Welfare-to-Work Reform and Intergenerational Support: Grandmothers' Response to the 1996 PRWORA

HO, Christine
Singapore Management University, christineho@smu.edu.sg

Welfare-to-Work Reform and Intergenerational Resource Allocation: A Look at Elderly Women's Behaviour[*]

Christine Ho[†]

Preliminary Draft
October 2008

Abstract

The 1996 PRWORA legislation in the USA was aimed at encouraging work among low income families and ending their dependence on welfare. There is general consensus in the literature that the reform increased labour supply of low educated mothers. This paper looks at the potential indirect impacts of the reform on elderly women related to those low educated mothers. Using a difference-in-differences strategy on data from the Health and Retirement Study, we find that the reform crowded out intergenerational transfers of time but crowded in intergenerational transfers of money while single elderly women slightly increased their labour supply. Our results are consistent with an intergenerational family risk sharing network where higher child care subsidies motivate the family to shift away from grandmother provided child care to formal child care, and where elderly women increase money transfers to either help cover the remaining cost of formal care or to partly compensate for the loss in benefits of young welfare leavers.

JEL Codes: I38, J14, J22
Keywords: Welfare Reform, Indirect Treatment Effects, Intergenerational Family

---

[†]Department of Economics, University College London. Email: uctpmch@ucl.ac.uk

1 Introduction

The 1996 Personal Responsibilities and Work Reconciliation Act (PRWORA) in the USA was a major legislative reform whose main objective was to get low income families off welfare and into work. The reform replaced Aid to Families with Dependent Children (AFDC) with Temporary Assistance to Needy Families (TANF) and combined four different child care programs into a single block fund, the Child Care and Development Fund (CCDF). The three main features of the reform were (1) stricter work requirements, (2) time limits on benefits, and (3) increased child care funding. There is general consensus in the literature[1] that the welfare reform increased the labour supply of low educated mothers in the USA.

In this paper, we take the analysis one step further by estimating the potential indirect impacts of the 1996 reform on extended family members. More specifically, we focus on the intergenerational transfers of time and money that elderly women make to their adult children, and on the labour supply behavior of those elderly women. Intuitively, while elderly women with adult children are not directly eligible to receive TANF benefits, the reform might have had an indirect impact on them via the intergenerational transfers of time and money that they make to their potentially eligible adult daughters.

The intergenerational family forms a natural informal support network and there is evidence in the literature[2] that intergenerational transfers of both time and money are still prevalent in the USA and especially among low income families. Over the past few decades, the USA has also witnessed an increase in grandparent involvement in grandchild care in the form of both (1) increased number of children living with their grandparents and (2) increased number of children being taken care of by a grandparent during the day. For instance, data from the US Census 2000 report shows that there has been nearly a doubling in the number of children under 18 living in grandparent headed households[3], from 2 million or 3.2% in 1970 to 4.5 million or 6.3% in 2000. Meanwhile, there has been a steady increase in grandparent care use by employed mothers with children under 5 from 15.9% in 1985 to 19.6% in 2005. On average, conditional on receiving grandparent care, preschoolers with employed mothers were spending 24 hours per week in grandparent care while preschoolers with non employed mothers were spending 12 hours per week in grandparent care[4].

Several studies have sought to estimate the impact of welfare reforms on labour supply

---

[1]Comprehensive literature reviews are provided in Moffitt (2002), Blank (2002), Grogger and Karoly (2005).

[2]McGarry and Schoeni (1995), Soldo and Hill (1995)

[3]Such trends have been attributed to rising substance abuse, AIDS, unemployment, teen pregnancy, and rising out of wedlock birthrates. The median age of US grandparent caregivers is 57. The majority, 68% of grandparent caregivers are White while 29% are African-American.

[4]Source: US Census Bureau Reports "Who's Minding the Kids? Child Care Arrangements" based on data from the Survey of Income and Program Participation (SIPP)

of low income families. McKernan and al (2000) use a difference-in-differences approach on Current Population Survey (CPS) data, and find that the TANF reform increased the labour force participation of single women with children. Using state variation in the timing of implementation of TANF, O'Neill and Hill (2001) find that TANF accounted for 60% of the increase in labour force participation of single mothers between 1996 and 2000. Grogger (2003) find that time limits accounted for 7% increase in employment of female headed families during the period 1993 to 1999, using CPS data. On the other hand, Schoeni and Blank (2000) analyse the impact of the early 1990's waivers and the impact of TANF on labour supply of women. They find that the early waivers accounted for most of the increase in labour force participation of women with TANF having only small additional impacts.

Studies which focused on the impact of child care subsidies on employment of mothers include Blau and Tekin (2003) and Tekin (2005). Using data from the National Survey of American Families (NSAF), Blau and Tekin (2003) find that child care subsidies accounted for 38% of the rise in labour force participation of single mothers. Instrumenting actual subsidy receipt data from the 1999 National Survey of America's Families, Tekin (2005) finds that child care subsidies increased employment of single mothers and also moved child care from parental and relative care to centre based care.

Overall, the literature on welfare reforms in the 1990's USA tends to agree that the reform did increase labour force participation of women, and especially that of single mothers. To our knowledge, this study is the first addressing the issue of potential indirect impact of the 1996 PRWORA legislation on extended family members. Such indirect impacts might have important implications for welfare analysis, especially if government help is actually crowding out intergenerational transfers and affecting other generations as well. We therefore seek to answer two main questions in this study: (1) Did the reform crowd out intergenerational transfers of time and money? and (2) Did the reform influence elderly women's labour supply behavior? Although we also look at potential impacts across adult siblings, we focus the analysis on grandmothers, who are the main source of observed intergenerational transfers in our dataset.

We estimate the impact of the reform on extended family members using data from the Health and Retirement Study (HRS). The HRS is a longitudinal dataset starting from 1992 onwards and has as main respondents elderly people born between 1931 to 1941, making them an ideal group for analysis since this age group tends to give a lot of intergenerational transfers. We use a difference-in-differences approach to estimate the impact of the reform on extended family labour supply behaviour. To this purpose, we define the control group as extended families with no young working age women eligible for TANF benefits, and the treatment group as extended families with at least one young working age woman potentially eligible for

TANF. We construct our eligibility criteria based on whether any young working age woman has a child under 18, has less than high school education and is either single or married with spouse unemployed.

We first estimate the impact of the TANF reform on the labour force participation of the eligible young women to see whether the reform had any impact on the eligible group of young mothers. We then proceed to estimate the indirect impact of the reform on their female siblings to capture the potential intra-generational impacts of the reform. Finally, we estimate the indirect impact of the reform on the work behaviour of elderly females related to eligible young women, as well as the impact of the reform on overall intergenerational transfers of time and money made by those elderly women to their adult children.

Results from our intergenerational analysis using HRS indicate an increase in labour force participation of the eligible group of young working age mothers[5]. However, the impact of this increase is small and insignificant for intergenerational families living together. The reform also seems to have had important impacts on single elderly women. For this type of family, we observe crowding out of intergenerational transfers of time and crowding in of intergenerational transfer of money, as well as a slight increase in the labour supply of elderly women. This result suggests that while stronger work requirements and time limits on benefits could have motivated young mothers to increase labour supply and thereby be in greater need of child care, it is possible that the impact of child care subsidies could be important in motivating low income families to substitute from informal grandmother care to formal day care, thereby enabling the grandmother to work longer hours on the market and give more financial help to their adult daughters. Moreover, for those young mothers who were motivated to leave the TANF program as a result of stricter work requirements and time limits on benefits, it is possible that the loss in welfare benefits contributed to the crowding in of private intertergenerational transfers of money from the elderly women. We found no impact for married elderly women.

Section 2 provides background information on the reform. In Section 3, we present economic intuition on the different channels via which the reform might affect elderly women. We then present our empirical strategy in Section 4 and results from the HRS in Section 5. We conclude in section 6.

---

[5]We do not observe labour hours for the young women in the HRS and therefore limit our analysis to labour force participation

2 Background

In this section, we give a brief description of the reform[6] and present some trends corroborating what is already known in the literature on welfare-to-work reforms.

2.1 Welfare Reform

The 1996 Personal Responsibilities and Work Reconciliation Act (PRWORA) was a major legislative reform that replaced the Aids to Families with Dependent Children (AFDC) with the Temporary Assistance to Needy Families (TANF) and combined four different child care programs into a single block fund, the Child Care Development Fund (CCDF). The reform was implemented over the period between September 1996 to May 1997 and was aimed at getting low income families off welfare and into work. Under TANF, states receive a block grant allowing them much flexibility in running welfare programs defined within broad federal guidelines. Three main components of the reform were: (1) stricter work requirements, (2) time limits on benefits and (3) increased child care funding.

Eligibility for TANF Benefits   An eligible family is one where there is a child under 18 and where the family's current income and assets fall below certain standards[7]. Many states maintained the income eligibility tests that existed under AFDC i.e. (1) that family income before earnings disregards had to be lower than 185% of state's needs standard and (2) that family income after earnings disregards had to be lower than state's payment standard. Under AFDC, countable assets had to be less than $1,000 (where the definition of countable assets excludes the value of certain assets such as a vehicle worth up to $1,500). Under TANF, many states raised asset limits and increased the vehicle exemption. Two parent families are eligible for benefits based on the family's financial circumstances and include families where one parent is unemployed or incapacitated.

Work Requirements   The Job Opportunities and Basic Skills (JOBS) program introduced by the Family Support Act of 1988 required non exempt families on welfare to engage in work related activities. In 1994, families were required to participate in work related activities of at least 20 hours a week. Families with children under 3 (or 1 at state option) could be

---

[6]Detailed information of the reforms is available in the US Green Book. The State Policy Documentation Project (SPDP) provides useful summarised information on the various reform components while the Administration for Children and Families (ACF) [US Department of Health & Human Services] provides information on the Child Care Development Fund (CCDF).

[7]Detailed information are available in the Annual Reports to Congress available from the Department of Health and Human Services. A summary of state plans as from October 1997 is available in Gallagher & al (1999).

exempted from the work requirement while non exempt families not complying with the work requirements could face sanctions involving reductions in their benefits.

Under TANF, work requirements were even stricter: single parent families were required to engaged in work related activities for at least 20 hours a week in 1997, increasing to 30 hours a week by 2000 while two parent families were required engaged in work related activities for at least 35 hours a week in 1997. States are allowed to exempt single parents with children under age 1 from the work requirement (or with children less than 6 years provided the parent can demonstrate unavailability of appropriate child care within reasonable distance of home or work). Under federal guidelines, non exempt families on welfare had 24 months to comply with the work requirements or face sanctions ranging from losing a percentage of TANF benefits until compliance to losing the benefits permanently[8].

Time Limits   Time limits are arguably the most significant change introduced by the 1996 PRWORA. While under AFDC, recipients faced no time limits on benefits, under TANF, recipients face a maximum federal lifetime limit of 60 months on benefits. States are allowed to impose more stringent limits to beneficiaries of TANF benefits coming from the federal grant and many states did so. States are also allowed to exempt 20% of caseloads from the limit or use state funds should they wish to extend the benefits.

