

Dummert, Sandra; Hohendanner, Christian

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# Employment effects of a German workfare programme at the establishment level

Dummert S., Hohendanner C. Employment effects of a German workfare programme at the establishment level

We examined the impact of a German workfare programme for hard-to-place welfare recipients, the so-called ‘€1-jobs’, on staff in public and non-profit establishments. We applied static and dynamic panel models using IAB Establishment Panel data from 2005 to 2013. To account for regional influences, we linked the establishment data to indicators at the district level. We identified a positive complementary effect on high-skilled workers and a negative substitution effect on low-skilled workers. We interpreted these findings as follows: In that €1-jobs require highly skilled staff for management, instruction, qualification and support, this indicates that the programme generates jobs for skilled workers within the welfare-to-work industry. The negative effect that we found for low-skilled workers suggests substitution effects between the programme participants and regular low-skilled workers; although in this study, both effects were relatively small.

**Sandra Dummert, Christian Hohendanner**

Institute for Employment Research (IAB), Nuremberg, Germany

**Key words:** ALMP, workfare, establishments, employment effects, programme evaluation, panel data analysis, Germany

Christian Hohendanner, Institute for Employment Research (IAB), Regensburger Str. 100, 90478 Nuremberg, Germany. E-mail: christian.hohendanner@iab.de

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Our study addressed indirect, unintended employment effects of active labour market programmes (ALMPs) at the establishment<sup>1</sup> level. Most evaluation studies on ALMPs, such as job creation schemes or subsidised work, refer to direct effects on participants’ employment chances or earnings, while research has rarely focused on the fact that these programmes take place in private, public or non-profit establishments and not in a vacuum (Card, Kluve, & Weber, 2017). ALMPs might impact market mechanisms and non-treated entities, which results in various indirect employment effects on non-treated employees. An unintended side effect that is at the centre of our analysis is the process of substituting subsidised (cheaper) workers for unsubsidised (more expensive) workers within establishments, the so-called substitution effect (Maré, 2005).

Our aim was to identify such indirect employment effects within establishments by examining a central programme of the German ‘activation toolbox’ (Eversberg, 2016) with the unwieldy name of ‘work opportunities with compensation for additional expenses’, better known as €1-jobs. The €1-jobs programme is a key element of publicly subsidised employment in Germany. These work opportunities are

intended to introduce hard-to-place, mostly long-term unemployed welfare recipients to the labour market and maintain or improve their employability.

Since the introduction of €1-jobs in 2005, influential political actors, such as employer associations, the taxpayer association and chambers of crafts, have suspected the participating public, non-profit and private establishments of replacing non-subsidised regular staff with subsidised programme participants. These fears are not new. As early as the 17th century, the establishment of public workhouses in France was accompanied by the fear of cheap competition on the part of guild-organised craftsmen, as stated in an anonymous report on the poor in 1662 (Castel, 2002). Although such fears are often at the centre of the political debate, this concern does not consider that ALMPs have positive employment effects but not necessarily for the participants. The programme generates a demand for training, care, supervision and administration and may create additional jobs for social workers, administrative staff and trainers.

As mentioned before, many evaluation studies on ALMPs have ignored these potential employment effects at the establishment level. To fill this research gap, we took advantage of a recent development, namely that the annual number of inflows into €1-jobs has fallen considerably in recent years (Federal Employment Agency, 2016). When €1-jobs were reduced, alternative compensatory measures were not created to the same extent. Under the condition that participants actually

<sup>1</sup> Every establishment is allocated an establishment number as part of the notification procedure for social security in Germany. An establishment in this sense denotes a regionally and economically separate unit in which employees liable to social security work. This includes private firms, non-profit organisations and public entities.

performed non-additional core tasks and that the establishments could not fall back on alternative funding, the establishments would need to increase the number of their regular employees.<sup>2</sup> In 2005, the year the subsidy was implemented, €1-jobs often superseded alternative programmes at the establishments, which complicated the identification of employment effects within establishments at that time (Hohendanner, 2011). The drastic decline in €1-jobs without compensation by other programmes in recent years enabled us to use the variation on establishment level between unsubsidised jobs and €1-jobs to unveil potential substitution effects in participating establishments.

Our analyses were based on IAB Establishment Panel data from 2005 to 2013. We examined two levels – the establishment level where employment actually occurs, and the district level. Germany's administration is divided into 402 rural and urban political districts (Nomenclature of Territorial Units for Statistics (NUTS) level 3, see Eurostat, 2018) which have different resources in terms of public employees and budgets to fulfil tasks of public interest. Under the assumption that programme participants partly fill the gap in performing public tasks, we expected to find an empirical association between the level of public employees at the district level and the use of €1-jobs at the establishment level.

In a first step, we investigated the relevant characteristics of €1-job establishments. By using multivariate analyses, we looked for empirical relationships between establishment characteristics, the regional context and the share of €1-jobs at the establishment level. In a further analysis, we examined the employment effects of €1-jobs within establishments separately for different levels of qualification. In addition, we investigated the effects on external freelance employees and on so-called mini-jobs. The mini-job is a marginal, low-paid job where the monthly remuneration or the employment duration does not exceed a certain threshold.<sup>3</sup>

### The institutional context in Germany

Among the people who work in Germany, a particular group has so far hardly found its way into common classifications. In addition to standard employment relationships, atypical forms of employment (temporary agency work, fixed-term contracts and mini-jobs) and

freelance work, there are jobs that at first glance appear to be very different, but have one thing in common. They must be 'additional' and 'neutral to the labour market' to avoid distortions in the regular labour market. These additional jobs included compulsory civilian service jobs (military equivalent service, abolished in 2011), job creation schemes (such as €1-jobs) and internships. In the course of lean state policies that led to an incremental employment reduction in the public sector in the 1990s (Keller, 2011), public and non-profit social service providers have partly relied on these additional jobs to maintain social services. In particular, job creation schemes and civilian service jobs became an integral part of the production of social services; their labour market neutrality has always been questioned in the public debate. The €1-jobs are also in this tradition.

