Young People Not in Education, Employment or Training in Mexico, 2005 and 2012

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Abstract

School attendance and employment are two relevant factors in Mexican youth life. Both provide information about household conditions and socioeconomic context of youths. Then, as main objective, this paper identifies socioeconomic and demographic variables which affected and changed school attendance and worked status of Mexican youths in 2005 and 2012. This study divides young population into four groups; each depends on their school attendance and labor status. Those groups are the dependent variable in the multinomial logistic regression model (MLR), and the independent variables are relating to individual, household and head-household characteristics from the Mexican Survey of Occupation and Employment in 2005 and 2012. Particularly, the study focuses on Mexican young people not in education, employment or training (NEETs). The results show that educational attainment, sex, kind of head-household, and class of worker are the most important factors which affect youth life trajectories at work and school.

Keywords: Mexico, young people, NEET, household characteristics.

1. Introduction

Education and work are two of the most typical activities of young people. Both allow them to participate in society and enter the labor market, so their presence or absences are significant in revealing characteristics related to their family circumstances, and their society. School attendance and working life of young people take place with different durations and life trajectories. These differences depend on individual youth profiles, social and family circumstances, and local economic issues. In the case of Mexico, this study analyses two specific periods: 2005 and 2012.

Based on the aspects stated above, the paper seeks to identify individual and family factors that promote or inhibit youth participation in school and work in a study of two survey years, according to the multinomial logistic regression model. This paper used as a primary source of information the Mexican Survey of Occupation and Employment (MSOE).

The argumentative order of this article is divided into four sections. The first section begins with a brief bibliographic review of neither young people who neither work nor study in Mexico. The second section describes the statistical model specifications, and the data source used. The third section gives the results intended to show which variables mainly affect the NEET population and to review if these variables have changed over time. Finally, the conclusion discusses the necessity to implement public policy as a solution to this problematic situation.

1. Literature Review

Studies regarding young people who were neither in education nor employment became relevant in Great Britain, in the 1980's (Roberts, 1984; Wallace, 1987). At that time, it was noted that there was a group of youths with low qualifications and who experienced difficulties in entering the labor market. However, the situation was not the same for everyone: there were young people more susceptible of becoming NEETs, such as those from homes where fathers or grandparents had been migrants, had dropped out of school prior to secondary education, or who had one or more disabilities (Eurofound, 2012).

The problem of NEETs soon became evident not only in Great Britain but also in the rest of the world, including Latin America. In Mexico, the topic of NEETs (*NiNis= Ni* estudian-*Ni* trabajan), was seen as a problem when newspapers reported that 7.5 million young people from 14 to 29 years were neither in employment nor in education. It was thought that if this problem was not looked into, these young people could fall into illegality (Martinez, 2009). It is this alarming conclusion which possibly led to various studies conducted on the topic in the last decade. Some attempted to quantify NEETs: for instance, Carla Pederzini (2011) demonstrated with the Mexican 2010 Census that the numbers of NEETs were lower than those published in media. In a more technical version, Negrete and Leyva (2013) used the MSOE as a basis to quantify the numbers of NEETs in minute detail. These researchers analyse exhaustively all the variables which would allow to seize this population: unemployed (available or not available to work); from this data a discussion ensues as to who is considered not active as well as those who perform tasks in the home. This information forms the basis for different paradigms to identify NEET issue.

Other documents attempt to discover the factors which lead young people to be in this situation, such as the Arceo and Campos (2011) research paper. They used various surveys and censuses to show that those variables with the greatest impact on becoming a NEET are years of schooling and gender. At the macro level Arceo and Campos discovered that in the young female population the decision to focus on household tasks is an important element leading to neither studying nor working; as for males, years of schooling and household income of the head of family are the decisive factors.

In yet another study, Vargas-Valle and Cruz-Pineiro (2012) analyze the variables leading to the NEET condition. The study of this segment of young population is based on information from the 2000 and 2010 census in two regions in Mexico: North and Pacific South. Using a logistic regression model, the study includes variables such as: age, marital status, educational level, recent migration, returning migration, indigenous language, as well as elements related to composition of the household, number of pre-school children, assets, household income or government assistance, urban-rural circumstances, years of schooling of head of the family, percentage of young self-employed. Furthermore, their conclusions show differences between the North and South regions. Particularly, North region which is more urban and industrialized being more affected by the NEET phenomenon. In brief, this study shows that regional circumstances and socioeconomic structure are major factors impacting on the NEET condition. Considering a slightly different aspect, Bermudez (2014), using the 2010 Mexican Census, studied the young NEET's transition to adulthood. He focused his analysis on two groups: young NEETs who had not yet made the transition to adult life, and adults who have left their parents' home, have entered a couple relationship or have children. The analysis found a marked division according to gender roles; an aspect of interest is that the most vulnerable period was between the ages 15 to 19 because the choice made by youth in this period of life impacted strongly on adult life.

