

## **Social-demographic dimensions of Bulgaria's NEETs: Poverty and ethnicity in focus**

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**Abstract.** This study investigates the socio-demographic dimensions of Bulgaria's NEET (Not in Education, Employment, or Training) population, focusing on poverty and ethnicity, particularly among Bulgaria's Roma. The purpose is to explore how and to what extent poverty influences NEET status, with an emphasis on the disparities between Roma and non-Roma youth. The methodology relies on data collected through a survey conducted by NSI/FRA, employing a two-stage stratified cluster sampling of 15 thousand households. The data were processed using weighted percentages, direct standardization, and tetrachoric correlations to assess the associations between socio-demographic characteristics and NEET status. Results show that Roma youth aged 15-29 are disproportionately represented in the NEET population, with a NEET rate of 53.6%, compared to 19.3% for the general population. After direct standardization by poverty, the Roma NEET rate reduces to 36.2%, though it remains significantly higher than the national average. This finding underscores that poverty, while a key factor, does not fully explain the elevated NEET rates among Roma, suggesting other structural barriers also are in play. The study concludes that comprehensive policies targeting both poverty reduction and other social measures and interventions are essential to reduce the NEET rates among vulnerable ethnic groups. It also highlights the economic losses resulting from youth disengagement from the labour market, emphasizing the importance of integrated policy measures.

**Keywords:** Bulgaria's NEETs, Roma, poverty, ethnicity

### **Introduction**

The share of Bulgaria's NEETs, constituting individuals aged 15-29 who are neither in education, employment, nor training has demonstrated a gradual decline from 25.7% in 2013 to 18.1% in 2020. In 2022, the most recent data available, the NEET rate further decreased to 15.1% (Eurostat 2022). Within the European Union, Bulgaria ranks fourth in NEET rates among the 27 member states, with only Romania, Italy, and Greece reporting higher rates (Eurostat 2023).

In Bulgaria, falling into the NEET category seems to be linked to ethnicity. In 2017, about one in ten ethnic Bulgarians were NEETs, compared to approximately one in three for those of Turkish ethnicity and two in three for the Roma ethnic group, highlighting significant policy implications regarding the unequal opportunities provided to ethnic minorities in education and employment (European Commission, Institute for Market Economics 2019). In 2020, approximately 54.0% of the young Roma aged 15-29 were NEETs, contrasting with the lower proportions observed among Bulgaria's other large ethnic groups: the Bulgarians (11.7%) and the Turks (22.5%) (Tomova, Stoytchev 2022).

Both reports cited above also suggest an interrelationship between either poverty and ethnicity or poverty and NEETs. Profound differences are detected in poverty rates among the different ethnic groups. Specifically, a substantial majority of Roma, totalling 71.1%, are at risk of poverty, contrasting with much lower proportions observed among ethnic Bulgarians (16.5%) and ethnic Turks (35.2%) (Tomova, Stoytchev 2022). More than half of the poor young people were estimated to be NEETs, and nearly half of them live in severe material deprivation (European Commission, Institute for Market Economics 2019).

While various dimensions such as gender, education, household employment, territorial distribution aspects and discrimination are important in the research on Bulgaria's NEETs, this discussion here will focus specifically on the poverty aspect, particularly monetary or relative poverty, and the disparities in poverty between Bulgaria's Roma and non-Roma NEET populations.

Further investigation is needed to delve into the poverty situation among NEETs from both Roma and non-Roma backgrounds and how successful policies and measures targeting poverty could impact the overall and ethnic structures among young persons aged 15-29 in terms of NEETs. I will refrain from discussing specific measures, as this goes beyond the scope of the analysis. The focus here will be on the potential outcomes and implications that may arise upon the implementation of successful measures aimed at reducing poverty.

The EU 27 countries must strive to decrease their NEET rates from 12.6% (in 2019) to 9% by 2030. They are also expected to improve employment prospects and, among many other things, to make sure that the Roma people and other ethnic or racial minorities particularly at risk of exclusion or discrimination participate in the labour market to the maximum of their capacity (European Commission 2021). And last but not least, the economic loss in 2011 from youth disengagement from the labour market was €153 billion, a conservative estimate equating to 1.2% of European GDP, with certain countries, including Bulgaria, Cyprus, Greece, Hungary, Ireland, Italy, Latvia, and Poland, facing particularly high costs exceeding 2% of their GDP (Eurofound 2012).

