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Abstract

Many countries implement policies to promote labor market inclusion of disability support recipients. It is unclear whether such measures work. We exploit a quasi-experimental setting in Australia where compulsory job counseling was introduced in 2012 affecting only those social security disability insurance (DI) recipients below age 35. Using longitudinal administrative data on all DI recipients and applying a difference-in difference estimator, we find that the policy was largely ineffective and neither improved employment nor earnings.

JEL classification: I38, J14

Keywords: disability insurance, welfare reform, job counseling

1 Introduction

Approximately 15% of the world's population live with a disability (WHO, 2011), and most OECD countries have seen a significant growth in the number of people who receive social security disability insurance (DI) benefit payments. A large literature has focused on the extent to which DI benefit payments at both the extensive and intensive margin increase labor supply. However, little is known whether active labor market programs proven to be successful for the unemployed can also shift people on DI into employment.

In this paper, we investigate the extent to which the requirement to attend job counseling meetings and develop a labor force participation plan has had identifiable impacts on labor force participation and participation in other employment services. We exploit a quasi-experimental situation in Australia where job counseling was only introduced for a certain subgroup of DI recipients, namely those under the age of 35, allowing us to use a difference-in-differences estimation to get an unbiased estimate of the effect of job counseling on employment and participation in subsequent active labor market programs.

Although the prevalence of disability as well as the proportion of people who are permanently unable to work due to disabilities is falling in Australia (Disability, Ageing and Carers Survey 2003, 2009, 2012), growth in the number of DI recipient has been strong in the last two decades when the number of recipients more than doubled from around 330,000 in 1991 (2% of the population) to around 820,000 twenty years later (4 % of the population). For comparison, in 2005, 4% of middle-aged aged men were receiving DI payments in the U.S (French and Song, 2014). Population aging and future increase in the retirement age are likely to translate into further growth in DI rolls. Moreover, the long-term nature of disability payments implies that any program growth during bad economic times is unlikely to be reversed when economic conditions improve again. Burkhauser et al. (2013) thus argue that "Australia could be one recession away from disability benefit blowout" if further inflows onto disability pension rolls are not slowed down.

On the other hand, McVicar and Wilkins (2013) warn that the alarm over DI recipient growth may be overstated. They show that population ageing and the increase in women's retirement age each explain about a third of the growth in the proportion of working-age population on DI since the early 1980s, and argue that one of the main reasons for the remaining residual in DI growth are several reforms to other benefit systems (such as restricted entry to unemployment

benefits and means-tested support payments for parents with young children) which resulted in a shift from other payments to DI despite a decrease in overall welfare receipt.¹

Where the extent of the problem in the future is debatable, so is the best course of action to solve it. Most previous papers in this area have focused on whether DI payment receipt changes labor supply, and it is now widely accepted it decreases employment, although the magnitude of the effects differs across studies. Some papers in this area compare individuals who were on the margin of being accepted for disability benefits but were rejected, with those who were on the margin but accepted (e.g. Maestas et al, 2013; Bound, 1989; Von Wachter et al, 2011; Chen and van der Klaauw, 2008). Another strand of papers uses differences in the characteristics of the disability benefit system over regions (such as Gruber, 2000) or over time (such as Campolieti, 2004) to estimate labor supply responses to disability insurance benefits. Other papers use variation between regions in the amount of earnings allowed without loss of DI payments to show that an increase in allowable earnings increases employment (such as Campolieti and Riddell, 2012). A recent study exploits the random assignment of judges to DI cases to show the negative effect of DI receipt on employment (French and Song, 2014). Studies have also used variations in screening stringency or eligibility over time or between regions and found that more intense screening and stricter eligibility criteria reduce the number of applications for disability insurance programs and often increase employment rates (Staubli 2011, for Austria; Gruber and Kubi, 1997; and Autor and Duggan 2003, for the U.S.; de Jong et al 2011, for the Netherlands; or Karlström 2008 for Sweden). Anti-discrimination laws that prevent employers to discriminate against disabled workers were found to have only small positive effects on employment (Acemoglu and Angrist 2001; Burkhauser et al 2012).

Evidence from Sweden shows that reforms aimed at increasing opportunities and financial incentives to work² only significantly increased the probability to return to work for new claimants but not for existing claimants. Early intervention was found to be necessary to have an effect (Burkhauser et al 2013). The Swedish as well as the Dutch reforms were successful because specific reforms were implemented to decrease the number of new entrants directly. This was achieved by targeting reforms not only at potential claimants but also by providing incentives for employers to assist employees with rehabilitation and workplace

¹ Cai and Gregory (2003) show that the inflow rate increased with rising unemployment rates between 1971 and 1993 and McVicar and Wilkins (2013) suggest that decreasing unemployment rates between 1993 and 2008 may have had a moderating effect on DI growth.

² This mainly involved a reduction in benefit payments for those who did not return to work and a new schedule that aligned the provision of rehabilitation services more closely to the onset of impairment and work capacity assessment (Burkhauser et al, 2013).

accommodations.³ According to Burkhauser et al (2013), “a key lesson from their [Dutch and Swedish] reforms is that preventing the problem is far easier than solving it once it occurs”. Oguzoglu (2010) also provides evidence for Australia confirming that once someone has left the labor force, it is difficult to return to the labor market, indicating that policy-makers should focus on preventing individuals from entering an income support (IS) program, rather than on re-engaging them with the labor market at a later stage.

The Australian welfare reforms started in 2006 with a focus on reducing the inflow into DI by reducing the work capacity threshold for eligibility from 30 hours per week to 15 hours per week. Later, these reforms were extended to also include active labor market policies attempting to increase existing and new claimants’ labor market participation to counteract the decrease in employment following disability receipt as documented in the literature. In this paper, we evaluate a reform that introduced limited participation requirements for new and existing DI claimants. Specifically, from 1 July 2012, attendance of job counseling services in 3-month intervals (later 6-month intervals) with an advisor of the administering government department (Department of Human Services), with the aim of developing a formal labor force participation plan, were introduced for DI recipients less than 35 years of age and assessed as having a partial capacity to work of between 8 and 14 hours per week. Prior to July 2012 this group had no participation requirements, although they could voluntarily access employment support services.

Previous papers evaluated similar active labor market policies, but those were exclusively targeted at the registered unemployed rather than DI payment recipients. Such active labor market policies have generally been shown to be successful in shifting registered unemployed people into work. The most consistent positive employment effects have been found for job search services (counseling, mentoring and training) combined with sanctions, similar to the job counseling requirements evaluated in this paper (see Kluve 2010 and the references therein, for example Blundell et al, 2004; Lalive et al 2005; Van den Berg 2006, Centeno et al 2009, Graversen 2008; Landeghem 2017). Wage subsidies and to a lesser extent traditional training programs have also shown mostly positive effects. On the contrary, direct employment programs in the public sector may even have detrimental effects on post-program employment outcomes (Kluve 2010).

While the positive employment effects of job search services for the registered unemployed are

³ In the Netherlands, employers have to pay the first 2 years of disability benefits for their employees and are required to pay a tax for the number of people who move into the long-term disability insurance (Burkhauser et al 2013).

relatively well established, little is known about whether such programs could also help people with disabilities. We exploit a quasi-experimental setup in Australia to estimate the effect of job counseling on labor force participation and earning using a Difference-in-difference estimation strategy. Our results show that job counseling did not increase employment. We also could not find evidence that job counseling increased earnings for those who were employed. However, job counseling resulted in referrals to government agencies that provide additional support programs for disabled persons of working age, and subsequent participation in such programs. Given that other papers showed high transition rates from DI to other welfare payments after restrictions to eligibility (Broadway and McVicar 2015), we conclude that DI recipients most likely are not able to find employment that fits their specific needs and restrictions.

2 Policy environment

2.1 Institutional setting

For individuals who have no sufficient income to support themselves as a result of disability, the federal government in Australia offers means-tested social security disability insurance (DI) benefit payments called ‘Disability Support Pension’. Figure 1 shows the development of the number of people on DI in thousands (Figure 1 (a)) and as a share over the total working-age population (Figure 1 (b)) in Australia. There has been significant growth in the number of people on DI, especially around the Global Financial Crisis (GFC). The growth prior to the GFC was particularly strong for women as there has been a progressive increase in the eligibility age for the age pension from 1995 to 2013 for women from age 60 to 65. Since 2011 the share of DI has decreased, which is attributed to a reduced inflow into DI due to stricter eligibility criteria. The number of DI recipients who cease receiving DI has been fairly stable over the last 15 years (Parliamentary Budget Office 2018).

In Australia, the process to receiving DI payments is as follows. Persons who experience mental or physical impairments that interfere with their work can send an application with supporting evidence from their doctor to Centrelink, the government agency that administers all income support payments. Applications are then assessed according to two criteria: the person’s current financial means to support themselves, and the person’s capacity to work. Past earnings or the applicant’s history of labor market activity do not affect eligibility or payment levels.

Typically, the financial assessment is made immediately, and an applicant who meets financial eligibility criteria is granted unemployment benefits until an assessment of their work capacity

can be conducted. Unemployment benefits usually come with requirements to participate in job search and training; these activity requirements, however, are suspended for benefit recipients with a pending disability application. The work capacity is assessed usually a few months after the application date, face-to-face, by trained and government-employed health professionals in a ‘Job Capacity Assessment (JCA)’.

During the JCA, the assessor first determines the applicant’s health impairment in a function-based, rather than diagnosis-based, approach. Lack of functional capacity is assessed across various physical and mental functions, such as upper or lower limb function, communication function, or visual function. A point-rating from 0 to 30 is assigned to any lack of functional capacity according to fairly narrow guidelines. These ‘impairment points’ are added across all functions; an applicant has to reach a minimum of 20 ‘impairment points’ in order to be eligible for DI.

Secondly, the assessor determines the maximum number of weekly working hours an applicant could perform. This is assessed in bands: ‘0-7 hours per week’, ‘8- 14 hours per week’, ‘15 – 22 hours per week’, ‘23-29 hours per week’, or ‘30 hours per week or more’. The work capacity is assessed after any alleviating effects from medical treatment, individual coping mechanisms, training, or reasonable workplace adjustments have been taken into account.⁴ In order to be eligible for DI, an individual has to be assessed as i) having a work capacity of no more than 8-14 hours per week, and ii) having no realistic expectation that their work capacity will improve to at least 15-22 hours/week within two years. If the work capacity and impairment level both meet the defined threshold, the individual has met the health requirements to be eligible for DI payments.

If an individual meets the health requirements for receipt of DI, their DI payment is backdated to the date of application and the difference between the paid unemployment benefits and DI benefits that accumulated during the assessment period is paid out to the applicant. Generally, there are no participation requirements for DI recipients. If the applicant is found to not meet the health requirements for receipt of DI, they can remain on unemployment benefits. The outcome of their work capacity assessment informs the extent to which the applicant has to participate in job search and training activities in order to remain eligible.

In 2012, the maximum rate of DI paid to a single person was A\$347.56 per week, and the maximum rate paid to a member of a married couple was A\$262.05. This payment was

⁴ The assessment of work capacity explicitly does *not* take into account local labor market conditions, local availability of training courses that could support the individual’s integration into the workplace, or employer preferences and discriminatory practices.

equivalent to 57% or 43% of the minimum wage for a full-time employed adult at the time. Unemployment benefits in 2012 were (and still are today) lower than DI payment rates: thirty per cent lower for singles (A\$244.85 per week) and sixteen per cent lower for a member of a married couple (A\$221.00). For both payment types, only low additional earnings were permissible, and earnings above the income threshold reduced the payment.

2.2 Job Counseling - The 2012 Reform

Until 2012, DI receipt had no participation requirements attached at all. On 1 July 2012, however, compulsory job counseling meetings (so called “participation interviews”) were introduced for DI recipients who are younger than 35 and assessed as having a work capacity bandwidth (WCB) of 8+ hours per week. In these job counseling meetings, DI recipients develop and monitor a formal labor force participation plan with the aim of increasing labor force participation. Individuals have to meet with an advisor every three months after the first job counseling appointment. After 18 months, job counseling meetings are required every 6 months. Even if the recipients are already working, they are required to meet for a first job counseling meeting. Exemptions from job counseling is granted to people who have a manifest disability or a dependent child under the age of six⁵. Furthermore, a DI recipient who is already working in the open labor market or who is studying is only required to attend an initial meeting and to develop and sign a participation plan. However, these people remain exempt from attending ongoing meetings, as long as they continue working or studying in an approved course of study (Department of Social Services, 2014).

