

Economic Studies 171



Josefine Andersson
Insurances against job loss and disability

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*Private and public interventions and their effects on
job search and labor supply*



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-

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Dissertation presented at Uppsala University to be publicly examined in Hörsal 2, Ekonomikum, Kyrkogårdsgatan 10, Uppsala, Friday, 29 September 2017 at 10:15 for the degree of Doctor of Philosophy. The examination will be conducted in English. Faculty examiner: Professor Michael Rosholm (Aarhus University).

Abstract

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Essay I: Employment Security Agreements, which are elements of Swedish collective agreements, offer a unique opportunity to study very early job search counselling of displaced workers. These agreements provide individual job search assistance to workers who are dismissed due to redundancy, often as early as during the period of notice. Compared to traditional labor market policies, the assistance provided is earlier and more responsive to the needs of the individual worker. In this study, I investigate the effects of the individual counseling and job search assistance provided through the Employment Security Agreement for Swedish blue-collar workers on job finding and subsequent job quality. The empirical strategy is based on the rules of eligibility in a regression discontinuity framework. I estimate the effect for workers with short tenure, who are dismissed through mass-layoffs. My results do not suggest that the program has an effect on the probability of becoming unemployed, the duration of unemployment, or income. However, the results indicate that the program has a positive effect on the duration of the next job.

Essay II: The well-known positive relationship between the unemployment benefit level and unemployment duration can be separated into two potential sources; a moral hazard effect, and a liquidity effect pertaining to the increased ability to smooth consumption. The latter is a socially optimal response due to credit and insurance market failures. These two effects are difficult to separate empirically, but the social optimality of an unemployment insurance policy can be evaluated by studying the effect of a non-distortionary lump-sum severance grant on unemployment durations. In this study, I evaluate the effects on unemployment duration and subsequent job quality of a lump-sum severance grant provided to displaced workers, by means of a Swedish collective agreement. I use a regression discontinuity design, based on the strict age requirement to be eligible for the grant. I find that the lump-sum grant has a positive effect on the probability of becoming unemployed and the length of the completed unemployment duration, but no effect on subsequent job quality. My analysis also indicates that spousal income is important for the consumption smoothing abilities of displaced workers, and that the grant may have a greater effect in times of more favorable labor market conditions.

Essay III: Evidence from around the world suggest that individuals who are awarded disability benefits in some cases still have residual working capacity, while disability insurance systems typically involve strong disincentives for benefit recipients to work. Some countries have introduced policies to incentivize disability insurance recipients to use their residual working capacities on the labor market. One such policy is the continuous deduction program in Sweden, introduced in 2009. In this study, I investigate whether the financial incentives provided by this program induce disability insurance recipients to increase their labor supply or education level. Retroactively determined eligibility to the program with respect to time of benefit award provides a setting resembling a natural experiment, which could be used to estimate the effects of the program using a regression discontinuity design. However, a simultaneous regime change of disability insurance eligibility causes covariate differences between treated and controls, which I adjust for using a matching strategy. My results suggest that the financial incentives provided by the program have not had any effect on labor supply or educational attainment.

Keywords: Employment Security Agreements, job search assistance, job loss, notification, lump-sum severance grant, liquidity effect, disability insurance, financial incentives, continuous deduction, regression discontinuity design, propensity score matching, nearest neighbor matching

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Dedicated to my grandmother Dagmar

List of Papers

The following papers are included in this thesis:

- I. Andersson, J. (2017), Early counselling of displaced workers. Effects of collectively funded job search assistance. (In manuscript)
- II. Andersson, J. (2017), Lump-sum severance grants and the duration of unemployment. (In manuscript)
- III. Andersson, J. (2017), Financial incentives to work for disability insurance recipients. Sweden's special rules for continuous deduction. (In manuscript)

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Uppsala, August 2017
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Introduction