€1-jobs were introduced in 2005 as part of a large labour market reform that strengthened welfare-to-work policies to activate unemployed welfare recipients. A guiding principle has been the combination of demanding and enabling elements (*'Fordern und Fördern'*) to ensure the success of the new activation policies. Up to this time, the German labour market had suffered for years from high and persistent unemployment, and the unemployment and social assistance system was ineffective and inefficient (Fleckenstein, 2008). Starting in 2002, the government modified the existing active labour market policies, invented new instruments and consolidated the unemployment and social assistance system into a new means-tested welfare benefit system for former social assistance recipients and the long-term unemployed (Knuth, 2009). Since then, the German activation strategy has involved strengthened job-search requirements, individual action plans, financial sanctions, and different ALMPs such as in-firm training and job creation schemes, including the €1-jobs as the most important programme in quantitative terms. €1-job participants do not receive a work contract or a salary; instead, they receive an allowance of one to two euros per hour in addition to their basic benefits. The monthly allowance for the participants amounts to €120 on average (Federal Employment Agency, 2018).

€1-jobs have several objectives that reflect the guiding idea of *Fordern und Fördern*. Their principal enabling objective is to familiarise hard-to-place welfare recipients with regular working habits and enhance their employability. Furthermore, €1-jobs should help participants to indirectly integrate into the labour market. Some €1-jobs include training elements. In practice, €1-jobs also help to combat social exclusion (Gundert & Hohendanner, 2015). However, €1-jobs have also been used as a willingness-to-work test and to some extent to prevent illegal employment. Moreover, the workfare idea – that people have to work in return for social assistance (Lødemel & Trickey,

<sup>2</sup> However, it is also conceivable that work will simply not be performed due to financial restrictions. In such cases, we would not see any impact on employment.

<sup>3</sup> Until 2012, the remuneration threshold has been €400 (since 2013: €450). Until 2014, the employment duration has been two months or 50 workdays per calendar year (since 2014: 3 month or 70 workdays). Mini-jobs are subject to special tax and social security regulations.

2001) – is an element of the demanding side of €1-jobs. Unemployed people who reject participation face financial sanctions.

The typical duration of participation is less than 6 months, while weekly working hours usually do not exceed 30 hours. Caseworkers at the job centre are instructed to assign only unemployed persons to €1-jobs for whom other opportunities for example, a regular job, further training, vocational training or other programmes, are not suitable because the requirements are too high for them.

To prevent unintended side effects, such as the substitution of regular employees, €1-jobs must be supplemental in the sense that the job tasks would not otherwise be performed. Furthermore, the activities must be of public interest, which implies a limitation to the social service sector (municipal activities such as city cleaning, public gardening, preservation of the countryside, health and social care services, education and non-profit jobs).

The concrete implementation takes place in local networks consisting of job centres (federal and approved municipal authorities), employer's associations and unions, intermediate programme providers (social welfare associations and job creation companies) and non-profit, public and, to a small extent, private establishments (Klemm, Sowa, Hohendanner, & Promberger, 2009). The job centre decides in co-operation with employers' associations and unions how the programme rules are to be interpreted on the ground. This process includes resolving issues such as whether private sector companies will be approved for the programme and whether guidelines for permitted job tasks will be developed that specify the statutory regulations or any further restrictions of the programme (e.g., competition neutrality and clearance certificates for job tasks). While the definition of the framework conditions is primarily political, the intermediate programme providers and participating establishments decide which concrete activities the participants will perform. Thus, implementation varies considerably depending on local conditions and follows the specific local needs and interests of the network of actors. The intermediate programme providers receive an additional monthly allowance for every participant if they face costs for qualification, care, supervision, administration or accident insurance. These establishments receive an allowance of €300 on average per participant per month (excluding the individual allowance for the participants). Programme participants are either engaged by these intermediate organisations (e.g., a municipal job creation company) or redistributed to single establishments for example, a care home, a childcare centre, a hospital or a municipal museum. The funding for the €1-job programme is provided through the federal

budget. The programme thus provides additional resources to the respective establishments.

### Current state of research

Evaluation studies on €1-jobs (Dengler, 2015; Gundert & Hohendanner, 2015; Hohmeyer, 2012; Hohmeyer & Wolff, 2012, 2018; Tisch & Wolff, 2015) or similar schemes in Germany and other countries have primarily addressed the effects on participants based on individual data (Card et al., 2017). Studies that analyse the development and structure of employment in participating establishments are scarce, and there is limited empirical evidence of indirect secondary effects of ALMPs, both nationally and internationally. Econometric studies are rare, especially at the establishment level. Kangasharju (2007) found positive employment effects of wage subsidies at the firm level in Finland, and Rotger and Arendt (2010) discovered further evidence of positive employment effects in Denmark. Regarding Germany, neither Hujer, Caliendo, and Radic (2001) nor Moczall (2013) detected any substitution effects for multiple ALMPs at the establishment level. As far as €1-jobs are concerned, Hohendanner (2011) did not identify any effect on total employment in the establishments. However, as mentioned before, €1-jobs often superseded alternative programmes in the establishments which complicated the identification of employment effects within establishments at the time (Hohendanner, 2011). The drastic decline in €1-jobs without compensation by new ALMP jobs in recent years has allowed us to unveil a potential substitutive relationship in participating establishments. Moreover, Hohendanner (2011) focused on overall employment effects, although rather heterogeneous effects for different groups of employees are to be expected. Therefore, we extended beyond this study by distinguishing among qualifications and examining employment effects on marginal employment (mini-jobs) and freelance workers who are not part of the core workforce. Furthermore, we included regional determinants that so far have not been considered for example, staffing levels in public services, the budgetary situation in the district and the regional unemployment rate.

