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RESILIENCE TO THE FINANCIAL CRISIS IN EU COUNTRIES: A COMPARATIVE ANALYSIS OF *NEET* YOUTHS IN A LONGITUDINAL PERSPECTIVE

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Resilience to the financial crisis in EU countries: a comparative analysis of NEET youths in a longitudinal perspective[1]

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Abstract

In recent years the number of young individuals not in employment, education nor training has been rising alarmingly. This condition may have long-lasting social and economic consequences and the ability to profile the most resilient types gives important information on more effective interventions for the most fragile ones. We analyse the trajectories of young Europeans in and out of the NEET condition in the decade following the financial crisis. We link the trajectories to pre-crisis structural features of selected institutions at the country level as well as to pre-crisis economic growth, institutions and policies often mentioned as able to facilitate the employment of young people. We take advantage of the longitudinal nature of the EU-SILC rotating panel to identify specific patterns in and out of the NEET condition, and we estimate a multilevel model to assess the impact of macro-variables on individual trajectories. Main results point to the positive effect of family support policies, training and of economic growth in deceasing the probability of being NEET for a very long period of time. Less so regarding the probability of churning in and out of NEET.

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1. Introduction and aim of the research

Most countries across Europe and other advanced economies face an alarming number of NEET, according to Eurostat data (Caroleo et al., 2020). Not surprisingly the incidence of the phenomenon, as well as its persistence over time, has increased particularly during the years following the 2008 financial crisis. We take a longitudinal perspective, and our objective is to investigate the differences in the extent of long-term NEET events among young Europeans in the 2008-2016 period, in relationship with structural characteristics of their countries that are likely to enable or hamper the ability to face sharp economic shocks.

We propose a classification of NEETs patterns[5] that associates each individual trajectory to a sequence-class that is defined *ex ante* according to the persistency in the NEET status, and we analyse the relationship between the probability of experiencing these trajectories and context variables. Trajectories identify - over a 48-months period - those who are not experiencing a problematic situation, i.e., young individuals experiencing not more than 12 months as NEET, and those who, instead, are at risk because facing long periods not in employment or education. Within the group at risk, we separate those churning in and out of employment and those constantly NEET, as facing different challenges. The first group can be seen as trapped in bouncing back and forth between work and non-work; the second group is more at risk of detachment and social exclusion. We consider multiple contextual characteristics and public interventions at the country level that can influence those situations: the share of temporary jobs as a result of flexibilization policies, the generosity of policies supporting family and childcare and public expenditure for active labour market policies, as well as GDP growth. We estimate a multilevel model, controlling for individual characteristics and focussing on the mentioned country characteristics, as measured in pre-crisis years (2003-2007). We find a positive effect of the selected policies and of economic growth in deceasing the probability of being NEET for a very long period of time, less so regarding the probability of churning in and out of NEET for a long period of time.

The paper unfolds as follows. Section 2 reviews the literature discussing the concept of NEET, central in our analysis, as well as the literature related to the institutions likely to impact the NEET status. Section 3 presents the conceptual longitudinal framework and the research questions of our work. Section 4 deals with data description, while section 5 is devoted to descriptive statistics. Section 6 presents the multilevel model, whose results are discussed in section 7 and section 8 concludes.

[5] Following a method already adopted with Eu-Silc Data (Contini et al. 2019)

2. Literature

2.1 NEET: heterogeneity and a longitudinal approach

The use of the concept "NEET" in the media and in public discourse contributed to promote it as a useful indicator for monitoring the labour market and social condition of young individuals. However, the scientific community lively debated on the usefulness of the concept.

The Not in Employment, Education or Training (NEET) category includes young people who do not study or work. Often the concept of NEET is used as a synonym for the unemployed, but the former is a wider concept than the latter. In fact, the NEET category covers early school leaving, unemployment and labour market detachment, i.e., several features of inactivity. There is a general agreement in considering the NEET term as a useful indicator for monitoring the labour market and social condition of young individuals. Especially in a comparative perspective, it gives an immediate grasp of the size of the youth population in a condition of potential vulnerability. Notwithstanding the potential of the term NEET, it is well known that this category may turn out to be problematic as it may fail to clearly identify specific vulnerabilities and it encompasses a very heterogeneous group of people. Despite the empirical attention that the NEET phenomenon has obtained, longitudinal analyses are scarce. This is surprising given that a longitudinal perspective can be very useful to disentangle the heterogeneity of the NEET construct. In other words, the NEET status is a more problematic condition in the transition to adulthood trajectories the more it lasts. In recent years, some literature that studies NEETs longitudinally has emerged: Kleif (2020) and Ralston et al., (2021) deal with the longitudinal dimension of the NEET condition but they focus on single countries; Bruno et al., (2014) and Bradley et al., (2020) focus on comparisons at the regional level. Nevertheless, to the best of our knowledge there is a lack of a comprehensive longitudinal study at the European level. In this work we fill this gap proposing a comparative longitudinal analysis on 25 European countries.

To be more specific, previous literature already highlighted the strengths and weaknesses of this concept. On one side, the NEET category overcomes the narrowness of the youth unemployment definition, to encompass a wide range of youth vulnerabilities, including the economically inactive – unemployed discouraged workers – but also those totally inactive who occupy an unconstructive and potentially threatening position in the social topography (Robson, 2008). In addition to individuals whose condition raises concern, the NEET label includes others: young people in transitional states, – for instance between school and further education –, between temporary contracts (Dorsett & Lucchino, 2018) or overall school-to-work transitions (Pastore et al., 2021), as well as those who have made the decision not to work or study, in order to take care of their relatives or young children (Yates & Payne, 2006). On the other side, some scholars criticize the NEET construct because it

includes young individuals with very different experiences, characteristics and needs. They highlight that the NEET label has oversimplified the depiction of young people as a homogeneous group, struggling with an accumulation of personal, social, and educational risks (Holte, 2018; Sergi et al., 2018; Simões et al., 2017; Cuzzocrea, 2014; Furlong, 2006).

Due to the heterogeneity of the NEET category, a variety of approaches has been used in the empirical investigation of the phenomenon. International institutions and scholars have proposed several classifications to disentangle the heterogeneity of the NEET experience. A first taxonomy assumes that NEETs are intrinsically vulnerable and distinguishes them according to the severity of their condition: *essentially confused, temporarily side-tracked, deeply alienated* (Williamson, 2010; Williamson & Middlemiss, 1999). Alternatively, vulnerability can be used as a criterion of classification as in later proposal that distinguishes the *conventionally unemployed,* the *unavailable*, the *disengaged*, the *opportunity-seekers* and the *voluntary NEET* (Eurofound, 2012). All these classifications are defined in a cross-sectional framework. Indeed, cross-sectional studies constitute the main corpus of studies on the NEET phenomenon (Williamson, 2010; Furlong, 2006; Bynner & Parsons, 2002). However, the relevance and explanatory efficacy of the longitudinal perspective has emerged in various studies. Bynner and Parsons (2002) propose to focus only on NEET experiencing at least 6 months in the state, implying that shorter episodes should not raise concern. Quintini & Martin (2006) analyse to what extent young people tend to experience repeated spells out of work and education. Some scholars highlight that the consequences of being NEET may vary greatly according to the length of the permanence in the NEET state (Thompson, 2011). Ralston et al. (2021) use Census data for Scotland to estimate the long-term effects of being NEET in early adulthood and find that it is a predictor of long-term disadvantage. A longitudinal approach has been supported also by Eurofound (2016). It defines seven subgroups, taking into account the length of the unemployment spell and, to some extent, the individual motivation for being inactive. First, *re-entrants* are young people who plan to re-enter employment, education or training soon. Second, *short-term unemployed* includes individuals with an unemployment spell of less than a year. Third, *long-term unemployed* encompass individuals that experience it for more than a year. The fourth category includes *unavailable due to illness or disability*, the fifth those *unavailable due to family responsibilities*, the sixth the *discouraged workers* and, the seventh the *other inactive*, as a residual category.