Child Care Development Fund   The 1996 PRWORA also combined four different child care programs[9] into a single block grant fund, the Child Care and Development Fund (CCDF), whose main goal is to facilitate transition from welfare to work. Under PRWORA, states were required to maintain at least 100% of their 1994 or 1995 child care expenditures whichever is highest. Moreover, states are allowed to transfer up to 30% of their federal TANF allocation to the CCDF. From 1996 to 2002, federal funding totaling more than $69 billion supported the child care needs of low income working families with a rise of 89% in child care subsidies between 1993 and 2000.

Families whose income does not exceed 85% of state median income and with children under 13 are eligible for child care subsidies under CCDF. In addition, parents must be involved in a work related activity. Parents are free to choose any legally operating child care provider which includes centre based, in home and family care. In 1998, 22 states limited the use

---

[8]Many states also imposed stricter sanctions for non compliance with the work requirements due to federal stricter caseloads requirements. For instance, in 1994, states were required to get 15% of caseloads in work related activities compared to 25% [75%] in 1997 increasing to 50% [90%] by 2000 for single [two] parent families.

[9]The four previous programs were the AFDC Child Care, At Risk Child Care, Transitional Child Care and Child Care Development Block Grant

of in home care[10] and 14 states required all family home providers paid through the CCDF to be subject to licensing[11]. For those family home providers not licensed, states have prior standards imposed such as health and safety self certification, maintenance of immunisation records, no criminal records, health tests, annual inspections, health and safety training etc.

2.2 Trends

2.2.1 Comparison Groups

The main aim of the 1996 PRWORA legislation was to get low income families off welfare and into work. Eligibility for TANF benefits is based on whether a family has a child under 18, and income and assets below certain limits as described above. We use education as a proxy for determining low income families and construct our eligibility criteria based on whether we have a working age woman with children under 18, who has less than high school education, and is single or married with spouse unemployed[12].

2.2.2 Trends in Young Women's Labour Supply Behaviour

The increase in labour force participation of women over the past couple of decades is well known[13]. In this section, we look at trends in the work behaviour of working age young women. We use data from the Panel Study of Income Dynamics (PSID) years 1980 to 2004. The PSID is a longitudinal dataset of individuals starting in 1968 and conducted yearly until 1997 when it was conducted biennially onwards. Each interview contains detailed information on heads and spouses, such as demographics, labour supply, income etc[14]. We limit the sample to young women aged between 18 to 49 and split them into a treatment group and a control group.

Figures 1 and 2 show trends in labour supply behaviour of young working age women with Figure 1 showing average labour force participation and Figure 2 showing average weekly hours

---

[10]Limits imposed usually involves imposing a minimum number of children to be served or health and safety standards. Those limits arise out of financial reasons or of concern for quality and health standards.

[11]In 2004, 35 states limited the use of in home care and 16 states required all family home providers paid through the CCDF to be subject to licensing. Source: *CCDF Report of State Plans [US Department of Health and Human Services]*.

[12]Education and marital status could also be arguably endogenous. We include family fixed effects in our models thereby allowing for education and marital status to be correlated with the fixed effects. Under the assumption that the explanatory variables are uncorrelated with our transitory error term, the difference-in-differences estimation should therefore identify the average treatment effect on treated.

[13]Labour force participation of women with children under 18 increased from 47% to 71% in between 1975 and 2006. Source: *Bureau of Labour Statistics*

[14]For the years in between the biennial interviews, we took the average of the variables between the preceding year and the following year. Questions concerning labour supply include current labour force participation and previous year's weekly hours of work. We consider a women as working in the previous year if she reported positive weekly hours of work.

Figure 1: Young Women's Labour Force Participation PSID
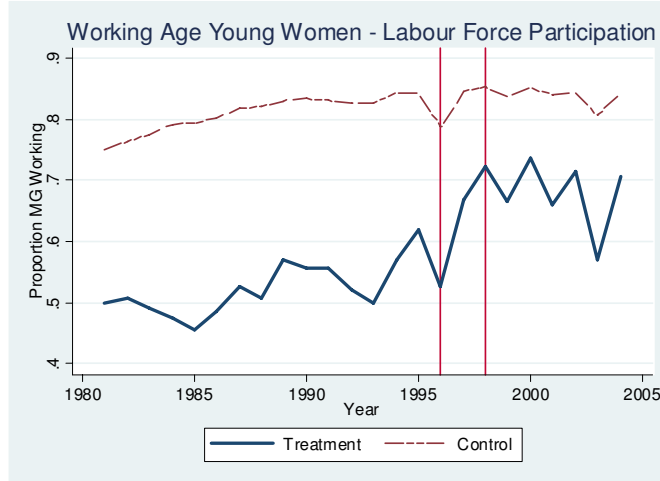
of work. The solid dark lines represent labour supply of the treatment group and the pale dotted lines represent labour supply of the control group. The vertical lines indicate the period during which the 1996 PRWORA legislation was implemented. As can be seen in Figure 1 both the proportion of young working age women working and the average weekly hours of work for treatment group are considerably lower than those of the control group. However, there is a visible increase in labour supply at both the extensive and the intensive margin after the 1996 PRWORA legislation suggesting that the reform might have contributed to the increase in labour supply of young working age women.

In Appendix B, we assess whether the PRWORA reform had any impact on the labour supply behaviour of low income young mothers, the main target of the reform using the PSID. The length of the dataset allows us to perform trends tests prior to the reform among our control and treatment groups. Moreover, the observation of detailed geographic information allows us to differentiate to some extent between the impact of pre PRWORA waivers and the actual 1996 legislation. Our results from the PSID indicate that the TANF reform has increased both work participation and labour hours of low educated young mothers. Moreover, we find that the 1996 PRWORA had stronger significant effects compared to the early 1990's waivers. More in detail in Appendix B[15].

_____

[15]The PSID also follows split-off family members so that several nuclear families from different household units can be linked together to form an intergenerational family. Unfortunately, the intergenerational family samples are quite small in the PSID. The PSID also has very limited information on intergenerational transfers of time and money. Intergenerational transfer of money observed from family members in the PSID is from all relatives and not just from the grandparent household. Intergenerational transfers of time in the form of

Figure 2: Young Women's Labour Supply PSID
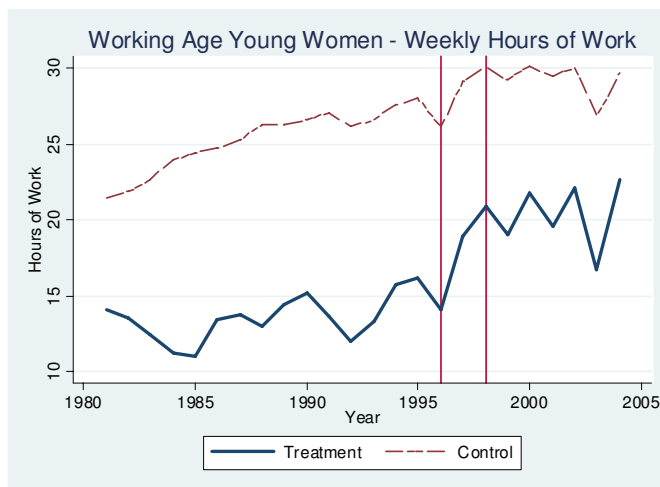
3   Intergenerational Family Labour Supply and Transfers Behaviour

In this section, we analyse how the reform could have affected intergenerational transfers of time and money and labour supply behaviour within an intergenerational family. The presence of an informal support network in the form of the intergenerational family could potentially lead to unexpected impacts of the reform such as crowding out of private transfers and adjustments in the labour supply of intergenerational family members. We focus the analysis mainly on elderly women (the grandmothers) since they are the ones who are most likely to be involved in grandchild care and therefore the ones most likely to adjust behaviour as a result of welfare to work reforms affecting their adult daughters.

3.1   How would Eligible Young Mothers be Affected?

There is general consensus in the literature that stricter work requirements, time limits on benefits and increased child care subsidies, would encourage low skilled young mothers to increase their labour supply and leave welfare. To sum up, Figure 3 illustrates a simplified example of introducing stricter work requirements and child care subsidies on the budget

---

grandchild care can only be observed from 1997 onwards using the Child Development Survey (CDS) where the grandmother can be traced back to the PSID if she is the main caregiver of the child. Moreover, we have limited information on intergenerational family members living together so that we choose to focus the main intergenerational analysis on HRS data.

constraint of the young mothers in a simple consumption-leisure framework. More in details in Appendix B.

Suppose that a young mother has to employ child care h^F for each hour of work that she does. Also, suppose that if she employs child care, she has to employ it for a minimum amount[16] of time $\underline{h}^F$ such that fixed cost of work in terms of child care is $-w^F \underline{h}^F$. The before reform budget constraint was given by $abcdefg$ with fixed cost of work $-w^F \underline{h}^F$ and with some work requirements H_L as was the case under the AFDC. There is a discontinuity in the budget constraint between ab due to the fixed cost of work. Child care cost also decrease the per hour wage w by the per hour formal care cost w^F. Moreover, once the work requirement is satisfied, the young mother can claim welfare benefits and be on segment ef where the benefits are phased out at benefit reduction rate[17] τ.

Figure 3: Welfare Reform and Young Mothers' Budget Constraint
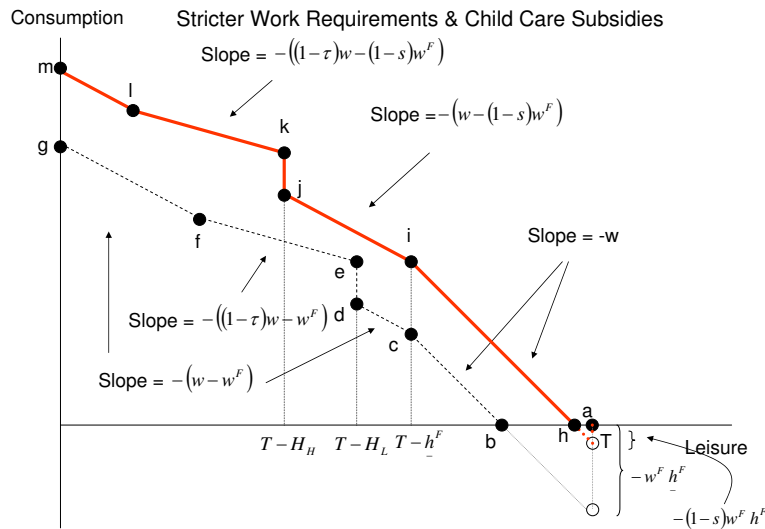
Now suppose that the government introduces stricter work requirements H_H and child care

---

[16]This could be due to minimum hours imposed by child care centres or by babysitters to cover their own fixed costs of providing care.

[17]Most states did not change benefit levels after the reform [Blank (2002), Gallagher & al (1998)]. On the other hand, many states implemented lower benefit reduction rates (BRR). A reduction in the BRR is similar to an increase in wages with opposite income and substitution effects. While the income effect would encourage workers to work less (and consume more leisure under the assumption that the latter is a normal good), the substitution effect would encourage workers to work more. Empirically, the substitution effect tends to dominate for low skilled workers. We therefore expect the reduction in BRR to reinforce the impact of stricter work requirements and increase work incentives for low skilled workers.

subsidies of s per hour of child care employed. The new budget constraint is given by $ahijklm$ with reduced fixed cost of work $-(1-s)w^F\underline{h}^F$ and with some stricter work requirements H_H as was the case under the PRWORA legislation. The discontinuity in the budget constraint between ah is now much smaller due to the reduced fixed cost of work thanks to the child care subsidies. We can immediately see that individuals who were previously at a and not working, would now have higher incentives to enter the labour force. On the other hand those low skilled young mothers who were previously on welfare on segment ef but working less than H_H hours of work would now either (1) stay on the new TANF program and increase labour supply to meet the stricter work requirements, or (2) leave the TANF program.

