation of this article is the confirmation of the great heterogeneity that underlies the category. As stated by Thompson (2011), this is not an empirical 'discovery', but a logical consequence of a broad definition.

The descriptive analysis showed that near 40% of the young population considered NEET is in fact young inactive women that have decided to stay out of the labour market and education primarily because of family care work. Likewise, another 30% of total NEETs are unemployed men or women who are still attached to the labour market, waiting for and seeking an opportunity to develop their careers. That leaves an extra 30% composed of those inactive not performing care work nor interested in schooling and a minority of population excluded from both employment and education due to disability. The first of these last groups, however, encompasses those at serious risk of marginalisation as well as those voluntarily out of the traditional social networks. Research and policy recommendation must, therefore, be disaggregated for each of the subgroups, as latent vulnerabilities undeniably differ even for each of these subcategories when considering individual and socio-economic attributes.

Along the study, three age groups were established for comparison purposes: 15-18, 19-24 and 25-29. While the main difficulty found for the first group is schooling, and employment is seen more as an obstacle to finish mandatory education, the picture is completely the opposite for those over 25. It is clear that the challenges faced by a young teenage woman coming from a poor background that needed to drop out of high school to take care of a child are not the same as those faced by a recently graduated man who took time off to travel before going into deep job search.

This survey analysed three potential transition states: finding a formal job, finding an informal job, and returning to education. The methodology used, a multinomial logit, verified that young people's attributes effectively influence the odds of transitioning to any of these states with diverse strength. On the one hand, being a man, older, the household's head, and married seem to be the main stable drivers to quit NEET state and transition to any of the no-NEET states, in comparison to remaining NEET. The level of education, while extremely relevant for transitions to a formal position or for returning to training, is not an attribute that differentiates those remaining NEET from those finding an informal job. On the other hand, the household's income is highly relevant to explain transitions from being NEET to education or to informal

employment, but not to formal employment. Likewise, family background affects the three outcomes when the non-NEET household's head is working under formal conditions, but his / her level of education only affects NEETs' transitions to a new training and is not related to the youth's movements towards employment.

As mentioned above, the underling distinctions of the subgroups influence the transitions, as most of the outcomes differ in strength when controlling for gender, age, or initial category. As expected, those initially inactive are more prone to education, while actively seeking a job is clearly a driver for finding it. This means that the distinction between inactive NEET and unemployed NEET is worthwhile, and a fragmentation on sub-categories must be done in order to promote accurate recommendations.

By 2018, 64% of NEETs in Argentina were women. The vast majority of the inactive women reported that the main reason for being in that state was related to duties in their household. As corroborated by the econometrical approach, being a woman, inactive, and living with little children are crucial factors to explain the detachment from both the labour market and education. From a policy perspective, the lack of social institutions that may take care of young children or older relatives as well as the absence of labour opportunities for young women could play a big role on intra-family decisions that discourage young women from continuing their studies or participating in the labour market.

To reduce this concern, there is a need for appropriate work-family conciliation policies, such as the promotion of decent part-time jobs, the extension of parental leave, and the provision of childcare services. The expansion of a network that can support those families with less access to the professional care sector and extended school days for young people's children becomes a factor of paramount importance to achieve greater promotion and educational retention, as well as greater participation in public spheres, which mark new alternatives to domestic activity as an exclusive task (Miranda, 2015).

Another important issue addressed in this study is the quality of the jobs that NEETs can obtain. In Argentina, more than 80% of the transitions from this category to employment are made to an informal job, where the lack of social protection makes young workers more vulnerable. The absence of regulations is commonly associated with a lower salary, a lower quality of work standards, and less stability. A higher exposition of these jobs to the economic cycle does not guarantee a stable carer growth, and thus degenerates the ideal of employment as a social and material engine towards a better standard of living.

It is not clear, therefore, that transitioning to informal employment is more beneficial in the long run for young people than remaining NEET. If the work they carry out is of low quality or precarious, being part of the employment structure does not imply for these young people having overcome marginality.

Without doubt, family income plays a determinant role in NEETs' composition and mobility. As demonstrated, the number of dropouts from mandatory school is highly influenced by income. In consequence, labour prospects for the already vulnerable population worsen. Intergenerational transmission of both poverty and lack of opportunities can only reinforce social disparities. In that sense, if education is not guaranteed for teenagers and young adults, early entrance to informal positions are more likely, which will certainly inhibit fruitful career development.