Prior to July 2012, the group of people required to attend job counseling had no participation requirements, although they could voluntarily access employment services. DI recipients who are not required to attend job counseling have the option to attend voluntarily. The new 2012 job counseling requirements affect current and new DI recipients (DSS, 2014).

Apart from job counseling, all DI recipients have access to a number of employment assistance services such as Disability Employment Services and Australian Disability Enterprises. The former provides support and assistance to people with a disability, injury or health condition to help prepare them for, find and keep a job in the open labor market; the latter provide direct employment opportunities to people with disabilities.

⁵ There is a short and well-defined list of certain diagnoses that qualify an applicant as having a ‘manifest disability’; it includes terminal illnesses and illnesses requiring nursing home level care, such as certain types and stages of cancer. Individuals with such diagnoses do not need to meet other requirements from their work capacity assessment in order to qualify for DI.

Also, from 1 July 2012, DI recipients are allowed to increase their work hours up to 30 hours per week whereas previously the payments were suspended or cancelled as soon as a DI claimant worked 15 hours a week or more. Notwithstanding that, to qualify for DI they must have a maximum WCB of less than 15 hours per week. DI payment is subject to an income test and therefore any additional income earned from employment may reduce the amount of DI paid to the person. A short-term increase of work hours of more than 30 hours is allowed (DSS, 2014).

During the job counseling meeting, the DI customer agrees on a plan of voluntary activities (for example, education, training, employment or other non-vocational activities) set out in a 'participation plan'. Examples of activities include (Department of Social Services, 2014):

- paid work,
- vocational training, education and/or study,
- Language, Literacy and Numeracy Program or other training activity,
- work experience or voluntary work,
- participate in disability employment services and undertake a program of support
- participate in a rehabilitation program,
- drug and alcohol counseling, or
- other activities designed to eliminate or reduce any disadvantage the person has in the labor market.

Should a DI recipient fail to attend a scheduled job counseling meeting, in a first step, efforts are undertaken to contact the DI recipient and reschedule the meeting. If the DI recipient still fails to attend the rescheduled appointment, DI payment can be immediately suspended. If the recipient makes contact to reschedule the appointment within 13 weeks, the payment is restored and back-paid to the suspension date. Otherwise, the payment is cancelled. If the third rescheduled appointment is also missed, payment is immediately suspended and is not restored until the recipient successfully attends job counseling. If no further contact is made to reschedule the meeting within 13 weeks of suspension, payment is finally cancelled (DSS, 2014).

Furthermore, DI may be suspended or cancelled if the recipient does not sign the participation plan and all other options for contacting the person or applying an exemption have been exhausted. However, before this happens, the recipient is given the opportunity to renegotiate the plan if the recipient does not agree with the plan. Payments may be suspended if the recipient does not sign the plan and fails to return the plan within three days (Department of Social Services, 2014).

3 Identification Strategy

In order to evaluate the reform's effect on DI recipients' employment outcomes, we apply a Difference-in-Differences strategy (DiD). Because job counseling was only made compulsory for individuals younger than 35 and who had a work capacity of 8 hour or more per week on 30 June 2012, we have a natural control group of individuals just above the age cut-off that was not affected by the reform, but is otherwise very similar to our treatment group. More specifically, we select individuals who had a work capacity of 8 hour or more per week on 30 June 2012, and who were born between 1 July 1979 and 1 June 1982, for our treatment group. Individuals with the same work capacity, who were born between 1 July 1974 and 1 June 1977, form the control group.⁶ Under these age restrictions, treated and control individuals are as close to each other in age as possible - while it is simultaneously ensured that during the post reform period of observation (from 1 July 2012 until the end of our sampling frame on 30 June 2013), the former were under 35, and the latter were 35 or older.

We calculate the impact of the reform on three different outcome variables: the probability of having any labor earnings in month m , mean daily earnings in month m , and the probability of having received a referral for a program of support provided by government agencies before month m ⁷. We estimate the following event study type DiD specification for each outcome variable $y_{i,m}$:

$$y_{i,m} = \alpha + \beta D_{i,m} + \sum_{s=-11}^{12} \gamma_s \mathbf{1}(s = m) + \sum_{s=-11}^{12} \pi_s \mathbf{1}(s = m) D_{i,m} + \delta \mathbf{X}_{i,m} + \varepsilon_{i,m}, \quad (1)$$

where i represents the individual, m is the month and $\mathbf{1}(\cdot)$ is an indicator function that takes the value one if the condition in the parentheses is fulfilled. The variable $D_{i,m}$ is a binary variable which takes the value 1 if the individual is in the treatment group and zero otherwise. Coefficients γ_s ($s=-11$ to 12) measure the month fixed effects for up to 12 months before the

⁶ If a DI recipient had dependent children less than 6 years of age, or had a 'manifest disability' (a disability caused by a specific list of diagnoses such as terminal illnesses that remove the requirement for work capacity assessments), they were exempted from job counseling. Individuals who fulfilled one or both of those criteria in June 2012 were thus excluded from the analysis in both treatment and control group.

⁷ Participation in a support-program is usually not designed to be as short-term as daily earnings or having any positive earnings can be (which both tend to vary considerably from one fortnight to the next for DI recipients). The number of individuals who begin or end a support program at any given point in time is thus small compared to the number of individuals who continue in a support program at the same point in time. Even if job counseling meetings encourage the up-take of a program, this effect may not be clearly visible when analysing stocks. In such a case, the probability of becoming participant in a support program (inflow) is in many ways the more interesting outcome, than the probability of being a participant (stock) is. Therefore, for referrals, the dependent variable takes the value one in any month when a referral to a provider of support programs was recorded (and that date of referral was followed by an episode of program participation). Otherwise, the variable takes the value zero.

introduction of the reform and 12 months thereafter with the month just before the introduction of the reform (June 2012) as the reference category ($s = 0$). Vector \mathbf{X}_i is a set of control variables for individual's characteristics. Coefficients π_s ($s > 0$) identify the intention-to-treat effect, the estimated impact of job counseling at each month after the introduction of the reform in July, whereas Coefficients π_s ($s < 0$) reflect how y_i varies between the treatment and the control group before the reform date.

There are a number of potential threats to our identification strategy, which we can also partly investigate empirically. It is possible that some individuals anticipate the additional participation requirements and chose to leave DI because of the 'threat' of activation. Additionally, treated individuals might be more likely to leave if the reform is successful in getting them jobs leading to an underrepresentation of particularly responsive individuals in the estimation sample. This type of sample selection would lead to an underestimation of the treatment effect. We check whether anticipation or dynamic sample selection could be a problem for our identification strategy by comparing exit rates between treatment and control group before and after the reform was introduced (see Section 4.5).

A critical identification assumption for our DiD estimation is that in the absence of treatment, treatment and control group would have developed in parallel. Our treatment effects are biased if there are systematic differences in unobservable characteristics across cohorts used to define treatment and control group that lead to differential developments in outcomes over time. To minimize this possibility, we control for a set of powerful observables, including each individual's full income support history, such as days received income support (during the last 2 years, 2-5 years, more than 5 years), history of benefit suspensions (in days and number of spells), whether the partner receives income support as well as pre-reform outcomes between July 2011 and June 2012 (had a placement after an employment support program, had any labor market income, total labor market income). These controls should capture general attachment to the labor market or work attitudes which might differ across cohorts.⁸ We will further show graphically in the data section that the parallel trends assumption is likely to hold as the outcomes between treatment and control group evolved in parallel pre-reform date.

⁸ The full set of control variables include: Gender, Aboriginal or Torres Strait Islander indicator, main English speaking country of birth indicator, whether the partner receives income support, number of children (one, two, three or more), age of the youngest child (in months), primary disability (musculo-skeletal, intellectual disability, psychological/psychiatric, sensory), impairment points, days received income support (during the last 2 years, 2-5 years, more than 5 years), number of days benefits were suspended (in days and number of spells). Included are also controls for outcomes pre-reform date (July 2011-July 2012): had a placement after an employment support program, had any labor market income, total labor market income.

Our identification strategy also requires that there were no other policy changes during our estimation period that may have affected treatment and control group differently. We are unaware of any other policy change during our observation period (July 2011 to June 2013) that could have affected individuals born between 1 July 1974 and 1 June 1977 (the control group) differently to those born between 1 July 1979 and 1 June 1982 (the treated group). There were only two other reforms. One reform was introduced on 1 July 2012, which increased the allowable working hours while receiving DI from 15 hours per week to 30 hours per week. The other reform was on 1 January 2012 and introduced new impairment tables to assess new applicants to DI. However, there is no reason to believe that any of those two reforms could have impacted treatment and control group differently.

In addition to the intention-to-treat effect (ITT), we also estimate the average treatment effect on the treated (ATT) where the treatment group only consists of individuals who actually received job counseling. The reason for this is that not everyone who is in the intention-to-treat group was actually treated within the first 12 months after the introduction of the reform as it took time to coordinate the job counseling meetings. Due to this low treatment intensity, we might not detect an effect when focusing on estimating the ITT. It is thus likely that the ITT underestimates the true effect. We thus re-estimate the effect comparing everyone in the control group with only the actively treated among the intention-to-treat group.

Specifically, we estimate a similar regression equation to equation (1), but the event study running variable is now the months before and after the actual job counseling meeting rather than the months before and after the introduction of the reform. Thus, the new reference category ($s=0$) for the time effects is now the month directly before the actual job counseling session rather than June 2012, the month directly before the official introduction of the reform. As individuals in the control group do not have job counseling sessions and hence no session dates, a ‘hypothetical appointment date’ is assigned to them randomly, to define the event study running variable for controls; the distribution of hypothetical appointment dates equals that of actual meeting dates in the treatment group.

In contrast to the ITT, the ATT might over-estimate the reform effect because those who actually received job counseling might be a positive selection of individuals in the intention-to-treat group as individuals with low attachment to the labor market might actively delay the scheduled job counseling meeting. While the ITT can be interpreted as a lower bound, the ATT can thus be viewed as an upper bound. As we will show in the remainder, both effects are effectively zero, so we are confident in our conclusion of no reform effect.

Our estimation results are also robust to changing the definition of control group and treatment group to comprise a wider or narrower window of birth dates (one year and five years).

4 Data and Descriptive Statistics

The project will exploit two sources of administrative data: The *Research and Evaluation Dataset (RED)*, which contains detailed administrative records for the full population of all income support (IS) recipients tracked over time, and data from the *Employment Services System*, which contains additional information on participation in a program of support and can be linked at the individual level to each person on IS. We describe the data in more detail in the following.

4.1 Data extraction

In Australia, all IS payments – to the unemployed, to persons with disabilities, to single parents and many other groups – are administered by one central government agency (Centrelink). Centrelink records form the basis of the *Research and Evaluation Database (RED)*, which contains detailed administrative records for the full population of all IS recipients tracked over time. Any Australian resident who ever received an IS payment between age 15 and the date of data extraction is included in the dataset with their entire IS history. Payment type, payment amounts, any suspensions and reasons for suspensions are recorded on a fortnightly basis. IS histories are life-long – if an individual exits IS, their account information is retained and will be continued in case they return to IS at a later date. For this study, IS accounts were extracted on 28 June 2013, and thus IS histories are available for twelve months after the introduction of job counseling. Pre-reform data goes back to the 1990s. The data used for this analysis is not a sample, but the full universe of relevant DI recipients.

The RED contains information on exits from DI (whether from IS or to other IS payments) and on earnings from employment during DI episodes.

4.2 Treatment and control group

For this analysis, we first select all individuals who received DI on or after June 2012⁹, and who were thus part of the DI population when the reform was introduced in July 2012. There were 24,706 such individuals, who were also born after 1 July 1979 and before 1 June 1982 - the birth cohorts that are just under age 35 for our window of observation after the introduction of the reform. 8,264 of them had a WCB of 8 hours per week or more, the target group of the

⁹ We excluded the highest 0.1-percentile of earnings recipients to exclude influential outliers.

reform. After excluding individuals who are exempt from job counseling,¹⁰ we are left with 7,610 individuals for the ITT- ‘treatment group (ITT=1)’. The analogous population born after 1 July 1974 and before 1 June 1977 forms our ‘control group (ITT=0)’ and comprises 9,428 individuals. Table 1 shows the number of individuals who fit the selection criteria in both groups of our population of analysis; there are no obvious differences in the application of selection criteria across treatment group and control group.

