DISCUSSION PAPER SERIES

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ABSTRACT

The Effect of Job Search Requirements on Welfare Receipt*

Many countries impose job search requirements on unemployment benefit recipients. Existing studies have evaluated only incremental changes to requirements. Australian reforms in 1995 saw groups of welfare recipients newly subjected to job search requirements, allowing us to produce the first causal estimates of the total effects of such requirements on welfare receipt. Using a quasi-experimental design and administrative data, we find large negative effects on welfare receipt for the mature-age partnered women targeted by the reforms. We also find large negative effects on welfare receipt of their partners, suggesting family labour supply decisions were considerably affected.

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1. Introduction

Job search requirements have become a prominent feature of the welfare systems of many OECD countries in the last three decades (Gregg 2008, Venn 2012). Such requirements take various forms, but all involve compulsion to actively seek employment and show evidence of these search efforts in order to retain eligibility for benefits. Stated rationales for such policies typically emphasise improved employment outcomes and reduced welfare bills.

However, job search and other requirements imposed on unemployment benefit recipients are costly to administer and enforce, for both governments and beneficiaries. Moreover, it is not inevitable that they increase employment and decrease welfare bills. Search theory (see Albrecht 2011 for a synthesis) suggests that increased requirements should lower reservation wages, due to increasing the effort required to maintain eligibility for benefits and perhaps also due to increasing the negative social stigma associated with benefit receipt, and increase the arrival rate of job offers, due to increased job search intensity. Both of these effects would act to reduce benefit receipt. It is nonetheless conceivable that job search requirements have perverse effects on unemployment duration by diverting the unemployed from activities that are effective in securing employment towards less effective but mandated activities.

Ascertaining the efficacy of these policies is therefore important. However, effects of these policies are difficult to evaluate, and the evidence base internationally remains limited. Large-scale policy reforms typically offer no control group, while randomized controlled trials (RCT) and natural experiments typically focus on specific, and typically quite modest, changes to job search requirements.

That said, there is a sizeable literature concerned with the effects of these policies, typically examining effects on the re-employment probability (or job finding rate), or the length of time spent on unemployment benefits. These studies have been limited to the evaluation of incremental changes to job search requirements. For instance, a stream of the literature has focused on effects of different levels of monitoring, enforcement and benefit sanctions (e.g., Klepinger et al. 2002, Ashenfelter et al. 2005, McVicar 2008, 2010, Micklewright and Nagy 2010, Cockx and Dejemeppe 2012), while another stream has provided assessments of the relative efficacy of alternative sets of job search requirements, such as counselling, monitoring and job search assistance (see Kluve (2010) for a meta-analysis, and). These studies have not been able to evaluate the effect of job search requirements using a control group not subject to any of these requirements.

In the Australian context, only one published study has evaluated the effects of job search requirements. Using data on unemployment spells between 1997 and 1998, Borland and Tseng (2007) studied the effects of increased job search requirements and enhanced verification of job search activity via a 'jobseeker diary' on young unemployment benefit recipients. They found a substantial reduction in unemployment benefit duration (compared to the pre-existing scheme of lower requirements and more limited verification).[1]

We exploit an Australian policy change in 1995 to investigate the effects of job search requirements on welfare receipt. The policy change, taking effect from 1 July 1995, meant that a group of women previously eligible to receive a welfare benefit with no requirement to search for work became ineligible for that payment and were henceforth placed on the unemployment benefit with a requirement to actively search for work. This occurred through changes to the eligibility criteria for 'Partner Allowance', a payment for dependent spouses of men receiving the unemployment benefit. Beginning on 1 July 1995, women under the age of 40 as of that date became ineligible for Partner Allowance and in most cases were only eligible for the unemployment benefit, which paid recipients the same amount as Partner Allowance. This sharp cut-off based on date of birth, which determined whether welfare receipt was subject to job search requirements, thus creates the opportunity for a Regression Discontinuity (RD) analysis.

Indeed, the nature of the Partner Allowance policy change offers a somewhat unique opportunity to evaluate the full-scale effect of job search requirements. Instead of examining the effects of different degrees of enforcement, monitoring or assistance, we are able to study the total effect of job search requirements compared with a situation of no job search requirements. Importantly, the administrative data we use allow us to also consider the effects of job search requirements on all the *partners* of the women subject to the requirements.

We find that job search requirements significantly and substantially reduce the rate of welfare receipt of the affected women. We also investigate whether partner welfare receipt is affected, on the basis that there are family interdependencies in individual labour supply and welfare

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[1] In an unpublished manuscript, Gregory and Bray (2011) use the phasing out of Partner Allowance from 2003 to examine the effects of job search requirements on welfare receipt. While they examine a different policy change and employ a different identification strategy (difference-in-difference), they obtain similar findings to our study. Several Australian studies have also examined other activity requirements introduced around the time of the 'jobseeker diary'. Richardson (2002) examined the Mutual Obligation Initiative (that required young unemployment benefit recipients to undertake an activity, in addition to continuing to look for work) and found mixed effects on unemployment benefit duration. Borland and Tseng (2011) examined the 'Work for the Dole' scheme, whereby recipients are required to engage in 'work-like' activities, finding it acted to increase unemployment benefit duration.

receipt decisions (see, for example, Blundell et al. 2016). Strikingly, we find an equivalent effect on the rate of welfare receipt of their partners. That is, not only do job search requirements imposed on women receiving welfare who are partnered with men on unemployment benefits reduce their own welfare receipt, they also decrease benefit receipt of their partners.

The remainder of the paper is structured as follows. Section 2 further describes the policy reform we use to identify the effects of job search requirements on welfare receipt, as well as the broader policy environment in which the reform occurred and the nature of the job search requirements imposed on unemployment benefit recipients. The data are described in Section 3, while the methods are explained in Section 4. Section 5 presents results for the effects of job search requirements on welfare receipt of affected women, while Section 6 examines the indirect effects on their partners' welfare receipt. In Section 7 we report on various robustness checks, while Section 8 contains our conclusions and further discussion.

2. Policy context and the treatment being evaluated

Policy context and the policy changes

The Australian welfare system in the post-war period has comprised a set of flat-rate payment types for various categories of beneficiaries, such as the unemployed, single parents, the elderly and people with a disability. The payments have always been subject to stringent income and assets tests, ensuring they have been essentially restricted to those most in need, but have otherwise been universally available. They have also been set at levels widely regarded as austere—for example, in the period we examine, maximum payment rates typically translated to an income less than 50% of median income, a common measure of income poverty (e.g., OECD 2015).

The number and types of payments has changed over time. Over the post war period up until the early 1990s, there was growth in the number of payment types and indeed overall growth in the proportion of the population receiving benefits. The rate of welfare receipt peaked in 1993, when a welfare payment was the principal source of income for one in every four individuals of working age (15 to 64) (Keating 1994, Saunders 1995, Frijters and Gregory 2006).[2] Since the mid 1990s, both the number of payment types and the proportion of the

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[2] The growth in the number of payment types mainly reflected expansion in the types of situations in which a person would be eligible for welfare—for example, the supporting mother's benefit was introduced for single

population reliant on welfare have trended downwards.[3] The changes to Partner Allowance we use to identify the effects of job search requirements were part of broader efforts to reduce welfare reliance from the mid-1990s onwards.[4]

Prior to the introduction of Partner Allowance in September 1994, dependent spouses had not received a payment in their own right; rather, their spouse received an additional payment as part of their unemployment benefit. Partner Allowance created a separate payment for dependent spouses, replacing the additional payment for partnered unemployment benefit recipients. It was initially available to all women with a partner receiving the unemployment benefit (Job Search Allowance or Newstart Allowance). However, beginning on 1 July 1995, those with dependent children aged under 16 were moved on to a new payment type called Parenting Allowance (which, aside from its name, was identical to Partner Allowance), while all other women born after 1 July 1955 became ineligible for Partner Allowance. In most cases, these women were now only eligible for the unemployment benefit, with a payment rate set at the same level as Partner Allowance. As such, they were now required to actively search for work in order to retain eligibility for welfare benefits.

