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Is the distribution of NEETs and Early Leavers from Education and Training converging across the regions of the European Union?

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Abstract

The literature on education and training highlights two factors that impinge on the distribution of early leaving (ELET) and exclusion from employment and training (NEET) across the regions of the European Union. One of these factors lies in the institutions that regulate the transition from education and training to employment at the national level. Over time, these institutions have constituted an Universalistic regime in Scandinavia, an Employment-Centred regime in Central Europe, a Liberal Regime in the UK and Ireland, a Sub-Protective regime in Southern Western Europe as well as an array of Post-Socialist regimes. The other factor lies in collaboration at the local and regional levels of governance. In some regions of the European Union, diverse stakeholders that work at these levels are capable to encourage early school leavers to undertake education and training again, and have constructed complex schemes of vocational education and training that embrace apprenticeships (some of which are tailored to specific target groups), secondary and tertiary education. By exploring the regional distribution of ELET and NEET rates between 2003 and 2015, our findings report mixed trends of convergence. While in Universalistic and Employment-Centred regimes we find out convergence insofar as the more vulnerable regions catch up, in Liberal, Sub-Protective and Post-Socialist regimes catch-up effects are weak and not significant, and top performing regions deviate from the rest.

Introduction

The European Pillar of Social Rights attempts to guarantee social opportunities to young people and other age groups through policies implemented at the European, national and sub-national geographical scales: “Everyone has the right to quality and inclusive education, training and lifelong learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market” (European Union, 2017: 11).

Accordingly, the European Council has issued official recommendations to reduce early school leaving, to guarantee employment and education opportunities to school leavers, to strengthen adult education and to develop lifelong learning. In the light of this framework, Early Leavers from Education and Training (ELET) and the Not- in- Employment, Education and Training (NEET) youth have become notorious target groups of policy-making.

In this paper, we look at the design of these policies as movements within social fields. The EU has induced member states, regions, markets and civil society organisations to look for inspiration into Scandinavian and Central European institutional arrangements. One outcome has been a pattern of multi-stakeholder and multi-layered governance that is working everywhere, although it is not consolidated in all the EU member states, regions and cities (Jenson and Mérand, 2010; Keating, 2013). Another outcome has been an official picture that associates mainstream policies with intense preoccupations on ELET and the NEET youth. However, neither ELET nor the NEET condition define clear-cut social categories but reflect constellations of circumstances and experiences that often affect the same individuals over their transitions into youth and adult life (Blossfeld and Hofacker 2014; Furlong, 2006; Walther, 2006, 2017). Taking stock of the literature on governance and individuals' life transitions, we explore to what extent the EU, member state and regional and local policies have fashioned territorial disparities of ELET and NEET rates throughout the Union over the last decades. Further, these two indicators are not only benchmarks for the EU policies approach to social investment, but they are analytically relevant since they inform about different educational and social circumstances of vulnerable youth. At regional level ELET and NEET are useful to explore the rate of declining in the degree of educational disparities among EU territories. One of the principal traits of the European social model was convergence toward the top in terms of social outcomes between EU member states and territories (e.g. employment, standard of living and well-being). This paper makes use of NEET and ELET to explore the catching-up convergence between European regions over the last decade.

The paper is organized as follows. The first section outlines the theoretical lens of the analysis. The second section details the key methodological assumptions and the method of analysis. This analysis yields an array of results that the authors present in the third section. Finally, the fourth section relates these findings to the main theoretical questions and highlights the main contributions of the article to the specialised literature on youth policies in varied EU countries.

National regimes with regional and local variations

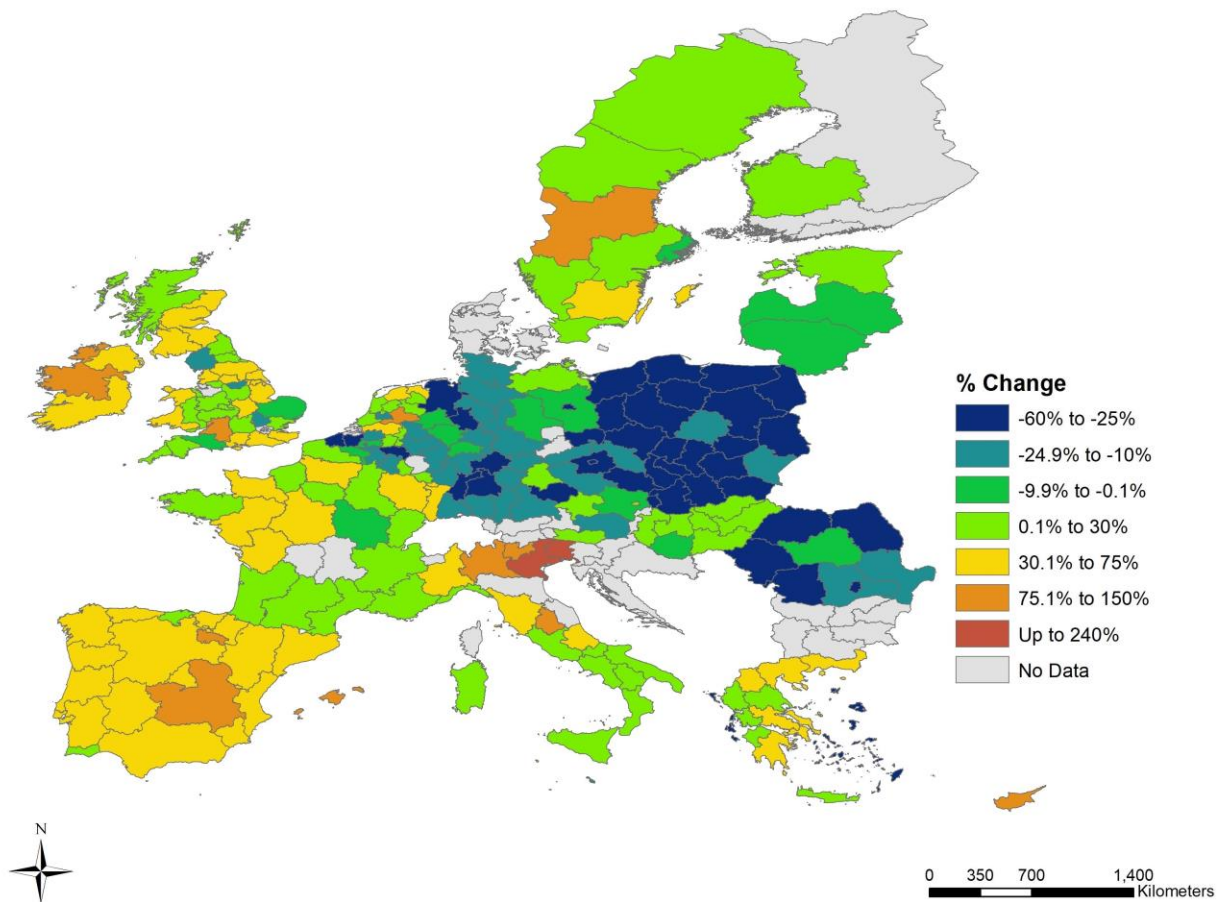
Regional disparities are high and increasing in Europe since the Great Recession. Extensive research has observed the territorial variety of labour market responses to socio-economic challenges connected to the economic crisis (Marelli, *et al.*, 2011; Di Cataldo & Rodríguez-Pose, 2017). In Europe, territorial disparities are remarkably high regarding many dimensions, including

per capita income, access to the labour force, the distribution of skills and returns to education (Iammarino, Rodríguez-Pose, & Storper, 2018; Dalziel 2015).