### Theoretical considerations

In the literature, the objectives of publicly subsidised employment are described as a 'magic triangle' of labour market integration, social integration and budgetary consolidation (Kaps, 2006; Trube, 1997). Labour market and social integration require jobs that are as close to the labour market and as meaningful as possible and that are equivalent to the jobs of regular workers (Gundert & Hohendanner, 2015). In this respect, it



is encouraging that almost half of all participants assessed that the tasks they performed resembled a regular job (DGB, 2009) and that half of all establishments considered participants to be capable of fulfilling the jobs of their regular workers (Müller & Rebien, 2013). By itself, this result is desirable for the social integration of participants (Gundert & Hohendanner, 2015). However, proximity to regular work increases the risk of substitution effects. Against the background that participating establishments do not incur any wage costs, the cost–benefit ratio of €1-jobs is, *ceteris paribus*, more favourable than the respective ratio for regular employees. However, the ratio depends on a number of aspects, such as the participants' individual characteristics and productivity, the application of legal restrictions to additional tasks of public interest, the costs involved in administration, supervision and training and the abovementioned allowance that the establishments receive to compensate for these costs.

In this context, the question arises as to the role that €1-jobs actually play for the participating establishments. To answer this question, we refer to an empirically identified typology of three usage practices in a large-scale qualitative research project (Sowa, Klemm, & Freier, 2012) differentiating between (1) €1-jobs as 'productive forces', (2) €1-jobs as a source of financing, and (3) €1-job participants as 'clients'. What is ultimately common to these practices is the (economic) self-interest of the employer as the central mechanism that underlies our further reflections on potential employment effects.

### €1-jobs as 'productive forces'

First, €1-jobs are low-cost jobs for the establishments that use them in their own value creation process. Municipal companies, cultural institutions, associations and welfare organisations participate in the programme to provide the services that were previously performed by participants in former types of 'additional' jobs that no longer exist. €1-jobs that fill in for these jobs enable the establishment to provide social services. In addition, municipal or non-profit establishments suffer to some extent from considerable budgetary difficulties and have to manage with a small number of public service or non-profit employees (Haus & Kuhlmann, 2013). As these establishments nonetheless need to ensure the provision of public and social services, €1-jobs could be used to close such provision gaps. On the other hand, the pressure to create more regular employment could increase as there have been increasingly fewer 'additional jobs' available in recent years.

### €1-jobs as a source of financing

Second, the allowance associated with the programme represents a source of financing for the participating

establishments in the district, as the funding comes from the superordinate federal budget. For this reason, establishments in the social and municipal sector are entering the field of intermediate organisations that are responsible for the implementation of the programme on the ground and that receive compensation for this responsibility. These organisations use €1-jobs for their own service purposes, fill their training measures with programme participants or lend them out to another 'business unit' of the organisation. Job creation companies and educational providers use the €1-job allowances to fill additional positions to manage the programme, provide qualifications and give participants guidance and training. Thus, the programme partly helps to secure existing jobs or to create additional jobs in these establishments. For example, a job creation company that employs ten participants would receive an allowance of €3,200 on average per month – which is money that is needed to compensate for overhead costs and/or money that may be used to employ a social worker to support or instruct the participants.

### €1-job participants as 'clients'

However, the programme addresses hard-to-place, mostly long-term unemployed individuals whose psychosocial stabilisation and support are paramount. Some of these individuals might not provide a productive advantage to the participating establishments. Accordingly, Sowa et al. (2012) identified a third pattern where programme participants are treated as clients or rather 'patients' who need to be cared for and provided therapy. Participation in the €1-job programme is then ultimately part of the core business of a social service provider. In this case, €1-jobs will not fill in the gaps nor even be a substitute for regular jobs, but rather will generate employment to manage and care for the participants.

Therefore, there might be two contrasting effects. In the case of participants as productive forces, we expected to find a substitutive relationship between regular workers and €1-jobs. In the case of participants as clients who need assistance and guidance and in the case of €1-jobs as a source of financing, the programme may instead generate additional regular jobs, as the management, support and training of participants is related to extra work, and staff must be made available.

### Heterogeneous effects

We assumed that the effects described would not be equally distributed among all employees in the establishments. First, €1-jobs are generally jobs that require rather basic qualifications. We therefore assumed that substitutive processes would be more likely to be observed in the segment of low-skilled jobs. In addition,

we suspected that such substitutive processes would not primarily affect the secured core staff but rather would occur at the margins where it is easier to adjust the workforce (Kalleberg, 2003). This is likely to be the case for marginal mini-jobs. Although marginal workers formally have the same employment protection and legal status as the core workforce, employers and employees do not consider these jobs to be equivalent to standard employment relationships in terms of labour law (Fischer et al., 2015).

