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ARTICLE

Which firms use targeted wage subsidies? An empirical note for Germany

Lutz Bellmann · Gesine Stephan

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Abstract In Germany, temporary wage subsidies (Eingliederungszuschüsse) can be granted to employers if they hire workers with obstacles to placement. Based on the 2003, 2005, 2007 and 2009 waves of the IAB Establishment Panel, this paper looks into the following questions: Is there a connection between the use of targeted wage subsidies and certain structural characteristics of the establishment, such as establishment size, industry and employment structure? Is the labor turnover of establishments that make use of wage subsidies higher than that of similar establishments that do not? Do establishments that utilize targeted wage subsidies also make use of other active labor market programs (e.g. work opportunities) to a disproportionate degree? On the whole, the empirical findings confirm that establishment structures are important for the decisions of firms to make use of targeted wage subsidies.

Welche Betriebe nutzen Eingliederungszuschüsse in Deutschland?

Zusammenfassung In Deutschland können Arbeitgeber Eingliederungszuschüsse – zeitlich befristete Lohnkostenzuschüsse – erhalten, wenn sie Arbeitslose mit Vermittlungshemmnissen einstellen. Auf der Basis der IAB-Betriebspanelwellen der Jahre 2003, 2005, 2007 und 2009 untersucht der Beitrag folgende Fragen: Gibt es einen Zusammenhang zwischen der Inanspruchnahme von Eingliederungszuschüssen und betrieblichen Strukturmerkmalen wie Betriebsgröße, Branche und Beschäftigtenstruktur? Ist die Personalfluktuation in Betrieben, die Eingliederungszuschüsse in Anspruch nehmen, größer als in Betrieben, die das nicht tun? Nutzen Betriebe, die Eingliederungszuschüsse in Anspruch nehmen, überproportional häufig auch andere Instrumente der aktiven Arbeitsmarktpolitik (wie z.B. soziale Arbeitsgelegenheiten)? Insgesamt bestätigen die Befunde, dass betriebliche Strukturmerkmale für den Einsatz von Eingliederungszuschüssen eine wichtige Rolle spielen.

1 Introduction

In many OECD countries, the persistent labor market problems—in particular regarding low-skilled workers with low earnings potential—have led to considerable interest in the use and impact of labor market policy measures aimed at improving the employment situation of this group (Immervoll and Pearson 2009). Targeted wage subsidies (Eingliederungszuschüsse) are temporary wage subsidies that can be granted to employers who hire individuals facing obstacles to placement. In Germany they are an important instrument of active labor market policy and are regulated by law in Social Code Book III. In the period from 2007 to 2010, more than 250,000 new hires per year were assisted by means of a targeted wage subsidy; the proportion of transitions from unemployment into employment that were assisted by a targeted wage subsidy amounted to five to six percent (Datawarehouse of the Statistics Department of the Federal Employment Agency). The subsidy is intended to offset (real or presumed) initial productivity deficits in the new job. In each individual case, the caseworker at the employment office has to decide about the amount and duration

The paper is an updated and shortened version of Bellmann and Stephan (2012).

L. Bellmann (✉) · G. Stephan
IAB, Nuremberg, Germany
e-mail: lutz.bellmann@iab.de

G. Stephan
e-mail: Gesine.Stephan@iab.de

of the subsidy. The regional use of the subsidy in a particular business year is decided and planned independently by the managements of the employment offices (Arbeitsagenturen) and job centers.

The specific eligibility conditions and the variants of the targeted wage subsidies provided for by law have changed repeatedly during the course of the last decade (Bernhard et al. 2007; Brussig et al. 2011). In the year 2003, several variants of wage subsidies were merged to a wage subsidy for individuals with placement obstacles ("Eingliederungszuschuss bei Vermittlungshemmnissen"). While obstacles to placement are not defined by law, examples can be a low qualification or an older age (Brussig and Schwarzkopf 2011, p. 22). From the year 2007 onwards, a number of different variants had been introduced, but the instrument was largely consolidated again during the year 2012. The current (and long time) main variant, the wage subsidy for individuals with obstacles to placement, provides funding of up to 50 percent of the wage for up to 12 months. The factual mean duration of the subsidy was around eight to nine months during the period 2001 to 2005, but has decreased to around five to six months since the year 2006. Mean monthly expenditures per subsidy amounted to up to 925 Euros in the former period and around 600 to 700 Euros in the latter period ("Eingliederungsbilanzen" of the Statistics Department of the Federal Employment Agency). The period for which the subsidy is granted is to be followed by a period of non-subsidized employment of the same duration. If the employer dismisses a subsidized employee during the period of subsidization or the obligatory follow-up period for reasons not related to the firm, he may be obliged to reimburse part of the subsidy received.

