

# THE EFFECT OF DANISH ACTIVE LABOR MARKET PROGRAMS (ALMPs) ON NATURAL UNEMPLOYMENT

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## ABSTRACT

This paper evaluates the Danish active labor market program (ALMP) model to determine its effectiveness at reducing the natural rate of unemployment. Drawing on experimental and non-experimental studies, this paper presents evidence of several positive and negative effects of the current scheme, which makes unemployment and social assistance benefits conditional upon ALMP participation. Grounded in natural unemployment rate theory, it finds that Danish ALMPs have an overall positive effect on the natural unemployment rate, largely due to the threat of activation on frictional unemployment. This has implications for recent changes to the unemployment benefit scheme, which has ruptured the “right and duty” principle underpinning the dominant model of flexicurity.

## I. INTRODUCTION

In 2006, the OECD released *Boosting Jobs and Incomes*, a strategy for reducing unemployment levels and improving labor market performance. It revised the 1994 Jobs Strategy to account for new evidence on effective labor market policies as well as “national social preferences and circumstances.” One of the key recommendations addresses active labor market programs (ALMPs) and the unemployment benefit system. The OECD recommends that generous unemployment benefits be made conditional on activation measures. These activation measures, or ALMPs, include employment services and job-search assistance, classroom-based training and education, and job subsidies with on-the-job training. By linking the receipt of unemployment benefits to participation in activation programs, this recommendation is designed to have two effects: first, to limit the discouraging effects of generous unemployment benefits on job search efforts, and second, to increase the likelihood of a successful job search through improved human capital. *Boosting Jobs and Incomes* draws heavily on the labor market strategies of Nordic countries, which, prior to the 2008 recession, boasted low unemployment rates and high employment rates.

This paper will evaluate the Danish ALMP model to determine its effectiveness at reducing the natural rate of unemployment. Drawing on experimental and non-experimental

studies, it will present evidence of several positive and negative effects on the natural unemployment rate of the current scheme, which makes unemployment and social assistance benefits conditional on ALMP participation. First, the theory behind ALMPs will be presented with a focus on its potential effects on the unemployment rate. Then, the Danish ALMP and unemployment benefit scheme will be described. Evidence of four major effects will be presented. Overall, the effect of ALMPs on the natural unemployment rate is modestly positive, largely due to the threat of activation on frictional unemployment. Lastly, the implications of the evidence favoring the Danish model of unemployment insurance will be discussed.<sup>1</sup>

## II. BACKGROUND

The Danish model of social security and labor market organization, known as flexicurity, combines weak employment protection (flexibility), high levels of social benefits (security), and activation measures (ALMPs) (Kvist and Penderson 2007). The success of the model is contingent on the effectiveness of ALMPs. The first and second pillars of flexicurity—allowing employers to hire and fire with few restrictions and providing the unemployed with generous benefits that can be drawn on for a lengthy period of time—can have adverse

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<sup>1</sup> This paper will analyze the effect of ALMPs and the unemployment benefit system prior to 2010, at which point significant changes were made to the unemployment benefit system.

consequences for the state. Social security spending (including social assistance and unemployment benefits) accounts for 22 to 25 percent of GDP and is a significant portion of the government's budget (Eurostat 2011). ALMPs themselves are expensive, accounting for 1.3 percent of Danish gross domestic product (GDP). Without high employment levels and a subsequent strong tax base, such programs are unsustainable (Anderson and Svarer 2007).

When policymakers reformed the unemployment benefit system in the mid-1990s, they appealed to the “right and duty” principle: unemployed individuals have the right to an income supplement but a duty to search for work, while society has a right to expect a rigorous job search but a duty to provide the unemployed with social benefits (Anderson and Svarer 2007). ALMPs are designed to facilitate job searches (workers' duty); if ALMPs are ineffective, the “right and duty” principle may lose its legitimacy. ALMPs form the glue that holds the “right and duty” principle together.

