

Youth 'Not in Education, Employment, or Training' (NEET) in North Africa:

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Affect NEET Outcomes Differently
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Abstract

Youth's life paths have become increasingly challenging, especially for those classified as "Not in Education, Employment, or Training" (NEET), who comprise 31.2% of North Africa's youth population. The region faces high youth unemployment rates, with 22.3% in 2023, rising slightly to 22.5% in 2024, and projected to return to 22.3% in 2025 (ILO, 2024). Notably, North African youth not only exhibit the highest desire to migrate within the MENA region but also demonstrate a significant disparity compared to the older generation's inclination to do so, particularly in Morocco (70% youth vs. 25% older). Similarly, more than half of the youth in Tunisia (56% vs. 25%), Algeria (56% vs. 21%), and Egypt (49% vs. 16%) express a desire to leave their respective countries (Arab Barometer, 2019). This paper aims to contribute to the ongoing debate and propose solutions to the phenomenon of NEET youth in the North African region by examining how household structure, subjective factors, and political dimensions influence their circumstances, with particular emphasis on gender. A comprehensive microeconomic database comprising 7,815 youth aged 15 to 29 years old from Morocco, Egypt, Tunisia, and Algeria is utilized, employing a Logit-type binary choice model. The empirical findings indicate that gender does not significantly impact the outcomes of North African NEETs. However, residing in urban areas reduces the likelihood of being classified as NEET. In contrast, having a higher level of education does not necessarily prevent NEET status among Egyptian, Moroccan, and Tunisian youth. Additionally, household structure plays a crucial role in determining the likelihood of youth being classified as NEET, with the probability decreasing as the number of employed individuals and those with higher education within the household increases. Policymakers in the North African region should prioritize the moralization of political life and the enhancement of institutional quality. Additionally, authorities in higher education and the labor market must ensure a better alignment between the supply of higher education systems and the demands of the job market in North African countries.

Key Words: NEETs, household structure, family support, satisfaction/self-esteem, institutions and political participation, micro-data, North Africa.

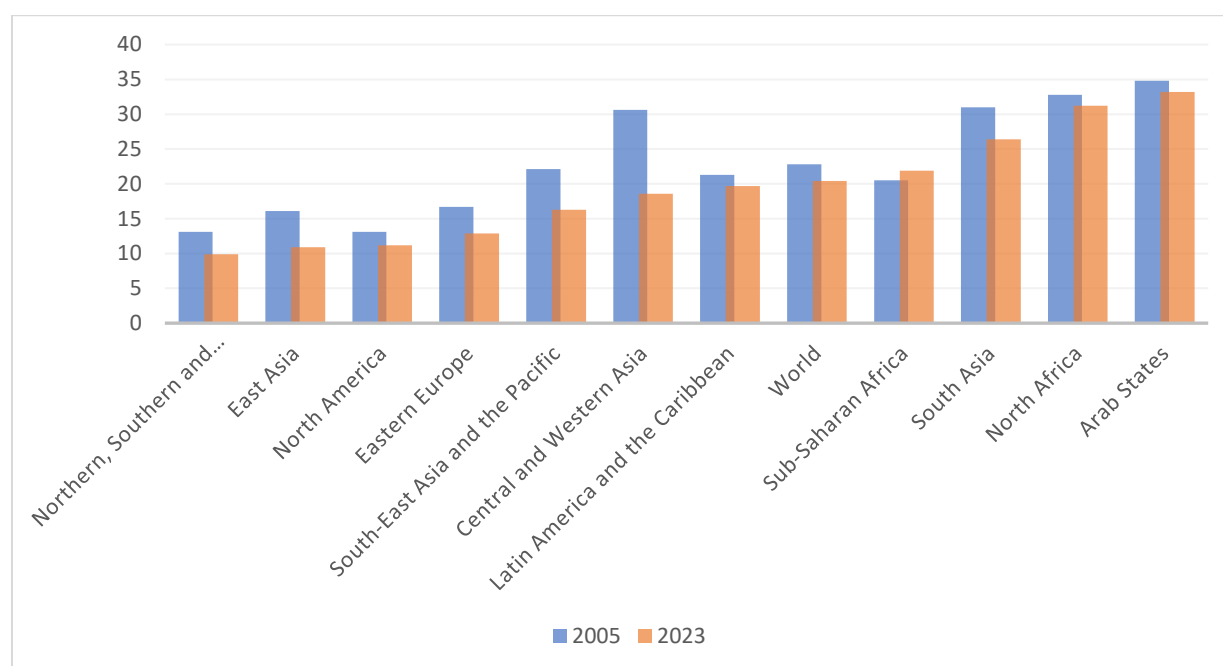
JEL Classification: R23

I. Introduction

Youth's journey has become tougher, carrying more risks than ever before. This is especially true for NEET individuals, whose circumstances magnify these challenges due to their accumulated deficits in education, training, and soft skills (Alfieri et al., 2015; Ibourk and El Aynaoui, 2022). Youth socio-economic inclusion remains a global challenge, and that of NEETs in particular. Youth represent a goldmine for any nation's development, but they can also be its Achilles' heel. The 2030 Agenda for Sustainable Development emphasizes the need to make youth policies the keystone of country sustainable development strategies (Barsoum et al., 2017). NEETs represent about a third of the youth population in North Africa, with the NEET rate standing at 31.2% in 2023. This is significantly higher than in many other regions, such as Northern, Southern, and Western Europe (9.9%), East Asia (10.9%), and North America (11.2%). In comparison to South Asia (26.4%) and Latin America and the Caribbean (19.7%), North Africa remains one of the regions with the highest NEET rates globally, second only to the Arab States at 33.2%. Within the North African region, the situation is particularly acute in countries like Egypt, where 30.2% of the youth were NEET in 2020, and Algeria, with 21.3% in 2017 (ILO, 2024; World Bank, 2024).

