

## On mandatory activation of welfare receivers

by

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### Abstract

This paper investigates whether mandatory activation programs for welfare receivers have effects on welfare participation, employment and disposable income. As opposed to earlier studies we are able to catch both entry and exit effects. The empirical analysis makes use of a Swedish welfare reform in which the city districts in Stockholm gradually implemented mandatory activation programs for individuals on welfare. The reform is well suited for investigating effects of such programs for several reasons. First, the reform was not combined with any other policy instruments, like time limits or tax credits, making sure that we will capture effects of mandatory activation policies and nothing else. Second, the reform was initiated at different time points in different town districts, which ease identification. Third, using data from city districts within a single local labor market we can easily control for confounding macro economic shocks. Overall, we find that mandatory activation of welfare receivers decrease welfare participation and increase employment. We also find that mandatory activation programs seem to work best for young people and for people born outside the Western world. For disposable income, we do not find a statistically significant effect.

Keywords: Welfare reform, Mandatory activation programs, Welfare participation, Difference-in-differences

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# 1 Introduction

A basic problem facing a welfare state is how to provide help towards the poor without ruining the incentives to work for those who are able to support themselves. The more generous the welfare benefits are, the more likely it is that people that would otherwise have worked choose to become welfare recipients. On the other hand, if no help is provided to the truly needy, some individuals will not be able to survive. The agency problem originates in the incapability of the principal (the government) to observe the agents' true need for welfare. A potential solution to this problem is to use some screening device. One suggested, and commonly used, screening device is to condition welfare on requirements to work or to engage in work-related activities, such as education, training or job search.<sup>1</sup>

The idea that work requirements and activation are efficient tools in poverty-alleviation programs has a long history in societal program design and goes back to, e.g., the English Poor Law's, according to which "no able-bodied person was to receive money or other help from the Poor Law authorities except in a workhouse".<sup>2</sup> Besley and Coate (1992) formalize the mechanism behind work requirements, and show that these requirements may have both short run and long run effects on welfare take-out. First, requirements on activation can make some individuals who actually can be self-supporting refrain from seeking welfare benefits. Hence, since governments typically cannot observe individuals' true working capacity, activation requirements work like a screening device which makes people reveal their true working capacity.<sup>3</sup> Second, these requirements may also decrease welfare in the longer run. If individuals need welfare because of choices made earlier on in life, activation policies may affect these choices, since welfare becomes a less attractive alternative. For example, individuals may choose to get more education, or another type of education, in order to increase their probability

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<sup>1</sup> Work requirements were for example one of the instruments used in the major U.S. welfare reform in 1996. For good overviews of this reform, see Blank (2002), Grogger & Karoly (2005), and Moffitt (2007).

<sup>2</sup> One main difference between the 18<sup>th</sup> century's workhouses and modern activation programs is of course that the latter also have the intention of helping the participants in improving their job-search skills and/or their human capital.

## Work in progress - do not quote

of future employment. Thereby, the likelihood that individuals will ever need welfare benefits is reduced.

While the theoretical model predicts that work requirements/mandatory activation programs affect program participants as well as non-participants, earlier studies, mostly based on randomized experiments (see, e.g. Hamilton 2002), only investigate effects on program participants. Not being able to capture entry effects is an important shortcoming since it has been shown that much of the decline in welfare use and caseloads following the U.S. welfare reforms were due to decreased entry rather than to increased exit (see, e.g., Grogger et al., 2003, and the discussion in Moffitt, 2007). The U.S. reform consisted however of a mix of different instruments, where work requirements were combined with e.g. time limits, and tax credits, making it close to impossible to separate the effects of work requirements/mandatory activation programs from the effects of the other instruments.

In this paper, we will use quasi-experimental data from a Swedish welfare reform in order to investigate empirically to what extent conditioning welfare on participation in work related activities reduces the number of people on welfare. As opposed to earlier studies we are able to catch both entry and exit effects, although we will not be able to separate between these two. Through the reform, mandatory activation programs were implemented gradually in the city districts in Stockholm over the period 1998 to 2004. We will use this gradual implementation in a difference-in-differences setup. Using data from city districts within a single local labor market have large advantages, since it makes it possible to control for macro economic shocks, something that is hard to do when using, e.g., data on U.S. states. Also, the reform was “clean” in the sense that the activation programs on welfare receivers were implemented in isolation, hence not accompanied by e.g. financial incentives, like the EITC, or time limits. Finally, having access to very rich individual-level register data (on all individuals living in Stockholm over the period 1993–2003) we can also investigate whether the effects are

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<sup>3</sup> Grogger and Karoly (2005) also present an economic model describing how work requirements reduce welfare use

heterogeneous with respect to, e.g., age and country of birth, as well as investigating the effects on a number of different outcome variables, such as employment and disposable income.

Overall, we find that the activation programs decrease welfare participation and increase employment. However, the effects are different for different groups; in particular, mandatory activation has especially strong positive effects for immigrants and young people. We do however not find any significant effects on disposable income.

The remainder of the paper is organized as follows: the next section gives an overview of earlier studies, whereas section 3 describes the Swedish welfare system and the activation programs in Stockholm. In section 4 the data used is described, and in section 5 we present the empirical strategy that is employed. The results are presented in section 6, and section 7 concludes.

## 2 Earlier studies

Studies investigating the effects of activation on both program participants and non-participants are absent. There do however exist studies investigating effects for program participants (i.e. focusing on effects on exit, but ignoring possible entry effects); in particular from a number of randomized experiments in the U.S. and Canada, as well as some non-randomized studies from Sweden.<sup>4</sup>

In the years preceding the major U.S. welfare reform in the 1990s, a number of states, through state waivers, implemented different types of mandatory welfare-to-work programs. Bloom and Michalopoulos (2001) present an overview of the results from 29 welfare reform initiatives in the U.S. and Canada whereas Hamilton (2002) focuses on the 11 projects that were implemented under the National Evaluation of Welfare-to-

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as well as welfare payments.

<sup>4</sup> It can also be mentioned that in a related literature on unemployment insurance (UI), there exists two studies that both find that workfare, or the threat of workfare, decreases the length that participants remain on UI, see Benus and Johnson (1997) and Black et al. (2003).

## **Work in progress - do not quote**

Work Strategies (NEWS) Program. These programs typically involved mandatory employment services, earnings supplements and/or time limits. Among the programs that involved activation of program participants, there existed two types of programs, those with an employment-focused approach and those with an education-focused approach. In addition, there were also some programs that applied mixes of the two approaches. The evidence from this research indicates that programs increased employment and decreased welfare benefits among participants, but had, on net, no effect on the participants' economic well-being. Also, programs that emphasized short-term job search assistance and encouraged participants to find jobs quickly had positive effects on employment already after year one, whereas programs that emphasized longer-term skill-building activities took some time to have effects. After five years, the second type of programs had however caught up with the job-first programs (see Hamilton, 2002). Most successful were the programs that combined the two approaches.

There exist two Swedish studies analyzing the effect of activation programs, Milton and Bergström (1998), and Giertz (2004). Milton and Bergström analyze a program that existed in one of the districts in Uppsala (Gamla Uppsala) in the early 1990's. The program, which was labeled "Uppsalamodellen" ("The Uppsala Model"), demanded unemployed welfare receivers to actively seek for job full-time. They were also to meet with the case worker on a regular basis, presenting a list with which jobs they had applied for and which employers they had contacted. If the caseworker was not satisfied with the recipient's achievement, (s)he could deny further welfare benefits. Examining the effects of the program, using 251 individuals from Gamla Uppsala and 244 from a part of Uppsala that did not have a work requirement program (Gottsunda) in a cross-sectional analysis, Milton and Bergström find that the program had no effect on the time that a person was on welfare or on the probability of getting employed. Giertz (2004) studies 8 projects with 600 participants implemented in the south of Sweden (in Malmö). The programs differed somewhat with respect to content, but a common factor was that they built heavily on individual counselling and stimulations of job search activities. Also, the social workers tried to persuade, rather than force, recipients to participate, but there existed some cases where sanctions had been imposed. Comparing

contemporary participants with earlier participants, Giertz finds no effects on welfare costs. Common for both these studies is that they only study the effects on participants. Just as the U.S. studies they therefore miss potential entry effects.

### 3 Welfare in Sweden

The Swedish social security system is often considered as one of the most extensive and generous systems in Western welfare states. The Social Services Act constitutes the framework for welfare benefits. It is constructed as a frame law, which means that the interpretation and enactment of the law is delegated to each municipality. Since 1982 the law ensures all Swedish and foreign citizens living in Sweden the right to obtain welfare benefits in the absence of other means of economic support. As opposed to the situation in many other countries (e.g. U.S. and U.K.), receiving welfare is not dependent on having children. However, in order to be eligible for welfare benefits all other means, including savings and valuable assets, must be exhausted. The benefit level should ensure a reasonable standard of living, but it is up to the municipalities to decide the exact level. However, until 1998, there existed recommendations from the National Board of Health and Welfare, and since 1998 these recommendations have been replaced by a minimum level.