As mentioned by Furlong (2006), disadvantaged people may lack the resources to navigate transitions or exercise choice, contrasting with more privileged young people who are able to exercise a significant degree of choice regarding the ways in which they manage their lives. The corollary of this statement is that if nothing is done to guarantee that vulnerable young people complete their studies, which is an indirect consequence of the income level and stability of their families, it would be difficult to reduce inequalities and vulnerable people's disaffection. As a policy recommendation, the strategies to hold back low-income students and the provision of vocal qualifications that enhance their basic skills are needed.

As demonstrated, young people considered NEET, usually perceived as feckless and lacking both aspiration and employment-related skills, are in fact a highly heterogeneous group. In most cases, their detachment is a consequence of the structural employment limitations and the lack of global strategies to promote their development. When considering young people's vulnerabilities, not only should the analysis explore their explicit diversity among those unemployed and inactive, but it should also include an examination of young people's weak insertion in non-formal jobs, which acts as a barrier to achieving full personal development and social integration.

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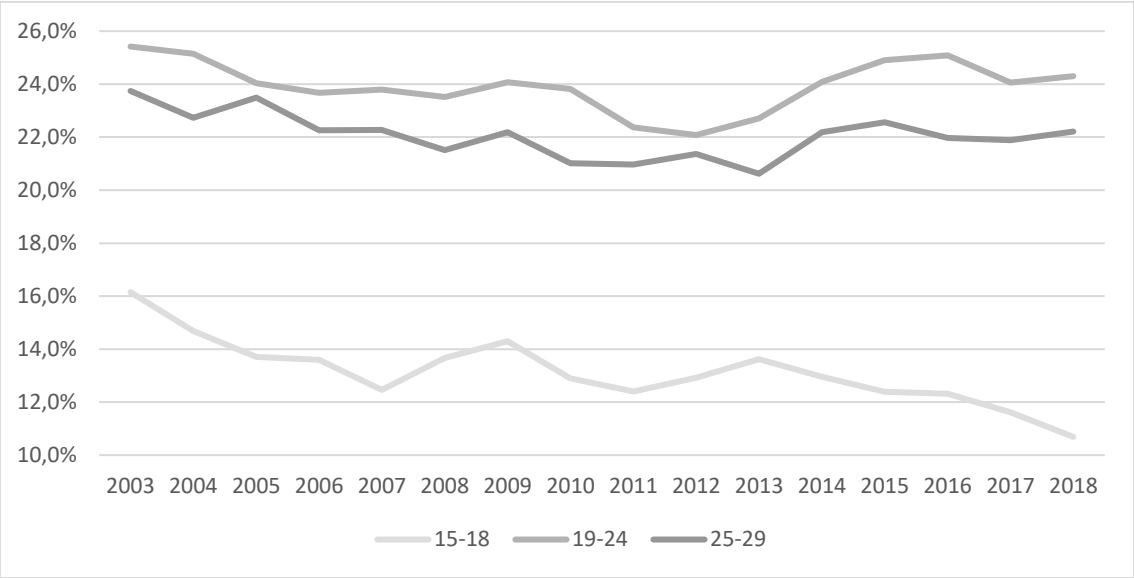
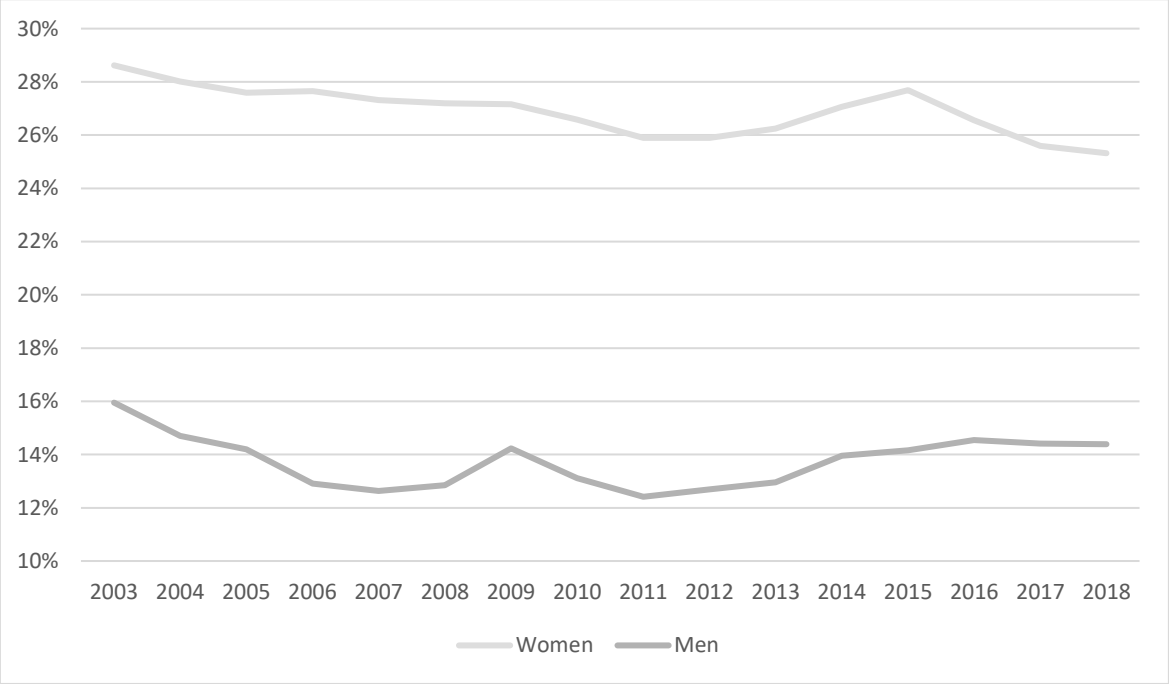
**Annex:**