The introduction of time limits on benefits would also provide further incentives to leave welfare, firstly from a mechanical effect since recipients become automatically ineligible on expiry of the time limit, and secondly from a behavioural effect since some recipients may choose to leave welfare so as to preserve future eligibility. While the mainstream literature concludes that those who leave welfare would automatically increase labour supply so as to become financially independent, this might not be the case in the presence of an informal support network such as the intergenerational family. For instance, elderly women could be increasing private financial transfers to their adult daughters so as to compensate for the loss in welfare benefits. In this case, the impact on labour supply of the young mothers who leave welfare would be ambiguous.

3.2 How would Elderly Women related to Eligible Young Mothers be Affected?

Figure 4 illustrates the main channels through which we expect the reform to have affected intergenerational family behaviour. Starting from the impact of the 1996 PRWORA legislation on young mothers, we expect low skilled mothers to either stay on TANF benefits or leave the TANF program.

As argued above, those who choose to remain on TANF benefits would have to increase labour supply so as to meet the stricter work requirements thereby leading to increased child care needs. While one might expect this to lead to an increase in demand for grandmother provided child care, the increased child care subsidies might lead to a shift from grandmother to formal child care. As outlined in the Background Section 2, many states limited the use of in-home care and subjected family care providers to licensing and health and safety standards. Moreover, young mothers' higher earnings could lead to an income effect leading to greater demands for higher quality care provided by formal child care means. Tekin (2005) finds that child care subsidies moved child care from relative care to centre based care. Thus, if grandmother provided child care decreases as a result, the grandmother would face a time

constraint effect, allowing her to either increase her leisure hours or her work hours on the formal labour market. The impact on financial transfers would be ambiguous. If the elderly women increase work and earn more, they may choose to increase financial transfers to their adult daughters to contribute towards the cost of formal care. However, the latter are also earning more than before and may therefore not need the increased financial transfers.

Figure 4: Welfare Reform and the Intergenerational Family

1996 PRWORA Reform

Work Requirements (WR) + Time Limits (TL) + Child Care Subsidies (CCDF)
↓
Low Skilled Young Mothers

Stay on TANF Benefits   Leave TANF Benefits
↓

↑ Labour supply ⇒ ↑ Earnings	No Change in Labour supply
↑ Child care needs	No Change in Child care needs
↑CCDF ⇒ switch from relative to formal care	↓ Income due to withdrawal of welfare benefits

↓ Grandmother Care	↑↓ Grandmother care
↑↓ Grandmother labour supply	↑ Grandmother labour supply
↑↓ Net Financial Transfers	↑ Net Financial Transfers

Elderly Women

Now, consider a young mother who leaves the TANF program. Leaving welfare generates a negative income effect since she loses welfare benefits[18]. As a result, it is more likely that those young mothers who leave welfare would be receiving higher financial transfers from the elderly grandmothers. In this case, the young mother can either increase her labour supply or not change labour supply by much. If she increases her labour supply, we once again expect her to have higher child care needs. In this case, we get a similar effect as outlined for those who increased labour supply to stay on the TANF program with the increased child care subsidies helping her transition from welfare to work. On the other hand, if the young mothers who leave welfare do not change their labour supply by much, we would not expect much change in child care needs. The withdrawal of benefits would however, cause an income

---

[18]Evidence on total income (earnings plus unearned income) is mixed. Grogger (2003) finds that time limits had no significant effects on income. Schoeni and Blank (2000) find that TANF reform had some significant impact on income: women among the middle and upper income distribution of less skilled women experienced a 3 to 6% rise in income, but women among the lower income distribution of less skilled women experienced no significant impact on income.

effect on the intergenerational family, which might encourage the elderly women to work more and increase financial transfers that they make to their adult daughters. In this case, the impact on grandmother provided child care is ambiguous since the grandmother may choose to decrease grandmother provided care or decrease leisure so as to work more on the formal labour market.

Thus, welfare to work reforms targeting low skilled young mothers could have unintended impacts on economic behaviour when those low skilled young mothers form part of an intergenerational family network. The intergenerational family might adjust time and money transfers as well as labour supply to compensate for the reform impacts on the young mothers. On one hand, the reform could have encouraged young mothers to increase labour supply and substitute from grandmother provided care to formal child care thereby crowding out intergenerational transfers of time with ambiguous impacts on intergenerational transfers of money. On the other hand, the reform could also have encouraged young mothers to leave welfare thereby creating higher needs for private financial transfers. A formal model of intergenerational family behaviour is presented in Appendix C. The net impacts on intergenerational family behaviour remains an empirical question which we now turn to.

4 Empirical Strategy

4.1 Comparison Groups

Eligibility for TANF benefits is based on whether a family has a child under 18, and income and assets below certain limits as described in our Background Section 2. We use education as a proxy for determining low income families and construct our eligibility criteria based on whether we have a working age woman with children under 18, who has less than high school education, and is single or married with spouse unemployed[19].

We separate our intergenerational families into a treatment group and a control group as illustrated in Figure 5. Our treatment group includes those intergenerational families which have at least one adult working age young woman eligible for TANF benefits while our control group includes those intergenerational families which do not have any adult working age daughters eligible for TANF benefits.

---

[19]In the HRS, we cannot construct actual eligibility since we do not observe detailed state information but only census division of residence. Moreover, we only observe bandwidth income information for the adult children. Even if such information were available, earned income being jointly determined with labour supply would make our eligibility variable endogenous. We therefore choose education as a proxy for low income families. Education and marital status could also be arguably endogenous. We include family fixed effects in our models thereby allowing for education and marital status to be correlated with the fixed effects. Under the assumption that the explanatory variables are uncorrelated with our transitory error term, the difference-in-differences estimation should therefore identify the average treatment effect on treated.

Figure 5: Treatment and Control Families
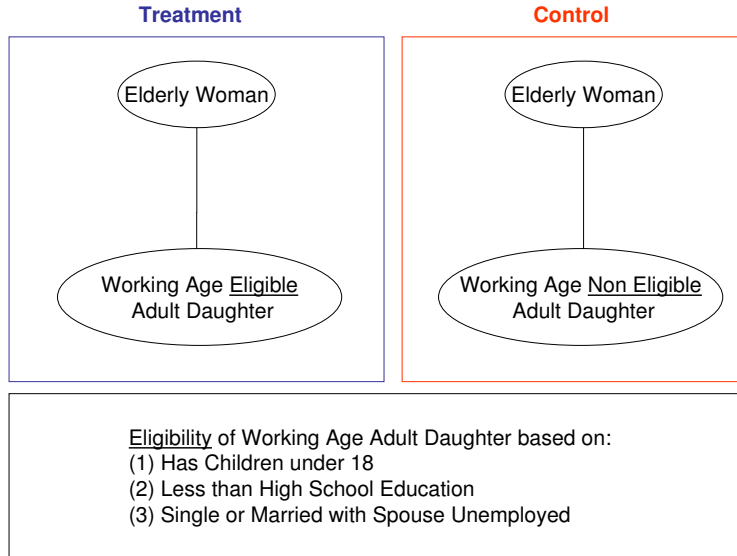
When analysing the impact of welfare reform on eligible young women's labour force participation, we therefore use as treatment the young women eligible for TANF benefits and as control, the young women belonging to control families. Similarly, when analysing the impact of welfare reform on non eligible young women related to the eligible females (adult working age siblings), we use as treatment those young women not directly eligible but in treatment families, and as control those young women not eligible and in control families. The same logic applies to the classification of elderly women into treatment or control group according to whether they are in treatment or control families. Some illustrative figures are presented in the appendix.

4.2   Data

We use data from the HRS corresponding to years 1991 to 2001. The HRS is a biennial survey starting from 1992 onwards, asking retrospective questions of respondents born between 1931 and 1941, and their spouses. It is a comprehensive dataset containing specific information about labour supply of the respondents and their adult children, grandchild care hours, intergenerational transfers of money, as well as a pool of demographic and income variables. We limit our sample to elderly women aged between 50 and 70, and who have at least one adult daughter. We also drop all observations in which the elderly women have children below 18 in

14

their household, so that the elderly women are not directly eligible to apply for TANF benefits themselves.

4.2.1 Young Women Sample

To analyse the impact of the PRWORA reform on low educated young mother's labour force participation, we reshape the data into a young women sample, i.e. with one observation per young woman[20].

Outcome Variables

Eligible Young Women Labour Force Participation In the HRS, we only observe a categorical variable on labour supply of adult children: whether they are not working, working for less than 30 hours or for more than 30 hours per week. We construct a dummy variable taking value 1 if the young woman is working and 0 otherwise. To analyse the impact of the reform on eligible young women, we use eligible young women in treatment families as treatment group and non eligible young women in control families as control group.

Non Eligible Adult Sisters' Labour Force Participation Similarly, to analyse the impact of the reform on non eligible adult sisters of eligible young women, we use non eligible adult sisters in treatment families as treatment group and non eligible young women in control families as control group. Diagrammatic examples are provided in Appendix Section A.1

Summary Statistics Summary statistics for young women are reported in the Table 1 Young Women Sample. We report means and standard deviations (in brackets) for treatment group (T) and control group (C) separately. As can be seen from the Table 1, young women of treatment families tend to be less educated and have more children than those in control families although there does not seem to be much difference in age.

4.2.2 Grandmother Sample

To analyse the impact of the PRWORA reform on elderly women's outcomes, we use the elderly women (grandmother) sample[21].

---

[20] For example, if an elderly woman has two adult daughters, then reshaping the data into a young women sample would yield two observations for this intergenerational family.

[21] We also redid all of our regressions based on the young women sample. All results were qualitatively similar and as significant as those obtained from the grandmother sample. We chose to focus on grandmother's results from the grandmother sample since we are focusing on elderly women's outcomes and using the young women sample might lead to double counting of the grandmothers in both treatment and control groups.

Outcome Variables

Elderly Women Labour Supply Behaviour We look at three different outcomes when analysing elderly women's labour supply behaviour: (a) self reported retirement status and (b) whether the elderly women is currently working for pay and (c) weekly hours of work. (a) In the HRS, elderly women are asked whether they are currently fully retired, partly retired or not retired. We construct a dummy variable taking value 1 if she reports fully or partly retired and 0 otherwise. (b) We also construct a dummy variable taking value 1 if the elderly woman is currently working for pay and 0 otherwise. (c) Weekly hours of work are based on reports on the usual hours of work that the respondent works.