Sissons & Jones (2012) use retrospective questions allowing to draw longitudinal information on the duration of NEET spells. Other studies analyse whether the NEET state is permanent or temporary in a single country: in Austria, the NEET situation is permanent for one-third of those affected in a certain moment (Tamesberger & Bacher (2014); in Denmark, repeated periods of unemployment or inactivity space out periods of employment, pointing in the direction of de-

standardised work careers rather than condition of vulnerability or social exclusion (Kleif (2020); in Italy, nearly 40% of young people experience the NEET condition for at least 12 months within a 4-year observation window (Contini et al., 2019).

In this framework, we contribute applying a method similar to Contini et al. (2019) to 25 European Countries in comparison, as detailed in the next section.

2.2 Institutional context

We consider the role that different economic and institutional characteristics can play. As we discuss in section 3, we consider these characteristics as averages over a 5-years period, before the onset of the financial crisis, to proxy the structural features of each country in "normal times". Here we present the rationale of their choice, based on a consolidated literature.

First, economic growth and especially growth in aggregate demand are found to be positively correlated with youth employment (Caroleo et al., 2020; Ecchia et al., 2020; O'Higgins, 2017; Karlsen et al., 2014). The channels are manifolds as both private and public spending are positive for youth employment. On the one hand, an increase in investment leads to job creation, both via increased employment and entrepreneurship (World Bank, 2013). On the other hand, fiscal interventions contribute to the process and prove especially effective in sustaining youth employment during downturns (ILO, 2013).

Second, in the '90s, many European countries have amended their legislation to promote the diffusion of temporary contracts with the purpose of providing a stepping-stone into the labour market for traditionally disadvantaged categories of workers – youths among them. However, this process has resulted in negative consequences for workers as well. Indeed, temporary contracts may represent a benefit in order to facilitate the access to labour market or to interrupt unemployment periods, but disadvantaged workers still face less chances to get a permanent position (O'Reilly et al., 2019; Berton et al., 2016, 2011).

Third, family-friendly policies and work-life balance have been increasingly relevant topics among researchers and practitioners. Among them, expanded parental leave entitlements and universal or near universal early education may increase the employment of parents – particularly mothers – by reducing the opportunity costs of work (Ruhm & Waldfogel, 2012). Indeed, several studies already showed that the adoption of more generous woman-friendly measures enable the employability of mothers with young children (León, 2009). Nevertheless, the effectiveness of these interventions is not uniform and depends on factors such as education. As Müller & Wrohlich (2020) show, increased availability of childcare slots increases mothers' labour market participation, but the

results are entirely driven by mothers with medium education while no effects are found for mothers with high or low education.

Finally, Active Labour Market Policies (ALMPs) improve the probability of finding a job (OECD, 2011). In fact, over the last twenty years, welfare states have been undergoing important restructuring that changed the levels and conditions for social assistance, putting increased emphasis on individual responsibility (Berkel & Valkenburg, 2007; Esping-Andersen, 2002; Pierson, 2001). This represented a shift of policy-making orientations towards the so-called "activation paradigm", that sets different goals for labour market and social policies. The goal of activation policies becomes to increase labour market entry and participation in order to prevent social exclusion and welfare dependency (Carriero & Filandri, 2019).

3. The framework of analysis

Using EU-SILC rotating panel data (European Union Statistics on Income and Living Conditions), we focus on the persistency in the NEET condition over four consecutive years (48 months).

We analyse the 19-29 years-old to analyse the initial stages of work career. Including younger subjects – the 16-18 years old, commonly considered in the NEET statistics – would have implied mixing labour market issues with early school leaving ones - another complex phenomenon that deserves an ad hoc study (Buchmann & Kriesi, 2011). By doing so, we exclude high-school dropouts at least until they turn 19.

For our purposes, individual status with respect to the labour market can be aggregated in two categories in each point in time: NEET or not-NEET (employed or student). The rationale is that employment and attendance of educational or training courses are human capital increasing activities, while detachment from activity in a broad sense causes human capital to depreciate. Therefore, abstracting from the detailed content of each month of activity we can concentrate on timing and persistence in the state. Indeed, these two conditions alternate over time and form trajectories. We group such sequences according to an ex-ante classification based on the persistence in the NEET state, following Contini et al. (2019). The decision rule is stated in Table 1.

Table 1 : Classification rules of NEETs by persistence in the state, over 48 months

Label	Description	
Never NEET or episodic NEET	≤12 months NEET over 48 months	
Medium-long term NEET, one NEET episode	13-36 months NEET over 48 months One NEET spell	Long-term NEET
Medium-long term NEET, two or more NEET episodes	13-36 months NEET over 48 months Two or more NEET spells	
Always NEET	37+ months NEET over 48 months	

Individuals that experience a maximum of 12 months out of 48 not in employment or training/education constitute the groups of *Never NEET* or *Episodic NEET*. The rationale is that short and occasional periods of *NEET* are frictional and not problematic. The other groups can be considered problematic and we focus on them. The first and the second constitute the *Medium-Long-term NEETs* and include individuals that are NEET for 13-36 months out of 48 and have respectively undergone a single (*One long NEET episode*) or more periods (*Frequently NEET*) in NEET status. The last group is composed by individuals that report at least 37 months in the NEET condition out of 48 months (*Always NEET*).

This classification considers that the consequences of episodes of non-employment/non-education can be harder for those who are NEET for a long period of time (Tanaka, 2020). Indeed unemployment episodes (a subset of the NEET periods) impact in a cumulative way on the wage and employment profile of workers in both vocational (Helbling & Sacchi, 2014) and intellectual jobs, with a stronger effect for low-educated and low-skilled individuals (Möller & Umkehrer, 2015) and for women (Manzoni & Mooi-reci, 2011). A past unemployment and inactivity spell stigmatizes workers and influences the hiring decision of an employer who judges workers' productivity and performance by their employment history (Manzoni & Mooi-reci, 2011). Moreover, both unemployment and inactivity are socially undesirable and are often associated with shame and with a negative self-presentation of young people as well (Karlsen et al., 2014).

