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The relevance of public employment services for the labour market integration of low-qualified young people – a cross-European perspective

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ABSTRACT

In the wake of the Great Recession, youth labour market integration has become a central issue in both national as well as EU policy, e.g. in connection with the European Youth Guarantee. In this context, public employment services (PES) are considered central actors in promoting youth labour market integration. However, since international comparative analyses are scarce and the role of institutions and policies is thus rarely explicated, it is still an open empirical question whether and in which context PES can fulfil such a key role. Therefore, we analyse two questions based on the EU-LFS 2016 ad-hoc module*: (i) How relevant is PES support to young people with different educational levels in finding a job? (ii) How do differences in the educational system and in labour market policies shape the relevance of PES support across Europe?* This study illustrates that in countries with highly stratified, standardised and vocational-specific educational systems the relevance of PES is comparatively high in particular for the low-qualified. Thus, those countries have good reasons to strengthen PES to support the most disadvantaged and to combat labour market inequalities.

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1. Introduction

In the wake of the financial and economic crisis, youth unemployment has reached an unprecedented level across Europe and particular in Southern and Eastern Europe. The Great Recession thus has the potential to inflict 'scarring effects' especially on young people. Possible consequences include repeated unemployment spells, lower earnings prospects, and higher risks of social exclusion over their whole working life (Mroz and Savage 2006; European Commission 2014; Bäckman and Nilsson 2016).

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For this reason, some already speak of Europe's lost generation (Scarpetta *et al.* 2010). Against this background, youth labour market integration has become a key issue in both national and EU policies, such as the European Youth Guarantee (Tosun *et al.* 2017). In this context, public employment services (PES) are referred to as crucial actors in promoting youth labour market integration (European Commission 2017b). Besides the provision of unemployment benefits, PES support typically includes direct job brokering, job-search assistance as well as placement in programmes and measures such as educational, training, work or job creation programmes. Moreover, PES are considered to be a central institution because unlike other job-search channels they aim to help even the most disadvantaged labour market groups (e.g. low-qualified) and thus play a key role in tackling labour market inequality (Thuy *et al.* 2001).

While there is a growing body of literature devoted to the causes and consequences of youth unemployment since the crisis (Scarpetta *et al.* 2010; Bell and Blanchflower 2011; O'Higgins 2012; Eichhorst *et al.* 2013; Dietrich and Möller 2016), the relevance of PES from a cross-European perspective has so far received little empirical interest. Thus, because international comparative analyses are rare and the role of institutional or policy differences has hardly been studied (cf. Bachmann and Baumgarten 2013), it is still an open empirical question whether and under which conditions PES are able to fulfil such a key role. Accordingly, we analyse the following two questions: *(i) How relevant is PES support to young people with different educational levels in finding a job? (ii) How do differences in the educational system and in labour market policies shape the relevance of PES support across Europe?*

The article is organised as follows. Section 2 introduces the theoretical framework for our analysis. We employ a signalling theory approach and combine insights from two previously separate strands of literature, highlighting the diversity of young jobseekers. Section 3 describes the data, variables and methods used. Section 4 presents some descriptive evidence as well as the results of various multi-level regression models. Finally, Section 5 concludes with a discussion on the relevance of PES as central actors to cope with youth unemployment across Europe.

2. Theoretical background

In order to analyse the role of PES in youth labour market integration across Europe, we outline a micro–macro model to derive hypotheses about the relevance of PES support for young people and the moderating

role of the institutional context. For this purpose, we combine a signalling theory approach with the insights from two previously disconnected strands of literature. At the micro-level, the *job-search* literature offers several insights into the extent to which job seekers use different search channels. Due to a lack of comparative studies in this strand, knowledge about the influence of institutions is scant (cf. Bachmann and Baumgarten 2013). In contrast, the *school-to-work transition* literature emphasises institutional determinants of young people's successful labour market entry. However, the actual job-search process is usually treated as a black box. Combining these insights, we argue in detail how different contexts moderate the effect of PES support on young people's probability of finding a job. The group we focus on in this article is the group of young people not in employment, education or training (NEETs). Even if not all of them are actively looking for a job, the PES across Europe are expected to try to reach the active as well as the inactive young people equally by now (European Network of PES 2015).

2.1. Job searching with PES support among youth

Why should young people face different difficulties and challenges on the labour market than other age groups? Signalling theory postulates that information asymmetry exists between employers and potential employees that can inhibit employment because the former cannot assess aspirants' actual productivity and motivation until hiring (Spence 1973). However, educational certificates or previous work experience can be *signals* that help employers to reduce this uncertainty (Arrow 1973). Thus, investments in education or training not only serve to acquire knowledge and competencies that are useful at work (see human capital theory, e.g. Becker 1964), but they also produce signalling effects that give these certificates a meaning beyond documenting the skills a person has actually learned.

Age is therefore an important parameter because information asymmetry is especially relevant to labour market entrants. Due to their limited or even non-existing work experience and a lack of references, they have only limited means to prove their productivity and motivation (Brzinsky-Fay 2017). It is therefore a greater risk for employers to hire young people instead of more experienced workers since a mismatch would entail significant labour turnover costs, e.g. by further training or high dismissal costs (Lindbeck and Snower 2001). In order to decrease these risks, employers rely on signals that provide relevant information, e.g.

educational certificates. For this reason, low-qualified young people are expected to be in a particularly disadvantaged position with regard to their opportunities for sending strong signals. In this context, the question arises how PES support might affect low-qualified youth in particular with these issues.