2. Method and data source

The data for this study are taken from the Mexican Survey of Occupation and Employment (MSOE) for the second quarter of 2005 and 2012 performed by the National Institute of Statistics and Geography of Mexico (NISG). The sample design of the MSOE is a two-stage stratified clustered area probability sample, with sample unit rotation. Thus, twenty percent of the sample changes each quarter and its geographical configuration allow analysing at three levels of representatively: federal division, city and locality.

The sample design is based on the Primary Sampling Units (PSUs) from the Mexican Censuses. The MSOE is one of the main household surveys in Mexico because it is periodical, its levels of observation are persons and households, its target population are people over 14 years old. Also, it is considered one of the most dependable sources of information on the active population in Latin America.

The target population of this study is youths from 15 to 29 years, and the statistical model used is a Multinomial Logistic Regression (MLR) per year of survey. It has a categorical dependent variable with four mutually exclusive categories of youths. First, those who are not in education nor employment or training (NEETs); second, those who are in education and are not employed (YENEs); third, those who are not in education and are employed (NEYEs); and finally, those who are in education and employment or training (YEETs).

The selection of independent predictor variables of the MLR was based on the previous review of the specialized literature. So, the analysis groups those variables in two dimensions, assuming that factors having an impact on participation in the labour force and completing school classified as follows: *individual* (characteristics of youths), and *household* (characteristics of the head of household). The interaction between these factors generates norms which situate young population in different conditions (Table 1). Through the independent predictor variables of the MLR model, the study estimates the odds ratio for each variable which affects the employability and school attendance of the young people who are classified into four categories (outcome variable).

The analysis estimated a MLR per each survey year (2005 and 2012). In general, this study intended to measure the propensity of classification of young people per each dependent variable category. As a result of assessed the effect of the independent predictor variables on the outcome variable. These statistical models assume that their individual and household characteristics show the vulnerability in labor participation and access to education of youth population. The MLR model was estimated in Stata 13. The test used to validate the assumption of the independence of irrelevant alternative (IIA) was the Hausman and Small-Hsiao tests. In addition, the study examined the combining dependent categories by Wald Test, who evaluate whether the independent variables differentiate pairs of outcome categories. Additionally, the time dummy variable was used to observe the significant changes in time, marginal effects, and multiplicative interaction terms. All the test results confirmed that the MLR model agrees with the source data analysis.

The goodness of fit of the MLR model was tested to the following measures such as log likelihood, McFadden's R2, Akaike Information Criterions (AIC), and Bayesian Information Criterions (BIC). The results confirmed a good fit model. Therefore, it means that independent variables predicted appropriately the youth classification in the outcome variable categories (Table 2). Finally, it is interesting to note that survey's sample size was 84,104 young people in 2005 and 78,634 in 2012. These are equivalent to 20,678,655 young people in 2005 and 23, 227, 581 in 2012.

3. Data analysis and Results

The deterioration of the Mexican Economy and its impact on labor markets[i] have resulted in a rise in poverty and the restructuring of the young labor force in Mexican households with the intention of providing family subsistence. In Mexico, young people constitute a fundamental labour force to support their families. They modify their tasks (inside and outside of the household) to conform to family dynamics and needs. Therefore, youths sometimes work, others study, some do both or none.

Table 3 shows the distribution of young people aged 15 to 29 years by dependent variable categories for each survey year (2005 and 2012). It is interesting to mentioned that approximately half the youths were working; about a quarter was only studying; one in ten youths were studying and working, and less than 20 percent of the young population neither studied nor worked. So the data displays that most Mexican young people work only. The data indicate that one fifth of the young population in this age group would normally be in school or working. However, they are not in education, employment or training (NEETs), and thus, merit particular attention.

3.1 Young People Who Are Not in Education, Employment or Training *versus* another youth status

3.1.1 Relative Risk Ratios

Results of the MLR model – where NEETs was the category of reference – confirm that individual and household predictors impact this youth group, leading them to fall into this situation. Mainly, individual characteristics of the young population which were used as control variables showed that males had a higher relative risk to be included in education or employment categories (YENE, NEYE or YEET), as compared to young women. In other words, males had an increased propensity to work, study, or study and work in comparison with the NEET category of females.