On top of these regularities, as discussed, the economic and institutional context can play a role. Not only the probability of being long-term NEET can be different according to the labour market tightness and social policies in place in the country, but also the disadvantageous conditions (such as being female or low-educated – characteristics for which we control in our multilevel model) can be associated with a longer or shorter stay in the NEET state according to welfare provisions and labour market conditions. Based on this scenario, in order to consider the interplay between different institutional configurations in which young people may experience a long-term NEET spell, we selected the mentioned four macro-level factors in our multilevel analysis: GDP growth rate, that

proxies aggregate demand; the share of temporary workers on the total number of employees, to measure labour market flexibilization; spending in family and children policies expressed as a percentage of GDP; spending in training activities as a percentage of GDP.

4. Data

We select our sample from the data of the EU-SILC longitudinal database that features information relevant for our analysis. First, it covers up to 48 months of activity for each respondent, recording a high frequency pattern of work, education, unemployment, inactivity[6]. Second, individuals' activity is based on the self-declaration of the respondents, therefore offering the advantage of capturing the attitude of the individuals toward the labour market.

The sample we select consists of all individuals in the 6 waves from 2012 to 2017, aged 19-29 at the first interview. Pooling all waves, we obtain an observation period spanning from 2008, the beginning of the financial crisis, to 2016, when recovery started in most EU countries.

Finally, not all European countries can be included in the analysis, due to data availability on the time-span of interest, reliability and sample size[7]; we focus on 25 countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Greece, Finland, France, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, United Kingdom.

Country characteristics are measured as averages over the 2003-2007 period, i.e., as structural characteristics before the financial crisis hit and predetermined with respect to our observation period. The sample structure is presented in Appendix A1 while Appendix A2 details data on country level characteristics.

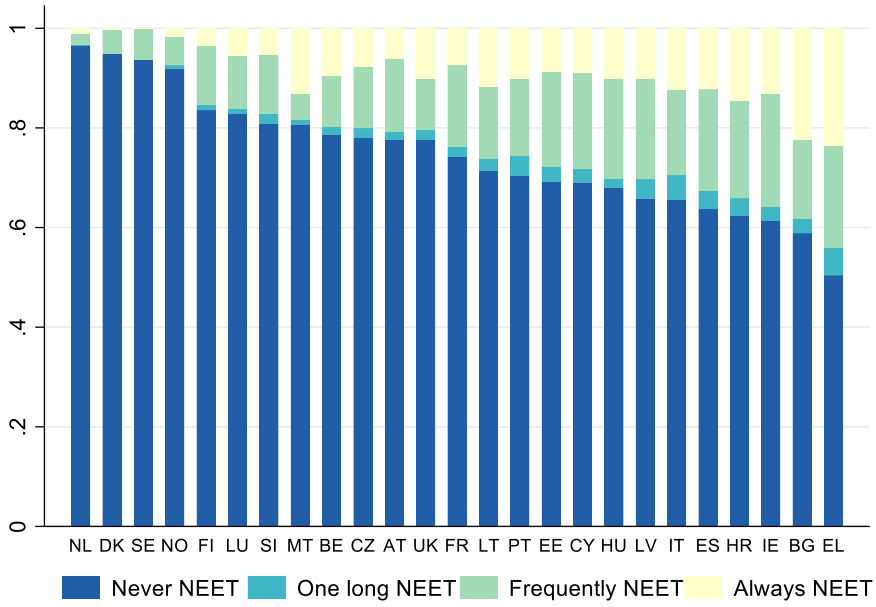
5. Descriptive evidence

Figure 1 orders countries by increasing share of "problematic" NEET situations. It displays large variability across a 30% average share of all kinds of long-term NEET, with Greece and the Netherlands in extreme opposite positions, Mediterranean and eastern European countries faring worse than central and northern EU ones.

6 See Mack (2016) for in-depth description of EU-SILC database.
7 In particular, Iceland and Slovakia lack the 2017 wave, Romanian data are not reliable because of issues in reporting training and the 2017 longitudinal sample for Poland has an attrition problem.

In most countries the shares of *Frequently, One-long* and *Always NEET* are similar, with few exceptions in which the *Always NEET* status prevails (Malta, Bulgaria and Greece). Notice also that *One-long* episode is quite a rare situation in all countries while the two extreme cases are more common: either churning in and out of employment (*Frequently NEET)* or being quite detached from the labor market (*Always NEET*). The first is a more common event than the second in all countries.

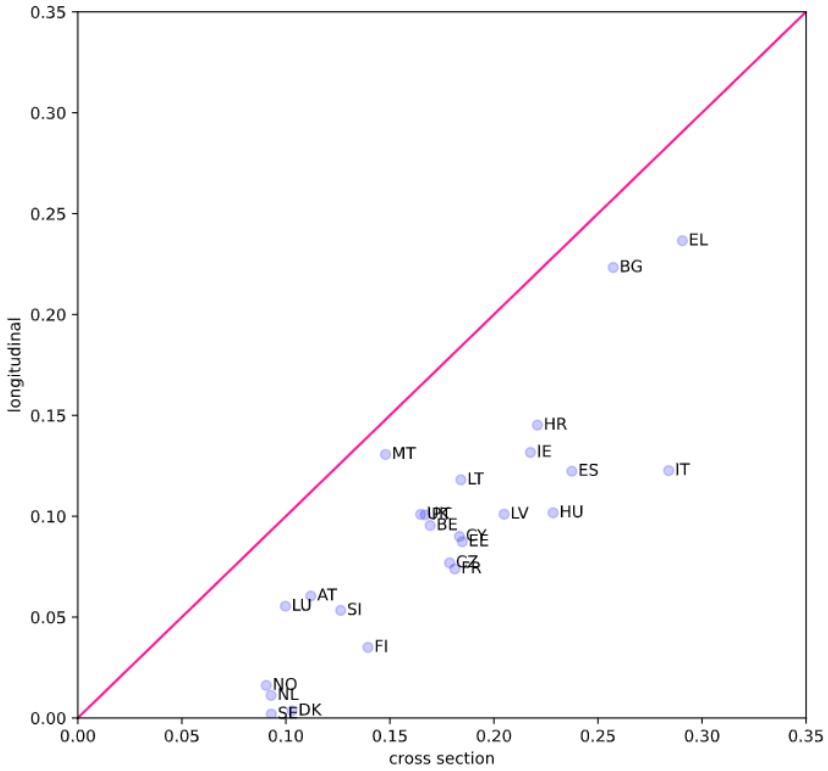
Figure 1: NEET condition by country, pooled 2008-2016 data



A longitudinal point of view bears many advantaged in understanding the NEET phenomenon, also when considered along with the more common cross-sectional value. Figure 2 shows the correspondence between the *Always NEET* rate of our categorization and the NEET rate calculated in a cross-sectional way: low persistence pushes the longitudinal statistic toward 0, while high persistence pushes it toward the cross-sectional value (the red diagonal), meaning that some people are trapped in the NEET condition, while others almost never experience it[8].