In general, informal search channels like personal contacts, direct applications or responding to advertisements seem to be used more frequently and to be more effective than formal search methods like PES (Holzer 1988; Addison and Portugal 2002; Bachmann and Baumgarten 2013). However, this can be partly explained by a selection bias since people searching for a job via PES often belong to disadvantaged labour market groups, i.e. without personal networks, with repeated unemployment spells, lower qualifications or other employment barriers. Moreover, we know that jobs offered by PES are more often of lower quality and therefore less attractive for higher qualified workers (Osberg 1993; Weber and Mahringer 2008). In addition, job-search via PES might also be influenced adversely by negative signalling (*stigma*) of this search channel itself: many employers seem to expect applicants searching via PES to be less motivated or less suited for a job (Bonoli and Hinrichs 2010). However, we expect PES support to affect low-qualified youth in two specific modes of action: On the one hand, advice on how to apply for a job, how to write an attractive CV or how to present oneself in a job interview, for example, can help to 'polish' the existing signals, which might be more important to the low-qualified compared to other educational groups. In addition, training or employment measures provided by PES can amplify the signalling power available to young jobseekers. On the other hand, long-term cooperation between the employment office and regional employers can create trust between the latter and the PES while employment incentives or supported employment can reduce the costs of uncertainty. Thus, if PES recommend a young applicant this can make up for missing signals and reduce uncertainties. Against this background, we assume that PES support might function as both a *signal amplifier* and a *substitute* for missing signals.

Previous research has shown that the mode of action of PES support is influenced by the functioning of the PES itself on local and on national level, e.g. by the type of labour market programmes and measures used (Martin and Grubb 2002; Card *et al.* 2010). Against this background, we argue that the institutional context in which the national PES operates influences whether and for whom the PES support functions as a signal amplifier, a substitute for missing signals or even as a stigma.

2.2. The moderating role of the educational system and labour market policies

According to the literature on *school-to-work transitions*, the most relevant contextual determinants for a smooth labour market transition are the educational system and labour market policies (Müller and Gangl 2003; Kogan *et al.* 2011). We now want to apply these insights to the relevance of PES support for low-qualified youth discussed above.

2.2.1. The educational system

A crucial element of the job-matching process is the uncertainty about whether the applicant fits the job or whether he or she needs further training. While educational certificates can reduce such uncertainty, the signalling capacity and reliability of these signals depend strongly on the institutional configuration of the educational system. S*tandardisation*, *stratification* and *vocational specificity* are known to increase young people's labour market chances (Allmendinger 1989; Shavit and Müller 2000; Bol and van de Werfhorst 2013; Brzinsky-Fay 2017). Standardised educational systems have central exams or uniform curricula, which lead to comparable and transparent certificates with more reliable signals of what the graduates have actually learned. The stratification of a country's educational system (*tracking)* is the number of different educational tracks within an educational trajectory and therefore the degree of differentiation (Allmendinger 1989; Bol and van de Werfhorst 2013). High degrees of standardisation and stratification lead to more specific and differentiated certificates and therefore to more reliable and precise signals, which makes the matching process between applicants and employer much easier. But what does this mean for the labour market chances of low-qualified youth?

In less standardised and stratified educational systems, the less productive and less suited applicants will be part of a group that cannot be further differentiated by their educational certificates. That means that the labour market chances of those with comparatively good skills and those with lesser skills are levelled. However, in highly stratified and standardised systems, this no longer holds true and those at the bottom of the educational hierarchy are in a bad position. Thus, PES support might help to improve their qualifications (*signal amplifier*) or, due to employment programmes and work training at specific local employers, to prove their value and productivity without formal signals (*signal substitute*). Thus, we expect a higher degree of standardisation and stratification of

the educational system to be associated with a higher relevance of PES support for low-qualified youth (*Hypothesis 1*).

Another important aspect affecting the signalling power of certificates is the vocational specificity of the educational system. This is the degree to which educational systems inculcate work-specific rather than general skills as well as the extent to which there are direct links between the educational system and employers (Gangl 2001; Eichhorst *et al.* 2012). A greater emphasis on work-specific skills and a closer link between schools and employers lead to stronger signalling power regarding the potential productivity of a given applicant (Wolbers 2003; Noelke *et al.* 2012), which can make the transition into the labour market much easier. These two factors are strongly influenced by the relevance of vocational education and training in secondary education in a country (Shavit and Müller 2000) as well as the importance of work-based learning in the educational system (Breen 2005).

However, it has been shown that not all young people profit to the same extent from higher vocational specificity (Lange *et al.* 2014). The stronger the signalling power of the certificates in relation to skill-specificity and work experience of upper-secondary and tertiary education, the more disadvantaged young people with only primary or lower-secondary certificates are (Grip and Wolbers 2006). This is because vocational education is mainly incorporated into upper (or post-) secondary education (Bol and van de Werfhorst 2013). Thus, low-qualified young people in countries with high vocational specificity need more help to increase the effectivity of their signals. Therefore, a higher vocational specificity of the educational system is expected to be associated with a higher relevance of PES support for low-qualified youth (*Hypothesis 2*).

