

Why targeting matters: The apprenticeship program for youth in the Czech Republic

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Abstract

In this paper, we analyze the targeting and outcomes of the apprenticeship program implemented under the Youth Guarantee/YG scheme in the Czech Republic. We examine the outcomes and targeting using counterfactual impact evaluation (quasi-experimental design) of the apprenticeship program on the basis of administrative data from the Czech Employment Office. The implementation strategy is analyzed using various policy documents. The findings indicate that the program is apparently targeted at those groups of young people who are less disadvantaged as regards education level and previous unemployment experience. At the same time, paradoxically, the effects in terms of outflows from the unemployment register are weak for the short-term and medium-term unemployed, as well as for low-skilled and high-skilled youth, and stronger effects are evident in the case of long-term unemployed and medium-skilled youth. The failures in targeting and in adjusting the program to the needs of more vulnerable groups of youth are due to an inconsistent implementation strategy of Czech Public Employment Services.

KEYWORDS

active labor market policies, apprenticeship program

1 | INTRODUCTION

The 2008 financial crisis significantly weakened the prospects of young people in the labour market in most European countries (Bell & Blanchflower, 2011; Grotti, O'Reilly, & Russell, 2018; Hvinden et al., 2019; O'Higgins, 2012; Scarpetta, Sonnet, & Manfredi, 2010). The depth of their disadvantage as well as the already visible and expected

negative societal, economic and political consequences of young people's labour market insecurity provoked an EU-level policy response. In particular, the Youth Guarantee/YG program was recommended by the Council (2013) "to ensure that all young people under the age of 25 years receive a good-quality offer of employment, continued education, an apprenticeship or a traineeship within a period of 4 months of becoming unemployed or leaving formal education."

Some earlier methodologically rigorous evaluation studies found mixed or ambivalent effects of active labour market policies (ALMPs) on youth unemployment (Bell & Blanchflower, 2011; Heckman, LaLonde, & Smith, 1999; Calmfors, Forslund & Hermström, 2002) and more recent studies reported similar findings (Caliendo & Schmidl, 2016; Card, Kluve, & Weber, 2015; Eichhorst & Rinne, 2016; Kluve, 2014; Maibom, Rosholm, & Svarer, 2014). Explanations of these ambivalent and inconsistent findings mainly refer to the heterogeneity of the programs and program participants as well as to different methodological study designs. Empirical evidence exists that ALMP programs have different effects for different groups of job seekers. In particular, some individuals – such as potential and actual long-term unemployed – seem to gain from the programs, while others – who generally find jobs easily – may be harmed by them due to a negative signalling effect (employers associate participation in the program with unobservable negative qualities of the unemployed) combined with inadequate human capital and imperfect job matching (e.g., Gerfin, Lechner, & Steiger, 2005). Program distribution, that is targeting the beneficiaries, seems to be an important factor of programs' effectiveness. Eichhorst & Rinne (2016) summarized various studies and point out that thanks to proper targeting, particularly in recessions, the effects of ALMP participation may be more positive. Kluve et al. (2019), quantitatively and systematically reviewed 113 rigorous impact studies of youth employment programs across the world. They explain that the profiling of beneficiaries, that is collection of information about them allowing to direct them to the services that best fit their constraints, contributes to the success of a program.

Contrafactual impact evaluations of the targeting and effectiveness of the programs implemented under YG are scarce (e.g., Bratti et al., 2018, Hämäläinen, Hämäläinen, & Tuomala, 2014). The available studies indicate positive but statistically insignificant effects of vocational training on labour market outcomes of youth in Latvia and positive effects of the YG program in Finland for youth with higher secondary education but no effects for the more vulnerable youth. The explanation is that the latter group was a policy target even before the implementation of YG.

With an 'activation turn' that came during the 1990s (Bonoli, 2012) the importance of targeting, that is allocating the specific unemployed into the programs,¹ even increased. First, target groups previously omitted from ALMP because of their weak link to the labour market, with young people among them, became the subject of activation measures, and much more emphasis was put on integrating individuals with multiple disadvantages into the labour market. Second, activation measures presuppose a more individual approach at the front-line level and decentralization of implementation (e.g., Lødemel & Moreira, 2014; van Berkel & Valkenburg, 2007).

Hence, the European Council integrated guidelines for economic and employment policies (Council, 2010) and recommended targeting those furthest from the labour market and providing support to young people, especially those not in employment or education (NEETs) – see Annex, Guidelines 7 and 8. As stated in European Commission (2016), in order to avoid deadweight losses as much as possible, ALMPs should best be targeted at those most detached from the labour market, that is, mainly the long-term unemployed. With a direct reference to wage subsidies for apprenticeships, the Council (2013) emphasized targeting at those furthest from the labour market.

Proper targeting of programs towards the most vulnerable is a complex issue, however. It cannot be achieved simply by pushing the most disadvantaged into programs that are not well designed to improve their employability. For example, Caliendo and Schmidl (2016:17) conclude that, when addressing youth, ALMPs face the challenge of having to '*devise activation schemes that benefit youth with very low skills and motivation and/or socially disadvantaged background*'.

On the other hand, although there is some knowledge about the employment effects of wage subsidies for young unemployed people (typical for apprenticeship schemes), the role that targeting of these measures plays in producing these effects has not been thoroughly investigated.

In this paper, we assess the most popular and most generously supported job creation measure (wage subsidy) for youth in the Czech Republic, the 'youth apprenticeship program', as it is called in the Czech Republic (Odborné praxe pro mladé)² that was implemented under YG in the Czech Republic in 2013–2015. We explore the issue of

targeting and we assess the impact of targeting on the employment effects of the scheme. We distinguish between the effects of the subsidies depending on the level of skills, duration of unemployment and age of the target sub-groups of youth. In a more general perspective, this study examines the heterogeneous effects of job subsidies for different groups of young unemployed people and helps explain how targeting job subsidies at vulnerable groups of youth affects the overall impact of the measure.