Moreover, the interaction between sex and time variables showed that there were significant changes in NEYE and YEET categories for both survey periods (2005 and 2012). Notably, those results confirm that men reduced their probability of being classify as NEYE. Specifically, the relative risk ratios showed that the odds of men in the NEYE category were 15.15 times greater in 2005 and 13.24 times greater in 2012 respectively than the odds of working for women as compared to those who neither studied nor worked. This means young women showed higher inclination to stay at home without studying or working. Moreover, similar trends are visible in other categories. For instance, men are more likely than women to be in education but not employed (YENE) category than NEET. Also, men are more likely than women to be in education and employed (YEET) category than NEET. As a result, women neither are more likely than men to be in the not in education nor employed category as compared to all other education and employment combinations.

Age of young people played a significant role in the NEET classification because age and time interaction variable suggested that young people from 25 to 29 years had 1.25 odds to be not in education but employed (NEYE). Furthermore, the older youth group showed less propensity of being classify in other categories which included the education attendance, such as YENE, YEET. As a consequence, young people from 25 to 29 years had less probability to be part of NEET category than young people from 15 to 19 years. For instance, those 25 to 29 years old have 2.98 times the odds in 2005 and 3.14 times the odds in 2012 to be working than being in the NEETs category compared to those 15 to 19 years old. It is relevant to note that within the five-year age group (25-29) there was a considerable group of young people who had already completed their education. Thus, their activities were more likely to be associated with the labor market participation.

In considering young people by marital status or couple union, the data allows to infer that couple status did not positively impact the probability of neither studying nor working. The results confirm that young people in union had less likelihood of being classify in YENE or YEET categories. In other words, single youths were more susceptible to being in education (YENE or YEET categories) than married youths. On the other hand, married youths had less propensity of being NEYE or NEET. This situation could be a consequence of married life because married youths usually have more responsibilities associated with labor and family members. In addition, the interaction between time and marital status confirm that changes between 2005 and 2012 were significant. For example, married youths increased (1.26 times the odds in 2004 and 1.31 times the odds in 2012) their likelihood of working respect to those young people who neither study and nor work. So, it is possible to affirm that the marital status condition observed significant changes statistically over time, and married youths are more susceptible to be work than single youths in 2005 and 2012.

Regarding the educational attainment, the MLR results showed that high educational attainment influenced the probability of being in another outcome category, unlike NEET positively. Consequently, high educational attainment increased the likelihood of the young population to study, work, or engage in both activities. For example, youths with undergraduate or graduate studies – unlike those with elementary education – increased by 3.15 times in 2005 and 3.95 times in 2012 as compared to the NEET category. Those results showed that graduate attainment of young people increased their possibility of working respect to those NEET's young with basic education. It is notable that both increments were statistically significant over time. In that case, educational attainment is an essential factor in the economic activity of youths in both survey years. In contrast, YENE and YEET categories had higher likelihoods in this area, but it increment was not statistically significant over time.
Additionally, young people who had a secondary educational attainment increased 5.88 odd to 7.33 odds from 2005 to 2012 respect to those NEETs with primary educational attainment. Also, in that group interaction between educational attainment and time was significant. Nevertheless, undergraduate youths had 118 times in 2005 and 130 times in 2012 more likelihood to continue in education (graduate or postgraduate studies) than those NEETs with primary educational attainment. The interaction of time and educational attainment was not statically significant in this group.

As for the predictor variables of household characteristics, the relative risk ratios according to the gender of head-households indicated that male-headed households had less probability of classification in a different outcome category (YENE, NEYE, or YEET) to NEET than households with a female head. For instance, in comparison with female-headed households, studying and working probability of young people who lived in a male-headed household reduced 52 [(1-0.48)*100] percent; it respects to NEET category. The data mentioned before changed to 47 percent in 2012, and the changes were statistically significant over time.

Indeed, young people who lived in a male-headed household displayed less likelihood of being in labor categories as NEYE or YEET than educational categories as YENE or NEET. Nevertheless, changes over time in the household characteristic variable were only statistically significant in NEET category. Consequently, male-headed households provide more support to young people who allow delayed transit to tertiary education or insertion in the labor market. On the other hand, female-headed households need additional support, resulting in an obligation for these families to encourage their youth to enter the labor market.