So far, limited attention has been devoted to the outcomes of school to work transitions at a regional level (Eichhorst *et al.* 2013; Caroleo and Pastore. 2007). Studies on educational achievements are insightful to understand the declining trend of ELET, but seldom look at regional variation (Bukodi *et al.*, 2017). On the other hand, some evidence stresses relevant differences in the concentration of youth unemployment, NEET rates (Bruno *et al.*, 2014; Möller, 2017) and precarious employment (Piopiunik and Ryan 2012). Lately, research has captured that persistent varieties of educational and labour market designs and structural and administrative capacities at the regional level have also compromised the effectiveness of the Youth Employment Initiative (Pastore 2019). Our analysis focuses on the regional disparities of ELET and the NEET status in order to fill this gap.

Figure 1 reports the change in NEET rates between 2003 and 2015. The map shows a high degree of variation at the regional level. Regional trends stress the stark contrast between the relatively stable (green) regions and the significantly transformed (blue and red) regions. The scores range from around -60% of young people out of employment, education and training up to 240%. Some countries couple high variability with high difference over the period, revealing strong disparities between high performing regions and lagging ones. This is particularly the case of Italy, France, Spain and Romania, where disparities in youth labour market conditions are most noticeable in our sample. Moreover, Figure 1 supports the adoption of NUTS 2 regions as a unit of analysis, since the outcomes of transition systems cannot be taken for granted as homogeneous within national boundaries. Remarkably, the data show high variations within countries.

Figure 1. Percentage change in NEET 18-24 yrs., 2003-2015



We draw on previous research that has unveiled to what extent the many dimensions of young people’s living conditions vary across EU regions (Author, 2017; 2020). We expect that the findings also complement the strand of research on national labour markets and ‘school-to-work regimes’ (Di Cataldo and Rodríguez-Pose, 2017; Mühler, 2017; Raffe, 2013). On the one hand, our data capture the proportion of young people who left education and training before finishing a programme (ELET). On the other hand, our data capture the proportion of young people who neither participate in education and training nor in employment at a given moment (NEET). Certainly, the ELET and the NEET status overlap to the extent that most early leavers do not find a job. Since longitudinal surveys are not carried out in all member states, we cannot know to what extent early leavers undertake education and training later on, the NEET find and lose jobs, and some NEET are elaborating on their professional strategy after completing tertiary education. However, we think that regional comparisons of these indicators are relevant for two reasons. First, the regional ELET and NEET rates allow us to monitor crucial aspects of the European Pillar of Social Rights. Although the figures are unable to measure clearly independent features of people’s life, it is interesting to inquire whether the concern of policymakers with these overlapping features of people’s life contributes to reduce these proportions. Second, ELET and NEET rates capture an

array of opportunities that are open to young people at a given moment in a given region. The literature on life courses underpins the interest of research on the contribution of local governance to shape these opportunities by getting the most out of official targets and indicators despite their weaknesses (Furlong, 2006; Walther, 2006, 2017).

Despite a shared concern with youth policies inspired on the European Pillar of Social Rights, eventually the EU member states have developed varying school-to-work regimes (Chevalier, 2016; Walther, 2017). Universalistic and Employment-Centred regimes are committed to encompassing approaches, since one of their key priorities is that all the youth achieve a sufficient level of skills, including the whole population of early leavers from education and training (ELET). Thus, the Universalistic regime provides services and employment to most of the youth and high levels of social security linking individual social rights with individual choice in Denmark, Finland and Sweden. In a similar vein, the Employment-Centred regime provides segmented and stratified access to occupation based on a highly selective and skill-specific education and training system in Austria, Germany and the Netherlands.

In contrast, in Liberal and Sub-Protective countries this priority only addresses graduates of tertiary education and the highest level of school dropouts. The Liberal-Residual regimes of Ireland and the UK articulate a highly comprehensive education system with a strong emphasis on individual responsibility and employability, which is based upon the ideal of economic independence. The Sub-Protective and Familistic regime adheres to the principle of comprehensive schooling but has not developed an encompassing vocational system. Moreover, in Greece, Italy, Portugal and Spain, access to employment is limited, unstable and highly segmented between those who achieve post-secondary education and those who do not.

The interpretation of 'school-to-work regimes' in Post-Socialist regimes is not so clearly defined. In these regimes, vocational education and training is universal but not so complete as in Employment-Centred countries. In addition, it is weakly linked to the labour market. So, labour market policies differ largely among countries such as Poland, Romania, Slovakia and Slovenia, not least regarding employment protection.

This analytic perspective has inspired our main research question. Do the Universalistic and Employment-centred, encompassing 'school- to- work regimes' contribute to regional convergence of ELET and NEET rates? In a similar vein, do the Liberal, Sub-Protective and Post-Socialist

'school-to-work regimes' counteract regional disparities within the EU member states? Insofar as encompassing concepts interpellate all the relevant authorities and stakeholders, we hypothesize that they also strengthen wide-ranging, multi-layered, local policies. In contrast, the selective concepts that prevail in the other countries do not lead national and sub-national authorities to develop such schemes. Interestingly, a rapid review of the literature underpins this research question with two observations.

First, schools, social services, municipalities and families shape local structures of opportunity that alleviate regional disparities in ELET rates. For example, vocational education and training motivates many students who see how these programmes work in their local context. In some localities, networks of families and peer groups are successful in encouraging teenagers to engage with schools and overcome academic problems despite living in conditions of social vulnerability (Parreira do Amaral, Dale & Loncle, 2015). Similarly, local authorities and non-profits often build alternative learning arenas with which some students engage despite their previous unease in standard schools (Praag, Nouwen, Van Caudenberg, Clycq & Timmerman, 2018). So, it is plausible to inquire to what extent 'school-to-work regimes' foster regional convergence by deploying these forms of collaboration in the regions most affected by higher rates of ELET and NEET. Apparently, encompassing regimes may engage diverse stakeholders with more consistent policy designs.

