# Social protection: what about young people not in employment, nor in education, nor in training?

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[1] Our aknowledge to Alhassane Camara for his assistance.

**Abstract**

The purpose of this paper is to assess the phenomenon of NEET, identify the key factors that drive the probability to belong to this category and explore targeting measures. In fact, due to low rate of youth unemployment and the precariousness of their status in the labor market over the past years, an increasing interest for the analysis of the worrying situation of this category of young people who are neither in education, employment, or training (NEET) is arising. A binomial model, based on the Senegalese household data (ESPS 2), is used to identify the key determinants of NEET status. The results show that the about 4 per 10 young people are under NEET status. The key factors which significantly affect the probability to belong to the NEET's category are the existence of a physical and mental disability for a young person, residence in rural areas for a young, the youth gender, youth education, the head of household activity. Therefore, it is important to put in place a targeting approach in order to reduce the proportion of young NEET persons among the population by setting in place high labor intensive programs.

Key words: social protection, NEET, binomial model

JEL Classification: C1, I3, O1

## Introduction

In 2013, about 73.4 million youths worldwide were unemployed, representing an unemployment rate of 12.6%. According to forecasts, this bullish trend of the number of unemployed will be maintained until 2018, at which date it will stabilize around 12.8% (ILO, 2013). Africa where 17% of the youth population in developing countries is living has an employed population consisting essentially of young people. About 43.3% of unemployed people in Sub-Saharan Africa are aged 15-24 years old (ILO, 2012).

Unemployment hits educated young people as much as the uneducated youth. A growing proportion of African graduate youths from higher education can no longer be absorbed by the labor market. Between 2000 and 2009, the number of graduates from higher education has trebled to reach 4.9 million in low income countries and will reach 10 million in 2020 (AFDB).

Between 2000 and 2011, the continent has recorded 4.9% annual economic growth (World Bank Development Indicators),while over the same period the ILO statistics revealed that the proportion of young people with an employment has gone from 46.2% to 42.6% (ILO, 2012). The inadequacy of the skills offered by the educational system in relation to the labor demand from the economic sectors is a characteristic of the youth labor market in Africa. An important proportion of youth with higher education is exposed to "invisible underemployment". Indeed, young people are more and more under the constraint of accepting unskilled workers and employees or office employees' jobs (ILO, 2013).

Employment quality is equally a problem in the developing regions just as unemployment is. Lack of skills, education or vocational training forces a high proportion of Sub-Saharan Africa youth to take on low or non paid jobs, most often in the informal sector. From the ILO data (2012), the proportion of workers in poverty on the overall labor force is 39.1%.

The situation of the labor market poses thus a certain number of challenges to the African economies which are looking for a trajectory of inclusive growth able to guaranteeing decent jobs and must concurrently endeavor setting in place an educational system able to respond to the needs in skills of the economy.

In Senegal, the population has had an annual growth pace of 2.79% from 2005 and 2011. Over the same period, the youth population has grown at a rate of 8% (Republic of Senegal, SES, 2011).

This growth of the youth population can be an asset for the dynamism of the economy because it is likely to encourage an increase of the labor supply, innovation and creativeness. But, for the economy to draw advantage from the potential offered by that population, there is need for young people to fill productive jobs. This increase of the youth population can thus be a handicap when strong pressure is on the labor market, in particular, in an economy where there little opportunities of paid employment exists and where job insecurity still persists. The State having the constitutional role of providing basic services "education", this strong youth population increase could be a source of inequality in employment access and a factor of political instability if the skills supply does not go the same direction. Consequently, the situation of young people deprived of education, training or employment (NEET: Nor in Education, nor in Employment or Training) could be an issue of concern for decision-makers.

All thing remaining same, the labor market's usual indicators which are unemployment, the employment rate and the participation rate do not enable to measure the vulnerability level of young people in the labor market. Hence it's interesting to resort to other indicators which take into account the complexity of the situation of the youth on the labor market. In its 2011 report, the ILO contended that the NEET rate gives large measurement of the unemployed youth and thus represents the potential youth labor force supply (ILO, 2011). The OECD had already established that NEET is an another performance measurement of the youth labor market to the extent that they represent the number of young people at the threshold of marginalization or social exclusion (Quintini & Martin, 2006). In 2014, it had been noted an increase of the NEET in 30 of the 40 countries for which data was available over the 2007-2013 period. In France and USA, the NEET rate is respectively 15% and 20% (ILO, 2014).

The evolution of the extent of youth unemployment over the past years has brought to light an increase of interest for the analysis to the worrying situation of this category of young people who are neither in education, employment, or training, known under the acronym of NEET.

According to Furlong (2007) [2], the notion of NEET has replaced the one related to the "Status Zer0" used in Great Britain at the end of the 1980's in order to identify the 16 and 17 years old youth without social status, who had no access to unemployment benefit and were out of training or education. The term "Status Zer0" has been abandoned in a first instance to be replaced by the one of "Status A" which designates youth aged 16-18 not pertaining to any status of the labor market (Istance and colleagues, 1994) [3]. It is only in 1999 that the term NEET had definitely substituted to the one of "Status A"in a social policies document (*Bridging the Gap)* of the British Government aiming at improving the system of social protection directed at youth. The phrase NEET was then understood as less pejorative and capable of capturing the heterogeneities within the youth population.