From 1 July 2003, Partner Allowance was closed off to all new entrants (although it only ceased to exist on 1 July 2020, when all women born before 1 July 1955 were aged at least 65 and therefore eligible for the Age Pension). Figure 1 gives an overview of the proportion of women born between 1 January 1953 and 31 December 1957 on various types of benefit payments between the 1998/99 and 2003/04 financial years. The clear trends in the receipt of Parenting Payment and the Disability Support Pension are a direct reflection of the ageing of this cohort. Despite Partner Allowance being restricted to women born before 1 July 1955 over this period, receipt of this payment steadily increased between 1998 and 2003, amounting to just under 1% of all women born between 1953 and 1957 in the 2003/04 financial year.

The key feature of these policy changes for the purposes of our study is that, between July 1995 and September 2003, some women were not subject to job search requirements when receiving

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mothers in 1973—as well as a tendency to create different payment names for different types of recipients—for example, in 1994, Mature Age Allowance was introduced for unemployed people aged 60 and over. A further contributor was the shift in 1994 to an individualised unemployment benefit in place of a couple or family benefit.
[3] Data on the number of recipients of each payment type for the period from 1982 to 2013 are available in statistical overviews produced annually by the Department of Family and Community Services and its successors between 2003 and 2014 (see, for example, Australian Government Department of Social Services (2014)), and for the period since 2014 in 'DSS Payment Demographic Data', available at https://data.gov.au/dataset/ds-dga-cff2ae8a-55e4-47db-a66d-e177fe0ac6a0/details (as at 5 July 2020).
[4] Information on changes to welfare benefits in Australia comes from the Australian Government Social Security Guide (Version 1.257 - Released 12 August 2019; see http://guides.dss.gov.au/guide-social-security-law) and Ey (2012).

welfare benefits (because of eligibility for Partner Allowance), while other women, identical but for their date of birth, *were* subject to job search requirements when receiving welfare benefits (because of ineligibility for Partner Allowance). Importantly, in the period from 1995 to 2003, for women in the age-range we examine, Partner Allowance and the unemployment benefit were identical but for the job search requirements of the unemployment benefit (which we describe below). In particular, they had the same payment rates and were affected by earnings and partner income in exactly the same way. We can therefore identify the effects of job search requirements by comparing partnered women born just before 1 July 1955 with partnered women born just after 1 July 1955.[5]

Figure 1. Receipt of welfare benefits by women born between 1953 and 1957, 1998-2003
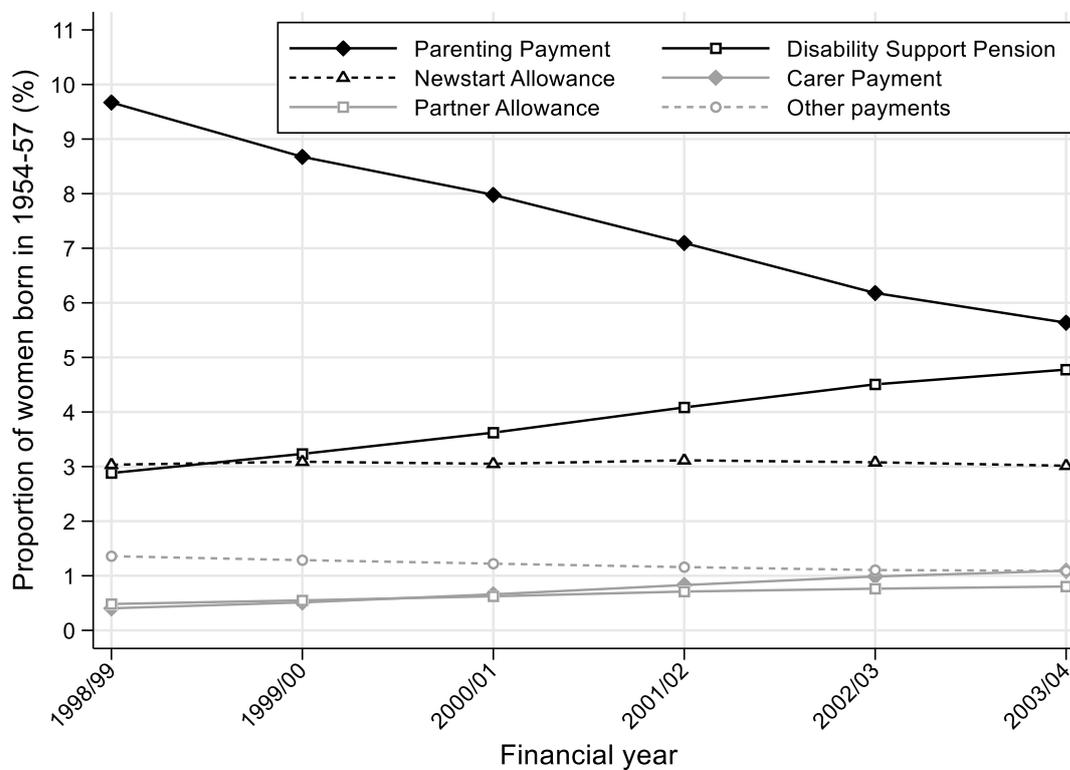
Notes: Figure presents the average over 12 monthly snapshots for each financial year (1 July to 30 June) using data from July 1, 1998 to August 31, 2003. The total number of women born between 1 January 1953 and 31 December 1957 is 750,000. (See Section 3 for further details.)
Source: RED data and authors' calculations.

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[5] The 1995 changes additionally introduced the eligibility requirement for Partner Allowance recipients that they not have had 'recent labour market experience', defined as paid work of at least 20 hours per week in 13 or more weeks over the preceding 12 months (Dupre, 2006). Thus, some women in our control group—those who had recent labour market experience—were in fact ineligible for Partner Allowance. As a consequence, if job search requirements act to reduce welfare receipt of those with recent labour market experience, our estimates of the effect on welfare receipt will be smaller than the actual effects (since some members of the control group were no longer eligible for Partner Allowance and were subject to the job search requirements of Newstart Allowance).

The nature of the job search requirements

At the time of the reform of Partner Allowance in 1995, there were two separate payment types for the unemployed: Job Search Allowance, for those unemployed for less than 12 months; and Newstart Allowance, for those unemployed for 12 months or more. Both payment types nonetheless had the same job search requirements; moreover, Job Search Allowance was subsumed into Newstart Allowance in September 1996 (Ey, 2012).

The requirement to seek work has always been a feature of unemployment payments in Australia, but the extent and nature of monitoring of job search has varied over time. Additional 'activity' requirements on payment recipients in order to maintain eligibility have also varied over time. However, in respect of both job search monitoring and other activity requirements, the broad trend has been one of increased requirements.

Prior to 1991, adult recipients were subject to a 'work test', according to which a recipient was expected to be actively searching for work and accept any offer of 'suitable' work. Enforcement of the work test was somewhat limited, largely consisting of a three-monthly interview to assess efforts to find work. From July 1991 the work test was replaced with a notionally broader 'activity test'. The new approach involved "…greater obligations on the beneficiary to participate in programs to improve 'job readiness'…" (Ey 2012, p.3), although there is little evidence on the extent to which job search verification and participation in job-readiness programs actually increased.