In the following section, we discuss assumptions and findings on the impact of wage subsidies on young people's unemployment and the role of targeting wage subsidies. After providing information on methodology we analyze the implementation strategy of the apprenticeship schemes under YG in the Czech Republic. Then we examine the targeting of the Czech apprenticeship scheme at young people and assess the outcomes of the apprenticeship scheme for different sub-groups of young people. In the final section, we summarize our conclusions and discuss policy implications.

2 | ASSUMPTIONS AND EVIDENCE ON TARGETED WAGE SUBSIDIES

2.1 | The effects of wage subsidies on youth unemployment

Wage subsidies for the youth are justified by the following rationale: if the lack of job-specific experience (job-experience trap) is a key barrier to initial labour market entry for youth, the provision of wage or hiring subsidies to employers may be an effective tool. This is because:

- 1 of the closeness of this measure to regular employment and due to the 'learning by doing' effect leading to the 'transition/springboard effect' (e.g., Brown, 2015). In addition, not only do the youth gain more experience, but the firms are better able to observe their abilities (Caliendo & Schmidl, 2016) – the 'screening effect' (Brown, 2015);
- 2 take-up of real employment is a signal of youth employability, which diminishes stigmatization of disadvantaged and long-term unemployed youth (Caliendo & Schmidl, 2016);
- 3 the youth avoid the detrimental ('scarring') effects of long-term unemployment on their lifetime earnings and upward mobility (e.g., Caliendo & Schmidl, 2016; Hvinden et al., 2019).

However, available studies raise doubts about the effectiveness of ALMPs for youth, including wage subsidies (Bell, Blundell, & Van Reenen, 1999; Boockmann, Zwick, Ammermüller, & Maier, 2012; Bücher, 2010; Calmfors, Forslund, & Hemström, 2002). There are concerns regarding the deadweight loss effects, substitution effects, displacement effects and wage effect. Moreover, the locking-in effect and stigmatization effect reduce the possible employment gains for the participants (see Scheme 1 for explanation of all the effects). Another risk arises when

SCHEME 1 Description of specific effects that influence employment outcomes of job subsidies

Deadweight loss effects	The jobs created would have been created anyway without the aid of ALMPs.
Substitution effect	Participants in the wage subsidy program crowd out other non-supported labour market participants in terms of access to jobs.
Displacement effect	ALMP reduces jobs in enterprises that do not benefit from the competitive advantage of job subsidies.
Wage effect	Wage subsidies push up the level of wages for the subsidized program participants and in consequence also for those in employment and labour demand declines.
Locking-in effect	The program participants do not search intensively for regular jobs.
Stigmatization effect	Unemployed people who are particularly disadvantaged are assigned to the program but employers are aware of it and avoid hiring them (e.g., Burtless, 1985).

participation in a program is required for benefit entitlements: churning emerges when people participate in a program in order to become eligible for unemployment benefits (e.g., Brown & Koettl, 2015).

Empirical studies of the effects of wage subsidies for youth on youth employment provide some support to the above theoretical assumptions. Based on an overview of earlier studies Martin and Grubb (2001) claim that wage subsidies are among the most promising programs for youth. Positive and significant effects of wage subsidies for youth were also reported by other more recent studies (Brown & Koettl, 2015; Caliendo, Künn & Schmidl, 2011; Pasquini, Centra, & Pellegrini, 2017; Sianesi, 2008). Eichhorst and Rinne (2016) found out that wage subsidies for youth had the strongest effects of all ALMP measures. Card, Kluve & Weber (2010) and Kluve (2010) undertook meta-analyses that showed heterogeneous effects of ALMP measures for youth but positive employment effects of wage subsidies at the same time. A British study on the effects of the apprenticeship scheme (What Works Centre for Local Economic Growth, 2015) assessed 27 studies in different countries, based on a contrafactual design, and found out that three out of five studies on employment effects documented positive effects (while two out of five studies showed mixed effects). Four studies that focused on unemployment effects documented that apprenticeships reduced subsequent unemployment.

2.2 | Arguments for targeting ALMP measures and targeting pitfalls

The arguments for targeting ALMP measures towards disadvantaged groups of the unemployed are mainly based on the grounds of efficiency (the economic view) and equity (the social view). In terms of efficiency, targeted measures are expected to be more effective, especially in the case of job creation measures in the private sector, because of their assumed role in minimizing the deadweight loss effects, substitution effects and displacement effects (e.g., Brown & Koettl, 2015; Calmfors et al., 2002; and Scheme 1). The competition effect also brings downward pressure on wages, which increases labour demand and decreases NAIRU³: this indicates a potential for total employment to increase (Calmfors et al., 2002; Layard, Nickell, & Jackman, 1991; Lindbeck & Snower, 1986). Such effects are mainly expected in high-unemployment countries and during recessions, when the scope for targeting increases and the task of maintaining labour force participation becomes more important (Fraser, 1999).

The arguments for targeted policies based on the grounds of equity recognize both the value of providing access to jobs to those who are in some way disadvantaged and the value of reducing social exclusion of vulnerable groups. Similarly, targeting the most vulnerable reduces the creaming off effect, that is, a selection bias that can exist in more generally accessible programs that try to attract the most employable participants (Nicaise et al., 1995). Participation in a program can lead to the enhancing, transition or springboard effects (Brown, 2015; Brown & Koettl, 2015). The signaling theory implies that participation in ALMP programs is a positive signal for employers in the case of weak participants, while it can be a negative signal in the case of stronger participants (Bonoli & Hinrichs, 2012; Pasquini et al., 2017).