The origin of the concept justifies the fact that the first works in this field are conducted in Great Britain. Bynner and Parsons (2002) have shown that in Great Britain, pertaining to the NEET group is principally determined by school failure. The methodology used by the authors was the assessment of a binomial model (Logit) from the data of a survey on the labor market. The results obtained have established that among young boys, residence is an explaining factor of adhesion to the NEET group, whereas lack of care from parents towards children's education is strongly determining among girls. It has also been revealed that the implication of the NEET status is translated among young boys by adverse experiences on the labor market, such as the deterioration of the human capital, decrease of employability whereas among girls, the majority of whom are young mothers, it goes through psychologic problems (depression, stress, etc.). To conclude, Bynner and Parsons (2002) proposed that training programs put in place by the Government be tailored on the groups presenting high risks of vulnerability.

The decade which started in 2000 has seen the use of the concept be popularize beyond the borders of Great Britain. This has revived the debate and enabled the development of multiple definitions of the

[2] *Cité par Valentina Cuzzocrea (2013)*

[3] *Cité dans le Rapport de l'Eurofound(2012*)

NEET based on the countries, despite the efforts of the International Labor Organization (ILO) to give the concept a universal definition (Eurofound, 2012).

In Japan, from a qualitative study conducted on a sample of individuals having passed their secondary education degrees 8 to 10 months earlier, Inui (2005) showed that the official statistics on which the current social policies are based would not enable capturing the situation of youth insecurity. As the fact, to the contrary of the Government's opinion according to which the NEET constitute the group of young people with no motivation for work, the results reveal that most young NEET are prepared to work but they have a relatively low level of education and most often come from the least favored families. In addition, while the labor market's statistics are static, the situations of a young person may vary from the obtaining of temporary job to the pertaining to the NEET group, going through unemployment over a same period. Inui (2005) proposes thus that the programs insist on offering stable jobs to the NEET.

In Taiwan, the problem related to the increase of young NEET has forced the Government to put in place a vocational training program (Flying Young Program) which had targeted young people aged 15-20 from poor families with less than 12 year of school education and had not have a job at the moment of the program launch. In 2009, Chen (2009) conducted a qualitative study which showed that, for most young people, the fact of becoming NEET does not result from a deliberate choice, because their situation of poverty prepared them to that situation. All in all, the youth have acknowledged that this program has been highly useful to the extent that it guaranteed cash transfer to the participants in order to encourage them be up to the standards. However, young people have unanimously revealed that the program was not able to increase their opportunities to getting job. Chen (2009) concluded that the vocational training programs should also insist on teaching labor law, encourage the youth to be confident in what they are doing and guarantee social and financial support.

In Scotland, a study was conducted in 2005 and had as an objective to make an analysis to the situation of the NEET population and the situation of the social policies (Social Research of the Scotish Executive Power, 2005). Thanks to a survey on the labor market combined to the 2001 census, the study has shown that 33,400 young people belonging to the 16-19-year-old age group were neither in employment, education, or training, which represents about 13.2% of the population. This highly heterogeneous group consists of offenders, people suffering from long-term diseases, drug addicts, young people excluded from the educational system, adolescent parents and even asylum seekers. It has also showed that Scottish NEET are most often excluded from the financial system, had a relatively low level of education, suffered from lack of family or administrative services support and were victims of stigma. The social policies[4] reviewed by the authors had, as an objective, to increase employability, information on job opportunities, counseling and guidance in employment agencies and financial support. Initially they were not specifically developed for the NEET, even though they were able to benefit to some NEET categories.

In 2013, the Economic Analysis Council established that in France, the NEET population revolved around 1.9 million youth aged 15-19 years old, which represents about 17% of the age group. Half of that population completely exited the labor market. In other words, 900,000 young French people were

[4] *Careers Scotland Key Worker Service,previously known as Beattie Inclusiveness projects;Get Ready for Work, Maintenance Allowances and Integrated Community Schools sont des exemples cités dans le rapport d'étude*

at a drift. With a total youth employment rate of 30%, it has be admitted as for granted the 85% of the NEET did not go beyond high school, while 42% did not go beyond lower secondary education. To absorb the deficit in youth employment, the report recommended a series of measures: i) correcting the gaps in vocational training, ii) following up and supporting unskilled youths, iii) changing the labor cost structure and finally, iv) eradicating the duality of the labor market based on the term contract and the open-ended contract (Cahuc et al, 2013).

In Europe, Eurofound (2012) showed that in 2011, the NEET rate was respectively at 13% and 20% for the 15-24 and the 25-29 years old age groups. From the report, the NEET population is highly heterogeneous. It consists in large part of employed people and other vulnerable groups which are sick and young people with disabilities. It has also been established that young people with low level of education have three times more chance to be NEET, compared to those with higher education, whereas youth from immigration have 70% more chance to become NEET than nationals. The consequences of the NEET status among young people are the development of delinquency, mental health and physical health related problems. Consequently, the institution has recommended in one of its proposals the diversifying of the current policies and programs in order to solve the employment issue, but also to give special attention to vulnerable groups.