Job search verification did, however, unambiguously increase in July 1996, when the 'Jobseeker Diary' was introduced, requiring unemployment payment recipients to record details of a specified minimum number of job applications (typically 10) every two weeks. It was issued to most new recipients for a period of 12 weeks, although a recipient may subsequently have been issued with further jobseeker diaries if they remained on the benefit beyond 12 weeks. The Jobseeker Diary was in place over the entire 1998 to 2003 period we examine (which is when we have both the requisite data and an age-based discontinuity in eligibility for Partner Allowance).

Consequences for failing to comply with activity requirements in the form of benefit sanctions have also tended to increase over time. In 1991 penalties for failing to reply to correspondence or attend interviews were increased (OECD 2001), and in 1997 breach penalties were further revised and their duration increased (Ziguras et al., 2003). The number of activity-test breach penalties imposed also rose between 1996 and 2001, from approximately 113,000 in 1996-97

(1 July 1996 to 30 June 1997) to approximately 387,000 in 2001-02, although the number of penalties imposed then declined in the subsequent two years, to approximately 134,000 in 2002-03 (Eardley et al. 2005).[6]

3. Data

Our main data sources are two extracts from the Australian Government Department of Education, Skills and Employment 'Research and Evaluation Database' (RED), an administrative longitudinal database of welfare payment recipients covering the period since 1 July 1998. RED includes a variety of data fields that together provide rich information on individual recipients' payment types, payment amounts, dates of entry into and exit from payments, sex, marital status and date of birth. For each recipient with a partner, we also observe any welfare receipt history of their spouse, along with their spouse's birth date.

As described above, the nature of the Partner Allowance reform is that, from 1995 to 2003, there were partnered women eligible for Partner Allowance and partnered women who were not eligible based simply on whether they were born before or after 1 July 1955. An attractive feature of the RED data is that it offers full coverage of welfare recipients. Although exact date of birth information is not available in standard RED data provisions, it is included in the customised version requested for this project, allowing us to precisely identify who was eligible for Partner Allowance and who was not.

For our analysis, we examine women who were born between 1 January 1950 and 31 December 1959.[7] We extract monthly 'snapshots' over the period from July 1998 to August 2003, taken on the first day of each calendar month, of the number of these women receiving welfare payments, disaggregated by partner status, main payment type and date of birth.

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[6] An important activity test development in the period we examine was the introduction of the 'Mutual Obligation Initiative' (described on the Parliament of Australia web site at: https://www.aph.gov.au/About_Parliament/ Parliamentary_Departments/Parliamentary_Library/Publications_Archive/archive/dole (as at 5 July 2020)). First introduced in 1998 for unemployment benefit recipients aged 18 to 34, the program required recipients to 'give something back' to the community, in various forms such as participation in voluntary work, the 'Work for the Dole' program (itself piloted in 1997 for recipients aged 18 to 24), the Army Reserve, part-time work or training. These requirements typically commenced after three months of continuous benefit receipt. In July 2002, the program was expanded to include recipients aged 35 to 49, but in fact only those aged 35 to 39 were compelled to participate in Mutual Obligation activities. In the 1998 to 2003 period we examine, our treatment and control groups were aged from around 43 (at the start of the period) to around 48 (at the end of the period), and so the program does not apply to them.

[7] We exclude a limited number of women born on 1 January and 1 July of each year due to some apparent anomalies in the data (see the robustness checks in Section 7 for further discussion).

The number of welfare recipients for each birthdate will of course depend on the size of the population born on that day. To control for the differences in population size, we focus our analysis on the *share* of each birthdate cohort that is on welfare. This is made possible by the availability in the RED data of a 'customer' dataset that provides population data on demographic characteristics such as date of birth, sex, date of death, country of birth, and, for immigrants, date of arrival in Australia.

The population covered by the customer dataset is in fact only people who have ever had an interaction with the welfare payments system administrator (called the Department of Social Security until 1998, and Centrelink since then). However, this in fact gives us almost the entire population. Evidence for this is provided by comparisons with Australian Bureau of Statistics (ABS) birth registry data (ABS, 2014). Comparisons of RED data with Table 4.1 of ABS (2014) show that the ratio of the number of Australian-born women in the RED data to the number of women born in Australia according to the ABS birth registry data is 98.0% for women born in 1953, 99.9% for women born in 1954, 99.9% for women born in 1955, 100.7% for women born in 1956 and 99.4% for women born in 1957. The small differences with the ABS birth registry could be because some women have never had any interaction with the Australian welfare system. The RED data estimate for women born in 1956, which is higher than the actual number born in that year, suggests that there is also some small level of measurement error in the country of birth or date of birth information in the RED data.

To produce estimates of the population of women born on each date at the beginning of each month in our 1998 to 2003 period, we attempt to exclude women in the RED data who were not living in Australia at the beginning of the relevant month. That is, we attempt to exclude women who have died and women who were living overseas. However, the data do not allow us to exclude all such women. Deaths are only recorded in RED if they occurred after 1 January 1990 and the individual was receiving benefits at the time of death, meaning that all women who died before 1990 and those who died later but while not receiving welfare are included in the population estimates derived from the RED data. Similarly, while we exclude from the RED data immigrant women who arrived in Australia after the beginning of the relevant month, we are not able to exclude women who emigrated from Australia prior to the beginning of the month. The RED population estimates will therefore tend to be overestimates. Working to offset this overestimation is that women who have never had contact with the welfare system are not captured by the RED data. The comparisons with birth registry data described above

indicate this applies to very few women, although rates of non-contact may be higher for immigrant women than for the native-born women examined in that comparison.[8]

Comparisons with ABS population data indeed confirm that the RED data overestimate the population. On average, over the 1998 to 2004 period, RED estimates of the population of women born 1 July 1954 to 30 June 1956 are around 7% larger than the ABS estimates. Importantly, however, the extent of overestimation is quite stable over the time-period examined and is also very similar for those born in the year leading up to 1 July 1955 and those born in the year after 1 July 1955. More specifically, in the period from 1998 to 2004, the overestimation ranges between 7.1% and 7.7% for the former group of women and between 6.9% and 7.1% for the latter group. Consequently, RED population estimates can be expected to reflect the variation in the population size of different birthdate cohorts.

4. Methods

We employ a sharp RD analysis to exploit the strict birthdate cut-off whereby those born on or before 1 July 1955 were exempted from the reform while those born after this date were subject to it. Using RED administrative data, we compare outcomes during the 1998-2003 period for those born before (control group) and after (treated group) 1 July 1955. Our baseline specification is a local linear regression, one of the common econometric specifications in RD analyses (Hahn et al. 2001):

$$y_i = \alpha + \beta_0 T_i + \beta_1 (DOB_i - c) + \beta_2 T_i (DOB_i - c) + \epsilon_i \tag{1}$$

where the estimation is based on a subset of the data within a chosen bandwidth h denoting a range of birthdates on both sides of the cut-off threshold c. DOB_i denotes the birthdate and T_i is the treatment group indicator that equals one if the birthdate $DOB_i > c$, and equals zero otherwise. The treatment effect is β_0, which can be consistently estimated by ordinary least squares. We cluster the standard errors at the date of birth level.

The outcome of interest, y_i, is the proportion of the population on welfare benefits by date of birth. We estimate the impact by payment type to explore welfare program substitution behaviours. In practice, we distinguish three types of benefit and estimate all three models separately, plus one model for total welfare receipt.

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[8] To the extent that excluded foreign-born residents are living in Australia on a temporary basis and are not eligible for welfare payments, this source of undercount is arguably not a problem if our population of interest is restricted to potential recipients.

As the assignment variable is the date of birth, potential manipulations of the assignment variable in the target population is unlikely. Indeed, the data do not reveal any discernible pattern in the way benefit receipt varies across birth cohorts, either by day of the week, month of the year or year of birth groups (see Figure 2 below and the robustness checks presented in Section 7).