In 2006, 392,500 individuals (or about 4.3 percent of the population) received welfare benefits (some of the receivers were newly arrived immigrants). About 30 percent of these received welfare more than 10 months during a year, and are therefore defined as long term receivers.<sup>5</sup> Figure 1 describes the development of the number of welfare receivers as well as the costs for welfare benefits since the mid-eighties up to 2006. As can be seen from the figure, starting in the end of the nineties, both the number of individuals receiving welfare and the costs for welfare benefits have dropped. However, the costs per recipient (not shown in the figure) have increased indicating that the individuals that are still on welfare are so for a longer time. In 1999, the Swedish

**Formaterat:** Teckensnitt: Inte Fet

**Borttaget:** Figure 1

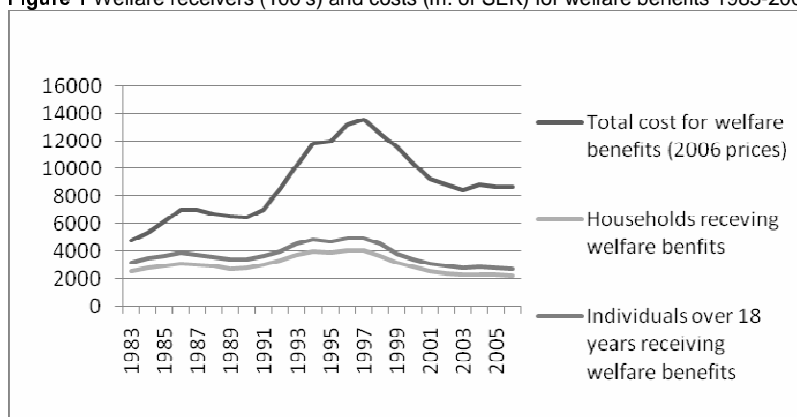
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<sup>5</sup> Socialstyrelsen (2008).

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government declared an ambition to cut costs for welfare benefits in half. This objective has proven hard to accomplish; even though welfare costs have decreased over time it has not decreased with 50 percent. Also, since 2003 the decrease seems to have ended. Welfare receivers are not evenly spread across different groups in society. The probability of receiving welfare is largest among unemployed youths without eligibility for unemployment benefits, single mothers and individuals born outside Western countries.

**Figure 1** Welfare receivers (100's) and costs (m. of SEK) for welfare benefits 1983-2006.



Source: Statistics Sweden.

During the 1980's the right to welfare was not tied to any specific requirements on the receiver of welfare benefits other than having exhausted all other means of financing and being available for work. "Being available for work" was in the beginning of the 1980's defined by The National Board for Health and Welfare as searching for jobs and not turning down any "suitable offers". A "suitable job" was perceived as a job matching the skills and qualifications of the individual and in line with collective agreements concerning working environment and benefits. However, the 1990's recession led to difficulties in financing the social welfare system. As a consequence, the right to welfare became subject to stricter means-testing and the requirement of being available for work was extended to also include participation in internships and



labor market projects.<sup>6</sup> At the same time, the generosity of welfare benefits was reduced in many municipalities.

The right to demand participation in different activities by the welfare receivers was formally introduced by a change in the Social Services Act in 1998.<sup>7</sup> The new law made it possible for municipalities and city districts to demand participation in work related activities, such as internships and supervised job search, in return for welfare benefits. These programs have been known under the name “activation programs” and typically require a number of hours’ attendance each week. According to the official descriptions, the aims of the programs are to facilitate job search for the unemployed and “coaching” the participants to become self-supporting. However, in a case study by Thorén (2005) it is concluded that “municipal activation policy in its practical form will not necessarily improve client’s prospects to find employment since its primary function rather is as a method to control clients’ entitlement to social assistance”. The organization of the programs makes it possible for the welfare administration to monitor the willingness to work. It is hence likely that the programs reduce the value of welfare for the beneficiary, since he or she can no longer consume leisure in the same extent as earlier. If Thorén is correct, an implication might then be that we could find an effect on welfare participation but not necessarily an increased probability to get a job.

In this paper, we will focus on the city districts in the city of Stockholm. The city of Stockholm is by far Sweden’s largest municipality, with approximately 780,000 inhabitants in 2006. It makes up the central part of a much larger labor market area. Next, we will turn to a description of the programs in place in Stockholm.

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<sup>6</sup> For a discussion of the welfare system during the 1990s, see Johansson (2000, 2001) and Bergmark (2000).

<sup>7</sup> Many of the changes prescribed by the 1998-law reflected trends that had been in practice earlier; Salonen and Ulmestig (2001) show that many municipalities seem to have applied rules similar to the new policy even before 1998. Also, the rule has been used in a wider sense, for example it has been extended to apply to other groups than youths.

## 4 Empirical setting

During the period studied (1993–2003), the municipality of Stockholm was divided into 18 city districts (see Map in Appendix A).<sup>8</sup> The city districts are responsible for the majority of the municipality's services within their geographical areas.<sup>9</sup> However, the municipality sets taxes<sup>10</sup> and allocates funds between the city districts. It also defines the overall goals and guidelines. The political composition in the District Councils is equivalent to that of the Municipal Council, which is elected every fourth year. Hence, there are no elections to the District Councils, and the political majority in these are the same all over Stockholm.

The earliest examples of activation programs in Stockholm<sup>11</sup> are from 1998 and 1999 when Rinkeby and Skärholmen introduced programs intended to enroll all unemployed welfare recipients in job searching activities. They were followed by Kista and Farsta in 2001, and since then by many other city districts. In fact, since 2004 there are mandatory activation in force in all city districts.

In order to categorize when the different city districts launched mandatory activation, we have conducted a questionnaire addressed to the heads of the welfare administration in each city districts.<sup>12</sup> The questionnaire was complemented with telephone interviews whenever it was difficult to categorize a program based on the information given in the questionnaire. Based on the information from the questionnaire and the interviews, we can determine which year a mandatory program was launched in each city district. A program has been labeled as “ambitious” if it has satisfied the following criteria: it is targeted towards all unemployed individuals receiving social assistance; it requires

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<sup>8</sup> Since January 1, 2007, the number of city districts has decreased to 14.

<sup>9</sup> The district's responsibilities include refugee reception services, recreational programs for children and youth, pre-school, income support, budgetary counseling and debt restructuring, consumer advisory services, local business and labor market initiatives, local urban environment issues, maintenance of parks, services and care for the disabled, social services, care and treatment, family law, and elderly services.

<sup>10</sup> In Sweden, municipalities have the right to collect revenues from a local, proportional, income tax. They are also allowed to charge user fees for some of the services they provide.

<sup>11</sup> Noteworthy is that, as opposed to in some other Swedish municipalities, there did not exist any large scale activation programs in any of Stockholm city districts before 1998 when the Social Service Act was changed.

<sup>12</sup> The questionnaire is given in Appendix B.

attendance for some hours per week. The programs all use a common reporting system in which the attendances of the participants are registered daily. Most importantly, the register is open to social workers, which means that absence is immediately detected, and will in many cases lead to reduced benefits. Some of the programs are extensions of previous programs, but the ambitions of the current programs are much higher.<sup>13</sup> Table 1 shows when the activation programs subject to this study were implemented.<sup>14</sup>

A valid question is of course whether we can trust the answers given by the welfare administrators. Do the programs really include *all* individuals receiving welfare and are they as harsh as the administration claims? Without conducting thorough implementation studies it is not possible for us to answer these questions for sure.<sup>15</sup> However, there are no reasons for the administration not to tell the truth. Also, it is worth noting that if the programs de facto are not as compulsory and “tough” as stated by the heads of the welfare administration, we would get estimates that are biased towards zero. Hence, the effect that we find in the paper should be seen as a lower bound of the effects of general activation programs.

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<sup>13</sup> In the earlier years, job seeking activities were often limited to occasional contacts with an employment counselor whose role mostly consisted of discussing the client’s situation and possibly arranging labor market training. The cooperation between social administration and consultants was scarce and a common view is that the follow-up was insufficient.

<sup>14</sup> Since our data ends in 2003, the programs started in 2004 are not used in the identification of the program effect. Also, in one districts it is impossible to establish when the “ambitious” program begun (Skarpnäck) and Skarpnäck is therefore excluded. In addition, the most central city districts are excluded from the sample altogether as the share of receivers of welfare benefits is very low in this part of the city and as their methods are difficult to categorize. Finally, Rinkeby is excluded from the analysis since it is an outlier in several respects, not the least in terms of welfare participation and share of inhabitants born outside Sweden. We have also estimated the model when excluding other city district, one at the time, and it turns out that Rinkeby seems to be different; see Table D.1 in Appendix D. It is important to remember that excluding Rinkeby implies that we cannot draw inference from our results to city districts like Rinkeby.