### III. ALMPS AND UNEMPLOYMENT: THEORY

#### NATURAL UNEMPLOYMENT

The natural rate of unemployment is the unemployment rate when the economy is growing at its potential growth rate. It is signaled by the supply and demand for labor; when the demand for labor meets supply, the price of labor (wages) is stable. The natural rate is comprised of two

types of unemployment: frictional and structural (Mankiw et al. 2011). Frictional unemployment consists of voluntary and, typically, short spells of unemployment. This applies to workers who quit or are laid off and do not immediately find new employment. During this transition period, workers search for job openings, apply for jobs, and attend job interviews. Conversely, structural unemployment consists of a mismatch between workers and available jobs as well as impediments to the real wage clearing the market. Workers and available jobs can be mismatched in two ways: skills and location. As industries decline and new economic sectors grow, workers may not have the requisite skills for sectors with available jobs. Additionally, as regionally-based industries decline, workers may need to physically relocate in order to find employment (Mankiw et al. 2011).

Structural unemployment is also driven by policies and employer or employee choices that drive up wages above the equilibrium point. Minimum wage legislation may set the price for labor above the wage equilibrium point (the price at which the market clears). If the market for labor does not clear due to a high minimum wage, there will be an excess supply of labor and therefore a higher natural rate of unemployment. It should be noted that the majority of labor markets are for skilled workers and clear at a point above the minimum wage.

## ALMPs

ALMPs and the unemployment benefit system are expected to have effects on both frictional and structural unemployment. These effects are both positive (lowering the natural rate of unemployment) and negative (increasing the natural rate of unemployment) and may either offset or reinforce each other. Additionally, ALMPs and the unemployment benefit system affect the unemployed, the employed, and those not participating in the labor force. The following section will describe six major theoretical effects: unemployment benefit, threat, wage, post-program, lock-in, and substitution.

The unemployment benefit system is designed to have an impact on frictional unemployment. Generous unemployment insurance benefits—high payouts over a long period of time—will encourage workers to continue their job search until they find the “right fit,” rather than taking the first job available (Sianesi 2001). ALMPs may be separate from the unemployment benefit system (passive benefits), or the two may be linked together (active benefits). For instance, participation in ALMPs may renew the participant’s unemployment benefits. This system prevailed in Sweden in the 1990s and early 2000s: although receipt of benefits was capped at 60 weeks, by participating in a labor market program the unemployed could perpetually requalify for another round of benefits (Sianesi 2001).

Alternatively, continued collection of benefits may be contingent on participation in ALMPs, which creates the threat or motivation effect. The threat effect holds that in anticipation of activation measures, the unemployed worker is expected to intensify his or her job search, therefore lowering frictional unemployment (Kvist and Penderson 2007). The participant may have assigned a high utility to leisure or a low utility to ALMPs, which may be perceived as ineffective; the threat of starting activation, which is a lower utility state, will incite potential behavioral responses (Rosholm and Svarer 2008). Unemployed persons who were not actively searching for work or who were searching selectively according to wage expectations may either begin to search or lower their expectations. Alternatively, the threat of ALMP participation may incite recipients of unemployment benefits to exit the labor market. If the utility of leisure is high enough, the unemployed benefit recipients may prefer to not participate in either the activation programs or job searching (Rosholm and Svarer 2008). In effect, ALMPs become a test for the availability for work. As participation in an ALMP is a mandatory condition of continued benefit receipt in Denmark, this paper will evaluate the unemployment benefit effect via the threat effect.

ALMPs are also expected to have an effect on wage setting, though the direction of that effect is ambiguous. If ALMPs successfully increase human capital and worker self-confidence about future job prospects, more

unemployed workers will remain in the labor market, since the discouraged worker effect will be reduced, and competition for jobs will increase (Calmfors and Skediner 1995). This is expected to incite wage restraint on the part of employed workers and depress wages overall. If ALMPs are perceived as beneficial for future job prospects, the perception of welfare loss from a job loss falls and wages appreciate (Calmfors and Skediner 1995). Alternatively, if ALMPs are considered an unattractive aspect of the unemployment benefit system, wage demands may be dampened because employed workers do not want to risk unemployment (Anderson and Svarer 2007). Wage pressures are expected to have an effect on job creation: if wages are depressed, more jobs may be created; if wages appreciate, fewer jobs will be created. An evaluation of wage effects in the Danish ALMP model is beyond the scope of this paper.