Our preferred specification uses a data-driven bandwidth combined with local linear regression and a triangular kernel.[9] As proposed by Calonico et al. (2014a, 2014b), we use data-driven optimal bandwidths that minimise the mean squared errors criterion. We also follow Calonico et al. (2014a, 2014b) to provide robust statistical inference that corrects for the bias due to a "large" bandwidth.[10] As a result, confidence intervals are not centred around the reported point estimates and we thus provide robust p-values rather than standard errors in all results tables.

Sensitivity analyses presented after the results section assess the robustness of the results to these modelling choices.

5. Results

Descriptive analysis

We first document the level of compliance with the policy reform on which our identification strategy relies. The lower left panel of Figure 2 shows that 1% to 1.5% of all women born in the 60 weeks before 1 July 1955 were on Partner Allowance during the 1998 to 2003 period, while almost no women born beyond that date were on Partner Allowance over this period. There is therefore almost complete compliance with the policy reform.

The policy reform made women born after 1 July 1955 ineligible for Partner Allowance. These women could obtain the same payment rate by applying for the unemployment benefit (Newstart Allowance), but they were then subject to job search requirements. Figure 2 shows that women born in the 60 weeks after 1 July 1995 did in fact have a higher rate of receipt of Newstart Allowance than women born in the 60 weeks prior to 1 July 1995. However, the difference in the rate of Newstart Allowance receipt was smaller than the difference in the rate

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[9] Cattaneo et al. (2019, p.45) note that the local linear RD estimator "by now is the default point estimator in most applications." Gelman and Imbens (2019) find that using high-order polynomials in the running variable leads to "three major problems: it leads to noisy estimates, sensitivity to the degree of the polynomial, and poor coverage of confidence intervals" (p.1). Lee and Lemieux (2010, p.319) note that results are usually not sensitive to the kernel choices, which is the case in our application too.

[10] Calonico et al. (2014b, p.2286) point out that, without this correction, the "RD treatment effect may be biased" and "conventional confidence intervals may substantially over-reject the null hypothesis of no treatment effect".

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of Partner Allowance receipt. Moreover, there is no visual evidence of any difference in the share of women on other benefits. Thus, as the lower right panel of Figure 2 shows, total benefit receipt was lower for women born in the 60 weeks after 1 July 1955 than for women born in the 60 weeks prior to 1 July. This is highly suggestive that the imposition of job search requirements did indeed reduce benefit receipt.

Figure 2. Proportion of women both on benefits and partnered, by benefit payment type and week of birth
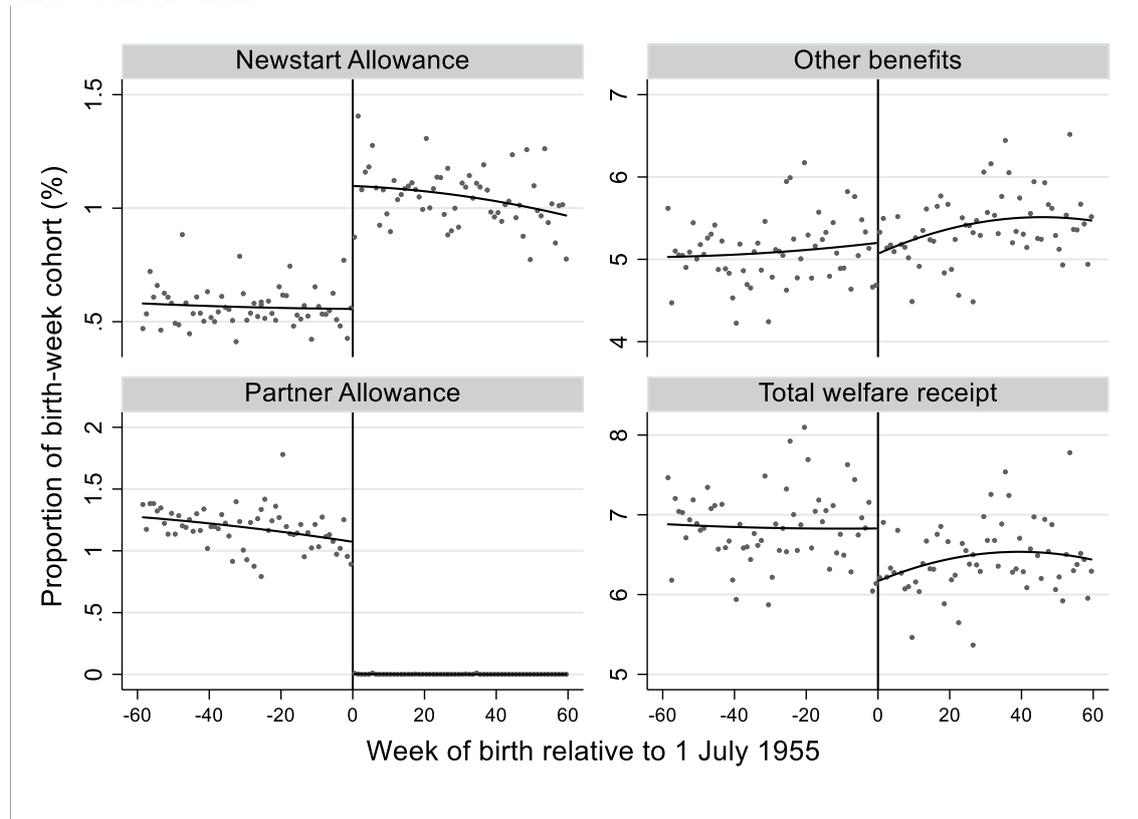
Notes: Each dot represents a one-week birth cohort and shows the average proportion of the cohort, over the period from July 1998 to August 2003, that is both partnered and on the benefit type indicated by the panel heading. The horizontal axis of each panel is the number of weeks between the cohort's birth week and 1 July 1955. For example, it is equal to 1 for the cohort born in the week starting the day after 1 July 1955 and is equal to -1 for the cohort born in the week ending on 1 July 1955. The solid line in each panel shows the predicted values based on the global quadratic regression.
Source: RED data and authors' calculations.

RD results

Table 1 presents the RD estimates of the treatment effect and the associated standard errors. Regardless of the bandwidth selected, the estimates indicate that the policy reform acted to reduce Partner Allowance receipt by approximately 1% of the female population in the relevant age range.

The baseline results based on the optimal bandwidth show that approximately half the decrease in Partner Allowance receipt is offset by a rise in Newstart Allowance receipt, but other benefit

receipt is not significantly affected. The net result is that the policy reform has reduced welfare receipt by half (51.4%) among those affected. This result is robust to increasing the optimal bandwidth by a third. With the optimal bandwidth reduced by a third the estimated effects on Partner Allowance and Newstart Allowance receipt are similar, but estimated effect on total welfare receipt, while similar, is not statistically significant. The smaller number of observations when using smaller than optimal bandwidth thus does not permit reliable statistical inference of the effect on total benefit receipt.

Table 1 shows that the effects of the reform on welfare receipt are very large. Our best estimate, based on the optimal bandwidth, is that making receipt of a benefit payment for partnered women subject to job search requirements causes 51.4% fewer of these women to receive the benefit.