Regarding the potential complementary employment effects for social workers, instructors and programme managers, it is plausible that these jobs require at least a vocational qualification or a university degree. Therefore, we expected complementary effects between €1-jobs and skilled labour. Furthermore, training and support tasks are frequently taken on by freelancers (Bossler & Hohendanner, 2016).<sup>4</sup> From an organisational perspective, freelancers are not part of the core workforce. As they do not have an employment contract and do not enjoy employment protection, freelancers can be quickly hired and dismissed (Kalleberg, 2003). While an increase in the number of €1-jobs is likely to increase the number of freelancers, a decrease in the number of €1-jobs could be directly reflected in a cutback in the number of freelancers.

Based on the above, we derived the following hypotheses.

*H1:* €1-jobs replace regular employment found in the segment of menial jobs and marginal mini-jobs.

*H2:* €1-jobs generate regular employment for (highly) skilled workers since the management, support and training of participants is related to extra work.

*H3:* €1-jobs generate jobs for freelancers commissioned to support and train the participants.

## Data and method

The data basis of our descriptive and econometric analyses was the IAB Establishment Panel. This is an annual survey of some 16,000 private establishments, public service offices and non-profit institutions that are economically and regionally separate units and that have at least one employee subject to social security contributions (Ellguth, Kohaut, & Möller, 2014). Establishment representatives were asked about a number of topics in face-to-face interviews, including questions about the development and structure of employment and the establishment's policies on business and investment. The survey contained a question on whether, and if so how many, €1-job participants

were employed in the establishment on 30 June of that current year.

To be able to consider regional factors, we added administrative data from the Federal Employment Agency and the German Statistical Office. The regional information (the share of unemployed persons in the population, the share of the labour force in the population, the share of €1-jobs in the population, debt per capita,<sup>5</sup> population density and public service density<sup>6</sup>) is available in aggregated form at the district level (NUTS level 3), which was merged with the survey data.

We conducted the econometric analysis in two steps. In the *first step*, we examined the establishment-specific and regional factors that determine the use and intensity of use of €1-jobs.

To limit the analyses to establishments 'at risk of' using €1-jobs, we restricted the analysis to all public service and non-profit establishments. Private establishments are generally excluded due to the restriction on public and non-profit activities. In individual cases, however, private establishments have also been granted permission to participate in the programme. In the absence of a convincing criterion in the data set that would limit the spectrum of private establishments that could possibly participate in the programme, we refrained from integrating these establishments into the sample.<sup>7</sup>

We investigated the use of €1-jobs in the establishments by applying a probit model. For this, we created a dichotomous variable that took the value of 1 if an establishment reported having an employee with an €1-job and a value of 0 if this was not the case. In addition, we analysed the intensity of participation by examining the share of €1-job participants in the number of employees at the establishment level. A challenge in the econometric analysis of fractional values is that fractions only range between 0 and 1, and there are many values at the extreme values of 0 and/or 1. An econometric approach that meets these challenges is the fractional response model (Papke & Wooldridge, 2008). It guarantees that the estimates are in the closed interval between 0 and 1 and that the standard deviation of the regression coefficients is not distorted when

<sup>4</sup> Buiskool, Van Lakerveld, and Broek (2009, p. 154) stated that 'permanent positions were turned into freelance positions as a consequence of reductions in (government) budgets (...)'. Thus, employers hire freelancers for the same reason that we somewhat suspected in the use of €1-jobs.

<sup>5</sup> The debt level of the core households in the municipalities and municipal associations is aggregated at the district level in relation to the population of the respective district.

<sup>6</sup> The public service density of the districts describes the number of people employed at district level in the public service in relation to the population of the respective district.

<sup>7</sup> Nevertheless, as a robustness check in an alternative sample delimitation, we additionally considered those private firms that participated in the €1-job programme at some point during the observation period (6% of the cases in this sample are private establishments). We do not report these results as they differ only marginally in content. We can provide these results on request.

heteroscedasticity is present. In addition, we applied a 'hybrid' panel design and disentangled the impact of the within and between variation in our independent variables (Rabe-Hesketh & Skrondal, 2008). As in a standard fixed effects panel model, the time-varying independent variables were transformed into deviations from their individual (establishment)-specific means (within-effects). In addition, individual (establishment) means over time were included as separate regressors (between-effects). The within-effects depict changes within a certain establishment or district over time, and the between-effects show average differences in the levels between establishments or districts. While within-effects provide consistent estimates corresponding to estimates of a fixed effects regression, between-effects may incorporate potential selection bias.<sup>8</sup>

In the *second step*, we used dynamic panel models by applying the system-generalised method of moment estimator (system GMM, Arellano & Bover, 1995) to examine the relationship between €1-jobs and other employment forms in the establishments. The system GMM estimator solves potential problems of reverse causality in the independent variable by using lags as instruments, controls for time-variant and time-constant unobservable variables, and it considers the above described within- and between-effect variances. The system GMM estimates two equations simultaneously. The first equation ( $\Delta y_{it}$ ) transforms the variables into first differences ( $\Delta$ ) – the differences between two consecutive waves – while the second equation ( $y_{it}$ ) uses the untransformed levels of the same variables ( $\beta_0$  is the constant,  $y_{it-1}$  is the lagged dependent variable,  $x_{it}$  are the control variables and  $\varepsilon_{it}$  is the idiosyncratic error term):

$$\begin{pmatrix} \Delta y_{it} \\ y_{it} \end{pmatrix} = \begin{pmatrix} 0 \\ \beta_0 \end{pmatrix} + \beta_1 \begin{pmatrix} \Delta y_{it-1} \\ y_{it-1} \end{pmatrix} + \beta_2 \begin{pmatrix} \Delta x_{it} \\ x_{it} \end{pmatrix} + \begin{pmatrix} \Delta \varepsilon_{it} \\ \mu_i + \varepsilon_{it} \end{pmatrix}.$$

While the first equation removes time-constant unobserved heterogeneity, both equations control for all other kinds of heterogeneity and eliminate reverse causality by internal instrumental variables. We included a variety of control variables that might have an impact on the personnel policy of the respective

establishments. The following control variables were treated as exogenous: the unemployment rate, the share of €1-jobs in the population, the municipal debt per inhabitant, population density, public service density (all district level), dummies for years, sector affiliation (public service, third sector), East Germany, and establishment form (independent company, head office/headquarters, branch office or intermediate body). Further control variables were treated as endogenous, such as establishment size, collective agreement coverage, existence of a works council, integration or outsourcing of parts of the establishment and closure of parts of the establishment.