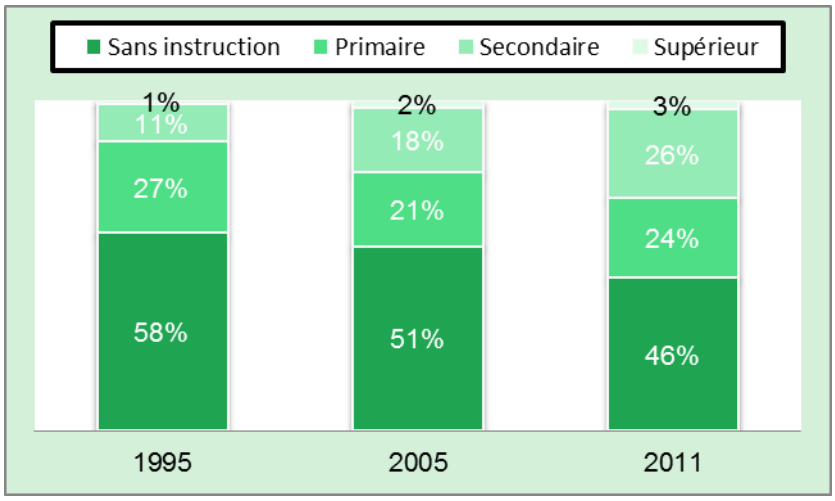
If the NEET approach reveals itself to be wider than unemployment, Cuzzocrea (2013) has shown in the case of Italy that the NEET concept could may be, in some cases, be blurred and lead to a tight and deceitful vision of the situation of youth. For the author, there exists stylized facts non taken into account in the NEET concept. First, the right to social protection in Italy is only guaranteed to people with permanent employment, whereas holders of temporary jobs who are excluded from that protection are not also recorded in the NEET statistics. In addition, in the Italian context, many students (28 years old of average) remain a long time (about ten years) at the university without a diploma. This slows down their entrance into the labor market. Consequently, as long as they stay within the educational system, this would not constitute a problem for the NEET approach. Finally, training remains a pejorative field for the Italians, in the sense that it brings together the young people having failed elsewhere. In Italy, the NEET do not then include the youth who are neither in education, nor in employment. Moreover some young people in trainings or in jobs which do not correspond to their wishes do not feel their selves into the NEET category. To conclude, Cuzzocrea (2013) argues that delineation of the NEET concept should be specific to each country and be submitted to the realities of the labor market.

The aim of this research is to assess the rate of NEET, identify the determinant of the status of NEET and therefore explore targeting measures. In section 1, the situation of the youth labor market is analyzed. The methodology is described in the section 2 and finally, we give the results in section 3.

## 1. Diagnostic of the youth labor market

The structure of the Senegalese youth population is marked by the predominance of individuals with non school education at all, despite a decrease of their proportion over the 1995-2011 periods (ILO, A Diagnostic Study on youth Employment in Senegal, 2013).

**Figure 1: Structure of the youth population based on the level of education**




Source: ILO, Diagnostic Study on youth employment in Senegal, 2013

The Senegalese economic growth does not sufficiently absorb the youth labor force. During the 2000-2010 periods, the economy has grown at an average annual pace of 3.1% (Republic of Senegal, SNDES, 2013) while the youth employment rate has remained significantly stable between 2005-2011 (ILO, 2013). Depending on the level of education and the place of residence, youth unemployment rate shows considerable disparities. Young people with no level of education have an employment rate of 46.2%, very clearly higher than the one of the other youth categories. The rural area is home for youth employment (45.2%) (ESPSII, 2013). The youth employment market remains dominated by the non-educated, relatively more employed by the economy and exposed to a high poverty threshold.

Table 1: Youth employment rate, place of residence and level of education

| | **15 à 19** | **20 à 24** | **25 à 29** | **30 à 34** | **15 à 34** | **35 à 64** | **Sénégal** |
|---|---|---|---|---|---|---|---|
| **Place of residence** | | | | | | | |
| **Urban Dakar** | 15,2 | 28,5 | 37,3 | 48,0 | 31,0 | 51,0 | 38,5 |
| **Other urban centers** | 14,7 | 25,6 | 36,1 | 46,5 | 27,8 | 49,1 | 35,3 |
| **rural** | 38,2 | 44,0 | 50,9 | 54,7 | 45,2 | 57,8 | 50,2 |
| **Level of eduction** | | | | | | | |
| **No education** | 44,1 | 44,0 | 47,8 | 49,6 | 46,2 | 54,5 | 50,0 |
| **Primary school** | 30,9 | 42,9 | 44,6 | 50,4 | 40,7 | 51,2 | 43,8 |
| **Junior secondary** | 12,8 | 25,1 | 38,8 | 54,5 | 21,6 | 51,1 | 27,6 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Secondary education** | - | 8,8 | 31,1 | 59,9 | 17,5 | 62,3 | 29,5 |
| **Higher Education** | - | 8,4 | 22,1 | 53,6 | 26,5 | 68,6 | 43,1 |
| **Total** | 27,7 | 35,3 | 43,8 | 50,8 | 37,5 | 54,2 | 43,8 |

Source: ILO, Diagnostic Study on youth employment in Senegal, 2013

Senegalese youth remain essentially employed in the primary sector, most often in rural areas, and without education or training. About 49% of the youth labor force is employed in the agricultural sector activities, while in the industry and services sectors; they represent respectively 30% and 21%. The majority of the youth employees in these two sectors is higher education graduates and is found in urban areas (ILO, 2013).

