



FACULTY OF
BUSINESS &
ECONOMICS

Melbourne Institute Working Paper Series

Working Paper No. 1/12

Did the 2007 Welfare Reforms for Low Income
Parents in Australia Increase Welfare Exits?

Yin King Fok and Duncan McVicar



MELBOURNE INSTITUTE®
of Applied Economic and Social Research

Did the 2007 Welfare Reforms for Low Income Parents in Australia Increase Welfare Exits?*

Yin King Fok and Duncan McVicar

**Melbourne Institute of Applied Economic and Social Research,
The University of Melbourne**

Melbourne Institute Working Paper No. 1/12

ISSN 1328-4991 (Print)

ISSN 1447-5863 (Online)

ISBN 978-0-7340-4261-3

January 2012

* This paper is based on research commissioned by the Australian Government Department of Education, Employment and Workplace Relations (DEEWR) under the Social Policy Research Services Agreement (2010–2012) with the Melbourne Institute of Applied Economic and Social Research. Thanks to all those that offered useful advice during the course of the project. The views expressed are those of the authors alone and do not represent those of DEEWR or the Melbourne Institute. Corresponding author, Dr Duncan McVicar: email <dmcvicar@unimelb.edu.au>, telephone + 61 (0)3 9035 4509.

Melbourne Institute of Applied Economic and Social Research

The University of Melbourne

Victoria 3010 Australia

***Telephone* (03) 8344 2100**

***Fax* (03) 8344 2111**

***Email* melb-inst@unimelb.edu.au**

***WWW Address* <http://www.melbourneinstitute.com>**

Abstract

This paper examines the impacts of recent Australian welfare to work reforms for low income parents of school-aged children who had been in receipt of Parenting Payment for at least one year. Specifically, the reforms introduced a requirement to engage in at least 15 hours of work-related activity per week from the youngest child's seventh birthday. We find large positive impacts on the hazard rates for exiting welfare and for switching between welfare payments. As a consequence, over the first year of the new regime the Parenting Payment caseload for the parents in this cohort with a youngest child aged 6 at the start of the year fell by 23.5%; without activation we estimate it would have fallen by 18.5%. The reforms also offer a rare opportunity to compare impacts on single and partnered parents, with partnered parents shown to be more responsive.

JEL classification: I38, J22

Keywords: Welfare reform, welfare to work, activation, lone parents, labour supply, Australia

1. Introduction

A long standing concern with means-tested social welfare payments for low income families with school-age children is that they can reduce incentives to participate in the labour market, potentially leading to long episodes of welfare dependence, depreciation of human capital, and ultimately exacerbating rather than alleviating poverty. Policy makers across the OECD have responded to this concern by reforming programs to encourage or compel welfare recipient parents of all but the youngest children to either re-enter the labour market or to engage in activities aimed at maintaining or improving their employability (see Carcillo and Grubb, 2006). An extensive evaluation literature shows that such reforms can have large impacts on outcomes such as caseloads and job entry (e.g. for US reviews see Blank (2002) and Moffitt (2008); for a UK review see Hasluck and Green (2007); for a cross-country review see Finn and Gloster (2010)). The impact of welfare reforms, however, is likely to depend on their precise nature, on the particular groups targeted, and on institutional and labour market contexts in which they are introduced, and what we learn about one reform in one particular context does not necessarily generalize to other reforms in other contexts. The implication is that new welfare reforms require their own specific evaluations, although by evaluating each new welfare reform as it comes along we hope not only to learn about its own particular impact but also to contribute to the wider international literature aiming to understand what works, where, when and for whom.

This paper examines the impact of recent (2007) welfare to work reforms for low income parents in Australia on the hazard rates for exiting welfare and for switching between welfare payments.¹ By setting a requirement to engage in 15 hours per week of paid work or work-related activity for those with a youngest child aged seven or older, the reforms represent a substantial tightening of payment conditionality. They were also introduced in a comparatively tight labour market², were aimed only at those with school age children (similar to welfare reforms introduced in the US in the mid-1990s and more recently in the

¹ Evidence that reforms to one particular welfare benefit can lead to ‘benefit shift’ between payments is becoming increasingly common. For a recent example from a reform to UK unemployment benefits see Petrongolo (2009). For an example specific to Australian Parenting Payment see DEEWR (2008). Also see Gregory and Klug (2002) for earlier Australian evidence on switches between welfare payments for low income parents.

² At the time these reforms were introduced the unemployment rate in Australia was 4.3%. It subsequently peaked at just 5.8% in the aftermath of the Global Financial Crisis. Bloom et al. (2001) and McVicar and Podivinsky (2010) present evidence suggesting that activation programs have bigger impacts in tighter labour markets.

UK), and followed wide-ranging reforms introduced one year earlier – John Howard’s 2006 welfare to work reform package – tightening conditionality across a range of other welfare payments. Employment rates for sole parents in Australia were also low in comparison with other countries at the time the reforms were introduced (see OECD, 2007). Taken together, these factors suggest the possibility of large impacts driven at least in part by flows off welfare rather than simply between welfare payments. On the other hand, the particular target group for the reforms – recipients of Parenting Payment (PP) with school-age children who had been receiving payments for at least one year – may be more or less responsive to such reforms than, for example, new entrants with similar aged children.³ Further, the fact that other welfare payments not conditioned on work activity were still potentially available for some in this group may have affected the balance between welfare exits and welfare switches.

Ours is the first paper to evaluate these 2007 reforms. Using an age-based identification strategy, we find a large impact on the hazard rates for both exiting welfare and switching from PP to other welfare payments. For low income parents covered by the new participation requirements when their youngest child turned seven, our estimates suggest that the welfare exit hazard increased by 48 percent and the welfare switching hazard more than doubled, albeit from a lower base, increasing by 114 percent. As a consequence, over the first year of the new regime the caseload for the those parents with a youngest child aged 6 at the start of the year fell by 23.5 percent; without activation we estimate it would have fallen by 18.5 percent. Almost two thirds of this impact is accounted for by exits from welfare rather than welfare switches. Note also that these impacts were larger for partnered parents than for single parents – unusually for evaluation studies both groups were covered by the same set of reforms – with the gap largest for exits from welfare. This likely reflects compositional differences between the two groups, differences in income conditionality between lone and partnered parent benefits, and the opportunity, not open to lone parents, of responding to increased work-related requirements by exiting welfare and compensating for any loss in household income by increasing partner earnings.

³ On average we expect new welfare claimants to have more ‘job-ready’ characteristics than the existing stock of welfare claimants, but it is not clear ex ante what this implies for treatment effects. Friedlander (1988) suggests it may be difficult to help those with the least employable characteristics, but also that it might be difficult to help those with the most favourable characteristics since they will gain little from program participation. Finn and Gloster (2010) suggest that, on balance, mandatory activation measures appear to have more positive outcomes for those already closest to the labour market. For a general discussion of heterogeneous impacts of welfare reforms according to the observed and unobserved characteristics of those affected see Heckman et al. (1999).

The remainder of this paper is set out as follows. The following section provides further details on PP, the welfare reforms of 2006 and the reforms of 2007 which are the subject of this evaluation. Section 3 briefly discusses evaluations of earlier reforms for low income parents in Australia and elsewhere. Section 4 summarises the data used for the analysis, which are taken from an administrative database longitudinally tracking welfare recipients over time (the Research Evaluation Dataset, or RED), and presents preliminary estimates of the reform impacts. Section 5 presents the econometric model and discusses identification. Section 6 presents and discusses the estimation results and section 7 concludes.

2. Parenting Payment and the 2006 and 2007 Welfare Reforms

The main means-tested social welfare payment for low income families with young children in Australia is known as Parenting Payment, either Parenting Payment Single (PPS) for lone parents, or Parenting Payment Partnered (PPP) for partnered parents where the combined household income falls below a given threshold. These payments are part of the overall Income Support (IS) system, which includes welfare payments for unemployed workers, for the disabled and for a variety of other groups.

Prior to 2003, receipt of PP was not conditioned on any form of participation for those with a child under 16 years, although voluntary programs were available, including the Jobs, Education and Training (JET) Program, which combined an initial interview with a Centrelink advisor with other measures including career counselling, job search assistance, and short training courses (for details see Banks, 2005). Limited conditionality – compulsory attendance at an annual interview with a Centrelink advisor – was introduced in 2003 for those whose youngest child was aged six years or older.⁴ More demanding participation conditions for those with a youngest child aged 13-15 years – compulsory Mutual Obligation participation in 150 hours of approved activities such as work schemes, job search or training every 26 weeks of PP receipt, and a requirement to report activity every three months – were also introduced in 2003 (Banks, 2005). This was the regime in place until the 2006 welfare to work reforms.

⁴ There is some variation across states in the school entry age, but all six year olds in all states are required to be in school.

Since 1st July 2006 *new* claimants only qualify for PP if their youngest child is aged under eight years (PPS) or under six years (PPP). New claimant parents whose youngest child is older, or with a youngest child who turns six/eight during a welfare episode, are no longer eligible for PP but may be eligible for (less generous) unemployment benefits (New Start Allowance (NSA)). Receipt of NSA for this group is conditional on meeting part-time participation requirements of 15 hours per week in paid employment, training or employment-related activities such as job search, in addition to NSA Mutual Obligation requirements after 26 weeks. New entrant PPS recipients with a youngest child aged six years or older have also been required to meet similar part-time participation requirements since the 2006 reforms. Within the overall guidelines the precise nature of the requirements can be tailored to the particular PP recipient and are set out in a semi-contractual form known as an Activity Agreement, drawn up between the individual and the Centrelink advisor.⁵ Failure to comply with these requirements, in the absence of any temporary exemption which may be granted for reasons such as ill health of the recipient or of a child, triggers a series of warnings and ultimately, suspension of payments.

This paper focuses not on new entrants to PP, however, but on the cohort of low income parents already in receipt of PP as of 30th June 2006, i.e. the *stock* of existing PP recipients at the time of the 2006 reforms. This group – consisting of around 600,000 individuals – were ‘grandfathered’ and, provided they continued to meet the means-testing requirements for PP, and provided they didn’t lose their grandfathered status by exiting IS for more than twelve weeks or by changing their partnered status, remained eligible for PP until their youngest child turned 16.⁶

This grandfathered cohort of parents was granted a grace period before being required to meet the new part-time participation requirements. The original intention was that this grace period would be for one year, with the new part-time participation requirements introduced for those whose youngest child was aged *seven* years or older, on 1st July 2007.⁷ In practice, however, participation requirements were phased in, for those with a youngest child already aged seven or older, over a period of around twelve months from July 2007, with those deemed furthest from the labour market ‘activated’ first. Activation involved a call to interview with a

⁵ Activity Agreements are similar in nature to UK Jobseeker’s Agreements (for more details see Manning, 2009).

⁶ The 2011-12 Federal Budget announced an incremental reduction in this upper age limit but one that falls outside the period of our study.

⁷ The existing requirement (since 2003) to attend an annual interview remained for those with a youngest child aged six.