Another significant result regarding head-households was that his or her marital status affected positively the likelihood of their young people to be collocated in the educational categories like YENE or YEET than those youths who lived with a single head-household and were NEETs. For example, youths who lived with a married head of household had a greater likelihood (16 percent in 2005 and 42 percent in 2012) to just study than a family with single head of household where young people were neither in education nor employment. The numbers suggest that the presence of both parents in the home –or the formal conjugal life status of head-household– reduces the propensity of being NEET. Notably, the probability for youth from a married head of household to just study increased by more than three times in 2012. However, this data could be related to the constant increase of female-headed households in Mexico[ii]. Also, the interaction term in the marital status of head-household was not statistically significant over time.

Similarly, educational attainment of head-household positively affects the probability for youths of appearing in a category other than NEET. Furthermore, young people who lived with graduate or undergraduate head-household increased their probability to be catalogued in educational categories as YENE or YEET. Thus, high educational attainment of head-household increases the likelihood of young people to remain in education, employment, or engage in both activities. For instance, those youths living in households whose head attained secondary or post-secondary education were more likely to being classified in a category other than NEET and their likelihood of studying and/or working increased by 1.35 times in 2005 and 1.64 times in 2012. As compared to those youths that were NEETs and lived in a head of a household who obtaining only basic education.

In the case of age head-household variable. The results showed that young people who lived in a household with a head of household over 60 years old reduced their probability of classification in labor categories as NEYE or YENE than NEET, as compared with those young people who lived with a head of household under 30 years old. For instance, youths who lived in a family with a head of household over 60 years old reduced in a half their probability to just work in 2005, as compared with those NEET's who lived in a family with a younger head of household (under 30 years old). Also, this data reduced 57 percent [(1-0.43)*100] in 2012, and its increment was statistically significant over time (Table 4). Furthermore, youths who parents were from 30 to 40 years old showed a lower likelihood of being YENE, but its result was not statistically significant over both survey periods. In brief, the evidence suggested that older parents were more likely to support their youths for a longer period than younger parents; hence, their youths could remain longer out of the labor market.

Based on coefficients statistically significant to occupation of head-household, the relative risk ratios by occupation of head-household showed that youths with a working parent in sales, services or manufacturing had more probability of classification in a category other than NEET as compared with those youths who were living with a head of household who was working in the agricultural sector. For instance, young people who were living in a house headed by working parent in the manufacturing sector were inclined to just study – 25 percent in 2005 and 44 percent in 2012; similar to those households with a working parent in the agricultural sector and those households with youths who do not study nor work. The increment mentioned before was statistically significant over time. As a result, young people increased their probability of just studying when head-households worked in the manufacturing sector, in comparison with those who lived with a head-household were working in an agricultural sector. Moreover, young people with parents who worked in sales sector had more probabilities of being in labor categories as NEYE or YEET than NEET. Nevertheless, the interaction term of this variable was just statistically significant in the NEYE category.

As for coefficients statistically significant to working hours of head-household it is interesting to observe that when a head of household worked between 35 to 48 hours a week the youths were less likely to work and study, unlike those from families with a head of household who worked less than 35 hours a week. In other words, if youths live with a head of household who works between 35 to 48 hours a week, the likelihood to study and work decreases by 24 percent; in comparison, households where the head of the family works less than 35 hours a week, and the likelihood increases for young people to not work nor study.

Thus, young people who cohabitate with a head of household in formal full-time work reduced their probability of going to school and working. It likelihood decreased 11 percent [(1-0.89)*100] in 2012. However, at the same time, the young people probability of just studying (YENE) increased in this kind of households, and these results were statistically significant over time. The statistically significant results of MLR model by class of worker of head-household suggest that youths who lived with a salaried head-household reduced their probability of being classified in category other than NEET. For example, the young people likelihood to study or work is reduced (50 percent in 2005 and 53 percent in 2012) if they were supported by a salaried head of household; compared with the youth's propensity to being NEET, and living with an unpaid head of household. However, its likelihood was not statistically significant over time. Additionally, young people who lived in a family where a head of household was self-employment displayed less probability to be identified in educational categories (YENE or YEET) than NEET, as comparison with those youths who were supported by an unpaid head of household.