Table 1. RD estimates of the treatment effect by benefit payment type (and p-values)

Benefit payment	Optimal bandwidth		33% less than optimal		33% more than optimal	
	Coef. est.	% of PA coef.[a]	Coef. est.	% of PA coef.[a]	Coef. est.	% of PA coef.[a]
Partner Allowance (PA)	-1.037*** (0.000)	-	-1.032*** (0.000)	-	-1.043*** (0.000)	-
Newstart Allowance	0.562*** (0.000)	54.2	0.547*** (0.000)	53.1	0.557*** (0.000)	53.5
Other benefit	-0.059 (0.564)	-5.7	0.085 (0.117)	8.2	0.015 (0.718)	1.5
Total welfare receipt	-0.532*** (0.006)	-51.4	-0.445 (0.832)	-43.2	-0.406*** (0.008)	-38.9

Notes: Coefficient estimates are expressed as a percentage of the female population (e.g., 1.037 means 1.037% of the population). The data cover the period from 1 July 1998 to 31 August 2003. Estimates are derived from local linear regressions with robust bias-corrected p-values (in parentheses) and optimal bandwidths obtained by following Calonico et al. (2014a, 2014b, 2019). The optimal bandwidths are, from top to bottom row, 547, 619, 371 and 420 days. [a] Coefficient expressed as a percentage of the Partner Allowance coefficient (reported in the first row).
* p<0.10, ** p<0.05, *** p<0.01.
Source: RED data and authors' calculations.

6. Effects on male partners

Further insight into the effects of imposing job search requirements on partnered women are obtained by examining the effects on their partners. Figure 3 is analogous to Figure 2, but shows the proportion of each female birth-week cohort who are partnered with a man who is on benefits. It provides indicative evidence of very similar effects on total welfare receipt for male partners of women in the relevant age range. This arises from lower rates of receipt of

both Newstart Allowance and other benefits, partially offset by a higher rate of receipt of Partner Allowance (which could arise if the male was born before 1 July 1955 and his female partner was born after 1 July 1955 and went on to Newstart Allowance).

Figure 3. Proportion of women with a male partner on benefits, by the male's benefit payment type and the women's week of birth
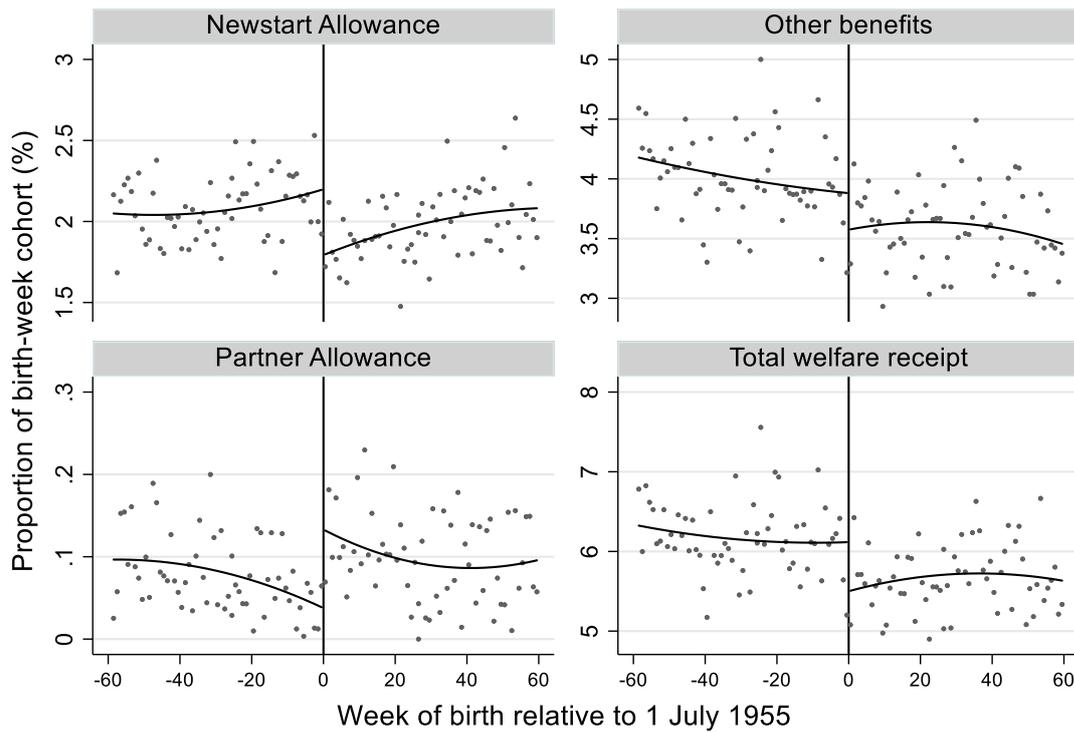
Notes: Each dot represents a one-week female birth cohort and shows the average proportion of the cohort, over the period from July 1998 to August 2003, that is partnered with a man receiving the benefit type indicated by the panel heading. The horizontal axis of each panel is the number of weeks between the cohort's birth week and 1 July 1955. The solid line in each panel shows the predicted values based on the global quadratic regression.
Source: RED data and authors' calculations.

Figure 4 examines the joint distribution of welfare benefit receipt among couples, again considered by birth-week cohort of the female partner relative to 1 July 1955. It shows lower rates of dual receipt of welfare benefits for women born in the 60 weeks after 1 July 1955 than for women born in the 60 weeks before 1 July 1955, but there is no evidence of differences in rates of one-partner-only welfare receipt. This is again indicative evidence that the policy reform led to changes in family-level welfare receipt, and indeed this was the main effect of the reform.

Figure 4. Couples receiving welfare benefits, by date of birth of the female partner
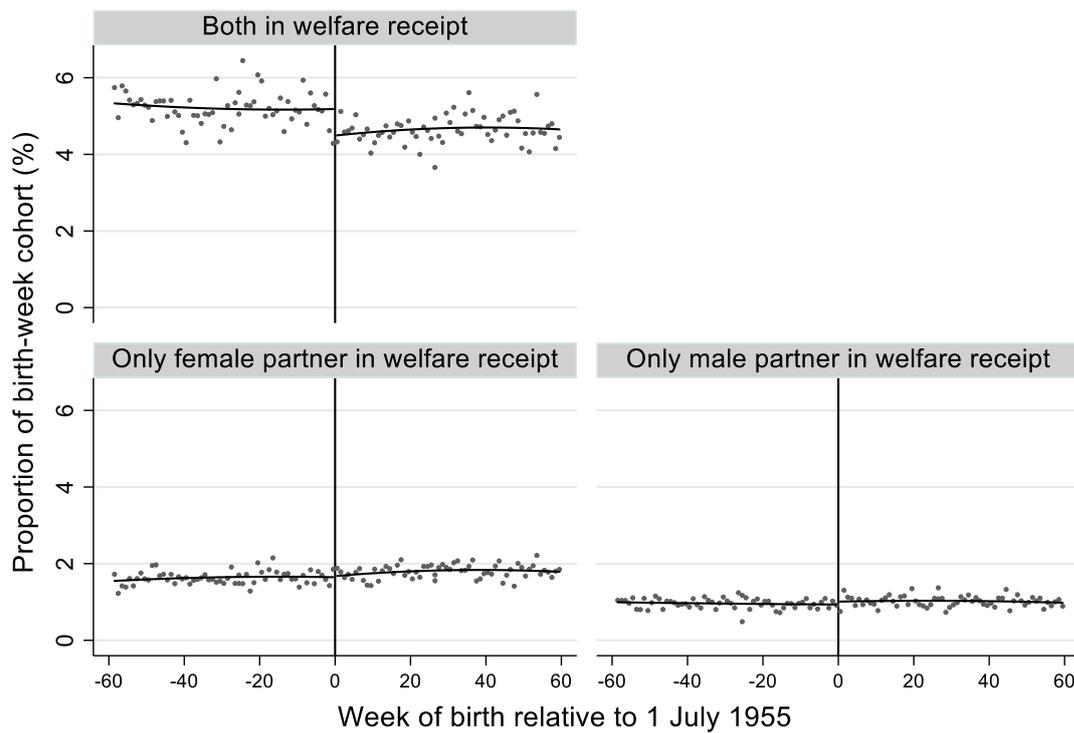
Notes: Each dot represents a one-week female birth cohort and shows the average proportion of the cohort, over the period from July 1998 to August 2003, that is partnered with a man and has the welfare receipt of the couple indicated by the panel heading. Specifically, the upper left panel shows the proportion with both members of the couple receiving welfare benefits, the lower left panel shows the proportion with only the female partner receiving welfare benefits, and the lower right panel shows the proportion with only the male partner receiving welfare benefits. The horizontal axis of each panel is the number of weeks between the cohort's birth week and 1 July 1955. The solid line in each panel shows the predicted values based on the global quadratic regression.
Source: RED data and authors' calculations.