This thesis is comprised of three self-contained essays, or thesis chapters, that in one way or another relate to labor supply and job search. The first two essays evaluate two different interventions in the job search process for workers in Sweden who are notified of job termination. One involves intervention early in the job search process through individual job search counselling, aimed at helping each worker find a new job. The other involves a contribution of liquidity, in the form of a lump-sum severance grant, aimed at easing the effects of the transitory income shock that is caused by job loss. In both cases, the concern is with how these interventions affect the job search process. The third and final essay in this thesis evaluates financial incentives within the disability insurance system, aimed at increasing the return to work among disability insurance recipients who may have some residual working capacity that is not being used. The research question here is to what extent these incentives actually increase labor supply amongst the targeted individuals. The choice of letting these research topics form my thesis is inspired by my interest in labor economics and the drivers of labor supply in particular.

The three essays are also related with respect to the econometric methodology used; the starting point for identification of causal effects is in all three essays some policy rule that provides a situation similar to a natural experiment. All three interventions require some circumstance to be met that separates eligibility among individuals in a seemingly random manner, which enables causal evaluations of their effects. The rest of this introduction summarizes the work and findings of this thesis.

Early job search counselling

The labor market is not a fixed institution. Its workings vary across countries and over time. Economic globalization forces structural change of the economy. The globalization process has come in waves but has long been ongoing. Historian Robert B. Marks (2002) argues that globalization began with the European colonialization of the Americas in the fifteenth century. A more accustomed view is that the first wave of globalization came in the nineteenth century with new technologies that helped bridge geographical distances and more liberal trade policies (Johnson 2007). Sweden, together

with many western economies, developed from an agrarian to an industrial society during the late nineteenth and the twentieth century, while the present structural changes of the economy involve a decline of the manufacturing industry, and an increase in employment within the service sector (Lundh, 2002). This revolution has also entailed that lifelong employment arrangements are no longer the norm, and that workers may not only have to accept more frequent job changes but also update and change the orientation of their competence profiles more frequently, to keep up with the changing demands in the labor market. Unless the supply side can keep up with the changes in labor demand that accompanies continued globalization, unemployment will result. Institutional arrangements that are equipped to handle swift transitions and facilitate efficient job search processes are essential in the modern labor market, to keep job transitions from resulting in long term unemployment.

There have always been people without a stable source of income, but before the industrial revolution, the concept of unemployment was not invented. The poor, who struggled to support themselves, were generally regarded with skepticism. It was only following the industrialization that unemployment was acknowledged as a social issue. Unionizing workers in Europe invented the first unemployment insurance schemes and local labor exchanges. These evolved during the economic downturn after World War I, and in Sweden, the emergence of a nationally organized Public Employment Service happened during World War II. The concept of active labor market policies was introduced on a larger scale during the 1960s, after Swedish trade union economists Gösta Rehn and Rudolf Meidner introduced the idea that, as uncompetitive firms needed to rationalize, the state should invest in the retraining of laid off workers through labor market programs, designed to redirect the competences in the work force toward competitive firms where their labor was needed. The concept quickly spread throughout the industrialized world. (Weishaupt, 2011) The concept of active measures to fight unemployment has become increasingly important and is now a central element in the unemployment fighting strategies of the OECD and the European Union (Martin, 2014). Today, OECD countries spend 0.02 to 0.4 percent of GDP on public employment services and unemployment administration, and another 0.1 to 1.7 percent of GDP on other active labor market policies (OECD 2015).