Moreover, these proportions are even higher for the countries of the North African region when considering the gender dimension, with 44% of Egyptian women not having an education, a job or a training in 2020, and the alarming fact that the share of this stratum in the young population is growing from 27% in 2015 to 30% in 2020 for Egypt. In addition to this very vulnerable segment of the population, a large part of the Youth even if they are educated, they are working in jobs below their potential. Policymakers' and researchers' concern about this population cluster is that they constitute a potential "*lost generation*" for every society around them (Manhica, et al., 2022). Recall that young women are three times more often than young men to be NEETs, with 34% of female NEETs and 10% of male NEETs worldwide. A mixed picture by region putting North Africa on top of the world's NEETs with 36% of young women and 17% of young men are NEETs (ILO, 2022).

Figure 1: Youth NEET rate, by subregion, 2005 and 2023 (percentage)



Source: International Labour Organization (ILO). (2024).

Furthermore, recent political changes in the MENA region (Szmolka, 2017; Gabsi, 2022) have significantly impacted the NEET category by disrupting the labor market and economic stability. The shifts in governance and social dynamics have led to a decrease in job opportunities and an increase in unemployment rates that has reached alarming levels, with 7.3 % in Egypt, 11.8% in Algeria, 15.1 % in Tunisia, and a staggering 18.7 % in Libya (World Bank, 2023), and 13.1% in Morocco (HCP, 2024), a picture that is further accentuated by gender, residence area, and education level, creating a challenging environment for young individuals seeking employment or training. The limited job prospects and inadequate economic opportunities have left many youths feeling frustrated and disillusioned, as they struggle to secure meaningful employment and a decent livelihood (Barsoum et al., 2017).

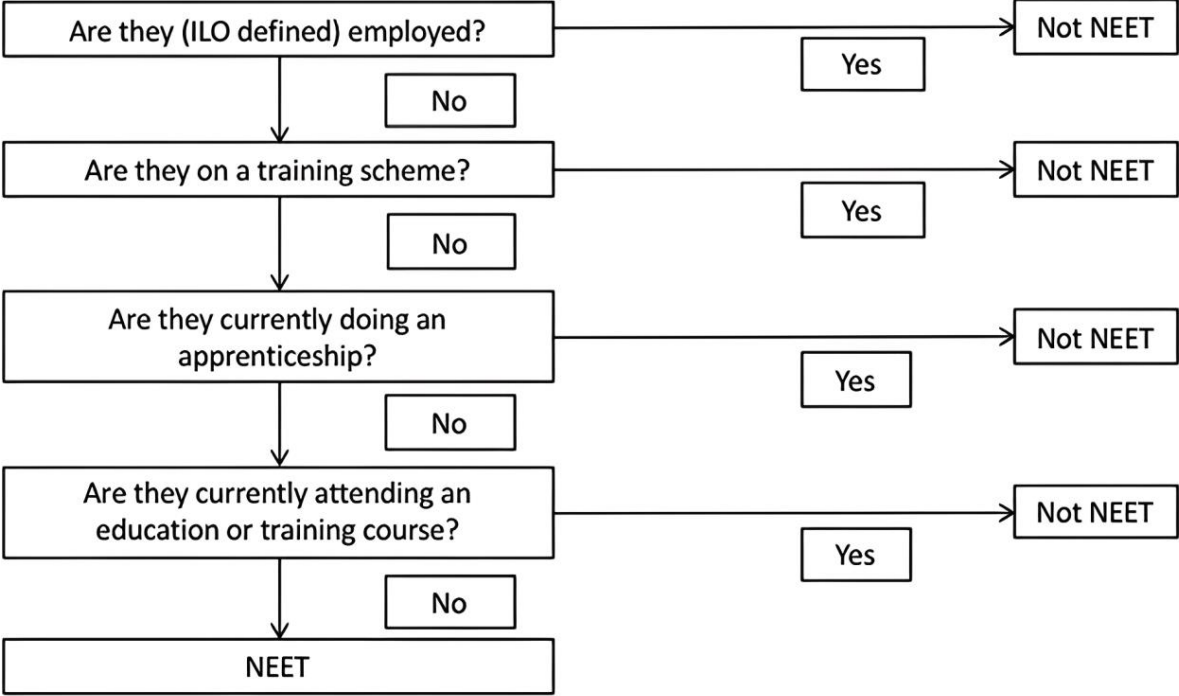
Moreover, net migration in North African countries is negative, revealing a heightened aspiration among individuals in North African countries to emigrate from their homelands. In 2022, Algeria recorded a net migration of -9,999, Morocco had -39,998, Libya had -2,000, Egypt had -29,998, and Tunisia had -4,000 (World Bank, 2023). These figures reflect the outflows of individuals from these countries, highlighting the challenges and factors contributing to migration patterns, such as economic conditions, political instability, and social factors. The desire for better prospects has driven a significant number of North African's young individuals to migrate in search of improved educational and employment opportunities (El Ouassif, 2021; Sacchetti and Ben Brahim, 2021). According to the Arab Barometer report (2019, p.11), Moroccan youth not only exhibit the highest desire to migrate in North Africa but also demonstrate a significant disparity compared to the older generation's inclination to do so (70 % (youth) vs 25 % (older)). Similarly, more than half of the youth in Tunisia (56 % vs 25 %), Algeria (56 % vs 21 %), and Egypt (49 % vs 16 %) express a desire to leave their respective countries. In Libya, approximately one-third of the youth (31 %) share the same aspiration. This migration trend further exacerbates the NEET situation in North Africa, as it leads to a loss of potential human capital within the region. The departure of skilled and educated young individuals contributes to a brain drain effect (Sefa Dei and Asgharzadeh, 2002), depriving the region of the talents and skills needed for its development. Consequently, the NEET population faces additional challenges, although the impact of emigration on local employment opportunities is more nuanced. While the migration of talented individuals may create more job openings for the remaining population, it can also reduce the overall demand for labor due to a shrinking population and disrupt skill complementarities, where the presence of highly skilled workers drives demand for less skilled workers. The net effect of emigration on employment tends to be small, as these opposing forces often cancel each other out (Bauer and Astrid, 2004; Ramos, 2017).

