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ABSTRACT

Is Temporary Agency Employment a Stepping Stone for Immigrants?*

We investigate whether agency employment is a bridge into regular employment for immigrants to Denmark using the timing-of-events approach. We provide evidence of large positive in-treatment effects, particularly for non-western immigrants and immigrants arriving during childhood. Post-treatment effects are fairly high for male non-western immigrants and immigrants from Eastern Europe.

JEL Classification: J61, J64, J68

Keywords: immigrants, temporary agency employment, stepping stone

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1. Introduction

In most countries immigrants are overrepresented in the unemployment pool, are only eligible for social assistance, and their poverty risk is high. Often it is claimed that they represent a financial burden in terms of public expenditure. Consequently, successful labor market integration of immigrants has become a major issue in most industrialized countries.

The aim of this paper is to investigate whether temporary agency employment (TAE) is a bridge into regular employment for immigrants in Denmark. Albeit recent literature on the stepping stone effect of TAE has shown that TAE is barely a bridge into permanent work (see e.g. Autor, 2009), we argue that TAE might be a successful pathway for immigrants into the labor market for three reasons: First, employers have often difficulties observing the productivity of workers educated in a different environment. TAE enables them to reduce information asymmetries and to screen workers without committing themselves to a permanent employment contract. Second, immigrants might be able to build up not only general but also country specific human capital, such as language skills. Finally, through TAE, immigrants may also get labor market contacts that can later lead to stable jobs.

The paper contributes to the literature in several ways: It is the first paper investigating in detail whether TAE speeds up the integration process in terms of regular employment for immigrants. Moreover, we refine the timing-of-events approach developed by Abbring and van den Berg (2003) by not only taking explicitly into account the endogeneity of the treatment decision, but also the duration of the treatment itself. Taking into account both sources of endogeneity is of particular interest if one analyses the stepping stone effect of TAE for immigrants as the motivation to accept an agency job is less obvious and immigrants might be less interested in building up a stable employment career if they consider to return to their home country at a later point in time.

2. Methodological approach

To estimate the effect of TAE on the exit rate from unemployment to employment, both during and after the treatment, we use the timing-of-events approach¹. The hazard rate into a regular job is assumed to be a Mixed Proportional Hazard (MPH):

$$\theta_u(t|x, d_1(t), d_2(t), v_u) = \lambda_u(t) \exp[x\beta_u + d_1(t)\gamma_1 + d_2(t)\gamma_2 + v_u] \quad (1)$$

T_u is a continuous random variable measuring the time from becoming unemployed to being hired into non-temp employment, $\lambda_u(t)$ is the baseline hazard, x a vector of observed variables, v_u is the unobserved heterogeneity term that accounts for possible selectivity in the exit process. $d_1(t)$ and $d_2(t)$ are time-varying indicators, one for being in treatment (d_1) and one for having been in treatment earlier during unemployment (d_2). We model the baseline hazard using a piecewise-constant specification.

The transition rate into TAE is specified as:

$$\theta_p(t|x, v_p) = \lambda_p(t) \exp[x\beta_p + v_p] \quad (2)$$

where T_p denotes the time from becoming unemployed until the person finds an agency job.

Next, we extend the timing-of-events approach by modeling explicitly the treatment duration. Let T_d denote the treatment dose which measures the (potentially latent) time until a transition into open unemployment (. The treatment duration is modeled as²:

$$\theta_d(t|x, t_p, z, v_d) = \lambda_d(t) \exp[x\beta_d + f(t_p) + z\gamma + v_d] \quad (4)$$

As further controls, z , we included the wage received during the temp job, the number of previous treatments, as well as the accumulated number of weeks in temp jobs before the current temp spell. In this case the likelihood function becomes:

¹ See Abbring and van den Berg (2003) for details about the model and basic assumptions.