Table 2 presents RD estimates for men and for couples (with RD based on the female's week of birth). Consistent with Figures 3 and 4, the reduction in the total receipt of welfare benefits tracks the women's results quite well. That is, approximately the same number of men and women dropped out of the benefits system as a result of the imposition of job search requirements on partnered women.

There is a small positive effect of the policy on Partner Allowance receipt of men, who would have been born before 1 July 1955 and most likely were partnered with younger women who were not eligible for Partner Allowance (but were eligible for Newstart Allowance). The effect of the policy reform on male Partner Allowance receipt is, however, dwarfed by its negative effect on the rate of Newstart Allowance receipt among men.

The similarity in the impacts on total benefit receipt for men and women are confirmed in Panel (b) of Table 2, which shows that the policy effect is all concentrated on reducing receipt by

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both members of the couple. The estimates imply that the imposition of job search requirements on partnered females caused couples to shift from both members of the couple receiving welfare benefits to neither member receiving benefits. This shift occurs for approximately half a per cent of the female population in the relevant age range. These results suggest that the job search requirements increased employment at the family level, and indeed demonstrates that the effects of job search requirements can be underestimated by failing to consider effects on partners.

Table 2. RD estimates of the treatment effect for male partners and for couples

Panel A Male partners			
Benefit payment	Optimal bandwidth	33% less than optimal	33% more than optimal
Partner Allowance	0.065***	0.075***	0.058***
	(0.000)	(0.000)	(0.000)
Newstart Allowance	-0.355***	-0.325*	-0.289***
	(0.000)	(0.089)	(0.000)
Other benefit	-0.162	-0.221	-0.184
	(0.227)	(0.954)	(0.239)
Total welfare receipt	-0.431**	-0.484	-0.372**
	(0.011)	(0.738)	(0.016)
Panel B Couples			
Benefit payment	Optimal bandwidth	33% less than optimal	33% more than optimal
Both on welfare	-0.555***	-0.540	-0.449***
	(0.001)	(0.710)	(0.001)
Only female on welfare	0.056	0.025	0.058
	(0.378)	(0.380)	(0.546)
Only male on welfare	0.078	0.087	0.082
	(0.120)	(0.240)	(0.112)

Notes: Coefficient estimates are expressed as a percentage of the population. The data cover the period from July 1998 to August 2003. Estimates are derived from local linear regressions with robust bias-corrected p-values (in parentheses) and optimal bandwidths (Calonico et al. 2014a, 2014b, 2019). The optimal bandwidths are, from top to bottom row, 584, 403, 563 and 505 days in Panel A, 467, 430 and 690 days in Panel B.
* p<0.10, ** p<0.05, *** p<0.01.
Source: RED data and authors' calculations.

7. Robustness checks

In this section we examine the robustness of our findings by looking for any evidence of manipulation of the running variable (date of birth), undertaking placebo tests using alternative birthdate cut-offs, examining sensitivity to alternative functional forms, and testing for the presence of effects on single women (who should not have been affected by the reform).

Manipulation of the running variable and selection

For our RD approach to be valid there should be no manipulation of the date of birth, which is our running variable. We first test for a change in the female population density. In the presence of manipulation or selection, we would expect a discontinuity in this density around the cut-off date. Figure 5 shows that the McCrary density function does not exhibit any discontinuity at the policy cut-off. Because the running variable is fully predetermined we do not expect individuals to be able to manipulate their assignment to either the treatment or control group. Individuals are thus expected to be similar around the cut-off. However, in each year of birth we observe spikes at 1 January and 1 July. While the average number of women born per day in 1955 is 420 and stable over the year, it reaches 800 on both 1 January and 1 July. This is likely due to some measurement errors for immigrants who entered Australia without any evidence of exact date of birth. In our analyses, we thus always exclude those born on these two specific dates.[11]

Next we test the smoothness of the density at the cut-off by implementing the manipulation testing procedures using the local polynomial density estimators proposed in Cattaneo et al. (2019b). We do not reject the null hypothesis of no discontinuity in the density at the cut-off with a robust p-value of 0.77.[12]

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[11] Indeed, the RED data show that, whereas 30% of women born in 1955 were born overseas, the proportion jumps to 50% for those born on 1 July 1955. Results available upon request show that this small exclusion of 800 women out of 150,000 born in 1955 has no material consequences on our results.

[12] Even without excluding those born on 1 January and 1 July, we fail to reject the null with a p-value of 0.34.

Figure 5. McCrary Density Test for Discontinuity at the birthdate cut-off

Although we find no evidence for manipulation of the running variable, there might still be selection if for some reason women born before and after the cut-off are different. The RED data offer limited scope for testing whether pre-determined characteristics are balanced at the cut-off because few covariates are available. One pre-determined variable available is whether someone is born overseas or in Australia. Country of birth cannot be influenced by the policy but any discontinuity may indicate selection. The formal balancing test obtained following the RD approach described in Section 4 yields a small estimate at 0.009 with a robust p-value at 0.30. We thus fail to reject the null of no difference in the share of immigrants above and below the policy cut-off.

Figure 6. Immigrant status by date of birth
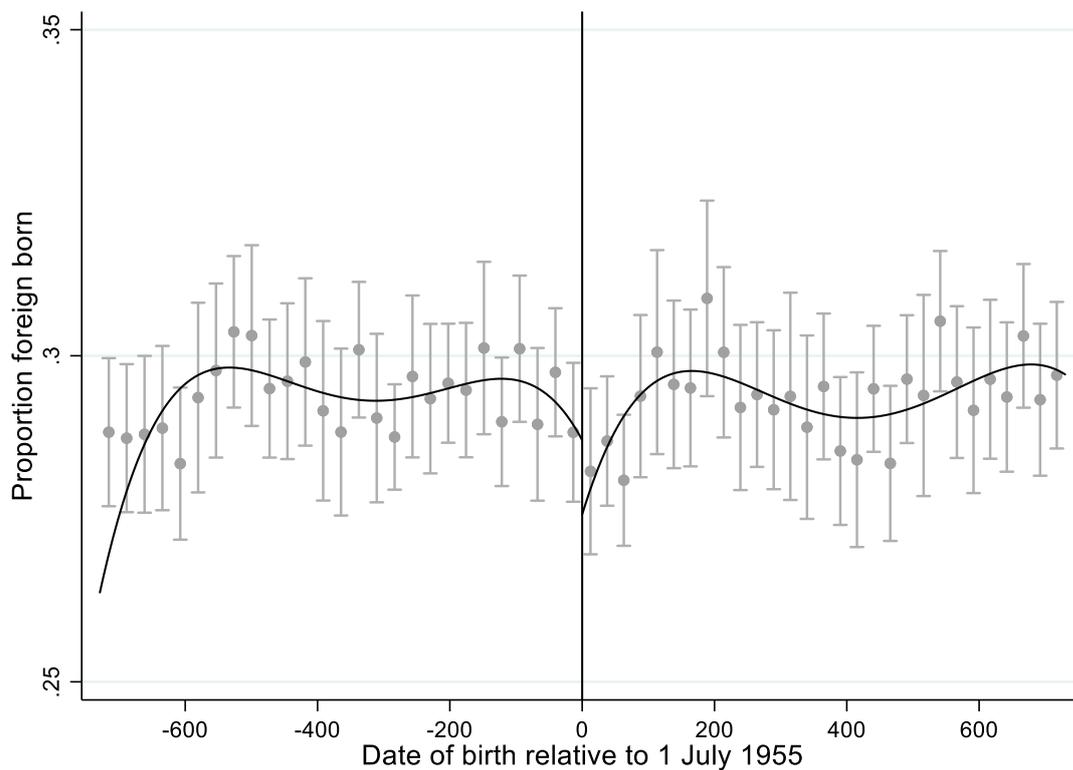
Notes: The date of birth is normalised so that July 1, 1955 is equal to 0. Bin-widths and bandwidth selection are data-driven (Calonico et al. 2017). Each dot represents the average within each of these bins, with 95% confidence intervals represented by the grey bars. The solid line shows the predicted values based on a global polynomial regression of order four, chosen to minimise Akaike Information Criterion (Lee and Lemieux 2010). The associated local linear RD estimate, obtained following the approach described in Section 4, is 0.009 with a robust p-value of 0.30.
Source: RED data and authors' calculations.