The selected individuals are included in RED every month in which they receive any type of IS payment. At those points in time, we are able to observe the main outcomes of interest. If the individual does not receive IS in a given month, his or her outcomes are unobserved. Table 2 shows person-months-observations over time.

For the estimation of the ATT, we additionally restrict the ITT-treatment group to only those actively treated. The ATT-treatment group therefore consists of only 1,422 individuals. As scheduling appointments takes time, only a small number of job counseling sessions took place immediately in the month after the reform, and most meetings for these individuals happened in the four-months-period from August 2012 to November 2012. Table 4 shows the distribution of dates for the treatment group. The later the meeting took place, the shorter the time period for which we observe outcomes. We restrict our analysis of outcomes for the ATT-group to an eleven-months-window after the job counseling session, as the number of observations drops below 50 for the twelfth month.

4.3 Outcome variables

We construct two variables from the RED data that measure individuals’ labor market outcomes: employment and labor market earnings while on IS. Earnings are reported fortnightly and are used to generate an employment participation variable defined as “any labor market earnings in the last fortnight”. Where zero earnings are reported it is assumed that the person was not employed in the corresponding reporting period; that is, the employment measure is based on reported earnings. The amount of earnings is reported as “mean daily labor market earnings in the last fortnight”. Both variables are converted into monthly variables: i) a person is defined as employed in any month that overlaps with at least one fortnight of positive earnings; ii) daily earnings in a month are calculated as the weighted mean daily earnings over all reported fortnights with positive earnings.¹¹

¹⁰ Individuals were exempt if they had dependent children less than 6 years of age, or a ‘manifest disability’ (a disability caused by a specific list of diagnoses such as terminal illnesses). See footnote 5 for details on manifest disabilities.

¹¹ Weights are proportional to the fraction of a reporting fortnight that falls within the relevant month.

We additionally create an outcome variable from the data from the *Employment Services System* which indicates whether the individual has been referred to and subsequently entered a program of support. The variable takes the value one from the referral date onwards that subsequently led to participation in a program of support. In Australia, employment services agencies (which can be private, community or government) can apply through a tender process to be contracted by the government to deliver employment services to people who are unemployed and on IS payments. A range of services are provided that are aimed at increasing employability of IS recipients. These services vary dependent on the need of the client and range from help with resume writing, job search, job matching based on skills and needs of client, skill upgrading as well as specific support programs tailored to clients with history of mental illness or drug and alcohol use disorders. After 12 months of support without successful placement on the competitive job market, clients may participate in a work experience activity, which can be unpaid or low pay. Usually employment support programs provide 18 months of employment assistance in total followed by placement support. We only observe that a program of support was entered, not any details about the activities of the specific employment support program.

In addition to the restrictions on the population of analysis described in sub-section 4.2, the analysis needs to be further restricted to those who have any recorded earnings, where the effect of the reform on labor earnings is estimated. The employment rate is only just over twenty per cent of the population of interest, drastically reducing the available number of observations. While this poses no problem when we estimate the ITT on the full population of interest, the number of observations for the ATT-group is much smaller. To ensure a sufficient quality of the results, we thus estimate the effect of the reform on the amount of labor earnings for only ten months after the job counseling session for the ATT-group, which is when the number of available observations drops below 50. As mentioned in sub-section 4.2, we analyse employment and program participation for eleven months after job counseling for this group.

4.4 Key control variables

As is common with administrative data, RED collects information that is necessary to determine eligibility for an IS payment, but beyond that, only limited control variables are available. However, we can include individuals' self-reported gender, Indigenous status, country of birth in three broad groups (Australia, main English-speaking countries, and other countries), whether the individual has a partner who also receives IS as a broad proxy for living in a low-income household, as well as number and of children and age of the youngest child. RED also contains information on the results of DI recipients' medical assessments such as impairment points, their primary medical condition and current and expected future WCB.

Crucially, RED contains the individual's full IS history and earnings history while on IS. We can thus include detailed controls of the individual's attachment to the IS system and their earnings capacity just prior to the reform, which should capture many otherwise unobserved personal characteristics that would determine their chances of finding gainful employment or becoming independent from IS, after receiving the treatment in question. Specifically, we include the number of days on which the individual received IS in the bands 0-2 years, 2-5 years and 5-10 years before the introduction of the reform in our estimation, together with the number of times an individual was suspended from receiving benefits and the total number of days for which the payment was suspended.¹² In addition, we control for whether the individual had any labor market earnings in the 12 months prior to the reform and if so, what their total amount of earnings was over those 12 months. Together, these variables capture many of the characteristics that determine an individual's capacity to generate earnings or their dependency on income support, independent of the job counseling that was introduced later.

4.5 Identification assumptions and descriptive statistics

Inclusion into the population of analysis is conditional on being on DI just before the reform's introduction, which raises the question whether anticipation effects could introduce issues with sample selectivity. To assess whether this is a serious concern jeopardizing the validity of our identification strategy, we look at exit rates from DI receipt in the year prior to June 2012. Figure 2 is based on a population of individuals who received DI in or after June 2011 – a year before the reform was introduced and well before it was publicly discussed – and that is otherwise selected on the same criteria as the population of analysis described in Tables 1 and 2. It shows that not only are exit rates very small, there is also no systematic difference between the future treatment group and the future control group's exit rates from DI receipt in the year leading up to the reform. (And there is also no visible difference in exit rates afterwards, suggesting that the reform has not induced a behavioral change in terms of leaving DI.) Differential selection into DI receipt in or after June 2012 thus does not seem to confound our results.

Table 3 compares sociodemographic characteristics of individuals in the treatment and control group, as of June 2012 – just before the reform. The table reports mean characteristics in both groups, as well as the p-value of a standard test on equality of means; it also includes Rubin's

¹² A suspension marks a period in which the individual remained eligible for a payment based on their income and work capacity, but the payment rate was temporarily set to zero based on non-compliance with some regulation such as not meeting a reporting requirement.

B and Rubin's R¹³. These are commonly used to assess whether a treatment group and a control group are well balanced in observable characteristics. Rubin's B should not exceed $\pm 25\%$, and Rubin's R should be in the interval (0.5; 2). According to Rubin's B and Rubin's R, treatment group and control group are very similar in terms of gender, Indigenous status, country of birth, partner status, primary medical condition and functional impairments. Although for many characteristics the equality of means test indicates statistically significant differences between both groups, this is unsurprising given the relatively large sample size, and these differences do not appear economically meaningful (with maybe the exception that members of the treatment group are more likely to have no children than members of the control group¹⁴). Most reassuringly, they display virtually identical income support histories prior to June 2012, measured in terms of days on income support in the last 2 years, 2-5 years and 5-10 years, indicating their similarity in terms of access to means to support themselves other than IS, be it from own labor market income, partner income, family transfers or through other channels. There are also virtually no differences in how often members of each group were temporarily suspended from receiving benefits and for how long, suggesting that they are similar in their general compliance with rules set by the IS system. In addition, treatment and control group are also very similar in their propensity to have had any labor market earnings while on IS in the 12 months prior to the reform's introduction, and if they did have earnings, they earned very similar amounts. In a nutshell, Table 3 strongly supports our identification strategy: any potential difference in behavior after the reform can be plausibly interpreted as being caused by the reform, as treatment and control group are otherwise very similar and potentially confounding factors seem largely absent.

As mentioned in the previous section, the actual treatment intensity among those intended to be treated, is relatively low. Among the 7,610 potentially treated individuals (ITT=1), only 1,422 actually received job counseling before the end of June 2013. The effect of being subject to the reform according to one's age and WCB might not give an accurate estimate of the effect of participating in a job counseling, due to attenuation bias. We thus repeat the analysis with only those members of the treatment group who received job counseling by the end of June 2013.

¹³ Rubin's B refers to the difference of means (μ) between group 1 and group 0, normalised by their variance σ : $B = \frac{\mu_1 - \mu_0}{\sqrt{(\sigma_1^2 + \sigma_0^2)/2}}$, while Rubin's R denotes the variance ratio for both groups.

¹⁴ However, keep in mind that individuals with children below age 6 are excluded from the population of analysis by construction; the fact that all children are post-school age should limit any potential variation of the effectiveness of the reform caused by the presence of children.

Obviously, we cannot make a similar restriction within the control group. To the extent that there is endogenous selection into receiving job counseling within the treatment group, the new estimates might thus suffer from selection bias. Looking at their sociodemographic characteristics, individuals who receive job counseling do indeed differ from those who did not receive job counseling in a range of socio-economic characteristics (see Table 5). While those with and without a job counseling meeting are well-balanced on socio-demographics such as gender, country of birth and number of children, the most important and noticeable differences occur in their employment probability prior to introduction of the reform in June 2012, which is 35 per cent among those who received a job counseling meeting, compared to only 20 per cent among the eligible population who did not attend job counseling. Apparently, the more employable DI recipients were more likely to receive a job counseling meeting. This immediately raises the question whether and to what extent job counseling was successful in activating additional labor force potential above and beyond the generally higher employability of the target group.

In terms of the reliability of our estimates, it means that if we detect any ‘reform effect’ on those who received a job counseling meeting, it is plausible that this merely reflects their already greater employability pre-meeting. The estimates based on the entire population in the treatment group (ITT=1) and the population who received job counseling, thus have to be interpreted as upper and lower bounds of the true effect.

One critical assumption of the DiD estimation is that in the absence of treatment, treatment and control group would have developed in parallel. We show pre- and post-reform trends for each of the three outcomes variables in Figures 3 to 5. The dashed line shows average outcomes in each month for the control group (ITT=0), the solid line for the ITT-group (ITT=1) and the dotted-dashed line for the ATT-group (ITT=1 & job counseling). In general, the ATT-group has better labor market outcomes and more referrals than the other two groups. More importantly, all three lines evolve in parallel before the reform introduction in July 2012, suggesting that the parallel trends assumption likely holds. These descriptive statistics also suggest that there are no observable effects from the reform, as we do not see any significant change after the introduction of the reform, with the exception of an increase in cumulative referrals for the ATT-group.

5 Estimation results

5.1 Intention-to-treat effects

Table 6 shows the estimated coefficients π_s that identify the intention-to-treat effect, the estimated impact of being required to attend job counseling from July 2012, at each month after the introduction of the reform in July 2012. For completeness, we also show how the outcomes differ for treatment and control group in the months before the introduction of the reform. Separate regressions are shown for the three different outcomes: having been referred to and subsequently participated in a program of support, received labor income, and the amount of labor income for those who had any.

The treatment effects are close to zero at all points in time. The reform is not connected to any significant increase in referrals to support programs, employment rates, or labor income for those in the intention-to-treat group. Appendix Table A1 shows the full estimation results for the other control variables: In general, there is an increase in cumulative referrals and support program participation over time as well as a slight increase in labor income on average for both treatment and control group. Females are less likely to receive referrals (by 2 percentage points) than males, but are slightly more likely to be in employment (by 1 percentage point). Aboriginal and Torres Strait Islanders have a 3 percentage points lower probability of being referred to an employment support program and a slightly lower probability of being in employment by 2 percentage points. People born in English speaking countries (other than Australia) are more likely to be referred to and participate in a program of support and have higher earnings (\$77 per month) than those born in Australia. Having children is associated with reduced referrals, but increased labor force participation and earnings. People on DI whose primary medical condition is an intellectual or learning disability have a higher probability of being referred to a program of support, than those with a psychological or psychiatric condition, followed by all other primary medical conditions. Being assessed with a higher level of impairment is also associated with reduced earnings. Previous history of income support is related to lower earnings if employed, while suspensions are positive related to labor market earnings (reflecting that benefits can be temporarily suspended without being cancelled, if earnings exceed the income threshold for a short amount of time). Measures of previous attachment to the labor market are generally associated with increased referral rates, as well as with an increased incidence of labor market earnings after the reform. In terms of the amount of earnings (if any), coefficients indicate that every dollar earned in the year prior to the reform, increases earnings after the reform by roughly \$0.07 per month or \$0.86 per year, showing very high persistence

of earnings. The intercept (effect of last year's earnings at \$0) is negative, but the total effect turns positive as previous year's earnings exceed about \$700 over the preceding 12 months, or \$13/week on average.