Centrelink advisor during which the new participation requirements were explained and, in most cases, an Activity Agreement setting out how the individual would meet the requirements drawn up and signed there and then.⁸ The rest of this group either signed an Activity Agreement at a later date (e.g. because of a temporary exemption)⁹, exited PP following the interview but before signing an Activity Agreement, or were yet to sign an Activity Agreement by the last date for which we have data (30th June 2009).¹⁰

Unfortunately, this non-random phasing-in of the participation requirements, together with inaccuracies and missing values in the recording of interview and agreement dates, makes identification of the impact of the reforms difficult for those in the grandfathered group with children already aged seven years or older as of 1st July 2007. Instead we primarily exploit information on those in the grandfathered group with a youngest child aged *under* seven as of 1st July 2007, but who then subsequently *turned* seven within our sample period. Parents in this category were called to interview within two weeks of the child's birthday, which has two advantages for evaluation purposes. First, to the best of our knowledge, the child's date of birth is recorded accurately for all recipients. Second, the timing of the 'treatment' – which we take as commencing on the child's seventh birthday – is determined solely by the child's age. A similar proportion of this particular group signed Activity Agreements, and with similar timing relative to the interview date, as for the wider group.¹¹

Before moving on, it is worth briefly setting out some additional details on payment rates and taper rates for those with other income, since these may differ from welfare payments to low income parents in other countries. There are also differences in these characteristics between PPS and PPP which may help explain differences in the impacts of the reforms by payment type. These were not changed as part of the 2006 or 2007 reforms, although they have been periodically updated over the period we study here. The figures given below refer to fortnightly periods and are those in place as of March 2011. The maximum PPS payment, for those earning no more than \$170.60 (plus \$24.60 for each additional child), is \$611.90.

⁸ 75% of this group had been interviewed by the end of December 2007 and 99% by the end of June 2008. The first group of interviewees included those not engaged in any paid work and not registered with Job Network. The second group included those working less than 15 hours per week but not registered with Job Network or those registered with Job Network but not in paid work. Those in the third group – activated last – were already working 15 or more hours per week.

⁹ 81.5% of those that signed an Activity Agreement did so on the interview date. For the remainder, the mean gap between interview and signing an Activity Agreement was 93 days.

¹⁰ 16% attended an interview but did not subsequently sign an Activity Agreement in the same PP episode.

¹¹ Grandfathered PP recipients whose youngest child is aged under seven have no participation requirements but may voluntarily access employment services.

Payments are reduced by 40 cents in the dollar for those earning above this threshold, with parents no longer eligible for part payments once their income exceeds \$1,673.85 (again plus \$24.60 for each additional child). In contrast, the maximum PPP payment is \$424.00. Eligibility for the maximum payment is dependent on whether the individual's partner also receives a pension (e.g. PPP or other IS pension, Age Pension). If this is the case, then combined income must be less than \$124 for maximum payment, with taper rates for combined income above this threshold initially 25 cents in the dollar (up to \$500) and then 30 cents in the dollar, up to a maximum combined income of \$1,579. If the partner does not receive a pension, then own income must be less than \$62 and partner's income less than \$790 for maximum payment. Taper rates are 60 cents in the dollar for own income (50 cents below \$250) and partner's income, up to a maximum of \$789.50 (own income), and \$1,486.17 (partner's income) and \$1,589.50 (combined income). In summary, PPS payments are higher than PPP payments at all eligible income levels for those whose partners receive a pension, although PPP taper rates are lower. For those whose partners do not receive a pension, PPP can be more generous than PPS for partners earning less than \$1,100, but taper rates are higher.

3. Existing Evaluations of Related Reforms

Most welfare to work reforms in most countries set out with the aims of reducing welfare caseloads and boosting labour force participation, whether for lone or low income parents, for the long term unemployed or for other groups of welfare recipients. Typically, these reforms consist of increased activity requirements (e.g. compulsory job search or training, with sanctions for those that are not sufficiently active) and provision of additional or improved employment-related assistance (e.g. with job search, training or child care).¹² Different measures appear to work to different extents for different groups and in different contexts, with welfare exit and labour force participation not synonymous. For general cross-country reviews see Heckman et al. (1999), Martin and Grubb (2001) and Carcillo and Grubb (2006). For reviews of welfare to work reforms specifically for low income parents see Blank (2002) and Moffitt (2008) for the US and Finn and Gloster (2010) across countries (including earlier Australian reforms). Here we briefly discuss two examples of reforms from the US and the

¹² They may also be accompanied by measures to improve financial incentives to work, e.g. in-work tax credits or back to work bonuses.

UK, in part because they are good illustrations of reforms at different ends of the ‘toughness’ spectrum.

First consider welfare reform in the US, in particular the major package of reforms introducing participation requirements and time-limiting welfare payments for lone parents¹³ in 1996 – the replacement of Aid to Families with Dependent Children (AFDC) with Temporary Assistance for Needy Families (TANF) – which are widely thought to have led to a large reduction in caseload and increased labour force participation. TANF is a federal program, which among other things, mandates participation in work or work-related activities of at least 30 hours per week for lone parents whose youngest child is six years or older, although with some exemptions. Individual states have had considerable discretion in the timing and nature of its implementation and the resulting variation in the program has encouraged extensive evaluation. The weight of evidence from this body of evaluation studies, using a variety of methods and data sources, points to significant impacts including a reduction in caseload of around 20% (through both increased exits and reduced entry¹⁴), increased job entry for those exiting welfare, and increased participation in paid work for those remaining on welfare. These reforms coincided with an expansion of in work benefits – the Earned Income Tax Credit – and were introduced at a time when the labour market was strong.¹⁵ For more details see the reviews of Blank (2002) and Moffitt (2008).

Second, consider reforms in the UK from the early 2000s. Mandatory participation requirements for lone parents¹⁶ – conditioning benefits on attendance at increasingly regular Work Focused Interviews (WFIs) – were introduced in 2001, initially for new entrants with youngest children aged five or older and existing recipients with children aged 13 or over, but later extended to lower ages.¹⁷ These were intended to complement the existing and voluntary New Deal for Lone Parents (NDLP) program, itself broadly similar to the Australian JET program, for which positive impacts on welfare exit and employment entry for participants have been demonstrated using matching methods, albeit with low take-up rates (see Dolton et

¹³ Very few partnered parents were ever part of the AFDC program and payments to partnered parents were abolished with the introduction of TANF in 1996 (see Moffitt, 2008). Evaluations all focus on lone parents as a result.

¹⁴ Moffitt (2008, p21) suggests that “a large fraction, if not the majority, arose from decreased entry to the program rather than increased exit”.

¹⁵ Blank (2002) suggests that their impacts lessened after 2001 with a weaker labour market.

¹⁶ As in the US, lone parents are treated differently to partnered parents in the UK welfare system and evaluations have focused on the former group.

¹⁷ Welfare reforms have subsequently been introduced for lone parents in the UK that are much closer to the recent Australian welfare to work reforms. Lane et al. (2011) provide details.

al., 2006). Perhaps unsurprisingly, given that these are much lighter participation requirements than in the case of TANF, difference-in-differences estimates suggest that compulsory WFIs appear to have led to only a small decrease (around 2%) in welfare caseloads for the target group. Impacts appear to have been stronger for existing recipients than for new claimants. For more detail see Cebulla et al. (2008) and Finn and Gloster (2010).

We now turn to evaluations of earlier Australian welfare reforms for low income parents. In 1999 the Department of Family and Community Services piloted a reform making attendance at a JET interview compulsory, for the first time. The pilot was conducted as a random experiment with a sample of 5,000 PP recipients divided into one group that received no treatment (the control group), one that was asked to attend a face to face interview with a JET Advisor but not required to do so, and one that was required to attend such an interview. Barrett and Cobb-Clark (2000) exploit this to examine the preliminary impacts of making interview attendance compulsory on interview attendance and on participation *plans*. Unsurprisingly, they find much higher interview take-up rates for the compulsory interview group relative to the voluntary interview group. More interesting is that compulsion has a larger impact on some groups of low income parents, e.g. long term sole parents, than others. Evidence is also presented suggesting that participation in an interview changed the future employment and training plans of around thirty percent of attendees, although the evaluation came too early to examine impacts on employment and training *outcomes*. Dockery and Stromback (2004) examine the same program and do look at differences in outcomes for those from the different treatment groups relative to the control group, finding evidence of a positive and statistically significant impact of treatment on benefit exit for recent claimants, but little evidence of positive impacts for existing longer term claimants. Their interpretation is that this group likely faces more substantial barriers to participation.

The 2006 welfare to work reforms were the subject of an in-house evaluation by the relevant government department which has been made publicly available (DEEWR, 2008). In the absence of random experimental evidence, the DEEWR study adopts a combination of before and after comparisons and unconditional difference-in-differences – with identification based on age of youngest child – to estimate the impacts of introducing the package of activation measures for new claimant low income parents, as described in Section 2, on a variety of outcomes. The resulting evidence suggests that for those low income parents whose youngest child was school aged, the 2006 reforms reduced inflows to IS, increased transfers from PP to other non-activity tested IS payments such as Disability Support Pension (DSP), increased

participation in employment services, decreased the duration on IS¹⁸, and, at least for partnered parents or single parents with a youngest child aged six or seven years, increased participation in paid employment for those still on IS. As in the US TANF case, these were major reforms introduced in a relatively benign labour market, for a group of claimants who by Dockery and Stromback's (2004) argument face less severe barriers to work, so significant impacts are perhaps to be expected.

4. Data and Preliminary Estimates

The RED records all episodes of IS receipt, along with details required to administer payment (e.g. earnings from paid employment) and some others, from the late 1990s onwards. It is longitudinal in the sense that individuals are tracked across multiple episodes, although it contains no information on individuals for periods outside of IS. Its main advantages are that it contains information on the full population of PP recipients, is continuous in time (IS 'events' are recorded to the day) and that data are reported accurately at least for information required to administer payments. Its main disadvantages are the lack of information outside of IS episodes and lack of detail and potential unreliability of information that is not required to administer IS payment (e.g. hours worked prior to welfare reform). Because of its size and complexity we take a ten percent random sample of the relevant RED population – all grandfathered PP recipients as of 30th June 2006 – and track them for all IS episodes from the beginning of the episode which was ongoing on 30th June 2006 until 30th June 2009. This gives us information on 90,664 IS episodes covering 59,490 individuals. By 30th June 2009 the stock of recipients from this ten percent sample that were still receiving PP was down to just over 30,000 individuals, with some no longer receiving IS and others receiving other IS payments. Note that there are no inflows to the grandfathered cohort beyond 30 June 2006, only outflows. Over the same period the total number of PP recipients – including new entrants to PP outside of the grandfathered group – fell by around twenty percent (see Figure 1).

<Figure 1 around here>

¹⁸ For example, they estimate that 23% of new PPS claimants with a youngest child aged 6-7 years had left IS after 6 months compared to 12% under the counterfactual. For those new claimants (re-)directed to NSA, the equivalent estimates were 38% versus 27% (lone parents) and 45% versus 32% (partnered parents), i.e. a similar proportional increase for lone and partnered parents.