Second, the collective mode of skills formation that prevails in Universalistic and Employment-Centred countries (Emmenegger, Graf and Trampusch, 2018) is likely to foster convergence of the regional rates of NEET youth. The NEET status exposes some young people to the risks of social exclusion insomuch as the combination of precarious jobs and long-term unemployment significantly disadvantages them throughout their careers in the labour market (Mc Tier and McGregor, 2018). Besides the economic cycle and the amount of public debt, regional rates vary according to the importance of civil construction in local labour markets, the scarcity of dwellings for rent in local housing markets, and the dependence of local aggregated incomes on remittances (Tomic, 2018). In Germany, the distribution of NEET rates across regions is more homogeneous than elsewhere in Europe (De Lange *et al.* 2014; Marques & Salavisa, 2017). Interestingly, multi-layered and multi-stakeholder collaboration seem to have spread low-unemployment local labour markets throughout the Western Länder despite variable demographic structures (Kleinert, Vosseler and Blien, 2018). Thus, we inquire whether in Germany and the neighbouring countries, (national, regional and local) authorities, employers, unions and non-profits have built dense collaborative

networks that have succeeded in enrolling the majority of youth in either tertiary education, apprenticeships or other relevant training programmes.

To wrap up, we attempt to explore the regional variation of ELET and the NEET rates in Europe. Our main research question looks at the effect of encompassing ‘school- to- work regimes’ to build institutional capacity at the local level. Apparently, networks of authorities, employers, civil society organisations, families and peer groups make a difference in encouraging the youth to pursue further education (thus reducing regional ELET rates) and opening employment opportunities for them (thus reducing NEET rates). Since these networks bridge national and local education, training and employment, we also expect that they reduce regional disparities more significantly. At least, adverse economic conjunctures may be worse for some regions in Liberal, Sub-Protective and Post-Socialist countries because local authorities and stakeholders cannot manage the labour market in a similar way as similar policy actors do in Universalistic and Employment- Centred countries¹.

Data: Measuring ELET and NEET across EU regions

The data are obtained from the webpage of EUROSTAT, which collects data at Nomenclature of Territorial Units for Statistics (NUTS) 1 and 2 levels for a range of educational, social and economic indicators. NUTS are geographical units for referencing to the territorial division of a country. NUTS2 population ranges between 800.000 and 3 million inhabitants. The time span of our data ranges from 2003 to 2015. This circumscribes a period of remarkable socio-economic changes in Europe. Germany, Portugal, Slovenia and the UK do not provide data at NUTS2 level (our preferred areal unit of aggregation). For these countries, we use NUTS1 level data, which corresponds to larger territorial units (e.g. Länder for Germany). This strategy has been previously used in other regional analyses (see Copus, 2011).

Our main variables are two of the indicators produced by EUROSTAT that show the share of ELET and NEET in each region in relation to the population aged between 18 and 24 years. So, the $ELETr_i$ and the $NEETr_i$ ratios are the quotients of a numerator indicating the number of NEET and ELET residing in region i and a denominator indicating the regional population in region i aged 18-24 (P_i).

$$ELETr_i = ELET_i / P_i^{18-24} \quad (1)$$

¹According to Walther (2017; 2006), school-to-work regimes were classified as: Universalistic regime (DK, FI, SE, NO); Employment-centered regime (AT, BE, DE, FR, LU, NL), Liberal regime (UK, IE); Mediterranean/Sub protective regime (EL, ES, IT, CY, PT); Post-socialist regime (BG, CZ, EE, HU, LT, LV, PL, RO, SK).

$$NEETr_i = NEET_i / P_i^{18-24} \quad (2)$$

Both ratios can be gathered for most EU member states. ELET_r represents two educational circumstances: i) the regional exclusion from post-secondary education and training programs, ii) the regional level of attractiveness for post-secondary students. NEET_r represents a composite of three underlying factors: i) the regional exclusion from both the labour and the education systems; ii) the labour market opportunities of the region; and iii) the attractiveness of the region in terms of labour market outcomes. In turn, these factors are affected by various contextual elements and policies, such as education and training curriculum options, active labour market policies, education funding, student grants and health systems.

A drawback of this data is that it does not disclose the composition of the individuals in each region, whether by origin, nature of their situation (Furlong 2006). Therefore, an implicit assumption in our analysis is that these indicators can be taken as proxies for overall young people contextual opportunities in education and employment. We aim at complementing analyses at high spatial scales that aggregate diverse profiles ELET and NEET youth with analyses of variation within countries. Further control variables used in the dataset are obtained from Eurostat. Summary statistics of key variables are provided in Table 1 below.

Table 1: Summary statistics

Description	Abbreviation	Obs	Mean	Std. Dev.	Min	Max
Share of NEET, 18-24 yrs	NEET _r	267	15.79146	7.194318	2.8	49.4
Share of ELET _r , 18-24 yrs.	ELET _r	244	14.08273	7.899471	1.8	57
Growth rate NEET _r	NEET _r _gr	267	.0248314	.5511907	-1.72	0.68
Growth rate ELET _r	ELET _r _gr	244	-.3206054	.572012	-2.41	0.43
Share of NEET, 2003	NEET, t0	265	12.17461	9.964446	0	48.1
Share of ELET _r , 2003	ELET, t0	268	12.45944	10.58994	0	57
Regimes (5 categories)	Regimes	323	2.393701	1.406932	1	5
Tertiary Ed. att. 30-34 yrs., quintile	TER _r	253	2.993553	1.412602	1	5
Pop. Density, quintile	POP _r	263	2.997824	1.415421	1	5
Employment 25-64 yrs., quintile	EMP _r	256	2.987914	1.415148	1	5
GDP, quintile	GDP _r	276	2.99215	1.41291	1	5

Results

This section presents the results on a three-step sequence. First, Table 2 shows how the ELETr and NEETr rates changed between 2003 and 2015. Second, in Table 3 and 4 we provide evidence about the growth rate of the regional indicators, considering different educational and training systems. This gives insight on how far youth vulnerabilities have recently evolved taking local conditions and macro-institutional designs into account. Third, in Table 5 and 6 we estimate an autoregressive persistence model to explore the extent to what past level of ELET and NEET influence their recent level

In **Table 2**, we focus our analysis on yearly changes in ELETr and NEETr between 2003 and 2015 (being 2003 the reference year). This is the result of equation 4.

$$Y_i = \alpha + \gamma(C_k) + e \quad (4)$$

Where Y_i is the regional share of NEET or ELET and γ is a vector of dummies variables indicating the year with the reference being 2003. In column 2 and 4 we have also added countries dummies. A higher and significant value indicates a positive increase with respect to the 2003 level. We find evidence of a decrease in NEETr between 2006 and 2008, while in the aftermath of the economic crisis NEETr was similar to the level of 2003. As for ELETr, results show a decreasing trend starting in 2004 which stopped in 2007 and resumed in the aftermath of the Great Recession. This trend reached its peak in 2014 with a decrease of 4.7% compared to the level of 2003. As columns 2 and 4 report, cross-country differences are very stark, since the adjusted r-squared increases by approximately 48% for the NEETr and 66% for ELETr when including country dummies. Even though the indicators are sensitive to the economic downturn, NEETr seems to have been more stable across years, while ELETr shows a declining trend peaking in the aftermath of the Great Recession.