<sup>15</sup> We would like to stress that the questionnaire has been complemented with several telephone conversations where we have tried to get more detailed information when needed. In addition, in the interviews we ask about programs that actually have been in place a number of years, making it likely that it is the actual program, not just the ambitions of the program that we capture.

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**Table 1** Starting years for activation programs in Stockholm city districts.

District	Year
Skärholmen	1999
Farsta	2001
Kista	2001
Älvsjö	2002
Hägersten	2003
Liljeholmen	2003
Spånga-Tensta	2003
Bromma	2004
Enskede-Årsta	2004
Hässelby-Vällingby	2004
Vantör	2004

In order to give a better understanding of the programs, we will describe the program in Skärholmen in more detail. The program in Skärholmen is one of the most documented programs (see Ekström, 2005, and Thorén, 2005, for a more detailed description) and is to some extent comparable to other, less documented programs in other parts of the city.<sup>16</sup>

In 1998 the city district of Skärholmen began to apply a method that has later become known as "the Skärholmen model". During the first year the activities were only directed to students who were unemployed during the summer, but in 1999 the program was extended to include all unemployed receivers of welfare benefits. Three other city districts (Hägersten, Liljeholmen and Älvsjö) have joined the project and during our study period the four districts shared the facilities in Skärholmen.

When welfare applicants enter the welfare services, those whose main motivation for applying for welfare is categorized as "unemployment" are immediately sent to "The Jobcentre" (the local employment agency that administers the job seeking activities for

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<sup>16</sup> Blomberg et al. (2006) study the activation programs implemented in six city districts (Vantör, Skärholmen, Kista, Hässelby-Vällingby, Rinkeby and Spånga-Tensta) and conclude that the programs are similar in many respects. For example, all districts have reception offices from which the welfare applicants are directed to activation centers. At these centers, a mix of the following activities takes place: own job-search, assisted job-search, internships, work practice, and job-guidance.

welfare receivers). Usually, the applicants have to meet Jobcentre personnel before their application is processed. Sometimes the applicant is given suggestions on jobs to seek or other activities already on their first visit at the Jobcentre. As long as a person has not found a job or an activity to participate in, the program requires three hours of daily attendance at the Jobcentre, either in the morning or in the afternoon. Every second week the schedule rotates in order to prevent black market work. The central component in the model is job-seeking activities. These are facilitated by providing job seekers with an individual labor market coach and material which may alleviate job search – such as computers, telephones and stationery. In addition to job-seeking activities, the program involves participation in internships, shorter education such as computer courses and other activities arranged by the city district, such as gardening or cleaning in the community. As noted by Thorén (2005), much of the activities aim at testing the participants' willingness to work. There is also a large amount of cooperation between the welfare office and the coaches at the Jobcentre. Not participating actively at the centre will be reported to the welfare administrator who can decline the recipients their welfare benefit.

The data from the questionnaire is combined with individual register data from Statistics Sweden. The register data contains yearly information on all individuals aged 18–64 living in the municipality of Stockholm, over the years 1993 through 2003. Table 2 reports summary statistics on the variables used in this paper. In order to measure the effects on welfare participation we use a dummy (*Welfare receiver*) that indicates whether the individual lives in a household that received welfare during the year.<sup>17</sup> We see that this is true for approximately 9 percent of all individuals in our sample. A potential problem with this measure of welfare participation is that it is quite crude in the sense that an individual is considered as being a welfare participant if he or she has received some welfare benefits at some point during a year. The amount received differs however substantially between individuals and it is therefore also interesting to

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<sup>17</sup> Welfare benefits are directed to households, not individuals. For simplicity, we will in the rest of the paper write it as if it was the individual that received welfare. What we mean is however whether the individual lived in a household that received welfare.

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investigate the effect on the amount of welfare money received during a year (*Welfare benefits*).<sup>18</sup> The average amount received is approximately 2,000 SEK per year. This might seem like a low figure, but note that the zeros are included.

Since we are interested in what happens to individuals that potentially leave welfare or refrain from entering into welfare, we will also investigate the effects on employment. We use four different measures of employment: A dummy indicating whether the individual worked as least 1 hour in November (*Employed in November*), a dummy indicating whether the individual was employed all 12 months (*Employed all year*), a variable that measures how many months the individual was employed in the year (*Months employed*), and income earned from employment (*Income from employment*). In the variables *Employed all year* and *Months Employed* an individual was defined as employed if the work performed that month generated an income larger than 25 percent of the minimum wage of workers in the hotel and restaurant sector. Summary statistics for the different employment measures are reported in Table 2. Approximately 74 percent of the population is employed according to the first definition.

Finally, we will investigate what happens with the economic well-being of individuals by investigating effects on disposable income. As we can see from Table 2, disposable income varies substantially between individuals. In the empirical analysis we will also control for a number of individual specific characteristics; summary statistics for those variables are also provided in Table 2.<sup>19</sup>

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<sup>18</sup> The variable “Welfare benefits” is the individual’s share of the household’s welfare benefits.

<sup>19</sup> Exact definitions of all variables as well as the names of the data sources are given in Appendix C.

**Table 2** Summary statistics

Variable	Mean	Std. Dev.	Min	Max
<u>Outcome variables</u>				
The probability of receiving welfare	0.089	0.285	0	1
Welfare benefits	2,004	9,571	0	510,800
Employed in November	0.737	0.440	0	1
Employed all year	0.650	0.477	0	1
Months employed	8.542	5.136	0	12
Income from employment	164,234	170,712	0	25,977,500
Disposable income*	158,138	266,384	-1,551,500	223,910,800
<u>Control variables</u>				
Woman	0.499	0.500	0	1
Age 18–25	0.151	0.358	0	1
Age 26–35	0.262	0.440	0	1
Age 36–45	0.357	0.479	0	1
Age 46–64	0.231	0.421	0	1
With young children (<7 years)	0.184	0.387	0	1
Born in Sweden	0.776	0.417	0	1
Born in Nordic country	0.047	0.211	0	1
Born in Western country	0.025	0.156	0	1
Born in East European country	0.036	0.186	0	1
Born in other country	0.120	0.325	0	1
Elementary school< 9 years	0.204	0.403	0	1
Elementary school 9 years	0.259	0.438	0	1
High school	0.197	0.398	0	1
College/University<2 years	0.165	0.371	0	1
College/University>2 years	0.166	0.372	0	1
Ph D	0.009	0.095	0	1
Immigration 2–4 years ago	0.017	0.131	0	1
Immigration 5–9 years ago	0.050	0.217	0	1
Immigration 10–14 years ago	0.045	0.207	0	1
Immigration>15 years ago or not at all	0.888	0.315	0	1
1 child	0.201	0.401	0	1
More than 1 child	0.203	0.402	0	1

\* Only available for the years 1995–2003.

The city districts are rather heterogeneous with respect to demographic composition and outcome variables, which is illustrated by Table 3 that presents summary statistics from 1993 on some of the outcome variables as well as the share foreign born.

**Table 3** City district characteristics in 1993.

	Share welfare receivers	Average welfare benefits	Share employed (November)	Average disposable income*	Share of foreign born individuals
Bromma	0.06	1,087	0.76	149,045	0.12
Enskede-Årsta	0.08	1,525	0.73	129,633	0.16
Farsta	0.13	2,431	0.70	124,991	0.17
Hägersten	0.08	1,449	0.73	130,481	0.15
Hässelby-Vällingby	0.08	1,288	0.74	137,476	0.15
Kista	0.19	3,847	0.67	120,446	0.42
Liljeholmen	0.10	1,922	0.71	122,920	0.16
Skärholmen	0.13	2,092	0.66	119,657	0.32
Vantör	0.14	2,606	0.68	120,665	0.20
Spånga-Tensta	0.17	3,209	0.64	124,431	0.42
Älvsjö	0.07	1,050	0.76	140,942	0.14

\* Only available for the years 1995–2003.

Comparing the figures in Table 3 with the year of program implementation shown in Table 1 it is worth noting that it is the city districts with the highest welfare participation that seem to have implemented the policy first. In the next section we will discuss how this is handled in the empirical analysis.