## **Data and methods**

The findings presented below count on the survey data collected by Bulgaria's National Statistical Institute, methodologically designed in collaboration with the EU's Fundamental Rights Agency. The survey was part of the project *Novel Approaches to Generating Data on hard-to-reach populations at risk of violation*

of their rights and funded through European Economic Area Financial Mechanism 2014-2021 (NSI, FRA 2020). Henceforth, in this article the survey will be referred to as the *NSI/FRA* survey.

*NSI/FRA* survey was conducted between May 19 and September 17, 2020, and gathered information from over 26.6 thousand individuals aged 15 and older, and 3.6 thousand children aged up to 14 years. Despite the COVID-19 pandemic and associated anti-pandemic measures, the survey achieved an 80.6% response rate. Employing a two-stage stratified cluster sampling methodology, the sample comprised 15 thousand private households distributed across 2.5 thousand clusters, representing the Bulgaria's population living in private households. All household members aged 15 and above were directly interviewed (no proxy interviews). Data collection was facilitated through face-to-face computer-assisted interviews.

The data were tailored to the specific requirements of the present research, resulting in a reduction to 4,030 respondents aged 15-29. Following a methodology updated by the EU's Fundamental Rights Agency (FRA 2021), the respondents were classified as either NEET or non-NEET based on their responses to the following questions:

- How would you describe your current employment status?
- During the past 4 weeks, have you done any work for a fee in cash or other income?

- Is the person studying at present?

All respondents aged 15-29 were categorized as NEETs, except for:

- those who were working in exchange for payment or income;
- students, trainees, postgraduate students and persons performing unpaid work;

- the individuals performing community service;

- those who work (or have worked) in exchange for payment or income (within 4 weeks of the interview date); and

- the individuals who are studying, including those on vacation or undergoing professional or other training.

All data and results were processed, weighted and calculated using R version 4.3.2 (2023-10-31 ucrt) (R Core Team 2023) using the packages 'tidyverse' (Wickham et al. 2019) 'psych' (Revelle 2024), and 'corrplot' (Wei, Simko 2021). Statistical methods include time series modelling and forecasting (Hyndman et al. 2024; Hyndman, Khandakar 2008), direct and indirect standardization (Naing 2000), weighted percentages and tetrachoric correlations (Kirk 1973).

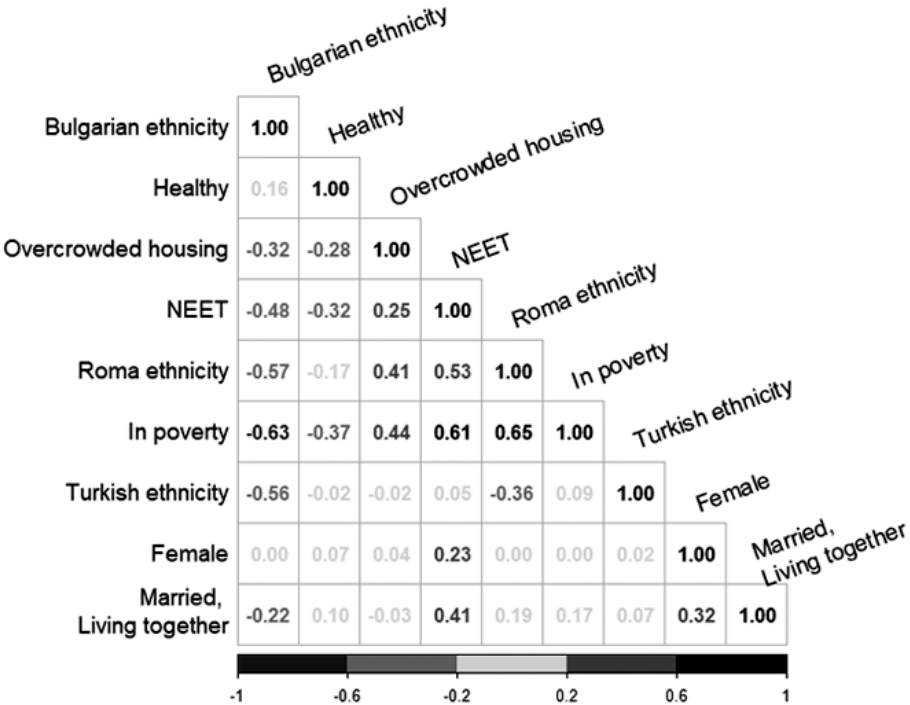
## Results and discussion

Figure 1 presents an analysis of the associations between various socio-demographic characteristics of the respondents (recoded as dichotomous variables) and their NEET status, utilizing tetrachoric correlation analysis. As anticipated, positive correlations are observed between NEET status and poverty ( $r = 0.61$ ), as well as between NEET status and Roma ethnicity ( $r = 0.53$ ). In parallel, the Bulgarian ethnicity is negatively correlated ( $r = -0.48$ ), i.e., being ethnic Bulgarian