Recent studies on targeted wage subsidies mainly examine the effects on the employment prospects of individuals for whom the subsidy is granted (ZEW et al. 2006, Jaenichen and Stephan 2011; Ruppe 2011; Ruppe and Stephan 2009, Stephan 2010a, 2010b). The findings indicate that subsidized workers remain in the establishment longer and earn more cumulatively over a longer period than similar individuals who were hired without a wage subsidy. A recent implementation study (Brussig and Schwarzkopf 2011; Brussig et al. 2011) shows that caseworkers are experienced in using the subsidies and mainly assess their suitability for integrating hard-to-place individuals as positive. The subsidies are also relatively well-known among those responsible for human resources in firms. According to the caseworkers, wage subsidies are mostly granted as a result of requests from establishments. Caseworkers check whether support is necessary and whether the legal requirements for eligibility are met. If both factors apply, the amount and duration of the wage subsidy are "negotiated" with the establishment (within the framework of the legal regulations).

The last detailed studies of the use of targeted wage subsidies by firms in Germany were conducted almost a decade ago: on the basis of the IAB Establishment Panel for 1999 and a representative establishment survey, Hartmann (2004) investigated which establishments made use of different kinds of wage subsidies, what characteristics have a positive effect on the utilization and what circumstances and motives underlie firms' use of targeted wage subsidies. The study showed, among other things, that the use of targeted wage subsidies increases with the size and growth of the establishment.

This paper presents updated findings and looks in particular into the following questions: Is there a connection between the use of targeted wage subsidies and certain structural characteristics of employers (such as establishment size, industry, employment structure)? Does the labor turnover differ between establishments using and not using targeted wage subsidies? Do establishments utilizing targeted wage subsidies also use other labor market programs (e.g. job creation schemes) to a disproportionate degree?

2 Theoretical considerations

What establishment characteristics would be expected to result in targeted wage subsidies being used more or less than average? There are basically three reasons for establishments utilizing targeted wage subsidies:

1. Targeted wage subsidies reduce labor costs within a limited period of time. They are intended to offset actual or presumed productivity deficits of the workers for whom the subsidy is paid. In the medium to long run, these productivity gaps should be closed by means of on-the-job training and company further training.
2. On the firm's side, a main reason for using targeted wage subsidies is uncertainty about applicants' productivities (ZEW et al. 2006). The obstacle to recruit hard-to-place individuals are less often individual productivity deficits, but rather the lower productivity attributed to groups as long-term unemployed persons (Hartmann 2004). If wage costs are partially covered by the employment agency, establishments face fewer risks (during the probationary period and afterwards) when hiring new workers.
3. Industry-wide and company collective agreements may not be flexible enough to take into account the comparatively low productivity of certain groups of workers—also because these collective agreements set fairness standards (Gerlach et al. 2008).

These considerations have several implications for the empirical analysis: From the firms' point of view, targeted wage subsidies pay off when workers' productivity increases substantially after a limited amount of on-the-job training, or when induction costs are comparatively low.

This can be assumed to be the case in particular for low-skilled workers.

Furthermore, the subsidy pays off if and only if a certain minimum period of employment can be expected: In case studies of firms, Hartmann (2004) showed that flexibility requirements deterred firms from hiring subsidized workers. Firms use targeted wage subsidies when they assume that they will not have to pay back some of the subsidy because of a dismissal during the subsidy period or the obligatory follow-up period. It can therefore be presumed that in particular growing firms and firms with comparatively stable workforces would be interested in the program.

A higher incidence of targeted wage subsidies in larger establishments seems plausible in the light of the greater experience and professionalizing of their personnel departments compared to those of smaller and medium sized establishments. Larger companies are also more attractive cooperation partners for local employment agencies. Furthermore, in Germany, provisions for protection against dismissal are less strict for small and medium-sized firms (OECD 2004). Uncertainty about applicants' productivities should therefore be less important for these establishments. This suggests that targeted wage subsidies might be more attractive for larger enterprises. The association may also be due to a statistical artefact: Larger establishments tend to hire a larger absolute number of workers, so it is more likely that they get subsidies for at least one of them. Finally, establishments that are unable to take individual differences in productivity sufficiently into account in their workers' pay as they are bound by industry-wide or company wage agreements should be more likely to use targeted wage subsidies. This may be of importance in particular for the group of low-skilled workers.