There are, however, some negative effects of targeted ALMPs discussed. One associated risk is that the unemployed are not ready to participate in a program due to their inadequate skills, living situation or unfavourable position in the labour market. Targeted job subsidies may also have some negative substitution effects on the groups of unsubsidized unemployed individuals with similar vulnerability levels (Brown, 2015; Pasquini et al., 2017). A similar danger is seen in 'within group substitution' that is due to insufficient program capacity to accommodate a large target group of disadvantaged unemployed; this may result in creaming off those who are more job ready within the target group (Nicaise et al., 1995). This may easily be the case of the young unemployed, who are a large and heterogeneous group.

In addition, targeted measures can also cause stigmatization (e.g., Kluve, Lehmann, & Schmidt, 2008; Nicaise et al., 1995; Pasquini et al., 2017) when eligibility for support is associated with particularly disadvantaged groups that appear unattractive to employers. Besides, if ALMP measures are not close to 'normal' employment they do not improve participants' wellbeing (e.g., Strandh, 2001). Lastly, if only the long-term unemployed are targeted, there is a

danger that the unemployed wait to participate in programs (especially in the final months of program entitlement) instead of seeking work (Fraser, 1999); this may be understood as a parking/waiting effect prolonging the individual unemployment spells (e.g., Brodtkin, 2011).

While the studies are often sceptical regarding the effects of job subsidies for youth, they do discuss the role of targeting and other intervening factors. Immervoll & Scarpetta (2012) point to the contradictory effects of job subsidies for youth arguing at the same time that appropriate targeting can reduce deadweight and substitution costs. Kluge et al. (2019) show that the results of the programs for youth depend on the design and implementation factors as well as on the characteristics of the country and population of beneficiaries.

The use of profiling in targeting programs helped identify appropriate implementation strategies taking into account characteristics of the beneficiaries. Cronert (2019) points out that wage subsidies are not a homogenous measure regarding design and targeting: one crucial choice being if labour market outsiders or insiders are targeted. Caliendo & Schmidl (2016) summarized 37 studies on ALMP effectiveness and found out that wage subsidies for youth had either positive or insignificant effects. They add that none of the programs under study was targeted to benefit the most disadvantaged youth; one possible explanation is the failure of the measures to meet the needs of this target group. In a similar vein, Caliendo, Künn & Schmidl (2011) note that the targeting of measures for youth in Germany ignores low educated youth and criticize insufficient adjustment of the measures to the requirements of the target group. Similarly, Eichhorst & Rinne (2016:17) as well as Kluge et al. (2019) associate allocation of programs with the necessity to tailor the programs to the needs of target population.

Besides the difficulties to adjust programs to the needs of the target group, there are several obstacles and mechanisms in the implementation process that lead to failures in targeting active labour market policies (ALMPs) at the most vulnerable groups. In their seminal study, Nicaise et al. (1995) summarize the most important obstacles and pitfalls: creaming off is a very common cause of failures in targeting considering that unemployed people who are better equipped with human and social capital tend to enter ALMPs more frequently than those who are less equipped. Next, the most disadvantaged face considerable administrative and legal barriers, especially when Public Employment Services (PES) seeks to narrow the definition of unemployment and most programs are typically provided to registered job-seekers who meet the eligibility criteria. The selection criteria and procedures applied by employment agency officers contribute to this as well as they are typically based on the objective of outcome efficiency rather than on needs or risk assessment. Another reason why PES officers choose candidates who appear to be more employable is to make the employment agency look more credible to employers. Other reasons underlying the creaming off phenomenon are recruitment difficulties with the long-term unemployed and people with multiple problems (Nicaise et al., 1995).

Last but not the least, PES may distinguish between cooperative/compliant clients who deserve help and non-cooperative/non-compliant clients who do not deserve help. The latter group may then be given lower priority in the programs (e.g., Wright, 2013). This effect depends on the room for manoeuvring and discretion available to PES workers when applying general rules governing the targeting of measures. There may be several reasons for some clients' non-cooperative attitude. One of them is that, in many countries, young unemployed people are not eligible for any kind of benefit. Besides, in the case of young people, it is not easy to reach those who dropped out from the educational system and did not register as unemployed because they have low trust in the system. Gaining their confidence is very much dependent on the competence and adequacy of personnel resources (e.g., Sirovátka & Spies, 2018). The above pitfalls are particularly significant when employment agencies use simple performance indicators such as participants' placement/unemployment (Brown, 2015; Brown & Koettl, 2015; Nicaise et al., 1995).

Considering the above discussion, an investigation of targeting in relation to job subsidies offered under the apprenticeship program and examining the effects of job subsidies for different groups of young unemployed contributes to understanding how different subgroups of disadvantaged young unemployed benefit from job subsidies and how appropriate targeting of the program can improve the overall effects of the measures.

3 | DATA AND METHODS

In the following, we use information from various sources. The implementation strategy of the apprenticeship program in the Czech Republic was assessed on the basis of publicly available evaluation reports, aggregate data provided by the Ministry of Labour and Social Affairs, and data from internal monitoring reports provided by regional employment offices. The quantitative analysis of the apprenticeship program's targeting and impacts is based on jobseekers' individual administrative data records (from register of PES).

The quantitative study applied a specific research approach to determine the study population: our sample of unemployed persons was constructed as a combination of those already in the unemployment stock at the beginning of the monitored period (year 2014) and inflows to unemployment during the monitored period. The sample design allowed us to capture all jobseekers who could theoretically participate in the program in 2014. When assessing the targeting of the program we included all participants in the program during 2014, which is 4,830 cases. We chose a control group from a pool of about 321,000 young people aged 15–30 who did not participate in any ALMP measure in 2014. Because we had some missing data, we used multiple imputations and created five imputed datasets. In these five datasets for evaluation of the program impacts, 3,661 cases of the program participants were included on average in 2014, while an average control group size was 66,858 cases. This includes all strata of control cases paired to program participants that were weighted to adjust for different strata sizes.