## 5 Econometric strategy

When investigating the effect of a specific policy on individual behavior, the econometric challenge is to separate effects of the policy from other factors that also may affect individual behavior. If one only compares the behavior of an individual before and after a policy change, there is a major risk that one also captures changes in the behavior that depends on factors other than the policy. One way to isolate the effect of the policy from all other things that may affect individual behavior is to compare the changes in behavior of individuals residing in a city district that has implemented the policy with changes in the behavior of individuals residing in a city district that has *not* implemented the policy, thereby netting out other factors that may affect individual behavior. We will use this difference-in-differences approach in the paper. The DD-estimation is implemented through the following econometric specification



$$Y_{ijt} = \alpha_j + \tau_t + \beta program_{jt} + \theta X_{ijt} + \varepsilon_{ijt}, \quad (1)$$

where  $Y_{ijt}$  is the outcome of interest for individual  $i$  in city district  $j$  in time-period (year)  $t$ ,  $\alpha_j$  are city district-specific fixed effects,  $\tau_t$  are time-specific fixed effects that are common for all city districts, and  $program_{jt}$  is an indicator variable that takes the value 1 if the policy is implemented in city district  $j$  in year  $t$  (and all years thereafter). The effect of the policy is given by the parameter  $\beta$ .  $X_{ijt}$  is a vector of covariates that controls for the fact that different districts may have different population-structure and that this structure changed over time. If these covariates affect both the likelihood that the policy is implemented and the outcome of interest, excluding these gives biased estimates of  $\beta$ . If these covariates only affect the outcome-variable, including them increases the efficiency in the estimations.  $\varepsilon_{ijt}$  are error terms.

The identifying assumption for  $\beta$  to be a causal effect is that if the policy had not been implemented,  $Y$  in the city district that implemented the policy would have changed in the same way as in the city districts that did not implement the policy. As mentioned above, the city districts implemented the policy in different time periods. We know that these years (1998–2003) were characterized by decreasing unemployment rates until 2001 and then a small increase. We also know that labor market conditions matter differently for different groups, i.e., the weaker the group is with respect to labor market attachment, the more sensitive is the group to fluctuations in labor market conditions; see, e.g., Barth et al. (2004, 2006). Given that the city-district with the potentially weakest groups were those that implemented work requirements first, one might worry that the treatment indicator in equation (1) would capture this pattern rather than the actual treatment effect. In order to avoid this potential problem, we will therefore allow the parameter vector  $\theta$  to vary over time. In this way we control for the fact that a specific demographic structure in the early years may affect welfare caseloads differently than having the same demographic structure in the later years, when the

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labor market conditions differ. The equation that forms the basis for our empirical analysis is given by<sup>20</sup>;

$$Y_{ijt} = \alpha_j + \tau_t + \beta program_{jt} + \theta_i X_{ijt} + \varepsilon_{ijt} . \quad (2)$$

Even after controlling for  $X_{ijt}$  in the flexible way described by equation (2), there might be different time trends in the different city-districts. We will therefore also estimate a very rich specification, given in equation (3), allowing for a linear, city-district specific time-trend,  $trend_j$ ;

$$Y_{ijt} = \alpha_j + \tau_t + \beta program_{jt} + \theta_i X_{ijt} + trend_j + \varepsilon_{ijt} . \quad (3)$$

One thing that equation (3) does not control for is unobserved city-district specific shocks that might vary over time. If such shocks exist, they might cause two different kind of problems. First, if these shocks are correlated with the timing of the reform,  $\beta$  might capture these shocks rather than true program effects. Second, such shocks might imply that the standard errors of individuals within the same city district will be correlated, making the estimated standard errors biased and, thereby, invalidating inference. Since we focus on city districts within a close geographical distance which also make up the centre of a much larger labor market region, we believe that we very likely actually are able to capture any such shocks with the common time effect together with the time-varying coefficient on the control variables. However, since we use individual-level data in the analysis, whereas welfare benefits are provided to households, and then being “individualized” to each household member, there might be some within-household correlations. In all estimations, we will therefore cluster the standard errors on households.

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<sup>20</sup> If welfare prone individuals move between city districts depending on whether the districts have implemented strict work requirements or not we might be worried that equation (3) captures these effects rather than effects on welfare participation. However, Edmark (2007) does not find that the moving patterns of welfare prone individuals differ from the moving patterns of non-welfare prone individuals.

As a sensitivity analysis we will conduct a placebo-experiment where we pretend that the programs took place five years before their actual implementation, and then estimate the effects of these placebo-programs using data from the pre-reform period, i.e. before any city district had implemented any program. Also, we will investigate whether there exist any pre-program effects, in which case we might suspect that the treatment is not exogenous conditioning on controls. If we find an effect of the true timing of the reform, but no effect for the placebo reform or pre-program effects, we will be quite confident that what we have in fact captured relevant differences in the city-districts with our model specification, and that the effect we found is a true program effect.

In order to test whether there still exists any correlation within the residuals that will the inference, we will conduct the test suggested by Wooldridge (2003). He suggest to initially restrict the unobserved city-district specific shocks to zero and then solve for  $\beta$  in equation (4) below using the minimum distance (MD) estimator.

$$q_{jt} = \alpha + \beta \text{program}_{jt} \quad (4)$$

The efficient MD-estimator is calculated by the estimating the following model

$$Y_{ijt} = q_{jt} + \theta_t X_{ijt} + \eta_{ijt} \quad (5)$$

and then, using the predicted  $\hat{q}_{jt}$  from equation (5), estimate the following WLS

$$\hat{q}_{jt} = \alpha_j + \tau_t + \beta \text{program}_{jt} + \text{trend}_j + \mu_{jt} \quad (6)$$

where the weights are given by  $1/\hat{\sigma}_{jt}^2$ , where  $\hat{\sigma}_{jt}$  are the standard errors from the first step. Under the null of no unobserved city specific time shocks,  $SSR_w \overset{a}{\sim} \chi^2(S-K)$ , where  $S$  is given by  $J \times T$  and  $K$  is the number of estimated parameters in (6). If  $H_0$  is rejected, then Wooldridge proposes to instead use the two-step estimator suggested by

Donald and Lang (2007). This two-step estimator is conducted by estimating (5) and (6), but where the weights for (5) are given by the population share of the different city districts.

## **6 Results**

In this section, we will first estimate the baseline DD-estimates of the effects of mandatory activation on welfare, employment and disposable income. Thereafter, we will turn to a sensitivity analysis along the lines described above. Finally, we will investigate whether the effects are heterogeneous with respect to family status, age and country of origin.

### **6.1 Baseline estimates**

#### *Effects on welfare participation*

According to the theoretical prediction from the Besley and Coate (1992) model, welfare participation should decrease when work requirements are introduced. [Table 1](#) presents the effect of work requirements on the probability for an individual to receive welfare sometime during a year. We use a linear probability model, controlling for several observed as well as unobserved characteristics of the city districts. The first column presents the simple difference-in-differences model given by equation (1). We here find a negative effect of work requirements of 2.4 percentage points. One worry is however that this estimate does not capture a causal effect, since it rests on the assumption of identical time trends in welfare participation in the different city-districts. Column (2) therefore includes time varying parameters on the covariates whereas column (3) includes city-district-specific time trends. Doing this, we find that the estimates drop somewhat, to 1.3 and 1.1 percentage points respectively. Finally, column (4) combines the specifications from columns (2) and (3), providing a very rich model specification that is “very tough” on the data. As a result the estimate drops to 0.4 percentage points but is still statistically significant. This corresponds to a decrease with 4.5 percent at the mean value.

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**Borttaget:** Table 1

**Table 1** Effect on the probability of receiving welfare

	(1)	(2)	(3)	(4)
DD-estimate	-0.024*** (0.001)	-0.013*** (0.001)	-0.011*** (0.001)	-0.004*** (0.001)
City district fixed effect	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes
Individual characteristics <sup>1</sup>	Yes	Yes	Yes	Yes
Time varying parameters on covariates	No	Yes	No	Yes
District specific time trends	No	No	Yes	Yes
R-squared	0.14	0.15	0.14	0.15
No. of observations	2,535,573	2,535,573	2,535,573	2,535,573

**Notes:** Robust standard errors clustered on households in parentheses. \*\* significant at 5%; \*\*\* significant at 1%.

<sup>1</sup> Gender, education level, immigration year, region of birth, children and age

As mentioned earlier, a potential problem with the measure of welfare participation in [Table 1](#) is that it is quite crude in the sense that an individual is considered as being a welfare participant if he or she has received some welfare benefits at some point during a year. Since the length of the benefit period is not considered, we might under- or overestimate the effect of work requirements on welfare participation. Therefore we also investigate the effect on the amount of welfare money received during a year. [Table 2](#) shows the results for the same model specifications as in [Table 1](#). Once again we find that the estimated program effect drops when controlling for differences between the city-districts. From the last column work requirements reduce the amount of welfare received with almost 80 SEK per year, which corresponds to a decrease with 3.6 percent at the mean value.