Although this paper is not about the effects of targeted wage subsidies, but about the determinants of their use, we conclude with a few remarks about possible employment effects of subsidies. If productivity deficits or deficits in the information available about the subsidized workers' actual abilities can be reduced during the subsidy period, then this facilitates a permanent integration into working life (Ruppe 2011; Ruppe and Stephan 2009; Stephan 2010a). In addition, targeted wage subsidies also have indirect effects: If they overcompensate for the productivity deficits of the subsidized workers, they reduce labor costs for a limited period. In this case demand for labor could even increase. Furthermore, the "competitiveness" of the subsidized workers should increase with their work experience. However, undesired side-effects may also occur: Deadweight losses correspond to the number of new hires that would have taken place even without the subsidy; in this case, insurance contributions or taxes would have been spent unnecessarily. Substitution or displacement effects occur when subsidized workers replace regularly employed workers, either in the same firm or by moving production to firms that are able to produce cheaper due to the employment of subsidized workers (Calmfors 1994). In a survey conducted by Hartmann (2004) firms answered that they would have hired around 40 to 60 per cent of subsidized persons without receiving the subsidy. This share is smaller for workers with severe obstacles to reintegration. However, as firms retrospectively assessed their subsidized workers these figures cannot directly be interpreted as deadweight effects. Other studies (Boockmann et al. 2012; Schuenemann et al. 2011) analyze the effects of the eligibility to participate in a scheme on the labor market prospects of the eligible population. While these studies do mostly not find significant effects on labor market outcomes of the treatment groups, effects are nonetheless difficult to interpret (see Wolff and Stephan 2013 for a discussion).

3 Data

The IAB Establishment Panel (Fischer et al. 2009) has been conducted as a survey since the year 1993. In the first waves, this survey of establishments covered between 4265 (1993) and 4096 (1995) establishments in West Germany. In 1996 over 4300 establishments in East Germany were added. From the year 2000 onwards, there were further additions, funded by the Halle Institute for Economic Research (Institut für Wirtschaftsforschung Halle) and almost all of the federal states of western Germany. In the meantime, approximately 16,000 establishments are yearly surveyed in personal interviews by TNS Infratest Social Research (Munich).

The population of the sample is the establishment file of the Federal Employment Agency (Bundesagentur für Arbeit), which contains all establishments in Germany with at least one employee covered by social security, i.e. establishments from all sectors of the economy and of all sizes. The response rate among the establishments interviewed repeatedly is exceptionally high, at over 80 percent. In every wave, newly founded establishments are incorporated into the survey sample. Each year, around 100 questions are asked about topics such as the development and structure of the workforce, business policy, investments, wages, working hours and initial and further training.

The 2003, 2005, 2007 and 2009 waves are used for the following analyses, as questions were asked about the use of labor market policy instruments in these waves. The questions about this subject always refer to use in the previous year. Only a few establishments (216 observations, unweighted across all four waves), which did not answer the question about targeted wage subsidies, were excluded. The period following the latest large reform of labor market policy instruments during the year 2011 is not covered by the

data (as questions on the use of active labor market policy instruments has not been asked since 2009). However, the basic structure of this instrument has remained largely unchanged over time.

4 Which establishments use targeted wage subsidies?

Table 1 first presents selected descriptive findings. A distinction is made between establishments that used targeted wage subsidies in the previous year and establishments that did not. The former are also referred to as "user establishments" below. For the descriptive analysis, we use population weights.

Table 2 contains the results of a probit estimate in which the use of targeted wage subsidies (again in the previous year) is explained by various establishment characteristics. Estimates are based on unweighted data. Estimated coefficients do not display causal effects, but rather correlations between the use of targeted wage subsidies and establishment characteristics. The table shows average marginal effects, which indicate how strongly the probability of using targeted wage subsidies increases on average if the value of the respective variable increases by one.

In the period under observation, establishments reported most frequently during the years 2003 and 2007 that they had used targeted wage subsidies in the previous year (Table 1). As can be seen from the last row, during these years around five percent of the establishments received targeted wage subsidies. The number of user establishments fell from 102,000 (2003) to 86,000 (2009). This also corresponds with the development of individual program entries (Datawarehouse of the Statistics of the Federal Employment Agency): From 2002 to 2005, yearly entries fell from nearly 190,000 to just over 130,000. In 2006, the number of entries rose again to just under 220,000, and did not fall below 250,000 during the years 2007 to 2010. These fluctuations are associated both with changes in the availability of alternative labor market programs and with changes in funds available.

Around 60 percent of the user establishments, but 80 percent of the non-users are located in West Germany. The targeted wage subsidies are therefore used relatively more frequently by East German establishments. Table 2 shows that the likelihood of using the subsidy is still up to eight percentage points lower in western Germany when characteristics such as industry structure and establishment size structure as well as other establishment-structure characteristics are controlled for. This might be due to differences in firm's behavior, but also to differences in the regional availability of funding.

The use of targeted wage subsidies is concentrated in certain sectors of the economy (Table 1). These are in particular wholesale, retail and repair, construction, health and social work, and business services. However, these sectors are also the largest across those firms that do not utilize the program. Interestingly, the proportion of user establishments that are in the business services sector rose to almost a fifth over time. This is probably related to the increasing role of temporary agency work in firms' human resources strategies. This corresponds with findings obtained by Stephan (2010b), who examines newly hired subsidized and unsubsidized workers and shows that the construction industry and the temporary agency work sector accounted for an especially large proportion of the subsidized workers recruited. The reference category in the probit estimate (Table 2) is wholesale, retail and repair; here it can be seen that targeted wage subsidies are used considerably more often, ceteris paribus, in particular in the health and social work sector, while they are significantly less common in financial intermediation. This could be due to the fact that costs of on-the-job learning differ across sectors—as mentioned above, targeted wage subsidies are an adequate instrument in particular when these costs are not too high.