² Note that transitions from treatment directly into regular employment are already taken into account in equation 1.

$$\begin{aligned}
L(v_u, v_p, v_d) &= \prod_{i=1}^N L_i(v_u, v_p, v_d) \\
&= \theta_p[t_{pi}|x_i, v_p]^{I[t_{pi}<t_{ui}]} \theta_d[t_{di}|x_i, t_p, z, v_d]^{I[t_{pi}+t_{di}<t_{ui}]} \theta_u[t_{ui}|x_i, d_1(t_{ui}), d_2(t_{ui}), v_u]^{C_i} \\
&\times \exp \left\{ - \int_0^{t_{pi}} \theta_p[s|x_i, v_p] ds - \int_0^{t_{di}} \theta_d[t|x_i, t_p, z, v_d] dt - \int_0^{t_{ui}} \theta_u[r|x_i, d_1(t), d_2(t), v_u] dr \right\}
\end{aligned}$$

The distribution of unobserved variables is approximated non-parametrically by a trivariate discrete distribution with five mass points.

3. Data

Our analysis is based on Danish register data allowing us to construct workers (un-)employment careers on a weekly basis.³ We use all immigrants and descendants of immigrants (2. generation) aged 16 to 60 who were employed by a temp agency at least once during an unemployment spell and a two percent random sample of all other individuals starting unemployment during the period 1997 to 2006.

Particular of interest for our purpose is the year when workers immigrated, the country of origin, and the immigration type (1st or 2nd generation). We coded 1st generation immigrants as having arrived as a child if they received their education in Denmark. Information on the source country is used to differentiate between the three biggest groups among the unemployed immigrants, Turks, Pakistanis, and immigrants coming from former Yugoslavia. Immigrants from the EU are divided in EU-15 and EU-East immigrants. Norwegian and Icelandic unemployed are grouped together with immigrants from other western countries; remaining immigrants are summarized as non-western immigrants. Table 1 describes the sample means of the variables of interest and main events and outcomes.

The median unemployment duration in weeks for the reference group (without temp experience during the unemployment spell) is 13 to 15 weeks; the median unemployment duration until the first

³ Further details about the data set, selection decision and standard control variables can be found in Jahn and Rosholm (2010).

temp job is 16 weeks. Table 1 also shows that about three quarters of the treatment and about half of the control group ended up in regular employment. This indicates that we have to deal either with selectivity or TAE might be a stepping stone into regular employment.

Table 1: Selected sample statistics (means)

	Men		Women	
	Treatment	Control	Treatment	Control
Ethnic origin				
EU-15	0.193	0.156	0.281	0.178
Western	0.093	0.068	0.126	0.083
EU-East	0.044	0.034	0.107	0.076
Turkey	0.089	0.137	0.084	0.154
Pakistan	0.065	0.070	0.068	0.061
Yugoslavia	0.083	0.101	0.056	0.085
Non-western	0.435	0.435	0.277	0.362
Immigration type				
2. Generation	0.635	0.643	0.586	0.621
Immigrated as child	0.241	0.242	0.256	0.243
Immigrated as adult	0.125	0.115	0.158	0.137
Social assistance	0.355	0.367	0.226	0.294
Median duration of unemployment / time until start of a temp job (weeks)	15	16	13	16
Median duration temp job (weeks)	7		6	
Exit to regular jobs (%)	72	51	73	51
Observations	1,100	12,671	747	8,893

4. Results and Discussion

The selection equations provide no evidence that one particular type of migrants (1st of 2nd generation) has a higher transition rate into temp jobs.⁴ Coming from non-western countries, Yugoslavia, Turkey, and Pakistan is associated with having a lower probability of undertaking temp jobs compared to all other immigrants. The transition rate into TAE is significantly lower for workers receives social assistance when compared to unemployment insurance benefit recipients (men: -0.658, women: -0.727).

⁴ The detailed results for the selection into TAE, out of TAE, and the hazard rate into regular employment are available upon request.

Regarding selection out of the treatment back into unemployment we find that men with more agency experience have a lower probability of falling back into unemployment (-0.133). The number of past treatments increases the probability to re-enter into unemployment, indicating that TAE may stigmatize the unemployed (men: 0.184; women: 0.198). The wage received during temp jobs has no effect on the transition rate back into unemployment. Finally, as expected, the hazard rate into regular employment is lower for all non-western immigrants compared to the reference group of EU-15 immigrants.