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**Borttaget:** Table 1

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**Table 2** Effect on welfare benefit, SEK

	(1)	(2)	(3)	(4)
DD-estimate	-473.5*** (32.5)	-291.6*** (32.2)	-276.8*** (34.6)	-79.5** (34.2)
City district fixed effect	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes
Individual characteristics <sup>1</sup>	Yes	Yes	Yes	Yes
Time varying parameters on covariates	No	Yes	No	Yes
District specific time trends	No	No	Yes	Yes

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	(1)	(2)	(3)	(4)
R-squared	0.09	0.10	0.09	0.10
No. of observations	2,535,573	2,535,573	2,535,573	2,535,573

**Notes:** Robust standard errors clustered on households in parentheses. \*\* significant at 5%; \*\*\* significant at 1%.

<sup>1</sup> Gender, education level, immigration year, region of birth, children and age.

### *Effects on employment*

The results in the previous section indicate that the introduction of work requirements reduce welfare participation and the amount of income that individuals receive from welfare benefits. The predictions from the Besley and Coate (1992) model are not explicit about other outcomes, but implicitly there is an understanding that work requirements should have positive effects on the employment rate and, possibly, other labor market outcomes. Therefore we will next examine the effects of activation programs on employment.

We use four alternative variables in order to capture effects on employment. The first is a dummy taking on the value one if the individual was employed in November in a given year, zero otherwise. The second is the number of months employed during a year. The third is a dummy indicating whether an individual has been employed the whole year or not, and the fourth is income from employment. The results are presented in

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**Table 3.** Regardless of which employment-measure we use, we find that the program increase employment. Starting with the November-measure, we find that work requirements increase the individual's probability of being employed with 0.4 percentage points, which corresponds to an increase with 0.5 percent. Furthermore, the number of months that the individual is employed increases with 0.04 months or 1 percent and the probability that the individual is employed the full year increases with

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Table 3

0.3 percentage point or 0.5 percent. Finally, income from employment increases with 1,283.4 SEK per year, which corresponds to 0.8 percent of the mean value in the sample. Hence, although employment increases, the increases are smaller, in relative terms, than the corresponding decreases in welfare.

**Table 3** Effects on employment

	The probability of employment in November	The number of months employed	The probability of being employed full year	Income from employment
DD-estimate	0.004*** (0.001)	0.041*** (0.015)	0.003** (0.001)	1,283.4*** (397.1)
City district fixed effect	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes
Individual characteristics <sup>1</sup>	Yes	Yes	Yes	Yes
Time varying parameters on covariates	Yes	Yes	Yes	Yes
District specific time trends	Yes	Yes	Yes	Yes
R-squared	0.13	0.14	0.14	0.23
No. of observations	2,535,573	2,535,573	2,535,573	2,535,573

**Notes:** Robust standard errors clustered on households in parentheses. \*\* significant at 5%; \*\*\* significant at 1%.

<sup>1</sup> Gender, education level, immigration year, region of birth, children and age.

### *Effects on economic well-being*

So far we have found that work requirements lead to a lower degree of welfare participation and increased employment. An interesting question is of course how well the individuals are doing on net in economic terms. Thanks to reliable, register-based, information on individuals' disposable income<sup>21</sup>, we are able to analyze this, something that has not been done in earlier studies on the U.S. welfare reform when relying on

<sup>21</sup> Disposable income is defined as all income received (from work, social security systems, transfers, etc) minus taxes and other payments (such as study loan payments).

observational data.<sup>22</sup> From the results, presented in [Table 4](#), it is clear that, on net, the introduction of work requirements leads to a significant increase in disposable income of 1,947 SEK. This amounts to 1.2 percent of the average sample figure of 158,138 SEK. Hence, in economic terms, individuals are actually doing better thanks to work requirements.

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**Table 4** Effect on disposable income.

	Disposable income
DD-estimate	1,947*** (750.6)
City district fixed effect	Yes
Time effects	Yes
Individual characteristics <sup>1</sup>	Yes
Time varying parameters on covariates	Yes
District specific time trends	Yes
R-squared	0.04
No. of observations	1,882,630

**Notes:** Robust standard errors clustered on households in parentheses. \*\*\* significant at 1%.

<sup>1</sup> Gender, education level, immigration year, region of birth, children and age.

## 6.2 Sensitivity analysis

In this section we will first conduct a placebo-experiment where we assume that the programs started five years ahead of the true data. We will also investigate whether there are statistically significant effects already one and two years before the programs started. Third, we will investigate whether the effect of the programs increase over time. This could be the case, if it for example takes time before the programs actually kick in. This analysis will hence tell us whether we have indeed captured true program effects with the DD-estimate and that the identification assumption of conditional randomization is indeed fulfilled.

<sup>22</sup> The income data available in the U.S. is self-reported and, as is discussed in Meyer and Sullivan (2003), income therefore tends to be underreported, especially by welfare recipients. Using consumption data instead, Meyer and Sullivan (2004) examine the material conditions of single mothers and their families to assess the net effect of the U.S. welfare reforms on the well-being of these families. They find that the material conditions of single mothers



In order to investigate whether the standard errors are unbiased, we will thereafter perform the test suggested by Wooldridge (2003). If we reject the null that the used controls are sufficient for characterizing the changing intercepts across city districts we will next estimate the model using the Donald-Lang estimator.

### 6.2.1 Placebo-experiments

In order to investigate whether the estimated program effects in section 6 are the true program effects we will conduct a placebo-experiment. If we do not find any effect of this placebo-reform, we will be quite confident that the effect estimated above is in fact a program effect and not just any city-district specific shocks.

In the placebo-experiment we use data from the period 1993–98, i.e. the period before any mandatory activation program had been put in place in any city district. In order to create placebo-reforms we pretend that the programs took place five years before they actually started. Hence, we pretend that Skärholmen implemented the program in 1994 and that Farsta and Kista followed in 1996 etc. Doing this, we get the results presented in Table 5. Looking at column (4), i.e. our preferred model specification, we see that all estimates are statistically insignificant. Hence, we cannot reject that the effects of the placebo-reforms are zero. Furthermore, all the point-estimates are small and close to zero. In addition, we can note that the estimated effects are sometimes statistically significant (with unexpected sign) in columns (1) and (2). Hence, it seems important to control for city district specific trends. If we do not, we risk capturing differences in the city districts rather than true program effects. All in all, the results in Table 5 strengthen that the effects found in section 6 are indeed effects of mandatory activation programs and nothing else.

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have not declined, either in absolute terms or relative to different comparison groups (such as single childless women).

**Table 5** Results from a Placebo-experiment

	(1)	(2)	(3)	(4)
Welfare recipient	0.002 (0.001)	-0.001 (0.001)	-0.002 (0.001)	-0.001 (0.001)
Welfare benefits	125.9** (31.8)	-13.9 (31.5)	-23.6 (32.7)	-1.1 (32.8)
Prob. of empl. in November	-0.008** (0.001)	-0.005** (0.001)	-0.000 (0.001)	-0.000 (0.001)
No. of months empl.	-0.093** (0.015)	-0.058** (0.015)	0.009 (0.016)	0.008 (0.016)
Prob. of empl. full year	-0.008** (0.001)	-0.005** (0.001)	0.002 (0.002)	0.001 (0.002)
Income from employment	-4,257** (325.9)	-2,487** (321.9)	252.7 (299.2)	77.9 (300.6)
Disposable income	-2,209** (416.4)	-1,647** (414.9)	234.0 (452.0)	335.0 (455.0)
City district fixed effect	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes
Individual characteristics <sup>1</sup>	Yes	Yes	Yes	Yes
Time varying parameters on covariates	No	Yes	No	Yes
District specific time trends	No	No	Yes	Yes
No. of observations	1,335,878	1,335,878	1,335,878	1,335,878

**Notes:** Robust standard errors clustered on households in parentheses. \* significant at 5%; \*\* significant at 1%.

<sup>1</sup> Gender, education level, immigration year, region of birth, children and age.

Another way to investigate whether we have captured true program effects or if the results depend on some trend that we have not adequately controlled for is to – in addition to the treatment indicator in equation (4) – also include dummies for the years preceding the implementation of the programs. [Table 6](#) shows the results from these estimations for our preferred model specification. As is clear from the table, there seems to be something going on in the probability of receiving welfare already in the year before the program starts. Going back two years, there parameter estimate is close to zero and statistically insignificant. For all the other outcome variables, including welfare benefits, we do not find any statistically significant estimates for the two years preceding the programs. Also, the point estimates are all much lower than the point

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estimate for the program-period. We take this as evidence that we have in fact captured a true program effect.