The majority of the user firms are rather small (Table 1): Small establishments with no more than 20 employees account for about 70 percent of firms using targeted wage subsidies, whereas large enterprises with more than 500 employees constitute only a fraction of them. However, a comparison of the proportions of users and non-users according to establishment size class shows that the proportion of establishments that utilize targeted wage subsidies grows with the establishment size class. Larger establishments are more likely to have personnel departments with the knowledge and skills required to apply for subsidies. In addition, in larger establishments the risk involved in hiring hard-to-place individuals is comparatively high as a result of employment protection regulations. This risk can be cushioned by the subsidy. Table 2 also shows that the probability of using targeted wage subsidies increases with the size of the establishment: The likelihood is about 20 percentage points higher in large enterprises, ceteris paribus, than in the reference category of small establishments.

At first sight the proportion of skilled workers appears to be larger in the user establishments. However, Table 2 reveals that, ceteris paribus, the likelihood of using the instrument decreases with the skills level of the workforce. Again, this could be associated with the fact that productivity deficits can be reduced by means of on-the-job training in particular among less skilled workers. Furthermore, low qualification can be a serious obstacle to placement, which raises the probability of subsidization. The proportion of women is slightly smaller in user establishments, while the proportion of employees with fixed-term contracts is larger (Tables 1 and 2).

Company institutions for employee representation, too, can play a role in whether establishments make use of

Table 1 Use of targeted wage subsidies by establishment characteristics, column percentages of establishments

Use of wage subsidies in previous year	2003		2005		2007		2009	
	No	Yes	No	Yes	No	Yes	No	Yes
Western Germany	82	58	82	56	80	66	80	65
Eastern Germany	18	42	18	44	20	34	20	35
Agriculture, hunting & forestry	3	4	3	3	3	1	2	3
Mining and electricity & gas	0	0	0	0	0	0	1	1
Food products	2	2	2	5	2	3	2	1
Consumer goods	2	2	2	3	2	2	1	3
Producer goods	2	3	2	3	2	3	1	2
Capital goods/consumer durables	4	10	5	7	5	9	5	7
Construction	11	10	11	12	11	10	11	11
Wholesale, retail and repair	22	17	22	18	22	18	21	14
Transport and communication	5	6	5	8	5	5	7	7
Financial intermediation	2	2	3	1	3	1	3	1
Hotels and restaurants	7	4	7	7	7	5	7	5
Education	2	3	3	2	3	2	3	3
Health and social work	10	10	10	10	11	14	10	14
Business services	13	14	16	14	17	19	17	18
Other service activities	8	6	5	2	5	5	5	3
Non-profit organizations	5	5	4	3	4	3	4	6
Est. size below 20 employees	91	70	91	68	91	66	90	68
Est. size 20 to 99 employees	8	21	8	23	7	24	8	21
Est. size 100 to 499 emp's	1	7	1	8	1	8	2	9
Est. size 500 or more emp's	0	1	0	1	0	1	0	2
Proportion unskilled workers	20	22	19	20	17	20	16	24
Proportion skilled workers	49	53	48	55	50	57	50	53
Proportion graduates	5	7	6	7	6	8	7	6
Proportion trainees	4	4	4	4	4	4	4	4
Proportion owners	23	14	24	13	23	11	23	13
Proportion women	47	42	47	45	47	41	48	46
Proportion fixed-term workers	3	7	3	7	4	8	3	8
Works council	8	15	8	14	8	14	8	14
Industry-level agreement	39	29	34	27	32	32	32	32
Firm-level agreement	3	6	3	5	3	5	3	5
Employment growth rate	−1	3	−1	3	0	5	0	3
Labor turnover rate	10	20	10	19	10	20	10	19
Increase in employment expected	9	20	9	17	13	28	10	17
Decrease in employment expected	12	18	10	15	6	7	8	9
Number in thousands	2013	102	1954	67	1895	96	1932	86
Proportion with targeted wage subsidy		4.84		3.31		4.84		4.28

IAB Establishment Panel, weighted data. If different percentages are displayed for the two groups of establishments, the differences are always highly significant

Table 2 Probit estimates of the use of targeted wage subsidies, average marginal effects