2.2.2. Labour market policies

Labour market policies are another important factor for youth labour market integration, especially the level of expenditure on them and their career orientation. It can be assumed that the success of PES support depends greatly on the personnel and financial resources they are equipped with. Therefore, expenditure on labour market services (LMS) and active labour market policies (ALMP) are presumed to directly influence the PES's capacity (European Commission 2017a) and, thus, most probably the effectivity of PES support. High levels of expenditure on LMS and ALMP are seen to correspond with a higher quantity, diversity and quality of programmes and measures intended to increase employability and labour market chances (Russell and O'Connell 2001).

In addition, greater personnel capacities due to higher spending on LMS and therefore lower caseloads can also improve the performance of a PES (Hainmueller *et al.* 2016). As spending on ALMP seems to have a positive impact on the employment chances of those relatively disadvantaged in the labour market (Russell and O'Connell 2001), we expect this group to benefit most from higher 'investments' in PES. A higher level of expenditures for LMS as well as for ALMP can thus be associated with higher relevance of PES support for low-qualified youth (*Hypothesis 3*).

In addition to uncertainty, another crucial element influencing employers' recruitment decisions are the potential turnover costs of a mismatch. The most important labour market policy influencing these costs are the employment protection legislations (EPL). Extensive EPL, especially for regular contracts, is often associated with limited job opportunities for labour market entrants and therefore keeps the young out of the labour market (Lange *et al.* 2014; Gebel and Giesecke 2016). This can be explained by the higher costs of a mismatch: once a young applicant with few or less reliable signals is employed, extensive EPL will make it more difficult or costly to get rid of him or her again. Therefore, we assume that long-term cooperation between the PES and local employers can create trust and therefore reduce uncertainty. Furthermore, employment incentives or subsidised employment can reduce the costs of a mismatch. Thus, PES support will be of more relevance in highly regulated labour markets (*Hypothesis 4*).

3. Data and methods

For our empirical analysis, we use the 2016 EU-LFS ad-hoc module 'young people in the labour market', which is a comprehensive household survey that provides information on the labour market participation of young people aged 15–34 compiled from up to 31 national labour force surveys (Eurostat 2017). Compared to any other European survey, it has a far higher number of observations and detailed questions regarding youth labour market integration, which make it particularly well suited for analysing such a specific group as young people by different educational levels. Data is available for the EU-28 plus Norway, Switzerland and Iceland. Our sample is restricted to 15–24-year-olds or 15–29-year-olds for those who completed tertiary education (cf. Gebel and Giesecke 2016) so as not to exclude the majority of tertiary graduates.

Our dependent variable is the *employment status*. We distinguish between those who are in employment and those who are NEETs, i.e.

neither in employment nor received any education or training in the previous four weeks, which includes economically active and economically inactive young people (ILO 2015). This is due to the fact that PES try to reach all young people regardless of whether they are unemployed and actively looking for work or if they are inactive due to sickness, care work or because they are discouraged from not finding any work (Leaker 2009). Also the inactive young people might be willing to start to work if given the right possibility or support (Mosley *et al.* 2018). At the same time, we are aware that NEETs are a heterogeneous group that can vary greatly from country to country and that the NEET-category itself has been criticised by researchers (Maguire 2015; Mascherini and Ledermaier 2016; Holte 2018).

The key independent variable is *PES support,* which is measured by the question whether a person received any kind of support from PES during the last 12 months. Beside the narrow assistance in finding job vacancies, it also includes advices on how to apply for a job or on opportunities for training and education as well as giving a place on a work or training programme. Due to the limitations imposed by this variable, the sample only contains youth who are in employment for no more than 11 months in the previous year. The relevance of PES is therefore measured by the probability of finding a job during the past 12 months while receiving PES support during the same period. Other variables at the individual level are educational level, measured by the International Standard Classification of Education (ISCED) and distinguishing three levels of education: low (ISCED 0-2), medium (ISCED 3-4), and high (ISCED 5-6). Further individual level control variables that are known to influence the labour market outcome of youth (Russell and O'Connell 2001; cf. Shavit and Müller 2000), are gender, migration background, previous work experience and the duration since leaving school.

The following contextual variables are used to analyse the moderating role on PES support of institutions and policies. The degree of *stratification* of an educational system *(tracking)* is measured by an index containing three factors: (i) age at first selection, (ii) the percentage of the total curriculum that is tracked, and (iii) the number of tracks that are available to 15-year-olds. The degree of *standardisation* is dummy variable that indicates whether central examinations exist in a country's educational system. Both indicators are provided by Bol and van de Werfhorst (2013). *Work-based learning* is measured by the share of all 15–34-year-olds with work experience that is part of the curriculum during their

highest level of education, i.e. apprenticeship, mandatory traineeship or optional traineeship. Work experience outside the curriculum was excluded (Eurostat: [lfso_16feduc]). *Vocational enrolment* is measured by the share of 15–34-year-olds with upper-secondary or post-secondary vocational educational degrees among all graduates of the same age (Eurostat: [lfso_16workexp]). The difference between vocational enrolment and work-based learning is that the latter can take place without direct contact to employers e.g. in school-based vocational education and training systems, while apprenticeships, mandatory traineeships or optional traineeships as part of work-based learning usually include direct contact to employers. *Expenditure on LMS and ALMP* are measured as a percentage of GDP per percent unemployment (European Commission: [LMP_EXPSUMM$TPS00076]). Labour market services (LMS) refer to all publicly funded services for jobseekers, namely guidance, counselling and other forms of job-search assistance, while active labour market policies (ALMP) cover measures that aim at improving the employability of people by providing them with new skills or work experience or have the objective to motivate employers to create new jobs and to recruit jobseekers. *Employment protection legislation* for regular and temporary employees is taken from the OECD employment protection database. In addition, we control for GDP per capita in PPS as well as for the youth unemployment rate in order to consider both the different economic strengths as well as the different labour market situation across countries.