NEETs is an acronym that stands for "*Not in Education, Employment, or Training.*" The definition of NEET depends on three key elements: a specified age group, criteria that determine whether an individual falls within or outside the NEET category, and the specific data sources and methodologies used to identify young individuals who meet these criteria (Russell and Thompson, 2022, p.14). The European Commission's Employment Committee (2010) proposed a first cross-sectional definition that considers the age range between 15-34 and includes individuals who are unemployed or economically inactive and not engaged in any education or training. However, this definition often fails to distinguish between young individuals who experience short periods of being NEET and those who have a more prolonged NEET status. In response to this limit, various contributions suggest considering an additional criterion of a 6-month period for classifying a youth as NEET. Bynner and Parsons (2002) argue that the 6-month period is crucial for young individuals as they navigate the transition from school to work, enabling them to acquire qualifications and skills that enhance their employability and build their "*identity capital.*" According to Thompson

(2017), becoming NEET does not immediately follow leaving school. However, limited employment prospects and a lack of high-quality education and training options for young individuals with moderate to low levels of achievement contribute to their inclusion in this category.

However, the NEET concept has triggered a number of criticisms related to its coverage of very heterogeneous youth groups with diverse needs and characteristics, which implies a difficulty in terms of appropriate public policy design and targeting (Abbott and Teti, 2017; Mascherini, 2019). Indeed, within the NEET category, we distinguish between active and inactive NEETs. A young person who is not in education or training and is actively seeking work would be classified as an active or unemployed NEET, aligning with the ILO's definition of unemployment (figure 2). In contrast, a youth who is not in employment, education, or training and is not actively seeking work would be considered an inactive or economically inactive NEET (Holmes et al., 2021; Danner et al., 2021; Maguire, 2021). Therefore, the NEETs category encompasses youth who face multiple disadvantages both in the education system and the labor market (Furlong, 2006; Gonzalez-Rodríguez et al., 2019; Maguire, 2021).

Figure 2: NEET definition flowchart



Source : Holmes et al., 2021, p.391.

Being classified as NEET is influenced by a combination of contextual (structural-level) and individual factors. Firstly, contextual factors include elements such as the country's economic performance and the structure of the economy, and labor-market regulation (Bruno et al., 2014; Bacher et al., 2017; Assmann and Broschinski, 2021). Additionally, the quality and extent of vocational education (Rodeiro and Williamson, 2019) and the effectiveness of the transition system (Raffe, 2008; Helms Jørgensen et al., 2019; Maguire, 2021) play crucial roles in determining NEET status. Moreover, individual and environmental factors are equally vital in this context (Rahmani and Groot, 2023). These include factors like low educational attainment, various dimensions of material, social, and cultural disadvantage, parental attainment, attitudes, and aspirations towards

education, experience within the care system, educational engagement, instances of school exclusion, as well as mental and physical health issues and disabilities (Russell and Thompson, 2022). Furthermore, specific risk groups, such as youth with learning difficulties, disabilities, or long-term illnesses, those in or transitioning from care, young offenders, individuals involved in drug or alcohol misuse, teenage parents, individuals in caregiving roles, and the homeless, are more inclined to fall within the NEET's category (Barnes et al., 2011; Feng et al., 2015; Stanwick et al., 2017).

The notable prevalence of NEETs among the youth population in North Africa has spurred research on the subject. Dietrich et al., (2016) descriptively studied the demographic profiles and risk factors of Egyptian youth who are not in education, employment, or training (NEET). Findings from the study highlighted that the three key risk factors associated with an increased likelihood of being a NEET are (1) the gender (women are more likely to be a NEET than men in Egypt), (2) lower educational attainment, (3) being located in geographically secluded areas. Alfani et al, (2020) investigated the effect that initial conditions might have on determining the future of youth "*Once NEET, Always NEET?*" and what are the socioeconomic determinants of the Moroccan youth population that is NEETs. Findings from the study highlighted that after 10 years, a majority of youth who are neither in employment, education, nor training stay out of the workforce or educational system, with very limited opportunities to transition out of their situation. NEET's significant share among the North African's youth population is attributed mainly to various factors: 1) the failure of education systems in the region, 2) self-employment through entrepreneurship remains an under-exploited solution, 3) the informal sector accentuates the situation, 4) an agricultural sector which is a key part of the economic fabric of the North African countries but remains with a low potential in terms of job creation (Cieslik et al., 2022).

While the literature on North African NEETs has been either descriptive (Dietrich et al., 2016; Abbott and Teti, 2017) or focused on single countries (Alfani et al., 2020; Ibourk and El Aynaoui, 2022). Our study makes significant contributions to the field of research by addressing three crucial gaps in current knowledge. Firstly, **we expand the existing literature** by delving into potential drivers that extend beyond the traditional determinants, such as individual characteristics and socioeconomic factors. This study pioneers the exploration of new drivers that contribute to transitioning out of the NEET category, including household structure, family support, satisfaction and self-esteem, and trust in institutions and politicians. Secondly, we bridge **the empirical gap** by leveraging a comprehensive microeconomic database comprising 7,815 North African youth, allowing us to address a pressing issue specific to this region. Lastly, our work fills **the practical gap**, as the derived implications from our analysis hold substantial value. These implications are grounded in the real-life microeconomic circumstances of the individuals in our database, making our research of great interest to policymakers and international institutions committed to facilitating the transition of this population into gainful activities.