Use of wage subsidies in previous year	2003	2005	2007	2009
Western Germany	−0.08**	−0.07**	−0.04**	−0.04**
Agriculture, hunting & forestry	0.03	−0.00	−0.07**	0.03
Mining and electricity & gas	−0.02	−0.04	−0.06*	−0.02
Food products	0.02	−0.00	0.02	0.00
Consumer goods	−0.01	−0.00	−0.00	0.04*
Producer goods	0.00	0.01	0.01	0.01
Capital goods/ consumer durables	0.03*	0.00	0.02	0.02
Construction	−0.00	0.00	0.02	0.02
Transport and communication	−0.00	−0.03*	−0.03*	0.01
Financial intermediation	−0.09**	−0.09**	−0.09**	−0.06**
Hotels and restaurants	−0.01	0.01	−0.02	−0.01
Education	0.05**	0.00	0.01	0.04*
Health and social work	0.07**	0.05**	0.09**	0.09**
Business services	0.02	−0.00	0.03*	0.03**
Other service activities	−0.01	−0.00	0.03	−0.01
Non-profit organizations	0.02	−0.01	0.02	0.06**
Est. size 20 to 99 employees	0.10**	0.08**	0.10**	0.09**
Est. size 100 to 499 employees	0.18**	0.14**	0.17**	0.15**
Est. size 500 or more employees	0.22**	0.18**	0.21**	0.20**
Proportion skilled workers	−0.04**	−0.02*	−0.01	−0.03**
Proportion graduates	−0.04*	−0.06**	−0.07**	−0.10**
Proportion trainees	−0.01	−0.04	−0.06	−0.01
Proportion owners	−0.15**	−0.20**	−0.21**	−0.14**
Proportion women	−0.04**	−0.02*	−0.04**	−0.02*
Proportion fixed-term workers	0.05**	0.02	0.06**	0.08**
Works council	−0.02*	−0.03**	−0.03**	−0.03**
Industry-level agreement	−0.04**	−0.03**	−0.03**	−0.02*
Firm-level agreement	−0.01	−0.01	−0.03**	−0.02*
Employment growth rate	0.08**	0.06**	0.07**	0.05**
Labor turnover rate	0.05**	0.05**	0.07**	0.06**
Increase in employment expected	0.04**	0.04**	0.04**	0.03**
Decrease in employment expected	0.01	−0.01	−0.01	−0.01
Number of establishments	15,820	15,749	15,593	15,422
Pseudo coefficient of determination	0.12	0.12	0.14	0.13

IAB Establishment Panel, unweighted data: $^{*}\alpha = 0.05$, $^{**}\alpha = 0.01$

Reference: eastern Germany, wholesale, retail and repair, below 20 employees

targeted wage subsidies. Establishments that used targeted wage subsidies in the previous year were relatively more likely to have a works council during all years under observation (Table 1). In 2003 and 2005, user establishments were bound to industry-wide collective agreements comparatively less frequently, but concluded company collective agreements proportionally more frequently (Table 1). Table 2 illustrates, however, that positive correlations have to be attributed to establishment size: In the multivariate estimates, the likelihood of using targeted wage subsidies is lower in establishments that have a works council or apply an industry-wide of firm level wage agreement. In this respect, the theoretical consideration that "inflexible" collective agreements foster the use of targeted wage subsidies cannot be confirmed. These results remain stable even if we restrict our analysis on the group of firms with up to 200 employees (as nearly all larger firms will have a works council).

Finally, it is of interest whether a relationship can be determined between the use of wage subsidies and the firm's

Table 3 Use of targeted wage subsidies by use of other labor market programs and cooperation with FEA, column percentages of the establishments

Dependent variable: Use of wage subsidies in previous year	2003		2005		2007		2009	
	No	Yes	No	Yes	No	Yes	No	Yes
Recruitment subsidy for new firms	0	2	0	1				
Training measures for the unemployed					1	9	0	6
Job-creation measures	1	5	1	4	1	6	0	4
Structural adjustment measures	1	3	0	3				
One-Euro-jobs			2	6	2	8	1	9
Work opportunities (wage variant)							0	3
Wage subsidy for the severely hard-to-place							1	6
Youth program (Jugendsofortprogramm)	1	5	0	3				
Support vocational training	1	2	1	4	1	5		
Internships for work preparation					5	17	3	8
Entry-level training for young people					1	5	1	4
Vocational training bonus							0	3
Part time retirement	1	5	2	5	3	14	3	13
Other measures	4	12	2	8	1	8	1	8
No subsidy	92	0	94	0	91	0	94	0
Vacancies reported to FEA	3	12	2	12	5	15	4	13
Proportion of reported vacancies	42	62	38	65	40	53	43	54
Number in thousands	2013	102	1954	67	1895	96	1932	86