Table 2. Yearly differences in NEETr and ELETr.

VARIABLES	(1) NEETr	(2) NEETr + Country dummies	(3) ELETr	(4) ELETr + Country dummies
2003.year	(ref.)	(ref.)	(ref.)	(ref.)
2004.year	-0.523 (0.346)	-0.438 (0.348)	-0.525*** (0.177)	-0.514*** (0.175)
2005.year	-0.767 (0.639)	-0.649 (0.639)	-0.787** (0.379)	-0.797** (0.371)
2006.year	-1.905** (0.744)	-1.842** (0.733)	-1.004** (0.420)	-0.976** (0.401)
2007.year	-2.493** (1.207)	-2.263* (1.161)	-0.836 (0.882)	-0.688 (0.858)
2008.year	-2.584* (1.372)	-2.399* (1.336)	-1.139 (0.914)	-1.019 (0.899)
2009.year	-0.653 (1.432)	-0.460 (1.409)	-1.771** (0.847)	-1.699* (0.834)
2010.year	-0.123 (1.429)	0.118 (1.423)	-2.043** (0.874)	-1.930** (0.842)
2011.year	0.324 (1.467)	0.458 (1.475)	-2.600** (1.106)	-2.456** (1.072)
2012.year	0.782 (1.477)	1.003 (1.490)	-3.358*** (1.012)	-3.178*** (0.985)
2013.year	0.818 (1.434)	0.962 (1.451)	-4.034*** (0.965)	-3.921*** (0.960)
2014.year	0.346 (1.356)	0.505 (1.364)	-4.796*** (1.118)	-4.693*** (1.109)
2015.year	-0.162 (1.373)	-0.0128 (1.379)	-4.897*** (1.144)	-4.586*** (1.064)
Constant	16.32*** (1.526)	9.585*** (0.950)	15.97*** (1.904)	11.01*** (0.610)
Observations	3,360	3,360	3,360	3,360
R-squared	0.023	0.497	0.032	0.688
Adj. R-squared	0.0199	0.491	0.0290	0.684
Country Dummies	NO	YES	NO	YES
Year Dummies	YES	YES	YES	YES

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

From the point of view of regional policy and European cohesion policy, it is vital to understand the extent to which the changes in the concentration of ELET and NEET are driven by low catching up, or whether by reinforcing existing high/low equilibria. To test for this, we estimate an autoregressive model.

$$Y_i = \alpha + \beta_1 y_{i0} + \beta_2 y_{i0}^2 + \beta_3 \text{GDP}_{ri} + \beta_4 \text{TER}_{ri} + \beta_5 \text{POP}_{ri} + \beta_6 \text{EMP}_{ri} + \gamma (C_k) + e \quad (3)$$

where:

- y_1 is the regional growth rate of the dependent variable of region i (e.g. NEET_{ri_rc} or ELET_{ri_rc}). This is calculated by dividing the difference between the regional share of NEET (or ELET) at the end and beginning of the period with the NEET (or ELET) share at the beginning of the period;
- $\beta_2 (y_0)$ is the persistence term showing the influence of the level of NEET or ELET in 2003. We include also β_2 which is the squared value of NEET (or ELET) in 2003;
- $\beta_3 \text{GDP}_{ri}$ is the GDP in PPS of the region of region i expressed in quantiles;
- $\beta_4 \text{TER}_{ri}$ is the rate of population between 30-34 years with tertiary education in region i expressed in quantiles;
- $\beta_5 \text{POP}_{ri}$ is the population density of region i expressed in quantiles;
- $\beta_6 \text{EMP}_{ri}$ is the employment rate of the population between 25-64 years of region i expressed in quantiles;
- C_k is a group effect according to the country each region belongs to.

In further specifications of the model, we add control for regimes of school-to-work transitions, dividing countries in five groups, following Walther's (2017) classification. We test whether these classifications are explaining the difference trends of ELET_{ri} and NEET_{ri} . The results are shown in Table 5. We use cluster errors at country level to account for correlation of errors within country.

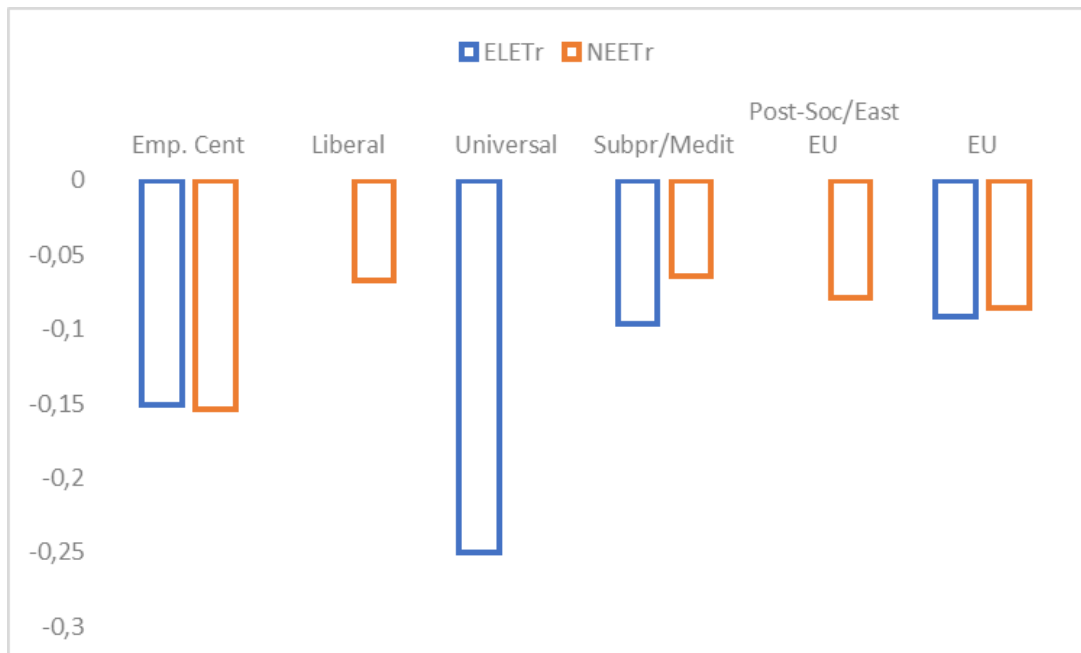
<<Insert here: Table 3. Growth Rate in NEET_{ri} 18-24 years.>>

<<Insert here: Table 4. Growth rate in ELET_{ri} 18-24 years.>>

In order to estimate if either convergence or divergence took place between EU regions, we regress the NEET_{ri} (or ELET_{ri}) growth rate over the NEET_{ri} (or ELET_{ri}) share of the first period (e.g. 2003) (see equation 3). We include a squared term of the last term to account for non-linear relationship. The combination of these two estimates provides the extent to which the concentration of NEET_{ri} (or ELET_{ri}) is conditioned by catching up or diverging pre-existent conglomerations. Using a macro-panel built from the EUROSTAT public available data, we carry out a sequence of polynomial multivariate regressions (Table 3 and 4). By exploring the hypothesis of intertemporal dependency in NEET_{ri} and ELET_{ri} , we find a negative and significant relationship. That is to say, the previous scores of NEET_{ri} and ELET_{ri} rates are positively related to the more recent ones. On average, the parameters and the square term indicate that an increase of one percent point of the previous NEET_{ri} rate corresponds to 9 percent points of the recent NEET_{ri} rate. However, this change amounts to 13 percent points when we control for country dummies. As to ELET_{ri} , one

percent point of the previous score corresponds to 8.5 percent points of the recent score, while the change amounts to 8.9 percent points when we account for countries dummies (see Table 3).