Placebo tests

We undertake placebo tests by producing RD estimates for alternative cut-offs for date of birth—1 July 1953, 1 July 1954, 1 July 1956 and 1 July 1957—using which we should find no statistically significant effects on benefit receipt (recalling that the policy reform affected women born after 1 July 1955). The results are presented in Table 3. Estimates are mostly small, and none is statistically significant.

Table 3 RD estimates of the treatment effect by benefit payment type for placebo threshold dates (and p-values)

Alternative cut-off date	Jul 1, 1953		July 1, 1954		July 1, 1956		July 1, 1957	
	Coef. est.	p-value	Coef. est.	p-value	Coef. est.	p-value	Coef. est.	p-value
Partner Allowance	-0.033	(0.859)	-0.114	(0.239)				
New Start Allowance	-0.001	(0.928)	-0.001	(0.968)	-0.048	(0.628)	-0.045	(0.394)
Other benefit	0.321	(0.226)	0.141	(0.464)	0.276	(0.163)	-0.035	(0.885)
Total welfare receipt	0.302	(0.361)	-0.041	(0.925)	0.228	(0.269)	-0.121	(0.789)

Notes: Coefficient estimates are expressed as a percentage of the female population. The data cover the period from July 1998 to August 2003.Estimates are derived from local linear regressions with robust bias-corrected p-values (in parentheses) and optimal bandwidths (Calonico et al. 2014a, 2014b, 2019).
* p<0.10, ** p<0.05, *** p<0.01.
Source: RED data and authors' calculations.

Functional form

Table 4 shows that our results are largely robust to use of a quadratic instead of a linear local regression model. However, the quadratic model provides lower goodness of fit than the linear model, as indicated by the larger Akaike's information criterion showed in Table 5, one of the reasons why we prefer the linear model.

Table 4. RD estimates of the treatment effect by benefit payment type with a quadratic model in the running variable (and p-values)

Benefit payment	Optimal bandwidth		Optimal (-33%)		Optimal (+33%)	
	Coef. est.	% of PA coef.[a]	Coef. est.	% of PA coef.[a]	Coef. est.	% of PA coef.[a]
Partner Allowance	-1.027*** (0.000)	-	-0.952*** (0.000)	-	-1.032*** (0.000)	-
Newstart Allowance	0.561*** (0.000)	54.7	0.539*** (0.000)	56.6	0.566*** (0.000)	54.9
Other benefit	0.015 (0.939)	1.5	-0.084 (0.242)	-8.8	0.033 (0.906)	3.2
Total welfare receipt	-0.450** (0.021)	-43.8	-0.595 (0.694)	-62.5	-0.432** (0.017)	-41.9

Notes: Coefficient estimates are expressed as a percentage of the female population. The data cover the period from 1 July 1998 to 31 August 2003. Estimates are derived from local quadratic regressions with robust bias-corrected p-values (in parentheses) and optimal bandwidths (Calonico et al. 2014a, 2014b, 2019). The optimal bandwidths are, from top to bottom row, 572, 825, 754 and 802 days. [a] Coefficient expressed as a percentage of the Partner Allowance coefficient (reported in the first row).
* p<0.10, ** p<0.05, *** p<0.01.
Source: RED data and authors' calculations.

Table 5. Akaike's information criterion

Benefit payment	AIC	AIC
Partner Allowance	70,862	75,119
Newstart Allowance	93,435	120,441
Other benefit	149,645	305,813
Total welfare receipt	179,337	345,215
Polynomial of order	1	2

Note: AIC is the Akaike's information criterion.
Source: RED data and authors' calculations.

Evidence of effects on single women

Our outcome variable is the proportion of women who are partnered and welfare recipients as a share of all women. The potential effect of the policy on welfare receipt by single women is explicitly ignored as the reform did not impact them. However, we run our RD analysis on single women for two reasons. First, we check that the policy did indeed not impact single women. Second, even though the policy did not have a direct impact on single women, it may have had an indirect impact because it introduced a difference between the control group and the treatment group in incentives to be partnered. Specifically, women in the control group had a lower incentive to separate, because it would render them ineligible for Partner Allowance, which may have resulted in a higher proportion being partnered. This would introduce an upward bias in our results, thereby amplifying the reduction welfare recipients as we only consider partnered women.

The results reported in Table 6 alleviate these concerns, showing no discernible effect of the policy reform on welfare receipt among single women. In other words, there is no evidence of a change in the proportion of single women on welfare as a share of all women.

Table 6 RD estimates of the treatment effect by benefit payment type for single women (and p-values)

	Optimal bandwidth	Optimal (-33%)	Optimal (+33%)
Benefit payment	Coef. est.	Coef. est.	Coef. est.
Newstart Allowance	0.065	0.057	0.069
	(0.360)	(0.191)	(0.425)
Other benefit	-0.126	-0.175	-0.070
	(0.382)	(0.887)	(0.381)
Total welfare receipt	-0.040	-0.068	-0.009
	(0.692)	(0.620)	(0.756)

Notes: Coefficient estimates are expressed as a percentage of the female population. The data cover the period from July 1998 to August 2003. Estimates are derived from local linear regressions with robust bias-corrected p-

values (in parentheses) and optimal bandwidths obtained by following Calonico et al. (2014a, 2014b, 2019). The optimal bandwidths are, from top to bottom row, 771 439 and 459 days.
* p<0.10, ** p<0.05, *** p<0.01.
Source: RED data and authors' calculations.

8. Conclusion

There is clear evidence from the Australian welfare policy reform that the imposition of job search requirements on benefit recipients results in substantially lower benefit receipt. Our estimates imply that approximately half of the women who became subject to job search requirements moved off welfare benefits. To the best of our knowledge, this is the first estimate of the effect of imposing job search requirements on welfare receipt, and we find a large effect.

Strikingly, we find that job search requirements imposed on the female member of the couple led to lower benefit receipt by both members of the couple. Indeed, the effects on male partners' benefit receipt was approximately the same as the effect on females' benefit receipt. In essence, the policy delivered 'two for the price of one'.

While our data source does not allow us to examine the effects of the job search requirements on labour supply decisions, it seems highly likely that family labour supply increased as a result of partnered women being subject to job search requirements. This is because the affected couples would have relatively few economic resources (given the eligibility criteria for Australian welfare benefits) and therefore it is hard to conceive of the reduced benefit receipt arising from anything other than increased employment participation. However, we cannot ascertain from our data the composition of the family labour supply increase—that is, whether both members of the couple increased their labour supply, or whether only one member of the couple did.