For each IS episode we have (time-varying) data on type of benefit claimed, episode start and end dates (right-censored if ongoing), benefit history of the individual, number of children and age of youngest child, age of the recipient parent, country of birth of the recipient parent, the Labour Force Statistical Region (LFSR) for each individual with which we assign local unemployment rates to individuals, along with information on the date of the initial activation interview with the Centrelink advisor (for those activated) and the signing date for any subsequent (compulsory) Activity Agreement. We treat these episodic data as continuous in time and use them to analyse the duration of PP episodes and to estimate hazard functions for the daily probabilities of exiting PP, exiting PP to other IS payments and exiting IS.

Table 1 presents summary information for our grandfathered sample, separately by benefit type. The average duration of a completed PP episode is 1716 days, i.e. between four and five years, but many episodes – around 40% – are still ongoing at the last point of observation (30th June 2009), so that these mean completed episode durations understate the mean duration of all PP episodes for the grandfathered cohort. PPS episodes are longer on average than PPP episodes. By definition no episodes can end before 30 June 2006 – either the individual concerned would not be in the grandfathered group or the episode ending prior to 30 June 2006 would be excluded from the sampling frame – but we have information on the elapsed duration of the current episode prior to this cut-off date, which again tends to be higher for PPS recipients compared to PPP recipients. We also have information on previous IS episodes, which on average sum to four years duration across both benefit types. Around 90% of grandfathered PP recipients are women. The average age of grandfathered PP recipients is around 36 years. Around one quarter of grandfathered PP recipients were born outside of Australia. Grandfathered PP recipients have an average of two children under 16 and they face an average local unemployment rate of around 5%.

<Table 1 around here>

Before turning to discussion of the hazard models we take a first pass at the data by presenting simple unconditional difference-in-differences estimates that compare mean outcomes before and after the 2007 reforms for those covered by the new requirements (i.e. with a youngest child aged seven years or older) and for those not covered by the new requirements (i.e. those with a youngest child aged under seven years). This kind of age-of-youngest-child based approach to identification is common in the non-experimental evaluation literature on welfare reforms for low income parents and was adopted by the Cebulla et al. (2008) and DEEWR

(2008) studies. For simplicity we treat the period prior to 1st July 2007 as pre-activation and the period from 1st July 2007 as post-activation (i.e. we initially ignore the phasing in of activation).

Tables 2-4 give the relevant average durations of *completed* episodes. Note that because of the way the sample is constructed, episodes ending after 1st July 2007 are, by definition, longer on average than those ending prior to 1st July 2007, both for those with a youngest child under seven and those with a youngest child aged seven or older. But by comparing the change in average durations of completed episodes, before and after 1st July 2007 for the two age groups, we can get a simple unconditional difference-in-differences estimate of the impact of activation on completed PP episode duration. From Table 2 we can see that the average duration of PP episodes completed after 1st July 2007 for those with youngest child under seven is 86% longer than those completed prior to 1st July 2007; whereas for those with youngest child aged seven or older it is 55%. The corresponding unconditional difference-in-differences estimate is therefore that activation has led to or has coincided with a reduction in mean duration of completed PP episodes, for those covered by the new requirements, of 31%. The corresponding unconditional difference-in-differences estimates for PPS and PPP recipients are a reduction of 15% in mean PPS episode duration (see Table 3) and a reduction of 49% in mean PPP episode duration (see Table 4). A similar unconditional difference-in-differences estimate of the impact of activation on episode duration including right-censored episodes, where the right-censoring date is treated as the end date, suggests duration falls by 36% for those covered by the new participation requirements. The equivalent figures for PPS and PPP durations are falls of 34% and 65% respectively.

<Tables 2-4 around here>

Tables 2-4 also report the fraction of episodes that end before and after 30th June 2007 for each of the age-of-youngest-child groups. We can use this information in similar fashion to obtain rough, unconditional, difference-in-differences estimates of the impact of activation on the probability of completing an episode by a certain date. In this case the suggestion is that activation led to or coincided with an increase in the proportion of episodes ending beyond 30th June 2007 but prior to 30th June 2009 of 9.4 percentage points for the treatment group, with a corresponding fall of one percentage point for the comparison group, suggesting a difference-in-differences estimate of a 10.4 percentage point increase in the proportion of

episodes ending within the period. The corresponding difference-in-differences estimates for PPS and PPP are 10.1 percentage points and 11.2 percentage points.

Figures 2-9 present Kaplan-Meier (KM) hazard functions¹⁹ before and after ‘activation’, separately for PPS and PPP recipients and by age group of youngest child, first for exits to other IS payments (Figures 2-5) and then for exits from IS altogether (Figures 6-9). Hazards for exit from both PPS and PPP to other IS payments have increased for the grandfathered cohort following 1st July 2007 whether the youngest child is aged seven or older or aged under seven, but the increase in the hazard for those with older children is noticeably larger than the increase in the hazard for those with younger children. For PPP recipients the increase in the KM hazard for those with youngest child aged seven or older is particularly pronounced. There is a similar picture for exits from IS, again with the impact on PPP recipients particularly pronounced. Note that such exits are more common than exits to other IS payments both before and after activation.

On balance the suggestion from both the simple unconditional difference-in-differences estimates and the KM hazard plots is that the 2007 reforms coincided with a relative increase in the hazard rate for exiting PP for those covered by the new requirements, both to other IS payments and exiting IS altogether, and for both PPS and PPP recipients. The result is shorter PP episode durations and fewer ongoing episodes relative to those not covered by the new requirements.²⁰ Activation also appears to have coincided with a larger relative increase in the hazard rate for covered PPP recipients compared to covered PPS recipients (we return to this point later). In the following section we extend this age-of-youngest based approach to try to better pin down the causal impact of activation on outcomes in a proportional hazard model framework.

¹⁹ KM hazards show the daily probability of exiting PP to a particular ‘destination’ given the parent has remained on PP until that day. Note that the daily hazards are very low – typically fewer than one in a thousand parents in receipt of PP on 30th June 2006 or 30th June 2007 exit on any given day subsequently – reflecting the long average duration of PP episodes (see Table 1).

²⁰ If anything these preliminary estimates may understate the impact of the reforms because they treat the implementation date as 1st July 2007 (for many it was later) and because some of those assigned to the comparison group on age of youngest grounds will themselves receive the ‘treatment’ when their youngest child turns seven.

5. Econometric Model and Identification

Because of the non-random phasing-in of the participation requirements for PP recipients with a child already aged seven years or older as of 1st July 2007²¹, together with inaccuracies and missing values in the recording of interview and agreement dates, we further restrict the sample to focus on those in the grandfathered group with a youngest child aged *under* seven as of 1st July 2007, but who then subsequently *turned* seven during the following year. In other words we focus on parents on PP with a youngest child aged six years old on 1st July 2007. Parents in this category were called to interview within two weeks of the child's seventh birthday, which has two advantages for evaluation purposes. First, the child's date of birth is recorded accurately for all recipients. Second, the timing of the treatment is determined solely by the child's age. Our treatment variable is therefore equal to zero for the period prior to the child's seventh birthday and equal to one following the child's seventh birthday.²²

For a comparison group we take the equivalent cohort one year earlier, i.e. those grandfathered parents with a youngest child aged six years old on 1st July 2006. The youngest children of the parents in this group will turn seven during the subsequent year running up to 30th June 2007, but this will not trigger activation because of the grace period for grandfathered parents. Individuals are assumed to be at risk of exit from the 30th June 2006 (comparison group) or the 30th June 2007 (treatment group), with ongoing episodes treated as right-censored as of 30th June 2007 (comparison group) or 30th June 2008 (treatment group).

Our outcomes of interest are the single risk hazard rate for exit from PP (including exit to other IS payments) and competing risk hazard rates for exits from PP to other IS benefits and exits from PP off IS altogether.²³ We take a reduced form Cox Proportional Hazards (CPH) approach to estimation (see van den Berg, 2001) as given below:

$$h(t) = h_0(t) \exp(\alpha D + \beta_1 x_1 + \dots + \beta_N x_N + \gamma_1 \text{treatmentgroup} + \gamma_2 \text{turned7} + \delta \text{turned7} * \text{treatmentgroup}) \quad (1)$$

²¹ We require that the probability of being treated is independent of outcomes, conditional on observed characteristics and other control variables. One potential problem is that those with unobserved characteristics associated with higher hazard rates are less likely to survive until treatment compared to those with less favourable characteristics. This is reinforced by the nature of the phase-in because those deemed furthest from the labour market are treated up to one year earlier than those deemed closer to the labour market.

²² These advantages must be balanced against the possibility that if treatment effects are heterogeneous by age of youngest child then our estimates may not generalize well for those with youngest child aged eight years or above.

²³ For tractability we assume independent competing risks.

In (1), $h(t)$ is the hazard rate for the relevant outcome, $h_0(t)$ is the baseline hazard, D is elapsed duration in the current episode prior to 30th June 2006, $x_1 \dots x_N$ are observed individual characteristics of the parent, e.g. gender, number of children, and whether born outside Australia, *treatmentgroup* is a binary dummy indicating whether the individual is in the treatment group (those with a six year old child on 1st July 2007), and *turned7* is a binary dummy equal to zero for parents with a youngest child aged six and equal to one with a youngest child aged seven. We interpret the interaction of these last two terms as the treatment indicator, with our estimate of the treatment effect therefore given by $\hat{\delta}$.

Specified in this way, the *treatmentgroup* dummy controls for differences in (observed and unobserved) characteristics between the treatment and control groups (which in any case look similar in terms of observed characteristics), and the *turned7* dummy controls for any differences in PP claiming associated with the child turning seven that are not related to activation (which in any case are likely to be small because all six and seven year olds are required to attend school throughout Australia). There are no obvious differential trends or asymmetric shocks for these groups over the period studied. Even in the absence of phasing in of treatment for this restricted sample, however, it is still possible for PP recipients in either the comparison or treatment groups to exit PP before their youngest child turns seven. In other words those still on PP when their youngest child turns seven may form a select group. But because we are looking at a relatively short window (most individuals in both groups survive until this point) and because the groups are observationally similar, this is unlikely to impart a large selection bias.²⁴ Our results are also robust to adding a (gamma-distributed) unobserved heterogeneity term to (1).²⁵

6. Estimated Impacts of Activation on Hazard Rates

First consider the single risk hazard model for exits from PP presented in Table 5. Controls generally take expected signs, although coefficients are not always statistically significant: males have higher hazards; older parents have marginally lower hazards for PPS; immigrant

²⁴ Anticipation effects – in the spirit of Black et al. (2003) – for those whose youngest child is aged six after 1st July 2007, could impart bias. We test robustness to this by including an anticipation dummy equal to one in the last three months prior to youngest child turning seven for the treatment group and zero otherwise. The results suggest no such anticipation effects.

²⁵ One model with unobserved heterogeneity fails to converge because of a flat likelihood function. We therefore present the estimates from the models not including unobserved heterogeneity, for which the full set are available.