As in the first step, we restricted the sample to establishments that are eligible to use €1-jobs, namely public service and third-sector institutions.<sup>9</sup> We estimated separate models for total employment in the establishment, the share of employees covered by social security, the shares of low-skilled and (highly) skilled employees,<sup>10</sup> the share of marginal employees and the share of freelancers. In each model, we included the lagged dependent variables (3 lags) as regressors. We used robust standard errors to control for possible heteroscedasticity. The estimation was performed in a two-step procedure which, in combination with a finite sample correction following Windmeijer (2005), was considered more efficient than a one-step estimation. Using Hansen's (1982) J-test for the validity of the instruments, we tested the null hypothesis – that the included instruments did not result in over-identification. Furthermore, we used an Arellano–Bond test for autocorrelation to test the null hypothesis that there was no second-order autocorrelation in the error terms. If this null hypothesis was not rejected, we could assume that the estimate was valid and the instruments were appropriate (Arellano & Bond, 1991). As these GMM models include a highly complex and presupposed system of equations, we additionally applied fixed effects and first-difference panel models as robustness checks which are more frugal but rely only on within variance and do not account for potential reverse-causality problems.

## Empirical findings

The IAB Establishment Panel data show that the proportion of establishments that used €1-jobs had

<sup>8</sup> The within component is an instrumental variable for the composite variable, as it is correlated with the composite variable but is uncorrelated with the time-constant error term). Consequently, within-effect covariates provide consistent estimates. The between component allows for a between-establishment comparison of the time-varying covariates and a comparison of the time-constant covariates. Unlike the within-effect estimates, the between-effect estimates might be correlated with the time-constant error term and might therefore incorporate potential selection bias (Rabe-Hesketh & Skrondal, 2008).

<sup>9</sup> In addition to this sample restriction, we also applied other sample delimitations (via propensity score matching and only public service or third-sector institution). These results did not differ considerably from the results presented here.

<sup>10</sup> Skill was measured at the level of job requirements. We distinguished among menial jobs that required no specific vocational education, skilled jobs that required a vocational qualification or comparable on-the-job training or relevant professional experience, and jobs that required a university degree. The skill variables did not include apprentices, working proprietors/directors/managers or candidates for civil service.

decreased considerably since the introduction of the measure in 2005. Whereas 1.8% of the establishments in Germany employed people in €1-jobs in 2005, the share was only approximately 0.6% in 2015, and the number of €1-jobs fell particularly sharply in 2010 and 2011. Most participating establishments operated in the non-profit and public sector. Only a very small share of private establishments participated in the programme (see Figure 1).

Table 1 shows the distribution of €1-jobs by sector affiliation and economic activity in 2015. €1-jobs were distributed mainly between the public and the third (non-profit) sector. The largest share of €1-jobs was found in education (e.g., for training institutes), followed by non-profit organisations and the field of health and social services. Table 2 illustrates that establishments with €1-jobs differed considerably in their employment structure from establishments without €1-jobs. For example, in €1-job establishments, nearly 21% of the workers performed menial work that did not require any vocational qualifications. In public and non-profit establishments that did not use €1-jobs, the share of low-grade jobs was substantially less that is, 15.5%.

The first step of the econometric analysis yielded a descriptive picture of the establishment-specific and regional characteristics of €1-job establishments. Table 3 shows the average marginal effects for each variable. The effects within establishments/districts and between establishments/districts are separately displayed. The year dummies confirm the declining significance of €1-jobs, especially from 2009 onwards. The between comparison depicts that €1-job establishments had a lower mean wage level, larger shares of low-skilled workers and smaller shares of highly skilled employees than did establishments without €1-jobs. Regarding the within-effects, we found a substitutive relationship between €1-jobs and low-skilled workers, and a complementary, positive relationship between €1-jobs and highly skilled employees.

We observed a positive correlation between freelance workers and €1-jobs when examining the between-effects, but found no correlation when examining the within-effects. We found that the establishments with larger shares of mini-jobs used €1-jobs less frequently (between-effect), but we detected no within-effect, which means that a decline in mini-jobs within an establishment was not correlated with an increase in €1-jobs (and vice versa). The findings do not provide indications of substitution effects between €1-jobs, mini-jobs and freelance work. However, the between-effects indicate that different establishments used different forms of flexible employment.

As expected, the likelihood of participating at all and the intensity of participation were higher in regions with a large share of people who worked in €1-jobs. In contrast, we found no indication of a substitutive relationship between the share of public employees at the district level and the use of €1-jobs. When comparing the effects between districts, the intensity of use of €1-jobs was higher in regions with a higher debt level. The within-effects show, however, that an increase in debt within a district did not lead to an increase in the intensity of use of €1-jobs.