[8] Referring to Contini et al. (2019), Appendix: "If p is the NEET prevalence in a specific month, under the assumption of independency over time (i.e. if all individuals were hit by the same risk of being NEET at each time unit) the number of months spent as NEET is a binomial random variable X with n=48." In this case the probability of being Always NEET is almost 0. On the opposite extreme, if we assume perfect time dependence "the probability of being long-term NEET, however defined, would be 1 for p individuals and 0 for the others" (*ibidem*), i.e. an average value of p in the population.

Figure 2 : NEET rates in cross-section and longitudinal calculations, averages over the observation period 2008-2016



In general, we observe a direct relationship between cross-sectional shares of NEET and longitudinal persistence, indicating a growing segmentation between NEET and non-NEET in the population of the countries considered, as the share grows. The most notable cases are high NEET shares with high persistence – case of Greece and Bulgaria – that point in the direction of exclusion from the labour market. Low shares with low persistence – Scandinavian and a few small countries – suggest that participation to the labour market is compatible with short periods of inactivity and high churning. All this would not be visible if considering only cross-sectional values.

We now move to the multivariate analysis.

6. Methodology

We consider the mentioned country features by means of a multinomial multilevel model (Hox, 2010; Snijders & Bosker, 1999; Bryan and Jenkins, 2015a, 2015b). Our aim is to obtain the moderating effects of the country-level variables on the probability of being each kind of long-term NEET. Country features are measured over the 2003-2007 period, i.e., as structural characteristics before the financial crisis hit and predetermined with respect to our observation period. At the individual level we control for age, gender and education to test whether women, low-educated and older individuals face the highest risk of being NEET in the long run.

Relying on Snijder & Bosker (1999), we can write our model as follows. τ_{ic}^{k} is the linear predictor for individual i in country c to face outcome k in K = 1,2,3,4, X_{ic} are the individual-level fixed-effect covariates, while P_c is the vector of the country-level policy of interest; v is the individual-level random error. The second random part of the model is represented by the random intercept β_0^k, which is the result of a fixed country-level intercept δ_0^k and a country level random error u_0.

The overall variance structure is therefore described by $\varepsilon = v + u_0$. The main distributional hypothesis for our variance structure is that $\begin{pmatrix} v \\ u_0 \end{pmatrix} \sim N\left(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \Sigma & 0 \\ 0 & \Omega \end{pmatrix}\right)$, $\Sigma = \sigma^2 I$ and Ω a symmetric block matrix with diagonal country-specific variance-covariance blocks and null non-diagonal blocks. The notation highlights that individual-level errors are assumed homoscedastic, i.e., the model does not include correlation between individual and country level errors; and that we assume a correlation among individuals in the same country (non-null diagonal blocks in Ω).

Dropping the "ic" subscript to enhance readability, we have, for each individual:

$$\tau^k = \beta_0^k + \beta_1^k X + \beta_2^k P_c + v \quad (1)$$

$$\beta_0^k = \delta_0^k + u_0 \ , \varepsilon = v + u_0$$

The reduced form is therefore, for each *k*:

$$\tau^k = \delta_0^k + \beta_1^k X + \beta_2^k P_c + \varepsilon \quad (2)$$

In order to obtain the conditional probability of belonging to the category of interest, we perform the multinomial logistic transformation:

$$P(Y_i = k) = \frac{\exp \tau_{ic}^{(k)}}{1+\sum_{i=2}^{4} \exp \tau_{ic}^{(i)}} \quad (3)$$

Imposing category $i = 1$ as contrast, we obtain the relative risk form, which bears advantages in the ease of interpretation of the estimates:

$$P(Y_i = k) = \frac{\frac{\exp\left\{\tau_{ic}^{(k)}\right\}}{1+\sum_{i=2}^{4} \exp\left\{\tau_{ic}^{(i)}\right\}}}{\frac{1}{1+\sum_{i=2}^{4} \exp\left\{\tau_{ic}^{(i)}\right\}}} = \exp\left\{\tau_{ic}^{(k)}\right\} \quad (4)$$

The main issue we encounter for the correct estimation of standard errors is the small number of groups in our analysis, i.e., the number of countries covered. The problem is typical of the use of EU-SILC data and lies in the fact that the small number of groups can induce underestimation of regression coefficients, of their standard errors and of the variance-covariance matrix (Bryan and Jenkins, 2015a; 2015b). Bryan and Jenkins (2015a, 2015b) identify 30 as the minimum number of groups necessary to obtain reliable estimates of country effects in a multilevel analysis with a multinomial logit link. Virtually the EU-SILC coverage of 31 countries may not pose problems but

waves-availability, missing observations and reliability induce use to restrict the sample to 25 countries. To face this issue, we provide bootstrapped results, along with several tests and robustness checks, as discussed in the next section.

7. Results

In this section we present the results of the multilevel analysis. The estimation is carried out via a full information maximum likelihood (FIML), provided by the structural equation *gsem* command in Stata.

Table 2 reports the relative risk ratio – eq. [4] – for the categories of *One Long*, *Frequent* and *Always* NEET, contrasted to the reference category *Never* NEET, and it includes results for the four macro conditions – included in turns. The likelihood ratio test between the model with full specification at the individual- and country-level covariates – usually called "augmented model" in the literature – and a model with full individual-level specification and no covariates at the country level – the "constrained model" – reveals that the country level fixed effects covariates are improving the model by reducing the deviance of the likelihood for all the considered policies (Appendix A4 for results).

In what follows we focus on *Frequent NEET* and *Always NEET*, the two most frequent and most typical situations of churning and detachment.

About individual characteristics – columns (1), (2), (3) –, we notice that "elder" individuals face a higher risk of being long term NEET, as well as women and low educated individuals. The age pattern seems slightly flattened when considering country level characteristics, while gender and education effects seem unchanged. The increasing risk of long-term NEET status as individuals age indicates a bifurcation at young age between a *Never NEET or Episodic NEET* way and a problematic one.

An overall trend that we can observe for all the contextual and policy variables is the stronger effect that they bear on *Always NEET* trajectory with respect to the *Frequent NEET* one. This result seems to indicate that *Frequent NEETs* are the least sensitive to the policies and country features we consider.

Considering the macro variables in detail, we can see that an increase in demand measured by a 1 p.p. increase in GDP growth rate is related to a quite substantial decrease in the relative probability of belonging to all the long NEET categories. A milder effect[9] is observed linked to a 1 p.p. increase

[9] We acknowledge that comparing the magnitude of the effects of each Pc is a slippery exercise, as their average is different and every attempt of normalization, including ours, is arbitrary.

in the share of temporary workers, indicating however that a more flexible labour market is compatible with a lower probability of being NEET. A comparable effect emerges for a 0.1 p.p. increase in expenditure for policies that support family and childcare, as well as a 0.01 increase in expenditure for training[10]. It is worth noticing again that all these policies are relatively more effective for those more detached from the labour market, while they have a statistically significant but milder effect for *Frequent NEETs.* This is also the case when GDP growth rate is higher, i.e., aggregate demand grows: the effect for *Frequent NEETs* is smaller.