As ALMPs are comprised of employment services and training or education programs, several post-program effects may be expected. First, by improving the human capital of unemployed workers, ALMPs may reduce the structural aspect of unemployment. If training and classroom-based education improves or imparts skills and knowledge that are in high demand, participating workers will better “fit” the available jobs (Calmfors and Skedinger 1995). However, if the training does not provide relevant skills, structural unemployment will stay constant or worsen. Employment services, which

assist in job searching and resume or CV preparation, may also reduce frictional unemployment.

The lock-in effect may occur if the required ALMP is lengthy, for example a multi-week course or job placement. The more time occupied by the ALMP, the less time and effort remains for the job search—effectively, the unemployed become “locked-in” to unemployment during their participation in an ALMP (Anderson and Svarer 2007). Additionally, participants may want reap the rewards of successfully completing a training session and wait to apply to jobs for which they will be newly qualified. As such, the lock-in effect increases frictional unemployment.

Finally, job subsidy ALMPs may induce a substitution effect. This may happen when regular workers are dismissed and replaced with subsidized workers, or new subsidized workers are hired instead of new non-subsidized workers (Hussain and Rasmussen 2007). Two types of subsidies are typically utilized in ALMP job subsidy programs: a subsidy to workers to make up the difference between a minimal income level and their current productivity wage, and a subsidy to employers to cover the cost of any on-the-job training. If the subsidy to the worker is greater than the difference between a minimum income level and the worker’s productivity wage, the employer may pay a lower wage to the worker (still reaching the minimum income level). As the wage paid is lower than warranted by the worker’s productivity, subsidized workers

become more profitable than non-subsidized workers. Similarly, if the employer is subsidized more than the on-the-job training costs, subsidized workers become more profitable (Hussain and Rasmussen 2007).

#### **IV. DANISH ALMPS AND THE UNEMPLOYMENT BENEFIT SYSTEM**

Currently in Denmark, qualifying workers can draw unemployment benefits for up to two years (Alderman 2010). In 2010, the Danish government reduced the benefit period from four years, which at the time was the longest benefit period among Nordic countries. Unemployed workers are provided with up to 90 percent of their previous income; on average, workers receive 50 percent of their previous income (Danish Economic Council 2007). To receive unemployment benefits, workers must have worked 52 weeks during the previous three years, be a member of an unemployment insurance fund for at least a year, and be willing to work. Unemployment insurance funds are affiliated with trade unions and participation in the funds is voluntary; unemployed workers who are not part of an insurance fund receive social assistance (Kvist and Penderson 2007).

The unemployment benefit system was radically reformed in the mid-1990s. Prior to 1994, qualifying workers could “recycle” benefits by participating in activation programs. Once the initial benefit period expired, workers could participate in an ALMP and draw on

benefits again (Kvist and Penderson 2007). In 1994, the benefit period was reduced from seven years to four years and workers could only qualify for unemployment benefits after a spell of employment. Additionally, the passive period of unemployment was capped at 12 months. After this period, participation in an ALMP became a mandatory condition of continued benefit receipt. Of the remaining three years of benefits, 75 percent of the time must be spent in an ALMP (Much and Skipper 2008). Since 2000, participation in activation has also been required of social assistance recipients (Anderson and Svarer 2007).

Danish ALMPs consist of classroom-based vocational training and on-the-job training with private firms and the public sector, also known as subsidized employment (Much and Skipper 2008). On average, on-the-job training lasts for 26 weeks and classroom-based education and training lasts for 16 weeks (Rosholm and Svarer 2008). Additionally, participants are assigned to a caseworker who assists with the job search process, resume and CV preparation, and interview preparation (Danish Economic Council 2007).

Interest in the Danish ALMP model can be attributed to the steep decline in Danish unemployment since 1994. In 1994 the unemployment rate was 10.9 percent; over the previous fifteen years, the average unemployment rate was 8.7 percent. After 1994, the unemployment rate began a steady decline. Over the first decade of the new century, the average unemployment rate was 4.3 percent (Index Mundi).