In the second step, we investigated whether €1-jobs had an immediate employment effect on the participating

Table 1. Distribution of €1-jobs by sector and economic activity (2015), as %.

|                               |      |
|-------------------------------|------|
| Private sector                | 11.9 |
| Public service                | 44.7 |
| Third sector                  | 43.4 |
| Public administration         | 9.8  |
| Non-profit organisations      | 16.3 |
| Education                     | 27.6 |
| Health and social work        | 16.3 |
| Other service activities      | 1.1  |
| Remaining economic activities | 28.8 |

Source: IAB Establishment Panel 2015, projected values. Sample: Establishments with €1-jobs.

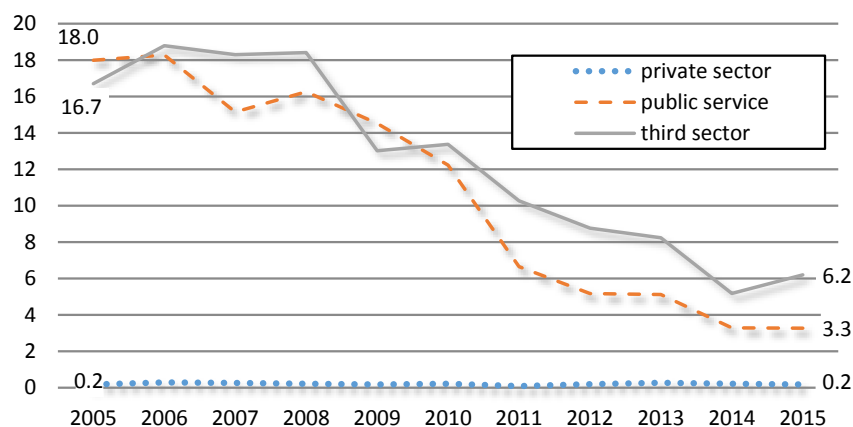


Figure 1. Development of the share of establishments using €1-jobs by sector. Source: IAB Establishment Panel 2005–2015, projected values. For details regarding the definition of the sectors, see Hohendanner, Ostmeier, and Ramos Lobato (2015).



Table 2. Employment structure in establishments with and without €1-jobs (2015).

| Shares of total employment <sup>a</sup> | Establishments |                                 |                 |                                 |
|---|----------------|---------------------------------|-----------------|---------------------------------|
|   | with €1-jobs   |                                 | without €1-jobs |                                 |
|   | Total          | Public service and third sector | Total           | Public service and third sector |
| Low-skilled workers                     | 20.7           | 20.8                            | 20.7            | 15.5                            |
| Skilled workers                         | 58.4           | 58.5                            | 57.0            | 55.2                            |
| High-skilled workers                    | 16.8           | 17.6                            | 12.4            | 23.5                            |
| Employees covered by social security    | 88.5           | 89.5                            | 79.4            | 80.7                            |
| Mini-jobs                               | 8.8            | 8.8                             | 12.0            | 6.8                             |
| Freelancers                             | 4.4            | 3.3                             | 2.0             | 2.6                             |

<sup>a</sup>Workers with €1-jobs are not counted as employees in the sense of labour law. Therefore, they were not included in the calculations of shares.

Source: IAB Establishment Panel 2015, projected values.

Table 3. €1-jobs in German establishments.

| Explanatory variables                                | Probit (AME)         |                      | Fractional response (AME) |                      |
|--|----------------------|----------------------|---------------------------|----------------------|
|  | within               | between              | within                    | between              |
| Staff at district level in public service/population | −3,708<br>(2.655)    | 0.346<br>(1.697)     | −0.681<br>(0.774)         | −0.120<br>(0.429)    |
| €1-jobs/population                                   | 5.012***<br>(1.825)  | 12.228***<br>(2.169) | 1.113***<br>(0.429)       | 2.474***<br>(0.523)  |
| Unemployed pers./population                          | −0.401<br>(0.668)    | −0.469<br>(0.681)    | −0.289*<br>(0.160)        | −0.046<br>(0.152)    |
| Labour force/population                              | −0.170<br>(0.119)    | 0.106<br>(0.226)     | −0.011<br>(0.026)         | 0.041<br>(0.057)     |
| Debts/population                                     | 0.001<br>(0.007)     | 0.002<br>(0.009)     | −0.001<br>(0.002)         | 0.007***<br>(0.002)  |
| Population density                                   | 0.000<br>(0.000)     | −0.000**<br>(0.000)  | 0.000<br>(0.000)          | −0.000<br>(0.000)    |
| Mean gross wage in the establishment                 | −0.008<br>(0.009)    | −0.076***<br>(0.012) | 0.006**<br>(0.003)        | −0.026***<br>(0.004) |
| Share of low-skilled workers                         | −0.004<br>(0.023)    | 0.215***<br>(0.028)  | −0.025***<br>(0.006)      | 0.046***<br>(0.007)  |
| Share of high-skilled workers                        | 0.036<br>(0.023)     | −0.095***<br>(0.022) | 0.012**<br>(0.005)        | −0.021***<br>(0.007) |
| Share of mini-jobs                                   | 0.083**<br>(0.037)   | 0.024<br>(0.040)     | 0.006<br>(0.009)          | −0.035***<br>(0.010) |
| Share of freelancers                                 | 0.089<br>(0.063)     | 0.132**<br>(0.052)   | −0.012<br>(0.013)         | 0.002<br>(0.019)     |
| Year (Ref.: 2006)                                    |                      |                      |                           |                      |
| 2007   | −0.010<br>(0.010)    |                      | −0.004*<br>(0.002)        |                      |
| 2008   | −0.034**<br>(0.015)  |                      | −0.006*<br>(0.003)        |                      |
| 2009   | −0.069***<br>(0.016) |                      | −0.012***<br>(0.003)      |                      |
| 2010   | −0.083***<br>(0.017) |                      | −0.013***<br>(0.005)      |                      |
| 2011   | −0.120***<br>(0.023) |                      | −0.020***<br>(0.006)      |                      |
| 2012   | −0.147***<br>(0.024) |                      | −0.027***<br>(0.006)      |                      |
| 2013   | −0.165***<br>(0.025) |                      | −0.030***<br>(0.007)      |                      |
| Number observations                                  | 22,642               |                      | 22,587                    |                      |

\*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$ .