ian implies a lower chance of being/becoming a NEET. In addition, a stronger correlation between the Roma ethnicity and poverty is observed ( $r = 0.65$ ). In short, when poverty increases, the proportion of NEETs also rises. Among Roma communities, where poverty is widespread - the only ethnic group in Bulgaria where still more than half of its members are at risk of poverty (National Statistical Institute 2024), the larger share of NEETs starts to seem predetermined.

Besides poverty and Roma ethnicity, which seem deeply intertwined, other factors such as family status (i.e., whether the young person is married/cohabitating), health status, gender, and housing conditions in terms of overcrowding also impact the NEET situation. The correlations regarding these factors underscore the importance of giving them due attention. Taking into account the primary focus of this research and that the associations between these factors and the NEET status are relatively weaker than the associations between poverty/Roma ethnicity and NEETs, these factors are only briefly mentioned here in order to enrich context.

From what has been empirically established so far, it seems that poverty, in combination with other factors, plays a decisive role regarding NEETs in Bulgaria's nowadays society. However, from demographic perspective, emerges an



**Fig. 1.** Linking NEET status to some socio-demographic characteristics

Source: 2020 NSI/FRA survey data (author's calculations).  
 Note: All household members aged 15-29 (N = 4030).

important question: is poverty acting as a confounding variable when the NEET indicator is faceted by ethnicity? Correctly comparing and interpreting indicators between groups having very different structures (by any key feature such as age, gender or poverty) without standardization, presents a great challenge with regard to the accurate interpretation and may mislead many in relation to the real causes of a given phenomenon.

Descriptive statistics on poverty among major ethnic groups (representing approximately 98% of all respondents from the age group 15-29) reveal significant variation, suggesting that poverty may act as a confounding factor when the NEET indicator is grouped by ethnicity (see Table 1). Approximately 73% of Roma aged 15-29 live in poverty, while approximately 14% of their ethnic Bulgarian counterparts are poor. Just under a third of Turks aged 15-29 are impoverished. Applying the same approach - searching for confounding variables such as age or gender - reveals similar structures among the large ethnic groups, further affirming that addressing poverty should be the primary focus not only of this research but also of policies and measures aimed at reducing the proportion of NEETs in Bulgaria.

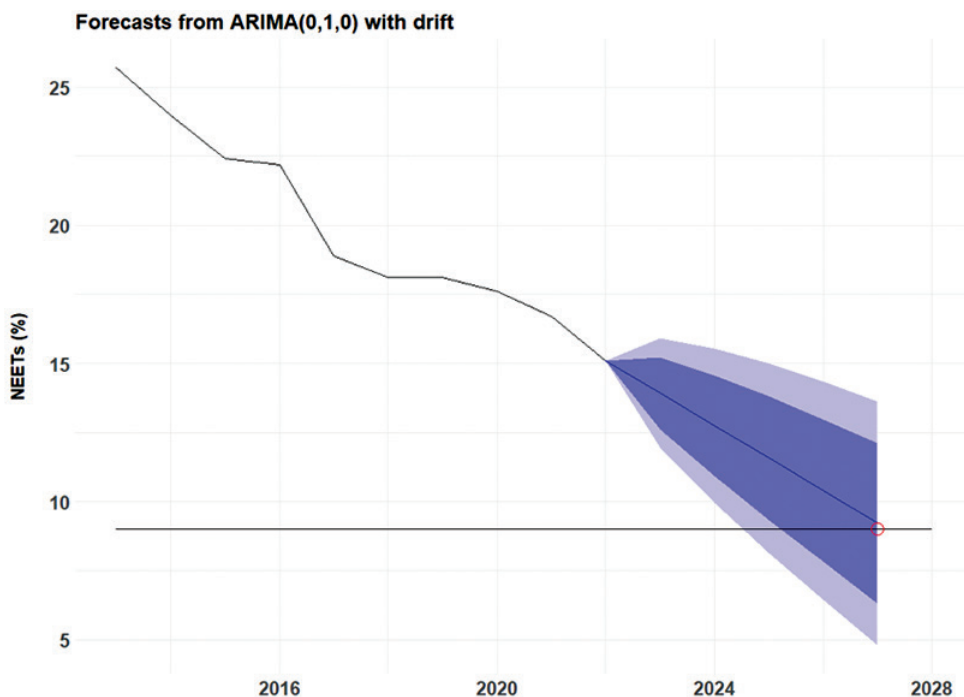
**Table 1.** Poverty rates among Bulgaria’s largest ethnic groups, ages 15-29 by self-declared ethnicity