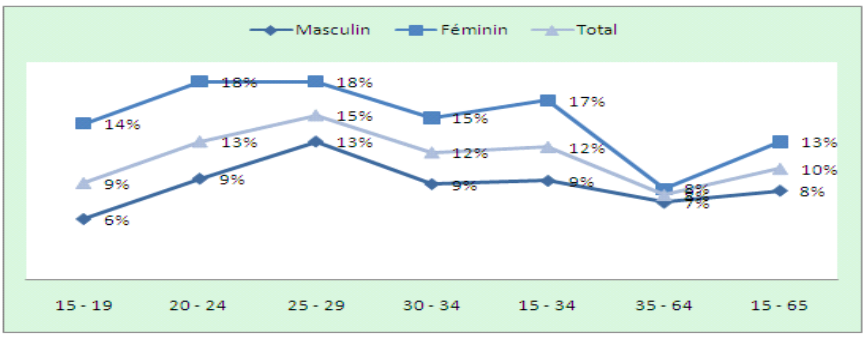
Table 2: Distribution of youth based on the sectors of activity

| | **Primary sector** | | **Secondary sector** | | **Tertiary sector** | | **Total** |
|---|---|---|---|---|---|---|---|
| | **Number** | **%** | **Number** | **%** | **Number** | **%** | **Number** |
| **Place of residence** | | | | | | | |
| **Urban** | 46055 | 4,9 | 408590 | 70,8 | 268149 | 65,0 | 722794 |
| **Rural** | 898808 | 95,1 | 168670 | 29,2 | 144450 | 35,0 | 1211928 |
| **Level of education** | | | | | | | |
| **No education** | 674114 | 72,5 | 248141 | 44,1 | 178375 | 44,1 | 1100630 |
| **Primary school** | 158790 | 17,1 | 211316 | 37,5 | 124626 | 30,8 | 494733 |
| **Lower secondary** | 80987 | 8,7 | 71390 | 12,7 | 51927 | 12,9 | 204303 |
| **Secondary** | 14972 | 1,6 | 20137 | 3,6 | 26937 | 6,7 | 62045 |
| **Higher education** | 1463 | 0,2 | 11789 | 2,1 | 22217 | 5,5 | 35469 |
| **Total** | **944862** | **100,0** | **576870** | **100,0** | **412564** | **100,0** | **1934296** |

Source: ILO, Diagnostic Study on youth employment in Senegal, 2013

Youth are the most hit by unemployment. In 2011, the unemployed youth were about 12.2%, while the national average was only 10.2% (Republic of Senegal, 2011). Nearly 15% of young people aged 25-29 were jobless in 2011, with a heterogeneity between men (13%) and women (18%). People in the 20-24 years old youth group presented an employment rate of 13%, of whom 18% for women and 9% for men (ILO, 2013).