**Table 6** Effects the year before program implementation

	Welfare recipient	Welfare benefits	Prob. of empl. in November	Income from employment	Disposable income
t	-0.006** (0.002)	-116.0* (53.9)	0.005* (0.002)	1,095.8 (652.7)	2,802.0* (1,212.9)
t-1	-0.004* (0.001)	-70.6 (43.3)	0.002 (0.002)	-211.8 (497.2)	102.3 (920.7)
t-2	0.001 (0.001)	9.4 (33.6)	0.000 (0.001)	-148.5 (376.2)	337.2 (816.0)
City district fixed effect	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes
Individual characteristics <sup>1</sup>	Yes	Yes	Yes	Yes	Yes
Time varying parameters on covariates	Yes	Yes	Yes	Yes	Yes
District specific time trends	Yes	Yes	Yes	Yes	Yes
R-squared	0.15	0.10	0.13	0.23	
No. of obs.	2,535,573	2,535,573	2,535,573	2,535,573	

**Notes:** Robust standard errors clustered on households in parentheses. \* significant at 5%; \*\* significant at 1%.

<sup>1</sup> Gender, education level, immigration year, region of birth, children and age.

It is also possible that it takes some time before the programs start to have effects on welfare and employment. This could be the case if, for example, the programs have some start-up-period before they are fully implemented, or if it takes time before inhabitants realize that the social assistance office demands activation. In order to investigate this, we have estimated our preferred specification including two additional indicators, one taking the value 1 the year after the reform and afterwards and zero otherwise, and one taking the value 1 two years after the reform and afterwards. These results are given in [Table 7](#). A statistically significant estimate for T+1 or T+2 should be interpreted as the effect being larger the year after/two years after the reform. As is clear from the table, it is only the effect on disposable income that appears to grow over time, otherwise, the full effects kick in already the year of implementation.

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**Borttaget:** Table 7

**Table 7** Are the effects sluggish?

	Welfare recipient	Welfare benefits	Prob. of empl. in November	Income from employment	Disposable income
t	-0.005** (0.001)	-81.4* (32.5)	0.004** (0.001)	1,370.2** (395.9)	2,862.2** (749.7)
t+1	0.001 (0.001)	6.5 (36.6)	0.001 (0.002)	-317.8 (414.9)	-685.3 (575.9)
t+2	-0.001 (0.002)	2.7 (49.8)	0.001 (0.002)	383.7 (511.9)	2,584.7** (593.0)
City district fixed effect	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes
Individual characteristics <sup>1</sup>	Yes	Yes	Yes	Yes	Yes
Time varying parameters on covariates	Yes	Yes	Yes	Yes	Yes
District specific time trends	Yes	Yes	Yes	Yes	Yes
R-squared	0.10	0.15	0.13	0.23	0.05
No. of obs.	2,535,573	2,535,573	2,535,573	2,535,573	2,102,537

Notes: Robust standard errors clustered on households in parentheses. \* significant at 5%; \*\* significant at 1%.

<sup>1</sup> Gender, education level, immigration year, region of birth, children and age.

### 6.2.2 The Wooldridge test

**Table 8** shows the results from the two-step procedure given by equations (5) and (6).

The null is that, conditional on controls, there are no city-district specific time shocks. As is seen from the table, we have to reject the null for the two variables capturing effects on welfare as well as for disposable income. For the four employment-measures however, we cannot reject the null of no city-district specific time shocks. Hence, the standard errors in **Table 3** are very likely unbiased and inference is correct, whereas we should be careful when drawing inference to the other three outcomes.

Borttaget: Table 8

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**Table 8** Wooldridge test of no unobserved city-district specific shocks.

Dependent variable	SSR <sub>w</sub>	Degrees of freedom	Reject/not reject at the 5 % level
Welfare recipient	529.2	89	Reject
Welfare benefits	285.8	89	Reject
Prob. of empl. in November	72.2	89	Not reject
Prob. of being empl full year	86.8	89	Not reject
Number of months employed	97.2	89	Not reject

Wage income	56.9	89	Not reject
Disposable income	129.0	69	Reject

Next, we estimate the effects on the probability of receiving welfare, the amount welfare received and on disposable income using the Donald-Lang estimator. Results from these estimations are given in **Table 9**. The parameter estimates are similar to those obtained in the baseline analysis. Moreover, the effect on the probability of receiving welfare is statistically significant at the 10-percent level and the effect on benefits received at the 20-percent level, whereas we cannot reject the null that disposable income is zero at any reasonable significance level.<sup>23</sup>

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**Table 9** Effects on welfare and disposable income

	Welfare recipient	Welfare benefits	Disposable income
DL-estimate	-0.005* (0.003)	-97.0 (80.82)	1,929 (2,197)
City district fixed effect	Yes	Yes	Yes
Time effects	Yes	Yes	Yes
Individual characteristics <sup>1</sup>	Yes	Yes	Yes
Time varying parameters on covariates	Yes	Yes	Yes
District specific time trends	Yes	Yes	Yes
R-squared	0.99	0.99	0.99
No. of observations	121	121	88

**Notes:** Robust standard errors in parentheses. \* significant at 10%;  
<sup>1</sup> Gender, education level, immigration year, region of birth, children and age.

The standard errors given by the Donald-Lang estimator shall be seen as an upper bound of the true standard errors. Our conclusion from the sensitivity analysis is hence that there seems to be economic significant effects of mandatory activation on welfare, employment and disposable income, but where we should be somewhat cautious when interpreting the effects for welfare from a statistical point of view, and where we cannot say whether the effect on disposable income is statistically significant or not, because of large standard errors.

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<sup>23</sup> Note that the standard critical values from the student-t distribution are not appropriate to use, since the degrees of freedom is 89 for welfare and 59 for disposable income.

**6.3 Heterogeneous effects**

So far we have estimated average effects. However, as is shown by

Table 10, there are certain groups for which welfare participation is especially high. From the table it is clear that the probability of receiving welfare is higher among younger people, those born outside Sweden (in particular for those born in “other countries”, i.e. Asia, Africa and Latin America) and for families with children, especially those with a single parent. It is therefore of interest to investigate whether the mandatory activation programs have different effects for these groups. Also, welfare might be extra harmful for young people or immigrants, due to, e.g., scarring effects, making it especially interesting to understand how to decrease welfare participation in these groups.<sup>24</sup> In this section we will investigate whether the effects of mandatory activation are heterogeneous with respect to family status, age and country of origin. We do this by extending the baseline model in equation (4) with interaction terms between the variable indicating whether a work requirement program had been introduced in a given city district in a given year (i.e., the *program*-variable) and the socio-economic variable of interest (family status, age, or country of origin). In the tables we present the coefficients for the *program*-variable (i.e., the difference-in-differences estimate) and the coefficients for the interaction variables. To save space, we do not report the results for the probability of being employed the full year and given the results in the sensitivity analysis, we refrain from estimating heterogeneous effects for disposable.

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 Table 10

<sup>24</sup> Skans (2004) shows that experiencing unemployment subsequent to graduation from high school has negative effects on both unemployment and earnings at least five years after graduation, whereas Åslund and Rooth (2007) show that exposure to high local unemployment rates affects immigrants for at least ten years after entry to Sweden.

## Work in progress - do not quote

**Table 10** Welfare participation among different groups

	Welfare receiver	Welfare benefits	Employment			Income from work
			November	Months	All year	
All	0.089	2,004	0.737	8.542	0.650	164,234
<u>Age</u>						
18–25	0.14	2,494	0.565	6.272	0.377	78,720
<u>Country of birth</u>						
Born in Nordic country	0.095	2,223	0.711	8.318	0.649	146,126
Born in Western country	0.062	1,311	0.598	6.956	0.533	125,532
Born in East Europe	0.157	4,241	0.575	6.615	0.494	109,686
Born in other country	0.294	7,250	0.512	5.877	0.411	84,201
<u>Family status</u>						
Cohabiting parents with small children	0.090	1,413	0.806	9.056	0.702	176,020
Single parent-households with small children	0.319	5,953	0.621	6.841	0.493	90,333

### *Family status*

We begin by examining whether work requirements have significantly different effects on families with children under the age of 7. We have separate indicators for single parents and cohabiting parents. From the results, presented in [Table 11](#), it seems like work requirements reduce welfare benefits for two-parent families but the estimate for single-parent households or households without young children is not significant although negative. On the other hand, work requirements have a much more positive effect on the disposable income of single parents with young children than on the other groups; while disposable income increases for single parents with young children with more than 9,700 SEK (3,407+6,352), it only increases with 3,407 SEK for childless individuals or individuals with children older than six years old, and it actually decreases with more than 3,000 SEK for cohabiting parents with young children (3,407-

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**Borttaget:** Table 11



6,679). A possible explanation to the differences in the effect on income might be that those no longer receiving welfare benefits in families with two adult become dependant of the income of their partner instead of turning to paid work.