<b>Ethnic groups</b>	<b>Share of non-poor persons (% , weighted)</b>	<b>Share of poor persons (% , weighted)</b>
<b>Bulgarian</b>	86.45	13.55
<b>Turkish</b>	67.78	32.22
<b>Roma</b>	27.32	72.69
<b>Total population</b>	75.00	25.00

*Source:* 2020 NSI/FRA survey data (author’s calculations).

*Note:* All household members aged 15-29 (N = 3954).

Figure 2 graphically presents an ARIMA (0, 1, 0) model forecast, suggesting that Bulgaria is highly likely to achieve the 9% NEET target (European Commission 2021) ahead of 2030. However, the forecast relies on past data (up to 2022), and potentially impactful events such as wars in Ukraine and Israel, and economic and political crises were not factored in when tuning the model. Thus, in addition, it would be practical to calculate - especially considering the structural poverty differences among large ethnic groups in Bulgaria - what the NEET rates would look like if policies aimed at reducing poverty among the Roma were successfully implemented, i.e., the poverty levels among the Roma were reduced to those of the general population (see Table 2).



**Fig. 2.** Share of NEETs, rates and five-year forecast based on ARIMA (0, 1, 0) model with drift

*Source:* Eurostat NEETs Dataset (Eurostat 2023), author’s calculations [Accessed: 3 April 2024].

**Table 2.** Bulgaria’s Roma and total population NEET rates among ages 15-29 (self-declared ethnicity)

Population	NEET rate (% , weighted)	Poverty standardized NEET rate (% , weighted, indirect standardization)
<b>Total population</b>	19.3	19.3 (standard population)
<b>Roma population</b>	53.6	36.2

*Source:* 2020 NSI/FRA survey data (author’s calculations).

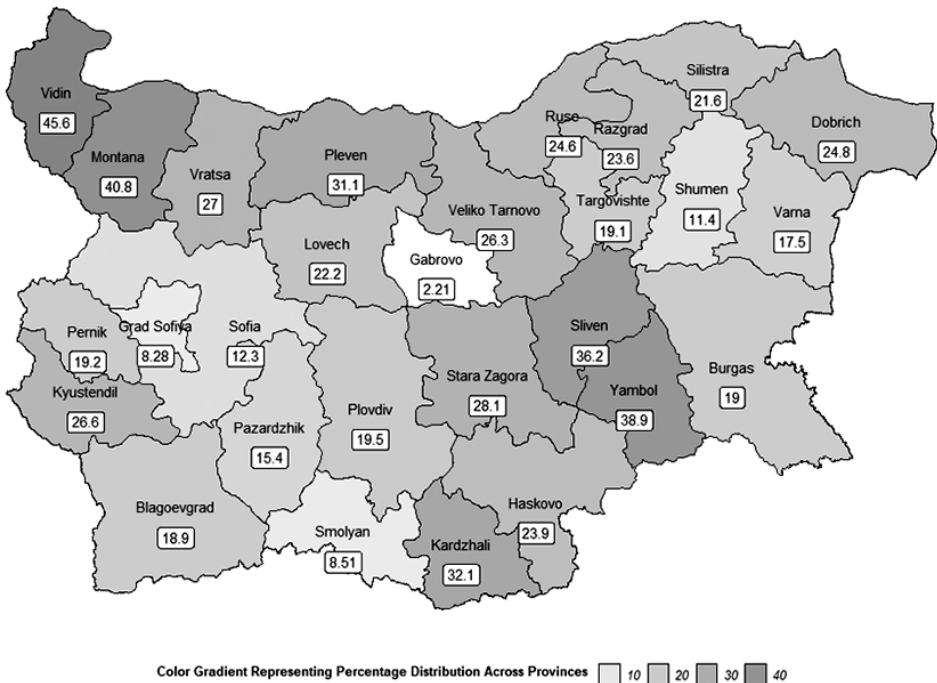
*Note:* All household members aged 15-29 (N = 3954).