5.2 Average treatment effects on the treated

Table 7 shows the estimated average treatment effects for those who received job counseling at each point in time for the three separate outcome estimations. Again, with the exception of two significant effects in two specific months, we do not find any convincing evidence that job counseling increased employment or labor income. These exceptions are increased labor market income (for those who receive any) 8 and 9 months after the job counseling. However, given that we test multiple hypotheses with the various interactions with each month, it is not surprising to find isolated significant effects that are likely caused by random chance rather than by a systematic policy effect. In addition to those effects being potentially spurious, it is also important to note that they are based only on those individuals who not only received job counseling, but who received it very early. It is plausible that this group is an even more positive selection of the ITT-group, than the ATT-group overall is.

However, job counseling led to a significant increase in referrals to and subsequent participation in an employment support program, with effects becoming significant three months after the first job counseling meeting. Eleven months after the first job counseling meeting, cumulative referral and participation in an employment support program increased by 14 percentage points compared to the month of the original job counseling meeting. In June 2012, 34% of the treated group had ever received a referral and subsequently participated in an employment support program. The effect of 14 percentage points is thus equivalent to an increase of 41% of average cumulative referrals.

It is important to note that the treatment group had a lower probability to be referred to a program of support in the months prior to their job counseling date (although this is not significant with the exception of one month). This is not surprising as we show in the data section (Table 5) that the ATT-treatment group, which consists of those eligible and eventually receiving job counseling, is a selective sub-set of the ITT-treatment group. It is intuitive that the responsible government agency would be less likely to send people to job counseling after the reform, if they were already engaged in an employment support program before the reform, as there would be less need for those people to receive job counseling. As a result, those who receive job counseling and are thus included in the ATT-treatment group, are on average less

likely (not significantly) to have been referred to and participated in an employment support program prior to the reform.

Appendix Table A2 shows the full estimation results for the other control variables. The estimated coefficients are qualitatively similar to those estimated for the ITT-regressions.

An open question is to what extent the referral to and subsequent participation in an employment support program will translate into employment outcomes over time. At least within the first year after job counseling, we cannot detect any convincing effects on employment and earnings.

Activities provided by employment support agencies depend on the needs of the customer and range from help with resume writing, interview skills, job search and matching, skill development as well as specific programs tailored to those additionally affected by mental health issues and drug or alcohol use disorders. After 12 months in employment support services without having achieved a placement, unpaid or low paid job experience activities may be offered to the client. Due to the length of time support is provided (up to 18 months), whether the additional participation in support programs led to improved employment outcomes, will thus be better judged when at least two years after the job counseling sessions have passed; however, data was not available at the time of this analysis to examine this.

5.3 Results by subgroup

To check whether there are heterogeneous effects from the reform that are not detectable when estimating the model on the full population, we repeat the estimates separately for certain subgroups. Table 8 shows the Intention-to-treat effects as shown in Table 6, first for men and women. Again, all effects in all months are close to zero and insignificant, showing no sign that the effects differ across gender. Next, we estimate the models only for individuals who have a psychological or psychiatric condition, as they might benefit more from counseling than those with physical or intellectual impairments, especially given that specific counseling programs are offered to people with substance use disorders. However, again, average effects are zero. We also repeat the analysis for those with 25 impairment points or more. About a third of the population on DI just meets the threshold of 20 impairment points, while about two thirds are recorded to have anywhere between 25 and 120 impairment points. Being awarded exactly the necessary impairment points might indicate endogenous sorting into DI receipt by individuals who experience hurdles to receiving own income other than disability per se. Again, splitting the sample along this dimension does not alter our finding that the reform had no effect on DI recipients.

Table 9 shows the same results by sub-groups for the average treatment effect on the treated. The slightly positive estimated effect on earnings 8 and 9 months after job counseling that were already present in the full population, appear to be driven by women, not men, and by those with psychological or psychiatric conditions rather than physical or intellectual impairments. Again, it is unclear whether these isolated effects are spurious, real, or a result of selection into early job counseling, which may be even more systematic than selection into job counseling overall.

Overall, the analysis by sub-groups supports the previous finding that job counseling does not significantly improve employment rates or labor market earnings within the timeframe of one year.

6 Conclusions

This research studied the employment and earnings impacts of job counseling requirements for young social security DI recipients in Australia. DI recipients under the age of 35 were required to undergo job counseling and develop a formal labor force participation plan. We study whether participation in such job counseling meetings since 2012 improved labor market outcomes for a period of up to a year later.

Using a difference-in-differences estimator in order to identify causal effects of the policy, we found no convincing evidence that job counseling improved the probability of a DI recipient finding employment, or increased earnings if employment was found. There is evidence that young DI recipients are more likely to be referred to a government support program when they had job counseling. To what extent additional referrals translate into improved employment outcomes will have to be analysed over a longer time frame than the one-year post reform data that has been made available to us by the Australian government agency responsible for welfare payments. We do find positive effects on earnings starting around 8 months after job counseling which appear to be driven by women, not men, and by those with psychological or psychiatric conditions rather than physical or intellectual impairments. However, a longer time series is needed, so that enough individuals are observed for 8 months and more after their job counseling session, to be able to properly investigate whether these isolated effects are real, spurious or a result of selection into early job counseling.

It is worth mentioning that individuals who had a job counseling session by the end of our observation period were substantially more likely to have been employed prior to job counseling than other DI payment recipients. The policy was thus found to be ineffective

despite targeting a group of DI recipients who were already relatively attached to the labor market.

Our results are in line with international experiences, which suggest that measures that aim at reactivating recipients of DI payments tend to be less effective than measures that assist employers and employees in keeping individuals with health impairment in employment. However, we also note that the target population faces significant barriers to employment, and the policy might therefore need some more time to take full effect. A longer study timeframe could thus yield different results, as could an increased intensity of job counseling.

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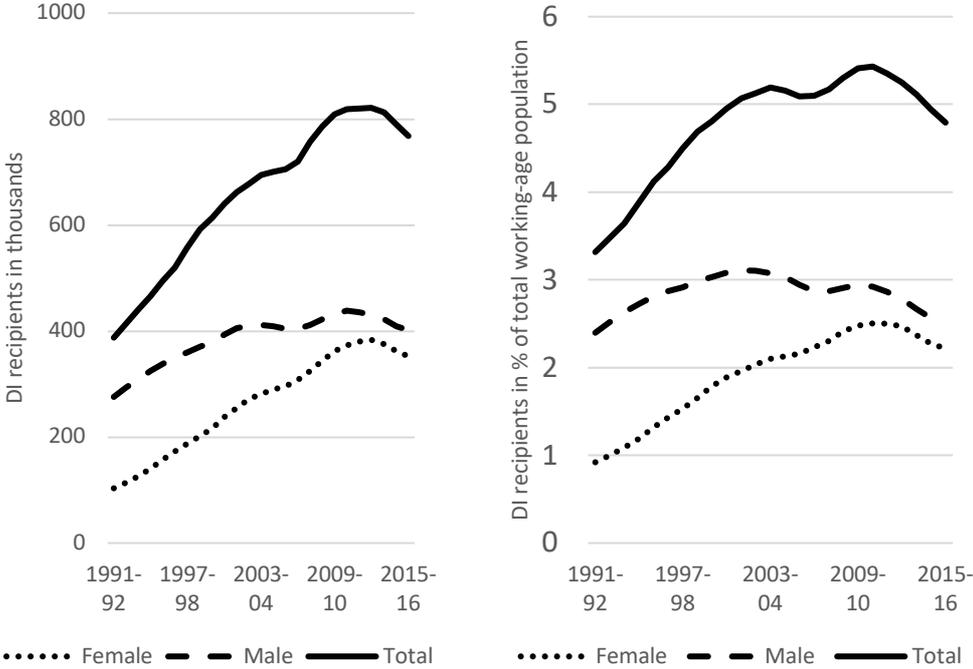
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Tables and Figures

Figure 1 - Development of number of DI recipients

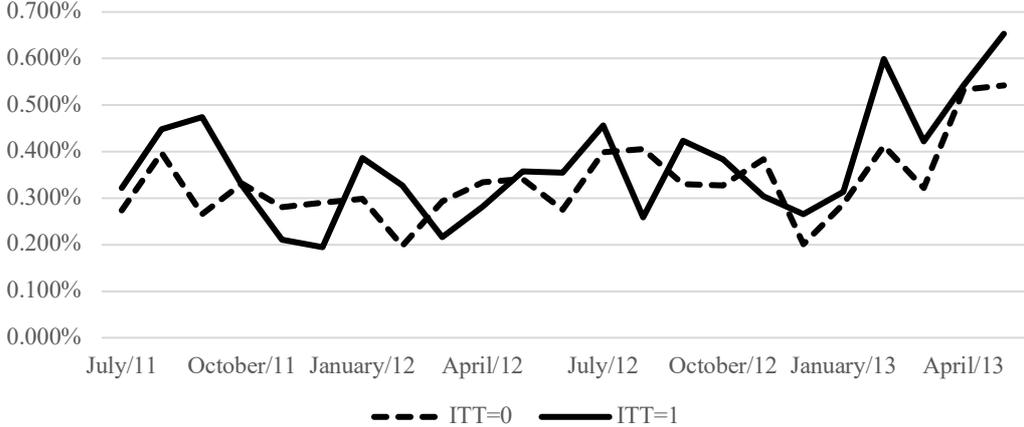


(a) Number of DI recipients in thousands

(b) Share of DI recipients over total working-age population

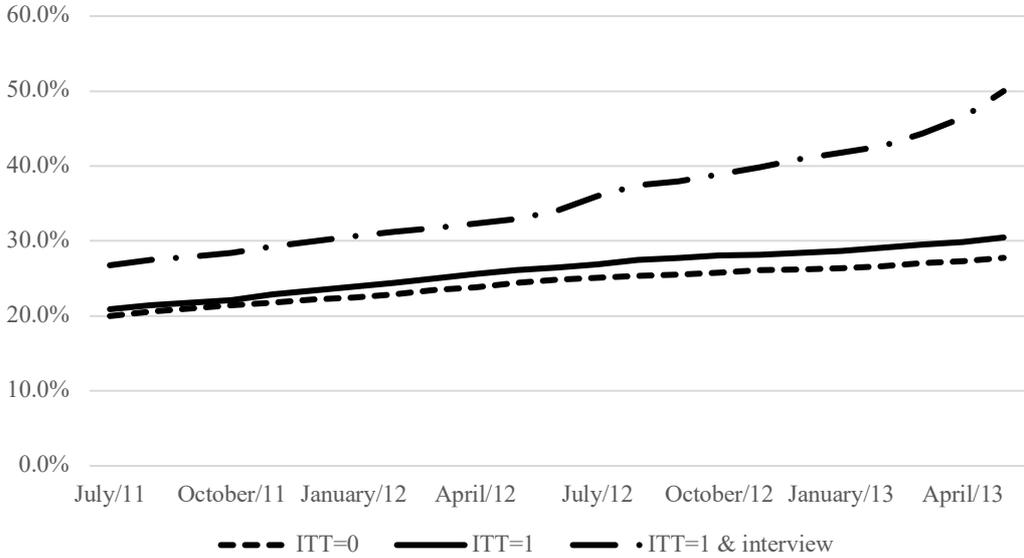
Notes: The figures show the development of the number of DI recipients (a) and share of DI recipients over the total working-age population (b). **Source:** Parliamentary Budget Office (2018).