This article is structured as follows. We will first present the literature review (**section II**), the empirical methodology mobilized to verify the empirical validity of our research hypotheses (**section III**), the presentation and discussion of the empirical results (**section IV**) and we will end with some concluding remarks (**section V**).

II. Literature Review

2.1 Theoretical Foundations

In analyzing the phenomenon of NEETs through the lens of Structural Functionalism theory (Parsons and Bales,1955), we can observe a complex interplay between social structures and

individual roles within society. According to this perspective, society is viewed as a system composed of various interconnected parts, each serving a specific function to maintain social order and stability. In this context, NEETs can be seen as individuals who have temporarily or permanently disengaged from the conventional pathways of education and employment, disrupting the expected functioning of the social system (Bales and Parsons, 1956). Structural Functionalism suggests that institutions such as education and the labor market play vital roles in maintaining social cohesion and equilibrium. Education serves as a mechanism for transmitting knowledge, skills, and values, while the labor market provides opportunities for individuals to contribute to society and fulfill their economic needs. When individuals, particularly youth, are unable to find their place within these institutions, it can lead to a breakdown in the smooth functioning of society (Schneewind, 2001).

Considering the Social Exclusion Theory perspective, an examination of NEETs category reveals insightful understandings about the complex mechanisms contributing to their marginalization (Silver, 1994; Byrne, 2005). Social Exclusion Theory emphasizes the cumulative impact of factors like material deprivation, insufficient accessibility to social rights, constrained involvement in social activities, and a deficiency in normative integration (Jehoel-Gijsbers and Vrooman, 2007), which collectively exclude specific individuals or groups from full societal participation. NEETs can be viewed as a manifestation of social exclusion, as they confront diverse obstacles, including restricted educational opportunities, labor market bias, and socioeconomic disadvantages. This theory highlights the crucial importance of addressing structural inequalities and promoting social inclusion as pivotal measures to confront the challenges faced by NEETs and foster a more equitable society (Raffo and Reeves, 2000).

Applying the human capital theory to the situation of NEETs sheds light on the importance of human capital in shaping the involvement of young individuals in society. It posits that the level of human capital, encompassing knowledge and competencies, plays a pivotal role in determining the likelihood of NEETs' integration into productive activities and their capacity to contribute to the economy (Becker, 1993). Thus, the theory underscores the significance of investing in the development of NEETs' human capital through alternative educational programs and skill-building initiatives to enhance their prospects for employment and enable their meaningful economic involvement.

2.1 Empirical literature

Since its emergence in the 1980s and its adoption by the European Commission's Employment Committee (EMCO) in 2010, NEETs has gained popularity as a concept that reflects youth's multidimensional vulnerabilities (Mascherini, 2019). However, insufficient attention has been devoted to comprehensively understanding the influence of non-conventional determinants, such as household structure, family support, satisfaction/self-esteem, institutions, and political participation, on the outcomes of NEET individuals in North Africa. Zuccotti and O'Reilly (2019) examined how household structure affect educational and labor outcomes of young individuals using UK's Understanding Society survey data. Findings showed that while young individuals with workless parents generally have a higher likelihood of becoming NEET, this varies among ethnic groups and genders, with less impact on second-generation Indian, African, and Bangladeshi individuals compared to white British.

In addition, recent research underscored the crucial role of subjective determinants in shaping the lives of NEET individuals. A study conducted by Felaco and Parola (2022) investigated the self-reported subjective well-being and future orientation among Italian NEETs. The empirical results

highlighted that the NEET group exhibited lower subjective well-being and encountered more challenges in future planning compared to the non-NEET group. Being a NEETs is always associated with habits that may be detrimental to an individual's health and, consequently, the subjective well-being. Chandler and Santos Lozada (2021) investigated the associations between NEET status and poor/low self-reported health status, among adolescents and young adults in the United States. By mobilizing a database of 53,690 participants extracted from the 2016-2018 National Survey on Drug Use and Health (NSDUH). Results of estimates on a Logit model pointed out that NEET populations report poorer health than non-NEETs who remained in school and/or were employed (11.30% vs. 5.62%). As for their individual characteristics, the NEET population was older, had a higher proportion of non-Hispanic blacks, smoked more but drank less alcohol than non-NEETs. Reintegration of the NEET population through the education and employment channels contributes effectively to the improvement of their health status. Manhica et al (2022) investigated the association between being a NEET during adulthood and substance use disorders (SUD). Based on micro-level data on 383,116 Swedish men and 362,002 women born between 1984 and 1990. The results of the estimation using Cox regression showed that the trajectories of NEET were estimated between the ages 17 and 24 years and were linked to drug use disorders.

Previous literature shows that people who are NEET tend to have lower levels of trust in institutions. Alfieri et al. (2015) examined the role of trust in institutions and political participation among Italian NEETs. Empirical findings indicated that youths, in general, displayed a low level of trust in institutions, and this level was even lower among NEETs. In terms of political participation, the study revealed that males exhibited lower levels of engagement compared to female. Additionally, both genders, particularly NEETs, demonstrated significantly lower levels of frequency in political participation. These findings highlight the challenges faced by NEETs in terms of trust in institutions and their limited engagement in political activities.