Figure 2. Simulated changes of NEETs and ELETr 18-24 years across educational and training regimes, all controls included as in Table 3 columns 3.



*missing bars relate to non-significant results

This finding suggests that institutional differences have provoked significant changes of regional NEETr and ELETr rates over the period. This leads to the second part of the analysis. In columns 4-7 we explore whether education and training systems make a difference regarding this process of catching up. We add new accession (pre- 2004) countries to extend Walther's (2006) typology. We find that, overall, the effect sizes of ELETr and NEETr have been similar in Universal and Liberal systems. Among their territories, Universalistic countries have experienced a very high level of convergence in ELETr, while for NEETr this effect has not been significant. For the case of Liberal education and training system countries, regions have converged in their share of NEET while they have not for ELET. We find a certain degree of differentiation within the institutional model to the extent that Employment-Centred territories have converged more rapidly, thus almost doubling the average of the EU (see Figure 2) in NEETr and ELETr. The regions of Eastern EU countries show a similar convergence to EU average for NEETr while the coefficient is not significant for ELETr.

We use different covariates of this model, which are presented in Table 3 and 4. Our simplest model (1) only includes the level of the dependent variable at the start of the period and its squared term to account for non-linear effect (column 1). In subsequent specifications of the model, we proceed in

two stages. First, we add regional covariates such as regional GDP, the density of population and the employment rate (25-64 years). Then we add country dummies. Model (2) suggests that only population density has had a significant effect, since populous regions have a smaller share of early leavers. Compared to regions with average level of employment rate of 25-65 years, regions in the lowest and highest quantiles of employment rates have experienced significant changes of their NEETr rate over the period. Overall, these covariates are weakly significant per se and sensitive to the exact specification of the model. Therefore, the effect of the covariates on the dynamics of ELETr and NEETr is playing a residual role.

The influence of the initial level of NEETr and ELETr on growth rates is robust across all specifications (models 1-3). The results reveal a general pattern of higher convergence between each educational system but a bifurcation of results across them in the rate of this convergence. NEETr growth is similar across institutional regimes for 52% the regions, where NEETr ranged between 0% and 12% in 2003. This indicates similar changes across institutional systems. However, convergence has been higher in Universalistic systems, particularly in regions exceeding 11% in NEETr in 2003. Although a similar pattern is observed for Employment-Centred and Liberal regimes regions, these regions started from a lower base of the NEETr rate at the beginning of the period (e.g. 2003).

Our baseline model result yielding an r-squared of 0.49. Additionally, when we add country-level dummies in model (3), this goes up to 0.82 suggesting that the national context matters, but this further reduces the effect of past performance of NEETr by only a 17% of the baseline model.

Table 5 answers further questions. Are the changes in the concentration of NEETr driven by low levels of NEET rate catching up with the rest? Or, are the NEET youth increasingly more concentrated? To answer this question, we regress the level of NEET in 2015 on its initial level (e.g. 2003). We also include as covariate the GDP in quantiles. This setting allows one to examine whether these effects are equal at different regional income levels. Then, NEET, t_0 and its squared term provide an estimate of regional inter-temporal persistence of NEET rate. Catching up has more than doubled in the regions of Employment-Centred countries compared to the EU average (column 1). In the Liberal countries the catching up process was similar to the EU average, while in the Mediterranean countries this was reduced by almost a third of the effect. Moreover, regional GDP seems to have a role in enhancing faster convergence for richer regions, while reinforcing lagging dynamics for poorer regions. The same pattern is visible in Mediterranean Sub-Protective countries (Italy, Spain, Portugal, Greece, Cyprus). Results report no evidence of a persistence effect in NEET

rate for Eastern EU countries (Czech Republic, Hungary, Lithuania, Poland, Estonia and Latvia) and Universal (Denmark, Sweden, Finland and Norway). Table 6 reports the result for ELETr, results are in line with Table 5, although the persistence estimates are slightly higher, and they are more unequal across GDP quantile especially for the Employment Centred countries.

Table 5. Persistence model. Determinants of 2015 NEETr 18-24 years by GDP quintiles.

VARIABLES	(1) EU	(2) Empl. Centred	(3) Liberal	(4) Universal	(5) Sub-Protec	(6) Post-Soc/East EU
NEET, t0	-0.0854*** (0.00639)	-0.137*** (0.0233)	-0.0876*** (0.0129)	-0.0355 (0.0742)	-0.0585*** (0.00443)	-0.0272 (0.0734)
NEET, t0 (squared)	0.00154*** (0.000169)	0.00393*** (0.00114)	0.00157 (0.00115)	-0.00219 (0.00631)	0.000860*** (0.000146)	0.000324 (0.00183)
GDP, 3rd quantile (ref.)						
GDP, 1st quantile	0.0957*** (0.0347)	-0.152 (0.115)	0.247*** (0.0453)		0.128** (0.0510)	0.107 (0.101)
GDP, 2nd quantile	0.0616*** (0.0221)	0.0232 (0.0437)	0.0719* (0.0371)	0.00278 (0.0284)	0.110*** (0.0382)	0.00641 (0.0969)
GDP, 4th quantile	-0.0545** (0.0222)	-0.0684 (0.0466)	-0.0546* (0.0322)	-0.0142 (0.0214)	-0.0314 (0.0357)	0.0133 (0.0325)
GDP, 5th quantile	-0.123*** (0.0387)	-0.210*** (0.0754)	-0.0601* (0.0340)	0.0156 (0.0764)	-0.0517 (0.0461)	0.00581 (0.148)
Constant	0.898*** (0.0727)	1.145*** (0.117)	1.244*** (0.0860)	0.997*** (0.0284)	1.036*** (0.0388)	-0.442 (0.655)
Observations	246	72	45	19	56	54
R-squared	0.839	0.742	0.871	0.938	0.851	0.806
Adj. R-squared	0.837	0.740	0.870	0.936	0.849	0.801
Country Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6. Persistence model. Determinants of 2015 ELETr 18-24 years by GDP quintiles.