Source: IAB Establishment Panel 2006–2013, standard errors in parentheses, clustered for 399 districts. Further control variables: dummies for establishment size, sector (public service, private sector, third sector), economic activities and federal states.; AME: average marginal effects.

establishments by applying dynamic panel models. For this, we examined different groups of workers. According to the results of Hansen's J-test of over-identification and

the Arellano–Bond test for autocorrelation (see Tables 4 and 5), we assumed that the model estimates were valid and that the instruments were appropriate.

Table 4. Dynamic panel model with three lags (total employment).

|                              | Total employment    |
|------------------------------|---------------------|
| Lagged DV (t-1)              | 0.904***<br>(0.051) |
| Lagged DV (t-2)              | 0.022<br>(0.049)    |
| Lagged DV (t-3)              | -0.023<br>(0.053)   |
| Number of €1-jobs            | 0.029<br>(0.098)    |
| Constant                     | 5.253<br>(12.747)   |
| Number of observations       | 10,651              |
| Number of establishments     | 3,183               |
| Hansen's J-test ( $\chi^2$ ) | 143.5               |
| AR(1) test (z)               | -2.786              |
| AR(2) test (z)               | 0.044               |

\*\*\* $p < 0.01$ ;

Source: IAB Establishment Panel 2005–2013, standard errors in parentheses, two-step GMM system estimator with Windmeijer correction, collapsed instruments (Roodman, 2009). Control variables treated as exogenous: regional variables (unemployment rate, share of €1-jobs in the population, municipal debt per inhabitant, population density, public service density) and dummies for years, sector (public service, private sector, third sector), East Germany and establishment form (independent company, head office/headquarters, branch office, intermediate body). Variables treated as endogenous: dummies for establishment size, collective agreement coverage, existence of a works council, integration or outsourcing of parts of the establishment/closure of parts of the establishment.

As for the overall employment effect, the dynamic panel regressions revealed only a small, insignificant effect of the number of €1-jobs on the total employment in the establishments (see Table 4). We found the same picture for the proportion of employees covered by social security in the overall workforce.

As regards jobs that require high skills, the share of €1-jobs had a positive effect, albeit on a very small scale.<sup>11</sup> As the share of people with €1-jobs increased or decreased, the demand for highly skilled employees also rose or fell, indicating that scaling back the measure was accompanied by slight employment losses among highly skilled employees. Our interpretation is that the establishments needed fewer managers or social workers to organise the programme and support the participants. For employees who performed menial jobs, however, we identified a significantly negative substitution effect. A growing/shrinking share of people with €1-jobs in the establishment led to a decrease/increase in the share of low-skilled employees. This effect was twice as large as the effect for highly skilled employees but was still small.<sup>12</sup>

<sup>11</sup> We can quantify the employment effect only for hypothetical cases. An increase of ten percentage points (i.e., an establishment with 100 employees hiring ten €1-job participants) would mean that approximately one in 15 (~7%) of these establishments had hired an additional high-skilled employee.

<sup>12</sup> A reduction of ten percentage points in the share of €1-jobs in these establishments would lead to one additional low-skilled worker being hired in approximately one in six (~15%) establishments.

The use of €1-jobs also had a minor significant negative effect on mini-jobs. In contrast, the €1-jobs had no significant effect on the employment of medium-skilled workers or of freelancers (see Table 5).

Furthermore, we calculated fixed effects and first-difference models as robustness checks. All the models confirmed the non-significant overall effect (Table A5 in the Supplemental Appendix) and the significant results for low-skilled and highly skilled workers (Table A6 in the Supplemental Appendix). We found further significant effects in the fixed effects models for workers covered by social security, medium-skilled and marginal workers and freelancers, but found no such effects in the first-difference models or the dynamic panel analyses. Because we found these latter effects to be significant only in the fixed effects models and not in the other models, we classified them as non-robust.

## Summary and conclusion

Our study focused on the secondary effects of labour market programmes, which are seldom addressed in evaluation analyses. At the same time, the study contributes to objectifying the fears of substitution effects that are frequently voiced in Germany by relevant political actors. The study confirms the results of an earlier study by Hohendanner (2011) who found no evidence of a substitution effect of €1-jobs on total employment. However, the present study went beyond these previous findings. First, we examined different worker groups; and second, we considered regional indicators at the district level, such as staffing levels in the public sector and level of debt. Regarding these regional indicators, the only clear – but not surprising – effect was that the €1-job participation of establishments increased with the regional share of €1-job participants.

With regard to different groups of workers, we found positive effects for high-skilled workers and negative effects for low-skilled workers and mini-job employees who are likely to perform mainly marginal jobs outside the core business. We interpreted this result as follows. The positive employment effects for high-skilled workers indicate that €1-jobs create a demand for qualified social workers, instructors, teachers and administrative staff (Hohendanner, Klemm, Promberger, & Sowa, 2010). That the effects for low-skilled workers was negative indicates that some establishments abstain from hiring regular, low-skilled workers and take on inexpensive €1-workers instead. In light of the significant decline of €1-jobs in recent years, the described effects operate in the opposite direction. In establishments in which €1-jobs have been reduced, jobs for high-skilled workers are likely to have been cut, while jobs for low-skilled workers – possibly including some people who participated in the €1-job programme – are likely to have been created.