III. NEETs determinants by gender

3.1 Data and methodology

3.1.1 Data

Data were extracted from the SAHWA Youth Survey Database. The data were collected through face-to-face interviews with individuals aged 15 to 29, reaching approximately 10,000 youths across five Arab Mediterranean countries: Algeria, Egypt, Lebanon, Morocco, and Tunisia.. A common questionnaire was administered to them and covered several aspects: education, employment and inclusion, political participation and mobilization, values and culture, gender roles and perspectives, migration and international mobility. The survey thus provided a significant amount of usable comparative data (table 1).

Table 1: Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Dependent variable					
<i>Young NEETs</i>	7,852	0.349	0.477	0	1
Individual characteristics					
<i>Age</i>	7,860	21.866	4.056	15	29
<i>Location (Urban = 1; Rural = 0)</i>	7,860	0.624	0.484	0	1
<i>Female</i>	7,860	0.457	0.498	0	1
<i>Married</i>	7,858	0.172	0.378	0	1

Educational level					
<i>Primary</i>	7,860	0.356	0.479	0	1
<i>Secondary</i>	7,860	0.400	0.490	0	1
<i>Tertiary</i>	7,860	0.244	0.430	0	1
Household structure characteristic					
<i>Household size</i>	7,860	4.750	1.887	1	16
<i>Head of household</i>	7,851	0.053	0.224	0	1
<i>Number occupied in the household</i>	7,860	1.379	1.284	0	9
<i>Superior number in the household</i>	7,860	1.334	1.235	0	9
Family Support					
<i>Living with parents</i>	7,860	1.526	0.816	1	3
<i>Intention to migrate</i>	7,859	0.284	0.451	0	1
Satisfaction and self-esteem					
<i>On the whole, I am satisfied with myself</i>	7,852	3.268	0.708	1	4
Job scarcity and gender					
<i>When work is scarce, men should have more right to a job than women.</i>	7,859	1.825	0.833	1	4
<i>Membership in a youth club</i>	7,858	0.194	0.396	0	1
Trust in institutions and political participation					
<i>Trust in politicians</i>	7,850	1.856	2.436	0	10
<i>Voted in last election</i>	7,860	0.281	0.449	0	1
Country					
<i>Algerie</i>	7,860	0.259	0.438	0	1
<i>Egypte</i>	7,860	0.251	0.433	0	1
<i>Maroc</i>	7,860	0.236	0.425	0	1
<i>Tunisie</i>	7,860	0.254	0.436	0	1

Source: Authors' elaboration.

3.1.2 Methodology

We employ a Logit model to estimate the probability of youth being categorized as NEET. The model includes control variables such as individual characteristics, education level, household structure, job scarcity, gender, and trust in institutions. It is important to note that variables such as personal satisfaction, trust in institutions, and family support may be subject to reverse causality issues, as they are derived from a subjective questionnaire. While this does not alter the nature of the associations we aim to investigate, we recognize these concerns and intend to explore the potential correlation between these variables and NEET status. The estimated model is outlined as follow:

$$\begin{aligned}
NEET_i = & \alpha_0 + \alpha_k * \sum_{k=1}^7 (Individual\ characteristics)_{k,i} + \alpha_k * \sum_{k=8}^{11} (Household\ structure\ characteristics)_{k,i} \\
& + \alpha_k * \sum_{k=12}^{13} (Family\ Support)_{k,i} + \alpha_k * \sum_{k=14}^{14} (Satisfaction\ and\ self - esteem)_{k,i} + \alpha_k * \sum_{k=15}^{16} (Job\ scarcity\ and\ gender)_{k,i} \\
& + \alpha_k * \sum_{k=17}^{18} (Trust\ in\ institutions\ and\ political\ participation)_{k,i} + \varepsilon_i
\end{aligned}$$

3.2 Empirical results and discussion

To investigate the drivers of NEET status among North African youth, we adopt an econometric specification in which the endogenous variable captures whether the individual is currently not in education, employment and training. In our database of 7,815 North African youth, approximately 35% of the youth in our database are NEETs. To identify the factors that determine NEET status, we control the model with variables on individual characteristics, the individual's level of education, as well as other variables used for the first time in the literature such as household structure characteristics, satisfaction and self-esteem, and trust in institutions.

The findings from our study (table 2) shed light on the impact of residence area on the likelihood of individuals belonging to the NEET population in the North Africa region. Specifically, our results indicate that youths residing in urban areas have a significantly lower probability of being classified as NEETs. This finding corroborates the research conducted by Mauro and Mitra (2015) in the Europe and Central Asia (ECA) region, which similarly concluded that urban living reduces the likelihood of being classified as a NEET.

The correlation between urban residence and decreased NEET prevalence can be attributed to various factors. Urban areas often provide greater access to educational and employment opportunities, as well as a more developed infrastructure and support systems (Karyda and Jenkins, 2018). The concentration of educational institutions, vocational training centers, and job prospects in urban settings may offer young individuals a wider range of options and pathways for their transition into education, employment, or training. Moreover, urban areas tend to be hubs of social and economic activities, fostering a conducive environment for social interactions, networking, and engagement. These factors contribute to a higher level of social integration and participation, which, in turn, may mitigate the risk of youth disengagement and exclusion (Erdogan et al., 2021).

Our findings reveal a noteworthy paradox in the North Africa region, where a higher educational attainment does not act as a safeguard against NEET status. On the contrary, our results indicate that having a higher education degree actually increases the probability of belonging to the NEETs category among youth in this region. Our findings align with previous research (Dadush, 2018; Winkler, 2022) indicating that education in the MENA region does not guarantee protection against unemployment (Ahmed et al., 2012). Additionally, both the public and private sectors are experiencing a decrease in job opportunities, leading to higher rates of unemployment among youths. As a result, despite advancements in education, youths in the region face a decline in economic participation (Assaad et al., 2018).