Coarsened exact matching (CEM), which we used for our analysis, is a monotonic imbalance bounding method for data pre-processing (see Blackwell, Iacus, King, & Porro, 2009; Iacus, King, & Porro, 2011, 2012). CEM is a method for controlling for some of the confounding influence of pre-treatment control variables by reducing imbalance in covariates between treatment and control groups, thus improving the estimation of causal effects. The main idea of CEM is to temporarily coarsen each variable into meaningful groups, exactly matching these coarsened data, and then retain only the original (uncoarsened) values of the matched data (Blackwell et al., 2009).⁴ CEM works well with multiple imputation methods for missing data and can be easily implemented on large datasets with acceptable computational time (Iacus, King, & Porro et al., 2011). The main advantage of CEM over some other matching methods is that the groups are simultaneously balanced on all variables, allowing for easy estimation of effect heterogeneity on key dimensions of interest. This is a required trait because we are interested in the heterogeneity of the program effects on various groups according to educational level, age, etc.

We used the following variables for CEM: coarsened regions of the public employment office (three regions with different levels of unemployment); gender (male/female); age (in years); health status (good/health problems); educational level (primary/lower secondary/upper secondary/university); required class of work (ISCO) (managers and professionals/technicians/clerical workers/manual occupations in industry, services and agriculture); unemployment history (length of previous PES registrations in days); collapsed length of the current unemployment spell before entering the program in days (or a corresponding time point) and number of days worked in 3 years before start of the current unemployment spell. *L1* statistics is used to assess the overall imbalance of the matched sample and allows for comparing different matching solutions. We have chosen the final model that showed a rather high multivariate balance ($L1 = 0.338$) and a sufficient number of paired cases (matching results are available on request).

However, we are conscious of the fact that our CEM-based estimates include on average 3,661 matched participants, that is, 75.8% of the program participants in the given year. Thus, we wanted to find out whether we could reasonably expect to find similar results in unmatched cases. First, we checked whether there was a substantial difference between the matched and all program participants, because there is a risk that a specific group of participants is not matched or the most specific (i.e., difficult) cases are not matched. We found out that very short-term unemployed people and people aged 19–22 years were overrepresented in our matched sample. Otherwise, there were only minor differences between the structure of all participants and the sub-group of paired participants. Second, we compared the outcomes of the paired and unpaired program participants. We found out that the average difference in PES registration between the paired and unpaired cases was rather small (1.9 percentage points). Also, the program outcomes of the paired and non-paired participants were similar in most sub-groups. However, partial

(local) outcomes in some educational groups were affected by the selection of matched cases. Outcomes of paired participants with at most primary level of education were worse than outcomes of unpaired participants, and outcomes of paired participants with lower secondary educational level (ISCED 3) were better than outcomes of unpaired participants. In other words, this means that 'atypical cases' are more successful among low educated people but less successful among people with vocational training. Third, we also compared our CEM results with our analysis on the same data using propensity score matching (for partial average treatment effect). This comparison showed that the results of both methods were similar. We also performed a sensitivity analysis using the bounding approach for binary outcomes proposed by Rosenbaum (2002) to assess the effects at three time points: 150 days, 450 days and 750 days. We concluded that unobserved heterogeneity would have to be large (Γ greater than δ) to indicate that the effect of the program is overestimated, but Γ 3.7, 1.2 and 1.1 would be sufficient to indicate an underestimation of the program's effect (with slightly higher values for stratified outcomes).

We performed five separate matchings for five imputations and our result is the average effect of these five models. We examined the effects of the program on the presence in the PES register within 750 days⁵ following the beginning of the program, as information about employment or another labour market status of the participants and the control group after this 750-day period is not available. We only have information about what happened to the participants when they left the register (not about any later changes, except return to the register). The program participants outflowed to a subsidized job⁶ (74%) or a non-subsidized job (19.2%), withdrew for personal reasons including education (1.1%) or were excluded by the PES (sanctioned) because of non-compliance with the conditions (3.3%). Some left the register for an unknown reason (2%), and 0.5% stayed in the register beyond the 750 days. As for the control group, the respective figures were 9.1% in a subsidized job, 55.3% in a non-subsidized job, 7.9% left for personal reasons and education, 14.2% were sanctioned/excluded, 12.1% left for an unknown reason, and 1.5% stayed in the register beyond the 750 days. The share of those who were excluded⁷ and who left the register for unknown reasons is higher within the control group when compared with the program participants, while the share of those who left because of a job (subsidized and non-subsidized) is lower. This means that the outcomes for the participants, measured as their status in the register, probably understate the program effects compared to if the effects were to be measured as the participants' labour market status during the 750-day period.

4 | APPRENTICESHIP PROGRAM FOR YOUNG PEOPLE IN THE CZECH REPUBLIC

4.1 | Apprenticeship for young people up to 30 years: Key features

In response to the Council's recommendations, the Implementation Plan of YG was unveiled in the Czech Republic in September 2013, and implementation began in April 2014. The Czech YG strategy, however, concentrated on adjustment of existing measures rather than on searching for new ways and instruments (MPSV, 2014:7). The measure (subsidized jobs) already existed in some form and was available to young people/school graduates for them to get work experience.

There was no special focus on or special preference for specific sub-groups within the apprenticeship scheme or the YG measures, such as low-skilled individuals, dropouts, Roma, disabled people, women or other groups, although it is recognized that these groups are exposed to a high risk of unemployment and labour market exclusion. Rather, the Ministry of Labour and Social Affairs (MLSA) argued for the strategy of 'reversed targeting' at better prepared young jobseekers rather than at the most disadvantaged youth: 'The YG scheme is considered to be more effective in the case of young jobseekers who are prepared and motivated to enter into employment, internship, training or education' (MPSV, 2016:1).

