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Employment effects of active labor market programs for sick-listed workers



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ABSTRACT

We use register data of 88,948 sick-listed workers in Denmark over the period 2008–2011 to investigate the effect of active labor market programs on the duration until returning to non-subsidized employment and the duration of this employment. To identify causal treatment effects, we exploit over-time variation in the use of active labor market programs in 98 job centers and time-to- event. We find that ordinary education and subsidized job training have significant positive employment effects. Subsidized job training has a large, positive effect on the transition into employment but no effect on the subsequent employment duration. In contrast, ordinary education has a positive effect on employment duration but no effect on the transition into employment. The latter effect is the result of two opposing effects, a large positive effect of having completed education and a large negative lock-in effect, with low re-employment chances during program participation.

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1. Introduction

Sickness and work disability are challenging many countries, not only by reducing individual well-being and income, but also by reducing labor supply and forcing societies to allocate considerable resources to treatments and cash transfers claims (OECD, 2010; Eurostat, 2009; Greenberg et al., 2003). In the OECD, the average employment rate of people with long-term sickness or disabilities is slightly over half the employment rate of people without, and the costs of sickness and disability benefits correspond to nearly 2% of GDP (OECD, 2010). To increase employment rates of sick-listed workers and people with disabilities, many countries are increasingly shifting focus from passive economic compensation policies to active labor market programs (ALMP), which have become important policy tools in many EU countries (Van Lin et al., 2002). In Denmark, it has in recent years been a deliberate policy to offer ALMP to the sick-listed earlier on than previously and while still on sickness leave, depending on type of illness (Boll et al., 2010).

Our study relates primarily to four other studies: Frölich et al. (2004), Rehwald et al. (2016), Markussen and Røed (2014), and Dean et al. (2016). Markussen and Røed (2014) study the labor market effects of RTW measures for 345,000 Norwegian temporary disability insurance claimants. Markussen and Røed (2014) distinguish between four treatments— subsidized employment in ordinary firms, subsidized employment in sheltered firms, ordinary education, and vocational training courses. In order to identify

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Despite the vast resources now invested in ALMP¹ and other reintegration measures, crucial knowledge about overall employment effects is missing. While workplace-based measures and return-to-work (RTW) programs generally show positive return-to-work (RTW) effects on sick-listed workers (e.g., Van Oostrom et al., 2009; Palmer et al., 2012; Schandelmaier et al., 2012), evidence about the effects of educational measures remains scarce and mixed. Our study provides new knowledge about the effect of educational measures.

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¹ In 2014, Denmark used 1.91 percent of GDP on active labor market programs according to OECD data on Labour Market Programmes, extracted from OECD data bank (http://stats.oecd.org/).

² Below we focus on the studies' findings about employment outcomes.

the treatment effect, they use variation across and over time in 151 local authorities' treatment strategies as instrumental variables. Markussen and Røed (2014) find that regular education and especially wage subsidized regular employment significantly increase employment probability. However, in contrast to subsidized employment, education has large lock-in effects, with low re-employment chances during participation in education. Markussen and Røed (2014) also find that subsidized employment in sheltered firms and vocational training courses have negative employment effects.

Only two studies focus on sick-listed individuals. Using data on 6300 sick-listed individuals in five Swedish counties, Frölich et al. (2004) use a nonparametric matching technique to identify the causal effect of six independent ALMP measures by assuming that they observe all variables that simultaneously affect participation in educational measures and employment. They find that both education and workplace rehabilitation reduce the probability of becoming re-employed.

Rehwald et al. (2016), studying labor market effects of intensified mandatory RTW treatments, use data from a randomized controlled trial in Denmark with 4728 sick-listed individuals from 16 job centers. The treatment consists of traditional activation, paramedical measures, and graded RTW. To identify the effect of these three elements, they use random variation from the trial and local variations in treatment strategies between job centers. They find positive effects of graded RTW on regular employment, while traditional activation and paramedical care have zero or adverse employment effects.

Finally, Dean et al. (2016) study people with cognitive disabilities (n = 1009) and mental disabilities (n = 1555) who applied for vocational rehabilitation in Virginia. Exploiting the variation across local vocational rehabilitation counselors and field offices to model the treatment propensity, they find that educational measures have negative employment effects in both the short and the long run for people with mental disabilities, but positive short- and long-run effects for people with cognitive disabilities.