Figure 2 - Exits from DSP



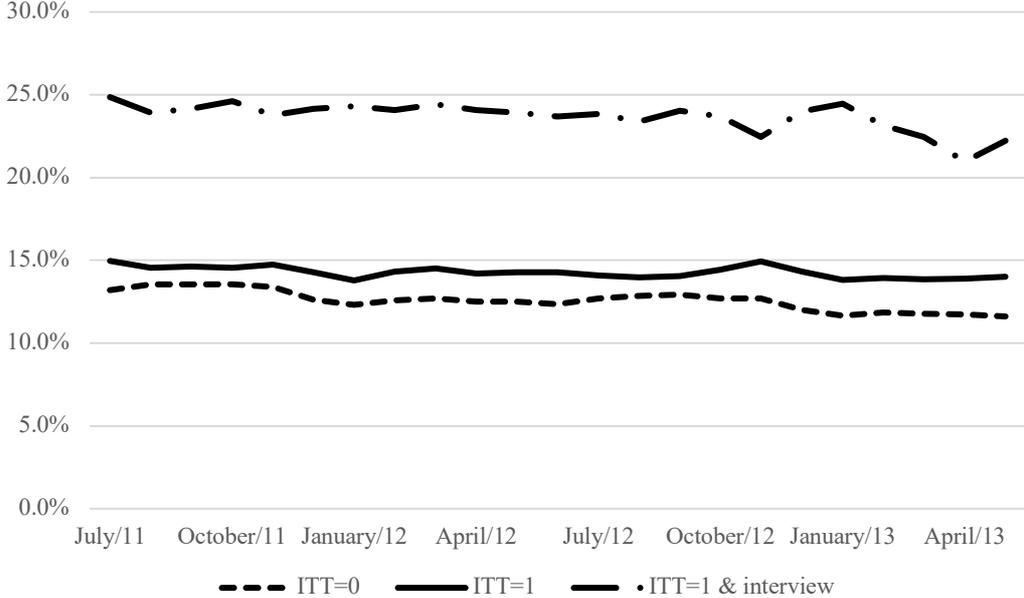
Notes: The figure shows exit rates from DI for individuals born between 1 July 1974 and 1 June 1977 (ITT=0), and those born between 1 July 1979 and 1 June 1982 (ITT=1). Individuals are included if they have a WCB of 8-14 hours/week, no manifest disability (see footnote 5 for details) and no child younger than 6 years in June 2012. *Deviating from the population shown in Table 2*, the population represented in the figure is further restricted to individuals who received DI on or after June 2011 (rather than on or after June 2012). The figure shows rates from DSP in the year leading up to the reform, as well as afterwards. **Source:** Research and Evaluation Database (RED), own calculations.

Figure 3 - Referral rate to an employment support program over time



Notes: The figure shows the proportion of people on DI who received a referral to an employment support program before month t. Only referrals that result in commencement of a support program are included. Treated individuals (ITT=1), control individuals (ITT=0) and treated individuals who received job counseling (the ATT-group: ITT=1 & job counseling) are the population described in Table 2, columns 1, 2 and 3, respectively. For the ATT-group (ITT=1 & job counseling meeting), the time variable on the x-axis is the months before and after the actual job counseling session rather than the months before and after the introduction of the reform, with the actual job counseling date aligned with the reform date July/12 for this graph. **Source:** Research and Evaluation Database (RED), own calculations.

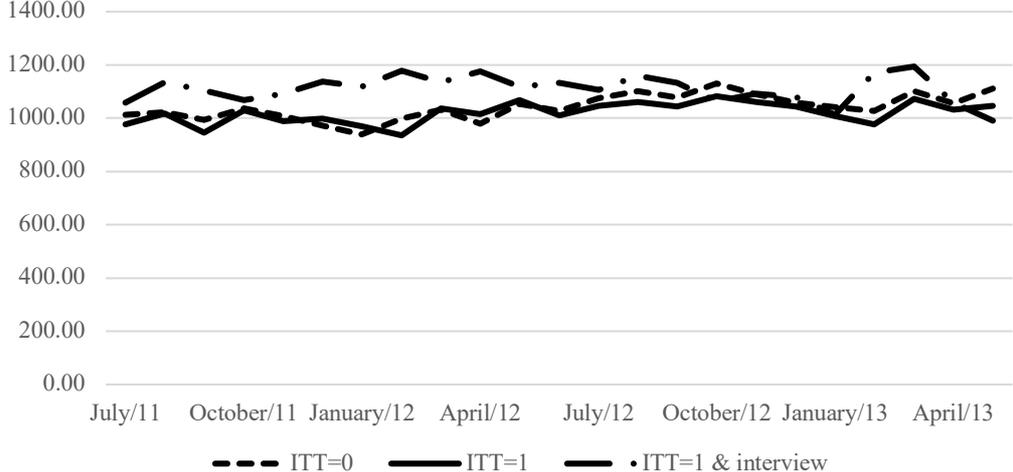
Figure 4 – Participation in the labor market over time



Notes: The figure shows the proportion of people who received labor market income in month t. Treated individuals (ITT=1), control individuals (ITT=0) and treated individuals who received job counseling (the ATT-group: ITT=1 & job counseling) are the population described in Table 2, columns 1, 2 and 3, respectively. For the ATT-group (ITT=1 & job counseling meeting), the time variable on the x-axis is the months before and after the actual job counseling session rather than the months before and after the introduction of the reform, with the actual job counseling date aligned with the reform date July/12 for this graph.

Source: Research and Evaluation Database (RED), own calculations.

Figure 5 – Labor market income over time



Notes: The figure shows the amount of labor market income in month t (if any). Treated individuals (ITT=1), control individuals (ITT=0) and treated individuals who received job counseling (the ATT-group: ITT=1 & job counseling) are the population described in Table 2, columns 1, 2 and 3, respectively. For the ATT-group (ITT=1 & job counseling session), the time variable on the x-axis is the months before and after the actual job counseling session rather than the months before and after the introduction of the reform, with the actual job counseling date aligned with the reform date July/12 for this graph.

Source: Research and Evaluation Database (RED), own calculations.

Table 1 - Sample selection

	Sample selection	
	ITT=0: Born between 1 July 1974 and 30 June 1977	ITT=1: Born between 1 July 1979 and 30 June 1982
<i>Individuals with a DSP spell in June 2012</i>	1977	1982
Of those:	29,882	24,706
PCW 8-14 hours/week	10,067	8,264
Not manifestly disabled	28,936	23,362
Does not have a child younger than 6 years old	26,418	21,515
All of the above	9,428	7,610
PCW 8-14 hours/week	33.7%	33.4%
Not manifestly disabled	96.8%	94.6%
Does not have a child younger than 6 years old	88.4%	87.1%
All of the above	31.6%	30.8%

Notes: All included individuals received DSP on or after June 2012. WCB, manifest disability and presence of children are measured as of June 2012. **Source:** Research and Evaluation Database (RED), own calculations.

Table 2 - Person-month observations

	<i>ITT=0</i>	<i>ITT=1</i>	<i>ITT=1 & received job counseling</i>
June/11	8,038	6,508	1,094
July/11	8,164	6,616	1,118
August/11	8,314	6,708	1,146
September/11	8,445	6,788	1,172
October/11	8,567	6,868	1,199
November/11	8,718	6,980	1,230
December/11	8,812	7,076	1,258
January/12	8,916	7,146	1,283
February/12	9,020	7,249	1,308
March/12	9,130	7,348	1,331
April/12	9,229	7,417	1,350
May/12	9,335	7,533	1,394
June/12	9,428	7,610	1,422
July/12	9,430	7,592	1,426
August/12	9,396	7,563	1,433
September/12	9,379	7,530	1,412
October/12	9,372	7,473	1,386
November/12	9,359	7,425	1,372
December/12	9,328	7,400	1,365
January/13	9,319	7,391	1,363
February/13	9,299	7,369	1,360
March/13	9,274	7,322	1,349
April/13	9,254	7,297	1,351
May/13	9,224	7,263	1,346
June/13	9,190	7,233	1,336

Notes: All included individuals received DSP on or after June 2012, with a WCB of 8-14 hours/week, no manifest disability and no child under the age of 6 in June 2012. Individuals included in ITT=0 were born between 1 July 1974 and 1 June 1977, and those included in ITT=1 were born between 1 July 1979 and 1 June 1982. Individuals are observed in every month between June 2011 and June 2013 in which they receive any form of IS payment. **Source:** Research and Evaluation Database (RED), own calculations.

Table 3 - Socioeconomic characteristics of treatment and control group

	<i>ITT=0</i>	<i>ITT=1</i>	<i>Std.Err.</i> <i>(Diff.)</i>	<i>p-value</i> Ho: Diff=0	<i>Rubin's</i> <i>B (in %)</i>	<i>Rubin's</i> <i>V</i>
Female	41.1%	38.3%	0.008	0.000	-5.75	0.98
<u>Aboriginal or Torres Strait Islander</u>						
No	87.8%	89.1%	0.005	0.008	4.09	0.91
Yes	8.5%	7.9%	0.004	0.158	-2.18	0.94
Missing	3.7%	3.0%	0.003	0.011	-3.94	0.81
<u>Country of birth</u>						
Australia	86.6%	89.5%	0.005	0.000	8.89	0.81
Main English-speaking country	4.5%	3.4%	0.003	0.000	-5.58	0.77
Other country	8.8%	7.1%	0.004	0.000	-6.58	0.81
Missing	0.0%	0.0%	0.000	0.369	-1.46	0.00
Has partner who receives income support	8.0%	5.2%	0.004	0.000	-11.17	0.67
<u>Number of children</u>						
None	79.6%	90.2%	0.006	0.000	29.72	0.55
One	10.0%	5.5%	0.004	0.000	-16.72	0.58
Two	7.4%	3.2%	0.003	0.000	-18.90	0.45
Three or more	3.0%	1.1%	0.002	0.000	-13.13	0.39
Age of youngest child (in months)	128.67	114.38	1.346	0.000	-46.81	0.81
<u>Primary medical condition</u>						
Musculo-skeletal & Connective Tissue	14.1%	8.5%	0.005	0.000	-17.74	0.64
Psychological/Psychiatric	56.3%	60.4%	0.008	0.000	8.25	0.97
Intellectual or Learning disability	7.0%	9.0%	0.004	0.000	7.51	1.26
Other	19.8%	19.4%	0.006	0.500	-1.04	0.98
Unknown/Missing	2.8%	2.7%	0.003	0.727	-0.54	0.97
Impairment points	23.48	22.99	0.158	0.002	-4.75	1.01
Impairment points missing	5.7%	6.9%	0.004	0.002	4.84	1.19
<u>Days received income support during last</u>						
<= 2 years	699.60	699.22	1.634	0.814	-0.36	1.05
> 2 years and <= 5 years	895.50	898.61	5.136	0.545	0.93	0.98
> 5 years and <= 10 years	1279.38	1284.43	9.811	0.606	0.80	0.92
Suspended benefits (total days)	68.55	63.76	4.032	0.235	-1.85	0.61
Suspended benefits (number of spells)	0.56	0.59	0.018	0.133	2.31	1.11
<u>Outcomes between July 2011 and June 2012:</u>						
Had a placement after employment support program	5.8%	7.2%	0.004	0.000	5.49	1.21
Had any labor market income	19.5%	22.4%	0.006	0.000	7.06	1.11
Total labor market income (in \$)	1439.26	1601.46	73.318	0.027	3.40	1.10

Notes: Treated and control individuals are the population represented in Table 2, as of month June 2012. All individuals received DI in or after June 2012, and had a WCB of 8-14 hours/week, no manifest disability and no child under the age of 6 in June 2012. The first column shows those born between 1 July 1974 and 1 June 1977 (ITT=0), and the second columns those born between 1 July 1979 and 1 June 1982 (ITT=1).

Source: Research and Evaluation Database (RED), own calculations.

Table 4 - Timing of job counseling sessions

<i>Month of job counseling</i>	<i>Frequency</i>
July/12	43
August/12	156
September/12	163
October/12	219
November/12	130
December/12	94
January/13	86
February/13	110
March/13	111
April/13	106
May/13	99
June/13	105
Total	1,422

Notes: Table shows the month of the job counseling sessions for individuals in ITT=1 in June 2012, who received job counseling before the end of the observations period.

Source: Research and Evaluation Database (RED), own calculations.