**Table 11** Heterogeneous effects with respect to family status

	Welfare reciever	Welfare benefits	Employed in November	Number of months employed	Income from work
DD-estimate	-0.004*** (0.001)	31.3 (36.5)	0.004** (0.001)	0.036** (0.017)	2771.2** (466.2)
DD- estimate*Single parent with young children	-0.004 (0.007)	-386.7 (206.8)	-0.011 (0.008)	-0.148* (0.088)	2530.0 (2058.8)
DD-estimate* Cohabiting parents with young children	-0.002 (0.003)	-687.9** (068.0)	0.000 (0.004)	0.057 (0.041)	-10431.9** (1657.8)
City district fixed effect	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes
Individual characteristics <sup>1</sup>	Yes	Yes	Yes	Yes	Yes
Time varying parameters on individual covariates	Yes	Yes	Yes	Yes	Yes
District specific time effects	Yes	Yes	Yes	Yes	Yes
R-squared	0.16	0.10	0.13	0.14	0.23

## Work in progress - do not quote

No. of observations      2,535,573              2,535,573              2,535,573              2,535,573              2,535,573

**Notes:** Robust standard errors clustered on households in parentheses. \* significant at 5%; \*\* significant at 1%.

<sup>1</sup> Gender, education level, immigration year, region of birth, children and age.

### Age

Next we examine whether work requirements have significantly different effects on young people (aged 18–25). The results are presented in [Table 12](#). While there are no statistically significant differences between the 18 to 25 years olds and those over 25 years of age when it comes to welfare benefits, there are significant differences between the two groups when it comes to the other outcomes (and the differences are huge when it comes to income from work and disposable income). Starting with the effects on employment, it seem like work requirements have no effects on people aged 26 or older, while it has a positive and significant effect for the younger ones. The increase in employment of the younger group is 1.1 percentage points, which corresponds to a 2 percent increase in employment. Turning to the income variables, we note that while work requirements have a significantly negative effect of 1,813 SEK on income from work for the older age group, it has a significantly positive effect of 19,223 SEK (-1,813+21,036) for the younger age group, which corresponds to an increase with 25 %. For disposable income, work requirements have no significant effects for the 25+ age group, but a positive and significant effect of 12,114 SEK for those aged 18–25. It seems like mandatory activation programs work very well for young people.

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**Borttaget:** Table 12

**Table 12** Heterogeneous effects with respect to age

	Welfare receiver	Welfare benefits	Employed in November	Number of months employed	Income from work
DD-estimate	-0.006*** (0.001)	-81.3* (35.2)	0.002 (0.001)	0.0199 (0.0161)	-1,812.9** (430.0)
DD-estimate*Young (18–25)	0.011*** (0.002)	12.4 (69.8)	0.009* (0.004)	0.143*** (0.0435)	21,035.9** (1,065.8)
City district fixed effect	Yes	Yes	Yes	Yes	Yes

Time effects	Yes	Yes	Yes	Yes	Yes
Individual characteristics <sup>1</sup>	Yes	Yes	Yes	Yes	Yes
Time varying parameters on individual covariates	Yes	Yes	Yes	Yes	Yes
District specific time effects	Yes	Yes	Yes	Yes	Yes
R-squared	0.15	0.10	0.13	0.14	0.23
No. of observations	2,535,573	2,535,573	2,535,573	2,535,573	2,535,573

**Notes:** Robust standard errors clustered on households in parentheses. \* significant at 5%; \*\* significant at 1%.  
<sup>1</sup> Gender, education level, immigration year, region of birth, children and age.

### Country of birth

Next we examine whether work requirements have significantly different effects on individuals that are born in different countries. We have separate indicators for whether the individual is born in a Nordic country, in a Western country (apart from the Nordic ones), in an East European country or in some other country (i.e., from Africa, Asia or Latin America). The DD-estimate in [Table 13](#) then captures the effect on native Swedes. It is then interesting to note that work requirements do not seem to have any significant effects on native Swedes. It also seems like work requirements work best for the group with highest welfare participation; there is a significant and negative effect on welfare benefits for those born in Africa, Asia and Latin America. The welfare benefits received by this group decreases by 7 percent on average while the income from work and the disposable income increase by 8.5 and 6.2 percent respectively. For those born in a Nordic country on the other hand, work requirements seem harmful in the sense that they increase welfare benefits, but they still increase income from work and disposable income.

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Table 13

**Table 13** Heterogeneous effects with respect to country of birth

	Welfare reciever	Welfare benefits	Employed in November	Number of months employed	Income from work
DD-estimate	-0.002* (0.001)	-1.8 (38.9)	0.002 (0.002)	0.0203 (0.0189)	-966.4 (526.6)

## Work in progress - do not quote

DD-estimate* <sup>Nordic</sup>	0.005 (0.004)	442.7* (189.5)	0.002 (0.008)	0.0116 (0.0913)	10624.9** (2652.3)
DD-estimate* <sup>Western country</sup>	-0.005 (0.004)	19.1 (171.8)	-0.020 (0.011)	-0.237* (0.129)	-3367.0 (3552.6)
DD-estimate* <sup>East European</sup>	-0.001 (0.005)	-106.6 (226.5)	0.017* (0.008)	0.145 (0.0965)	10331.1** (2534.4)
DD-estimate* <sup>Other country</sup>	-0.014*** (0.003)	-527.2** (128.2)	0.008 (0.004)	0.115** (0.0495)	8142.1** (1297.1)
City district fixed effect	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes
Individual characteristics <sup>1</sup>	Yes	Yes	Yes	Yes	Yes
Time varying parameters on individual covariates	Yes	Yes	Yes	Yes	Yes
District specific time effects	Yes	Yes	Yes	Yes	Yes
R-squared	0.15	0.13	0.13	0.14	0.23
No. of observations	2,535,573	2,535,573	2,535,573	2,535,573	2,535,573

**Notes:** Robust standard errors clustered on households in parentheses. \* significant at 5%; \*\* significant at 1%.

<sup>1</sup> Gender, education level, immigration year, region of birth, children and age.

## 7 Conclusions

In this paper we examine whether the introduction of mandatory activation programs have any effects on welfare participation, employment, and disposable income. The theoretical prediction from the Besley and Coate (1992) model is that mandatory activation decrease welfare participation and, implicitly, increase employment. As far as we know, this is the first time that a clear empirical test of the hypothesis that this type of program imply fewer people on welfare has been carried out taking both entry and exit effects into account.

To be able to identify a causal effect, we make use of a variation in the data that was generated by the gradual implementation of a welfare reform in the city districts in the municipality of Stockholm. The reforms implied that the city districts introduced

mandatory activation programs for individuals on welfare. The data is very suitable for examining the question at hand for several reasons. First, the reforms were clean in the sense that no other instruments, like time limits or tax credits, were introduced at the same time, implying that we are able to estimate the direct effects of the programs. Second, the reform was initiated at different points in time in different city districts, which make identification easier. Finally, using data from city districts within a single local labor market we can easily control for common macro economic shocks

On average, we find that the introduction of mandatory activation programs decreases welfare participation; the introduction of work requirements leads to a 0.4 percentage point reduction in the probability of being a welfare participant (an effect that constitutes approximately 4.5 percent of the average welfare participation rate in the sample). This effect, which must be considered as fairly large, is well in line with the prediction from the Besley and Coate (1992) model. Also we find a positive effect on employment (the probability that an individual is employed increases with the introduction of the programs).

We also find that activation programs seem to work best for young people and for people born outside the Western world. These results are especially interesting given the scarring effects of youth unemployment found in Skans (2004). Hence, it seems like the programs work best for the most welfare prone groups.

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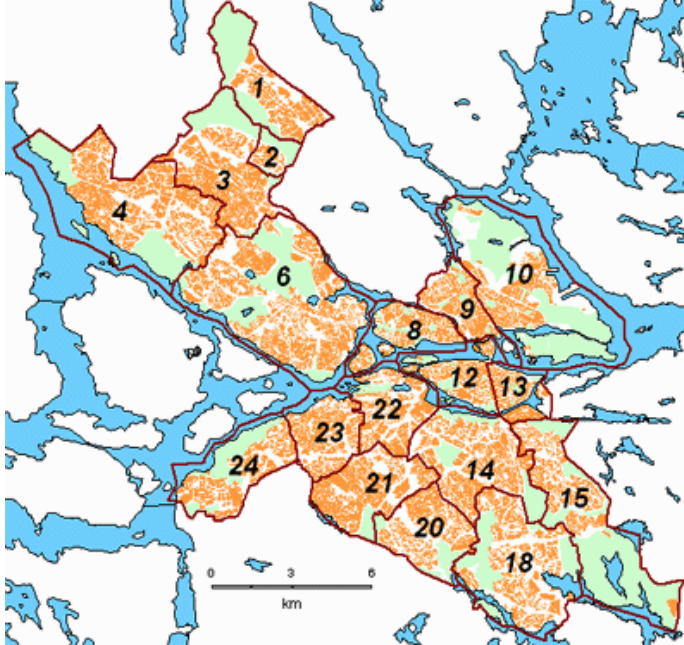
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## Appendix A: Map – city districts of Stockholm.