IAB Establishment Panel, weighted data. If different percentages are displayed for the two groups of establishments, the differences are always highly significant. Other measures: Work not welfare (Arbeit statt Sozialhilfe), employment assistance for the long-term unemployed, structural adjustment measures for business enterprises in eastern Germany, occupational rehabilitation measures for disabled workers, further training subsidies

employment growth, also because—as mentioned above—firms have to pay back part of the subsidies if they (have to) dismiss subsidized workers during the period of subsidized employment or the obligatory follow-up period. The employment growth rate is computed as the difference between employment inflows and outflows during the first six months of the survey year (questions on these topics are restricted to this period) in relation to the mean number of employees in this and the previous year. The labor turnover rate is the sum of inflows and outflows during the first six months of the survey year in relation to the mean number of employees in this and the previous year. Table 1 illustrates that employment growth was considerably higher in user establishments than in non-user establishments in all four years examined. Their labor turnover rates were even twice as high. Finally, considerably more user establishments expected either an increase or a decrease in employment for the coming year. Table 2 confirms that both employment growth and labor turnover are significantly higher, ceteris paribus, if an establishment uses targeted wage subsidies. In addition, establishments expecting an increase in employment made ceteris paribus more use of targeted wage subsidies. This is consistent with the hypothesis that only establishments, which expected subsidized workers to remain in the establishment for a sufficiently long time period made use of the program.

5 Joint use with other programs

Tables 3 and 4 accordingly present analyses of the relationship between the use of targeted wage subsidies and other active labor market policy programs. In the estimates in Table 4, establishment characteristics taken into account in the previous section are controlled for.

Across all panel waves, establishments that utilized targeted wage subsidies in the previous year used other labor market programs more frequently, too (Table 3)—different programs were therefore not used as substitutes for each other. Since 2007, for example, almost a tenth of the user establishments have also taken advantage of so-called "One Euro Jobs" (a job creation scheme for individuals receiving social assistance), and this was the case for only two percent of the non-user establishments. More than 90 percent of the establishments that did not receive a targeted wage subsidy were also not in receipt of support via any other instruments. When applying for subsidies it is obviously helpful if the

Table 4 Probit estimates of the use of targeted wage subsidies, average marginal effects

Dependent variable: Use of wage subsidies in previous year	2003	2005	2007	2009
Recruitment subsidy for new firms	0.11**	0.01		
Training measures for the unemployed			0.12**	0.11**
Job-creation measures	0.02	0.03**	0.05**	0.01
Structural adjustment measures	0.02	0.02		
One-Euro-jobs			0.07**	0.05**
Work opportunities (wage variant)				0.01
Wage subsidy for the severely hard-to-place				0.09**
Youth program (Jugendsofortprogramm)	0.10**	0.07**		
Support vocational training	0.05**	0.05**	0.07**	
Internships for work preparation			0.04**	0.02*
Entry-level training for young people			0.06**	0.07**
Vocational training bonus				0.11**
Part time retirement	0.05**	0.04**	0.03**	0.03**
Other measures	0.08**	0.05**	0.07**	0.06**
Vacancies reported to FEA	0.05**	0.06**	0.05**	0.04**
Number of establishments	15,820	15,749	15,593	15,422
Pseudo coefficient of determination	0.15	0.15	0.20	0.18

IAB Establishment Panel, unweighted data: $^{*}\alpha = 0.05$, $^{**}\alpha = 0.01$

Reference: no subsidy. Control variables: see Table 2

establishment also has experience with funding from other labor market programs.

These results hold also in the multivariate estimates: Table 4 demonstrates for instance that, all other things being equal, the probability of using targeted wage subsidies is up to seven percentage points higher if the establishment also makes use of One Euro Jobs. The relationship to using a kind of wage subsidy that can be granted to an employer who hires a worker with severe barriers to employment (Beschäftigungzuschuss) is even stronger.

Furthermore the analyses confirm that establishments using firm-internal training measures for the unemployed ("betriebliche Trainingsmaßnahmen") also used wage subsidies to a greater extent. These training measures are internships that do not involve any costs at all for the establishment and during which unemployed individuals continue to draw unemployment benefit. These measures could therefore constitute an economical alternative to targeted wage subsidies from the viewpoint of the public employment service. However, there is some evidence that firms combine the use of both instruments at an individual level, by subsequently applying for a wage subsidy to recruit a worker after a training measure had taken place (ZEW et al. 2006). Jaenichen and Stephan (2011) show for this sequence: A subsequent wage subsidy has only comparatively small effects on individual employment prospects.

Interestingly, firms that make use of wage subsidies also turn to the Federal Employment Agency (FEA) more often when searching for staff (Table 3): At the time when the surveys were conducted, a maximum of five percent of the non-user establishments had reported vacancies to the employment agency, but as many as 15 percent of the user establishments had done so. Furthermore, the proportion of their vacancies that user establishments reported to the employment agency was up to 25 percentage points larger. Table 4 shows that, ceteris paribus, establishments which reported a vacancy to the employment agency were around five percent more likely to use targeted wage subsidies.