Table 3: Evolution of the unemplyment rate based on the age group and sex




Source: ILO, Diagnostic Study on youth employment in Senegal, 2013

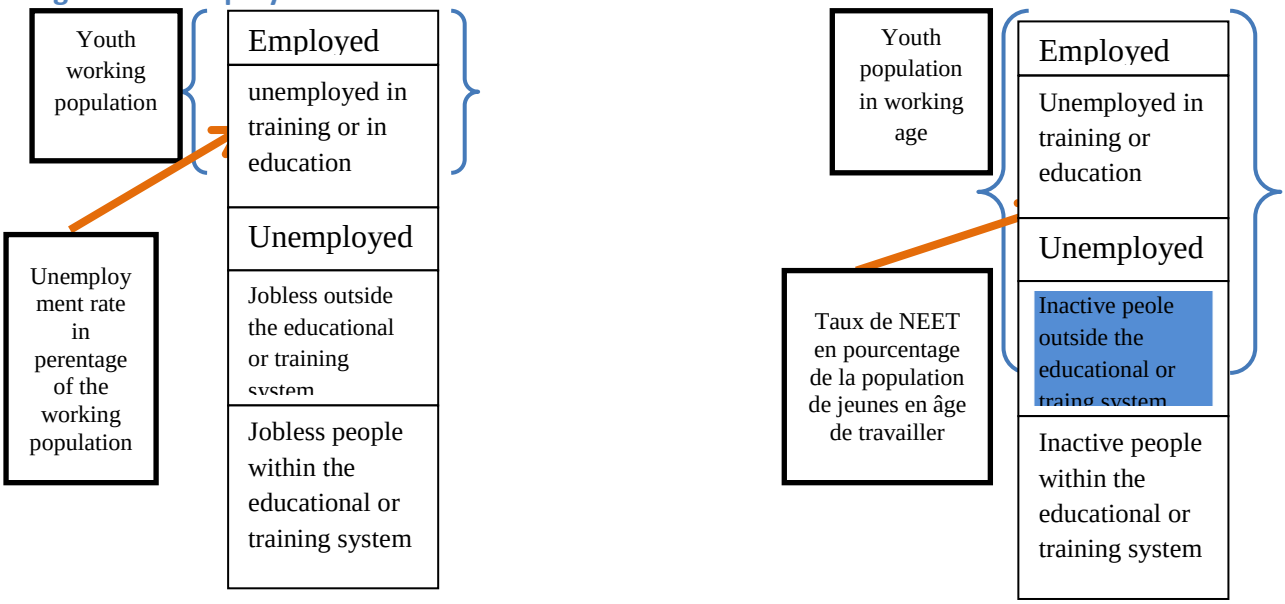
## 2. Méthodology

The methodological approach is articulated into three steps. We give first the measurement of the NEET rate. Then, a model is specified in order to analyze the determinants of the NEET status. Finally a targeting approach of social protection is proposed, from the distance evaluation which separatesthe threshold of the poverty depth.

### *Measurement of the NEET ratio*

The approach followed to determine the NEET rate goes beyond the approach of the international organization of labor. From the ILO definition: "the unemployment rate measures the number of people without employment, have been in active search for employment in the preceding month and are available for work in the following two weeks. It records the percentage of people that do not find a job within the labor force. By opposition, the definition of the NEET, from the perspective of the ILO, encompasses all the youth not involved either in the labour market, or in the educational system" (Eurofound 2012). Figure 1 illustrates the difference between the unemployment rate and the NEET rate.

**Figure 1 Unemployment rate and NEET rate**




*Sources: authors*

From the ILO approach, the NEET rate ($\theta$) is measured as follows:

$$\theta = \frac{(unemployed\ and\ non\ working\ people\ outside\ the\ educational\ or\ training\ system)}{youth\ population\ of\ working\ age}$$

However, the NEET status definition from the perspective of the ILO may seem restrictive for a developing economy such as Senegal, where under employment constitutes alongside unemployment one of the major characteristics of the youth labor market and explains to a large extent the insecurity to which that category is exposed. Therefore, an extension of the NEET category is proposed in this research which encompasses the youth exposed to underemployment, in addition to young people neither involved in the labor market or the educational systeem. In this definition of the NEET extended to under employment, the rate is measured as follows:

$$\theta = \frac{(unemployed + non\ employed\ out\ of\ educational\ or\ training\ system + underemployed)}{youth\ population\ of\ working\ age}$$

- ***Determinants of the NEET status***

The model used estimate the probability for a young person to fall into NEET status is a binomial one. This choice is justified by the binary status of NEET people. That is:

The choice of this model over the others is justified by the fact that the youth people is a part the whole population sample, consequently giving a higher significance to extreme values versus the significance of the normal law described by the Probit Model (Hosmer and Lemshow, 2000). The process consists in explaining the dichotomous variable y from a set of p variables (x1, x2… xp). The dichotomous variable y represents NEET status and has a value of 1 if the young person is a NEET and 0 in all other cases.

The sample is thus subdivided into two groups: young people under NEET status (y=1) and those not under NEET status (y=0). Theoretically, we suppose that the probability for a person to be part of the first group (y=1) depends on some socio-economic factors.

An estimation of the probability that a young person belongs to class 1, if he's characterized by the vector X = (x1, x2… xp), is given by the following logistic function:

$$Pi = P(y_i = 1) = P(y_i^* \succ 0) = P(\beta_0 + \beta_1 x_i + \varepsilon_i \succ 0) = P(\varepsilon_i \succ -(\beta_0 + \beta_1 x_i)) = \Phi(\beta_0 + \beta_1 x_i) \quad (1)$$

With $\Phi$ (.) the function of repartition of the logistic rule.

$$Pi = P(y_i = 1) = \Phi(\beta_0 + \beta_1 x_i) = \frac{\exp(\beta_0 + \beta_1 x_i)}{1 + \exp(\beta_0 + \beta_1 x_i)} = \frac{1}{1 + \exp(-(\beta_0 + \beta_1 x_i))} \quad (2)$$

By generalizing we can set this operation

$$Pi = P(y_i = 1) = \frac{1}{1 + \exp(-\eta_{ij})} \quad (3)$$

The log-odds ratio is a transformation of the equation (3):

$$\eta_{ij} = \log\left(\frac{P_{ij}}{1 - P_{ij}}\right) \quad (4)$$

While, Pij can't take any other value than 0 and 1, nij can take any value. The probability of being under NEET status, predicted by the equation (3), is therefore a result of log-odds ratio (nij) transformation. The logit model is, then, a model in which the log-odds ratio, nij is obtained through a linear combination of explanatory variables:

$$\eta_{ij} = \beta_{0j} + \beta_{1j} X_{1ij} + \beta_{2j} X_{2ij} + ... + \beta_{Qj} X_{Qij} \quad (5)$$

Where $X_{qij}$ represent the explanatory variables and $\beta_{qj}$ the parameters to be estimated.