*Graph A.1: NEET rate by age group and year*



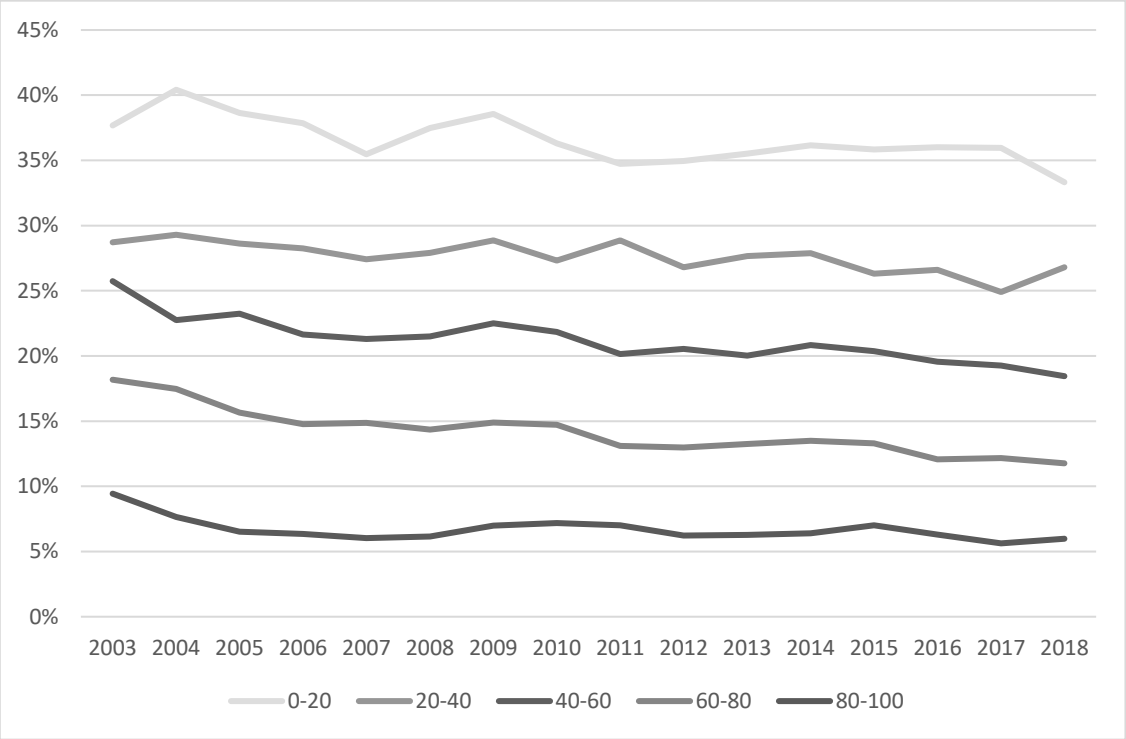

*Own computation on Encuesta Permanente de Hogares - INDEC data*

*Graph A.2: NEET rate by gender and year*



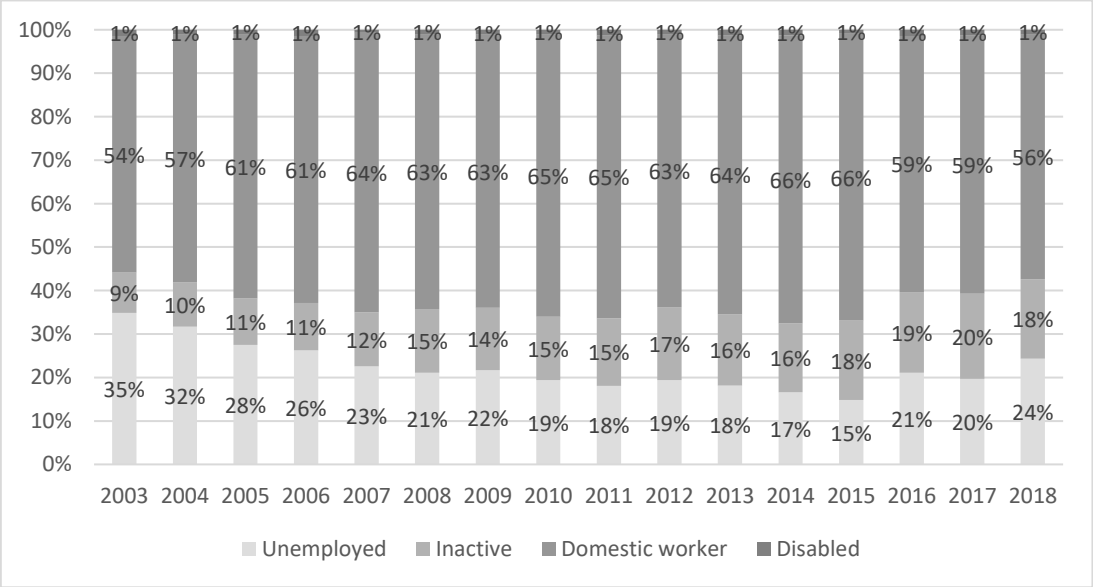

*Own computation on Encuesta Permanente de Hogares - INDEC data*

*Graph A.3: NEET rate by percentile of income and year*



