

Do unemployment protection policies moderate the adverse effects of job insecurity on health? Evidence from a natural experiment in Germany

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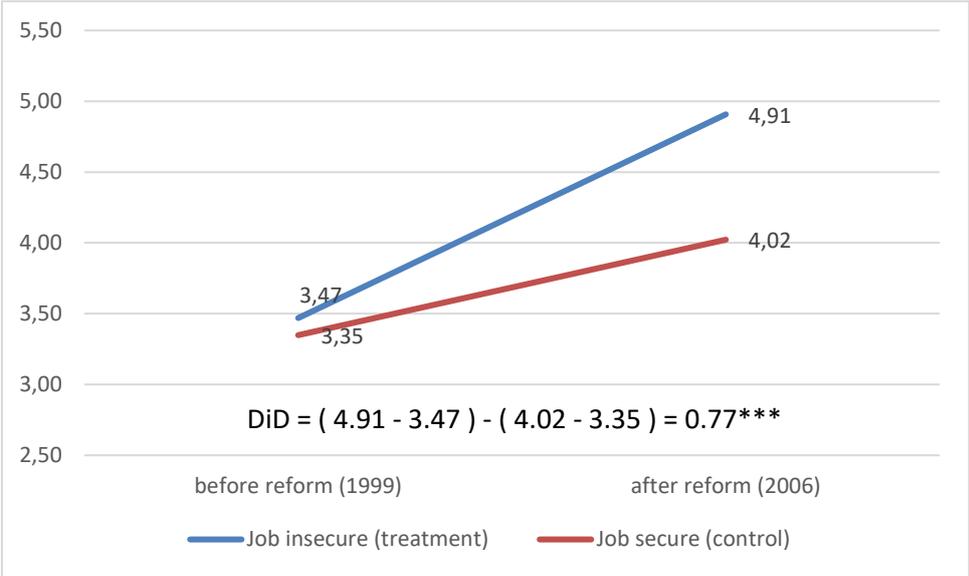
The welfare state protects its citizens from major life risks and their economic, social and health consequences. One important life risk in modern societies is job loss and subsequent unemployment. Numerous studies show that comprehensive unemployment policies protect the unemployed from the adverse health effects of job loss. In this paper, we argue that the positive effects of unemployment protection policies extend to part of the employed population, in particular those at risk of losing their job. There is ample empirical evidence that job insecurity adversely affects workers' health. We argue that the strength of this effect depends on the level of unemployment protection workers can expect if they should lose their job and become unemployed. *Our hypothesis is that a reduction in the level of unemployment protection should amplify the adverse effect of job insecurity on health.*

To test this hypothesis, we use the 2004 German welfare state reform as a natural experiment. As part of these reforms, the German system of unemployment insurance and welfare benefit provision was changed comprehensively. Key elements include the reduction of unemployment insurance benefit duration, implementation of sanctions (benefit cuts) in case of noncompliance with job search requirements and the requirement for the unemployed to accept wages far lower than in their previous job. We use data from the BIBB/IAB and BIBB/BAuA employee surveys 1998/99, 2006 and 2012. These surveys are representative for the work force in Germany. Our dependent variable is the self-assessed number of objective health complaints. Respondents are asked "Please tell me whether the following health disturbances occur while you are working or immediately after you finished working", where the list contains more than 20 disturbances. For our focal independent variable, we rely on a survey question, where respondents are asked about the likelihood of losing his/her job: "How do you assess the risk of being laid off in the near future? („very high“, „high“, „moderate“ „no risk at all“)". From this we constructed a dummy variable for job insecurity, indicating very high or high self-assessed risks of losing one's job. Various confounders are included as covariates.

We use a nonparametric difference-in-differences (DiD) estimator, developed by Heckman et al. (1998) to control for observed and unobserved confounders within propensity score matching methodology (Rosenbaum, Rubin 1984). We use a variant proposed by Stuart et al. (2014), which is particularly suitable for repeated cross-sectional surveys and uses propensity scores as weights and instead of matching on it. We adapt this DiD estimator by combining it with entropy balancing, a propensity score weighting method (Hainmueller 2012).

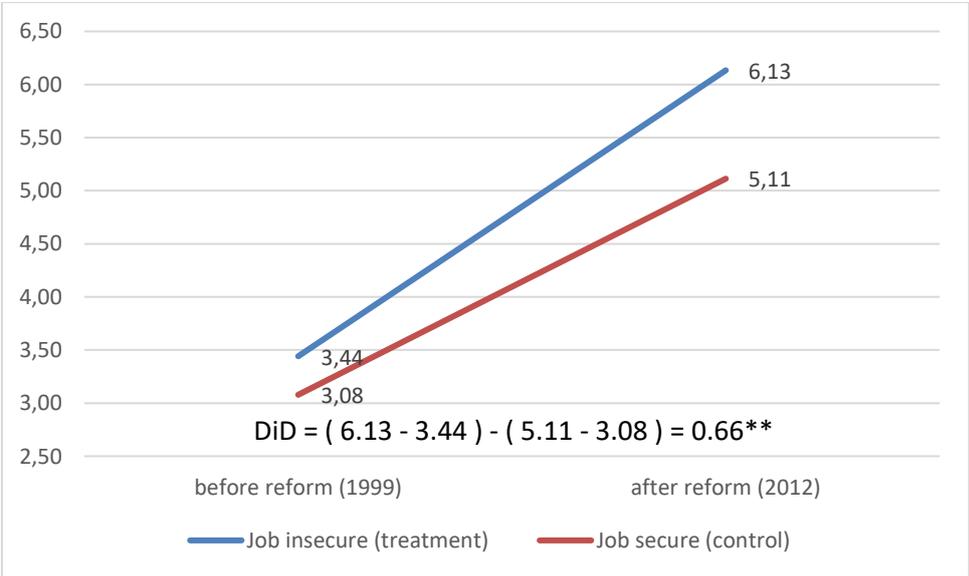
The result of the empirical analysis supports our hypothesis. The average number of health complaints increased over time for both workers in secure and insecure jobs. However, the increase is on average 0.77 stronger for those in insecure jobs (Figure 1). This value represents the difference-in-differences estimate for the effect of the Hartz reforms on the relationship between job insecurity and health consequences of insecure employment. With a standard error of 0.150, it is statistically significant at the 0.001 level. In sub-group analyses, the reform's impact is considerably smaller and statistically insignificant for younger and older workers than for middle aged workers, for whom the estimate is large and statistically significant. For female workers, the effect is reduced to 0.47 but still statistically significant at the 5 percent level, whereas for male workers it is amplified to 0.92 and statistically significant at the 0.1 percent level. We also tested whether the reform had long-term effects on the job-insecurity to health relationship by estimating the difference-in-difference using data from 1999 and 2012 (Figure 2). With 0.66 points, statistically significant at the 1 percent level, the long-term effect is only slightly smaller than the short-term effect of the welfare state reform.

Figure 1: Weighted DiD estimate for number of health issues (short-term)



*** p<0.001, ** p<0.01, * p<0.05, # p<0.10

Figure 2: Weighted DiD estimate for number of health issues (long-term)



*** p<0.001, ** p<0.01, * p<0.05, # p<0.10