As the relationship between the uses of different labor market policies might vary with firm size, we repeat the analysis for the subset of firms with less than 100 employees in Table 5. Marginal effects are often slightly smaller for this group of firms, but the general picture remains unchanged. Results remain also qualitatively stable if we restrict the analysis to firms with less than 50 or less than 200 employees (without Tables).

6 Conclusions

Although in many countries there is considerable interest in labor market policy measures aimed at improving the employment situation of people who are hard to place, there are so far only a few studies on the use of targeted wage subsidies by firms. Analyses conducted using the data from the IAB Establishment Panel show first, that the use of the

Table 5 Probit estimates of the use of targeted wage subsidies, average marginal effects, only firms with less than 100 employees

Dependent variable: Use of wage subsidies in previous year	2003	2005	2007	2009
Recruitment subsidy for new firms	0.10*	0.02		
Training measures for the unemployed			0.11**	0.12**
Job-creation measures	0.03	0.01	0.05**	0.01
Structural adjustment measures	0.05**	0.04**		
One-Euro-jobs			0.05**	0.03*
Work opportunities (wage variant)				0.02
Wage subsidy for the severely hard-to-place				0.07**
Youth program (Jugendsofortprogramm)	0.08**	0.08**		
Support vocational training	0.03*	0.05**	0.07**	
Internships for work preparation			0.04**	0.02
Entry-level training for young people			0.06**	0.05**
Vocational training bonus				0.06**
Part time retirement	0.04**	0.02	0.04**	0.04**
Other measures	0.05**	0.03**	0.06**	0.04**
Vacancies reported to FEA	0.05**	0.05**	0.05**	0.02**
Number of establishments	11,953	11,835	12,110	12,030
Pseudo coefficient of determination	0.122	0.134	0.175	0.144

IAB Establishment Panel, unweighted data: $^{*}\alpha = 0.05$, $^{**}\alpha = 0.01$

Reference: no subsidy. Control variables: see Table 2

instrument by firms varies considerably over time. This reflects developments in individual inflows into the wage subsidy scheme.

Second, findings confirm that establishment characteristics are of importance in a firm's decision as to whether to make use of targeted wage subsidies: The instrument is used more in East than in West Germany, which might be partly due to the regional availability of funds. Establishments using the subsidies are concentrated in certain sectors of the economy, such as wholesale, retail and repair, construction, health and social work, and business services, and the proportion of establishments using wage subsidies increases with establishment size. The probability that an establishment utilizes wage subsidies decreases with the qualification of the workforce, the proportion of employees with permanent contracts, and the proportion of women. Furthermore, establishments using wage subsidies are less likely to take part in industry-wide collective agreements, but more likely to have firm-level agreements than establishments that do not use wage subsidies. Growing establishments and those with a higher level of labor turnover utilize targeted wage subsidies more frequently than other establishments. All in all, real or perceived productivity deficits of newly hired workers can probably be more easily be fixed in firms with particular features. In addition, targeted wage subsidies can offset certain risks during the probationary period and afterwards.

Third, establishments that make use of wage subsidies also frequently use other active labor market programs, and they cooperate more often with the Federal Employment Agency when searching for employees. This finding confirms the function of targeted wage subsidies as a "door opener" that is occasionally reported by employment office caseworkers (Brussig and Schwarzkopf 2011, p. 100): The public employment service has latitude about the granting of subsidies; this provides an incentive for firms to build up relationships to the local labor market agency. In turn, these relationships provide caseworkers with an opportunity to suggest registered job searchers for vacancies within these firms.

Executive summary

One of the major challenges for active labor market policy is re-integrating hard-to-place workers into the labor market. In Germany, the so-called "Eingliederungszuschuss"—a temporary wage subsidy—can be granted to employers if they hire workers with obstacles to placement. Based on the 2003, 2005, 2007 and 2009 waves of the IAB Establishment Panel, this paper looks into the following questions: Is there a connection between the use of targeted wage subsidies and certain structural characteristics of the establishment, such as establishment size, industry and employment structure? Is the labor turnover of establishments that make use of wage

subsidies higher than that of similar establishments that do not? Do establishments that utilize targeted wage subsidies also utilize other active labor market programs (e.g. work opportunities) to a disproportionate degree?

The findings confirm that establishment characteristics are of importance in a firm's decision as to whether to make use of targeted wage subsidies: The instrument is used relatively more often in East than in West Germany, which might be partly due to the regional availability of funds. Establishments using the subsidies are concentrated in certain sectors of the economy, such as wholesale, retail and repair, construction, health and social work, and business services, and the proportion of establishments using wage subsidies increases with establishment size. The probability that an establishment utilizes wage subsidies decreases with the qualification of the workforce, the proportion of employees with permanent contracts, and the proportion of women. Furthermore, Establishments using wage subsidies are less likely to take part in industry-wide collective agreements, but more likely to have firm-level agreements than establishments that do not use wage subsidies. Growing establishments and those with a higher level of labor turnover utilize targeted wage subsidies more frequently than other establishments. All in all, real or perceived productivity deficits of newly hired workers can probably be more easily be fixed in firms with particular features. In addition, targeted wage subsidies can offset certain risks during the probationary period and afterwards.