VARIABLES	(1) EU	(2) Empl. Centred	(3) Liberal	(4) Universal	(5) Sub-Protoc	(6) Post- Soc/East EU
ESL, t0	-0.0882*** (0.00829)	-0.168*** (0.0189)	- 0.103*** (0.0314)	- 0.175*** (0.0353)	-0.0972*** (0.0116)	0.0550 (0.0463)
ESL, t0 (squared)	0.00125*** (0.000173)	0.00558*** (0.000897)	0.00130 (0.00228)	0.00387 (0.00347)	0.00133*** (0.000197)	-0.00149 (0.00250)
GDP, 3rd quantile	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)
GDP, 1st quantile	0.317*** (0.0715)	0.190*** (0.0666)	0.220*** (0.0551)		0.262 (0.166)	0.0365 (0.0816)
GDP, 2nd quantile	0.169*** (0.0463)	0.137*** (0.0456)	0.147 (0.0910)	-0.0493 (0.0334)	0.296** (0.142)	-0.0370 (0.0796)
GDP, 4th quantile	-0.0484 (0.0415)	-0.118*** (0.0395)	-0.146* (0.0827)	0.00567 (0.0254)	0.155 (0.153)	-0.0218 (0.0345)
GDP, 5th quantile	-0.117** (0.0560)	-0.166** (0.0639)	-0.182** (0.0761)	-0.0759 (0.0450)	-0.0555 (0.171)	0.404*** (0.135)
Constant	0.471*** (0.132)	0.870*** (0.163)	0.414** (0.201)	1.049*** (0.0334)	-0.337** (0.147)	-0.533** (0.222)
Observations	2,880	888	420	144	564	396
R-squared	0.713	0.490	0.756	0.981	0.626	0.871
R-squared Adj	0.710	0.484	0.752	0.980	0.620	0.867
Country FE	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Discussion of results through a literature review of relevant national policies

In general, Figure 2 suggests that the regional variations of ELET and the NEET youth rates have decreased more significantly in Universalistic and Employment- Centred countries than in Liberal, Sub-Protective and Post-Socialist countries. This finding shows important qualifications that add nuances to our argument. Our quantitative analysis underpins the idea that many stakeholders draw on encompassing ‘school- to- work regimes’ in order to build local institutional capacity in the former types of countries. However, we cannot spell out how these policy actors generate these synergies unless we look at the literature that discusses each type of countries.

To start with, policies have made a difference regarding ELET in Nordic countries and both ELET and the NEET youth rates in many Employment- Centred countries. In Nordic countries, a series of programmes strengthen the links between vocational education and training (VET) schools and families, VET schools and the public employment service, as well as between national agencies and the local services that cater to the needs of early school leavers (Tägtström & Olsen, 2016).

Similarly, in most cities and regions of Austria and Germany, a variety of multi-stakeholder and multi-layered programmes address the youth who have not completed an apprenticeship. While some of these programmes provide carefully tailored guidance, others promote second-chance schools that deliver student-centred pedagogies and bridge gaps between social welfare and education and training. In Austria and Germany, these measures encourage the youth who suffer from social vulnerability to undertake some form of training that is appropriate and meaningful for them in their extreme circumstances (Bittlingmayer, Boutiuc-Kaiser, Heinemann and Kotthoff, 2016; Pot and Kazepov, 2016). Remarkably, a bundle of Federal, state and local programmes concur on offering this alternative to the high number of newcomers living in Vienna in vulnerable conditions (Tamesberger, Leitgöb & Bacher, 2014).

Although some spurs of this type of collaboration are visible, it is much harder to generalise on France and the United Kingdom. France has built an Employment- Centred regime that nevertheless does not take into account as many circumstances as other Employment- Centred countries do (Chevalier, 2016). In France, previous decentralising great reforms have been excessively optimistic on the potential of regions to plan the whole cycle of employment policies. Despite this institutional constraint, some regional stakeholders have developed stable modes of coordination that set an appropriate context for exploring new pathways beyond the initial choices of the youth in their upper secondary education. These experiments are particularly noticeable in South Eastern regions (Buisson-Fenet & Verdier, 2013). In the end, although these regions have developed stable institutional arrangements, our quantitative evidence does not identify any noticeable effect for the whole country.

Since Liberal countries include Australia, Canada, New Zealand and the United States besides Ireland and the United Kingdom, an analysis of European data cannot grasp the regularities of their common Liberal regime of school- to- work transitions. At most, the literature has documented a few local institutional arrangements that have been capable to overcome low-opportunity labour market equilibria in several cities and towns in the UK (Hodgson & Spours, 2015). Once again, the effect that qualitative studies have captured has not become strong enough to be reflected in regional indicators.

As far as Sub-Protective countries are concerned, diverging institutional arrangements apparently account for the minor effects of policy on regional disparities of ELET and the NEET youth rates. While Universalistic and Employment- Centred countries have notably reduced aspects of this

disparity, Sub-Protective countries have simply reproduced the average of the EU. Since their initial situation was much worse, this trend only reports on minor progresses (Chevalier, 2016).

Moreover, two institutional factors may have also weakened the local structures of opportunities in Sub-Protective countries. On the one hand, the bulk of national and regional policies to reduce ELET have mostly focused on internal school processes such as ability grouping and pedagogic innovation (Tarabini, 2015; Grimaldo and Landri, 2019). Therefore, the room for the action of local networks that underpin guidance and alternative learning arenas has been very narrow. On the other hand, several pieces of research have noticed weak local institutional capacity to implement such policies as the EU-sponsored Youth Guarantee Scheme (YGS).

A few years ago, some Spanish researchers concluded that employment policies had not been properly funded and failed to intervene in the early moments of unemployment spells (Escudero, López Mourellos and Tobin, 2018). Other studies on the implementation of the YGS noticed that neither insufficient funding nor delayed payment had eventually helped. Since the central government anticipated the funds to regional and local governments before the Commission transferred these resources, each year the time schedule of the programmes was quite uncertain. Although the central and the regional governments issued their own YGS plans, these plans simply replicated measures that had been at stake for a long time with minor additions extracted from EU documents. Finally, most measures did not reach the whole target group, not least because the official designs overlooked that many young people shift from NEET to other status back and forth several times a year (Cabasés Piqué, Pardell Veà and Strecker, 2015).

In Italy, a study of such thriving regions such as Emilia-Romagna, Lombardy and Veneto found job centres void of a clear direction and short of enough resources. The authors concluded that the problem was common to most regions, but remarkably highlighted that these three regional governments had not been capable to overcome the problem since the Great Recession (Vesan & Lizzi, 2017). In addition, although the YGS officially targeted the youth between 18 and 24, in practice many programmes enlisted youth up to 29. This age gap is a reminder of the extent of precariousness among the youth in the country (Cuzzocrea, Bella and Kazepov, 2020).