In Sweden, institutional arrangements to facilitate forced transitions between jobs have also developed aside the public labor market policies. Bargaining between employer unions and labor unions has resulted in collective agreements concerning job transition benefits for most parts of the labor force in Sweden today. These Employment Security Agreements have emerged as a complement to public labor market policy, starting in the 1970s. White-collar workers considered public labor market policies inadequate for achieving smooth transitions between jobs for their sector in the

event of job loss, and assistance that was better adapted to meet these needs were ultimately incorporated into the collective agreement. Similar agreements have since been formed for a large portion of the Swedish labor force, providing assistance and benefits to permanently employed workers who are dismissed due to redundancy. State employees enjoy the most generous Employment Security Agreement, first formed in the 1990s, which now even includes some benefits for temporarily employed workers who are not offered further employment. Privately employed blue-collar workers, whose union was long sceptic about incorporating these types of benefits into the collective agreement, feeling that the appropriate job search support should be publicly funded, negotiated an Employment Security Agreement in 2004. The municipal sector enforced an all-encompassing agreement in 2012, entailing that all four main sectors of the Swedish labor market are now covered.

The content varies between the agreements, but often includes both active and passive measures. Passive measures are e.g. additional unemployment benefits, financial support to retrain or start a company, payed internships, and in some cases moving allowances and wage supplements. The common feature among agreements is the active part, taking the form of individual job search counselling which is to be tailored to each displaced workers' individual needs. These job search programs can typically start even as early as during the workers notice period.

In the first chapter of this thesis, I use data on which workers have received assistance by means of the largest Employment Security Agreement in terms of enrollment; that which covers privately employed blue-collar workers. My study analyzes the effects of this very early and intensive job search counselling on the rate at which jobs are found and the quality of jobs found. The assistance provided by this agreement includes individual counseling and job search assistance from a personal coach, who can e.g. help map the workers competences, compose a CV and write job applications and train for job interviews. Workers may also receive some training. A theoretical concern with intervention early in the job search process is that it may be a wasted investment, if costs are associated with assisting workers who would have found a job as quickly without the assistance (Weber & Hofer, 2004). There are no previous studies attempting to scientifically evaluate the causal effects of the job search assistance provided through Employment Security Agreements in Sweden, although those providing the assistance are optimistic and their self-evaluations show that the assistance is successful. These typically compare the results against those of the Public Employment Service. However, such a comparison is not fair, as the assistance start much earlier in the job search process, entailing that the clientele is undoubtedly different from those who later become unemployed and seek assistance from the Public Unemployment Service. My thesis provides the first pieces of

evidence on how the assistance through Employment Security Agreements affect the Swedish labor market.

I use information on which workers have been given notice from firms who are affiliated with the Employment Security Agreement that I am evaluating. This information is available for notifications of the size of five workers or more. I compare workers among these, who have and have not received job search assistance through the agreement. To estimate the causal effects of the assistance, I use a regression discontinuity design. This design utilizes the fact that there is a discontinuity in the probability of receiving the treatment being studied, at some value of a variable, caused by a policy rule, enabling the researcher to compare those with values just above and below this value. These should be similar enough that treatment is as if randomly assigned between them. In this case, I compare the labor market outcomes of those who just meet the tenure requirement to receive assistance, to the outcomes of those who are just below the required threshold of twelve months of consecutive employment, and do not receive assistance. My results do not suggest that the counselling program has had any effect on unemployment or subsequent income. However, they do suggest that it has had a positive effect on the duration of the next job. These results indicate that, at least for those workers who have relatively short tenure of around twelve months, the assistance may be ineffective in increasing job finding rates and that these workers find jobs as quickly without the assistance, but the results on job duration may also imply that the counselling focuses more on increasing the quality of employer-employee matches for this group of workers.

Provision of liquidity

The consequences of unemployment insurance schemes have received considerable attention within the field of labor economics. The positive association between the size of the unemployment benefits and the length of the unemployment period has been established in numerous studies (a few examples are Meyer 1990, Lalive 2008 and Card et al. 2015). The economic literature has in large treated this result as proof of moral hazard within unemployment insurance systems. If unemployment benefits are increased, the relative price of leisure decreases, which means that finding work becomes less profitable. A positive response to this creation of a wedge between private and social marginal costs of job search is a suboptimal response known as moral hazard. If moral hazard is the explanation for a positive association between benefit size and unemployment duration, increasing the liquidity of the unemployed through, e.g., lump-sum severance grants, which do not affect the relative price of leisure, should have no effect on unemployment durations.