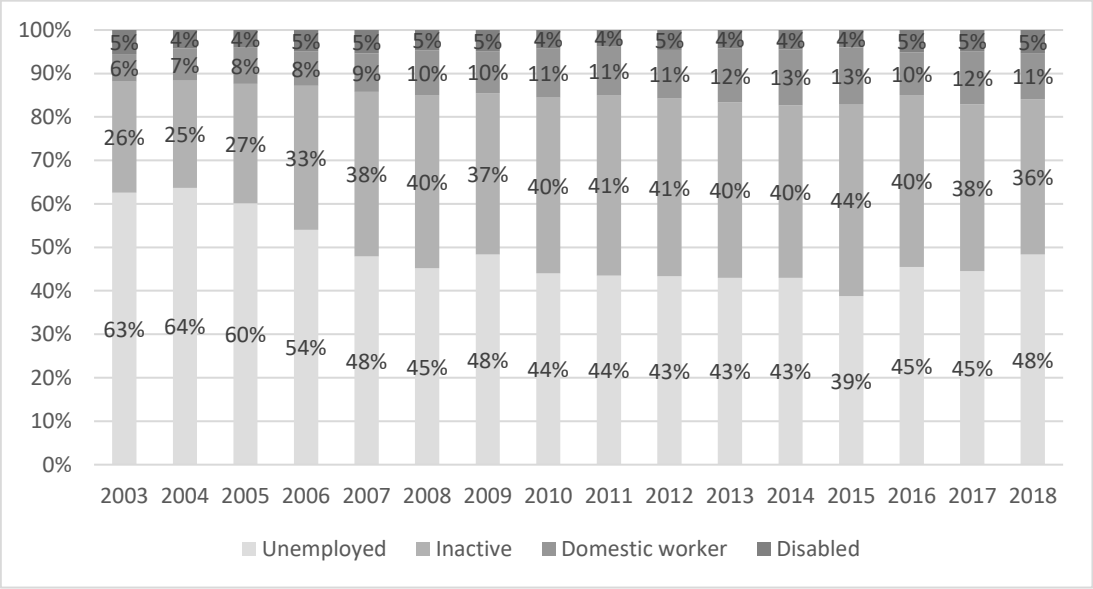

*Own computation on Encuesta Permanente de Hogares - INDEC data*

*Graph A.4: NEETs women composition by year*




*Own computation on Encuesta Permanente de Hogares - INDEC data*

*Graph A.5: NEETs men composition by year*




*Own computation on Encuesta Permanente de Hogares - INDEC data*