Moreover, the North Africa region faces several challenges, including the predominance of informal employment, high unemployment rates, and a mismatch between the skills demanded by the job market and those acquired through education (Mansuy and Werquin, 2018; Ibourk and Elouaourti, 2023). Buitrago-Hernandez et al. (2019) emphasized the disconnection between high educational attainment and NEET status. The evidence indicates a broader issue of imbalance between supply and demand in the labor market, where the educational system fails to align with the needs of the economy, and the job market struggles to absorb the skills and knowledge possessed by highly educated individuals.

Table 2: NEETs: Estimation Results, **North Africa**

<i>Dependent variable NEETs</i>	Total	Female	Male
Individual characteristics			
Age groups			
<i>15 to 20 year old</i>	0.0134	-0.00795	0.0277
<i>21 to 25 year old</i>	-0.00349	-0.00816	0.000818
<i>26 to 29 year old</i>	-	-	-
Age²			
<i>Location (Urban = 1; Rural = 0)</i>	-0.0714***	-0.0919***	-0.0540***
<i>Female</i>	-0.0101	-	-
Marital status			
<i>Married</i>	0.0173	-0.0057	0.0409
Education Level			
<i>Secondary</i>	-0.00247	-0.0228	0.0143
<i>Higher</i>	0.0240*	0.000763	0.0426**
Household structure characteristic			
<i>Household size</i>	-0.00206	-0.00648	7.71E-05
<i>Head of household</i>	0.0163	-0.00403	0.0137
<i>Number occupied in the household</i>	-0.140***	-0.141***	-0.140***
<i>Superior number in the household</i>	-0.0262***	-0.0185***	-0.0324***
Family Support			
<i>Living with parents</i>	0.118***	0.123***	0.115***
<i>Intention to migrate</i>	-0.0166	-0.0214	-0.0114
Satisfaction and self-esteem			
<i>Overall, I am satisfied with myself</i>	-0.0466***	-0.0473***	-0.0457***
Job scarcity and gender			
<i>When work is scarce, men should have more right to a job than women.</i>	-0.0120**	-0.0175**	-0.00649
<i>Membership in a youth club</i>	-0.0959***	-0.107***	-0.0871***
Trust in institutions and political participation			
<i>Trust in politicians</i>	-0.0101***	-0.0109***	-0.00933***
<i>Voted in last election</i>	0.0426***	0.0386**	0.0455***
Country			
<i>Algeria</i>	-0.189***	-0.203***	-0.175***
<i>Egypt</i>	-0.146***	-0.152***	-0.141***
<i>Morocco</i>	-0.0752***	-0.0868***	-0.0647***
<i>Tunisia</i>	-	-	-
<i>Observations</i>	7,821	3,568	4,253

Source: authors' calculations. Marginal effects without stars are statistically insignificant. P-value: ***p < 0.01, ** p < 0.05, * p < 0.1.

In our study, we venture into unexplored dimensions within the existing literature by investigating the impact of various factors such as household structure, family support, satisfaction/self-esteem, institutions, and political factors on NEET status among young individuals in North Africa. One crucial finding in determining the likelihood of a North African youth being classified as NEET is the influence of household structure (Zuccotti and O'Reilly, 2019). Our results demonstrate a significant relationship between household characteristics and NEET status. Specifically, as the number of employed individuals and the number of persons with higher education within the

household increase, the probability of belonging to the NEET category decreases. Importantly, this relationship holds true across genders, highlighting its robustness and consistency. These results underscore the crucial role of family support and networking in shaping the pathways of youth in North Africa. The presence of employed individuals within a household can potentially provide role models, support, and access to resources that enhance the likelihood of avoiding NEET status. Economic stability and opportunities for career guidance and mentorship are also facilitated, thus reducing the chances of youth falling into the NEET category. Moreover, having family members with higher education likely influences the aspirations and educational choices of youth, aligning them more closely with the demands of the labor market (Deber et al., 2020; Ibourk and Elouaourti, 2023).

Our study delves into the impact of family support, specifically quantified by the dimension of "living with parents," on the likelihood of individuals belonging to the NEET population. Our findings reveal that this dimension has a statistically significant effect on NEET status, indicating its importance in understanding the dynamics of youth disengagement. Interestingly, our results consistently show that living with parents increases the probability of individuals belonging to the NEET population across all three estimates (total, female, and male). This finding can be explained by the fact that remaining in the family home can hinder young individuals' ability to develop their skills and transition into education, employment, or training opportunities. This result can be explained by the fact that staying within their comfort zone, they may lack the necessary exposure and experiences that foster personal growth and independent decision-making.

Moreover, the findings of our study provide valuable insights into the relationship between satisfaction, self-esteem, and youth belonging to the NEET population in the examined context. The negative and significant association between satisfaction and self-esteem and the probability of belonging to the NEET category highlights the importance of psychological well-being in mitigating the risk of NEET status. The results indicate that as youth experience higher levels of satisfaction and self-esteem, their likelihood of being categorized as NEET decreases. This suggests that individuals who have a positive sense of self-worth and overall life satisfaction are more likely to actively engage in education, employment, or training opportunities. This result is consistent with Felaco and Parola's (2022) findings, which revealed that Italian NEETs exhibited lower subjective well-being. In addition, Mazzocchi et al. (2024) found that non-urban NEETs' subjective well-being is positively associated with the availability of public employment services. However, the relationship with public employment services interaction and support was found to be non-significant. Furthermore, a positive and significant relationship emerged between subjective well-being and factors such as self-efficacy and social support. Together, these findings underscore the importance of enhancing youth satisfaction and self-esteem as a means to reduce NEET status and highlight the role of supportive public services in improving their well-being. The findings of Slav (2024) further corroborate the link between life satisfaction and feelings of depression among NEET individuals. The study highlights that well-being, as measured through happiness and life satisfaction, plays a critical role in understanding NEET status. In the context of Moldova, the research indicates that lower life satisfaction and heightened feelings of depression are prevalent among NEET youth, suggesting that these emotional states may contribute to their disengagement from education and employment opportunities.