Due to the hierarchical structure of the data, the effect of PES support on the probability of finding a job and the moderating role of institutions and policies is assessed by two-level random intercept models. Despite the dichotomous nature of our dependent variable, we estimate linear probability models instead of logistic regression models, since the interpretation of the coefficients is more straightforward, especially in the case of cross-level interaction effects, which can be interpreted as percentage changes (Voßemer *et al.* 2018). Furthermore, the comparison of the coefficients of logistic regression models across groups and models is somewhat problematic – unless average marginal effects (AME) (Mood 2010) are calculated. However, since we are first and foremost interested in (cross-level) interaction effects, calculating AMEs does not provide statistical significance levels for the interaction terms (Biegert 2017). Due to the small-n problem on the second level, we estimate separate models for each macro-variable while controlling for GDP per capita and youth unemployment rate in each of those models.

4. Results

In the following presentation of our empirical results, we start with some descriptive findings and discuss the presence and relevance of PES across European countries. Subsequently, the results of various linear random intercept models are presented to shed light on the moderating effect of the educational system and labour market policies on the relevance of PES support.

4.1. Descriptive evidence

Figure 1 illustrates the general presence of PES in the life of young NEETs across countries measured by the rate of young NEETs receiving PES support and the proportion registered with the PES. The latter is an additional indicator for the potential reach of the PES since registration with a public employment office is typically a decisive precondition for receiving PES support (European Commission 2017b: 2). However, there seems to be no direct link between the registration rates and the support receipt rates, as in some countries the share of NEETs receiving PES support is higher than the registration rate. This might be due to differences across the systems of PES, since in some countries it is not necessary to be registered at the local employment office in order to

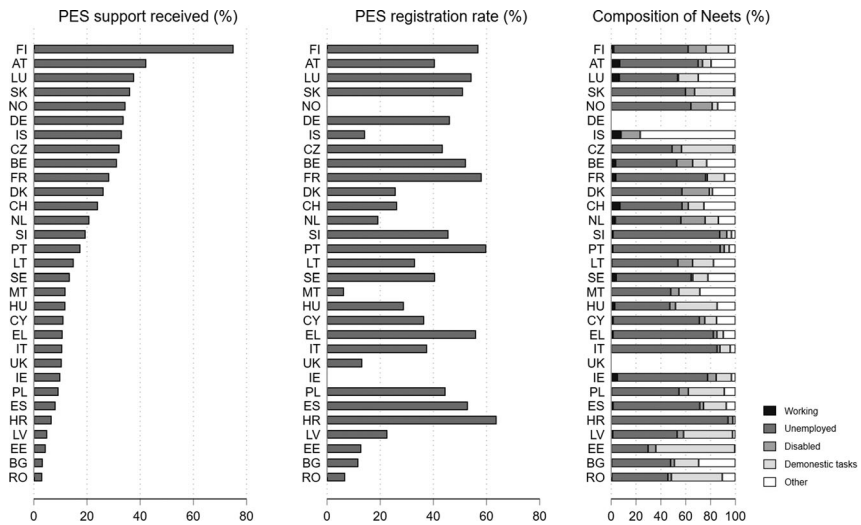

Figure 1. Young NEETs in Europe. Source: EU-LFS ahm 2016, own calculations.

Note: Proportion of young NEETs registered with PES in 2016, receiving support from PES during the last 12 months and their composition.

receive all types of PES support. Moreover, a clear pattern with regard to welfare regime typologies does not seem to exist. With a support receipt rate of 75% and a registration rate of 58%, Finland is the undisputed leader regarding the presence of PES in the life of young NEETs in Europe. The distance to the other countries – even the Scandinavian ones – is quite striking. Surprisingly, Denmark – the country with the highest expenditure on LMS and ALMP (cf. Table 1) – only provides 24% of young NEETs with PES support and has a registration rate of less than 30%.

Countries with the highest increases in youth unemployment during the crisis (e.g. EL, ES, IT, HR) are characterised by very low support receipt rates but quite high registration rates. Finally, PES seem to be

Table 1. List of macro-level variables.