Intergenerational Transfers of Time and Money The HRS designates a family respondent, usually the elderly woman, to answer family related questions and these include grandchild care questions as well as financial transfers to and from adult children. The HRS contains a stepwise question on grandchild care, firstly asking whether the respondent provided more than 100 hours of grandchild care since the last interview and if the answer is yes, how many hours. Similarly, for financial transfers, the respondent is asked whether there were financial transfers of more than $500 since the last interview and if the answer is yes, the amount transferred. We define intergenerational transfers of time as weekly hours of grandchild care and intergenerational transfers of money as weekly net financial transfers i.e financial transfers from the grandparent household to their adult children minus financial transfers from the adult children to the grandparent household. The definition of financial transfers used exclude deeds to a house. They may however, include help with education, gifts or loans. More information on intergenerational transfers data available in the HRS is presented in our Appendix Section A.2.

Summary Statistics Summary statistics for single and married elderly women are reported in the Table 1 Elderly Women Sample. We report means and standard deviations (in brackets) for treatment group (T) and control group (C) separately. As can be seen from Table 1, elderly women in treatment families tend to be poorer, less educated, more likely to be black, have more children and are in poorer health than those in control families.

4.3 Econometric Specification

We use a difference-in-differences approach to estimate the impact of TANF on each outcome. We consider latent variable models of the following form:

$$Y_{ist}^* = \alpha + \delta_{Reform} \cdot (Treatgroup_i \cdot Reform_t)$$

$$+\beta' \mathbf{X_{ist}} + \theta' \mathbf{E_{st}} + EITC_{it} + \mu_g + \mu_s + \mu_t + \mu_i + \epsilon_{ist} \tag{1}$$

where

$Treatgroup_i$ is a group dummy variable taking value one if family i is a treatment family

$Reform_t$ is a dummy variable taking value one for years after 1997 when all states had implemented TANF

$\mathbf{X_{ist}}$ is a vector of demographic controls for all generations. For elderly women, these include second order polynomials in age, education, years of work experience, number of children, unearned income and wealth and dummy variables for ethnicity, health and home ownership. For the the young adult generation, these includes second order polynomials age, education and number of children and a dummy variable indicating home ownership, interacted with dummy variables for whether eligible female, non eligible female or non eligible male

$\mathbf{E}_{st}$ is a vector of economic controls. These include average unemployment rate and average wage of child care workers in census region of residence[22]

$EITC_{it}$ is the maximum receivable EITC benefits in year t and varies with family size of the young women

$\mu_g = Treatgroup_i$ is a group fixed effect

μ_s is a vector of census division dummies

μ_t is a vector of year dummies

μ_i is an family fixed effect

4.4 Estimation

Since our models are non linear, incorporating individual fixed effects is not as straightforward as in a linear model. While introducing a set of fixed effect dummies in a linear regression model would yield unbiased estimates, introducing a set of fixed effect dummies in a non linear regression model would lead to the incidental parameters problem thereby yielding biased and

---

[22]We unfortunately do not observe census division of residence of the young adults. However, since it is likely that elderly women who provide grandchild care would do so for young families not living too far off, wage of child care workers in the census division of residence of the elderly women might be an appropriate approximation of average cost of formal care faced by the young adults. We construct the economic variables using data from the Bureau of Labour Statistics.

inconsistent estimates. Moreover, since our labour force participation outcome variable is a dummy, we would have to drop individuals who did not change their labour force participation status from our sample [Heckman & MaCurdy (1980)]. We therefore use a Mundlak (1978) type assumption and assume that the fixed effects can be modeled as a linear function of the means of the exogenous explanatory variables[23].

$$\mu_i = \psi' \bar{\mathbf{X}}_i + a_i \quad , \quad a_i \sim N\left(0, \sigma_a^2\right)$$

where $\bar{\mathbf{X}}_i = \frac{1}{T_i} \sum_{t_i} \mathbf{X}_{it}$ is the average of the demographic variables for family i and a_i is assumed to be uncorrelated with the explanatory variables and follows a normal distribution.

We can therefore rewrite the latent variable models as

$$Y_{ist}^* = \alpha + \delta_{Reform} \cdot (Treatgroup_i \cdot Reform_t)$$

$$+\beta' \mathbf{X_{ist}} + \theta' \mathbf{E_{st}} + EITC_{it} + \mu_g + \mu_s + \mu_t + \psi' \bar{\mathbf{X}}_i + a_i + \epsilon_{ist}$$

$$= \gamma' \mathbf{Z} + a_i + \epsilon_{ist} \tag{2}$$

Under the assumption that the transitory error term is uncorrelated with the explanatory variables and is identically independently normally distributed, $\epsilon_{ist} \sim N\left(0, \sigma_\epsilon^2\right)$, we can therefore estimate the labour force participation equations using random effects probit and the hours of work and hours of care equations using random effects tobit.

The log likelihood function takes the following form:

$$L = \sum_i log \left\{ \int \Pi_t \left[f\left(y_{ist} | \mathbf{Z}, a\right) \right] \cdot h\left(a | \mathbf{Z}\right) \cdot da \right\}$$

where $h\left(a | \mathbf{Z}\right)$ is the conditional distribution of a, in our case $N\left(0, \sigma_a^2\right)$. The likelihood function is evaluated using Gauss Hermite Quadrature.

4.5 Issues

Several points are worth mentioning here. Firstly, the 1990's USA was a period where several other welfare reforms occurred and these could have potentially affected family behaviour. Several states implemented TANF like waivers to their AFDC program in the early 1990's.

---

[23]Note that in this case, we would not be able to identify the coefficients of the non time varying variables separately from the fixed effects. However, this is not a problem since we are mainly interested in recovering the average treatment effect on treated. We also used ordinary least squares with fixed effects in our preliminary regressions. All coefficients were qualitatively similar and as significant in both the linear and the non linear specifications with slightly stronger effects on labour supply of single elderly women in the linear specification.

Using PSID data, we exploit the different state implementation dates for the waivers and for the 1996 PRWORA legislation to assess the importance of those waivers on young mothers' labour supply behaviour. Nevertheless, we recognise that the difference-in-differences analysis could still be capturing the impact of the 1996 legislation mixed with potential lagged impacts of those early waivers. Since we are mainly interested in analysing the impact of welfare reform directly affecting the young women on the labour supply behaviour of elderly women and due to the unavailability of public detailed state information in the HRS[24], we do not attempt to distinguish between the potential lagged impact of the early waivers from the TANF impact when we do our intergenerational analysis.

Another concern is the 1993 Earned Income Tax Credit (EITC) expansion which increased generosity levels and increased the number of recipients. We construct the maximum potential benefit levels a family can receive and which varies with demographic factors, and include this variable in our regressions to control for the potential effects of the EITC expansion.

The 1996 Contract with America Advancement Act legislation, could have potentially directly affected the retirement behaviour of elderly women by raising the annual earnings test exempt amount for recipients who have attained the full retirement age of 65. We offer theoretical arguments in Appendix Section A.3 about why we do not expect such a reform to have affected the elderly women's retirement decision. Moreover, to our knowledge, the retirement literature has so far paid limited attention to this minor earnings test reform and those who analysed earnings tests reforms in general found that earnings tests tend to be unimportant in determining retirement decisions [Gruber and Orszag (2003)].

Secondly, there is a general consensus that the 1996 legislation was passed during a period of economic boom in the USA with lower unemployment rate and an increase in wage of low skilled labour. Moreover in 1997, the federal minimum wage was raised from $3.35 in 1989 to $5.15 in 1997. To control for those changes in economic conditions, we include a full set of time and census division dummies, as well as local average unemployment rate and average wage of child care workers in the census region of residence.

Finally, we attempt to "test" the two main assumptions of the difference-in-differences strategy: (a) same trends assumption and (b) no change in group composition. Given the length of our HRS dataset, we did not perform trends test on the HRS but using PSID data, we did not find significant differences between education groups' labour supply trends prior to 1997. Changes in group composition is usually not a concern in panel data. However, classifying family types into grandmothers with coresident grandchildren and non coresident

---

[24]Public releases of the HRS include geographic information in the form of 9 census divisions of residence. Information on the 50 states are available but classified as restricted data. We are currently exploring the possibility of accessing the restricted data.

grandchildren as we did in one of our analysis, might lead to our estimates being contaminated by effects resulting from changes in fertility[25] or living arrangements[26]. The literature has so far found small insignificant or ambiguous impacts on fertility and living arrangements [Grogger and Karoly (2005)]. We also performed difference-in-differences regressions using the number of grandchildren and living arrangements as dependent variables and did not find any significant effect of the reform.

5   Results

We report results for four different specifications. In specification (1) we report a basic difference-in-differences estimate with just time and census division dummies as controls. In specification (2) we include demographic controls for own generation and in specification (3) we include demographic controls for all generations to capture potential interactions between all intergenerational family members. Finally, in specification (4) we also include economic controls and maximum EITC benefits.

5.1   Baseline Results

Young Women Labour Force Participation   Table 2 reports the estimated coefficients and marginal effects of the impact of the PRWORA reform on young women. In the basic specification (1), the reform seems to have had a positive impact on the proportion of eligible adult daughters working with estimated marginal effects[27] of 6.3%. This seems in line with the expected impacts of welfare to work reforms on young women. Including adult daughters demographic variables in the regressions, specification (2), leads to smaller estimated impacts but still positive and strongly significant at the 1% level. Controlling for the demographic variables of all generations, specification (3), also leads to smaller impacts. Finally controlling for economic variables and does not make much difference suggesting that it is possible that the census division and time dummies are already controlling for much of the economic variation across census divisions and time. This leads to an estimated marginal effect of 4.4%. We also report the estimated potential impacts of the reform on adult sisters of potentially eligible young mothers. The reform seems to have had a smaller impact on their labour force participation but still positive and significant at the 5% level in all specifications.

---

[25]Many states imposed family caps where additional children born while the mother is on welfare, might result in no increase welfare benefits as compared to AFDC which gave higher benefits to larger families.

[26]Bliter, Gelbach and Hoynes (2005) find that the reform brought about an increase in the number of grandchildren residing with grandparents especially among those of Black ethnicity.

[27]Marginal effects are based on the derivatives of $Pr\left(y=1|\mathbf{Z}\right) = \Phi\left(\frac{\gamma'\mathbf{Z}}{\sqrt{1+\sigma_a^2}}\right) = \Phi\left(\gamma_{\mathbf{a}}'\mathbf{Z}\right)$

Elderly Women Labour Supply Behaviour   Table 3 reports results for elderly women's labour supply behaviour. Tables 3S and 3M report the results obtained from the samples of single grandmothers and married grandmothers respectively. The reform does not seem to have had any significant impacts on retirement status of elderly women in all specifications. On the other hand, the estimated marginal impact of the reform on single elderly women's work status seems large at 10% in specification (4) but is not significant. Similarly the reform does not seems to have had any impact on work hours of the elderly women. It therefore seems that the reform did not have much impact on elderly women's labour supply behaviour.

Intergenerational Transfers of Time and Money   Table 4 reports results for grandchild care hours and net financial transfers. The reform seems to have had a small negative impact on hours of grandchild care, suggesting some crowding out. The estimated impacts are robust in all specifications with an estimated coefficient of -2.7 weekly hours in specification (4). Estimated marginal effect[28] conditional on providing care is -0.77 weekly hours. This tends to suggest some substitution away from grandmother provided care and seems to be in line with the prediction that higher child care subsidies could lead to substitution away from relative to formal care.