PPP recipients have lower hazards; PPS recipients with more children have lower hazards; and the unemployment rate is negatively related to the hazard. Elapsed duration in the current episode prior to being at risk is negatively related to the hazard, consistent with the standard finding of a downward sloping hazard function for welfare exit. Hazards are also lower for those in the treatment group, given activation status, capturing differences in characteristics between the two groups not otherwise controlled for. The zero coefficients on the dummy for youngest child turning seven, both here and in the competing risks estimates, can be interpreted as placebo tests: for those in the comparison group this has no impact on either the single risk hazard or the competing risks hazards.

<Table 5 around here>

Turning to the estimated treatment effects, when the model is estimated on all grandfathered PP recipients, the coefficient on the treatment dummy is large, positive and highly statistically significant, with the single risk hazard 64% higher following treatment than prior to treatment, other things being equal. As a consequence, over the first year of the new regime the caseload for the those grandfathered parents with a youngest child aged 6 at the start of the year fell by 23.5%; without activation it would have fallen by 18.5%.²⁶ To the extent that this estimate generalizes to parents with older children, the caseload impact of these Australian reforms appears closer in magnitude to the reduction in caseload commonly attributed to TANF in the US (e.g. Moffitt, 2008) than to the considerably smaller impacts suggested by Cebulla et al. (2008) for the introduction of WFIs in the UK. Our explanation is that the Australian welfare reforms for this group represent an increase in work-requirements closer to the US TANF case than the UK WFI case.

Estimating the model separately on PPS and PPP recipients suggests the positive impact is common to both payment types, although the impact of activation is larger for PPP recipients (the hazard increases by 88%) compared to PPS recipients (the hazard increases by 51%). PPP recipients may respond more strongly to activation than PPS recipients for a number of reasons. First, working 15 hours per week in paid employment is more likely to render a PPP recipient ineligible for PP on income grounds than is the case for PPS recipients. Second, although increased participation requirements may make PP less attractive for both PPS and PPP recipients, PPP recipients may be better able to compensate at a household level for lost

²⁶ This assumes no re-entry to PP. Grandfathered status is lost a maximum of 12 weeks after exiting the original PP payment, with ex-recipients then treated as new claimants, and therefore, for those with a youngest child aged seven or older, mostly ineligible for PP.

PP income (if they exit) by increasing partner income, e.g. through increased earnings. There may also be compositional differences between PPS and PPP recipients in terms of unobservables – we know from Table 1 that there are differences in observables between the two groups – which could drive differences between the groups in the average impact of activation, although this could work in either direction.

Now consider the competing risks estimates for leaving PP for another IS payment presented in Table 6.²⁷ Few characteristics controls are statistically significant, but where they are they generally take signs as we would expect: males (PPS recipients only), immigrants, those with more children under 16 and those with more previous time in receipt of IS prior to the current spell all have higher hazards for switching between payments, other things being equal. Elapsed duration in the current episode has a marginally significant negative impact on the hazard for exit to other IS payments, but of much smaller magnitude than in the single risk case. Again the treatment group dummy takes a negative sign and the dummy for youngest child turning 7 has no impact on the hazard.

<Table 6 here>

Turning to the estimated treatment effects, for both PPS and PPP recipients there is a large, positive and highly statistically significant impact of activation on the hazard for exit to other IS payments, with the hazard more than doubling in each case. In other words, consistent with earlier evidence for Australia (e.g. DEEWR, 2008) and elsewhere (e.g. Petrongolo, 2009), tightening the conditionality of PP in 2007 had a significant impact in terms of displacement onto other IS payments. Of course those moving to NSA or other ‘active’ IS payments may subsequently be more likely to exit IS than would otherwise have been the case, but those moving to DSP and other less active payments may be less so. The treatment effect appears stronger for PPP recipients compared to PPS recipients, although the difference is smaller than in the single risk case. The implication is that most of the gap in the single risk case is being driven by exits from IS rather than switches between IS payments.

²⁷ In the overall ten percent sample, the most common switch is between the two different PP payments (3066), closely followed by switches to NSA (2853). There are also 1304 switches from PP to DSP and 1355 switches from PP to other IS payments. In the sample restricted to those with a youngest child aged six or seven years, however, only PPP recipients are (potentially) eligible to switch to PPS following activation, although they would lose grandfathered status and would still be covered by the same work-related requirements. (We include such switches in our exits to other IS payments.) Activated PPS recipients cannot switch to PPP because they would be treated as a new claimant and therefore re-directed to another payment, most likely NSA.

Finally consider exits from IS (Table 7). Again controls are either insignificant or take expected signs: males and younger parents have higher hazards; immigrants, those in high unemployment labour markets and those with more previous time in receipt of IS have lower hazards. Again, elapsed duration in the current spell has a large negative impact on the hazard, the treatment group dummy takes a negative sign and the dummy for youngest child turning 7 has no impact.

The estimated treatment effects, for both PPS and PPP recipients, again suggest a large, positive and highly statistically significant impact of activation. So the 2007 reforms did shift low income parents off IS, at least in the short term. These impacts are smaller in proportional terms than the impacts on switches between IS payments, but because the baseline hazard for welfare switches is lower than that for exits from IS, exits to other IS payments only constitute just over one third of the overall impact on caseload.²⁸ The activation impact on exits from IS is considerably larger (more than double) for PPP recipients than for PPS recipients, likely to reflect some combination of tighter income tests for PPP recipients, better ‘outside options’ for PPP recipients and compositional differences between the two groups.

<Table 7 here>

In each case the estimated treatment effects are largely robust to including a dummy for anticipation effects – equal to one for the three months prior to the 7th birthday of the child for those in the treatment group and zero otherwise – although there is a slight fall in magnitude. The anticipation dummy itself is insignificant in all cases, suggesting that parents are not exiting PP in anticipation of activation. They are also robust to estimating on females only, to extending the sample to include those with youngest child aged 6 on 30th June 2008 (censored at 30th June 2009), and to inclusion in (1) of a (gamma-distributed) term for unobserved heterogeneity.

²⁸ The closest we can get to a comparison between the magnitude of this ‘exits from IS’ impact with that estimated by DEEWR (2008) for new claimant lone parents with youngest children aged 6-7 years is to compare the proportion of each group off IS after six months under the actual and counterfactual scenarios in each case. DEEWR (2008) suggest 23% of the new claimants had left IS after 6 months compared to 12% under the counterfactual. Our estimates suggest 12% of the grandfathered cohort had left IS after 6 months compared to 8% under the counterfactual. (Note that this assumes none of those that exit IS re-enter within the 6 months, so this is likely to over-estimate the reduction in IS caseload.)

7. Conclusions

The evidence presented here shows that the welfare to work reforms for Australian low income parents introduced in 2007 led to an increase in exits from PP and a further reduction in PP caseload on top of that caused by the first round of reforms in 2006. Following activation, a typical grandfathered low income parent was more likely to exit PP, driven by increases in the hazards for both switching from PP to another IS payment and for exiting IS altogether. These impacts were large in magnitude, likely reflecting both the nature of the reforms – they represent a substantial increase in work-related requirements – and the strong labour market context in which they were introduced. In both respects these reforms were not unlike the US AFDC/TANF reforms, with impact magnitudes that appear broadly comparable. On the other hand, the fact that the largest (proportional) impact was for shifts between IS payments is likely to reflect the ‘hard-to-help’ nature of this group, many of whom had been on IS for several years prior to activation. Our estimates also suggest smaller impacts than those found by DEEWR (2008) for new claimant parents under the 2006 reforms.

The impact of activation was larger for those in receipt of PPP than for those in receipt of PPS. This was mostly driven by exits from IS and likely reflects tighter income restrictions for PPP eligibility and the opportunity, not open to PPS recipients, of responding to activation requirements by exiting PP and compensating for the loss in household income by increasing partner earnings. Existing evaluations of welfare reforms for low income parents have tended to focus only on lone parents, presumably because few (or in some cases *no*) partnered parents are covered by the welfare payment under consideration (e.g. US TANF). DEEWR (2008) is a partial exception, given that the work requirements introduced as part of the 2006 welfare to work reforms in Australia covered both new claimant lone and partnered parents and were similar for both groups. They find little difference in the magnitude of impacts for the two groups on the probability of exiting IS within six months. This may partly reflect differences in methodology between DEEWR (2008) and the current paper, but it could also reflect different response patterns for new and existing claimants in which case this could be an interesting avenue for further research.

The degree to which these welfare reform impacts represent a reduction in welfare dependence over the longer term is yet to be established. Although we have shown increased exit rates from PP here, many of these exits are to other IS payments, and even for those that

exit IS we have not examined their subsequent welfare claiming behaviour. These questions we also leave for further research. In principle, however, we can use the RED data for this purpose, e.g. by tracking individuals across IS payments and estimating propensities to remain on (or re-enter) welfare one year, two years, three years later for those in the treatment and control groups.

References

- Banks, M. (2005). 'Parents, social security and the JET Active Labour Market Program in Australia: fitting the needs of the market or marketing the need to fit?' Paper presented to Transitions and Risk: New Directions in Social Policy conference, University of Melbourne, 2005.
- Barrett, G.F. and Cobb-Clark, D. (2000). 'The labour market plans of Parenting Payment recipients: information from a randomised social experiment.' *Australian Journal of Labour Economics*, 4, 3, 192-205.
- Black, D.A., Smith, J.A., Berger, M.C. and Noel, B.J. (2003). 'Is the threat of reemployment services more effective than the services themselves? Evidence from random assignment in the UI system.' *American Economic Review*, 93, 4, 1313-1327.
- Blank, R.M. (2002). 'Evaluating welfare reform in the United States.' *Journal of Economic Literature*, 40, 4, 1105-1166.
- Bloom, H., Hill, C., and Riccio, J. (2001). 'Modelling the performance of Welfare to Work Programs: The effects of program management and services, economic environment and client characteristics.' Manpower Demonstration Research Corporation, NY.
- Carcillo, S. And Grubb, D. (2006). 'From inactivity to work: the role of Active Labour market Policies.' OECD Social, Employment and Migration Working Papers No. 36. Paris: OECD.
- Cebulla, A., Flore, G. and Greenberg, D. (2008). 'The New Deal for Lone Parents, lone parent Work Focused Interviews and Working Families Tax Credits: a review of impacts.' Department for Work and Pensions Research Report No. 484. London.
- DEEWR (2008). *Welfare to Work Evaluation Report*. Canberra: Department of Education, Employment and Workplace Relations.
- Dockery, A.M. and Stromback, T. (2004). 'An evaluation of a Parenting Payment intervention program.' *Australian Journal of Social Issues*, 39, 4, 431-442.

Dolton, P., Azevedo, J. and Smith, J. (2006). 'The econometric evaluation of the New Deal for Lone Parents.' *Department for Work and Pensions Research Report No. 356*, London.

Finn, D. and Gloster, R. (2010). 'Lone parent obligations: A review of recent evidence on the work-related requirements within the benefit systems of different countries.' *Department for Work and Pensions Research Report No. 632*, Norwich: HMSO.

Friedlander, D. (1988). *Subgroup Impacts and Performance Indicators for Selected Welfare-to-Work Programs*. New York: Russell Sage Foundation.

Gregory, R.G. and Klug, E. (2002). 'A picture book primer: welfare dependency and the dynamics of female lone parent spells.' Australian National University, Canberra.