Finally, concerning household size, the results showed that a smaller household improved the youth's possibilities of studying (YENEs), studying and working (YEETs), and working (NEYEs), unlike those youths who were neither in education nor employment. In fact, the relative risk ratios indicated that youths who lived in a household with three or five people were more likely to study and work (YEETs) by 25 percent (in both periods of analyses), in comparison with those households with less than two members, and with NEET youths. Nevertheless, its data was not statistically significant over time. In contrast, youths in a size household from 3 to 5 members observed more likelihood to be in educational categories as YENE o YEET. Especially, it is relevant to note a statistically significant likelihood increment (7 percent) over time in those youths who just worked (NEYEs).

3.1.2 Marginal effects

To understand the contribution of individual and household characteristics on the outcome variables, the marginal effects and interaction terms were estimated per each variable (Table 5). As a result, it was possible to identify gender as one of the most important variables from youth individual characteristics affecting their susceptibility to become NEET; where all other independent variables being constant. For instance, males reduced the likelihood of being NEET 1 percent from 2005 to 2012. Unlikely, females reduced their likelihood of being NEET 4 percent in the same period. Both changes were statistically significant over time.

Similarly, by considering the marginal effects, it was possible to measure the impact of educational attainment on the propensity of being NEET. So, the youths' high educational attainment reduces the probability of being identified as NEET. Nevertheless, the changes in both survey periods suggested that if youths achieve undergraduate or graduate education, they increased by 1 percent their likelihood not to study and work from 2005 to 2012. Accordingly, the interaction terms were statistically significant in both survey periods. As has been noted, gender and educational attainment were the main individual characteristics that affect or define the youths' condition, so both variables have a considerable influence on young people's status. Certainly, variables related to education attainment and labor market participation showed a strong relationship with the NEETs issue. Even more, the marginal effects of the marital status variable (in conjugal life or not) would suggest that conjugal life status encourages young people to remain in the NEET category. For this reason, it is imperative to develop further significant studies about the influence of marital status on the NEET condition.

Moreover, the independent variables regarding household characteristics showed greater influence on the NEET condition were some head-household characteristics, such as gender, age, and class of worker. Particularly, those male heads of household over 60 years, and salary workers were the group of people that most impacted the youth's probability of being NEET. For instance, the marginal effect of marital status over time showed that young people in a couple relationship reduced their likelihood of being NEETs 3 percent than those single youths which decreased 1 percent in the same likelihood estimation. At that point, it is relevant to mentioned that some head-household characteristics affected the young people's condition, but these were not the most important factors that influenced youths' likelihood of being neither in education nor employment. Additionally, the marginal effects of another household characteristic displayed that class of worker, occupation, and working hours had no influence on the youth's possibility of being classified as NEET.

As has been mentioned, the relative risk ratios and marginal effects suggest that household characteristics had a slight influence on the youths' not to study nor work condition. Even though, the youth's individual characteristics were the most relevant predictor variables which explained the youths' likelihood of being identified as NEET.

Respect to time interaction term, there was a marginally decrement tendency in the young people's probability of being identify as NEET from 2005 to 2012. However, changes were slight, they were statistically significant over time.

4. Conclusions

NEETs as a study subject began after Mexican newspapers published that there were approximately 7.5 million of young people neither was in education nor employment in 2010. As a result, many researchers developed various studies around this phenomenon. All of them commented about the youths' backwardness, their inadequate social inclusion, and the possibility of their falling into illegality. Additionally, other researchers alerted the public about the long term side effects of not paying attention in the NEET population, especially on issues related to the loss of high quality human capital.

This study is situated within the NEET phenomenon. On one hand, its intention was to show the heterogeneity of Mexican youths, and the necessity of quantifying the number of NEETs, while highlighting the importance of the youths' role in employment and education. On the other hand, this article analyzed the influence of individual and household variables which affected the youths' participation in education and employment. Among the findings of this study, it was relevant to highlight the role of individual characteristics: particularly, sex, age and educational attainment. Hence, women and youths with low educational attainment and teenagers (the youngest group of young people) were the most representative group in the NEET category.

Also, a few household characteristics considered in this study were statistically significant. In this level of analysis, there were three important variables mainly: gender, age, and class of work of the head of the household. Accordingly, youths who were living in a female headed household displayed less propensity of being classified as NEET. Similarly, those households with a head of the family under 60 years showed less likelihood to allow their youths to become NEET. Additionally, those households where their heads of family were salary workers showed less propensity to have NEET members, in comparison with an unsalaried head of household.