The crowding out of time transfers is even bigger on the sample of single grandmothers as can be seen from Table 4S with an estimated coefficient of -6.2 weekly hours in specification (4) and estimated marginal effect of -1.55 weekly hours. Also, net financial transfers seems to have increased for single elderly women. Thus, it seems that while the reform encouraged young mothers to work more, it also crowded out intergenerational transfers of time and crowded in intergenerational transfers of money[29].

On the other hand, married elderly women did not seem to have experienced any impact from the reform apart from some slight crowding out of financial transfers although this effect is not statistically significant. This could be due to the fact that married elderly women are less involved in the lives of their grandchildren and more involved with taking care of their elderly husbands[30].

---

[28]Marginal effects conditional on providing care computed from random effects tobit regressions based on the derivatives of $E\left[y|\mathbf{Z}, y > 0\right] = \gamma'\mathbf{Z} + \sqrt{\sigma_a^2 + \sigma_\epsilon^2}\dfrac{\phi\left(\frac{\gamma'\mathbf{Z}}{\sqrt{\sigma_a^2 + \sigma_\epsilon^2}}\right)}{\Phi\left(\frac{\gamma'\mathbf{Z}}{\sqrt{\sigma_a^2 + \sigma_\epsilon^2}}\right)}$

[29]We observe which ones of the adult children received child care from the grandmother from wave 1996 onwards. Using the young women sample of 1996-2002 corresponding to years 1995 to 2001, we performed difference-in-differences analysis on the probability that the young eligible women received care and found a negative and significant impact of the reform which is in line with the fact that the decrease in time transfers from elderly women came from a decrease in time transfers to the eligible adult daughters. We did the same for financial transfers and found qualitatively similar effects.

[30]We included controls for grandfather's age, health, education and years of work experience in our regressions

Overall, the reform seems to have had important impacts on single elderly women. For this type of family, it seems that even though stricter work requirements and time limits on benefits were encouraging young mothers to leave the TANF program and work more, the higher child care subsidies were leading to a substitution from grandmother care to formal care means. Meanwhile, elderly women were increasing time transfers either to help cover the remaining cost of formal care or to partly compensate for the loss in welfare benefits of TANF leavers.

5.2 Living Arrangements

To allow for potentially different treatment effects of different types of intergenerational families, we separate our sample of intergenerational families into four categories: (i) single elderly women with adult daughter and grandchildren resident (ii) married elderly women with adult daughter and grandchildren resident (iii) single elderly women with adult daughter and grandchildren non resident, and (iv) married elderly women with adult daughter and grandchildren non resident . It is very likely that intergenerational families living in the same household unit interact more frequently, such that intergenerational transfers and sharing of public goods would be more prevalent than in intergenerational families who live separately. The decision making process might also be potentially different for the two categories of intergenerational families.

Summary statistics for the four categories of intergenerational families are reported in Table 5. We report means and standard deviations (in brackets) for treatment group (T) and control group (C) separately. As can be seen from the Table 5, elderly women in treatment families tend to be poorer, less educated, more likely to be black, have fewer years of work experience, more children and are in poorer health than those in control families. This is the case for all four categories of intergenerational families.

5.2.1 Intergenerational Families Living Together

In this section, we report results for intergenerational families living together. Tables 6S and 6M reports the estimated treatment effects of the 1996 reform on young women's labour force participation for the samples where the grandmother is single and married respectively. The impact of the reform on labour force participation of eligible young mothers is small and insignificant in all specifications suggesting that the reform did not have much impact on

---

based on the married sample. An unhealthy grandfather might consume a lot of the grandmother's time and make her less involved with her adult children's lives. Also, even if the grandfather is healthy, there might be some complementarity in leisure behaviour thereby leading to a coordination of work and grandchild care behaviour among elderly couples.

influencing labour force participation of young women when they live together with an elderly woman.

Tables 7S and 7M report the effects of the reform on elderly women's labour supply for the samples of single and married grandmothers respectively. Overall, the reform seems to have had no significant impacts on retirement or work status of elderly women. On the other hand, while single grandmothers seem to have increased their work hours, once we control for demographic variables, the estimated impacts become insignificant.

Tables 8S and 8M report the effects of the reform on elderly women's time and money transfers for the sample of single and married grandmothers respectively. The reform seems to have had large crowding out impacts on single elderly women's grandchild care hours with an estimated marginal impact conditional on providing care of -5.67 weekly hours in specification (4). On the other hand, the reform does not seem to have had any impact on married elderly women. As for net financial transfers, the reform seems to have had a positive impact once we control for demographic and economic variables in specification (4). However, the estimated impacts are not significant.

Overall, for intergenerational families living together, the 1996 reform seems to have mainly crowded out grandmother provided care for single grandmothers. It is possible that while the young mothers are not adjusting labour supply and therefore not experiencing higher child care needs, the grandmothers are working more and providing lower grandchild care hours as a result. Interestingly, the estimated magnitude of marginal effects are very similar for hours of work and hours of care in all four specifications for single grandmothers suggesting some time constraint effect on the part of the elderly women.

5.2.2   Intergenerational Families Living Apart

In this section, we report results for intergenerational families living apart. Tables 9S and 9M report the estimated average treatment effects of the 1996 reform on young women's labour force participation for the samples of single and married grandmothers respectively. The reform seems to have had a small positive and significant impact on labour force participation of eligible young mothers and on their non eligible adult sisters as well. However, this positive impact becomes small and insignificant for the eligible young mothers with a living single elderly mother once we control for demographic variables.

Tables 10S and 10M report the estimated average treatment effects of the 1996 reform on elderly women's labour supply for the samples of single and married grandmothers respectively. The reform does not seem to have affected labour supply behaviour, with small and insignificant impacts. Tables 11S and 11M report the estimated impacts on intergenerational transfers of time and money. The only notable impact is the big increase in intergenerational

transfers of money from single elderly women.

Overall, the reform seems to have increased labour supply of young women in treatment families when the intergenerational families live apart. However, in the sample of single elderly women, the impact of the reform on labour supply of eligible adult daughters seems limited while there is considerable crowding in of financial transfers from the elderly women. It is possible that for this type of family, the eligible young mothers prefer not to adjust labour supply and leave welfare. In this case, child care needs do not change since the young mothers can still look after their children. However, the loss in welfare benefits could be causing an income effect requiring more financial help from the elderly grandmothers.

5.3 Discussion

Our baseline results suggest that the PRWORA reform effects on intergenerational families were mainly on single elderly women. While the reform seems to have increased labour force participation of young women, elderly women were decreasing time transfers and increasing money transfers. Intergenerational families living together seems to have experienced small insignificant impacts on labour force participation of young women while single elderly women increased labour supply and decreased hours of grandchild care. On the other hand, inter-generational families living separately seem to have experienced bigger and more significant positive impacts on labour force participation of the young women while single elderly women increased financial transfers. This suggests that proximity might play a role in determining how intergenerational families react to the reform[31].

It is possible that elderly women living close to their adult daughters were already much involved in grandchild care so that the higher child care subsidies helped encourage a substitution away from grandmother provided child care to formal care. On the other hand, elderly women living far away might not have been as much involved in grandchild care. However, with the reform generating a negative income effect on those who leave welfare and higher child care needs for the young women who increased labour supply, the elderly women might choose instead to respond by increasing money transfers.

---

[31]Similar regressions for intergenerational families living within 10 miles of each other yielded similar impacts as for families living together with smaller effects on hours of care and bigger effects on net financial transfers. Of course, living arrangement or proximity could be endogenous in the sense that low skilled families might have a tendency to live closer to each other. In this case, our control group would be comprised of high skilled families who live close by because they have a preference to live close to each other, thereby leading to a negative correlation between the unobserved error component and our treatment group variable. We would expect this to lead to an underestimation of the average treatment on treated effect estimated here. Controlling for fixed effects as we did in regressions could mitigate such effect on the assumption that the preferences for close proximity are captured by our fixed effect term.

6 Conclusion

This paper evaluates the impact of welfare reforms on intergenerational transfers and labour supply behaviour of intergenerational families. The 1996 reform had three main components which could directly affect the labour force participation of low income mothers: (1) stricter work requirements, (2) time limits on benefits and (3) increased child care funding.

Our results from the PSID indicate that the TANF reform has increased both work participation and labour hours of low educated young mothers. Moreover, we find that the 1996 PRWORA had stronger significant effects compared to the early 1990's waivers. Results from our intergenerational analysis using HRS also indicate an increase in labour force participation of the eligible group of young mothers. However, the impact of this increase is small and insignificant for intergenerational families living together.

The reform seems to have had important impacts on single elderly women. For this type of family, we observe crowding out of intergenerational time transfers and crowding in of intergenerational financial transfers, as well as a slight increase in the labour supply of elderly women. This result suggests that while stronger work requirements and time limits on benefits could have motivated young mothers to increase labour supply and thereby be in greater need of child care, it is possible that the impact of child care subsidies could be important in motivating low income families to substitute from informal grandmother care to formal day care, thereby enabling the grandmother to work longer hours on the market and give more financial help to their adult daughters. Moreover, for those young mothers who were motivated to leave the TANF program as a result of stricter work requirements and time limits, it is possible that the loss in welfare benefits contributed to the crowding in of private intertergenerational transfers of money from the elderly women. We found no impact for married elderly women.

Our findings imply that one cannot consider a nuclear family in isolation when evaluating the impact of welfare reforms. Such welfare-to-work reforms might not only affect the distribution of private intergenerational transfers but might also have potential repercussions on the labour supply behaviour of other members of the intergenerational family network. This raises questions about whether welfare-to-work reforms should take into account intergenerational family members or whether the social security benefits formula should account for say, the potential risks of grandchild care giving. The next natural step for this research would be a demarcation from the reduced form analysis presented here, and into a proper understanding of the basis on which intergenerational families make decisions and share resources, so as to be able to assess the implications of each component of welfare reforms on intergenerational family members.