Fel!



1. Kista
2. Rinkeby
3. Spånga-Tensta
4. Hässelby-Vällingby
6. Bromma
8. Kungsholmen
9. Norrmalm
10. Östermalm
12. Maria-Gamla stan
13. Katarina-Sofia
14. Enskede-Årsta
15. Skarpnäck
18. Farsta
20. Vantör
21. Älvsjö
22. Liljeholmen
23. Hägersten
24. Skärholmen

## **Appendix B: Survey to the social service unit of the town districts**

(Note that the original version is in Swedish, and that this is a translated version.)

The survey refers to information on activities for unemployed individuals, capable of working, that receive welfare benefits.

1. Does your town district currently have any activation/labor market related programs for unemployed individuals, capable of working, that receive welfare benefits?

Yes

No

If no, turn to question 9 of the survey.

If yes, please name the program/programs:

2. From which year does this program/these programs exist in its current form (under the same or a different name)?

3. Does the program/s encompass all individuals, capable of working, that are unemployed and receive welfare benefits?

Yes

No

4. If you have responded "No" to question 3:

- How large share of all individuals, capable of working, that are unemployed and receive welfare benefit are encompassed by the program?

- Which groups of individuals are targeted by the program?

5. Please, specify how and to which extent are the following activities being used in the program/programs:

a. Job-seeking activities

b. Job training activities

c. Other assigned work (for example within the municipal services)

d. Other activities – please specify which:

6. What is the minimum number of hours of weekly attendance that is required in the program/programs?

7. Is absence/non-attendance systematically reported to the social service officials?

Yes

No

Comments:

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8. Can absence/non-attendance (without acceptable motivation) lead to rejection of the welfare benefit application?

Yes

No

Comments:

In the following part of the survey we ask for information on programs that were targeted to unemployed individuals, capable of working, that receive welfare benefits, before today's program/programs started.

9. Which programs have been in place under the period from 1990 until the start of today's program/programs? Under each number below, please specify the name of the program, or the main activity if a name does not exist, for example "Meeting with job counselor". Please also specify during which years the program/activity was in place.

Program 1:

Name: \_\_\_\_\_

Time period: \_\_\_\_\_

Program 2:

Name: \_\_\_\_\_

Time period: \_\_\_\_\_

[.etc..]

Below follows a set of questions about the programs/activities that were in place before today's program/-s. Please, answer the questions about each program under the number that corresponds to the list above.

Program/Activity 1:

1. Which groups were targeted by the program/activity?
  
2. How large a share of all individuals, capable of working and receiving welfare benefits, were encompassed by the program/activity?
  
3. Please, specify to which extent the following activities were used in the program/activity:
  - a. Job-seeking activities
  
  - b. Job-training activities
  
  - c. Other assigned work (for example within the municipal services)
  
  - d. Other activities, please specify which:

**Work in progress - do not quote**

7. Was \*\*absence/non-attendance systematically reported to the social service officials?

Yes

No

If yes, in which way:

8. Could absence/non-attendance (without acceptable motives) lead to refusal/rejection on the welfare benefit application?

Yes

No

Comments:

Program/ Activity 2:

[The same questions were repeated for all programs/activities listed.]

## Appendix C: Register data

The data used in this paper come from three databases (all of them part of the IFAU-database): LOUISE, syss and anst.

- LOUISE: A longitudinal database containing information on education, income and employment for the whole population older than 16 in Sweden. It covers the data for the years 1990 and onwards.
- Syss: Syss is part of RAMS (registered labor market statistics) and contains data on employer, income from employment and employment from 1985 to 2000. For later years, see LOUISE.

Anst: anst is part of RAMS (registered labor market statistics) and contains information about when the employee started the employment and when the employment was terminated.

**Table C.1.** Definition of variables

Variable	Database and name	Description
Dependent variables		
Welfare receiver	LOUISE: socbidp1*	Indicator variable which takes value 1 if socbidp1>0.
Welfare benefits	LOUISE: socbidp1	The individual's share of the household's welfare benefits. Includes zeros.
Employed in November	sys: syss*	Indicator variable which takes the value 1 if an individual is employed for at least 1 hour in November.
Employed all year	anst: mantill & manfran	The variable take the value 1 if an individual has been employed a full year in a position which has generated more than 25 % of the minimum wage for a worker within the Hotel and restaurant sector.
Months employed	anst: mantill & manfran	The number of months an individual has been employed during the year in a position which has generated more than 25 % of the minimum wage for a worker within the Hotel and restaurant sector.
Income from employment	LOUISE: loneink	The sum of gross earnings from an employer during the year.
Disposable income	LOUISE: dispink	All income from work and social security systems, transfers minus taxes, study loan payments etc. For details, see SCB, <i>En longitudinell databas kring utbildning, inkomst och</i>

## Work in progress - do not quote

*sysselsättning (LOUISE) 1990-2002*, 2005, p. 190.

Variables used for heterogeneous effects

Two parent households with Young children (<7 years)	LOUISE: barn0003 & barn0406, famstf	Indicator variable which takes the value 1 if a household is headed by two adults and have children less than 7 years in the household.
Single-parent household with young children	LOUISE: barn0003 & barn0406, famstf	Indicator variable which takes the value 1 if a household is headed by one adult and have children less than 7 years in the household.
18–25	LOUISE: fodar*	Indicator variable which takes the value 1 if an individual is within the age interval 18–25.
Born in Sweden	sys: fland	Indicator variable for Sweden as country of birth.
Born in Nordic country	sys: fland	Indicator variable for any of the Nordic countries as country of birth.
Born in Western country	sys: fland	Indicator variable for any of the Western countries as country of birth (Western Europe, US and Canada).
Born in Eastern Europe	sys: fland	Indicator variable for any of the Eastern European countries as country of birth.
Born in other country	sys: fland	Indicator variable for any other country of birth.
Other control variables		
Woman	LOUISE: kon	Indicator variable which takes value 1 if an individual is a woman.
Households with young children (<7 years)	LOUISE: barn0003 & barn0406	Indicator variable for the presence of children less than 7 years in the household.
26–35	LOUISE: fodar*	Indicator variable which takes the value 1 if an individual is within the age interval 26–35
36–45	LOUISE: fodar*	Indicator variable which takes the value 1 if an individual is within the age interval 36–45
46–64	LOUISE: fodar*	Indicator variable which takes the value 1 if an individual is within the age interval 45–64
Children=1	LOUISE: barn0003, barn0406, barn0715, barn1617*	Indicator variable for the presence of one child under 18 years in the household.
Children>1	LOUISE: barn0003, barn0406, barn0715, barn1617*	Indicator variable for the presence of more than one child under 18 years in the household.
Elementary school< 9 years	LOUISE: hsun*	Indicator variable which takes the value 1 if the individual's highest education is elementary school< 9 years.
Elementary school 9 years	LOUISE: hsun*	Indicator variable which takes the value 1 if the individual's highest education is elementary school 9 years

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**Notes:** \* Variable/s used to generate the variable used.



## Appendix D: Excluding one city-district at the time

**Table D.1** Effects on welfare: Excluding one city-district at the time

Effect on	Excluding:					
	Bromma	Enskede- Årsta	Farsta	Hägersten	Hässelby- Vällinby	Kista
The prob. of receiving welfare	-0.002 (0.001)	-0.002 (0.001)	-0.002 (0.001)	-0.002 (0.001)	-0.001 (0.001)	-0.000 (0.001)
Welfare benefits	29.6 (37.6)	9.7 (37.2)	48.5 (40.3)	-6.2 (39.4)	18.8 (37.3)	-9.4 (37.9)
Effect on	Excluding:					
	Liljeholmen	Rinkeby	Skärholmen	Vantör	Älvsjö	Spånga- Tensta
The prob. of receiving welfare	-0.001 (0.001)	-0.004** (0.001)	-0.001 (0.001)	-0.002 (0.001)	-0.003* (0.001)	-0.003* (0.001)
Welfare benefits	0.8 (39.6)	-79.5* (34.2)	-19.0 (40.4)	-20.1 (36.5)	-11.3 (39.2)	-45.3 (38.9)

**Notes:** Robust standard errors clustered on households in parentheses. \* significant at 5%; \*\* significant at 1%. Estimation of specification (4) from [Table 1](#)

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**Borttaget:** Table 1