In 2014, the 'apprenticeship scheme' provided wage subsidies for young people (for 6–12 months) and mentors (for up to 7 months), as well as identification and pre-selection of suitable candidates and retraining of candidates when the employer deemed it necessary. Wage subsidies were provided up to the level of 24 thousand CZK per

month (this level was similar to the net average wage in the country) and were much more generous than in any other job creation scheme (by nearly 70% higher). The most important innovative measure was mentorship, provided to about 30% of participants of the scheme. The project could also include individual, group and career counselling, vocational training (in some rare cases), and other support such as reimbursement of travel costs, costs of health screening before job placement and food during project activities (Hora, Horáková, & Sirovátka, 2018). This all means that participants in the 'apprenticeship scheme' for youth were provided with a generous wage subsidy and other support, not available in similar national measures that were previously provided.

The target group were young people up to 30 years old who had less than 2 years' work experience after the completion of their studies. In the initial phase of the project, young people registered as unemployed for more than 4 months were preferred (Employment Office Directive 11/2013).⁸ In a later phase (2014), the length of registration was no longer a criterion for participation in the project (Employment Office Directive 16/2014). This was a response to problems with finding suitable young people for the project, as indicated by some EOs (MPSV, 2016). There were no limits on the level of education of the young participants (Employment Office Directive 11/2013). Still, some documents (e.g., MPSV, 2014) recognize that the project should be targeted at young people referred to as 'hard-to-place' cases and the Employment Office should play a strong role in choosing young people in need for the project.

However, in practice, the managers of the Employment Office (in cooperation with EO frontline staff) created, in the first step, a broad list of potential candidates. Then, in the second step, the candidates were invited to individual or group informational meetings, with the purpose of shortlisting those candidates who were motivated and exhibited the prerequisites necessary to complete the program. Lastly, employers directly selected candidates from this shortlist (Employment Office Directive 11/2013 and 16/2014). Besides, employers could apply for wage subsidies/wage support for their own candidates or they could take a candidate recommended by the employment office. According to an evaluation report from one of the regions, out of 479 project participants, 87 entered the project via group information meetings and 392 were directly chosen via the employer (Employment Office, 2015). This indicates that employers became a principal agent in assigning the youth unemployed to wage subsidy/apprenticeship programs.⁹

Based on these findings we hypothesize that the generous support provided to the participants in the scheme could generate strong employment effects. On the other hand, these effects could be undermined due to the selection process of the participants, when considerable creaming-off took place in favour of the job ready candidates. For this reason, we focus our analysis both on the results of the selection process/targeting and on differences in outcomes between more or less job-ready participants (see below).

4.2 | Evidence on targeting the program

We compared the structure of the group of participants in the apprenticeship scheme with the overall structure of the unemployed in order to reveal to what extent the representation of specific groups of jobseekers in ALMP measures corresponded (or did not) to their representation in the unemployed group as a whole. This share is expressed in the form of an index – when the targeting index has a value in excess of 1, the group is overrepresented in the program and vice versa.

In 2014, more than 340,000 unemployed people under 30 years old registered, for at least 1 day, with the Employment Office. Nearly 68,000 of them were long-term unemployed (19.9%). The participants who entered the 'apprenticeship scheme' during 2014 represented a rather small fraction of the unemployed: 4,830 (1.4% of the total number of the young unemployed during a year and about 5% of their stock by the end of year). As regards the long-term young unemployed, there were 717 participants (1.1% of the registered long-term unemployed under 30 years, which is in fact also the share of their stock). This low share of participants implies that the Employment Office had a good opportunity to select specific groups of participants, for example, to target the apprenticeship scheme at the most vulnerable groups such as low-skilled and long-term unemployed people.

TABLE 1 Structure of the participants and targeting of the apprenticeship scheme for young people in 2014

	Unemployed total (under 30 years)			Long-term unemployed (under 30 years)		
	Unemployed (%)	Participants (%)	Targeting index	Unemployed (%)	Participants (%)	Targeting index
Gender						
Women	46.5	57.3	1.21	46.8	55.8	1.19
Men	53.5	42.7	0.80	53.2	44.2	0.83
Age						
15–18	3.9	1.2	0.31	3.7	0.3	0.08
19–22	33	43.9	1.33	25.8	32.2	1.25
23–26	34.7	42.5	1.22	34.4	44.8	1.30
27–30	28.3	12.4	0.44	36	22.7	0.63
Education						
Primary	26.5	5	0.19	39.3	9.6	0.24
Lower secondary	28.6	17.1	0.6	30.6	20.9	0.68
Upper secondary	32.1	45.2	1.41	24.2	47.8	1.98
Tertiary	12.8	32.7	2.55	6	21.6	3.60
Cumulative duration of previous unemployment						
Without previous unempl.	38.9	62.5	2.0	31.3	50.3	1.61
Short-term previous unempl. (up to 3 months)	10.4	9	0.87	8.1	8.6	1.1
Middle-term previous unempl. (3–12 months)	23.2	18.4	0.67	22.5	24.1	1.1
Long-term previous unempl. (12+ months)	27.4	10.1	0.37	38.1	16.9	0.44
Duration of current unemployment spell (before participation in the apprenticeship scheme)						
Less than 90 days	30.3	29.7	0.98			
91–365 days	50.0	56.7	1.13			
Over 365 days	29.7	14.6	0.74			
Total	100 (n = 340,293)	100 (n = 4,830)	x	n = 4,885	n = 717	x

Source: PES Database OK-práce, 2014.