References

[1] Blank (2002) "Evaluating Welfare Reform in the United States" *NBER Working Paper No. W8983*

[2] Blau and Tekin (2003) "The Determinants and Consequences of Child Care Subsidies for Single Mothers" *NBER Working Paper No. W9665*

[3] Gallagher.L.J, Gallagher.M, Perese.K, Schreiber.S & Watson.K "One Year after Federal Welfare Reform: A Description of State Temporary Assistance for Needy Families (TANF) Decisions as of October 1997" *in the Urban Institute's Assessing the New Federalism Project*

[4] Grogger (2003) "The Effects of Time Limits, the EITC, and other Policy Changes on Welfare Use, Work, and Income among Female Headed Families" *Review of Economics and Statistics, 85(2), pg 394-408*

[5] Grogger and Karoly (2005) "Welfare Reform: Effects of a Decade of Change" *Harvard University Press*

[6] Gruber and Orszag (2003) "Does the Social Security Earnings Test affect Labour Supply and Benefit Receipts" *Centre for Retirement Research, Boston*

[7] Haider (2005) "Do the Elderly Respond to Taxes on Earnings? Evidence from the Social Security Retirement Earnings Test" *RAND WR-223*

[8] Heckman.J & MaCurdy.T "A Life Cycle Model of Female Labour Supply" *The Review of Economic Studies, 47(1), pp 47-74*

[9] Kaushal.N and Kaestner.R (2001) "From Welfare to Work: Has Welfare Reform Worked?" *Journal of Policy Analysis and Management, 20(4), pg 699-719*

[10] McGarry and Schoeni (1995) "Transfer Behaviour in the Health and Retirement Study: Measurement and the Redistribution of Resources within the Family" *The Journal of Human Resources, V30, S184-S226*

[11] Mckernan and al (2000) "The Relationship between Metropolitan and Non Metropolitan Locations, Changing Welfare Policies and the Employment of Single Mothers" *The Urban Institute, Washington DC*

[12] Meyer and Rosenbaum (2001) "Welfare, the Earned Income Tax Credit, and the Labour Supply of Single Mothers" *Quarterly Journal of Economics, 116(3), pg1063-1114*

[13] Moffitt (2002) "The Temporary Assistance for Needy Families Program" *NBER Working Paper No. W8749*

[14] Morris and al (2005) "The Rent-Price Ratio for the Aggregate Stock of Owner-Occupied Housing" *Federal Reserve Board*

[15] Mundlak.Y (1978) "On the Pooling of Time Series and Cross Section Data" *Econometrica, 46, pg 69-85*

[16] O'Neill and Hill (2001) "Gaining Ground? Measuring the Impact of Welfare Reform on Welfare and Work" *Manhattan Institute, NY*

[17] Tekin (2005) "Child Care Subsidy Receipt, Employment, and Child Care Choices of Single Mothers" *Economic Letters, 89*

[18] Soldo and Hill (1995) "Family Structure and Transfer Measures in the Health and Retirement Study: Background and Overview" *The Journal of Human Resources, Vol 30, S108-S137*

[19] Schoeni and Blank (2000) "What has Welfare Reform Accomplished? Impacts on Welfare Participation, Employment, Income, Poverty and Family Structure." *NBER Working Paper No. W7627*

[20] Swann (2003) "Welfare Reform when Recipients are Forward Looking" *The Journal of Human Resources*

A   Appendix

A.1   Comparison Groups

Example 1: Elderly Woman with One Adult Working Age Daughter   Consider an intergenerational family with one adult elderly woman and one adult working age daughter. In our difference-in-differences analysis on the eligible young women outcomes, we therefore use as treatment the eligible adult working age daughter in the treatment families and as control the non eligible adult working age daughter in the control families as illustrated in the top panel of the figure below. Similarly, when looking at elderly women's outcomes, we use as treatment the elderly woman in the treatment families and as control the elderly women in the control families as illustrated in the bottom panel of the figure below.
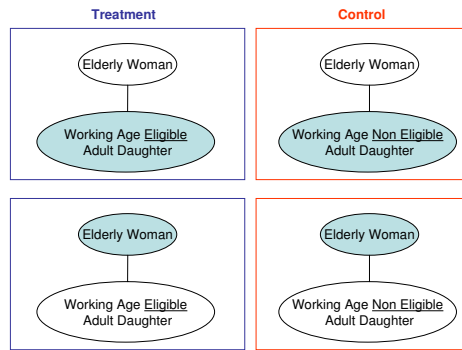
Example 2: Elderly Woman with 2 Adult Working Age Daughters and One Adult Working Age Son   Now imagine an intergenerational family with 3 adult children. In this case, when looking at eligible working age female outcomes, we use as treatment eligible working age young women in treatment families and as controls non eligible working age young women in control families as illustrated below.
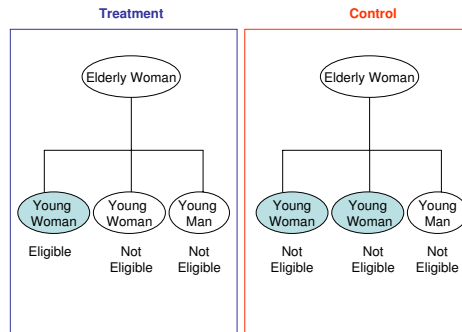
When looking at adult sisters outcomes, we use as treatment working age non eligible sisters in treatment families and as control non eligible working age daughters in control families as illustrated below.
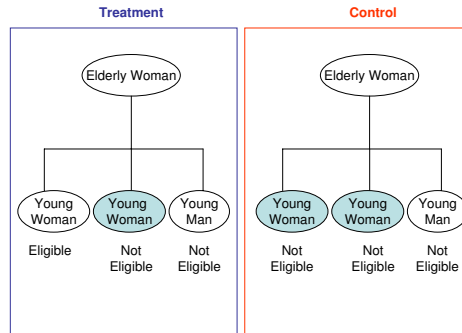
Finally, when looking at elderly women's outcomes, we use as treatment elderly women in treatment families and as control elderly women in control families as illustrated below.
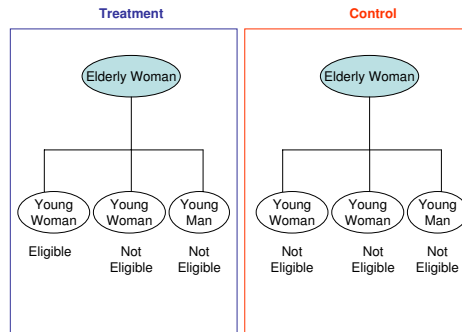
A.2   Transfers in the HRS

The family module of the HRS asks specific questions about grandchild care provision (hours transfers) and financial transfers to and from the adult children. Interviews are retrospective e.g. the 2000 wave asked about hours of care and financial transfers provided altogether in 1998 and 1999.

We construct our hours care variable from the questions:

- *Did you (or your husband/or your wife/or your partner/.../or your late husband/or your late wife/or your late partner) spend 100 or more hours in total (since Previous Wave Interview Month-Year/in the last two years) taking care of (grand or great-grandchildren/grandchildren)?*

- *Roughly how many hours altogether did you spend?*

Thus, the HRS questionnaire asks a first question about whether any member of the grandparent household spent 100 hours or more in the last two years (equivalently about 1 hour per week) taking care of grandchildren. If the answer is affirmative, the respondent is then asked the number of hours spent taking care of grandchildren. We treat great-grandchildren as grandchildren in our analysis and do not seek to distinguish between them. We divide the amount of hours of grandchild care by 104 to construct our weekly hours of grandchild care variable.

The HRS also asks a series of questions on financial transfers between generations. The definition of financial transfers in the HRS corresponds to intervivos transfers and excludes bequests. The questions relating to intervivos transfers in the HRS are outlined below.

- Financial transfers from grandparent generation to adult children:

  - *Including help with education but not shared housing ...or shared food or any deed to a house,(...in the last two years) did you (or your husband/or your wife/or your partner/.../or your late husband/or your late wife/or your late partner) give financial help totaling $500 or more to any of your children (or grandchildren)?*
  - *...about how much was that altogether during the period ...*

- Financial transfers from adult children to grandparent generation:

  - *(Since Previous Wave Interview Month-Year/In the last two years) did you (or your husband/or your wife/or your partner/.../or your late husband/or your late wife/or your late partner) receive financial help totaling $500... or more from your child? ELSE or more from any of your children?*
  - *About how much did that amount to ...*

Thus, the HRS questionnaire first asks whether transfers of more than $500 were made over the past two years (roughly equivalent to $5 a week) and if affirmative, the respondent is then asked to state the amount of transfers given and/or received. We treat financial transfers from grandparent generation to grandchild generation as financial transfers from grandparent generation to adult children and add them together. We then subtract financial transfers from adult children to grandparent generation and divide the total by 104 to construct our weekly net financial transfers variable.

A.3   1996 Social Security Earnings Test Reform

In 1996, the Contract with America Advancement Act legislation raised the annual earnings test exempt amount for recipients who have attained the full retirement age. Such a reform could have potentially affected the retirement behaviour of low income elderly women and if that is the case, we would not be able to differentiate the impact of such a reform from the TANF reform. We argue that in theory, the earnings test reform should have only changed incentives of low income elderly women in terms of work hours, but not in terms of their labour force participation decisions. This is because, those who were below the earnings test threshold, including those who were not working, would not be affected by the raise in the annual earnings test exempt amount. On the other hand, those who

are likely to be affected, would be expected to change work hours but not change their labour force participation decision.

To see this, let us consider a simple static model of labour supply as illustrated in Figure 6. Before

Figure 6: 1996 Earnings Test Reform
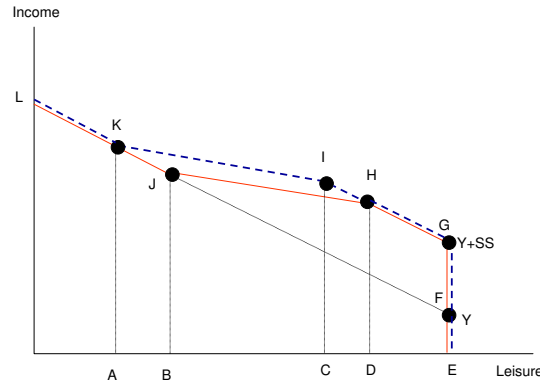
the reform, the individual had a choice between being on budget constraint $LKJFE$ if she does not claim social security, or budget constraint $LKJHGFE$ if she decides to claim social security. Since we are looking at a one period model, the individual would therefore choose to be on the higher budget constraint $LKJHGFE$, where between DE hours of leisure she receives social security benefits SS but between BD hours of leisure, the social security benefits are withdrawn at a certain rate, say γ.

Now let there be a reform which increases the earnings test threshold such that new budget constraint is now $LKIHGFE$. Clearly those who were previously consuming between DE amount of leisure are not affected by the reform and this includes those who were previously not working, at G. On the other hand, those who were consuming between B and C hours of leisure face a pure income effect and might therefore choose to decrease hours of work and consume more leisure. Those who were previously either on segments AB or CD, on the other hand, face both income and substitution effects so that impact on work hours is ambiguous. However, we do not expect anyone who was previously working to get out of the labour force since point G was previously available but not chosen, and the old budget set is also still attainable (Weak Axiom of Revealed Preference). Thus, in a static labour supply model, one does not expect the 1996 earnings test reform to change labour force participation incentives.

B   Young Women's Labour Supply Behaviour

In this section, we analyse the theoretical predictions about the potential impacts of welfare reform on the labour supply behaviour of young women and estimate the impact of the reform on their labour supply at both the extensive and the intensive margins. We use the standard labour supply framework to model labour supply behaviour of married couples, i.e., if a woman is married, she treats her spouse's earnings as her unearned income so that the husband's labour supply decision only has an income effect on her behaviour.

B.1   How would Eligible Young Mothers be Affected?

To keep things simple, let us start by looking at the three major components of welfare reform separately: (1) strict work requirements, (2) time limits on benefits and (3) child care subsidies.

Work Requirements   Figure 7 illustrates a simple case of imposition of work requirements on an individual in a simple consumption-leisure framework. Suppose for simplicity that there is no change in welfare benefit levels and in the benefit reduction rate.