The $X_{qij}$ variables are components of the vector X and $\beta_{qj}$ the unknown coefficients of the model with j varying from 1 to q.

The p explanatory variables for this model are the following:

The description of the variables, individual characteristics, is given in table 2.

Table 2 : Description of the variables of the model

| Components of vector $X_i$ | Nature of the component |
|---|---|
| Mental and physical status | Dichotomic variable equals 1 if the individual has a physical or mental disability, if not 0. |
| Place of residence | Dichotomic variable equals 1 if the individual lives in an urban center, if not 0 |
| Age | Continuous variable indicating the age of the individual |
| Sex | Dichotomic variable equals 1 if the individual is male |
| Education | Multinomial variable equals 0 if the young man has no education, 1 if primary education level, 2 if lower secondary school, 3 if secondary school and 4 if higher education. |
| | |
| Sex of the head of household | Dichotomic variable equals 1 if the individual is male, if not 0 |
| Education of the head of household | Multinomial variable equals 0 if the head of the household has no education, 1 if primary education level, 2 if lower secondary school, 3 if secondary school and 4 if higher education. |
| Socio-professional category of the head of household | Multinomial variable equal 0 if the head of household is unemployed or has no occupation, 1 if apprenticeship, 2 if he support the family, 3 if independent worker, 4 if employer, 5 if laborer, 6 if skilled worker, 7 if middle manager, 8 if senior manager. |
| Parental situation | Dichotomic variable equals 1 if the individual is orphan of father or mother, if not 0 |

Before analyzing the key NEET status factors among Senegalese young people, a discussion on explanatory variables is made and the expected outputs presented in the following sub-section before the results' analyses.

Due to lack of explicit public policies devoted to this category, the mental and physical status is supposed to increase the probability of being a NEET.

NEET status is also dependent on the young person's area of residence. From one area to another, gaps in terms window of opportunities can be huge. Great opportunities of higher revenues can exit in some urban areas whereas it's scarce in rural area.

The age of the young person has an incidence on the NEET status but its effect on the probability of being a NEET is supposed to be ambiguous.

Gender of the young person can have an influence on his probability to be a NEET or not. This effect is supposed to be ambiguous.

The education level is supposed to reduce the probability of a young person to be a NEET as it increases his stock of human capital and hence, chance to reach high segments of the labor market.

The head of household's gender and matrimonial status is supposed to have an influence on the probability of a young person belonging to that household to be a NEET. It can therefore have an influence on the economic choices. Its effect is supposed to be undetermined.

The head of household's education level is supposed to reduce the probability of a young person to be a NEET. It can have an influence on the factor return flows of the household and, hence the human capital endowments of the young persons of that household.

Also, the head of household's activity is supposed to have an impact on the probability of a young person to be a NEET. Depending, on the fact that he's occupied, unemployed or inactive, this will affect to the position of young persons with regards to NEET status.

*Data*

The data used are the one of the household survey conducted in 2011 for Poverty Monitoring purpose in Senegal (ESPSII-2011). The youth age chosen are the ones aged between 15 and 34 years old. It is considered that any youth who did not go to school at the moment of the survey, or did not attend vocational training, or had never been registered in a school is outside the educational system.

- ***Targeting of the NEET population***

Good targeting of youth without work and at the periphery of the human capital accumulation formal system is essential for decision-maker to be able to initiate policy responses. These reponses can be under for of a program which guarantees employment such as the one introduced in India in 2004. This type of program enables at the same time fighting the poverty of the targeted people through the channel of the labor market, thanks to the achievement of public interest works. The targeted population is the one made by youth belonging to households confined into the depth of poverty.

The analysis of ôverty is conducted by means of the Pα indices of Foster, Greer and Thorbecke (1984):

$$P_{\alpha=\frac{1}{n}*\sum_{i=1}^{p}\left(\frac{z-y_i}{z}\right)^{\alpha}}$$

where z is the poverty threshold, yi the real average expenditure of i rank household; α the coefficient reflecting the degree of aversion for poverty, n the total number of individuals, p the number of poor within the population.

The variable of interest from with the depth of poverty is measured is the expenditure per adult-equivalent. At the reference year, the nominal poverty threshold established by the national statistics and demography agency (ANSD) from the ESPS data (2005) is estimated at FCFA 923.71, 661.76 and 561.22/day/adult-equivalent for the households in Dakar, the other cities and the rural areas.

## 3. Results

- ***NEET rate***

Table 3 gives the measurement of the NEET rate calculated, based on the ILO approach. In this case, it appears that 40.35% of the youth population in Senegal is under NEET status. The 20-24 years old are more affected as 41.42% of this age belongs to NEET category followed by 25-29 age and 30-34 age. However, when this NEET status is extended to underemployment, then it appears that one young person on two is a NEET for all ages, except 15-19. Then, the age 25-29 suffers more from this phenomenon than the others.