It must be remembered and acknowledged that we are not interpreting our results in a strictly causal sense, but as links between country features in the pre-crisis years and youth economic performance afterward.

[10] The measurement unit is chosen according to the average dimension of each characteristic in the period of observation.

Table 2 Random Intercept model: upper section for fixed effects, lower section for random part. Baseline model without country-level characteristics (cols. 1-3) and model with country-level characteristics: GDP growth (cols. 4-6), share of temporary workers on total number of employed (cols. 7-9), family and child support policies expenditure, share of GDP (cols. 10-12) and training public expenditure as share of GDP (cols. 13-15). Benchmark 19-20 male low-educated individual. Pooled 2008-2016 data

	(1)	(2)	(3)	(5)	(6)	(7)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
VARIABLES	One Long	Frequent	Always	One Long	Frequent	Always	One Long	Frequent	Always	One Long	Frequent	Always	One Long	Frequent	Always
[21-22]	0.562***	1.181***	1.844***	0.638***	1.146***	1.713***	0.513***	1.066	1.716***	0.586***	1.142***	1.768***	0.569***	1.173***	1.901***
	(0.0536)	(0.0523)	(0.122)	(0.0623)	(0.0520)	(0.116)	(0.0566)	(0.0556)	(0.140)	(0.0557)	(0.0533)	(0.120)	(0.0544)	(0.0525)	(0.124)
[23-24]	0.763***	1.328***	2.618***	0.861	1.290***	2.438***	0.729***	1.250***	2.393***	0.768***	1.289***	2.578***	0.778***	1.333***	2.690***
	(0.0704)	(0.0601)	(0.170)	(0.0814)	(0.0595)	(0.162)	(0.0770)	(0.0659)	(0.193)	(0.0709)	(0.0612)	(0.170)	(0.0721)	(0.0607)	(0.172)
[25-26]	0.928	1.516***	2.989***	1.051	1.472***	2.780***	0.865	1.342***	2.833***	0.999	1.457***	2.964***	0.940	1.500***	3.100***
	(0.0842)	(0.0685)	(0.195)	(0.0977)	(0.0680)	(0.186)	(0.0894)	(0.0706)	(0.225)	(0.0897)	(0.0694)	(0.197)	(0.0856)	(0.0685)	(0.200)
[27-28]	0.728***	1.358***	3.247***	0.819**	1.320***	3.028***	0.686***	1.259***	2.914***	0.760***	1.312***	3.227***	0.743***	1.360***	3.345***
	(0.0688)	(0.0618)	(0.206)	(0.0790)	(0.0612)	(0.197)	(0.0736)	(0.0662)	(0.228)	(0.0713)	(0.0628)	(0.208)	(0.0704)	(0.0624)	(0.210)
[29]	0.750***	1.303***	3.058***	0.849*	1.266***	2.845***	0.712***	1.117**	2.961***	0.795**	1.252***	3.032***	0.759***	1.288***	3.172***
	(0.0686)	(0.0585)	(0.194)	(0.0795)	(0.0580)	(0.185)	(0.0736)	(0.0585)	(0.228)	(0.0721)	(0.0592)	(0.196)	(0.0698)	(0.0584)	(0.198)
Female	1.480***	1.558***	2.588***	1.510***	1.554***	2.578***	1.361***	1.432***	2.276***	1.491***	1.554***	2.660***	1.481***	1.552***	2.606***
	(0.0807)	(0.0390)	(0.0854)	(0.0829)	(0.0389)	(0.0850)	(0.0844)	(0.0411)	(0.0879)	(0.0829)	(0.0397)	(0.0898)	(0.0809)	(0.0389)	(0.0859)
Secondary education	0.286***	0.419***	0.172***	0.314***	0.410***	0.169***	0.301***	0.430***	0.207***	0.316***	0.392***	0.171***	0.288***	0.415***	0.174***
	(0.0193)	(0.0138)	(0.00657)	(0.0216)	(0.0138)	(0.00647)	(0.0234)	(0.0167)	(0.00953)	(0.0212)	(0.0137)	(0.00672)	(0.0196)	(0.0139)	(0.00663)
Tertiary education	0.198***	0.226***	0.0391***	0.212***	0.222***	0.0384***	0.204***	0.242***	0.0474***	0.217***	0.209***	0.0390***	0.199***	0.223***	0.0396***
	(0.0153)	(0.00852)	(0.00210)	(0.0166)	(0.00845)	(0.00206)	(0.0178)	(0.0105)	(0.00295)	(0.0169)	(0.00821)	(0.00213)	(0.0154)	(0.00849)	(0.00212)
GDP growth §				0.616***	0.814***	0.712***									
				(0.0531)	(0.0367)	(0.0530)									
Share of temporary workers §							0.869***	0.934***	0.881***						
							(0.0245)	(0.0135)	(0.0222)						
Family and child support/GDP †										0.876***	0.943***	0.901***			
										(0.00815)	(0.00666)	(0.00835)			
Training/GDP ‡													0.894***	0.948***	0.907***
													(0.0160)	(0.00881)	(0.0124)
Random part															
Random intercept	2.718	1.652***	2.302***	2.718	1.691***	2.388***	2.718	1.670***	2.455***	2.718	2.269***	2.902***	2.718	1.688***	2.155***
	(0)	(0.0323)	(0.0717)	(0)	(0.0355)	(0.0796)	(0)	(0.0385)	(0.0923)	(0)	(0.117)	(0.203)	(0)	(0.0373)	(0.0700)
Variance			4,039***			47.26***			35.41***			2.070***			25.08***
			(9,786)			(53.30)			(42.38)			(0.474)			(23.73)
Observations	56,489	56,489	56,489	56,489	56,489	56,489	43,929	43,929	43,929	55,019	55,019	55,019	56,489	56,489	56,489

SeEform in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Measurement units: § percentage points ; † tenths of percentage point ; ‡ hundredths of percentage points.

A few robustness checks are in order. The between-country level variance shows differences in the five models, with the baseline model without country-level characteristics being the largest. Rare events may explain such measurement. Indeed, some countries - Denmark, Ireland, Malta, The Netherlands, Norway and Sweden - display few cases on some outcomes. We run the same baseline specification on the subsample excluding these countries and we obtain estimates with similar magnitude and the same statistical significance but with a largely reduced variance (157.2), compared to the full-sample model (4,039), but the results are robust to such manipulations. This is a group-level jack-knife procedure. See Appendix A5 for details.

We also run a robustness check applying a bootstrap technique, as suggested by Hox (2010) and Bryan and Jenkins (2016a, 2016b) to address the issue of a small number of countries in our sample. We impose a bootstrap stratified at the country level to preserve the cluster structure of the data generating process and implement it with full-size re-sampling and 50 repetitions. Again, results are robust to such manipulations (see Appendix A3).