Table 5 - Socioeconomic characteristics of individuals in treatment group, by job counseling status

	<i>ITT=1, no job counseling</i>	<i>ITT=1, and job counseling</i>	<i>Std.Err. (Diff.)</i>	<i>p- value Ho: Diff=0</i>	<i>Rubin's B (in %)</i>	<i>Rubin's V</i>
Female	37.3%	42.5%	0.014	0.000	10.63	1.05
<u>Aboriginal or Torres Strait Islander</u>						
No	88.6%	91.6%	0.009	0.001	10.05	0.76
Yes	8.5%	5.1%	0.008	0.000	-13.87	0.62
Missing	2.9%	3.4%	0.005	0.335	2.77	1.16
<u>Country of birth</u>						
Australia	88.9%	92.3%	0.009	0.000	11.59	0.72
Main English-speaking country	3.6%	2.9%	0.005	0.209	-3.81	0.82
Other country	7.6%	4.9%	0.008	0.000	-11.25	0.66
Missing	0.0%	0.0%	0.000	.	.	.
Has partner who receives income support	5.2%	5.3%	0.007	0.910	0.33	1.01
<u>Number of children</u>						
None	90.3%	89.7%	0.009	0.475	-2.08	1.06
One	5.5%	5.7%	0.007	0.764	0.88	1.04
Two	3.0%	3.7%	0.005	0.229	3.44	1.20
Three or more	1.2%	1.0%	0.003	0.533	-1.89	0.84
Age of youngest child (in months)	114.50	113.90	2.659	0.822	-2.05	1.08
<u>Primary medical condition</u>						
Musculo-skeletal & Connective Tissue	7.9%	11.4%	0.008	0.000	11.96	1.39
Psychological/Psychiatric	61.0%	57.9%	0.014	0.031	-6.31	1.03
Intellectual disability	10.0%	4.7%	0.008	0.000	-20.42	0.50
Other	18.7%	22.4%	0.012	0.002	9.12	1.14
Unknown/Missing	2.5%	3.7%	0.005	0.011	6.98	1.47
Impairment points	23.03	22.80	0.303	0.450	-2.37	0.63
Impairment points missing	7.7%	3.3%	0.007	0.000	-19.27	0.45
<u>Days received income support during last</u>						
<= 2 years	701.28	690.27	3.156	0.000	-9.84	1.29
> 2 years and <= 5 years	905.44	868.90	9.728	0.000	-10.70	1.22
> 5 years and <= 10 years	1293.45	1245.20	18.274	0.008	-7.70	1.05
Suspended benefits (total days)	65.66	55.50	6.600	0.124	-4.89	0.58
Suspended benefits (number of spells)	0.60	0.52	0.036	0.036	-6.55	0.65
<u>Outcomes between July 2011 and June 2012:</u>						
Had a placement after employment support program	6.5%	10.3%	0.008	0.000	13.70	1.52
Had any labor market income	19.6%	34.6%	0.012	0.000	34.30	1.44
Total labor market income (in \$)	1334.89	2761.48	142.599	0.000	26.26	1.96

Notes: The table represents the population in column 2, Table 2 as of June 2012 – individuals born between 1 July 1979 and 1 June 1982 who received DI in June 2012, with a WCB of 8-14 hours/week, no manifest disability and no child under the age of 6 (ITT=1). The first column reports characteristics of the 6,188 individuals who did not receive a job counseling session, and the second column the 1,422 individuals who did. Also see notes to Table 3.

Source: Research and Evaluation Database (RED), own calculations.

Table 6 - Estimation results: Intention-to-treat effect

	Has received referral before month t		Received labor market income in month t		Amount of labor market income in month t (if any)	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
<u>Treated (ITT=1) interacted with:</u>						
July-11	-0.009	0.010	-0.002	0.005	-11.468	41.493
August-11	-0.010	0.009	-0.010	0.005	-11.843	41.347
September-11	-0.010	0.009	-0.008	0.005	-30.581	41.168
October-11	-0.011	0.009	-0.009	0.005	-6.520	41.069
November-11	-0.007	0.009	-0.005	0.005	-16.701	40.873
December-11	-0.005	0.009	-0.003	0.005	36.031	41.211
January-12	-0.003	0.009	-0.005	0.005	46.287	41.425
February-12	-0.002	0.009	-0.003	0.005	-53.950	40.965
March-12	-0.002	0.009	-0.001	0.005	12.500	40.710
April-12	0.001	0.009	-0.003	0.005	39.783	40.815
May-12	0.000	0.009	-0.002	0.005	25.408	40.644
Reference period: June -12						
July-12	0.002	0.009	-0.005	0.005	-10.243	40.549
August-12	0.006	0.009	-0.007	0.005	-40.853	40.566
September-12	0.007	0.009	-0.006	0.005	-31.496	40.532
October-12	0.008	0.009	0.000	0.005	-37.976	40.528
November-12	0.006	0.009	0.005	0.005	-10.201	40.392
December-12	0.007	0.009	0.005	0.005	13.809	40.917
January-13	0.008	0.009	0.003	0.005	-13.879	41.282
February-13	0.010	0.009	0.003	0.005	-23.883	41.174
March-13	0.009	0.009	0.002	0.005	-9.304	41.286
April-13	0.011	0.009	0.003	0.005	-11.561	41.320
May-13	0.012	0.009	0.006	0.005	-44.788	41.371
June - 13	0.014	0.009	0.001	0.005	9.587	42.008
# observations	392,052		392,052		52,025	
R-squared	0.0586		0.5387		0.4655	

Notes: Uses all observations for ITT=0 and ITT =1, and control variables as described in Table 3. ***, ** and * indicate significance at the 0.1%-level, 1%-level and 5%-level, respectively.

Source: Research and Evaluation Database (RED), own calculations.

Table 7 - Estimation results: Average treatment effect on the treated

	Has received referral before month t			Received labor market income in month t		Amount of labor market income in month t (if any)		
	Coeff.	Std. Err.		Coeff.	Std. Err.	Coeff.	Std. Err.	
<u>Treated (ITT=1 & job counseling) interacted with month:</u>								
-11	-0.038	0.018	*	-0.006	0.010	20.617	63.918	
-10	-0.035	0.018		-0.014	0.010	75.868	64.131	
-9	-0.034	0.018		-0.010	0.010	37.165	63.780	
-8	-0.033	0.018		-0.004	0.010	15.062	63.243	
-7	-0.028	0.018		-0.008	0.010	-4.344	63.475	
-6	-0.025	0.018		-0.002	0.010	66.688	63.044	
-5	-0.020	0.017		0.000	0.010	70.141	62.710	
-4	-0.017	0.017		0.000	0.010	130.845	62.679	*
-3	-0.015	0.017		0.007	0.010	75.218	62.385	
-2	-0.013	0.017		0.005	0.010	73.813	62.429	
-1	-0.009	0.017		0.004	0.010	2.791	62.355	
Reference period: month before job counseling								
1	0.018	0.017		0.006	0.010	13.959	62.521	
2	0.033	0.018		0.000	0.010	51.359	64.309	
3	0.037	0.018	*	0.002	0.010	74.597	65.411	
4	0.044	0.019	*	0.005	0.010	-19.641	67.584	
5	0.049	0.019	*	-0.005	0.011	-31.090	71.058	
6	0.054	0.020	**	0.008	0.011	-16.826	72.683	
7	0.059	0.021	**	0.016	0.012	-31.399	75.078	
8	0.064	0.022	**	0.014	0.012	204.371	79.798	*
9	0.075	0.023	**	0.002	0.013	224.550	86.394	**
10	0.105	0.028	***	-0.001	0.016	110.528	105.930	
11	0.137	0.036	***	-0.016	0.020	-	-	
# observations		193,983			193,983		26,567	
R-squared		0.0613			0.5194		0.4091	

Notes: Uses all observations for ITT=0, and those who were ITT =1 and received job counseling. For ITT=0, a job counseling date was assigned randomly, according to the observed distribution of job counseling dates in ITT=1. The estimation controls all variables as presented in Table 5. ***, ** and * indicate significance at the 0.1%-level, 1%-level and 5%-level, respectively.

Source: Research and Evaluation Database (RED), own calculations.

Table 8 - Estimation results: Intention-to-treat effect - Heterogeneity

	MEN ONLY						WOMEN ONLY					
	Has received referral before month t		Received labor market income in month t		Amount of labor market income in month t (if any)		Has received referral before month t		Received labor market income in month t		Amount of labor market income in month t (if any)	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
<u>Treated (ITT=1) interacted with month:</u>												
July-11	-0.010	0.012	0.001	0.007	-37.446	57.653	-0.008	0.015	-0.008	0.009	17.140	59.560
Aug-11	-0.011	0.012	-0.008	0.007	-54.912	57.453	-0.008	0.015	-0.013	0.008	40.059	59.335
Sept-11	-0.013	0.012	-0.008	0.007	-54.420	57.182	-0.005	0.015	-0.009	0.008	-1.602	59.096
Oct-11	-0.014	0.012	-0.007	0.006	-46.214	56.856	-0.005	0.015	-0.014	0.008	41.052	59.212
Nov-11	-0.010	0.012	-0.002	0.006	-32.822	56.751	-0.002	0.015	-0.011	0.008	0.096	58.716
Dec-11	-0.008	0.012	-0.003	0.006	14.002	57.465	0.001	0.015	-0.005	0.008	63.265	58.869
Jan-12	-0.004	0.012	-0.005	0.006	40.685	57.602	0.000	0.015	-0.007	0.008	54.785	59.368
Feb-12	-0.004	0.012	-0.003	0.006	-77.634	57.150	-0.001	0.015	-0.002	0.008	-26.013	58.472
March-12	-0.002	0.012	0.000	0.006	-0.549	56.862	-0.001	0.014	-0.003	0.008	29.969	58.033
April-12	0.001	0.012	-0.002	0.006	10.327	57.046	0.000	0.014	-0.004	0.008	76.333	58.140
May-12	0.001	0.012	0.001	0.006	3.731	56.795	-0.002	0.014	-0.006	0.008	52.274	57.929
Reference period: June-12												
July-12	0.002	0.012	-0.003	0.006	-27.612	56.728	0.002	0.014	-0.008	0.008	11.238	57.712
Aug-12	0.007	0.012	-0.008	0.006	-51.035	56.630	0.003	0.014	-0.005	0.008	-26.171	57.861
Sept-12	0.009	0.012	-0.004	0.006	-58.413	56.660	0.003	0.014	-0.010	0.008	4.904	57.742
Oct-12	0.010	0.012	0.002	0.006	-26.730	56.687	0.003	0.014	-0.002	0.008	-46.636	57.699
Nov-12	0.008	0.012	0.006	0.006	-4.442	56.395	0.003	0.014	0.004	0.008	-13.625	57.625
Dec-12	0.009	0.012	0.005	0.006	33.954	57.102	0.003	0.014	0.005	0.008	-7.814	58.399
Jan-13	0.010	0.012	0.004	0.006	-7.440	57.657	0.005	0.014	0.001	0.008	-15.396	58.876
Feb-13	0.011	0.012	0.004	0.006	-24.713	57.608	0.008	0.014	0.002	0.008	-16.406	58.599
March-13	0.009	0.012	0.001	0.006	-33.868	57.892	0.009	0.014	0.003	0.008	28.402	58.605
April-13	0.010	0.012	0.003	0.006	-40.889	57.920	0.010	0.014	0.003	0.008	32.955	58.686
May-13	0.013	0.012	0.005	0.006	-102.904	57.956	0.011	0.014	0.007	0.008	31.121	58.793
June - 13	0.013	0.012	0.000	0.006	-13.648	58.943	0.014	0.014	0.004	0.008	40.112	59.581
# obs.	235,360		235,360		28,045		156,692		156,692		23,980	
R-squared	0.0602		0.5142		0.4535		0.0570		0.5686		0.4835	

Notes: See Notes Table 6. ***, ** and * indicate significance at the 0.1%-level, 1%-level and 5%-level, respectively.

Source: Research and Evaluation Database (RED), own calculations.