TABLE 2 Proportions of presence in PES register 150, 450 and 750 days after start of the program

	150 days		450 days		750 days	
	Value	St. error	Value	St. error	Value	St. error
OPM30 all	0.138	0.0057	0.11	0.0052	0.07	0.0042
Control all	0.376	0.0019	0.14	0.0013	0.087	0.0011
Gender						
T men	0.145	0.0089	0.094	0.0074	0.072	0.0065
C men	0.386	0.0029	0.151	0.0021	0.102	0.0018
T women	0.133	0.0074	0.122	0.0071	0.068	0.0055
C women	0.368	0.0025	0.132	0.0017	0.076	0.0014
Age						
T 15–18 years	0.196	0.053	0.304	0.0614	0.129	0.0447
C 15–18 years	0.453	0.0152	0.178	0.0117	0.136	0.0104
T 19–22 years	0.139	0.0081	0.113	0.0074	0.073	0.0061
C 19–22 years	0.391	0.0027	0.132	0.0019	0.084	0.0015
T 23–26 years	0.133	0.0089	0.102	0.0079	0.065	0.0064
C 23–26 years	0.345	0.0029	0.135	0.0021	0.083	0.0017
T 27–30 years	0.15	0.0204	0.095	0.0168	0.062	0.0138
C 27–30 years	0.419	0.0067	0.21	0.0055	0.15	0.0049
Education						
T primary	0.247	0.0313	0.225	0.0304	0.111	0.0228
C primary	0.509	0.0090	0.248	0.0077	0.2	0.0072
T lower sec.	0.178	0.0144	0.12	0.0122	0.079	0.0101
C lower sec.	0.449	0.0043	0.191	0.0036	0.119	0.0029
T upper sec.	0.136	0.0085	0.107	0.0076	0.076	0.0066
C upper sec.	0.388	0.0028	0.129	0.0019	0.079	0.0015
T tertiary	0.098	0.0088	0.089	0.0085	0.05	0.0065
C tertiary	0.299	0.0031	0.113	0.0021	0.065	0.0017
Duration of current unemployment spell (before participation in the apprenticeship scheme)						
T less / 90 days	0.119	0.0096	0.138	0.0102	0.065	0.0073
C less / 90 days	0.352	0.0031	0.126	0.0021	0.083	0.0018
T 91–365 days	0.129	0.0074	0.097	0.0066	0.073	0.0058
C 91–365 days	0.34	0.0025	0.12	0.0017	0.082	0.0015
T 365+ days	0.224	0.0188	0.1	0.0135	0.071	0.0115
C 365+ days	0.591	0.0054	0.267	0.0049	0.121	0.0036
Cumulative duration of previous unemployment						
T no previous U	0.126	0.0064	0.097	0.0057	0.062	0.0047
C no previous U	0.363	0.0022	0.126	0.0015	0.074	0.0012
T 1–90 days	0.124	0.0199	0.137	0.0207	0.086	0.0169
C 1–90 days	0.331	0.0066	0.12	0.0046	0.098	0.0042
T 91–365 days	0.171	0.0172	0.137	0.0157	0.082	0.0126
C 91–365 days	0.406	0.0054	0.179	0.0042	0.116	0.0035

(Continues)

TABLE 2 (Continued)

	150 days		450 days		750 days	
	Value	St. error	Value	St. error	Value	St. error
T 365+ days	0.222	0.0266	0.177	0.0245	0.115	0.0204
C 365+ days	0.529	0.008	0.265	0.0071	0.183	0.0062

Source: PES Database OK-práce, 2014.

Actually, the data show that the apprenticeship scheme in 2014 was targeted rather at the groups of young people who are less disadvantaged in the labour market with respect to their age, education and previous unemployment experience (see Table 1). This finding is true both for the total of the unemployed young people and for the long-term unemployed. When looking at age, the program avoided the most vulnerable groups of the young: one is the group of teenagers between the ages of 15 and 18, among whom NEETs may also be expected. The second group is the 27–30-year-olds, where the experience of previous unemployment probably plays an increasingly negative role (scarring effect). The targeting indexes for these groups are below 0.5, while the age group of 19–26 years is targeted better. Similarly, the long-term unemployed are underrepresented (the targeting index is 0.74), while – surprisingly – the targeting index for those youth registered for less than 3 months amounts to nearly 1. Those registered for between 3 and 12 months are slightly overrepresented in this program (1.13).

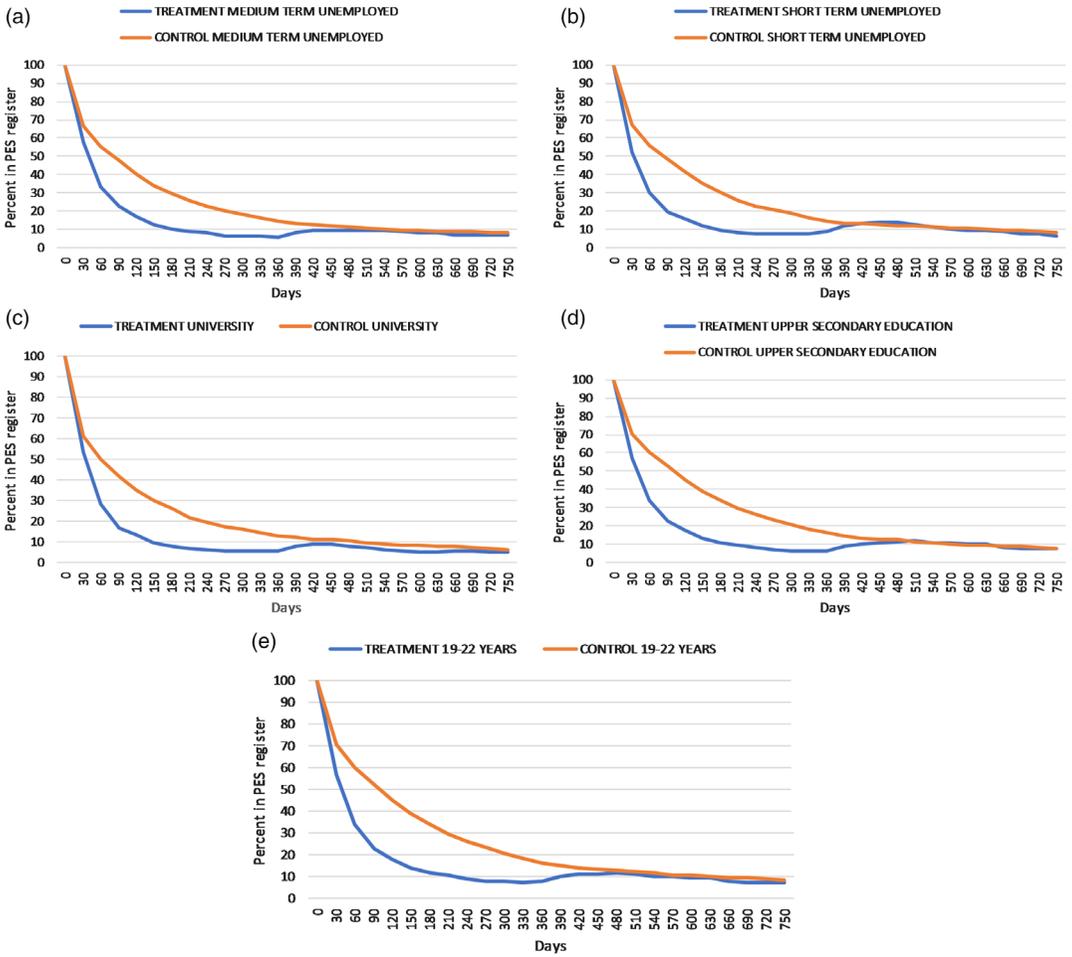
Educational level was most clearly associated with the creaming off effect. The program avoided the low-skilled: the targeting indexes for the group with primary education are only about 0.2, both in the case of those with previous cumulative unemployment experience lasting less than 12 months and in the case of those with previous unemployment experience lasting more than 12 months. As regards lower secondary education, the indexes are 0.6 and 0.7. The program was clearly focused on participants who were better educated. This is especially true in the case of long-term unemployed individuals: the targeting index for those with upper secondary education reaches nearly 2.0 and for those with tertiary education it comes to 3.6.