Hasluck, C. and Green, A.E. (2007). 'What works for whom? A review of evidence and meta-analysis for the Department of Work and Pensions.' *Department of Work and Pensions Research Report No. 407*, Leeds: HMSO.

Heckman, J.J., Lalonde, R.J. and Smith, J.A. (1999). 'The Economics and Econometrics of Active Labour Market Programs,' in Orley Ashenfelter and David Card (eds) *Handbook of Labour Economics Volume 3A*. Amsterdam: Elsevier.

Lane, P., Casebourne, J., Lanceley, L. and Davies, M. (2011). 'Lone parent obligations: work, childcare and the Jobseeker's Allowance regime.' *Department for Work and Pensions, Research Report 782*, Norwich: HMSO.

Manning, A. (2009). 'You can't always get what you want: the impact of the UK Jobseeker's Allowance.' *Labour Economics*, 16, 239-50.

Martin, J.P., Grubb, D., 2001. 'What works for whom? A review of OECD countries experiences with active labour market policies.' *OECD Working Paper 14*, Paris: OECD.

McVicar, D. and Podivinsky, J.M. (2010). 'Are active labour market programmes least effective where they are most needed? The case of the British New Deal for Young People.' Melbourne Institute of Applied Economic and Social Research Working Paper 16/10, University of Melbourne.

Moffitt, R. (2008). 'Welfare reform: the US experience.' Institute for Labor Market Policy Evaluation Working Paper 2008-13, Uppsala.

OECD (2007). *Babies and Bosses: Reconciling Work and Family Life*, Paris: OECD.

Petrongolo, B. (2009). What are the long term effects of UI? Evidence from the UK JSA reforms.' *Journal of Public Economics*, 93, 1234-1253.

Van den Berg, G.J. (2001). 'Duration models: specification, identification and multiple durations,' in J. Heckman and E. Leamer (eds.) *Handbook of Econometrics Volume 5*, Amsterdam: Elsevier/North Holland.

Figure 1: Number of PP Recipients, Jan 2000 - July 2010

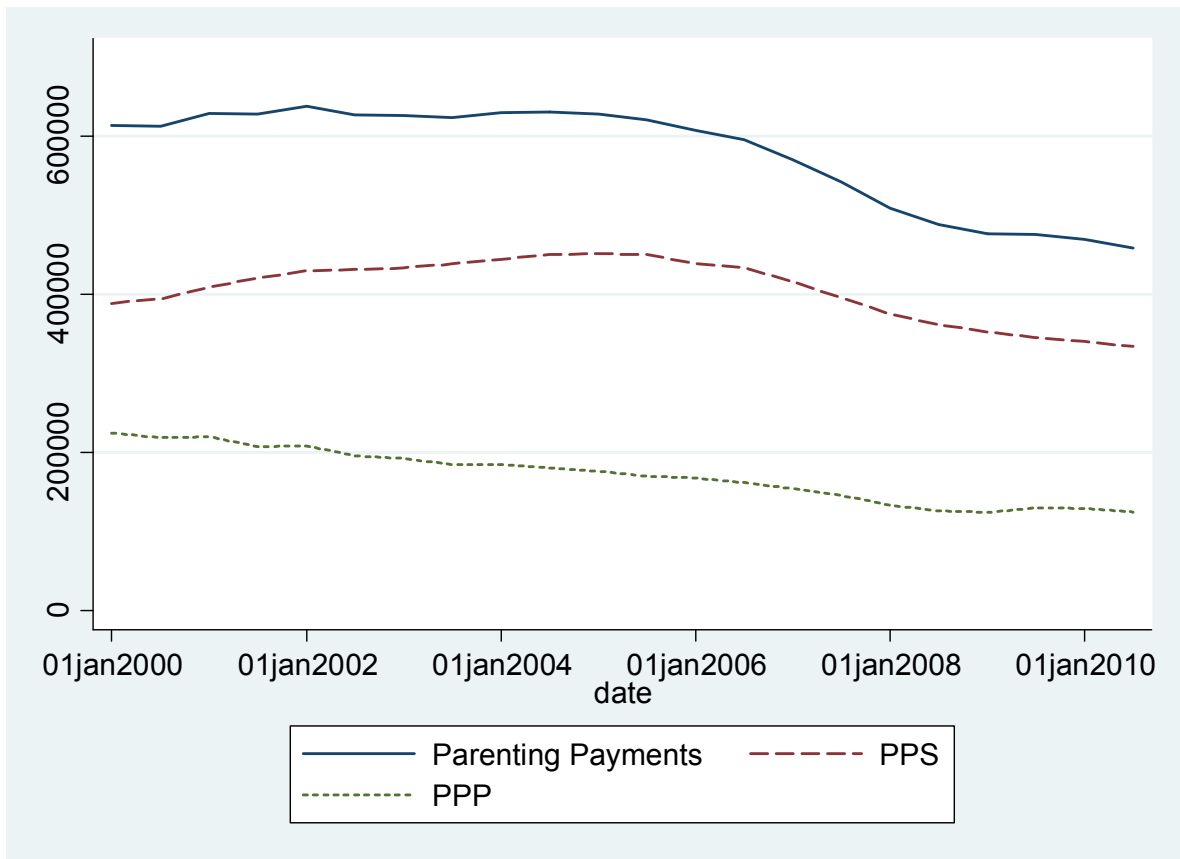
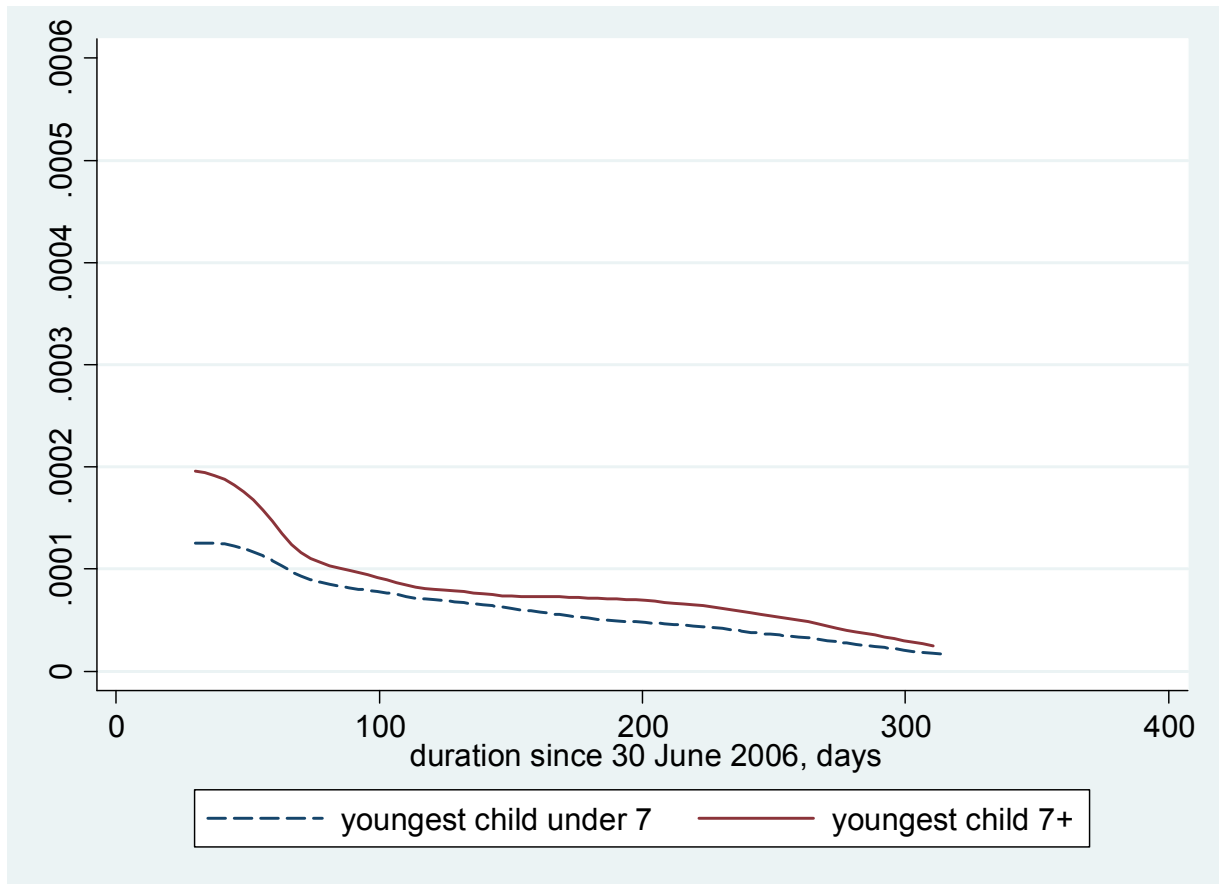
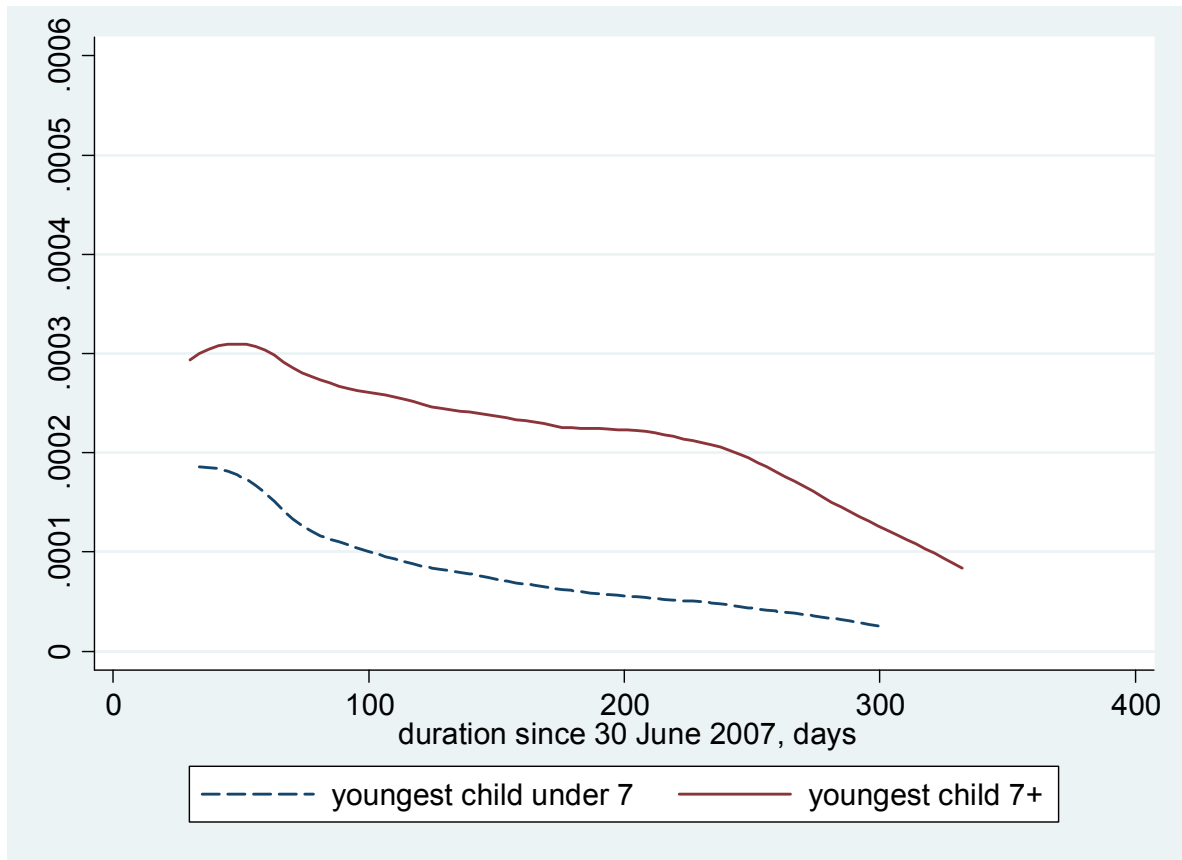