Economic theory can, however, also outline another explanation to the well-known association between the benefit size and unemployment durations, which has received less attention in the literature. Unemployment benefits provide liquidity, increasing the ability of unemployed workers to smooth consumption during the transitory income shock. If credit and insurance markets are imperfect, this liquidity contribution, which also lowers the value of finding employment, may instead be the explanation for any positive association between unemployment benefit levels and durations. Since this is a response to the mending of credit and insurance market failures, rather than a response to the wedge between private and social marginal costs of job search, it may, contrary to moral hazard, be a socially optimal response. If this “liquidity effect” can underlie a positive response of increasing unemployment benefits from current levels, a lump-sum severance grant may well also have a positive effect on unemployment durations. Such effects from lump-sum severance grants have been found in the U.S., Austria and Norway (Kodrzycki 1998, Card, Chetty & Weber 2007 and Basten, Fagereng & Telle 2014).

In the second chapter of this thesis, I investigate the effects of another component of the Employment Security Agreement for privately employed blue-collar workers in Sweden, namely a lump-sum severance grant which is provided to displaced workers above the age of 40. Again, I use the regression discontinuity framework to identify the effects, this time comparing workers being notified of termination who are just above and below the age requirement to receive the grant. I find that the lump-sum grant has a positive effect on the probability of actually becoming unemployed and the completed unemployment duration, but no effect on subsequent job quality. Results for the effects on non-employment show a similar pattern, but are not significant. Dynamics through an effect on staying in the labor force, while unlikely at ages for which the effect is estimated, thus cannot be ruled out. The effects are driven by workers who do not have a higher family disposable income than their individual disposable income, suggesting that spousal income is important for the consumption smoothing abilities of displaced workers.

Financial incentives to work for disabled workers

The final chapter of this thesis does not have any connection to Employment Security Agreements, although it is also connected to the determinants of labor supply. It concerns financial incentives for work within the public disability insurance system. Like unemployment insurance, the sickness and disability insurances make up a large share of public expenditures. Both unemployment and disability insurance enrollment is contra-cyclical and thus rise in economic downturns (e.g. Mueller, Rothstein & von Wachter

2016). However, contrary to unemployment benefit payments, that in many cases end reasonably quickly as a new job is found, it is rare that disability insurance recipients return to work (see e.g. Jans, 2007 for Swedish evidence). This is despite the fact that disability insurance recipients have been shown to possess residual working capacities in a number of instances (e.g. Bound 1989, Gruber & Kubik 1997, Staubli 2011, Moore 2015). Rising costs for sickness absence is generally acknowledged as a fiscal problem for many countries. Disability insurance systems provide recipients with considerable disincentives for work, and there are few policy attempts to increase the return to work among disability insurance recipients, although a few such initiatives have been made in recent time. The literature on the effect of such incentives is, however, still fairly small.

In the final chapter, I evaluate a policy initiative implemented in Sweden in 2009, which gives certain recipients of permanent disability insurance benefits the possibility to work while receiving benefits. Eligible recipients can keep some or all of their benefits while at the same time earning a working income, according to a scheme which is aimed at increasing labor supply of disability insurance recipients. The program also allows recipients to study without affecting benefits. I evaluate the effects of the financial incentives provided by the scheme on labor supply and educational attainment.

Eligibility to the program is based on the time of benefit award, and the starting point for identification is therefore the regression discontinuity design where I compare recipients of permanent disability benefits awarded benefits just prior to and after the eligibility threshold. However, as this threshold is simultaneous to the enforcement of stricter requirements for being awarded disability benefits, recipients awarded benefits just before and after the threshold is systematically different with respect to working capacities. The empirical strategy is therefore complemented with a matching strategy, to compare only recipients who were not affected by the tightening of benefit eligibility. My results suggest that the financial incentives did not induce these recipients, who have relatively more severe reductions in working capacity than eligible recipients in general, to increase their labor supply or educational attainment. This may imply that financial incentives are ineffective in increasing labor supply amongst these disabled, but may also reflect a lack of residual working capacities within this group or a lack of demand for their labor. In either case, the findings of the last essay indicate that other measures need to be considered to increase the return to work among disability insurance recipients if public expenditures associated with deteriorations in working capacities are to be significantly reduced.