Furthermore, the presence of youth club membership as a factor that reduces the probability of belonging to the NEET category underscores the potential benefits of social engagement and participation. Youth clubs can provide young individuals with opportunities for social interaction, skill-building, and personal development. Such activities can contribute to a sense of belonging, purpose, and increased motivation to pursue educational and vocational pathways.

Our investigation into trust in institutions and political participation in the North African region reveals a complex relationship with the likelihood of individuals falling into the NEET population. Trust in institutions, particularly trust in politicians, has a significant negative effect on NEET status, indicating that higher levels of trust reduce the likelihood of being classified as NEET. This suggests that individuals with greater faith in political institutions have a more positive outlook on socio-economic opportunities, leading to increased engagement in education, employment, or training. However, our examination of political participation shows a contrasting pattern, with active involvement in political activities and democratic processes positively associated with NEET status. This is an interesting result in the sense that it reveals that policy makers should focus more on the political life moralization in this region and on the improvement of institutional quality, which is something that takes place in the relatively long term and which requires political commitment, as opposed to political participation, which is a temporary act limited to the simple act of voting. Our results support those found by Alfieri et al. (2015) regarding low levels of trust in institutions and lower political engagement among NEETs in Italy. While our analysis uncovers associations between NEET status and factors such as self-esteem, trust in institutions, and family support, we recognize the potential for reverse causality. For instance, low self-esteem could both result from and contribute to being NEET.

Table 3: NEETs: Estimation Results by country

VARIABLES	Algeria			Egypt			Morocco			Tunisia		
	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
<i>Individual characteristics</i>												
<i>Age groups</i>												
15 to 20 year old	0.00287	0.11	-0.104	-0.0617	-0.145	0.00124	0.0414	-0.067	0.0902	0.058	0.0427	0.0733
21 to 25 year old	0.00375	0.0476	-0.0365	-0.0742	-0.104	-0.0552	0.0305	-0.0345	0.0569	0.0385	0.0463	0.0293
26 to 29 year old	-	-	-	-	-	-	-	-	-	-	-	-
Age ²	-4.94E-06	0.000222	-0.000232	-0.00022	-0.000392	-0.000117	0.000107	-9.51E-05	0.00019	6.08E-05	0.000111	4.72E-05
Location (Urban = 1; Rural = 0)	-0.0125	-0.0433*	0.0247	-0.179***	-0.202***	-0.155***	0.0112	0.0109	0.0162	-0.0942***	-0.0933***	-0.0956***
Female	-0.0101			-0.0218			0.0044			-0.000224		
Marital status												
Married	-0.028	-0.0367	-0.0526	0.0287	0.0542	-0.0182	0.0607*	-0.0138	0.129**	0.045	0.00929	0.051
<i>Education Level</i>												
Secondary	-0.0141	-0.0581**	0.0195	-0.025	-0.00971	-0.049	0.0410*	0.0104	0.0529*	-0.0236	-0.0378	-0.0143
Higher	-0.00858	-0.0185	-0.00914	0.0171	0.0371	-3.58E-07	0.0169	-0.0448	0.0472	0.0654**	0.0245	0.103**
<i>Household structure characteristic</i>												
Household size	-0.00625*	-0.0135**	-0.00038	-1.45E-05	0.0123	-0.00855	0.00286	1.79E-05	0.00185	0.00732	-0.000583	0.0149
Head of household	0.0635		0.088	0.0315	0.0245	0.0686	-0.0015	0.0336	-0.0366	0.0452	-0.0928	0.104
Number occupied in the household	-0.0943***	-0.0933***	-0.0920***				-0.146***	-0.135***	-0.151***	-0.0765***	-0.0865***	-0.0659***
Superior number in the household	-0.0115*	-0.01	-0.0127	-0.0407***	-0.0318**	-0.0499***	-0.0181**	0.00544	-0.0275**	-0.0607***	-0.0559***	-0.0651***
<i>Family Support</i>												
Living with parents	0.105***	0.105***	0.107***	0.150***	0.151***	0.147***	0.120***	0.141***	0.114***	0.121***	0.125***	0.116***
Intention to migrate	0.0523***	0.0309	0.0708**	-0.0336	-0.052	-0.0155	-0.168***	-0.212***	-0.147***	0.0378	0.035	0.0376
<i>Satisfaction and self-esteem</i>												
Overall, I am satisfied with myself	-0.0480***	-0.0246	-0.0708***	-0.108***	-0.0963***	-0.119***	-0.0232*	-0.0500**	-0.012	-0.0188	-0.0312*	-0.00848
<i>Job scarcity and gender</i>												
When work is scarce, men should have more right to a job than women.	-0.0178	-0.0204	-0.0192	-0.0374***	-0.0331*	-0.0484**	-0.0113	-0.0396**	0.00323	0.0119	-0.00137	0.025
Membership in a youth club	-0.124***	-0.140***	-0.111***	-0.108***	-0.131***	-0.0853**	-0.0870***	-0.0779	-0.0949**	-0.0671**	-0.0822**	-0.0511
<i>Trust in institutions and political participation</i>												
Trust in politicians	-0.00869**	-0.00955	-0.00748	-0.0178***	-0.00887	-0.0241***	-0.0119***	-0.0171**	-0.00880*	-0.000945	-0.00545	0.00375
Voted in last election	0.0425*	0.00693	0.0625**	0.199***	0.176***	0.214***	-0.022	0.0258	-0.0436*	0.00565	-0.0167	0.0319
Observations	2,035	949	1,085	1,550	772	778	1,837	637	1,200	1,986	996	990

Source: authors' calculations. Marginal effects without stars are statistically insignificant. P-value: *** p < 0.01, ** p < 0.05, * p < 0.1.