Lastly, young people without previous unemployment experience are well targeted (their targeting index is 2.0), while those with total cumulative unemployment spells with a duration of over 1 year/LTU (we consider this indicator the best measure of multiple disadvantage) are heavily underrepresented in the program. The targeting index is 0.37 among all unemployed individuals under 30 years and 0.44 among the young under 30 years whose unemployment spell was longer than 12 months.

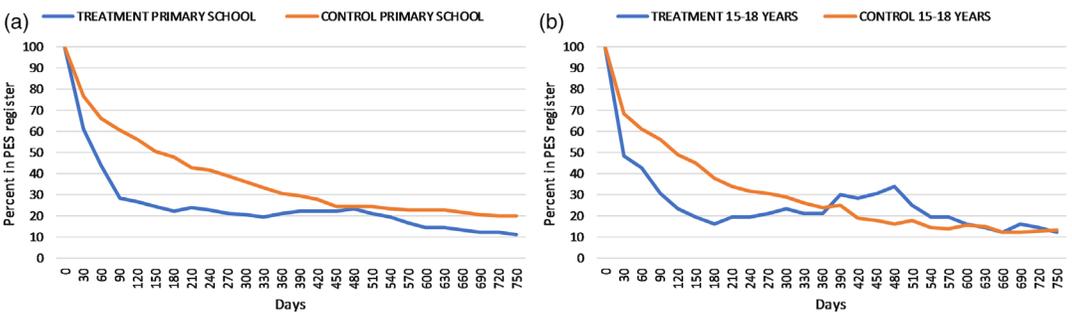
4.3 | The effects of the program

We present the effects of the program in the form of graphs showing difference in the presence in the PES register (being unemployed or not) in 30-day intervals for program beneficiaries and control groups because (as explained in the methodological section) information about their employment or another labour market status is not available. We distinguish here the effects of the program for different sub-groups of participants and controls defined by duration of unemployment, educational level, and age – the same independent variables that we use for analysis of the targeting of the measure. Data in Table 2 show presence in the register as a proportion of all program participants (all people in the control group) – for the whole sample and for the sub-groups (distinguished by gender, age, education, duration of current unemployment and cumulative duration of unemployment), for the program participants and the control group, after approximately 5, 15 and 25 months following the beginning of the program.

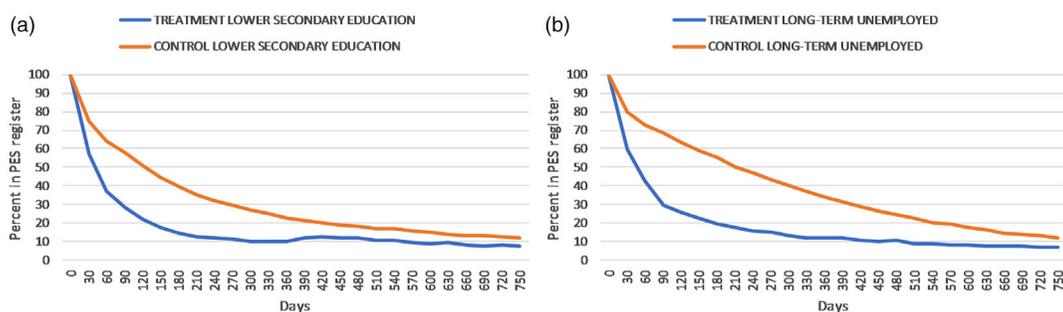
The evaluation indicates that the effects are different for the different types of sub-groups of the program participants. First, for some sub-groups, the leaving of the unemployment register is less problematic and usually only



GRAPH 1 Group 1: Presence in PES register in 30-day intervals [Colour figure can be viewed at wileyonlinelibrary.com]



GRAPH 2 Group 2: Presence in PES register in 30-day intervals [Colour figure can be viewed at wileyonlinelibrary.com]



GRAPH 3 Group 3: Presence in PES register in 30-day intervals [Colour figure can be viewed at wileyonlinelibrary.com]

less than 10% of the program participants were in the PES register in the long run. For these sub-groups, the effect of the program is, however, small as comparison with the control group indicates: the creaming off effect and the associated deadweight effect seem to be significant in such cases. These sub-groups are the short-term unemployed, medium-term unemployed, university and upper secondary school graduates and people aged 19–22. In their case, the program effect can be seen mostly in shortening the unemployment spell (due to the subsidized employment offer): 13 months after the start of the program, when the subsidy expires, the difference from the control group almost disappears and only about 10% of both the participants and the control group are in the register (Graph 1).