In Post-Socialist countries, Figures 1 and 2 observe that between 2007-2016 the proportion and the regional disparity the NEET youth decreased at the same time as regional GDP increased. During this period, the influence of economic growth on the reduction of NEET rates really contributed to

the observed trends in the Czech Republic, Poland, Romania and Slovakia. However, the reduction of regional disparity was not so significant as the average reduction of NEET rate across the EU.

In these countries, the pattern did not respond to any specific policy in the domains of employment or education and training. For instance, although adult education was a municipal policy that could have compensated for exclusion in some localities, the youth seldom undertook this education. Similarly, lower employment protection did not strengthen youth labour markets. In the Czech Republic, Poland and Slovakia, most young people enrolled in vocational education and training courses and got jobs despite important legal protection, while Hungary adopted more flexible policies but failed to neutralise regional gaps (Rokicka, Unt, Täht & Nizalova, 2018).

In a similar vein, the 1999 Education Reform Act only yielded apparent positive contributions in Poland, but the eventual outcome consolidated some regional disparities. The Act favoured a pre-existing tendency to expand academic and upper vocational programmes at the expense of the previously massive initial VET track. In some regions, sophisticated industries such as aviation managed to upgrade vocational education according to their needs of skilled labour. Nonetheless, a share of each cohort kept undertaking the low-quality and obsolete initial VET track. The social composition of the intake of the academic, upper vocational and basic VET programmes also recorded exacerbated socio-economic segregation (Klatt & Elliot, 2016).

In brief, our results as plotted in Figure 2 are consistent with a review of the literature. Regional disparities of ELET and the NEET rates have diminished much more significantly in Universalistic and Employment- Centred countries than in other youth transition regimes in Europe. While synergies between encompassing 'school- to- work regimes' and multi-stakeholder, multi-layered policy action at the local level have made a difference in the former, the pattern is not clear at all in the other regimes. In France and the United Kingdom, some local synergies may be in the making, but these exceptions have not yet been significant enough to impinge on official regional statistics. Sub-Protective countries posit a contrast case insofar as their 'school- to- work regimes' and weak local institutional capacity seem to have disrupted (or failed to trigger) the aforementioned synergies. Although economic growth has really helped Post-Socialist countries to improve the condition of the NEET youth, policy does not seem to have made a difference.

Conclusion

Our analysis has investigated the regional and local factors that impinge on the prevalence of ELET and the NEET status across the regions of the European Union. A large strand of literature argues that the youth do not have the same opportunities everywhere, because these two phenomena are very sensitive to local arrangements of education and employment policies.

So far, many results are partial and rely on limited information, as discussed elsewhere (Author, 2018). It is therefore necessary to increase the availability of indicators and information on young people at the local level in order to advance in explaining and unpacking the complex regional dynamics of social opportunities of youth people.

According to our results, territorial disparities are weakening regarding ELET. The significant reduction of ELET rates in Universalistic countries confirms the general hypothesis on the alignment of national and local policies. In these countries, innovative local programmes focusing on prevention and compensation have greatly contributed to further reduction although the average scores were already low.

The pattern of NEET rates is not so homogeneous. Disparities have declined in Germany and neighbouring countries, probably due to synergies between encompassing 'school- to- work regimes' and multi-layered, multi-stakeholder collaboration at the local level. This point resonates with the youth studies literature that stresses the consequences of space and place on youth transitions (Shildrick *et al.*, 2009).

Apparently, encompassing 'school- to- work regimes' and dense networks of multi- level governance have greatly contributed to alleviate disparities regarding ELET and the NEET regional rates in the European Union between 2003 and 2015. Our analysis detects some very significant converging effects within Universalistic and Employment- Centred countries, but none within Liberal, Sub- Protective and Post- Socialist regimes of youth transitions. A review of the literature suggests that these two factors are stronger in the former than in the latter.

These conclusions attempt to contribute to the literature on youth transitions by highlighting the importance of regional policy- making. Regional and local policies are the interface between national regimes and the youth themselves. Regional and local policy networks can really make a difference. While quantitative studies have estimated the magnitude of inter-regional effects,

qualitative studies have unveiled the relevant social interactions that are at stake. These conclusions also point out that further developments of European policies would noticeably benefit from open processes of discussion on how governments and civil society organisations conceive two crucial aspects of the currently prevailing regimes in most countries, namely: the scope of initiatives that underpin transitions from school to work, and the range of stakeholders who collaborate in encompassing initiatives at the local and regional levels.

References

- Bittlingmayer, U.H.; Boutiuc-Kaiser, A.; Heinemann, L.; Kotthoff, H. G. (2016). Lifelong Learning Policies in Germany: Mapping, Review and Analysis. *YOUNG_ADULLLT Working Papers*, WP3. Retrieved from <http://www.young-adulllt.eu/publications/working-paper/index.php>
- Blossfeld, H.-P., & Hofäcker, D. (2015). Globalization, Rising Uncertainty and Life Courses in Modern Societies: A Summary of Research Findings and Open Research Questions. *Sociologia del Lavoro*, (136), 16–33. <https://doi.org/10.3280/sl2014-136002>
- Bruno, G. S. F., Marelli, E., & Signorelli, M. (2014). The rise of NEET and youth unemployment in EU regions after the crisis. *Comparative Economic Studies*, 56(4), 592–615. <https://doi.org/10.1057/ces.2014.27>
- Buisson-Fenet, H.; Verdier, E. (2013). Hiérarchie des savoirs et concurrences institutionnelles : la régulation des cartes régionales des formations professionnelles initiales. *Revue Française de Pédagogie*, 182, 19–30.
- Bukodi, E.; Eibl, F.; Buchholz, S.; Marzadro, S.; Minello, A.; Wahler, S.; Blossfeld, H-P.; Erikson, R. ., & Schizzerotto, A. (2017). Linking the macro to the micro: a multidimensional approach to educational inequalities in four European countries. *European Societies*. <https://doi.org/10.1080/14616696.2017.1329934>
- Cabasés Piqué, M.A.; Pardell Veà, A.; Strecker, T. (2015). The EU youth guarantee – a critical analysis of its implementation in Spain. *Journal of Youth Studies*, <http://dx.doi.org/10.1080/13676261.2015.1098777>.
- Caroleo, F. E., & Pastore, F. (2007). A New Regional Geography of Europe? The Labour Market Impact of the EU Enlargements. *IZA DP Discussion Paper Series*, 2620.
- Chevalier, T. (2016). Varieties of youth welfare citizenship: Towards a two-dimension typology. *Journal of European Social Policy*, 26(1), 3–19.
- Cuzzocrea, V.; Bello, B. G. & Kazepov, Y. (eds). (2020). *Italian Youth in International Context. Belonging, Constraints and Opportunities*. London and New York: Routledge.
- de Lange, M., Gesthuizen, M., & Wolbers, M. H. J. (2014). Youth Labour Market Integration Across Europe: The impact of cyclical, structural, and institutional characteristics. *European Societies*, 16(2), 194–212. <https://doi.org/10.1080/14616696.2013.821621>
- Di Cataldo, M., & Rodríguez-Pose, A. (2017). What drives employment growth and social inclusion in the regions of the European Union? *Regional Studies*, 51(12), 1840–1859. <https://doi.org/10.1080/00343404.2016.1255320>
- Emmenegger, P.; Graf, L.; Trampusch, C. (2018). The governance of decentralised cooperation in collective training systems: a review and conceptualisation. *Journal of Vocational Education & Training*. <https://doi.org/10.1080/13636820.2018.1498906>
- Escudero, E.; Kühn, S.; López Mourellos, E.; Tobin, S. (2018). Youth Labour Market Prospects and Recent Policy Developments. In A. Malo, Miguel Angel; Moreno Rodriguez (Ed.), *European*

Youth Labour Markets. Problems and Policies (pp. 7–26). Cham (Switzerland): Springer International Publishing AG.