8. Conclusions

Over the last twenty years and especially in the years of the financial crisis, youth transitions to adulthood and work have been going through complex changes. The NEET (Not in Employment Education or Training) concept has been widely diffusing to represent the condition of difficulty of the younger generations both in the public and academic discourse. Though in the former it has become largely popular, in the latter it has been debated for its conceptual and analytical efficacy, as we discuss in the initial sections of the present work.

We contribute to the current literature by applying a new taxonomy of NEETs that is longitudinal in nature and based on the dimension of persistence. Relying on the EU-SILC self-declared status we build the sequences of work careers of individuals aged 19-29, accounting for episodes of work, education, unemployment and inactivity. We allot these trajectories into four categories depending on the length of the individual persistence in the NEET state over 48 months, and we compare the different prevalence of the individual trajectories so defined in 25 EU countries. The longitudinal approach allows to single out two groups of long-term NEETs, those churning between employment and non-employment, and those persistently detached from activity.

We investigate the role of country level policies and features of the labour market in defining the NEET persistency. Exploiting the cross-country variability, we estimate that the NEET phenomenon

seems to be mitigated by generous conciliation and training policies, by the presence of temporary contracts and, mostly, by a substantial GDP growth. Demand side policies are of high importance also given the large amount of involuntary unemployed among the NEETs, both men and women.

The contribution of our paper is manyfold. First, leveraging on a new longitudinal taxonomy to classify NEETs in term of their resilience, we explore the usefulness of combining longitudinal measures to cross-section ones. Comparing the two measures allows to identify the share of more fragile NEETs, which is not immediately apparent from cross-sectional measures, as it depends on the persistence in the state. Secondly, we observe the characteristics that are correlated to being in a NEET state and find results in accordance with the literature: young women and less educated are the categories among which the incidence of the most severe NEET conditions is higher. Thirdly, by means of a multilevel econometric analysis we analyse which features of the welfare and labour market are associated with different profiles of resilience. We find that aggregate GDP growth can be a driver for reducing the probability of a young person to be a NEET if, *ceteris paribus*, s/he has a more resilient condition, i.e., experienced a long spell or a high number of spells in employment, education or training in the period of observation. On the contrary, family support-policies are relatively more effective on less resilient individuals. These findings support the argument for which there is a hierarchy of policies to support people to exit from the NEET condition: a lower-level activation policies, such as family-support ones, that increase the participants to the labour market or to education at the extensive margin and market-based policies that increase the intensive margin and work best for more resilient NEET individuals. Conversely, lacking activation policies makes market- and incentive-based policies not effective for the most fragile sub-population.

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Appendix

A1. Country-level policies and characteristics

The variables used for the country-level analysis are retrieved from multiple sources.

The *Cross-section measure of NEETs [edat_lfse_20]*, for the age interval [20-34] and the time interval 2008-2016, is produced through the national Labour Force Surveys and provided by Eurostat.

The real GDP growth rate yearly time series is obtained from the IMF *Real GDP growth, annual percent change [NGDP_RPCH]* – from which we derive the average GDP growth rate over the 2003-2007 period. The GDP growth rate is a proxy of the dynamic of aggregate demand.

The same averaging procedure is applied to the share of temporary workers – variable *Temporary employees as percentage of the total number of employees, by sex, age and country of birth (%) [lfsa_etpgacob])* - and to the expenditure for family and children policies expressed as a share of GDP – variable *Expenditure: main results [spr_exp_sum]* - both drawn from the Eurostat database.

The last variable considered is public expenditure in training, share of GDP [*LMP_EXPSUMM$TPS00077*] that is available through the DG employment, social affairs & inclusion data warehouse.

Table 3 summarises the availability and magnitude of information by country. We normalise the magnitude of the expenditure for family and children and for training: being quite small with respect to national GDP, we multiplied the first by 10 and the second by 100, in order to have comparably meaningful sizes of the estimated coefficients of *Pc*. I.e. a unit change of each Pc can be interpreted as an increase in: 1 p.p. of GDP growth, whose average is 4.6; 1 p.p. in the share of temporary contracts, whose average value is 13.8; 0.1 p.p. in the expenditure for family and children over GDP, whose actual average value is 1.96; 0.01 p.p. in the expenditure for training over GDP, whose actual average value is 0.16.

Table 3 Country characteristics: average over 2003-2007 data.

Country	GDP growth (p.p.) (*)	Temporary contract share/Total employment (p.p.) (§)	Family and child support policies/GDP (0.1 p.p.) (§)	Training/GDP (0.01 p.p) (†)
AT	2.60	10.82	30.00	37.21
BE	2.48	9.14	20.40	15.23
BG	6.58	-	10.33	2.91
CY	4.46	9.04	18.20	4.06
CZ	5.50	19.95	16.20	1.44
DK	2.04	10.23	37.40	47.42
EE	8.24	-	14.20	6.51
EL	4.10	20.55	8.20	5.72
ES	3.62	30.88	11.60	13.91
FI	3.60	22.34	28.20	43.15
FR	2.02	9.92	24.80	31.10
HR	4.76	11.60	-	13.42
HU	3.50	-	25.60	4.78
IE	5.18	5.40	19.80	25.62
IT	1.24	15.13	10.20	19.09
LT	8.66	-	11.00	5.83
LU	4.40	4.38	35.40	9.03
LV	9.86	-	11.80	9.20
MT	2.54	-	11.20	1.79
NL	2.30	15.02	11.80	9.80
NO	2.58	8.42	29.80	24.78
PT	1.16	27.46	11.80	25.76
SE	3.48	11.94	28.00	28.34
SI	4.78	16.50	18.80	5.34
UK	2.74	7.84	21.20	1.90
Mean	4.60	13.80	19.61	16.42
St. dev.	2.34	7.55	9.06	13.67