Some of the other sub-groups are generally less successful in leaving the unemployment register: low educated individuals (with at most primary education) and young people aged 15–18 years. These sub-groups were heavily underrepresented in the program (see above). A higher portion of the participants stayed in the register in the long-run (20–30% of the program participants were in register for quite a long time or they returned over time) and after 12–16 months the difference from the control group not only disappeared but the outcomes were even worse for the participants than for the control group due to their returns to the register. This indicates that for these sub-groups of young people the program is somewhat less suited to provide them stable job opportunities or these people are less capable to use these opportunities. Still, most of the program participants left the PES register (Graph 2).

Lastly, some sub-groups of participants include cases where the net effect of the program was stronger since people in the control group were considerably less successful in leaving registers and the difference was apparent even after more than a 2-year period of time. The control group outflows much slower from the register in the long run: after 16 months, 20–30% of the controls are in the register. This type of sub-groups includes long-term unemployed young people, those with lower secondary education and those aged 27–31 (people with possible scarring effects). People with lower secondary education may well benefit from the program because vocational education in the Czech Republic is mainly school based and the practical/apprenticeship part of study is not sufficiently developed (Graph 3).

We may conclude that the heterogeneity of the effects across different sub-groups of the participants mirrors both the overall chances of these sub-groups to get a job/their employability (indicated by outflows from the control group) and the suitability of the program to meet the needs of the sub-groups of participants (indicated by participant outflows). In the case of the short-term and medium-term unemployed, those who completed upper secondary education and were aged 19–22 (less disadvantaged sub-groups), deadweight was probably high as this group's chances were good in general, in particular with the improving situation in the labour market during 2014–2016. More disadvantaged sub-groups, such as low educated people (elementary education) or those aged 15–18, showed a smaller net employment effect when compared with the sub-groups of long-term unemployed, those with lower secondary education and those aged 27–31 who profited the most

in terms of net effects. This was probably because the program was not well suited to their needs and/or due to the stigmatization effect (they were not able to get apprenticeship or they were less able to hold it).

5 | CONCLUSIONS

Various studies suggest that the ALMP measures may be more effective when they are appropriately targeted at the most disadvantaged groups of young people and well suited to their needs. However, little is known about the employment effects of the apprenticeship scheme and how these effects are influenced by targeting the most vulnerable youth. In this paper, we analyze the targeting and outcomes of the apprenticeship program implemented under the YG scheme in the Czech Republic.

When comparing the effects and targeting of the program of apprenticeship for young people, we have made a paradoxical finding. The program is apparently targeted at those sub-groups of young people who are less disadvantaged in terms of education, previous unemployment experience and age. As shown by contrafactual evaluation, the effects in terms of outflows from the register are weak in the case of short- and medium-term unemployed individuals, individuals with medium and higher educational levels, and those aged 19–26. The reason is that even the controls (non-participants) achieved relatively good results regarding outflows from the register. The effects for the disadvantaged groups such as the long-term unemployed, those with a lower secondary level of education and those aged 27–31, who are heavily underrepresented in the program, are considerably better, while those who are least educated (primary level of education) and aged 15–18 do a little worse, probably due to the program not being appropriate for their needs and/or to the stigmatization effect.

Targeting proved to be less effective and to lead to a considerable creaming off effect and deadweight, which is consistent with existing theory (Calmfors, 2002; Eichhorst & Rinne, 2016; Kluve et al., 2019). This targeting failure contradicts the overall objective of the Youth Guarantee scheme to target 'those furthest from the labour market' (see Introduction). Our analysis suggests that this targeting failure is due to: (i) insufficient adaptation of the program to the needs of some of the most vulnerable groups who probably need more individualized support (Eichhorst & Rinne, 2016; Kluve et al., 2019); (ii) weak emphasis on targeting the vulnerable groups by PES leading to self-selection of better equipped participants (Nicaise et al., 1995); (iii) decisive role of employers in the selection of participants (Brown & Koettl, 2015).

From a more general perspective, the findings of our national study confirm that the net effects of job subsidies for young people vary for different subgroups of young participants: they are particularly positive in the case of more disadvantaged young unemployed except some of the most vulnerable subgroups. Better adaptation of the program to their needs could improve the effects. Policy implications are that appropriate targeting at the young people who are furthest from the labour market requires PES to carefully consider if the proposed measures may improve employability of the most disadvantaged (treatment effect) and if the mechanisms and procedures of program delivery/selection of participants sufficiently prevents creaming-off.

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CONFLICT OF INTEREST

No conflict of interest reported by the authors.

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ENDNOTES

¹This can sometimes be a loosely controlled process and participation may be a spontaneous result of self-selection of the participants.

²This program did not include learning/courses which often constitute its integral part in most countries (e.g., What Works Centre, 2015).

³NAIRU – non-accelerating inflation rate of unemployment. It refers to a theoretical level of unemployment below which inflation would be expected to rise.

⁴For a more detailed explanation on similarities and differences between CEM and other matching methods see Blackwell et al. (2009) and Iacus, King & Porro (2011, 2012).

⁵This is the longest period for which it is possible to assess the program outcomes since the date of implementation of the program in each individual case.

⁶The subsidy was provided for the period of 180–360 days.

⁷They often remain non-registered unemployed and may register again after 6 months of the sanction.

⁸This also means that NEETs were practically excluded from the project.

⁹We cannot analyze the differences in implementation of the scheme across local employment offices as this issue was not reported by them and would need more field research.

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