	Tracking	Central Exam	Work-based learning (%)	Vocational enrolment (%)	Exp. LMS (%)	Exp. ALMP (%)	EPL reg	EPL temp
AT	1.817	0	46	37	0.030	0.099	2.12	2.17
BE	1.018	0	33	23	0.023	0.062	2.14	2.42
BG	−0.019	1	15	22	0.003	0.015		
CH	−0.138	0	49	29			1.50	1.38
CY		0	16	10	0.002	0.008		
CZ	1.621	1	59	48	0.024	0.060	2.87	2.13
DE	1.862	1[a]	46[b]	35	0.078	0.058	2.53	1.75
DK	−0.870	1	18	15	0.081	0.231	2.10	1.79
EE		1	26	22	0.018	0.016	1.74	3.04
EL	−0.474	0	9	15	0.000	0.008	2.07	2.92
ES	−1.020	0	12	11	0.007	0.020	1.95	3.17
FI	−0.870	1	71	32	0.012	0.091	2.38	1.88
FR	−0.474	1	67	26	0.024	0.064	2.60	3.75
HR			18	50	0.004	0.023	2.32	2.88
HU	1.421	1	50	31	0.010	0.121	1.45	2.00
IE	−0.302	1	13	10	0.005	0.048	1.50	1.21
IS	−0.805	1	17	5			2.04	1.29
IT	0.166	1	18	30	0.003	0.035	2.55	2.71
LT		1	35	14	0.006	0.027	2.23	3.33
LU	0.700	1	43	1	0.010	0.078	2.28	3.83
LV	−0.576	1	25	20	0.004	0.011	2.57	1.79
MT		1	23	14	0.028	0.019		
NL	0.937	1	53	27	0.035	0.075	2.84	1.17
NO	−1.043	1	15	13	0.029	0.086	2.23	3.42
PL	−0.083	1	30	34	0.010	0.051	2.20	2.33
PT	−0.327	0	13	14	0.004	0.038	3.01	2.33
RO		1	6	38	0.008	0.003		
SE	−0.870	0	38	21	0.029	0.136	2.52	1.17
SI	0.117	1	28	37	0.009	0.017	1.99	2.13
SK	1.621	1	43	33	0.003	0.014	1.81	2.42
UK	−1.043	1	20	20	0.059	0.014	1.18	0.54

Source: Eurostat, OECD, Bol and van de Werfhorst (2013).

[a]Actually, Germany has a value of 0.44, but since this indicator is used as a binary variable, we decided to recode it to 1.

[b]Since the value for Germany is currently missing, we have adopted the one from Austria, since both educational systems are quite similar.

less present in the Balkans and in the Baltic countries (Lithuania is an exception) with a support receipt rate of less than 5% and registration rates between 8% and 22%. In sum, with the exception of Finland, PES are not very present in the life of young NEETs across Europe when it comes to the general number of recipients of support and registrations. However, these indicators do not tell us anything about the actual effect of PES support on finding a job.

Figure 1 also shows the composition of young NEETs on the ground of each person's self-perception regarding his or her activity status and is therefore an alternative to the official ILO definition of NEET. We can tell that the share of NEETs assessing themselves as unemployed is very high especially in the crisis countries (IT, EL, ES, CY, PT, IE). Especially in Finland, Denmark, Norway and the Netherlands the shares of disabled young NEETs are comparatively high. One reason might be – as it is in Norway – that many people who are theoretically able and willing to work are categorised as disabled by the welfare state and receive disability benefits. It can be spoken of a medicalisation of labour market problems in this context (Duell *et al.* 2009: 20). In the central and eastern European countries as well as the Baltic countries, the proportion of NEETs performing domestic tasks is comparatively high. We assume that these are mainly young women, because on the one hand the mean age of mothers at first birth is still lower here than in Southern and Western Europe (Schmidt *et al.* 2012: 33; Frejka and Gietel-Basten 2016: 54) and on the other hand in most of these countries familialistic policies dominate that encourage parents or at least the primary care givers to stay at home with their young children (Szelewa and Polakowski 2008: 128).

4.2. Multilevel findings

The following analyses show the effect of PES support on the probability of finding a job during the past 12 months for different educational groups. Starting with Models 1 a–d presented in Table 2, we find an overall negative correlation between PES support and finding a job. However, this negative selection effect is weakest for low-qualified youth (−0.057) and becomes greater with increasing educational levels (Medium: −0.063, High: −0.083). Therefore, PES support seems to be more effective for low-qualified youth. The general negative effect of PES support on the job search outcome is usually explained by a selection bias: disadvantaged labour market groups are more likely to claim the support of PES as they cannot rely on personal networks while the jobs

Table 2. The effect of PES support on employment by educational level.