References

- Basten, C., Fagereng, A. & Telle, K. (2014), Cash-on-hand and the duration of job search: Quasi-experimental evidence from Norway. *The Economic Journal* **124**, pp. 540-568.
- Bound, J. (1989), The health and earnings of rejected disability insurance applicants. *The American Economic Review* **79**(3), pp. 482-503.
- Card, D., Chetty, R. & Weber, A. (2007), Cash-on-hand and competing models of intertemporal behavior: New evidence from the labor market. *Quarterly Journal of Economics* **122**(4), pp. 1511-1560.
- Card, D., Johnston, A., Leung, P., Mas, A. & Pei, Z. (2015), The effect of unemployment benefits on the duration of unemployment insurance receipt: New evidence from a regression kink design in Missouri, 2003-2013, NBER Working paper 20869, National Bureau of Economic Research.
- Chetty, R. (2008), Moral hazard vs. liquidity and optimal unemployment insurance. *Journal of Political Economy* **116**(2), pp. 173-234.
- Gruber, J. & Kubik, J.D. (1997), Disability insurance rejection rates and the labor supply of older workers. *Journal of Public Economics* **64**(1), pp. 1-23.
- Jans, A-C. (2007), Vägen tillbaka – en beskrivande studie av flödet ut från sjuk- och aktivitetsersättning, Försäkringskassan Analyserar 2007:12, Swedish Social Insurance Agency.
- Johanson, A. (2007), Globaliseringens tre vågor. Sveriges internationalisering under 150 år, Underlagsrapport nr 3 till Globaliseringsrådet, Globaliseringsrådet.
- Kodrzycki, Y. K. (1998), The effects of employer-provided severance benefits on reemployment outcomes. *New England Economic Review* (November), pp. 41-68.
- Lalive, R. (2008), How do extended benefits affect unemployment duration? A regression discontinuity approach. *Journal of Econometrics* **142**(2), pp. 785-806.
- Lundh, C. (2002), Spelets regler: Institutioner och lönebildning på den svenska arbetsmarknaden 1850-2000, SNS Förlag, Stockholm.
- Mark, R. (2002), The origins of the modern world. A global and ecological narrative, Rowman & Littlefield, Lanham, Maryland.
- Martin, J.P. (2014), Activation and active labour market policies in OECD countries: Stylized facts and evidence on their effectiveness, IZA Policy Paper 84, Institute for the Study of Labor (IZA).
- Meyer, B. (1990), Unemployment insurance and unemployment spells. *Econometrica* **55**(4), pp. 757-782.
- Moore, T.J. (2015), The employment effects of terminating disability benefits. *Journal of Public Economics* **124**, pp. 30-43.

- Mueller, A., Rothstein, J. & von Wachter, T. (2016), Unemployment Insurance and Disability Insurance in the Great Recession, *Journal of Labor Economics* **34**(S1), pp. 445-475.
- OECD (2015), Employment outlook 2015, OECD Publishing, Paris.
- Staubli, S. (2011), The impact of stricter criteria for disability insurance on labor force participation. *Journal of Public Economics* **95**(9-10) pp. 1223-1235.
- Weber, A. & Hofer, H. (2004a), Employment effects of early interventions on job search programs, IZA Discussion Paper 1076, Institute for the Study of Labor (IZA).
- Weishaupt, T.J. (2011), From the manpower revolution to the activation paradigm. Explaining institutional continuity and change in an integrating Europe, Amsterdam University Press, Amsterdam.