Table 8 (continued) - Estimation results: Intention-to-treat effect – Heterogeneity

	PSYCHIATRIC/PSYCHOLOGICAL CONDITIONS ONLY						25 IMPAIRMENT POINTS OR MORE					
	Has received referral before month t		Received labor market income in month t		Amount of labor market income in month t (if any)		Has received referral before month t		Received labor market income in month t		Amount of labor market income in month t (if any)	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
<u>Treated (ITT=1) interacted with month:</u>												
July-11	-0.005	0.013	-0.008	0.007	-24.136	60.022	-0.008	0.016	0.005	0.009	-31.030	70.110
Aug-11	-0.005	0.012	-0.014	0.007	-21.147	59.818	-0.008	0.016	-0.007	0.009	-20.350	69.797
Sept-11	-0.004	0.012	-0.013	0.007	-38.331	59.443	-0.010	0.016	-0.006	0.009	-5.780	69.406
Oct-11	-0.004	0.012	-0.012	0.007	-49.982	59.144	-0.012	0.016	-0.007	0.009	6.696	69.410
Nov-11	0.000	0.012	-0.008	0.007	-71.548	58.969	-0.011	0.016	0.003	0.008	28.463	68.708
Dec-11	0.001	0.012	-0.008	0.007	43.720	59.692	-0.009	0.016	0.006	0.008	58.561	69.247
Jan-12	0.003	0.012	-0.007	0.007	30.907	59.932	-0.008	0.016	0.001	0.008	90.301	69.482
Feb-12	0.001	0.012	-0.003	0.007	-64.092	59.383	-0.005	0.016	-0.002	0.008	-69.260	68.967
March-12	0.000	0.012	-0.005	0.007	34.421	59.006	-0.004	0.016	-0.001	0.008	-46.008	68.631
April-12	0.004	0.012	-0.004	0.007	60.177	59.160	-0.002	0.016	-0.006	0.008	-27.016	68.510
May-12	0.001	0.012	-0.002	0.006	33.435	58.817	-0.001	0.016	0.001	0.008	-10.792	68.047
Reference period: June-12												
July-12	0.003	0.012	-0.003	0.006	-40.903	58.611	0.000	0.016	-0.005	0.008	-33.388	68.162
Aug-12	0.005	0.012	-0.007	0.006	-48.091	58.813	0.004	0.016	-0.007	0.008	-35.231	67.922
Sept-12	0.005	0.012	-0.009	0.006	-33.132	58.855	0.008	0.016	-0.004	0.008	-25.660	67.976
Oct-12	0.005	0.012	-0.002	0.006	-32.433	59.040	0.013	0.016	0.003	0.008	-63.078	67.912
Nov-12	0.004	0.012	0.002	0.006	17.270	58.745	0.008	0.016	0.006	0.008	-91.506	67.812
Dec-12	0.007	0.012	0.002	0.007	25.208	59.564	0.010	0.016	0.000	0.008	-53.921	68.891
Jan-13	0.009	0.012	0.002	0.007	-21.597	60.337	0.011	0.016	-0.003	0.008	-116.671	69.646
Feb-13	0.010	0.012	0.003	0.007	-48.401	59.933	0.011	0.016	-0.007	0.008	-112.857	69.687
March-13	0.009	0.012	0.002	0.007	-21.635	60.216	0.014	0.016	-0.008	0.008	-68.907	69.866
April-13	0.011	0.012	0.006	0.007	-9.419	60.360	0.014	0.016	-0.004	0.008	-77.250	69.777
May-13	0.012	0.012	0.009	0.007	-74.795	60.348	0.016	0.016	-0.004	0.008	-86.373	69.759
June - 13	0.011	0.012	0.003	0.007	22.419	61.560	0.015	0.016	-0.005	0.008	-24.561	70.536
# obs.	227,485		227,485		26,541		132,083		132,083		16,657	
R-squared	0.0580		0.5001		0.3874		0.0624		0.5593		0.4960	

Notes: See Notes Table 6. ***, ** and * indicate significance at the 0.1%-level, 1%-level and 5%-level, respectively.

Source: Research and Evaluation Database (RED), own calculations.

Table 9 - Estimation results: Average treatment effect on the treated - Heterogeneity

	MEN ONLY						WOMEN ONLY								
	Has received referral before month t		Received labor market income in month t		Amount of labor market income in month t (if any)		Has received referral before month t		Received labor market income in month t		Amount of labor market income in month t (if any)				
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.			
Treated (ITT=1 & job counseling) interacted with month:															
-11	-0.056	0.024	*	0.000	0.013	-12.077	91.359	-0.016	0.027	-0.014	0.016	59.510	88.703		
-10	-0.051	0.024	*	-0.004	0.013	111.718	91.241	-0.015	0.027	-0.028	0.016	41.332	89.434		
-9	-0.049	0.024	*	-0.001	0.013	70.729	90.785	-0.016	0.027	-0.023	0.016	3.657	88.897		
-8	-0.044	0.024		0.002	0.013	10.423	90.222	-0.019	0.027	-0.012	0.015	20.125	87.954		
-7	-0.041	0.024		-0.007	0.013	3.050	90.634	-0.011	0.027	-0.009	0.015	-8.920	88.224		
-6	-0.040	0.023		-0.005	0.013	95.660	90.235	-0.005	0.026	0.001	0.015	48.683	87.432		
-5	-0.034	0.023		0.001	0.013	124.251	89.684	-0.002	0.026	-0.001	0.015	20.292	86.996		
-4	-0.029	0.023		0.003	0.013	157.532	89.516	-0.002	0.026	-0.004	0.015	108.980	87.055		
-3	-0.024	0.023		0.005	0.013	93.428	89.331	-0.005	0.026	0.009	0.015	64.727	86.426		
-2	-0.018	0.023		0.006	0.013	89.154	89.328	-0.007	0.026	0.004	0.015	57.406	86.529		
-1	-0.012	0.023		0.008	0.013	-32.898	89.097	-0.004	0.026	-0.001	0.015	44.655	86.537		
Reference period: month before job counseling															
1	0.020	0.023		0.007	0.013	-11.207	89.455	0.017	0.026	0.004	0.015	48.008	86.659		
2	0.040	0.024		-0.009	0.013	44.789	93.198	0.025	0.026	0.013	0.015	60.930	88.135		
3	0.044	0.024		-0.002	0.013	108.127	94.829	0.028	0.027	0.009	0.016	36.201	89.624		
4	0.036	0.025		0.000	0.014	-90.796	98.126	0.056	0.028	*	0.012	0.016	53.393	92.487	
5	0.049	0.026		-0.011	0.014	-110.450	104.254	0.049	0.029	0.004	0.017	39.382	96.497		
6	0.056	0.027	*	0.012	0.015	-78.569	106.318	0.053	0.030	0.005	0.017	41.287	98.897		
7	0.060	0.028	*	0.026	0.016	-42.109	108.393	0.059	0.031	0.005	0.018	-6.234	103.271		
8	0.057	0.030		0.008	0.016	76.507	116.662	0.075	0.032	*	0.021	0.019	327.458	108.592	**
9	0.058	0.032		-0.018	0.017	-13.350	131.923	0.097	0.034	**	0.026	0.020	402.118	114.412	***
10	0.105	0.038	**	-0.012	0.021	-256.942	161.042	0.110	0.041	**	0.013	0.024	393.390	139.942	**
11	0.149	0.049	**	-0.040	0.026	-	-	0.124	0.054	*	0.015	0.031	-	-	
# obs.	113,505		113,505		13,864		80,478		80,478		12,703				
R-squared	0.0623		0.4888		0.3772		0.0628		0.5548		0.4503				

Notes: See Notes Table 7. ***, ** and * indicate significance at the 0.1%-level, 1%-level and 5%-level, respectively.

Source: Research and Evaluation Database (RED), own calculations.

Table 9 (continued) - Estimation results: Average treatment effect on the treated – Heterogeneity

PSYCHIATRIC/PSYCHOLOGICAL CONDITIONS ONLY						25 IMPAIRMENT POINTS OR MORE														
Has received referral before month t			Received labor market income in month t			Amount of labor market income in month t (if any)			Has received referral before month t			Received labor market income in month t			Amount of labor market income in month t (if any)					
Coeff.	Std. Err.		Coeff.	Std. Err.		Coeff.	Std. Err.		Coeff.	Std. Err.		Coeff.	Std. Err.		Coeff.	Std. Err.				
Treated (ITT=1 & job counseling) interacted with month:																				
-11	-0.023	0.024	-0.004	0.013	64.258	87.819	-0.034	0.033	-0.033	0.018	-23.774	118.942								
-10	-0.023	0.024	-0.007	0.013	110.055	87.880	-0.030	0.033	-0.019	0.018	47.069	116.439								
-9	-0.025	0.024	-0.005	0.013	86.463	87.644	-0.025	0.033	-0.012	0.018	39.139	115.030								
-8	-0.031	0.024	-0.005	0.013	52.914	87.126	-0.013	0.033	-0.020	0.018	50.563	115.224								
-7	-0.027	0.023	-0.005	0.013	14.528	87.181	-0.006	0.033	-0.017	0.018	-57.548	114.539								
-6	-0.027	0.023	0.000	0.013	135.107	86.545	-0.012	0.032	-0.005	0.018	30.465	112.899								
-5	-0.016	0.023	0.001	0.013	134.353	86.591	-0.011	0.032	0.012	0.018	80.430	111.132								
-4	-0.013	0.023	-0.010	0.013	175.503	87.445	*	-0.013	0.032	0.022	0.017	54.577	110.313							
-3	-0.015	0.023	0.005	0.013	105.059	86.541	-0.017	0.032	0.020	0.017	-44.102	110.293								
-2	-0.016	0.023	0.004	0.013	108.184	86.615	-0.017	0.032	0.018	0.017	-4.670	110.626								
-1	-0.009	0.023	0.005	0.013	29.297	86.456	-0.011	0.032	0.009	0.017	-94.507	111.395								
Reference period: month before job counseling																				
1	0.016	0.023	0.000	0.013	-30.339	87.403	0.041	0.032	0.006	0.017	-128.898	111.282								
2	0.035	0.024	-0.009	0.013	79.156	90.347	0.051	0.033	0.003	0.018	-14.042	114.048								
3	0.037	0.024	-0.006	0.013	100.491	92.031	0.040	0.034	0.008	0.018	21.698	115.824								
4	0.043	0.025	-0.002	0.014	-70.875	94.777	0.048	0.035	0.017	0.019	-56.061	118.734								
5	0.046	0.026	-0.005	0.014	-74.109	98.591	0.061	0.036	0.001	0.020	-168.334	125.920								
6	0.053	0.027	*	0.012	0.015	-36.640	100.541	0.057	0.038	0.000	0.020	-150.418	131.089							
7	0.062	0.028	*	0.026	0.015	75.553	103.722	0.062	0.039	-0.002	0.021	-135.477	136.581							
8	0.071	0.029	*	0.023	0.016	237.767	110.021	*	0.068	0.041	0.024	0.022	-23.654	141.552						
9	0.076	0.031	*	0.005	0.017	304.645	118.974	*	0.099	0.045	*	0.008	0.024	-55.264	156.200					
10	0.081	0.037	*	0.020	0.021	126.407	143.998	0.163	0.055	**	-0.024	0.030	-124.288	219.262						
11	0.097	0.049	*	-0.035	0.027	-	-	0.221	0.072	**	0.027	0.039	-	-						
# obs.	109,536		109,536		13,668		64,781		64,781		8,359									
R-squared	0.0666		0.4918		0.3107		0.0637		0.5372		0.4478									

Notes: See Notes Table 7. ***, ** and * indicate significance at the 0.1%-level, 1%-level and 5%-level, respectively.

Source: Research and Evaluation Database (RED), own calculations.

Appendix

Table A1 - Full regression results: Intention-to-treat estimation

	Has received referral before month t			Received labor market income in month t		Amount of labor market income in month t (if any)		
	Coeff.	Std. Err.		Coeff.	Std. Err.	Coeff.	Std. Err.	
<u>Month t:</u>								
July-11	-0.049	0.006	***	0.001	0.003	-27.623	28.778	
August-11	-0.043	0.006	***	0.005	0.003	-20.337	28.455	
September-11	-0.039	0.006	***	0.005	0.003	-65.760	28.340	*
October-11	-0.035	0.006	***	0.007	0.003	-21.031	28.234	
November-11	-0.031	0.006	***	0.005	0.003	-55.017	28.198	
December-11	-0.027	0.006	***	-0.002	0.003	-112.431	28.538	***
January-12	-0.024	0.006	***	-0.004	0.003	-151.939	28.638	***
February-12	-0.019	0.006	**	-0.001	0.003	-74.500	28.401	**
March-12	-0.014	0.006	*	0.002	0.003	-29.642	28.238	
April-12	-0.010	0.006		0.000	0.003	-77.885	28.281	**
May-12	-0.004	0.006		0.001	0.003	10.563	28.200	
Reference period: June-12								
July - 12	0.003	0.006		0.004	0.003	50.857	28.028	
August-12	0.006	0.006		0.007	0.003	* 94.503	27.987	***
September-12	0.008	0.006		0.008	0.003	* 68.775	27.954	*
October-12	0.011	0.006		0.007	0.003	* 118.413	28.097	***
November-12	0.014	0.006	*	0.007	0.003	* 68.994	28.128	*
December-12	0.016	0.006	*	0.002	0.003	31.024	28.552	
January-13	0.018	0.006	**	-0.001	0.003	16.538	28.791	
February-13	0.021	0.006	***	0.001	0.003	4.483	28.707	
March-13	0.025	0.006	***	0.001	0.003	80.707	28.776	**
April-13	0.028	0.006	***	0.000	0.003	39.231	28.839	
May-13	0.033	0.006	***	0.000	0.003	98.424	28.947	***
June - 13	0.035	0.006	***	-0.004	0.003	-193.051	29.277	***
ITT=1	0.008	0.007		0.003	0.004	18.077	28.738	
<u>ITT=1 interacted with:</u>								
July-11	-0.009	0.010		-0.002	0.005	-11.468	41.493	
August-11	-0.010	0.009		-0.010	0.005	-11.843	41.347	
September-11	-0.010	0.009		-0.008	0.005	-30.581	41.168	
October-11	-0.011	0.009		-0.009	0.005	-6.520	41.069	
November-11	-0.007	0.009		-0.005	0.005	-16.701	40.873	
December-11	-0.005	0.009		-0.003	0.005	36.031	41.211	
January-12	-0.003	0.009		-0.005	0.005	46.287	41.425	
February-12	-0.002	0.009		-0.003	0.005	-53.950	40.965	
March-12	-0.002	0.009		-0.001	0.005	12.500	40.710	
April-12	0.001	0.009		-0.003	0.005	39.783	40.815	