Education level	Model 1a Total	Model 2a Total	Model 1b Low	Model 2b Low	Model 1c Medium	Model 2c Medium	Model 1d High	Model 2d High
Micro-variables								
PES support	−0.08*** (0.01)	−0.13*** (0.03)	−0.06*** (0.01)	−0.11* (0.04)	−0.06*** (0.01)	−0.18*** (0.05)	−0.08*** (0.01)	−0.14** (0.06)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country interaction effects (Ref.: AT)								
PES support * BE		0.00 (0.05)		0.09 (0.09)		0.03 (0.08)		−0.04 (0.08)
PES support * BG		0.22** (0.08)		0.46** (0.16)		0.31** (0.12)		−0.05 (0.16)
PES support * CH		0.04 (0.06)		0.14 (0.15)		0.13 (0.09)		−0.16 (0.14)
PES support * CY		0.13 (0.07)		0.62 (0.41)		0.17 (0.12)		0.13 (0.09)
PES support * CZ		0.01 (0.04)		0.07 (0.08)		0.01 (0.07)		0.05 (0.10)
PES support * DE		−0.05 (0.05)		−0.13 (0.07)		−0.00 (0.08)		−0.03 (0.10)
PES support * DK		−0.19*** (0.04)		−0.29*** (0.08)		−0.14 (0.10)		−0.05 (0.07)
PES support * EE		0.08 (0.10)		−0.06 (0.17)		0.05 (0.16)		0.40* (0.19)
PES support * EL		0.16*** (0.04)		0.04 (0.12)		0.26*** (0.07)		0.15* (0.07)
PES support * ES		0.04 (0.04)		−0.01 (0.06)		0.17 (0.09)		0.05 (0.07)
PES support * FI		0.11** (0.04)		0.26*** (0.07)		0.06 (0.06)		0.18* (0.08)
PES support * FR		−0.00 (0.03)		−0.01 (0.06)		0.08 (0.06)		−0.03 (0.07)
PES support * HR		0.14 (0.11)		0.61* (0.30)		−0.01 (0.18)		0.14 (0.16)
PES support * HU		0.32*** (0.04)		0.43*** (0.06)		0.29*** (0.06)		0.26** (0.10)
PES support * IE		−0.19*** (0.06)		−0.10 (0.12)		−0.14 (0.08)		−0.26* (0.12)
PES support * IS		−0.13 (0.14)		−0.39* (0.16)		0.31 (0.45)		0.26 (0.27)
PES support * IT		0.18*** (0.03)		0.16** (0.06)		0.24*** (0.05)		0.20** (0.07)
PES support * LT		0.16* (0.06)		0.10 (0.14)		0.36*** (0.10)		0.02 (0.11)
PES support * LU		−0.06 (0.08)		−0.18 (0.14)		0.17 (0.14)		−0.07 (0.14)
PES support * LV		0.10 (0.14)		0.22 (0.19)		0.10 (0.32)		−0.14 (0.26)
PES support * MT		−0.40** (0.14)		−0.29 (0.21)		−0.34 (0.21)		−0.83 (0.44)
PES support * NL		0.00 (0.04)		−0.08 (0.06)		0.14* (0.06)		0.08 (0.07)
PES support * NO		−0.30*** (0.06)		−0.44*** (0.08)		−0.18 (0.12)		−0.14 (0.14)
PES support * PL		0.18*** (0.04)		0.44*** (0.13)		0.22*** (0.06)		0.16* (0.07)
PES support * PT		0.10* (0.05)		0.02 (0.08)		0.16* (0.08)		0.13 (0.08)

(*Continued*)

Table 2. Continued.

Education level	Model 1a Total	Model 2a Total	Model 1b Low	Model 2b Low	Model 1c Medium	Model 2c Medium	Model 1d High	Model 2d High
PES support * RO		−0.09 (0.08)		−0.17 (0.29)		0.00 (0.11)		−0.14 (0.15)
PES support * SE		0.07 (0.05)		0.18 (0.11)		0.09 (0.07)		0.10 (0.09)
PES support * SI		−0.02 (0.06)		−0.01 (0.15)		0.01 (0.10)		0.00 (0.11)
PES support * SK		0.05 (0.04)		0.24* (0.09)		0.04 (0.07)		0.02 (0.09)
PES support * UK		0.01 (0.04)		−0.02 (0.07)		0.09 (0.07)		0.02 (0.08)
Constant	0.83*** (0.01)	0.84*** (0.02)	0.74*** (0.02)	0.76*** (0.03)	0.73*** (0.02)	0.76*** (0.02)	0.84*** (0.02)	0.85*** (0.03)
N	36,813	36,813	10,151	10,151	15,564	15,564	11,098	11,098

Source: EU-LFS ahm 2016, own calculations. Standard errors in parentheses. Legend: $+p < 0.10$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

offered at the PES are less attractive for highly qualified workers. Thus, our results are in line with previous findings (Weber and Mahringer 2008).

Since both registration rates and support receipt rates vary across countries, we want to know how much PES support affects the probability of finding a job in each country. For this purpose, we include country interaction effects in Models 2 a–d which show how the effect of PES support varies in each country compared to Austria.[1] First, most of the countries are not significantly different from Austria in regard to the effect of PES support. Countries in which PES perform better compared to Austria, especially for low-qualified youth, are Bulgaria, Finland, Hungary, Croatia, Italy, Poland and Slovakia, i.e. mainly Eastern European countries. Another interesting finding are the differences between the Scandinavian countries. While the PES in Finland do perform better compared to Austria and those in Sweden do not differ significantly, PES in Denmark, Iceland and Norway show rather strong negative correlations – at least for the low-qualified. Table 1 shows that the most obvious differences between these countries are the shares of work-based learning, vocational enrolment and employment protection. This gives us a first impression of the possible impact of educational and labour market institutions. To pursue this first indication in more detail, we are going to analyse how these differences might moderate the relevance of PES support.

Table 3 reports the cross-level interaction effects between different indicators relating to the educational system and the relevance of PES support. Starting with Models 3 a–d, we find a significant positive interaction effect for the degree of stratification (*tracking*) for the total sample (0.021) and an even higher effect for the low-qualified (0.052). Therefore, the probability of finding a job for low-qualified youth while receiving PES support increases by 5 percentage points with every additional point on the tracking index. A similar picture can be drawn for standardised educational systems reported in models 4 a–d. Again, centralised examinations are only positively correlated with PES support in case of low-qualified youth. Thus, the positive cross-level interactions suggest that PES support is more relevant and of higher effectiveness for low-qualified youth in highly stratified and standardised educational systems with more specific and comparable certificates. Our first hypothesis can therefore be confirmed.

[1]Austria has been selected because it has the highest support receipt rate apart from the outlier Finland.

Table 3. Cross-level interactions for educational system and PES support on employment.