Our findings reinforce the importance of family context in determining labour supply responses to policy interventions, as well as the need to evaluate family labour supply responses rather than simply the labour supply responses of the targeted individuals. This is in line with the long tradition of modelling labour supply as a joint decision at the family level (see Blundell et al. 2016 and Lalive and Parrotta 2017 for recent examples). In particular, our findings suggest that, for women with a partner also receiving welfare benefits, the total labour supply response to imposing job search requirements is considerably larger than would be found if only the labour supply of the women was examined.

It is of course possible that the large effects we find are specific to women partnered with a male receiving unemployment benefits. It is not clear whether the effects for these women

should be larger than for other demographic groups. Certainly, our expectation is that women with a partner on unemployment benefits would be less responsive to job search requirements than single women. This is because our findings suggest that—to have an effect on benefit receipt—the requirements effectively had to shift off benefits not only the woman subjected to the requirements, but also her partner. On the other hand, there is limited evidence that mature-age women may be more responsive to job search requirements than younger women, as suggested by Micklewright and Nagy (2010), who find that, among women, only those aged over 30 are affected by additional monitoring of job search requirements.

Ultimately, it is an empirical question whether other groups in the community are more or less sensitive to job search requirements. Nonetheless, we have shown that job search requirements can indeed have a substantial impact on welfare receipt. We have not investigated whether the costs to government of administering the program justify the benefits (let alone whether job search requirements represent a net welfare gain to the community). However, we note that costs of job search requirements are likely to be low compared with many other active labour market interventions, and we would be surprised if reducing welfare receipt by half did not result in greater reductions in welfare payments than the cost of administering the program.

9. References

Ashenfelter, O., D. Ashmore, and O. Deschênes. 2005. "Do unemployment insurance recipients actively seek work? Evidence from randomized trials in four U.S. States." *Journal of Econometrics* 125(1-2 SPEC. ISS.):53–75.

Australian Bureau of Statistics (ABS). 2014. Australian Historical Population Statistics, 2014. ABS Catalogue No. 3105.0.65.001. ABS.

Australian Government Department of Social Services. 2014. *Income support customers: a statistical overview 2013*. Commonwealth of Australia.

Blundell, R., L. Pistaferri, and I. Saporta-Eksten. 2016. "Consumption inequality and family labor supply." *American Economic Review* 106(2):387–435.

Borland, J., and Y. Tseng. 2007. "Does a Minimum Job Search Requirement Reduce Time on Unemployment Payments ? Evidence from the Jobseeker Diary in Australia." *Industrial and Labor Relations Review* 60(3):357–378.

Borland, J., and Y. Tseng. 2011. "Does 'Work for the Dole' work? An Australian perspective on work experience programmes." *Applied Economics* 43(28):4353-4368.

Calonico, S., M.D. Cattaneo, M.H. Farrell, and R. Titiunik. 2017. "Rdrobust: Software for regression-discontinuity designs." *Stata Journal* 17(2):372–404.

Calonico, S., M.D. Cattaneo, M.H. Farrell, and R. Titiunik. 2019. "Regression Discontinuity Designs Using Covariates." *Review of Economics & Statistics* 101(3):442–451.

Calonico, S., M.D. Cattaneo, and Rocío Titiunik. 2014. "Robust data-driven inference in the regression-discontinuity design." *Stata Journal* 14(4):909–946.

Calonico, S., M.D. Cattaneo, and Rocio Titiunik. 2014. "Robust Nonparametric Confidence Intervals for Regression-Discontinuity Designs." *Econometrica* 82(6):2295–2326.

Cattaneo, M.D., N. Idrobo, and R. Titiunik. 2019. A Practical Introduction to Regression Discontinuity Designs. Cambridge University Press.

Cattaneo, M.D., M. Jansson, and X. Ma. 2019. "Simple Local Polynomial Density Estimators." *Journal of the American Statistical Association* (forthcoming).

Cockx, B., and M. Dejemeppe. 2012. "Monitoring job search effort: An evaluation based on a regression discontinuity design." *Labour Economics* 19(5):729–737.

Dupre, B. 2006. "A compendium of legislative changes in social security 1983-2000." Occasional Paper No. 13. Australian Government Department of Families, Housing, Community Services and Indigenous Affairs. Canberra.

Eardley, T., J. Brown, M. Rawsthorne, K. Norris, and L. Emrys. 2005. *The Impact of Breaching on Income Support Customers*. SPRC Report 5/05. Social Policy Research Centre, University of New South Wales.

Ey, C. 2012. "Social security payments for the unemployed, the sick and those in special circumstances, 1942 to 2012: a chronology." Background Note. Parliament of Australia, Department of Parliamentary Services.

Frijters, P., and R. Gregory. 2006. "From golden age to golden age: Australia's 'great leap forward'?" *Economic Record* 82(257):207–224.

Gelman, A., and G. Imbens. 2019. "Why high-order polynomials should not be used in regression discontinuity designs." *Journal of Business & Economic Statistics* 37(3):447–456.

Gregory, R. G. and R. Bray 2011. "Two for the Price of One? Partnered Couple Responses to Moving Welfare Entitlements from the Family to the Individual", mimeo.

Gregg, P. 2008. "UK Welfare Reform 1996 to 2008 and beyond: A personalised and responsive welfare system?" CMPO Working Paper Series No. 08/196.

Hahn, J., P. Todd, and W. Van der Klaauw. 2001. "Identification and Estimation of Treatment Effects with a Regression-Discontinuity Design" *Econometrica* 69(1):201–209.

Keating, P. 1994. *Working nation*. Australian Government Publishing Service. Canberra.

Klepinger, D., T. Johnson, and J. Joesch. 2002 "Effects of unemployment insurance work search requirements: The Maryland experiment." *Industrial and Labor Relations Review* 56(1):3–22.

Kluve, J. 2010. "The effectiveness of European active labor market programs." *Labour Economics* 17(6):904–918.

Lalive, R., and P. Parrotta. 2017. "How does pension eligibility affect labor supply in couples?" *Labour Economics* 46:177–188.

Lee, and Lemieux. 2010. "Regression Discontinuity Designs in Economics." *Journal of Economic Literature* 48:281–355.

McVicar, D. 2008. "Job search monitoring intensity, unemployment exit and job entry: Quasi-experimental evidence from the UK." *Labour Economics* 15(6):1451–1468.

McVicar, D. 2010. "Does job search monitoring intensity affect unemployment? Evidence from Northern Ireland." *Economica* 77(306):296–313.

Micklewright, J., and G. Nagy. 2010. "The effect of monitoring unemployment insurance recipients on unemployment duration: Evidence from a field experiment." *Labour Economics* 17(1):180–187.

OECD. 2001. *Innovations in Labour Market Policies: The Australian Way*. OECD Publishing. Paris.

OECD. 2015. *In It Together: Why Less Inequality Benefits All*. OECD Publishing. Paris.

Richardson, L.L. 2002. "Impact of the Mutual Obligation Initiative on the Exit Behaviour of Unemployment Benefit Recipients: The Threat of Additional Activities." *Economic Record* 78(243):406–421.

Saunders, P. 1995. "Improving Work Incentives in a Means-Tested Welfare System: The 1994 Australian Social Security Reforms." *Fiscal Studies* 16(2):45–70.

Ziguras, S., G. Dufty, and M. Considine. 2003. *Much Obliged: Disadvantaged job seekers' experiences of the mutual obligation regime*. Brotherhood of St Laurence. Melbourne.