Figure 7: Imposition of Work Requirements
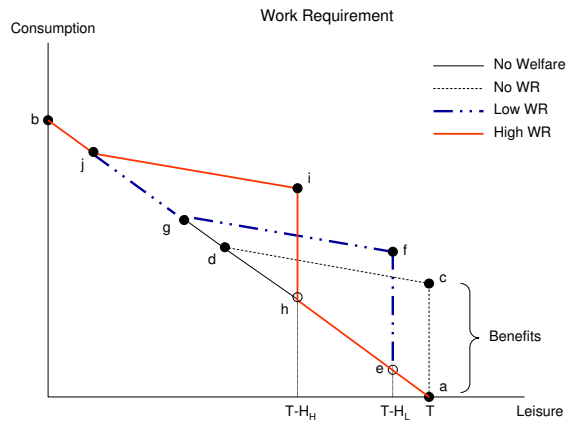
Let the no welfare budget constraint be given by $aehdgjb$ with slope of w, the wage. Suppose now that the government introduces welfare and pays a certain benefit to all individuals and withdrawn at a rate τ as the individual earnings increase. New budget constraint is given by $acdgjb$. Clearly, any utility maximising individual previously on segment aeh has an incentive to locate on the higher budget constraint and be on welfare.

Now suppose that the government introduces a work requirement of H_L hours as was the case under the JOBS program under AFDC rule. New budget constraint is given by $aefgjb$. If an individual works less than H_L hours, then she does not get any benefit and faces the no welfare budget constraint. On the other hand, if she meets the work requirements, she gets welfare benefits which are withdrawn

at a rate τ as her earnings increase. The new budget constraint therefore has slope of $(1-\tau)w$ on segment fg.

Those individuals who were previously on segment cd and either not working or working less than H_L hours, now have higher incentives to work H_L hours or more and relocate to point f on the new budget constraint, so that we expect very low income individuals to increase their labour supply at both the intensive and the extensive margin. On the other hand, those who were previously on welfare and working more than H_L face a pure income effect and may decrease hours of work. We however, do not expect them to work less than H_L hours or to get out of the labour force by the weak axiom of revealed preference (since those options were previously attainable but not chosen by those individuals).

Now suppose that the government increases work requirements further to H_H as was the case under TANF. New budget constraint is now given by $aehijb$. In this case, those who were previously on welfare and working less than H_H hours have an incentive to either increase labour supply and relocate to point i on the new budget constraint, or leave welfare and relocate on segment aeh of the no welfare budget constraint. Moreover, we do not expect individuals who were previously working more than H_H hours to work less than H_H hours or to get out of the labour force by the weak axiom of revealed preference. It is therefore generally expected that stricter work requirements would increase labour supply for low skilled individuals either because they have to increase labour supply to remain on welfare, or because they leave welfare and have to become financially independent.

Time Limit   While under AFDC, time limits for receiving benefits were in effect indefinite (so long that one satisfied the eligibility criteria), under TANF, families have a 60 months maximum lifetime limit for receiving benefits from federal funds. The introduction of a maximum time limit of five cumulative years is expected to increase incentives to work. As Grogger (2003, 2005) points out, time limits have a mechanical effect and a behavioral effect.

The mechanical effect is straightforward since individuals become automatically ineligible for welfare benefits after the expiry of the time limit. On the other hand, the behavioral effect would depend on whether individuals are forward looking enough. The intuition is that if individuals are forward looking, they would want to preserve eligibility as a safety net for future hardships. Thus, individuals would prefer to leave welfare and work more today rather than be on welfare and lose eligibility. This is particularly true for individuals with young children, who have a longer horizon over which to decide whether to apply for welfare or not.

Grogger & al (2005) present this intuition by using a simple option value type model. Consider an individual who has to decide whether to just satisfy the minimum work requirements and be on welfare today, or to preserve future eligibility by leaving welfare today and working more. A short sighted individual might just make the comparison between current utility of being on welfare and current utility of not being on welfare. In Figure 8, this could be represented by a comparison of $U(i)$ against $U(k)$. Clearly, this short sighted individual would choose to be on welfare at point i since utility of being on welfare is strictly higher than utility of not being on welfare $U(i) > U(k)$.

Now, consider a forward looking individual. Let S_t be the stock of eligibility months left at period t and let the discount factor be β. If the individual chooses to be on welfare today and

Figure 8: Time Limits
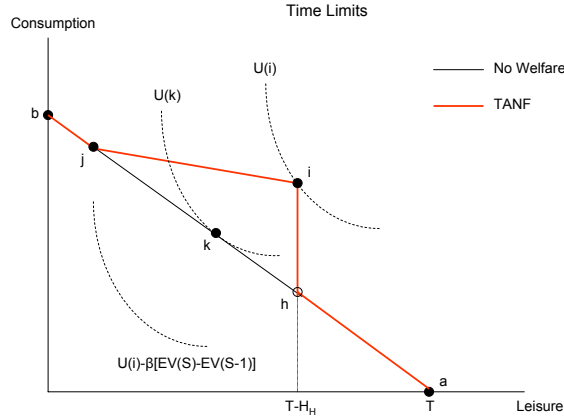
Diagram based on Figure 3.4 in Grogger & Karoly (2005)

satisfy the minimum work requirement, then she gets current utility $U(i)$ plus the discounted value of expected utility of the remaining stock of eligibility $\beta EV(S_t - 1)$ so that total expected utility is $U(i) + \beta EV(S_t - 1)$. On the other hand, if the individual chooses to leave welfare and work to preserve eligibility, she gets current utility $U(k)$ plus the discounted value of expected utility of the stock of eligibility $\beta EV(S_t)$ so that total expected utility is $U(k) + \beta EV(S_t)$. Comparing $U(k) + \beta EV(S_t)$ against $U(i) + \beta EV(S_t - 1)$ is similar to comparing $U(k)$ against $U(i) - \beta[EV(S_t) - EV(S_t - 1)]$ where the term in squared bracket is positive since higher future eligibility is expected to yield higher expected utility. Since $U(i) - \beta[EV(S_t) - EV(S_t - 1)] < U(i)$, if individuals are forward looking, they would therefore have higher incentives to leave welfare and work more today so as to preserve future eligibility.

Grogger (2003) shows that the reform had stronger impacts on the labour force participation of those with younger children (and therefore longer eligibility horizon), which is consistent with the fact that individuals might choose to work more today so as to preserve eligibility as back up plan against future uncertainty. Also, Swann (2003) uses a discrete choice dynamic programming model to show that time limits would increase labour force participation if individuals are forward looking.

Child Care Subsidies The 1996 PRWORA also combined four different child care programs into a single block grant fund, the Child Care and Development Fund (CCDF), whose main goal is to facilitate transition from welfare to work. Under PRWORA, states were required to maintain at least 100% of their 1994 or 1995 child care expenditures whichever is highest. Moreover, states are allowed to transfer up to 30% of their federal TANF allocation to the CCDF. From 1996 to 2002, federal funding totalling more than $69 billion supported the child care needs of low income working families with a rise of 89% in child care subsidies between 1993 and 2000.

Since most child care subsidies are conditioned on employment, one would expect that child care

subsidies provision would encourage work participation of low income families. Increased child care funding can lower the fixed cost of work and therefore encourage labour force participation. Moreover, if the subsidy is introduced on an hourly expense basis, one would expect a substitution from parental to formal or centre based care, thereby allowing parents to work.

Consider a young mother who faces the decision to work or not. If she works, she has to employ a minimum level of child care hours. Let h^F denote hours of child care and let $\underline{h}^F$ denote the minimum hours of care than has to be used. Budget constraint in this case is given by *abcd* and fixed cost of work is $w^F \underline{h}^F$ as illustrated in Figure 9. Young mothers with high fixed costs of work therefore have low incentives to work.

Figure 9: Child Care Subsidies
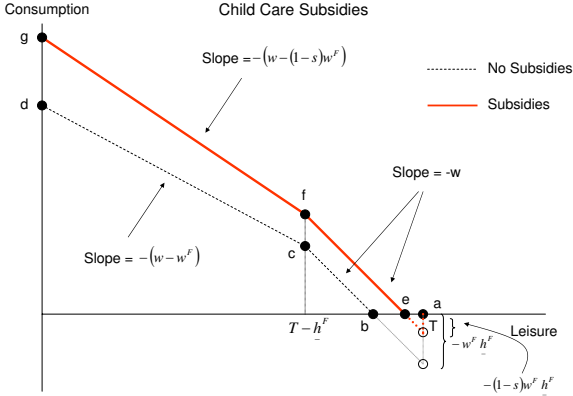
Now, consider the introduction of per hour child care subsidies s by the government[32]. The child care subsidies would not only reduce the fixed costs of work but also reduce the per hour cost of child care so that new budget constraint is given by *aefg* as illustrated in Figure 9. Clearly, those who were previously at *a* and not working, now have higher incentives to work. Those who were previously on segment *cd* and working, now face lower per hour child care costs and effectively higher net of child care cost wages. Since, the substitution effect tends to dominate the income effect for low skilled individuals, we therefore expect child care subsidies to increase labour supply at both the extensive and the intensive margins.

B.2   Data

We use Panel Study of Income Dynamics data corresponding to years 1991 to 2001. The PSID is a longitudinal dataset of individuals starting in 1968 and conducted yearly until 1997 when it was

---

[32]Under PRWORA, states have to offer certificates (vouchers) to allow families to purchase care from any legally operating child care provider. The subsidy amount is required to cover the fee charged by the provider at the 75th percentile of the market rate distribution. States are also required to have a sliding scale fee structure with the fees rising with family income.

conducted biennially onwards[33]. We limit the sample to young women aged between 18 to 49 and split them into a treatment group and a control group. A woman is considered as eligible for TANF benefits if she has a child under 18, has less than high school and is single or married with husband unemployed.

Summary statistics for treatment and control families are reported in Table B1. Families in the treatment group (T) tend to be poorer, less educated, more likely to be black and are in poorer health than those in the control group (C).

B.3 Empirical Strategy

B.3.1 Specification

We exploit state variation in implementation dates for the waivers and for the 1996 PRWORA legislation to identify the impact of the 1996 reform separately from those of the early 1990's waivers[34]. We also exploit differences between treatment and control groups as defined above to identify the average treatment effect on the treated, so that we use a difference-in-difference-in-differences strategy.

For the sample of young working age women, we are interested in two particular outcomes, labour force participation and hours of work. Since we only observe binary outcomes for labour force participation while hours of work are observed only when an individual is working, we consider latent variable models of the following form:

$$Y_{ist}^* = \alpha + \delta_{Waiver} \cdot (Treatgroup_i \cdot Waiver_{st}) + \delta_{TANF} \cdot (Treatgroup_i \cdot TANF_{st})$$

$$+\beta' \mathbf{X_{ist}} + \theta' \mathbf{E_{st}} + EITC_{it} + \mu_g + \mu_s + \mu_t + \mu_i + \epsilon_{ist} \tag{3}$$

where

$Treatgroup_i$ is a group dummy variable taking value one if individual i is in a treatment family

$Waiver_{st}$ is a dummy variable taking value one if individual i lives in a state s which had a waiver in place in year t

$TANF_{st}$ is a dummy variable taking value one if individual i lives in a state s which had their TANF program in place in year t

$\mathbf{X_{ist}}$ is a vector of demographic controls. These includes second order polynomials in age, wealth, unearned income, education, work experience before the reform, number of children aged under 2, between 2 and 5, and between 5 and 18, dummy variables for health, ethnicity, whether own a house and marital status

$\mathbf{E}_{st}$ is a vector of economic controls. These include average unemployment rate and average wage of child care workers in state of residence

---

[33]For the years in between the biennial interviews, we took the average of the variables between the preceding year and the following year. Questions concerning labour supply include current labour force participation and previous year's weekly hours of work. We consider a women as working in the previous year if she reported positive weekly hours of work.