- European Union. (2017). *European Pillar of Social Rights*. Brussels: European Union.
- Furlong, A. (2006). Not a very NEET solution: representing problematic labour market transitions among early school-leavers. *Work, Employment and Society*, 20(3), 553–569.
- Grimaldo, E.; Landri, P. (2019). Tackling early school leaving and the governing of educational transitions in Italy. *Comparative Education*, 55(1), 1–18.
<https://doi.org/https://doi.org/10.1080/03050068.2019.1619332>
- Hodgson, A.; Spours, K. (2015). An ecological analysis of the dynamics of localities: a 14+ low opportunity progression equilibrium in action. *Journal of Education and Work*, 28(1), 24–43.
- Iammarino, S., Rodríguez-Pose, A., & Storper, M. (2018). Regional inequality in Europe: evidence, theory and policy implications. *CEPR Discussion Paper 12841*, (May), 1–26.
<https://doi.org/10.1093/jeg/lby021>.
- Jenson, J., & Mérand, F. (2010). Sociology, institutionalism and the European Union. *Comparative European Politics*, 8(1), 74–92.
- Klatt, M.; Elliot, K. (2016). Education reforms in Central Eastern Europe and its impact on youth transitions – a case of Poland. In & M. K. S. Bohlinger, K. Dang (Ed.), *Education Policy: mapping the landscape and scope*. Bern: Peter Lang.
- Kleinert, C.; Vosseler, A.; Blien, U. (2018). Classifying vocational training markets. *The Annals of Regional Science*, 61, 31–48.
- Marelli, E. P., Patuelli, R., & Signorelli, M. (2011). *Regional Unemployment in the EU before and after the Global Crisis*.
- Marques, P., & Salavisa, I. (2017). Young people and dualization in Europe: A fuzzy set analysis. *Socio-Economic Review*, 15(1), 135–160. <https://doi.org/10.1093/ser/mww038>
- Mc Tier, A.; McGregor, A. (2018). Influence of Work–Welfare Cycling and Labour Market Segmentation on Employment Histories of Young Long-Term Unemployed. *Work, Employment and Society*, 32(1), 20–37.
- Möller, J. (2017). Youth unemployment in Europe from a regional perspective. *CESifo Forum*, 18(2), 11–18.
- Parreira do Amaral, M.; Dale, R.; Loncle, P. (2015). *Shaping the Futures of Young Europeans. Education Governance in Eight European Countries*. Oxford (UK): Symposium Books.
- Pastore, F. (2019). Why so slow? The school-to-work transition in Italy. *Studies in Higher Education*, 44(8), 1358–1371. <https://doi.org/10.1080/03075079.2018.1437722>
- Piopiunik, M., & Ryan, P. (2012). Improving the transition between education/training and the labour market: What can we learn from various national approaches. European Expert Network on Economics of Education, (13), 69. Retrieved from http://www.cesifo-group.de/link/eenee_ar13.pdf

- Pot, M.; Kazepov, Y. (2016). Selected Lifelong Learning Policies for Young Adults in Vienna and Upper Austria. *YOUNG_ADULLLT Working Papers*, WP3. Retrieved from <http://www.young-adulllt.eu/publications/working-paper/index.php>
- Praag, L. V., Nouwen, W., Van Caudenberg, R., Clycq, N. and Timmerman, C. (2018). *Comparative Perspectives on Early School Leaving in the European Union*. London and New York: Routledge.
- Raffe, D. (2013). Explaining National Differences in Education-work Transitions Twenty years of research on transition systems. *European Societies*, 16(2), 175–193.
- Rambla, X. (2018) 'The politics of early school leaving: how do the European Union and the Spanish educational authorities 'frame' the policy and formulate a 'theory of change', *Journal of European Integration* 40(1): 83–97. doi:10.1080/07036337.2017.1404053
- Rokicka, M.; Unt, M.; Täht K., Nizalova, O. (2018). Youth Labour Market in Central and Eastern Europe. In A. Malo, Miguel Angel; Moreno Rodriguez (Ed.), *European Youth Labour Markets. Problems and Policies* (pp. 61–78). Cham (Switzerland): Springer International Publishing AG.
- Scandurra, R., Cefalo, R., and Kazepov, Y. (2020) 'School to work out comes during the Great Recession, is the regional scale relevant for young people's life chances?,' *Journal of Youth Studies*. doi:10.1080/13676261.2020.1742299
- Scandurra, R., Hermannsson K., and Cefalo R.. (2020) 'Assessing young adults' living conditions across Europe using harmonised quantitative indicators: opportunities and risks for policy-makers,' in M. Parreira Do Amaral, S. Kovacheva, and X. Rambla (eds.), *Lifelong Learning Policies for Young Adults in Europe: Navigating between Knowledge and Economy*. Policy Press.
- Tägtström, J.; Olsen, T. (2016). *Nordic projects to combat school dropout. Good practice in helping young people complete upper secondary education*. Stockholm: The Nordic Welfare Centre.
- Tamesberger, D.; Leitgöb, H. and Bacher, J. (2014). How to Combat NEET? Evidence from Austria. *Intereconomics. ZBW – Leibniz Information Centre for Economics*, 4, 221–227.
- Tarabini, A. (coord). (2015). *Políticas de lucha contra el abandono escolar en España*. Madrid: Editorial Síntesis.
- Tomic, I. (2018). What drives youth unemployment in Europe? Economic vs non-economic determinants. *International Labour Review*, 157(3).
- Vesan, P.; Lizzi, R. (2017). The Youth Guarantee in Italy and the New Policy Design Approach: Expectations, Hopes and Delusions. *World Political Science*, 13(2), 57–80.
- Walther, A. (2006). Regimes of youth transitions. Choice, flexibility and security in young people's experiences across different European contexts. *Young*, 14(2), 119–141. doi:10.1177/1103308806062737
- Walther, A. (2017). Support across life course regimes. A comparative model of social work as construction of social problems, needs, and rights. *Journal of Social Work*, 17(3), 277–301.