Direct standardization of the NSI/FRA NEETs rates by ethnicity offers a way to address the question: What would the Roma NEET rate be if the Roma population had the same poverty distribution as Bulgaria’s overall population? In 2020, the weighted NEET rate for Bulgaria’s total population was 19.3%, while the weighted Roma NEET rate stood at 53.6%. After direct standard-

ization, the Roma NEET rate drops to approximately 36.2%, representing a reduction of 17.4 percentage points. This suggests that if the Roma experienced poverty levels comparable to the rest of the population, a significant reduction in Roma NEETs would likely be observed.

It is also important to note that, even after standardization, the Roma NEET rate remains almost 17 percentage points higher than that of Bulgaria’s overall population. This suggests that poverty reduction alone may not be sufficient to address the issue. Interventions in education, health, housing, and other factors influencing the NEET rate are also likely necessary to achieve more substantial progress.

Last but not least, an important aspect of policies and measures aimed at addressing NEETs is their territorial distribution. As illustrated in Figure 3, Sofia, the capital city, has already achieved the 9% NEET target mentioned earlier. Other provinces, such as Gabrovo and Smolyan, have also reached this benchmark. However, it is important to note that the data from Gabrovo are based on fewer than fifty observations, resulting in wide confidence intervals that limit the reliability of the findings. Smolyan, being a geographically unique province



**Fig. 3.** Territorial distribution of NEET persons by province (%)

Source: 2020 NSI/FRA survey data (author’s calculations).

Note: All household members aged 15-29 (N = 4030).

located in the Rhodope Mountains, presents a case that warrants further investigation. This region may offer valuable insights and potential policy solutions given its distinct socio-economic characteristics.

At the same time, provinces such as Montana, Sliven, Yambol, and Vidin exhibit high to very high NEET rates. These areas also require further investigation, particularly given that they have some of the highest proportions of Roma residents in the country (National Statistical Institute 2022). The correlation between high NEET rates and the ethnic composition of these provinces suggests that targeted research and policy interventions addressing both ethnic disparities and socio-economic challenges are crucial for reducing NEET rates in these regions.

## **Conclusions**

This study underscores the critical influence of poverty on the NEET status among young people in Bulgaria, with a particular focus on the Roma population, which continues to face profound socioeconomic disadvantages. The results again reveal that Roma youth experience disproportionately high NEET rates, which seems very closely linked to elevated poverty levels. Through direct standardization, it is observed that while adjusting for poverty reduces the NEET rate among Roma youth, it still remains significantly higher than the national average. This persistence suggests that although poverty plays a decisive role, it is not the sole determinant of NEET status. It is highly probable that other structural factors, such as educational access, health disparities, housing conditions, and broader socio-demographic inequalities, also contribute to the problem. The data further suggest that tackling poverty alone, though necessary, is insufficient to bridge the NEET gap between Roma and non-Roma populations in Bulgaria.

In addition to the social consequences, the economic loss resulting from the disengagement of young people from the labour market represents a major challenge for Bulgaria's economic growth and sustainability. The economic loss is associated with NEETs. This highlights why policies aimed at reducing NEET rates are not just a social imperative but an economic necessity as well. Without addressing the NEET issue, Bulgaria risks further economic strain due to an underutilized workforce and lower productivity. Moreover, any attempt to tackle the NEET problem without considering its territorial distribution is likely to result in diminished policy effectiveness.

In conclusion, while economic and social measures that directly address poverty are crucial, they must be coupled with interventions that promote broader social inclusion. The findings from this research highlight the complexity of the NEET phenomenon, where ethnicity, poverty, and social disadvantage intersect, necessitating a holistic response from policymakers. Without coordinated efforts that go beyond poverty reduction, the structural barriers that perpetuate high NEET rates among marginalized groups are likely to persist, preventing Bulgaria from achieving the broader goals of social cohesion and economic integration as envisioned in EU targets.



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### Conflict of interest

The author certifies that he has no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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