Model	Educational system	PES support on employment			
		Total	Low	Medium	High
3 a–d	PES support	−0.078*** (0.007)	−0.068*** (0.013)	−0.062*** (0.011)	−0.084*** (0.013)
	Tracking	−0.029 (0.020)	−0.055+ (0.028)	−0.017 (0.019)	−0.015 (0.018)
	PES support * Tracking	0.021** (0.007)	0.052*** (0.012)	−0.004 (0.011)	0.001 (0.013)
4 a–d	PES support	−0.084*** (0.013)	−0.105*** (0.024)	−0.081*** (0.021)	−0.081*** (0.021)
	Central examinations	−0.078+ (0.041)	−0.156** (0.056)	−0.053 (0.042)	−0.092* (0.038)
	PES support * Central Examinations	0.012 (0.015)	0.065* (0.029)	0.025 (0.025)	−0.003 (0.026)
5 a–d	PES support	−0.078*** (0.007)	−0.080*** (0.013)	−0.056*** (0.011)	−0.082*** (0.013)
	Work-based learning	0.001 (0.001)	−0.001 (0.001)	0.002+ (0.001)	0.001 (0.001)
	PES support * Work-based Learning	0.000 (0.000)	0.003*** (0.001)	−0.001+ (0.001)	−0.000 (0.001)
6 a–d	PES support	−0.083*** (0.007)	−0.079*** (0.013)	−0.058*** (0.011)	−0.084*** (0.012)
	Vocation enrolment	−0.001 (0.002)	−0.004 (0.002)	0.000 (0.002)	−0.001 (0.002)
	PES support * Vocational Enrolment	0.003*** (0.001)	0.009*** (0.001)	−0.001 (0.001)	0.002 (0.001)

Source: EU-LFS ahm 2016, own calculations. Controlled for all micro-variables from Model 1 a–d, GDP and youth unemployment rate. Standard errors in parentheses. Legend: $+p < 0.10$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

With respect to vocational specificity, the results of Model 3 a–d presented in Table 3 suggest that more work-based learning as part of the curricula moderate the relevance of PES, but only in the case of the low-qualified. However, the effect size of 0.003 is rather small. An increase in work-based learning of one percentage point therefore increases the probability of finding a job via PES support by 0.3 percentage points. The degree of vocational enrolment points into a similar direction with a significant positive cross-level interaction effect of 0.009. The relevance of PES support for low-qualified youth seems thus to be more pronounced in countries with higher vocational specificity, which is in line with hypothesis 2.

Models 7 a–d and Models 8 a–d in Table 4 show the cross-level interaction effects of LMS and ALMP expenditure as a proxy for the personnel and financial capacities of PES. At first sight, these results seem quite counterintuitive since we expected higher expenditure on LMS and ALMP to be positively correlated with PES support. In contrast, the cross-level interaction effect of LMS expenditure is negative for all educational groups. In the case of ALMP expenditure, the effect on low-qualified youth is not significant at all. We must therefore reject hypothesis 3. However, these results seem in line with previous meta-analyses on the effect of ALMP measures on youth which show that 'programs targeting youths are significantly less likely to be effective' (Kluve 2010: 915). Compared to other age groups, the impact of ALMPs on youth is significantly smaller or even negative (Card *et al.* 2010; Taru 2016). Moreover, we have looked at the overall ALMP expenditure only and we have no information on the share of ALMP expenditures dedicated explicitly to young people. Another aspect is that we are focusing on the group of young NEETs, who might be very hard to reach especially when they are economically inactive and not looking for a job. The varying composition of the NEET group in the different countries might contribute to our results (see Figure 1). The share of NEETs assessing themselves as unemployed is very high especially in the crisis countries. At the same time, the aforementioned countries tend to spend rather small shares of their GDP on ALMPs. On the other hand, in countries that spend a high share of their GDP which means more than 0.05% per percent of unemployment (e.g. DK, SE, AT, FI, HU, LU, NO) the NEETs are composed differently. One reason is that in countries with a good economy young people who are actively looking for a job have better chances to find work.

Regarding the regulation of labour markets, Models 9 a–d show that EPL for regular contracts does have an impact on the effect of PES support with a coefficient of −0.036 for the total sample and −0.136 for the low-qualified.

Table 4. Cross-level interactions for labour market policies and PES support on employment.

Model	Labour market policies	PES support on employment			
		Total	Low	Medium	High
7 a–d	PES support	−0.065*** (0.007)	−0.029* (0.013)	−0.062*** (0.011)	−0.075*** (0.012)
	Exp LMS	2.896** (0.907)	3.592** (1.365)	2.471** (0.950)	2.349* (0.958)
	PES support * Exp LMS	−3.486*** (0.314)	−5.174*** (0.561)	−2.929*** (0.549)	−2.079*** (0.536)
8 a–d	PES support	−0.068*** (0.007)	−0.056*** (0.013)	−0.059*** (0.011)	−0.076*** (0.013)
	Exp ALMP	0.975** (0.376)	1.384** (0.523)	0.832* (0.393)	0.694+ (0.401)
	PES support * Exp ALMP	−0.559*** (0.142)	0.026 (0.275)	−0.528* (0.259)	−0.464* (0.222)
9 a–d	PES support	−0.072*** (0.007)	−0.049*** (0.013)	−0.062*** (0.011)	−0.085*** (0.013)
	EPL regular	0.061+ (0.032)	0.107* (0.050)	0.038 (0.030)	0.038 (0.033)
	PES support * EPL regular	−0.036* (0.014)	−0.136*** (0.025)	−0.009 (0.022)	0.039 (0.029)
10 a–d	PES support	−0.075*** (0.007)	−0.057*** (0.013)	−0.062*** (0.011)	−0.081*** (0.013)
	EPL temporary	−0.032+ (0.019)	−0.049+ (0.03)	−0.027 (0.018)	−0.019 (0.020)
	PES support * EPL temporary	0.010 (0.008)	−0.015 (0.015)	0.022+ (0.013)	−0.003 (0.015)