Furthermore, establishments that make use of wage subsidies also more frequently use other active labor market programs, and they cooperate more often with the Federal Employment Agency when searching for employees. This finding confirms the function of targeted wage subsidies as a "door opener" that is occasionally reported by employment office caseworkers.

Kurzfassung

Eine der größten Herausforderungen für die aktive Arbeitsmarktpolitik besteht darin, Arbeitslose mit Vermittlungshemmnissen wieder in den Arbeitsmarkt einzugliedern. In Deutschland können Arbeitgeber Eingliederungszuschüsse als zeitlich befristete Lohnkostenzuschüsse erhalten, wenn sie Arbeitslose mit Vermittlungshemmnissen einstellen. Auf der Basis der IAB-Betriebspanelwellen der Jahre 2003, 2005, 2007 und 2009 untersucht der Beitrag folgende Fragen: Gibt es einen Zusammenhang zwischen der Inanspruchnahme von Eingliederungszuschüssen und bestimmten betrieblichen Strukturmerkmalen wie Betriebsgröße, Branche und Beschäftigtenstruktur? Ist die Personalfluktuation in Betrieben, die Eingliederungszuschüsse in Anspruch nehmen, größer als in Betrieben, die das nicht tun? Nutzen Betriebe, die Eingliederungszuschüsse in Anspruch nehmen, überproportional häufig auch andere Instrumente der aktiven Arbeitsmarktpolitik (wie z.B. soziale Arbeitsgelegenheiten)?

Die Ergebnisse der Studie bestätigen, dass betriebliche Strukturmerkmale für den Einsatz von Eingliederungszuschüssen eine wichtige Rolle spielen: Eingliederungszuschüsse werden häufiger von ostdeutschen Betrieben eingesetzt, was auch mit der regionalen Verfügbarkeit von Fördermitteln zusammenhängen kann. Die Nutzung von Eingliederungszuschüssen konzentriert sich auf die Branchen Handel und Reparatur, das Baugewerbe, die Gesundheit und Soziales sowie unternehmensnahe Dienstleistungen. Größere Betriebe nutzen Eingliederungszuschüsse stärker als kleinere. Die Wahrscheinlichkeit für die Nutzung von Lohnkostenzuschüssen steigt mit dem Qualifikationsniveau, dem Anteil von dauerhaft Beschäftigten und von Frauen. Weiterhin sind Betriebe mit Eingliederungszuschüssen seltener an Flächentarifverträge, aber häufiger an Firmentarifverträge gebunden als andere Betriebe. Betriebe mit wachsender Beschäftigung und solche mit einer höheren Personalfluktuation nutzen häufiger Lohnkostenzuschüsse. Dies lässt vermuten, dass in diesen Betrieben tatsächliche und vermutete Produktivitätsnachteile der geförderten Arbeitnehmer tendenziell besser abgebaut werden können. Hinzu kommt, dass diese Betriebe seltener davon ausgehen, dass sie die Förderung aufgrund einer vorzeitigen Entlassung zurückzahlen müssen.

Darüber hinaus ist auffällig, dass Betriebe, die Eingliederungszuschüsse in Anspruch nehmen, auch andere arbeitsmarktpolitische Instrumente öfter einsetzen. Sie kooperieren zudem häufiger mit der Arbeitsagentur, wenn sie Stellen ausschreiben. Vermittlungsfachkräfte sprechen deshalb gelegentlich von Eingliederungszuschüssen als „Türöffner" für eine weitergehende Zusammenarbeit mit Betrieben.

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Lutz Bellmann is head of both the IAB Establishment Panel Project and the IAB Department for Establishment and Employment. Since 2009 he has also been professor of Labor Economics at the Friedrich-Alexander-University Erlangen-Nuremberg. Prof. Bellmann has published in international journals such as Industrial Relations, Journal of Applied Social Science and British Journal of Industrial Relations. His current research interests include employer-employee data, econometric studies in labor economics, especially employment, apprenticeship training, further training, industrial relations and labor market effects of foreign firms. E-mail: Lutz.Bellmann@iab.de

Gesine Stephan is head of the research unit ”Active Labor Market Policies and Integration” at the Institute for Employment Research (IAB). She has also been a professor of Empirical Microeconomics at the Friedrich Alexander University of Erlangen-Nuremberg since the year 2009. Professor Stephan’s main research interests are in the field of applied micro-econometric labor market research. Currently she is working in particular on the evaluation of active labor market programmes. The results of her work have been published in Applied Economics, the Cambridge Journal of Economics, Economics Letters, Industrial Relations, and other journals. E-Mail: Gesine.Stephan@iab.de