*Note: *: IMF data; §: Eurostat data; †: DG Employment and Social Affaires data*

A2. Stratified Bootstrap

Table 4 Random intercept – stratified bootstrap at country level

	(1)	(2)	(3)	(5)	(6)	(7)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
VARIABLES	One Long	Frequent	Always	One Long	Frequent	Always	One Long	Frequent	Always	One Long	Frequent	Always	One Long	Frequent	Always
[21-22]	0.562***	1.181***	1.844***	0.638***	1.146***	1.713***	0.513***	1.066	1.716***	0.586***	1.142***	1.768***	0.569***	1.173***	1.901***
	(0.0512)	(0.0460)	(0.133)	(0.0537)	(0.0556)	(0.130)	(0.0567)	(0.0533)	(0.123)	(0.0472)	(0.0522)	(0.141)	(0.0478)	(0.0491)	(0.117)
[23-24]	0.763***	1.328***	2.618***	0.861*	1.290***	2.438***	0.729***	1.250***	2.393***	0.768***	1.289***	2.578***	0.778***	1.333***	2.690***
	(0.0654)	(0.0551)	(0.171)	(0.0685)	(0.0588)	(0.171)	(0.0725)	(0.0607)	(0.151)	(0.0694)	(0.0583)	(0.189)	(0.0607)	(0.0550)	(0.157)
[25-26]	0.928	1.516***	2.989***	1.051	1.472***	2.780***	0.865	1.342***	2.833***	0.999	1.457***	2.964***	0.940	1.500***	3.100***
	(0.0823)	(0.0634)	(0.166)	(0.0863)	(0.0682)	(0.230)	(0.0879)	(0.0538)	(0.196)	(0.0746)	(0.0736)	(0.220)	(0.0807)	(0.0758)	(0.167)
[27-28]	0.728***	1.358***	3.247***	0.819**	1.320***	3.028***	0.686***	1.259***	2.914***	0.760***	1.312***	3.227***	0.743***	1.360***	3.345***
	(0.0610)	(0.0630)	(0.204)	(0.0763)	(0.0639)	(0.204)	(0.0755)	(0.0731)	(0.207)	(0.0642)	(0.0633)	(0.250)	(0.0713)	(0.0600)	(0.200)
[29]	0.750***	1.303***	3.058***	0.849**	1.266***	2.845***	0.712***	1.117**	2.961***	0.795***	1.252***	3.032***	0.759***	1.288***	3.172***
	(0.0626)	(0.0569)	(0.203)	(0.0705)	(0.0509)	(0.207)	(0.0872)	(0.0594)	(0.224)	(0.0696)	(0.0603)	(0.221)	(0.0608)	(0.0452)	(0.189)
Female	1.480***	1.558***	2.588***	1.510***	1.554***	2.578***	1.361***	1.432***	2.276***	1.491***	1.554***	2.660***	1.481***	1.552***	2.606***
	(0.0741)	(0.0395)	(0.0820)	(0.0783)	(0.0333)	(0.0914)	(0.0764)	(0.0401)	(0.0933)	(0.0738)	(0.0400)	(0.102)	(0.0693)	(0.0353)	(0.0840)
Secondary education	0.286***	0.419***	0.172***	0.314***	0.410***	0.169***	0.301***	0.430***	0.207***	0.316***	0.392***	0.171***	0.288***	0.415***	0.174***
	(0.0165)	(0.0129)	(0.00726)	(0.0234)	(0.0133)	(0.00544)	(0.0215)	(0.0173)	(0.00856)	(0.0181)	(0.0136)	(0.00642)	(0.0147)	(0.0145)	(0.00615)
Tertiary education	0.198***	0.226***	0.0391***	0.212***	0.222***	0.0384***	0.204***	0.242***	0.0474***	0.217***	0.209***	0.0390***	0.199***	0.223***	0.0396***
	(0.0143)	(0.00899)	(0.00256)	(0.0175)	(0.00904)	(0.00173)	(0.0166)	(0.00993)	(0.00268)	(0.0137)	(0.00867)	(0.00214)	(0.0144)	(0.00821)	(0.00235)
GDP growth §				0.616***	0.814***	0.712***									
				(0.0125)	(0.00721)	(0.0106)									
Share of temporary workers §							0.869***	0.934***	0.881***						
							(0.00591)	(0.00295)	(0.00366)						
Family and child support/GDP †										0.876***	0.943***	0.901***			
										(0.00365)	(0.00187)	(0.00306)			
Training/GDP ‡													0.894***	0.948***	0.907***
													(0.00337)	(0.00123)	(0.00255)
Random part															
Random intercept	2.718	1.652***	2.302***	2.718	1.691***	2.388***	2.718	1.670***	2.455***	2.718	2.269***	2.902***	2.718	1.688***	2.155***
	(0)	(0.0290)	(0.0731)	(0)	(0.0342)	(0.0800)	(0)	(0.0369)	(0.0868)	(0)	(0.0867)	(0.205)	(0)	(0.0402)	(0.0670)
Variance			4,039***			47.26***			35.41***			2.070***			25.08***
			(2,304)			(12.69)			(10.71)			(0.189)			(6.452)
Observations	56,489	56,489	56,489	56,489	56,489	56,489	43,929	43,929	43,929	55,019	55,019	55,019	56,489	56,489	56,489

SeEform in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Measurement units: § percentage points ; † tenths of percentage point ; ‡ hundredths of percentage points.

A3. Likelihood Ratio Test

The Likelihood Ratio Test (LRT) is built to compare the deviances of two nested models and test whether once a baseline model (Constrained Model, CM) is augmented by means of additional covariates (Augmented Model, AM) the deviance of the latter statistically differs from the deviance of the former, i.e. the difference between the deviances is statistically different from 0 – which constitutes the alternative hypothesis of the test, H1. Being $L_{CM} and\ L_{AM}$ the likelihoods for the constrained and augmented models respectively, the test statistics is:

$$-2ln(L_{CM} - L_{AM}) \sim \chi^2(df_{CM} - df_{AM})$$

In our case, being X a vector of sociodemographic characteristics (gender dummy, biannual age classes dummies, highest educational attainment dummy) and τ^k the linear predictor for each trajectory k, we compare the reduced-form multilevel multinomial logit Constrained Model:

$\tau^k = \delta_0^k + \beta_1^k X + u$

with the reduced-form multilevel multinomial logit Augmented Model, that features the single additional covariate at the country level – in turns GDP growth, Temporary contract share, Family and child support policies/GDP, Training/GDP:

$$\tau^k = \delta_0^k + \beta_1^k X + \beta_2^k P_c + \varepsilon$$

Since we add a single variable, $df_{CM} - df_{AM} = 1$.

The results of the LRT (Table 5) show that for all the four country-level covariates the null hypothesis is rejected, implying that the addition of such covariates significantly decreases the deviance of the model and improve the model approximation.

Table 5 Likelyhood Ratio Test between the Constrained models (CM) – with gender dummy, biannual age classes dummies, educational attainment dummies – and the Augmented Model (AM), for the country level covariates (GDP growth, Temporary contract share, Family and child support policies/GDP, Training/GDP).

Likelihood-ratio test	LR chi2(1)	=	75.66
(Assumption: CMgdp nested in AMgdp)	Prob > chi2	=	0.0000
Likelihood-ratio test	LR chi2(1)	=	21.42
(Assumption: CMtempshare nested in AMtempshare)	Prob > chi2	=	0.0001
Likelihood-ratio test	LR chi2(1)	=	184.20
(Assumption: CMfamilychild nested in AMfamilychild)	Prob > chi2	=	0.0000
Likelihood-ratio test	LR chi2(1)	=	112.22
(Assumption: CMtraining nested in AMtraining)	Prob > chi2	=	0.0000

Analogously, we run an LRT on the comparison between a constrained model with a full specification – featuring socio-demographic characteristics and the policies, introduced in turns – without random intercept and the same model augmented with the random intercept. Results are reported in Table 6, and support the alternative hypothesis that the introduction of the random intercept improves the model approximation for all the specifications.

Table 6 LRT between the Constrained models (CM) – with gender dummy, biannual age classes dummies, educational attainment dummies and country level covariates (GDP growth, Temporary contract share, Family and child support policies/GDP, Training/GDP) – and the Augmented Model (AM), with additional random intercept.