Figure 2: Kaplan-Meier Daily Hazard Rates for Exit to Other IS, by Age of Youngest Child on 30 June 2006, PPS Recipients, Duration since 30 June 2006 (Before Activation)



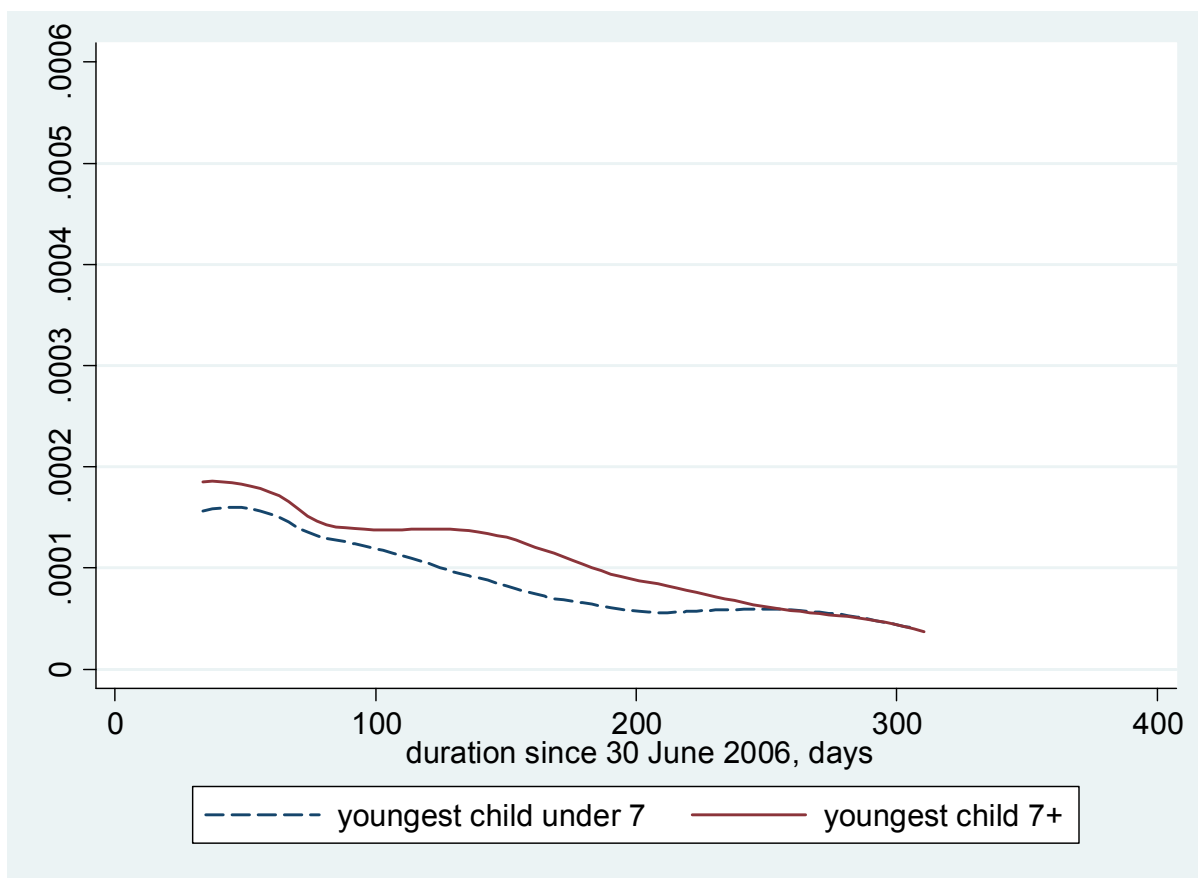
Note: Duration is measured from 30 June 2006 and episodes are treated as right-censored on 30 June 2007.

Figure 3: Kaplan-Meier Daily Hazard Rates for Exit to Other IS, by Age of Youngest Child on 30 June 2007, PPS Recipients, Duration since 30 June 2007 (After Activation)



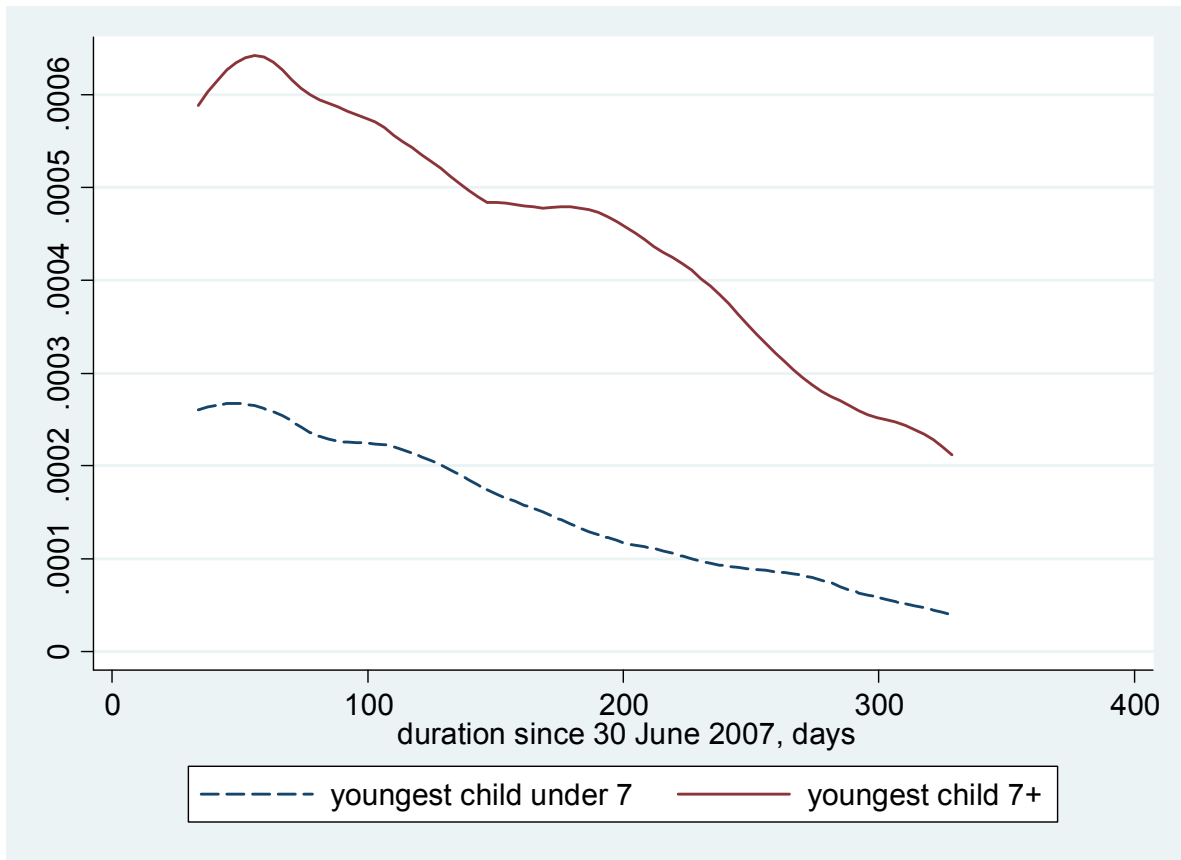
Note: Duration is measured from 30 June 2007 and episodes are treated as right-censored on 30 June 2008.

Figure 4: Kaplan-Meier Daily Hazard Rates for Exit to Other IS, by Age of Youngest Child on 30 June 2006, PPP Recipients, Duration since 30 June 2006 (Before Activation)



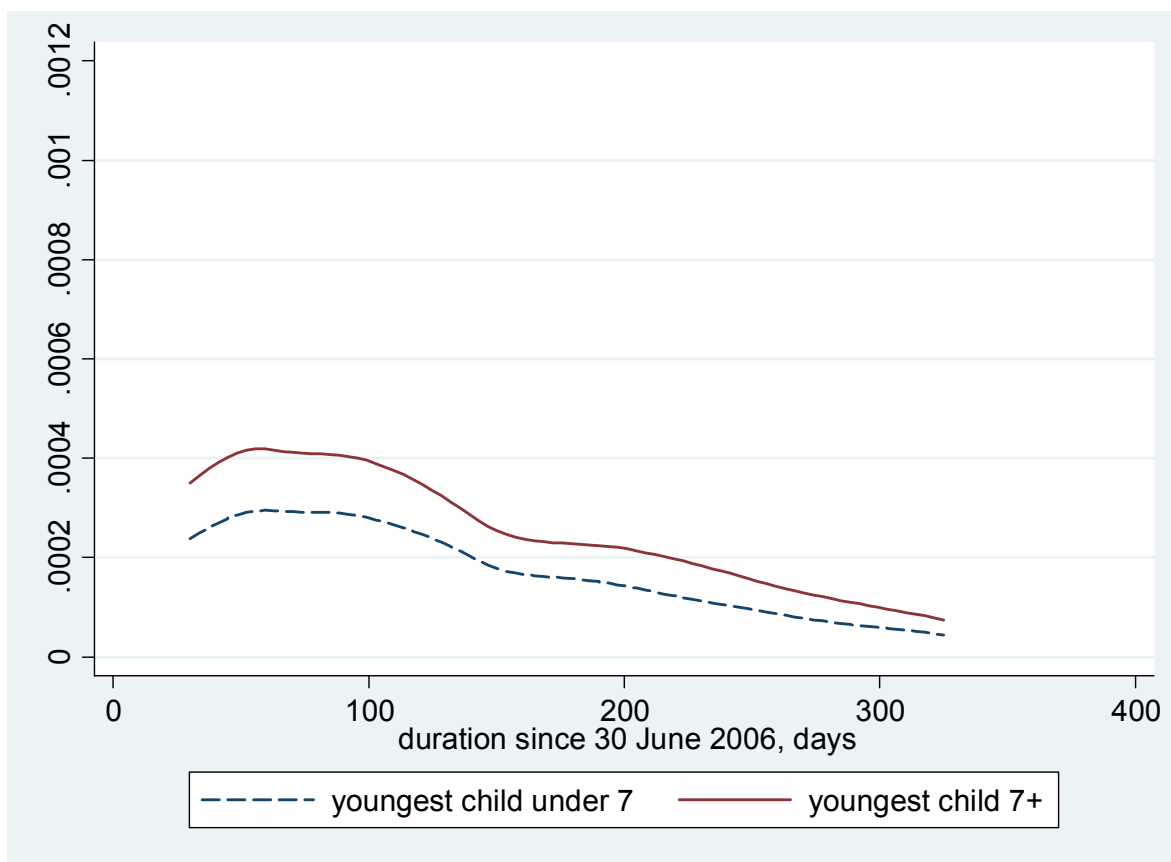
Note: Duration is measured from 30 June 2006 and episodes are treated as right-censored on 30 June 2007.