Table 3: NEET rates based on the ILO approach

| Age | Neet rate under ILO approcah | Neet rate extended to underemployment |
|---|---|---|
| 15-19 old | 29.21 | 37.54 |
| 20-24 old | 41.42 | 50.25 |
| 25-29 old | 40.08 | 51.94 |
| 30-34 old | 35.53 | 50.13 |
| **15-34 old** | **40.35** | **43.77** |

Sources: calculations.

- ***Determinants of the NEET status***

The results of the binomial model estimate shows that the existence of a physical or mental disability among youth increases the probability of belonging to the NEET group. With no disability, the risk to be a NEET decrease by 38.5% as the odds-ratio highlight it. Residence in rural areas increases also the risk of exposure to the NEET phenomenon. With regard to odds-ratio, the probability to be a NEET is 21% more higher for a young man in rural area than in a urban area. This risk increases relatively more among women. However, if young women are relatively more exposed to the risk, the results reveal that young person that belong to households headed by women are less vulnerable. Probability to be a NEET decreases with age. Education of the head of the household reduce significantly the probability of belonging to the NEET category. This vulnerability decreases as the head of the household is occupied compared to the those who are unemployed. Head of household gender and education are not significant to explain this phenomenon.

Table 5: Determinants of NEET: results of the regression

| Pr(Y) | Odds Ratio | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|---|
| Area of residence | 0,792 | -0,233 | 0,044 | -5,330 | 0,000 | -0,318 | -0,147 |
| Sex | 3,871 | 1,354 | 0,041 | 32,660 | 0,000 | 1,272 | 1,435 |
| Age | 0,996 | -0,004 | 0,002 | -2,600 | 0,009 | -0,007 | -0,001 |
| Education level | | | | | | | |
| Primary school | 5,842 | 1,765 | 0,155 | 11,420 | 0,000 | 1,462 | 2,068 |
| Lower secondary school | 6,281 | 1,837 | 0,158 | 11,620 | 0,000 | 1,527 | 2,147 |
| Higehr secondary school | 5,032 | 1,616 | 0,169 | 9,540 | 0,000 | 1,284 | 1,948 |
| Higher education | 4,798 | 1,568 | 0,214 | 7,330 | 0,000 | 1,149 | 1,987 |
| Disability | 0,615 | -0,486 | 0,107 | -4,570 | 0,000 | -0,695 | -0,277 |
| Head of household activity | | | | | | | |
| occupied | 1,070 | 0,067 | 0,187 | 0,360 | 0,718 | -0,298 | 0,433 |
| Inactive | 1,333 | 0,287 | 0,044 | 6,510 | 0,000 | 0,201 | 0,374 |
| Head of household sex | 1,011 | 0,011 | 0,051 | 0,220 | 0,827 | -0,088 | 0,111 |
| Education level of the head of household | | | | | | | |
| Primary school | 0,931 | -0,072 | 0,050 | -1,430 | 0,153 | -0,170 | 0,027 |
| Lower secondary school | 0,891 | -0,116 | 0,067 | -1,740 | 0,082 | -0,246 | 0,015 |
| Higehr secondary school | 0,958 | -0,042 | 0,082 | -0,520 | 0,605 | -0,203 | 0,118 |
| Higher education | 0,861 | -0,149 | 0,104 | -1,430 | 0,153 | -0,354 | 0,055 |
| Matrimonial status of the head of household | | | | | | | |
| polygamous | 0,904 | -0,101 | 0,043 | -2,360 | 0,018 | -0,185 | -0,017 |
| Single | 1,038 | 0,037 | 0,151 | 0,250 | 0,806 | -0,259 | 0,333 |
| widower | 0,946 | -0,055 | 0,072 | -0,770 | 0,442 | -0,195 | 0,085 |
| divorced | 1,248 | 0,221 | 0,122 | 1,810 | 0,070 | -0,018 | 0,460 |
| _cons | 0,031 | -3,480 | 0,191 | -18,220 | 0,000 | -3,854 | -3,105 |
| | Number of obs = 21698 | | | | | | |
| | LR chi2(23) = 1632.98 | | | | | | |
| | Prob > chi2 = 0.0000 | | | | | | |
| | PseudoR2 = 0.0814 | | | | | | |

Sources: author.

The marginal effects of a change of the individual characteristics on the probability confirm this results and are given in **Erreur ! Source du renvoi introuvable.**.

***Targeting the NEET population***

If elders, women and child are covered by a social protection system, this is not the case for youth category. As NEET category is being a big issue for policymakers in developing economies, the targeting the youth population that belongs to households confined into the depth of poverty can be strong tool for social protection policy oriented toward young people. Measurement of the depth of poverty at the scale of households show that there is need for 64 219,5 FCFA, 51 249,29 FCFA and 38 399,76 FCFA respectively for each household affected by poverty in Dakar, in the other urban centers and in rural areas in order to get out of the poverty line.

For households including, at least, one NEET, the poverty headcount is equal to 49.5% while it is equal to 44.7% for household without a young with NEET status.

Tableau 6: Poverty headcount for household (in percent)

| | |
|---|---|
| Household with a young NEET | 49.5 |
| Household without a young NEET | 44.7 |

Sources: calculations.