Likelihood-ratio test	LR chi2(1)	=	4744.74
(Assumption: CMgdp nested in AMgdp)	Prob > chi2	=	0.0000
Likelihood-ratio test	LR chi2(1)	=	3880.97
(Assumption: CMtempshare nested in AMtempshare)	Prob > chi2	=	0.0000
Likelihood-ratio test	LR chi2(1)	=	2659.35
(Assumption: CMfamilychild nested in AMfamilychild)	Prob > chi2	=	0.0000
Likelihood-ratio test	LR chi2(1)	=	4168.91
(Assumption: CMtraining nested in AMtraining)	Prob > chi2	=	0.0000

A4. Between-country variance: the role of rare events

We study the role that single countries and sub-groups of countries can play in affecting the between-country variance and estimates in our multilevel specification.

As we can see in Table 7, in all countries the majority of individuals belongs to the *Never NEET* group (from 50.8% in Greece to 96.5% in the Netherlands), followed by *Frequent NEET* (from 2.2% to 22.7%), *Always NEET* (from 0.2% to 23.7%) and *One Long NEET* (from 0 to 5.6%).

Table 7 Count of individuals by type of NEET group and country.

	Never NEET		One Long NEET		Frequent NEET		Always NEET		Total
country	Absolute	Relative	Absolute	Relative	Absolute	Relative	Absolute	Relative	Absolute
AT	1,194	77.6%	25	1.6%	226	14.7%	93	6.0%	1,538
BE	1,269	78.6%	25	1.5%	166	10.3%	154	9.5%	1,614
BG	1,560	58.8%	78	2.9%	421	15.9%	592	22.3%	2,651
CY	1,526	69.0%	62	2.8%	424	19.2%	199	9.0%	2,211
CZ	2,243	78.0%	55	1.9%	355	12.4%	221	7.7%	2,874
DK	530	94.8%	1	0.2%	26	4.7%	2	0.4%	559
EE	1,538	69.3%	64	2.9%	424	19.1%	194	8.7%	2,220
EL	1,069	50.4%	119	5.6%	432	20.4%	502	23.7%	2,122
ES	2,388	63.8%	137	3.7%	761	20.3%	458	12.2%	3,744
FI	2,170	83.6%	29	1.1%	307	11.8%	91	3.5%	2,597
FR	5,249	74.3%	134	1.9%	1,160	16.4%	522	7.4%	7,065
HR	920	62.4%	51	3.5%	289	19.6%	214	14.5%	1,474
HU	2,172	68.0%	57	1.8%	641	20.1%	325	10.2%	3,195
IE	336	61.4%	15	2.7%	124	22.7%	72	13.2%	547
IT	2,958	65.6%	222	4.9%	777	17.2%	553	12.3%	4,510
LT	950	71.4%	31	2.3%	192	14.4%	157	11.8%	1,330
LU	1,480	82.9%	18	1.0%	189	10.6%	99	5.5%	1,786
LV	1,160	65.8%	68	3.9%	356	20.2%	178	10.1%	1,762
MT	1,339	80.6%	17	1.0%	88	5.3%	217	13.1%	1,661
NL	1,893	96.5%	3	0.2%	44	2.2%	22	1.1%	1,962
NO	1,364	91.9%	11	0.7%	86	5.8%	24	1.6%	1,485
PT	1,407	70.5%	77	3.9%	311	15.6%	201	10.1%	1,996
SE	970	93.7%	0	0.0%	63	6.1%	2	0.2%	1,035
SI	3,108	80.9%	77	2.0%	454	11.8%	205	5.3%	3,844
UK	1,199	77.6%	32	2.1%	159	10.3%	156	10.1%	1,546
Total	**41,992**	**73.2%**	**1,408**	**2.5%**	**8,475**	**14.8%**	**5,453**	**9.5%**	**57,328**

Notice that Denmark, The Netherlands, Norway and Sweden display a number of scarcely populated groups, i.e. which represent less than 1% of the total. Rare events can be problematic in the estimation of discrete choice models (King & Zeng, 2001). Therefore, here we estimate again the random-intercept model as defined in Section **Errore. L'origine riferimento non è stata trovata.** including individual level covariates but excluding country-level ones, on the sub-sample of countries that has at least 1% of their observation in all the categories.

Table 8 reports the resulting estimates, compared to the base (full sample) estimates from Table 2. The fixed part of the model shows results that are in line in the two subsamples, concerning magnitude, relative magnitude among outcomes in the same specification and statistical significance. Variance is the largely affected part of the estimates, with a drop from 4,039 in the full-sample estimates to 157.2 in the reduced sample ones. Therefore, it seems that rare events are not affecting our model but in the between-country variance.

Table 8 Random intercept with individual level covariates only: full-sample model (cols. 1-3) in comparison with partial sample model, excluding Denmark, Ireland, The Netherland, Sweden (cols. 4-6)

	(1)	(2)	(3)	(4)	(5)	(6)
	Base			Excluding DK, NL, NO, SE		
VARIABLES	One Long	Frequent	Always	One Long	Frequent	Always
[21-22]	0.562***	1.181***	1.844***	0.569***	1.168***	1.832***
	(0.0536)	(0.0523)	(0.122)	(0.0551)	(0.0530)	(0.123)
[23-24]	0.763***	1.328***	2.618***	0.772***	1.312***	2.613***
	(0.0704)	(0.0601)	(0.170)	(0.0725)	(0.0610)	(0.172)
[25-26]	0.928	1.516***	2.989***	0.937	1.490***	2.931***
	(0.0842)	(0.0685)	(0.195)	(0.0864)	(0.0691)	(0.195)
[27-28]	0.728***	1.358***	3.247***	0.739***	1.343***	3.230***
	(0.0688)	(0.0618)	(0.206)	(0.0709)	(0.0629)	(0.208)
[29]	0.750***	1.303***	3.058***	0.764***	1.298***	3.030***
	(0.0686)	(0.0585)	(0.194)	(0.0709)	(0.0597)	(0.195)
Female	1.480***	1.558***	2.588***	1.473***	1.552***	2.593***
	(0.0807)	(0.0390)	(0.0854)	(0.0810)	(0.0395)	(0.0862)
Secondary education	0.286***	0.419***	0.172***	0.289***	0.417***	0.171***
	(0.0193)	(0.0138)	(0.00657)	(0.0198)	(0.0140)	(0.00660)
Tertiary education	0.198***	0.226***	0.0391***	0.201***	0.228***	0.0395***
	(0.0153)	(0.00852)	(0.00210)	(0.0156)	(0.00877)	(0.00213)
Random part						
Random Intercept	2.718	1.652***	2.302***	2.718	1.631***	2.265***
	(0)	(0.0323)	(0.0717)	(0)	(0.0338)	(0.0736)
Variance			4,039***			157.2***
			(9,786)			(253.3)
Observations	56,489	56,489	56,489	51,523	51,523	51,523

seEform in parentheses; *** p<0.01, ** p<0.05, * p<0.1