Figure 5: Kaplan-Meier Daily Hazard Rates for Exit to Other IS, by Age of Youngest Child on 30 June 2007, PPP Recipients, Duration since 30 June 2007 (After Activation)



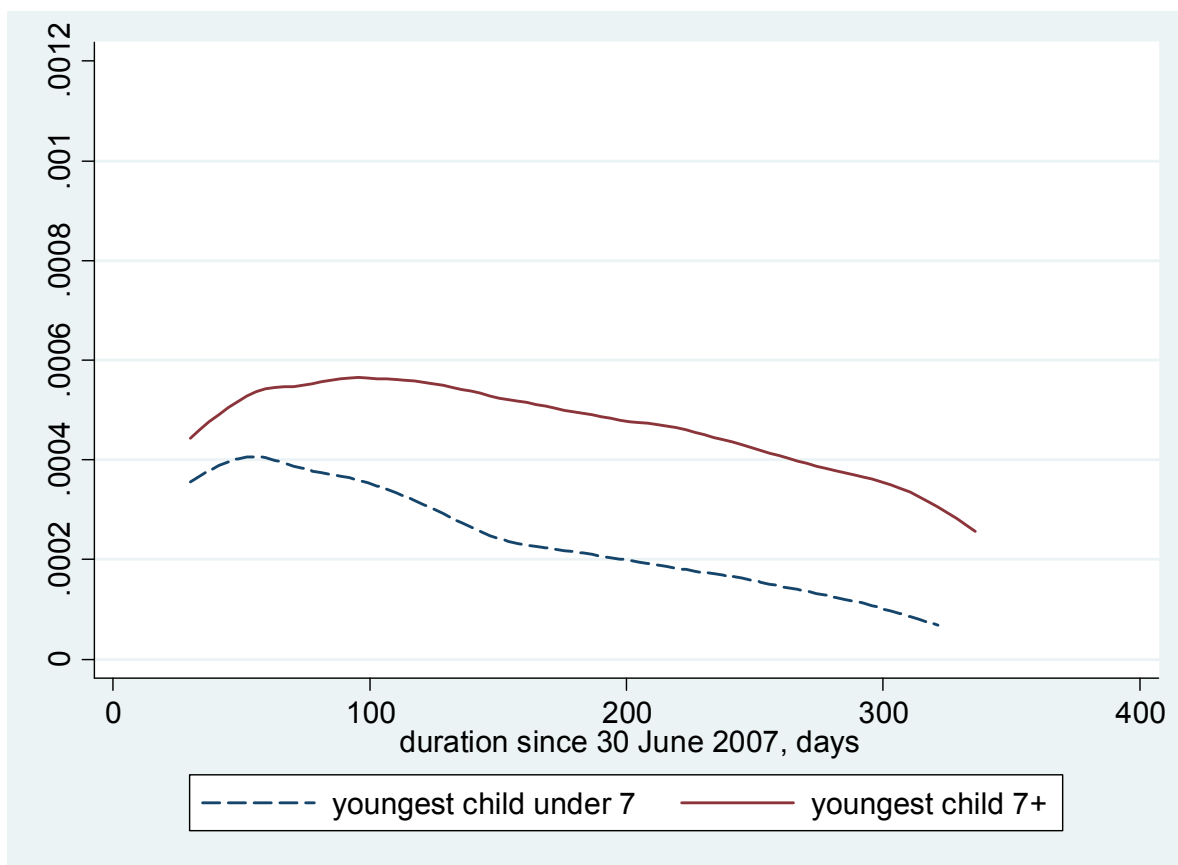
Note: Duration is measured from 30 June 2007 and episodes are treated as right-censored on 30 June 2008.

Figure 6: Kaplan-Meier Daily Hazard Rates for Exit from IS, by Age of Youngest Child on 30 June 2006, PPS Recipients, Duration since 30 June 2006 (Before Activation)



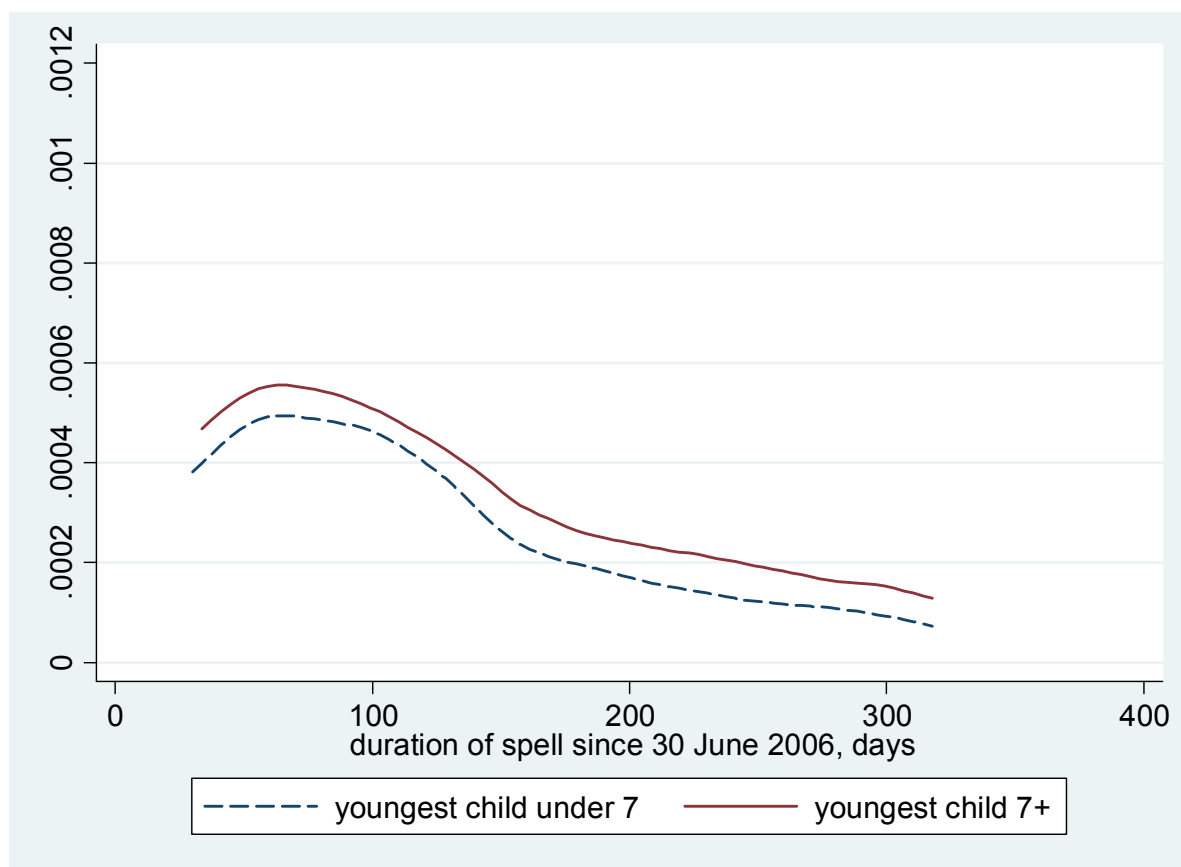
Note: Duration is measured from 30 June 2006 and episodes are treated as right-censored on 30 June 2007.

Figure 7: Kaplan-Meier Daily Hazard Rates for Exit from IS, by Age of Youngest Child on 30 June 2007, PPS Recipients, Duration since 30 June 2007 (After Activation)



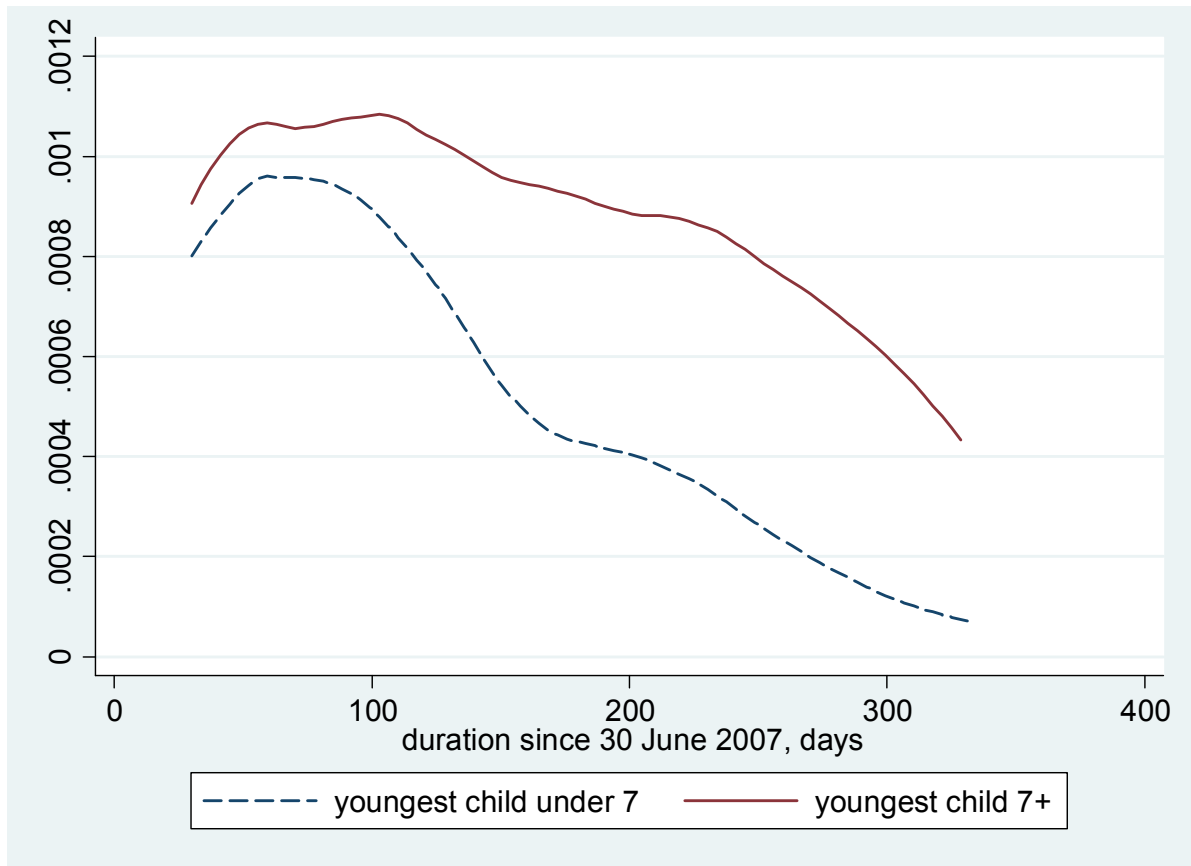
Note: Duration is measured from 30 June 2007 and episodes are treated as right-censored on 30 June 2008.