May-12	0.000	0.009		-0.002	0.005		25.408	40.644	
Reference period: June-12									
July - 12	0.002	0.009		-0.005	0.005		-10.243	40.549	
August-12	0.006	0.009		-0.007	0.005		-40.853	40.566	
September-12	0.007	0.009		-0.006	0.005		-31.496	40.532	
October-12	0.008	0.009		0.000	0.005		-37.976	40.528	
November-12	0.006	0.009		0.005	0.005		-10.201	40.392	
December-12	0.007	0.009		0.005	0.005		13.809	40.917	
January-13	0.008	0.009		0.003	0.005		-13.879	41.282	
February-13	0.010	0.009		0.003	0.005		-23.883	41.174	
March-13	0.009	0.009		0.002	0.005		-9.304	41.286	
April-13	0.011	0.009		0.003	0.005		-11.561	41.320	
May-13	0.012	0.009		0.006	0.005		-44.788	41.371	
June - 13	0.014	0.009		0.001	0.005		9.587	42.008	
Female	-0.021	0.001	***	0.008	0.001	***	7.854	6.294	
<u>Aboriginal or Torres Strait Islander (Ref: No)</u>									
Yes	-0.034	0.003	***	-0.016	0.001	***	25.103	17.479	
Missing	-0.033	0.004	***	-0.011	0.002	***	43.112	17.012	*
<u>Country of birth (Ref: Australia)</u>									
Main English-speaking country	0.029	0.003	***	0.000	0.002		77.425	16.099	***
Other country	-0.004	0.003		-0.007	0.001	***	-17.806	13.589	
Missing	0.669	0.081	***	-0.011	0.044				
Has partner who receives income support	0.004	0.003		-0.003	0.002		21.637	13.397	
<u>Number of children (Ref: None)</u>									
One	-0.057	0.008	***	0.014	0.005	**	135.167	39.090	***
Two	-0.043	0.007	***	0.013	0.004	**	72.151	34.858	*
Three or more	-0.059	0.008	***	0.010	0.004	*	241.625	37.401	***
Age of youngest child (in months)	0.000	0.000	***	0.000	0.000	**	-0.404	0.277	
<u>Primary medical condition (Ref.: Psychological/Psychiatric)</u>									
Musculo-skeletal & Connective Tissue	-0.019	0.002	***	0.002	0.001		59.680	10.959	***
Intellectual disability	0.030	0.003	***	0.048	0.001	***	-83.751	9.959	***
Other	-0.018	0.002	***	0.010	0.001	***	29.015	7.944	***
Unknown/Missing	-0.022	0.004	***	0.005	0.002	*	111.491	17.306	***
Impairment points	-0.001	0.000	***	0.000	0.000		-1.385	0.378	***
Number of impairment points missing	0.034	0.004	***	0.014	0.002	***	-77.046	15.527	***

<u>Days received income support during last</u>									
<= 2 years	0.000	0.000	***	0.000	0.000	***	-0.160	0.041	***
> 2 years and <= 5 years	0.000	0.000	***	0.000	0.000	***	-0.078	0.014	***
> 5 years and <= 10 years	0.000	0.000	***	0.000	0.000		-0.047	0.006	***
Suspended benefits (total days)	0.000	0.000		0.000	0.000	***	0.050	0.009	***
Suspended benefits (number of spells)	0.001	0.001		-0.011	0.000	***	54.294	2.764	***
<u>Outcomes between July 2011 and June 2012:</u>									
Had a placement after employment support program	0.289	0.003	***	-0.046	0.002	***	69.510	7.351	***
Had any labor market income	0.106	0.002	***	0.433	0.001	***	-599.390	12.404	***
Total labor market income	0.000	0.000	***	0.000	0.000	***	0.072	0.000	***
Constant	0.205	0.007	***	0.017	0.004	***	1,142.35 4	34.873	***
# observations		392,052			3,920,512			52,025	
R-squared		0.0586			0.5387			0.4655	

Notes: uses all observations for ITT=0 and ITT =1 as described in Table 3. The estimation controls all variables as presented in Table 3. ***, ** and * indicate significance at the 0.1%-level, 1%-level and 5%-level, respectively.

Source: Research and Evaluation Database (RED), own calculations.

Table A2 - Full regression results: Average treatment effect estimation

	Has received referral before month t			Received labor market income in month t		Amount of labor market income in month t (if any)			
	Coeff.	Std. Err.		Coeff.	Std. Err.	Coeff.	Std. Err.		
<u>Month t:</u>									
	-11	-0.040	0.006	***	-0.003	0.004	-158.782	29.965	***
	-10	-0.035	0.006	***	-0.002	0.004	-154.173	29.849	***
	-9	-0.031	0.006	***	-0.002	0.004	-151.359	29.763	***
	-8	-0.026	0.006	***	-0.002	0.004	-143.730	29.692	***
	-7	-0.023	0.006	***	-0.004	0.004	-115.241	29.730	***
	-6	-0.019	0.006	**	-0.003	0.004	-125.614	29.672	***
	-5	-0.016	0.006	*	-0.002	0.004	-122.151	29.536	***
	-4	-0.013	0.006	*	-0.002	0.004	-101.421	29.548	***
	-3	-0.009	0.006		-0.004	0.004	-80.842	29.623	**
	-2	-0.005	0.006		-0.005	0.004	-38.428	29.638	
	-1	-0.003	0.006		-0.003	0.004	-20.765	29.556	
Reference period: month before job counseling									
	1	0.004	0.006		-0.002	0.004	-33.291	29.522	
	2	0.003	0.006		-0.005	0.004	-21.711	30.358	
	3	0.004	0.007		-0.004	0.004	-60.521	30.984	
	4	0.005	0.007		-0.006	0.004	-53.968	31.963	
	5	0.007	0.007		-0.008	0.004	* -32.258	33.118	
	6	0.010	0.007		-0.007	0.004	-41.034	34.341	
	7	0.013	0.007		-0.008	0.004	* -85.732	35.602	*
	8	0.016	0.008	*	-0.013	0.004	** -121.926	37.874	**
	9	0.018	0.008	*	-0.014	0.005	** -144.167	40.634	***
	10	0.015	0.010		-0.013	0.006	* -150.333	49.139	**
	11	0.006	0.013		-0.015	0.007	* -	-	
ITT=1 & job counseling		0.060	0.012	***	0.025	0.007	*** -13.060	44.090	
<u>ITT=1 & job counseling interacted with:</u>									
	-11	-0.038	0.018	*	-0.006	0.010	20.617	63.918	
	-10	-0.035	0.018		-0.014	0.010	75.868	64.131	
	-9	-0.034	0.018		-0.010	0.010	37.165	63.780	
	-8	-0.033	0.018		-0.004	0.010	15.062	63.243	
	-7	-0.028	0.018		-0.008	0.010	-4.344	63.475	
	-6	-0.025	0.018		-0.002	0.010	66.688	63.044	
	-5	-0.020	0.017		0.000	0.010	70.141	62.710	
	-4	-0.017	0.017		0.000	0.010	130.845	62.679	*
	-3	-0.015	0.017		0.007	0.010	75.218	62.385	
	-2	-0.013	0.017		0.005	0.010	73.813	62.429	
	-1	-0.009	0.017		0.004	0.010	2.791	62.355	

Reference period: month
before job counseling

	1	0.018	0.017		0.006	0.010	13.959	62.521	
	2	0.033	0.018		0.000	0.010	51.359	64.309	
	3	0.037	0.018	*	0.002	0.010	74.597	65.411	
	4	0.044	0.019	*	0.005	0.010	-19.641	67.584	
	5	0.049	0.019	*	-0.005	0.011	-31.090	71.058	
	6	0.054	0.020	**	0.008	0.011	-16.826	72.683	
	7	0.059	0.021	**	0.016	0.012	-31.399	75.078	
	8	0.064	0.022	**	0.014	0.012	204.371	79.798	*
	9	0.075	0.023	**	0.002	0.013	224.550	86.394	**
	10	0.105	0.028	***	-0.001	0.016	110.528	105.93	
	11	0.137	0.036	***	-0.016	0.020	-	-	
Female		-0.015	0.002	***	0.007	0.001	19.584	9.277	*
<u>Aboriginal or Torres Strait Islander</u>									
Yes		-0.032	0.004	***	-0.015	0.002	26.469	24.003	
Missing		-0.023	0.005	***	-0.013	0.003	24.090	24.806	
<u>Country of birth</u>									
Main English Speaking country		0.031	0.005	***	0.001	0.003	101.172	22.856	***
Other country		0.018	0.004	***	-0.013	0.002	-28.445	20.325	
Missing		0.775	0.089	***	-0.012	0.050	-	-	
Has partner who receives income support		0.009	0.004	*	-0.003	0.002	-53.918	18.921	**
<u>Number of children</u>									
One		-0.052	0.011	***	0.007	0.006	151.448	53.341	**
Two		-0.039	0.010	***	-0.001	0.006	45.938	48.768	
Three or more		-0.067	0.010	***	0.000	0.006	219.368	51.760	***
Age of youngest child (in months)		0.000	0.000	***	0.000	0.000	-0.342	0.368	
<u>Primary medical condition (Ref.: Psychological/Psychiatric)</u>									
Musculo-skeletal & Connective Tissue		-0.026	0.003	***	0.000	0.002	62.381	15.166	***
Intellectual disability		0.021	0.004	***	0.041	0.002	-92.856	16.137	***
Other		-0.021	0.003	***	0.011	0.001	44.167	11.298	***
Unknown/Missing		-0.016	0.006	**	0.004	0.003	140.380	24.955	***
Impairment points		0.000	0.000	***	0.000	0.000	-1.079	0.548	*

Number of impairment points missing	0.032	0.006	***	0.007	0.003	*	-83.244	25.274	***
<u>Days received income support during last</u>									
<= 2 years	0.000	0.000	***	0.000	0.000	***	-0.264	0.062	***
> 2 years and <= 5 years	0.000	0.000	***	0.000	0.000	**	-0.057	0.020	**
> 5 years and <= 10 years	0.000	0.000	***	0.000	0.000		-0.051	0.009	***
Suspended benefits (total days)	0.000	0.000		0.000	0.000	***	0.065	0.012	***
Suspended benefits (number of spells)	0.002	0.001	*	-0.012	0.001	***	41.849	3.997	***
<u>Outcomes between July 2011 and June 2012:</u>									
Had a placement after employment support program	0.308	0.004	***	-0.047	0.002	***	87.710	10.923	***
Had any labor market income	0.103	0.003	***	0.425	0.002	***	-564.676	16.497	***
Total labor market income	0.000	0.000	***	0.000	0.000	***	0.068	0.001	***
Constant	0.211	0.010	***	0.042	0.005	***	1,282.50	46.752	***
# observations		193,983			193,983			26,567	
R-squared		0.0613			0.5194			0.4091	

Notes: uses all observations for ITT=0, and those who were ITT =1 and received job counseling. For ITT=0, a job counseling date was assigned randomly, according to the observed distribution of job counseling dates in ITT=1. The estimation controls all variables as presented in Table 5. ***, ** and * indicate significance at the 0.1%-level, 1%-level and 5%-level, respectively.

Source: Research and Evaluation Database (RED), own calculations.