As regards inter-country differences in North Africa (table 3), our results pointed to the presence of heterogeneity on some dimensions. Living in urban areas in Morocco increases the probability of belonging to the NEET category, a result that is opposite to the one found for Algeria, Egypt and Tunisia. Regarding the educational attainment level, in Algeria the more the educational achievement of the youth increases, the more the probability of belonging to the NEETs population decreases, contrary to the other countries of the North Africa region. Similarly, in Algeria and Tunisia, the impact of the "intention to migrate" on the probability of belonging to the NEETs population differs from that of the other countries; as the intention to migrate increases, the probability of belonging to the NEETs category increases as well, a result that is positively and statistically significant for Algeria. As for "Trust in institutions and political participation", the results are identical for all countries concerning trust in politicians, however, the act of political participation in Morocco reduces the probability of belonging to the NEETs population for young Moroccan men.

3.3 Policy recommendation

When it comes to policy recommendations, it is important to distinguish between policies aimed at preventing youth from becoming NEET and those focused on reintegrating those who are already NEET (Hutchinson et al., 2015). To prevent youth from becoming NEET (Not in Education, Employment, or Training), it is crucial to differentiate also between factors that are more likely to have a causal influence and those that are associated with NEET status but for which causality remains uncertain.

- ***Causal Factors***

Understanding the role of residence, particularly rural versus urban settings, in influencing NEET prevalence in North Africa has significant policy implications. Policymakers should prioritize initiatives that enhance educational and employment opportunities in rural areas, where NEET rates tend to be higher. Improving infrastructure, transportation, and access to services in these regions can help reduce geographic disparities and create more equitable conditions for youth. Additionally, targeted programs, such as mentorship and job placement services, can facilitate the transition of rural NEETs to urban areas, thereby reducing NEET rates and promoting social inclusion.

Education is another key factor with a strong causal link to NEET status. Addressing the mismatch between education and employment requires reforms that align the education system with labor market demands. Promoting vocational and technical education alongside traditional academic pathways, fostering partnerships between educational institutions and employers, and creating job opportunities that suit individuals with different qualifications are essential. These measures will help mitigate the risk of NEET status among highly educated youth by bridging the gap between education and employment.

- ***Associated but Non-Causal Factors***

While factors such as self-esteem and family support are associated with NEET status, their causal role is less clear. Nevertheless, policies that aim to enhance family support mechanisms could still play a crucial role in reintegrating youth who are already NEET. Strengthening resources for parents to effectively support their children's education and career development, along with programs that foster independent living skills and self-sufficiency, may help reduce reliance on family support and encourage youth to pursue education or employment.

Psychological factors, such as low self-esteem, also correlate with NEET status but may not directly cause it. Enhancing access to psychological support services—through counseling, mentoring, and life skills training—can help boost youth’s self-perception and motivation. These services should be offered in both educational and community settings to equip youth with skills like goal-setting, problem-solving, and resilience, which can encourage them to pursue opportunities in education or work.

- ***Additional Support Mechanisms***

Supporting youth clubs and community engagement can also indirectly impact NEET status by fostering social skills and personal development. Expanding these programs to ensure inclusivity and accessibility will promote social engagement, peer support, and skill-building, helping NEET youth develop a sense of belonging and prepare for the workforce.

Finally, fostering trust in institutions, particularly by promoting transparency and good governance, is essential for encouraging youth engagement in political processes. While not a direct cause of NEET status, improving political trust could enhance youth participation in societal and economic activities, thereby indirectly reducing NEET rates and improving socio-economic prospects.

IV. Conclusion

The objective of this paper was to examine the potential associations between household structure, family support, satisfaction/self-esteem, institutions, and political factors in relation to a youth's NEET status in the North African region. To do so, we mobilized a micro-database of 7,815 youth (age 15-29) covering four North African countries (Morocco, Egypt, Tunisia and Algeria). To address this issue, we mobilized the empirical methodology of binary choice models.

Our results revealed that area of residence significantly affects the probability of belonging to the NEET population in that region, with youth living in urban areas being less likely to belong to the NEET category. On the other hand, a high level of education does not prevent a person from being a NEET. As for the contribution of this paper, we investigated for the first time in the literature and the effects of household structure, family support, satisfaction/self-esteem, institutions, and political factors. The empirical results highlighted that as the number of employed persons in the household and the number of persons with higher education in the household increases, the probability of belonging to the NEETs category decreases. In addition, the dimension of family support has a statistically significant effect on the probability of belonging to the NEETs population. Living with parents increases the probability of being a NEET.

However, our analysis identifies associations between NEET status and factors such as self-esteem, trust in institutions, and family support, while recognizing the potential for reverse causality—low self-esteem may both result from and contribute to NEET status. Although causality cannot be definitively established, these correlations offer valuable insights for policymakers. The more satisfied youth are with themselves, the lower their probability of being classified as NEET. Similarly, youth who are members of a youth club exhibit lower NEET rates. In the North African region, the effects of trust in institutions and political participation on NEET status are contrasting. Trust in institutions has a negative and significant effect on the probability of belonging to the NEET population, while political participation has a positive and significant effect.

Policymakers in the North African region need to ensure the moralization of political life as well as to improve the quality of institutions. In addition, the higher education and labor market

authorities in the North African countries should work to ensure that the supply of higher education systems matches the demand of the labor market.

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