Figure 8: Kaplan-Meier Daily Hazard Rates for Exit from IS, by Age of Youngest Child on 30 June 2006, PPP Recipients, Duration since 30 June 2006 (Before Activation)



Note: Duration is measured from 30 June 2006 and episodes are treated as right-censored on 30 June 2007.

Figure 9: Kaplan-Meier Daily Hazard Rates for Exit from IS, by Age of Youngest Child on 30 June 2007, PPP Recipients, Duration since 30 June 2007 (After Activation)



Note: Duration is measured from 30 June 2007 and episodes are treated as right-censored on 30 June 2008.

Table 1: Durations and Covariate Sample Means (Standard Deviations), Full Sample

	All PP	PPS	PPP
Completed PP episode duration, days	1716 (1156)	1870 (1149)	1392 (1104)
Episode duration including right-censored episodes	2019 (1172)	2157 (1144)	1649 (1169)
Elapsed duration in current episode to 30 June 2006, days	1218 (1035)	1343 (1039)	954 (975)
Male	.101	.096	.110
Age of parent	36.7 (9.24)	36.9 (9.26)	36.0 (9.18)
Immigrant	.264	.215	.369
Number of children <16	1.67 (.927)	1.55 (.823)	1.94 (1.07)
LFSR Unemployment Rate, %	4.85 (1.31)	4.80 (1.31)	4.97 (1.31)
Previous IS episodes duration (prior to current episode), years	3.96 (3.56)	4.03 (3.58)	3.80 (3.52)
Proportion of episodes ending within window	62.9%	58.4%	74.8%

Note: covariates are measured at end of episode or right-censoring date.

Table 2: Mean Durations (Standard Deviations) and Exit Rates, All PP, Before and After 1st July 2007 by Age of Youngest Child

	Child under 7 at end of episode, episode ends before 1 st July 2007	Child 7+ at end of episode, episode ends before 1 st July 2007	Child under 7 at end of episode, episode ends after 30 th June 2007	Child 7+ at end of episode, episode ends after 30 th June 2007
Completed PP episode duration, days	834 (723)	1568 (1118)	1554 (815)	2436 (1117)
Episode duration including right-censored episodes	722 (954)	1171 (1369)	1310 (1058)	1709 (1414)
Proportion of episodes ending within window	13.9%	13.3%	12.9%	22.7%

Notes: Episode durations refer to complete episodes only and are measured in days. ‘Episode duration including right-censored episodes’ for the period up to 1st July 2007 takes this date as the right-censoring date. The denominator for ‘proportion of episodes ending within window’ is the total number of episodes.

Table 3: Mean Durations (Standard Deviations) and Exit Rates, PPS Only, Before and After 1st July 2007 by Age of Youngest Child

	Child under 7 at end of episode, episode ends before 1 st July 2007	Child 7+ at end of episode, episode ends before 1 st July 2007	Child under 7 at end of episode, episode ends after 30 th June 2007	Child 7+ at end of episode, episode ends after 30 th June 2007
Completed PP episode duration, days	983 (760)	1665 (1102)	1610 (829)	2485 (1101)
Episode duration including right-censored episodes	901 (986)	1897 (1123)	1515 (1061)	2547 (1155)
Proportion of episodes ending within window	10.3%	13.3%	10.8%	23.9%

Notes: Episode durations refer to complete episodes only and are measured in days. ‘Episode duration including right-censored episodes’ for the period up to 1st July 2007 takes this date as the right-censoring date. The denominator for ‘proportion of episodes ending within window’ is the total number of episodes.

Table 4: Mean Durations (Standard Deviations) and Exit Rates, PPP Only, Before and After 1st July 2007 by Age of Youngest Child

	Child under 7 at end of episode, episode ends before 1 st July 2007	Child 7+ at end of episode, episode ends before 1 st July 2007	Child under 7 at end of episode, episode ends after 30 th June 2007	Child 7+ at end of episode, episode ends after 30 th June 2007
Completed PP episode duration, days	658 (633)	1305 (1110)	1465 (786)	2274 (1155)
Episode duration including right-censored episodes	505 (852)	1706 (1190)	1032 (977)	2379 (1243)
Proportion of episodes ending within window	23.6%	13.3%	18.5%	19.4%

Notes: Episode durations refer to complete episodes only and are measured in days. ‘Episode duration including right-censored episodes’ for the period up to 1st July 2007 takes this date as the right-censoring date. The denominator for ‘proportion of episodes ending within window’ is the total number of episodes.

Table 5: Cox Proportional Hazard Model, Single Risk (All Exits from PP), Restricted Sample, Coefficients (Standard Errors)

	All Grandfathered PP Recipients	Grandfathered PPP Recipients	Grandfathered PPS Recipients
Activation	.639*** (.104)	.882*** (.183)	.511*** (.127)
Treatment group	-.232*** (.075)	-.195 (.134)	-.204** (.091)
Youngest child 7 years old	-.021 (.076)	-.034 (.131)	.003 (.093)
Male	.234*** (.083)	.135 (.127)	.144 (.111)
Age of parent	-.007* (.004)	.006 (.007)	-.017*** (.005)
Immigrant parent	-.020 (.060)	-.390*** (.097)	-.026 (.079)
Number of children under 16 years	.021 (.026)	.003 (.040)	-.066* (.037)
LFSR unemployment rate, %	-.054*** (.020)	-.079** (.036)	-.053** (.024)
Past IS duration, years	-.007 (.007)	-.007 (.014)	-.006 (.009)
Elapsed duration of current episode prior to 30 June 2006 (control group) and 30 June 2007 (treatment group), years	-.145*** (.011)	-.140*** (.018)	-.142*** (.014)
No. Individuals	6490	1486	5004
No. Failures	1552	517	1035
Log (pseudo)likelihood	-13284	-3603	-8616

Notes: ***, ** and * denote statistical significance at 99%, 95% and 90% respectively. The restricted sample combines those with a youngest child aged 6 years on the 30th June 2006 (control group) and those with a youngest child aged 6 years on 30th June 2007 (treatment group). Returners to PP after 30 June 2006 are omitted. The treatment group dummy is equal to 1 for those in the latter group and 0 for those in the former group. The youngest child aged 7 dummy is equal to one for those with a youngest child aged 7 years and 0 otherwise. Activation is a binary dummy equal to the product of the treatment group and youngest child aged 7 dummies. Age of parent is expressed in years. Past IS episode duration is expressed in years (since 1st January 1998) as is elapsed duration of current episode. Results are presented in coefficient form, i.e. the β s, γ s and δ s from Equation (1), and are interpretable as semi-elasticities. Robust standard errors in parentheses.

Table 6: Cox Proportional Hazard Model, Exit to Other IS, Restricted Sample, Coefficients (Standard Errors)

	All Grandfathered PP Recipients	Grandfathered PPP Recipients	Grandfathered PPS Recipients
Activation	1.14*** (.223)	1.23*** (.362)	1.07*** (.282)
Treatment group	-.489*** (.171)	-.473* (.285)	-.446** (.217)
Youngest child 7 years old	-.057 (.163)	-.064 (.261)	-.027 (.210)
Male	.231 (.174)	-.208 (.283)	.386* (.218)
Age of parent	.004 (.010)	.007 (.017)	-.004 (.013)
Immigrant parent	.252** (.120)	.049 (.183)	.061 (.175)
Number of children under 16 years	.098* (.054)	-.047 (.083)	.083 (.078)
LFSR unemployment rate, %	.050 (.042)	.046 (.071)	.027 (.053)
Past IS duration	.101*** (.012)	.114*** (.027)	.107*** (.014)
Elapsed duration of current episode prior to 30 June 2006 (control group) and 30 June 2007 (treatment group), years	-.039* (.022)	-.008 (.034)	-.048* (.029)
No. Individuals	6490	1486	5004
No. Failures	358	136	222
Log (pseudo)likelihood	-3029	-944	-1821

Notes: ***, ** and * denote statistical significance at 99%, 95% and 90% respectively. The restricted sample combines those with a youngest child aged 6 years on the 30th June 2006 (control group) and those with a youngest child aged 6 years on 30th June 2007 (treatment group). Returners to PP after 30 June 2006 are omitted. The treatment group dummy is equal to 1 for those in the latter group and 0 for those in the former group. The youngest child aged 7 dummy is equal to one for those with a youngest child aged 7 years and 0 otherwise. Activation is a binary dummy equal to the product of the treatment group and youngest child aged 7 dummies. Age of parent is expressed in years. Past IS episode duration is expressed in years (since 1st January 1998) as is elapsed duration of current episode. Results are presented in coefficient form, i.e. the β s, γ s and δ s from Equation (1), and are interpretable as semi-elasticities. Robust standard errors in parentheses.

Table 7: Cox Proportional Hazard Model, Exit from IS, Restricted Sample, Coefficients (Standard Errors)

	All Grandfathered PP Recipients	Grandfathered PPP Recipients	Grandfathered PPS Recipients
Activation	.482*** (.118)	.758*** (.213)	.346** (.143)
Treatment group	-.166** (.083)	-.095 (.152)	-.151 (.100)
Youngest child 7 years old	-.006 (-.086)	-.017 (.154)	.015 (.103)
Male	.243*** (.094)	.215 (.145)	.081 (.129)
Age of parent	-.012*** (.005)	.004 (.08)	-.023*** (.006)
Immigrant parent	-.103 (.068)	-.551*** (.115)	-.052 (.088)
Number of children under 16 years	-.001 (.031)	.019 (.045)	-.110*** (.041)
LFSR unemployment rate, %	-.084*** (.023)	-.130*** (.043)	-.073*** (.027)
Past IS duration, years	-.046*** (.008)	-.049*** (.016)	-.048*** (.010)
Elapsed duration of current episode prior to 30 June 2006 (control group) and 30 June 2007 (treatment group), years	-.173*** (.013)	-.188*** (.022)	-.170*** (.016)
No. Individuals	6490	1486	5004
No. Failures	1194	381	813
Log (pseudo)likelihood	-10186	-2633	-6742

Notes: ***, ** and * denote statistical significance at 99%, 95% and 90% respectively. The restricted sample combines those with a youngest child aged 6 years on the 30th June 2006 (control group) and those with a youngest child aged 6 years on 30th June 2007 (treatment group). Returners to PP after 30 June 2006 are omitted. The treatment group dummy is equal to 1 for those in the latter group and 0 for those in the former group. The youngest child aged 7 dummy is equal to one for those with a youngest child aged 7 years and 0 otherwise. Activation is a binary dummy equal to the product of the treatment group and youngest child aged 7 dummies. Age of parent is expressed in years. Past IS episode duration is expressed in years (since 1st January 1998) as is elapsed duration of current episode. Results are presented in coefficient form, i.e. the β s, γ s and δ s from Equation (1), and are interpretable as semi-elasticities. Robust standard errors in parentheses.