Each survey period shows a different economic condition in Mexico. In contrast, the results of this analysis suggested that there were slight differences in both periods, but these were statistically significant over time. Even though there were susceptible youths to be identified as a NEET in both survey periods, the likelihood of being NEET decreased from 2005 to 2012. This change showed that NEETs is a contemporary and growing concern problem that remains nowadays. Furthermore, this situation is affected by individual and household characteristics, including the economic situation of young people in Mexico. It is important to note that the differences observed per period, and the results of this study are not irrefutable. Nevertheless, it is accurate as a tool to learn more about the situation of Mexican youths. Especially, there is a strong necessity of developing further studies of greater scope regarding which variables have an impact on the NEET phenomenon.

In Mexico, the NEET situation is not a recent situation. Also, the results of the statistical model (MLR) showed old and complex issues about youths which have never solved. Mexican young people have had labor market insertion problems since 1970. At that time, the Mexican government implemented support programs for youths, which allowed them to participate in labor market through employment training. For example, scholarships for education and technical training, and some financial loans to encourage self-employment (*PROBECAT, Bécate, Fomento al autoempleo, CIMO*[iii]; all of them, Spanish acronyms of governmental programs). However, the result was not as expected; a large number of youths remained out of the labor market or school. In this century, between 2000 and 2006, the government initiated a program that tried to improve the first labor market insertion of young population. Its name was First Job Program (FJP); it tried to promote youth employment, and it encouraged enterprise to hire youths. Again, the results were not as expected, there were few advances, and youth unemployment did not decrease. Nowadays, there is the Law for the Promotion of First Job with some similarities to FJP. It is a recent initiative, so there are insufficient results to surmise about its success or failure.

The main objective of the Mexican Labor Reform is to generate different and new contractual ways for young people, but the new forms of employment contract are not beneficial to youth employment because these youths continue to work in precarious unstable jobs. Even though the consequences of new labour policies are pending, the first effects were not satisfactory. For that reason, public policies to support youths or linked to those youths who are not in education nor employment should follow at least three dimensions. First of all, education should be universal, and it should be of the best possible quality. As a result, youths could compete in the labor market.

Second, Mexican Job Policies should generate more employment, but as well it is imperative to improve the quality of employment and job security. Third, it is necessary to generate high-impact policies that support young people at different levels, such as programs to prevent or reduce teenage pregnancy, initiatives to reduce drug use, and other policies to increase youth's training for the labour market insertion.

In general, Mexico has not resolved youths' issues, such as higher school dropout rates and unfair working conditions. Furthermore, this study had given evidence to affirm that Mexican youths are a vulnerable and heterogeneous population group. Thus, after this study, it is imperative to review who they are, to try to help them through social programs, and by breaking down social exclusion of which they are an object.

5. Tables

Table 1. Methodological design of the study

Dependent variable	Dimension of analysis	Independent variables	
NEETs. Youths not in education nor employed. **YENEs.** In education but not employed **NEYEs.** Not in education but employed **YEETs.** In education and employed	Individual	Sex	
		Age	
		Marital status	
		Educational attainment	
	Household	Head of household	Sex
			Age
			Marital status
			Occupation
			Working hours
			Class of worker
		Household size	

Source: Author's elaboration.

Table 2. Goodness of Fit of the Multinomial Logistic Regression model, 2005 and 2012

Measure	2005	2012	Measure	2005	2012
Log-Lik Intercept Only:	-103952,59	-98093,69	**Log-Lik Full Model:**	-68983,64	-66249,27
D(83936-2005: 784688-2012)	137967,28	132498,53	**LR(90):**	69937,91	63688,85
			Prob> LR:	0	0
McFadden's R2:	0,33	0,33	**McFadden's Adj R2:**	0,335	0,323
Maximum Likelihood R2:	1	1	**Cragg &Uhler's R2:**	1	1
Count R2:	0,53	0,52	**Adj Count R2:**	0,125	0,09
AIC:	1,64	1,69	**AIC*n:**	138311,28	132834,53
BIC:	-813854,95	-752014,12	**BIC':**	-68917,32	-62708,14

Source: Author's estimation base on second quarter of *Mexican Survey of Occupation and Employment*, NISG (2005), and second quarter of *Mexican Survey of Occupation and Employment* NSIG (2012). Data bases available online at http://www3.inegi.org.mx/sistemas/microdatos/encuestas.aspx?c=34523&s=est