Our study uses population data from a four-year observation period of 88,948 Danish workers who in 2008 started to receive and continued on sickness benefits for over four weeks. This population is followed over four years (2008–2011). In this period, the sickness beneficiaries may leave the sickness benefit program and enter other social security programs, education programs or employment. For simplicity, we name our population "sick-listed workers" based on their status in 2008 when first observed. We use a mixed proportional hazard-rate model with two identification strategies. First, we use exclusion restrictions to simultaneously estimate the duration until participation in ALMP, the duration until returning to ordinary employment and the duration of the subsequent employment spell. Second, we also apply the timing of events identification strategy as suggested by Abbring and van den Berg (2003). We distinguish between four types of ALMP: ordinary education, nonformal education, subsidized internships and wage-subsidized job training. Ordinary education includes secondary schooling (highschool), vocational education and college. Non-formal education covers counselling and shorter courses of a very heterogeneous character. The type of course is decided jointly by the sick-listed worker and the case-worker. Subsidized internships are offered to individuals when the caseworker (or the sick-listed individual) are in doubt about the individual's capabilities in the labor market. Finally, wage-subsidized job training is targeted at individuals where there is a specific development plan and a clear employment goal for the sick-listed individual. The four ALMPs are further described in Section 3.

Our study makes two important contributions. First, our study is the first to assess the employment effect of ordinary education for sick-listed workers, taking into account the impact of unobservables on the probability of participating in ALMP and RTW. Second, in addition to establishing the short-run employment (RTW) effect, we also estimate long-run effects (subsequent employment duration). To our knowledge, our study is the first to also estimate the effects of ALMP on the duration of employment. This distinction between transition into employment and subsequent duration in employment allows us to study the composition of possible employment effects, i.e. whether a potential positive employment effect of ALMP is due to a higher probability of returning to work (RTW) or is rather due to a reduced probability of ending employment—or both.

The remainder of the paper is organized as follows. Section 2 describes the institutional context of sick leave and ALMP in Denmark. Section 3 outlines our data. Section 4 describes the econometric approach. Section 5 reports empirical results. Section 6 concludes.

2. Institutional context

The Danish policy on (long-term) sickness absence and disability is publicly regulated and primarily publicly funded and administered.3 Sickness benefit, ALMP, and disability pension programs are administered by 98 municipalities. The sickness benefit program covers wage earners, the self-employed and the insured unemployed. For wage earners, the benefit replaces 100% of the wage up to 3515 DKK per week in 2008 (USD 625). Many employers top-up sickness benefits to match wages. The employer finances benefits for the first two weeks (before June 2008) or three weeks (from June 2008)⁴; afterwards benefits are publicly financed. Often, the employer pays the difference between the full wage and the sickness benefit if the worker is still employed in the firm. Employers can fairly easily dismiss sick-listed workers (McAllister et al., 2015). Dismissed workers will continue to receive sickness benefit as long as they qualify for benefit receipt. While workers can receive the benefit for up to 52 weeks, the benefit period can be extended under certain conditions, for example if the worker is awaiting ALMP or has an ongoing disability or work injury claim. In the sickness benefit program the municipal job center is obligated to follow up all sickness benefit cases within eight weeks after the worker reports unfit. On average, there were about 115,000 ongoing sick leave spells exceeding eight weeks each month during 2014 (jobindsats.dk). At the time when the sickness benefit period expires, the sickness beneficiary will be covered by other social security programs. If the individual is fit for duty, s(he) may receive means tested social assistance (kontanthjælp) or unemployment insurance benefit (if the individual fulfils the entitlement criteria). Unfit individuals may either enter the social assistance program or the vocational rehabilitation program. The social assistance program has no maximum benefit period unless the beneficiary loses entitlement to the benefit, e.g. refuses to participate in ALMPs. Enrolment in vocational rehabilitation programs may last for up to five years.

If a social security beneficiary, despite medical and vocational treatment, is unable to work in an ordinary job, the municipality may refer that individual to a permanent wage-subsidized job (flexjob) tailored for the individual's reduced working capacity. If the disabled worker is too incapacitated to work in a flexjob, a disability pension is awarded.

During or after the sickness benefit period, the municipality can initiate different active labor market programs, including subsidized internships in private or public firms, wage subsidized job training in private or public firms, and educational measures rang-

³ The outline of the institutional context refers to the legislation in force in 2009.

 $^{^{4}\,}$ The employer period was extended to four weeks in January 2012.

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