## V. DO DANISH ALMPs REDUCE NATURAL UNEMPLOYMENT?

As outlined in part two of this paper, ALMPs may reduce the natural rate of unemployment through several effects or relationships, but evaluating these effects poses some difficulties. Experimental studies are the most reliable for evaluating program effects. If unemployed workers are randomly assigned to either an ALMP or to open unemployment, the only difference between the two groups should be their participation in an ALMP. Therefore, the outcome differences between the two groups (e.g., in unemployment duration or future employment spell duration) can be attributed to the ALMP program. Few such experimental studies have been conducted in Denmark. Most studies use regression analysis to control for the differences between the unemployed participating in an ALMP and those in open unemployment. However, workers in open unemployment will at one point be required to participate in an ALMP. As a result, the comparison group consists of workers who are only temporarily in open unemployment (Much and Skipper 2008).

The richness of Danish labor market data, particularly data on the unemployed, allows for many significant employment-related factors to be controlled, including gender, age, education, industry, region, and previous employment record (Much and Skipper 2008). Nevertheless, it is difficult to control for all significant

factors, including why unemployed persons in open unemployment have not been referred to an ALMP, why they have been referred to a particular ALMP, and whether they have accessed employment services outside of the ALMP system (Much and Skipper 2008; Sianesi 2001).

### A) THREAT EFFECT

The threat effect induced by ALMPs is large and significant. Between fall 2005 and winter 2006, the Danish Labor Market Authority implemented a controlled experiment to evaluate the effectiveness of a faster activation timeline. All recently unemployed workers were randomly assigned to either the typical ALMP timeline or to an intensified program of monitoring, counseling, job search assistance, and training. Participants in the intensified program began counseling one and a half weeks after unemployment and a training program four months after unemployment (Anderson and Svarer 2007). The treatment group had an exit rate from unemployment 8 percentage points higher than the control group at 18 weeks following unemployment. The positive effect on the unemployment exit rate was attributed to the threat effect; none of the individual programs had significant effects on unemployment (Danish Economic Council 2007).

Rosholm and Svarer (2008) use a timing-of-events model to determine the magnitude of the threat effect. They calculate the risk of starting an ALMP within the following three months and find that those faced with a higher

risk of program commencement left unemployment faster than those with a lower risk of program commencement, controlling for unemployment duration and other significant characteristics. The period of unemployment was reduced by three weeks due to the threat effect.

#### **B) POST-PROGRAM AND LOCK-IN EFFECTS**

Post-program and lock-in effects together have an ambiguous effect on the unemployment rate. The Danish Economic Council evaluated the program effects of four types of employment services offered by caseworkers. At the first contact point, the unemployed worker registers with the caseworker and receives assistance with his or her CV preparation. This has a negative effect on the probability of finding employment, largely due to the lock-in effect (Danish Economic Council 2007). Subsequent meetings have positive effects on the probability of finding employment; these include a meeting on job search strategies and the ALMP registration meeting. The latter has the largest effects post-meeting, indicating a threat effect.

Munch and Skipper (2008) use a timing-of-events model to compare the exit rate from unemployment and the length of subsequent employment spells among different ALMP participants and those in open unemployment. They find positive effects on the unemployment exit rate and on the period of unemployment for some private on-the-job training participants: older workers, workers

aged 25 to 29, participants with no formal education, and participants with vocational education. Some of these effects are attributed to continued employment with the private firm providing subsidized on-the-job training. Public on-the-job training was found to dampen the unemployment exit rate, increase the period of unemployment, and reduce the length of subsequent employment spells. Classroom-based education had large lock-in effects across all participant groups but significant positive effects on the period of unemployment for women older workers, and workers aged 25 to 29. These groups are most likely to have lengthy spells of unemployment on average in the population. Finally, private on-the-job training and classroom-based education lengthened subsequent employment spells. However, the authors assume that anticipation effects (the threat effect) were minor and did not separate pre-program effects from post-program effects. Graversent and Weise (2001) also find private on-the-job training to have positive effects on the period of unemployment.<sup>2</sup> Classroom-based education was not found to have significant effects on the period of unemployment. However, the study does not evaluate the effects of education on subsequent employment spells.