Table 3. Young People Distribution by outcome category, 2005 and 2012

Category	Absolute value				Percentage			
	Sample		Population		Sample		Population	
	2005	2012	2005	2012	2005	2012	2005	2012
NEETs. Youths not in education nor employed	15.848	13.276	4.230.843	4.387.143	18,80%	16,90%	20,50%	18,90%
YENEs. In education but not employed	22.233	19.830	5.232.856	5.634.443	26%	25%	25%	24%
NEYEs. Not in education but employed	38.706	36.788	9.546.236	10.826.279	46%	47%	46%	47%
YEETs. In education and employed	7.327	8.752	1.668.720	2.379.716	9%	11%	8%	10%
Total	**84.114**	**78.646**	**20.678.655**	**23.227.581**	**100%**	**100%**	**100%**	**100%**

Source: Author's estimation base on second quarter of *Mexican Survey of Occupation and Employment*, NISG (2005), and second quarter of *Mexican Survey of Occupation and Employment* NSIG (2012). Data bases available online at http://www3.inegi.org.mx/sistemas/microdatos/encuestas.aspx?c=34523&s=est

Table 4. Results of Multinomial Logistic Regresion, Mexico 2005 and 2012

Categories	RRR	RRR	RRR	RRR	RRR	RRR
Survey Years	2005	2012	2005	2012	2005	2012
Category of reference	NEETs. Youths not in education nor employed.					
Variables/Categories	NEYEs Not in education but employed		YENEs In education but not employed		YEETs In education and employed	
Individual Characteristics						
Young Women[aa]						
Young Men	15.15***	13.24***	6.89***	6.28***	13.40***	11.89***
Youths from 15 to 19 years[aa]						
Youths from 20 to 24 years	2.05***	2.05***	.15***	.12***	.40***	.30***
Youths from 25 to 29 years	2.98***	3.14***	.02***	.01***	.16***	.12***
Single Youths[aa]						
Youths Sometime in Conjugal Life	**1.03****	1.18**	.23***	.19**	.60**	.65**
Youths in Conjugal Life	1.26***	1.31***	.05***	.05***	.09***	.10***
Young People with Primary Education[aa]						
Young People with Secondary Education	1.38***	1.43***	5.88**	7.33***	3.65**	4.12**
Young People with Tertiary Education	1.83***	1.97***	17.20**	16.19**	14.71**	16.49***
Young People with Undergraduate and Graduate Studies	3.15***	3.95***	118.60***	130.07**	86.52***	121.78***
Head of Household Characteristics						
Female Head of Household[aa]						
Male Head of Household	.54***	.57***	.67***	.67***	.48***	.53***
Single Head of Household[aa]						
Head of Household Sometime in Conjugal Life	.75***	.70**	.79**	.91	.79**	.83**
Head of Household in Conjugal Life	.95	.89	1,16	1.42***	1,08	1,15
Head of Household with Primary Education[aa]						
Head of Household with Secondary Education	.87**	.92***	1.32***	1.49***	1,02	1.15***
Head of Household with Tertiary Education	.91**	.92***	2.14***	2.53***	1.35***	1.64***
d of Household with Undergraduate and Graduate Studies	1,03	.96***	3.75***	4.27***	1.85***	1.89***
Head of Household under 30 years[aa]						
Head of Household from 30 to 40 years	.56***	.53***	2.52***	2.17***	.94	.77**
Head of Household from 40 to 50 years	.54***	.49***	2.21***	1.71**	.81***	.66***
Head of Household from 50 to 60 years	.53***	.49***	2.13***	1.73**	.73***	.59***
Head of Household over 60 years	.48***	.43***	1.85***	1.79**	.68***	.51***
Head of Household Employed in Agriculture[aa]						
Head of Household Employed in Construction	1,04	1.09**	1.13**	1.26**	.81**	.92
Head of Household Employed in Sales	1.28**	1.33**	1.39**	1.81**	1.32**	1.38**
Head of Household Employed in Services	1.14**	1.23**	1.47**	1.82**	1,05	1.33**
Head of Household Employed in Manufacturing	1.28**	1.25**	1.25**	1.44**	1,00	1.18**
Head of Household who works less than 35 hours[aa]						
Head of Household who works from 35 to 48 hours	.94	1,00	.97	1.10**	.76**	.89**
Head of Household who works over 48 hours	1,03	1.07**	.99	1,07	.91	.99
Head of Household unpaid worker[aa]						
Head of Household self-employed	.59**	.50**	.66	.62**	.36**	.24**
Head of Household salary worker	.52	.55**	2,47	.63**	2,67	.35**
Head of Househol employer	.76	.74	.73	.77	.50**	.47**
Household Characteristics						
Households with equal or less than 2 members[aa]						
Households with 3 to 5 members	1.25***	1.31**	1.43**	1.44**	1.25**	1.24**
Households with over 6 members	1.32***	1.39**	1,03	1,12	1,02	1,06