Source: EU-LFS ahm 2016, own calculations. Controlled for all micro-variables from Model 1, GDP and youth unemployment rate. Standard errors in parentheses. Legend: $+p < 0.10$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

Thus, our results suggest that the higher the level of labour market regulation, the less relevant is PES support for finding a job. In contrast, the EPL for temporary contracts, as shown by Model 10 a–d, does not seem to play a role in moderating the effect of PES support. These findings contrast with our expectations that stronger labour market regulation will lead to a higher relevance of PES – especially for the low-qualified.

5. Discussion

This article investigated the relevance of PES support on the labour market integration of low-qualified young people and the role of the educational system and labour market policies from a comparative perspective. In doing so, it complements previous research on job-search strategies as well as on youth labour market transitions. Based on the EU-LFS ad-hoc module, we could show that the presence of PES support in the life of young NEETs is quite low across Europe. Even if in most countries more than 40% of young NEETs are registered with PES, only very few receive support. Especially noticeable is that the countries that typically emphasise active labour market policies are often not even able to reach a third of young NEETs (e.g. the Netherlands or Denmark). In countries most hit by the crisis, PES still do not seem to be a potential actor for tackling youth unemployment. In the Southern European countries, the PES were weak actors already before the economic downturn, most of all because they are structurally underfinanced and -developed. They play only a minor role coping with youth unemployment as the possibilities to receive unemployment benefits for young people are very limited in these countries (Dingeldey *et al.* 2019).

Young people do not seem to be attracted enough by the offers and services of the PES in most of the European countries. One answer could be the emphasis on the active outreach of the PES towards the young NEETs via schools, social media, events, one-stop-shops or via mobile PES services for example as some European PES already started (European Network of PES 2015). In the case of sick young people and young people with care responsibilities, the support of the PES might be more attractive for them if it includes not only direct job-search, but also support for long-term labour market integration comprising training or the cooperation with health care services. But PES cannot solve the employment obstacles of the NEETs alone. In order to reach the economically inactive young NEETs, family policies like public childcare and the assessment of the work ability of young people may play an important role, too.

Our results showed that the relevance of PES is in general higher for low-qualified youth compared to other educational groups. This strengthens the idea that PES are important actors for tackling labour market inequalities. In line with the school-to work transitions literature, the effect of PES support varies strongly between countries according to their different institutional contexts. These country differences can be partly explained by different educational and labour market institutions: PES seem to be highly relevant for low-qualified youth in countries with highly standardised and stratified educational systems as well as in countries with strong vocational specificity. The results could be explained by the more disadvantaged labour market position of the low-qualified in such educational systems, as the higher differentiation, comparability and specificity of certificates leave less room for uncertainty and therefore fewer opportunities for the low-qualified to prove themselves to employers. Here our results can add to the existing literature as they specify the assumptions of the signalling theory for the situation of low-qualified young people and provide the ap-propriate empirical evidence. PES support might compensate missing signals and provide (low-qualified) young jobseekers with additional and more specific qualifications tailored to the needs of local employers and might be closing the employment-gap between low and medium/highly-qualified young adults in this way. Our article shows once again that looking at the work of public employment services through the lens of the signalling theory is a reasonable approach. It strengthens the assumption that PES can work as both a signal amplifier and a substitute for missing signals for low-qualified young people.

In countries with lower employment protection for regular contracts, PES support seems to be more effective in integrating low-qualified youth. This could be due to the lower turnover costs in case of a mismatch which could increase the willingness of employers to give low-qualified youth, coming from the PES, a chance to prove themselves. However, the regulation of temporary contracts does not seem to have an effect at all. In contrast to our assumptions but in line with previous meta-analyses (Card *et al*. 2010; Taru 2016), we found that PES support for young people is even less effective in countries with higher expenditure on LMS and ALMP. This could be explained by the fact that this is a strongly aggregated indicator. In other words, expenditure on LMS and ALMP are not further differentiated either for different age groups or the individual measures. This could lead to the erroneous conclusion that high general expenditures would also benefit young people to the same extent. Moreover, the composition of the NEETs in countries with high expenditures

for ALMP is characterised by a higher share of economically inactive people involved in domestic tasks or who categorise themselves as disabled. In these countries the group of NEETs might be harder to reach with measures of ALMP.

In sum, this study illustrates that countries with highly stratified, standardised and vocational-specific educational systems have good reasons to strengthen PES to support the most disadvantaged groups and to combat labour market inequalities. It has been shown that the positive effect of PES support can make up for the poor labour market position of low-qualified youth. Against this background, Finland might be a leading example with its long tradition of youth-specific labour market policies like the Youth Guarantee (Hummeluhr 1997; European Commission 2017c). Low-threshold interventions, a more informal environment at the PES and reduction of bureaucratic hurdles could raise the relevance of PES for (low-qualified) youth across Europe as well as increasing the incentives for young people to seek PES support by the provision of unemployment benefits for young people (Ludwig-Mayerhofer *et al.* 2014; Dingeldey *et al.* 2017; Santos-Brien 2018).

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