#### **C) SUBSTITUTION EFFECT**

Although private on-the-job training has the greatest positive effect on the period of unemployment (shortening

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<sup>2</sup> As cited in Andersen and Svarer (2007).



it) and the subsequent employment spells (lengthening them), these effects may be offset by the substitution effect. Hussain and Rasmussen (2007) analyze private firms' hiring behavior. They find that for every subsidized worker hired, firms reduce employment of non-subsidized workers by 0.4 workers. Hussain and Rasmussen focus on firms that did not change their year-over-year sales except by the average labor product to eliminate the possibility that the increase in subsidized workers is due to an increase in production. An earlier Swedish study finds similar substitution effects. Using time-series panel data, Calmfors and Skedinger (1995) find that open unemployment fell by 0.1 to 0.4 percentage points when participation in the job subsidy ALMP increased by one percentage point. This indicates a large substitution effect.

## DISCUSSION

Danish ALMPs have a mixed effect on the natural unemployment rate. As a test of the availability of work, ALMPs seem to be fairly efficient. Large threat effects indicate that the job search intensifies as the mandatory participation ALMP start date nears. The shorter the passive period of unemployment benefits, the faster unemployed workers find employment. As such, the threat of activation reduces frictional unemployment. Additionally, there is some evidence that employment services delivered by caseworkers also reduce frictional unemployment by providing workers

with information on job vacancies and job search strategies.

Program and post-program effects are somewhat more ambiguous. Of the major ALMPs, private on-the-job training is the most effective at reducing unemployment duration and increasing subsequent employment spells. However, this ALMP operates through a job subsidy to the worker and the employer. Job subsidy plans induce a significant substitution effect. Although job subsidies help current unemployed workers to leave unemployment, the impact on the natural unemployment rate is not as strong as subsidized workers displace some non-subsidized workers. Classroom-based education reduces the total unemployment period duration of groups most likely to have long periods of unemployment (women, older workers and young workers), but has no overall effect on the remaining workers because of strong lock-in effects. However, classroom-based training lengthens subsequent spells of unemployment, indicating an improvement in structural unemployment.

## VI. CONCLUSION

Policy change has challenged the flexicurity model. The maximum unemployment benefit period has been reduced from four years to two years. According to Kim Simonsen, chairman of one of Denmark's largest trade unions, "now it's all flex and no security" (Alderman 2010). Benefits remain generous and are now on par

with the rest of the Nordic states. However, the reduction in benefit duration indicates that the system is not working or is not perceived to be working. As Claus Hjort Frederiksen, the Danish finance minister, argues, “the cold fact is that the longer you are out of a job, the more difficult it is to get a job” (Alderman 2010). Cutting benefit duration reduces the urgency for effective ALMPs; the lower the benefits, the less important it is to maintain high employment. At the same time, this ruptures the “right and duty” principle. If the state no longer has a duty to provide the unemployed with a generous income supplement, it also has no right to expect a rigorous job search.

A shorter benefit period may indeed induce a more intensified job search (frictional unemployment), but it cannot improve structural unemployment. As shown in this paper, mandatory ALMPs coupled with a generous unemployment benefit schemes, as were in place between 1994 and 2010, addressed both aspects of natural unemployment. Although their success is somewhat ambiguous, the ALMP and four-year benefit system reduced frictional unemployment through the threat effect, reduced structural unemployment for some groups of workers, lengthened the period of subsequent employment, and maintained a support net for particularly vulnerable workers.

Some aspects of the Danish ALMP system could be improved. For instance, the public job subsidy gives workers little benefit and should be

eliminated. Additionally, the passive period could be reduced from 12 months to induce the threat effect earlier. Such a system may be more worthwhile than a shortened benefit period as it could maintain the “right and duty” principle and sustain flexicurity.

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