Notes: RRR = Relative Risk Ratio; aa = Category of reference; P-value; *p<.05, ** p<.01, ***p<.001

Source: Author's estimation base on Second Quarter of *Mexican Survey of Occupation and Employment*, NISG (2005), and second quarter of Mexican Survey of Occupation and Employment NSIG (2012). Data bases available online at http://www3.inegi.org.mx/sistemas/microdatos/encuestas.aspx?c=34523&s=est

Table 5. Marginal Effects of NEET category, Mexico 2005 & 2012

Survey Years	2005	2012
Variables/Categories	dy/dx	dy/dx
Individual Characteristics		
Young Women[aa]		
Young Men	-.328***	-.294***
Youths from 15 to 19 years[aa]		
Youths from 20 to 24 years	-.038***	-.027***
Youths from 25 to 29 years	-0.047***	-.039***
Single Youths[aa]		
Youths Sometime in Conjugal Life	-.009**	-.0008**
Youths in Conjugal Life	.232***	.192***
Young People with Primary Education[aa]		
Young People with Secondary Education	-.072***	-.074**
Young People with Tertiary Education	-.124***	-.121**
Young People with Undergraduate and Graduate Studies	-.166***	-.167***
Head of Household Characteristics		
Female Head of Household[aa]		
Male Head of Household	.063***	.054***
Single Head of Household[aa]		
Head of Household Sometime in Conjugal Life	.035***	.036**
Head of Household in Conjugal Life	.001*	.004*
Head of Household with Primary Education[aa]		
Head of Household with Secondary Education	.007**	-.001*
Head of Household with Tertiary Education	-.009**	-.015***
ad of Household with Undergraduate and Graduate Studies	-.036*	-.032***
Head of Household under 30 years[aa]		
Head of Household from 30 to 40 years	.029***	.039*
Head of Household from 40 to 50 years	.044***	.058***
Head of Household from 50 to 60 years	.046***	.058***
Head of Household over 60 years	.059***	.069***
Head of Household Employed in Agriculture[aa]		
Head of Household Employed in Construction	-.004*	-.009**
Head of Household Employed in Sales	-.03**	-.034**
Head of Household Employed in Services	-.019**	-.029*
Head of Household Employed in Manufacturing	-.026**	-.024*
Head of Household who works less than 35 hours[aa]		
Head of Household who works from 35 to 48 hours	.009*	-.0002**
Head of Household who works over 48 hours	-.002*	-.006*
Head of Household unpaid worker[aa]		
Head of Household self-employed	.058**	.078**
Head of Household salary worker	.005*	.078*
Head of Househol employer	.04*	.041**
Household Characteristics		
Households with equal or less than 2 members[aa]		
Households with 3 to 5 members	-.03***	-.031**
Households with over 6 members	-.027***	-.029**

Notes: aa = Category of reference; dy/dx, derivates as dy/dx; P-value; *p<.05, ** p<.01, ***p<.001

Source: Author's estimation base on Second Quarter of Mexican *Survey of Occupation and Employment*, NISG (2005), and second quarter of Mexican Survey of Occupation and Employment NSIG (2012). Data bases available online at http://www3.inegi.org.mx/sistemas/microdatos/encuestas.aspx?c=34523&s=est

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[i] From 2005 to 2012 Mexican Economy remained stable with low growth. In 2005, The growth of Mexican Gross Domestic Product was 3.0%, less than the Mexican Economic growth prediction (4.2%), Banco de Mexico (2006). In 2008, the Mexican economic growth was 1.2%, and it was -6.0% in 2009. Then, it started a slight recovery in 2010. Finally, it reached 3.9% in 2012. Additionally, General Unemployment Rate observed was 3.6% in 2005, and it rose to 5.0% in 2012. Notably, the Youth Unemployment Rate rose from 6.3% in 2005 to 9.6% in 2012. NISG (2015).

[ii] In 2010, 86.7 % of nuclear households had female-headed household (NISG, 2011).

[iii] For more information about labour policies and youth labour force participation look at Navarrete, Padron & Silva (2013).