Table 5. Dynamic panel models with three lags (employment shares).

|                              | Dependent variables (DV)             |                     |                     |                      |                        |                     |
|------------------------------|--------------------------------------|---------------------|---------------------|----------------------|------------------------|---------------------|
|                              | Employees covered by social security | Low-skilled workers | Skilled workers     | High-skilled workers | Mini-jobs <sup>a</sup> | Freelancers         |
| Lagged DV (t-1)              | 0.623***<br>(0.034)                  | 0.427***<br>(0.045) | 0.364***<br>(0.033) | 0.499***<br>(0.037)  | 0.596***<br>(0.044)    | 0.324***<br>(0.085) |
| Lagged DV (t-2)              | 0.139***<br>(0.029)                  | 0.096***<br>(0.034) | 0.102***<br>(0.027) | 0.162***<br>(0.035)  | 0.069**<br>(0.030)     | 0.111<br>(0.071)    |
| Lagged DV (t-3)              | 0.039<br>(0.029)                     | -0.005<br>(0.029)   | -0.030<br>(0.021)   | 0.051*<br>(0.028)    | -0.046<br>(0.034)      | 0.094<br>(0.064)    |
| Share of 1€-jobs             | 0.004<br>(0.004)                     | -0.015*<br>(0.008)  | -0.004<br>(0.011)   | 0.007*<br>(0.004)    | -0.004**<br>(0.002)    | -0.000<br>(0.001)   |
| Constant                     | 0.162***<br>(0.044)                  | 0.075**<br>(0.035)  | 0.333***<br>(0.070) | 0.065<br>(0.045)     | 0.007<br>(0.022)       | -0.006<br>(0.008)   |
| Number of observations       | 10,651                               | 10,650              | 10,650              | 10,651               | 8,881                  | 10,651              |
| Number of establishments     | 3,183                                | 3,183               | 3,183               | 3,183                | 2,895                  | 3,183               |
| Hansen's J-test ( $\chi^2$ ) | 134.5                                | 139.1               | 160.8               | 135.3                | 118.1                  | 117.4               |
| AR(1) test (z)               | -7.998                               | -7.301              | -10.27              | -7.588               | -7.022                 | -3.886              |
| AR(2) test (z)               | 1.637                                | -0.323              | -0.390              | -0.008               | 0.011                  | 1.328               |

\*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$ .

<sup>a</sup>Smaller case numbers as separate details on mini-jobs are only available in the IAB Establishment Panel from 2006 onwards.

Source: IAB Establishment Panel 2005–2013, standard errors in parentheses, two-step GMM system estimator with Windmeijer correction, collapsed instruments (Roodman, 2009). Control variables treated as exogenous: regional variables (unemployment rate, share of €1-jobs in the population, municipal debt per inhabitant, population density, public service density) and dummies for years, sector (public service, private sector, third sector), East Germany and establishment form (independent company, head office/headquarters, branch office, intermediate body). Variables treated as endogenous: dummies for establishment size, collective agreement coverage, existence of a works council, integration or outsourcing of parts of the establishment/closure of parts of the establishment.

These two effects are very small in terms of their quantitative significance, such that both the number of job losses for high-skilled workers and the number of job gains for low-skilled workers are estimated to be low. Fears that substitution effects will occur cannot be completely dispelled, as the results show. However, the effects are so small that we can classify the programme as successful, at least in terms of avoiding substitution effects. Another explanation for the weak substitution effect would be that the cutback of the programme has simply led to certain services no longer being provided. In such cases, the reduction has had a negative impact on the volume of social and public services, but not on employment in the participating establishments.

Designing a programme with different objectives and restrictions that partly run counter to the objectives – social integration, labour market integration, work test and, simultaneously, the obligation of labour market neutrality – is an excessive burden. Therefore, it is no wonder that the €1-job programme is not considered to be very successful. Although the present study suggests that labour market neutrality has largely been respected, we found the labour market and social integration effects to be rather modest. Thus, the programme has done little damage but also has achieved little.

From a labour market and social policy perspective, a key challenge is how to make participation in the labour market, and thus participation in social life possible, for (long term) unemployed people who are difficult to place. Supply-oriented policies focus mainly on the unemployed individuals themselves and

neglect the fact that programmes take place in public, non-profit or private organisations. It is crucial to get employers on board to create employment opportunities beyond market mechanisms. This requires a better understanding of the incentive structures, motives and constraints of the potential participating employers. Unintended side effects, from the substitution of regular staff to dependency on programme subsidies, are particularly relevant when the staffing and budgetary resources of establishments are insufficient. ALMP work measures in Germany have often been implemented in public and non-profit sectors that are themselves affected by shortages of personnel and resources. This scarcity implies that jobs that are legally regarded as ‘additional’ are also being used to fulfil core tasks. At the same time, the scarce resources means that the establishments are rarely able to offer regular jobs to the participants. The activation of unemployed people for whom there seems to be no work in the regular labour market has ultimately led to the creation of an entire sector of employment companies, training institutions and welfare organisations that partly make a living from these labour market programmes. As most programmes cannot be implemented without these organisations, evaluation research should pay more attention to this field to obtain a complete picture of intended and unintended programme effects.

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## Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.