Table 2: Causal effects of TAE

	Men				Women			
	In-treatment Coef	SE	Post-treatment Coef.	SE	In-treatment Coef.	SE	Post-treatment Coef.	SE
Overall	0.816	(0.050)	0.059	(0.067)	0.763	(0.072)	-0.090	(0.082)
Ethnic Origin								
EU 15 (ref.)	0.642	(0.107)	-0.468	(0.153)	0.722	(0.128)	-0.257	(0.161)
West	-0.059	(0.163)	0.348	(0.224)	-0.254	(0.210)	-0.037	(0.249)
EU East	0.280	(0.282)	0.990	(0.398)	-0.100	(0.207)	0.633	(0.275)
Turkey	0.388	(0.130)	0.661	(0.172)	0.069	(0.172)	0.290	(0.213)
Pakistan	0.228	(0.184)	0.766	(0.244)	0.143	(0.240)	0.399	(0.290)
Former Yugoslavia	0.294	(0.194)	0.167	(0.283)	0.695	(0.277)	-0.027	(0.412)
Non-western	-0.284	(0.195)	0.957	(0.282)	0.362	(0.324)	0.018	(0.363)
Immigrationtyp								
2nd Gen. (ref.)	0.713	(0.109)	0.417	(0.196)	0.785	(0.150)	0.004	(0.221)
Immigrated as child	0.253	(0.147)	-0.220	(0.230)	0.019	(0.191)	0.084	(0.267)
Immigrated as adult	0.074	(0.121)	-0.443	(0.204)	-0.063	(0.167)	-0.185	(0.238)
Benefits								
Unemployment benefits (ref.)	0.752	(0.059)	-0.071	(0.082)	0.652	(0.082)	-0.071	(0.098)
Social assistance	0.296	(0.101)	0.484	(0.129)	0.598	(0.148)	-0.034	(0.192)

Turning to the causal effects of temp jobs, Table 2 shows that there are fairly high positive in-treatment effects. This means that currently working for an agency significantly increases the transition rate to regular employment compared to a similar person in open unemployment. This result confirms earlier findings for the entire Danish population (Jahn and Rosholm, 2010) but the causal effect is considerably larger for immigrants. The post-treatment effects are insignificant, i.e. having worked for a temp agency at least once earlier in the same unemployment spell causes no increase in the hazard rate to regular employment but also does not harm workers. That immigrants

generally profit more from TAE than natives is confirmed by De Graaf et al. (2011) who investigate the stepping stone effect for 'contingent jobs' for the Netherlands.

In order to assess if TAE affects different groups of immigrants differently, Table 2 also presents heterogeneous treatment effects: All unemployed benefit considerably from taking up an agency job in terms of the in-treatment effect. The effect is particularly pronounced for male immigrants who arrived as children, Turkish male immigrants, females from former Yugoslavia, and all recipients of social assistance.

Interestingly, the estimations show that the insignificant post-treatment effect for men is mainly driven by Western and EU-15 immigrants and by persons who immigrated as adults. Maybe for these immigrants it is easier to return to their host country if they continue to be unsuccessful in finding a regular job, an option not available for non-western immigrants, as they are often refugees.

Finally, male recipients of social assistance gain considerably in terms of the post-treatment effects. It seems that for this subgroup TAE may be a means to free themselves from stigma effects which are usually attached to workers who are only eligible for social assistance.

5. Conclusions

TAE is particularly effective for immigrants from non-western countries, which may be a consequence of employers having difficulties assessing the productivity of workers with different ethnic backgrounds. In this case TAE seems to be a strategy to reduce information asymmetries without risk. As immigrants perform better than natives, it is plausible to presume that the acquisition of language skills on the job paves the path to regular jobs. Moreover, our results show that TAE is particularly beneficial for recipients of social assistance. Therefore this employment form might be well-suited to lower public expenditure in terms of social transfers to immigrants.

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