For 173.33 working day at a rate of FCFA 209.1 an hour for non farming activities and FCFA 179.91 an hour for farming activities, the guaranteed minimum inter-professional salary (SMIG) is FCFA 36,243/month (which makes FCFA 1,812 and CFA 31,184/month (which makes FCFA 1,559/day) respectively in the farming and non farming sectors (Republic of Senegal, 2007c). In a perspective of guaranteeing for the Government respectively a SMIG level of FCFA 36,243 FCFA/month in urban areas and FCFA 31,184/month in rural areas, an amount of 35 day of job per annum for a young person belonging to a poor household in Dakar, 28 days of job to a young person belonging to a poor household in the other urban centers and 23 days of job to a young person belonging to a poor household in the rural areas is needed .

**Conclusions**

The aim of this resaerch is to measure the NEET rate in Senegal, based on the standard ILO method and an approach by extension which encompasses the under employed youth and explain its determinants and explore target measures. Two indicators is be used to that end and a multinomial model assessed and targeted measures explored.

It comes out of the results that a proportion of 40.35% of the youth are hit by the NEET phenomenon, based on the standard approach (respectively 43.77% based on the extended approach). The key factors which significantly influence the probability of belonging to the NEET's category are the existence of a physical and mental disability, residence in rural areas, education, the head of youth household gender, education, the activity of the head household, the level of education of the head of the household. Therefore, it is important to put in place a targeting approach in order to reduce the NEET population by setting in place high labor intensity programs. The targeting of the NEET youth population and the development of a high labor intensity approach would mean, for the Government and its other branches (local

communities, ministries,agencies, etc.) allocating to that program a amount of its public job opportunity and general interest work. This policy which would enable the Government to intervene directly on the labor market in order to stimulate job creation could drive a significant reduction of poverty and be a significant social protection policy oriented toward youth. In order to implement this policy, the Government could also rely on its branches. Local communities could be involved into this initiative through the achievement of public interest job within the framework of their decentralized competences. Likewise, the ministries would be important stakeholders through sectoral unskilled high labor intensive projects and programs. Also, the public agencies managing direct and indirect programs could have as particular task in their mission to reduce the burden of the NEET in the youth labor market by providing training and labour access to those who has never received any training or education. Only the acquisition of these qualifications could allow the youth to be absorbed in the labor market.

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Annex

Table A.1 : Marginal effects

| Predictive | margins | | | | Nb of Obs | = | 21698 |
|---|---|---|---|---|---|---|---|
| Model VCE | : OIM | | | | | | |
| Expression | : Pr(NEET), | predict() | | | | | |
| | | | | | | | |
| | \| | | Delta-method | | | | |
| | \| | Margin | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
| | | | | | | | |
| milieu | \| | | | | | | |
| 1 | \| | .179229 | .0032173 | 55.71 | 0.000 | .1729232 | .1855347 |
| 2 | \| | .1495217 | .0041605 | 35.94 | 0.000 | .1413672 | .1576761 |
| | \| | | | | | | |
| Sexe | \| | | | | | | |
| 1 | \| | .0839773 | .0026281 | 31.95 | 0.000 | .0788264 | .0891283 |
| 2 | \| | .2583654 | .0042596 | 60.65 | 0.000 | .2500168 | .2667141 |
| | \| | | | | | | |
| niv_inst | \| | | | | | | |
| 1 | \| | .0376084 | .0054451 | 6.91 | 0.000 | .0269361 | .0482807 |
| 2 | \| | .1763217 | .0032354 | 54.50 | 0.000 | .1699804 | .182663 |
| 3 | \| | .1863436 | .0054282 | 34.33 | 0.000 | .1757046 | .1969826 |
| 4 | \| | .1569112 | .0087305 | 17.97 | 0.000 | .1397998 | .1740226 |
| 5 | \| | .1510648 | .0177118 | 8.53 | 0.000 | .1163504 | .1857793 |
| | \| | | | | | | |
| handicap | \| | | | | | | |
| 1 | \| | .2383621 | .0172023 | 13.86 | 0.000 | .2046463 | .272078 |
| 2 | \| | .1668866 | .0024735 | 67.47 | 0.000 | .1620386 | .1717347 |
| | \| | | | | | | |
| actcm | \| | | | | | | |
| 1 | \| | .1589365 | .0028262 | 56.24 | 0.000 | .1533973 | .1644757 |
| 2 | \| | .1675367 | .0240652 | 6.96 | 0.000 | .1203698 | .2147037 |
| 3 | \| | .1979056 | .0054157 | 36.54 | 0.000 | .187291 | .2085201 |
| | \| | | | | | | |
| etmacm | \| | | | | | | |
| 1 | \| | .1734403 | .003721 | 46.61 | 0.000 | .1661473 | .1807334 |
| 2 | \| | .1603602 | .0040908 | 39.20 | 0.000 | .1523425 | .168378 |
| 3 | \| | .1784322 | .0201695 | 8.85 | 0.000 | .1389006 | .2179637 |
| 4 | \| | .1662401 | .0079783 | 20.84 | 0.000 | .1506028 | .1818773 |
| 5 | \| | .2046353 | .0175096 | 11.69 | 0.000 | .1703172 | .2389535 |

sources: calculations.