[34]Implementation dates are based on information compiled by The Office of Human Services Policy [US Department of Health and Human Services] and are provided in Appendix Table B

$EITC_{it}$ is the maximum receivable EITC benefits in year t and varies with family size

$\mu_g = Treatgroup_i$ is a group fixed effect

μ_s is a vector of state dummies

μ_t is a vector of year dummies

μ_i is an individual fixed effect

B.3.2 Estimation

As in Section 4.4, we use a Mundlak (1978) type assumption and assume that the fixed effects can be modelled as a linear function of the means of the exogenous explanatory variables[35].

$$\mu_i = \psi'\bar{\mathbf{X}}_i + a_i \quad , \quad a_i \sim N\left(0, \sigma_a^2\right)$$

where $\bar{\mathbf{X}}_i = \frac{1}{T_i}\sum_{t_i} \mathbf{X}_{it}$ is the average of the demographic variables for individual i and a_i is assumed to be uncorrelated with the explanatory variables and follows a normal distribution.

We can therefore rewrite the latent variable models as

$$Y_{ist}^* = \alpha + \delta_{Waiver} \cdot (Treatgroup_i \cdot Waiver_{st}) + \delta_{TANF} \cdot (Treatgroup_i \cdot TANF_{st})$$

$$+\beta'\mathbf{X_{ist}} + \theta'\mathbf{E_{st}} + EITC_{it} + \mu_s + \mu_t + \psi'\bar{\mathbf{X}}_i + a_i + \epsilon_{ist} \qquad (4)$$

$$= \gamma'\mathbf{Z} + a_i + \epsilon_{ist}$$

Under the assumption that the transitory error term is uncorrelated with the explanatory variables and is identically independently normally distributed, $\epsilon_{ist} \sim N\left(0, \sigma_\epsilon^2\right)$, we can therefore estimate the labour force participation equation using random effects probit and the hours of work equation using random effects tobit.

B.4 Results

Results for young working age women's labour supply is reported in Table B2. We estimate three different specifications. In specification (1), we only control for state and time effects. The implementation of the TANF seems to have had a significant and positive impact on labour force participation of young women in treatment families. This is consistent with the findings in the mainstream literature. However, marginal effects evaluated at the mean although positive are small and insignificant. Also, the early 1990's waivers did not seem to have had much impact on labour force participation. We however recognise that it is possible that the TANF estimates are capturing some lagged impacts of the early waivers especially since some waiver components such as work requirements gave welfare

---

[35]We also did preliminary regressions using fixed effects ordinary least squares. The marginal effects derived from the linear probability model for the labour force participation equation were slightly bigger and more significant than in our fixed effect probit models. On the other hand, the marginal effects derived from ordinary least squares regression on hours of work were slightly smaller than when we control for selection using fixed effects tobit models. All coefficients were qualitatively similar and as significant in both the linear and the non linear specifications.

recipients up to two years to comply with the requirements. The implementation effect of the waivers could therefore have a lagged effect coinciding with the implementation dates for the TANF.

In specification (2), we control for demographic variables and for individual fixed effects à la Mundlak (1978). The estimated impact of the TANF on labour force participation is now smaller with smaller coefficients and marginal effects. In specification (3), we control for potential economic differences over time and across states by controlling for economic variables such as the average unemployment rate and average wage of child care workers in the state of residence. We also control for the potential impacts of the EITC by including the maximum potential EITC benefits in the regressions. Once again the introduction of the TANF seems to have had positive and significant impacts on labour force participation as compared to the waivers, with slightly smaller coefficients and marginal effects than in the previous specifications.

The introduction of the 1996 PRWORA legislation also seems to have had a positive and significant impact on labour supply of young working age eligible mothers at the intensive margin. Weekly hours of work of young mothers seems to have increased by 3 hours on average conditional on working. Once again, as we control for demographic and economic variables, the estimated impact of the TANF gets slightly smaller but nevertheless stays positive and strongly significant in all specifications.

One potential concern in our analysis is the same trends assumption made in our difference-in-difference-in-differences analysis. After all, it is possible that women with different education levels might have different trends. At first glance, from Figure 1, our treatment and control groups did not seem to have different trends. We also performed similar regressions as in equation (4) by interacting our $treatgroup_i$ variable with each year instead of $Waiver_{st}$ and $TANF_{st}$. As can be seen in Appendix Table B3, both groups seem to have had similar trends with the coefficient on labour supply becoming strongly positive and significant only after 1997 which coincides with the TANF implementation period. Finally, as a last check, we limited the sample to young women with less than high school education, so that our treatment group still consists of low educated women with children while our control group now only consists of low educated women without children. Results are reported in Appendix Table B4. The estimated coefficients are very similar to those of Table B2 with slightly smaller marginal effects for hours of work. This tends to suggest that our common trends assumption is not far fetched and that our results are in line with the results found so far in the welfare reform literature.

C   Intergenerational Family Model

In this section, we outline a formal model of intergenerational family decision making. Assume that we have two agents: (1) G an elderly woman (the grandmother) and (2) M a young working age woman with young children (the middle generation). Under the assumption that the two agents are cooperating to make efficient family decisions, the family problem can be represented as a family utility maximisation problem

$$V\left(A_t, S_t\right) = Max_{\{C^G, L^G, h^G, C^M, h^M, h^F, Welfare\}}$$

$$U\left[u^G\left(C_t^G, L_t^G, h_t^G\right), u^M\left(C_t^M, h_t^M, h_t^G\right)\right] + \beta E_t V\left(A_{t+1}, S_{t+1}\right) \tag{5}$$

s.t.

Family Budget Constraint $\forall t$

$$C_t^G + C_t^M + w_t^F \underline{h}^F \cdot 1\left\{h_t^F \le \underline{h}^F\right\} + w_t^F h_t^F \cdot 1\left\{h_t^F > \underline{h}^F\right\} + A_{t+1} \tag{6}$$

$$= A_t + Y_t^G + w_t^G H_t^G + Y_t^M + w_t^M H_t^M + B_t \cdot 1\left\{Welfare_t = 1\right\} \cdot 1\left\{S_t > 0\right\}$$

Time Constraints $\forall t$

$$L_t^G + H_t^G + h_t^G + \phi \cdot 1\left\{Distance_t = Far\right\} = T - \gamma \cdot 1\left\{Health_t^G = Bad\right\} \tag{7}$$

$$h_t^M + H_t^M = T_t \tag{8}$$

Child Care Constraint $\forall t$

$$H_t^M = h_t^F + h_t^G \tag{9}$$

Work Requirement $\forall t$

$$H_t^M \ge \underline{H}_t^M \quad if \quad Welfare_t = 1 \tag{10}$$

Eligibility Stock $\forall t$

$$S_{t+1} = S_t - 1\left\{Welfare_t = 1\right\} \tag{11}$$

$$S_{t+1} \ge 0$$

Each period, the family chooses consumption of each generation C^G, C^M, leisure of the grandmother L^G, hours of care from the grandmother h^G, hours of care from the young woman h^M, hours of formal care h^F and whether to claim benefits today $Welfare$.

Preferences G values her own consumption C^G, her leisure L^G and her contribution to child care h^G while M values her own consumption C^M, her contribution to child care h^M and the elderly woman's contribution to child care h^G.

Child Care   In this setting, we assume that the young woman does not have any pure leisure but that

any time not devoted to market work H^M is devoted to child care h^M. Formal child care costs w^F per hour h^F and if the family decides to use formal care, it needs to employ it for a minimum of $\underline{h}^F$ hours. On the other hand, grandmother care cost is measured by the opportunity cost of grandmother's time which is represented by her potential wage on the formal market w^G. Moreover, if the grandmother lives far away, she incurs a fixed time cost of ϕ due to travelling time.

Constraints   Family budget constraint is given by equation (6) which states that the value of consumption of both generations and of formal care must be equal to the sum of assets at the beginning of the period A_t, unearned income of each generation Y, earnings of each generation wH and welfare benefits B if the young woman claims TANF benefits provided that her current stock of eligibility S_t is positive. However, if she claims benefits, she has a minimum work requirement of $\underline{H}^M$ imposed on her illustrated by constraint (10). She also loses eligibility years represented by the equation of motion for eligibility stock (11).

Welfare Reform   As can be seen from the family problem, the imposition of stricter work requirement would increase $\underline{H}^M$ in equation (10). Those families where the young woman was previously working less than $\underline{H}^M$ might thus have to increase labour supply of the young woman to stay on welfare or leave welfare. On the other hand, the time limits on benefits effectively decrease the stock of eligibility years from indefinite (provided that the young women satisfied AFDC eligibility criteria) to the federal limit of 5 years in equation (11) thereby providing higher incentives for young families to leave welfare today so as to preserve the future stock of eligibility. Meanwhile child care subsidies would have the effect of decreasing cost of formal care w^F, thereby leading to a substitution from grandmother to formal care.

Table 1: Summary Statistics for HRS - Young Women Sample

Variable	Young Women Family Sample	
	Treatment	Control
Young Women		
Proportion Working	0.52	0.77
	(0.50)	(0.42)
Education	10.1	13.5
	(2.49)	(2.11)
Age	33.4	34.8
	(6.55)	(5.66)
Number of Children	1.91	1.6
	(1.60)	(1.31)
Owns a House	0.18	0.59
	(0.39)	(0.49)
No. of Observations	2,320	27,495
Non Eligible Adult Sisters		
Proportion Working	0.68	0.77
	(0.47)	(0.42)
Education	12.3	13.5
	(2.13)	(2.11)
Age	34.9	34.8
	(5.79)	(5.66)
Number of Children	1.98	1.6
	(1.46)	(1.31)
Owns a House	0.43	0.59
	(0.50)	(0.49)
No. of Observations	3,066	27,495

Table 1: Summary Statistics for HRS - Elderly Women Sample

Variable	Elderly Women Sample			
	GM Single		GM Married	
	T	C	T	C
Proportion Retired	0.65	0.51	0.57	0.55
	(0.48)	(0.50)	(0.50)	(0.50)
Proportion Working	0.32	0.54	0.42	0.47
	(0.47)	(0.50)	(0.49)	(0.50)
Weekly Hours Work (if>0)	35.2	36.2	35.3	34.2
	(11.6)	(13.00)	(13.60)	(14.10)
Provided Time Transfers	0.61	0.49	0.51	0.49
	(0.49)	(0.50)	(0.50)	(0.50)
Provided Money	0.2	0.31	0.27	0.39
	(0.40)	(0.46)	(0.45)	(0.49)
Time Transfers (if >0)	15.4	8.68	11.8	8.6
	(23.7)	(13.7)	(15.9)	(13.6)
Money Transfers (if>0)	51	64.6	45	91
	(178.0)	(132)	(51.0)	(264)
Other Income (per week)	151	253	578	1,112
	(494)	(601)	(472)	(1414)
Wealth ($'000)	27.5	148	116	419
	(57.8)	(290)	(204.0)	(890)
Education	9.4	12	9.89	12.2
	(3.37)	(2.75)	(3.42)	(2.60)
Black	0.37	0.31	0.22	0.1
	(0.48)	(0.46)	(0.42)	(0.30)
Years of Work Experience	22.7	26.6	22.9	23.4
	(15.1)	(14.3)	(14.7)	(14.4)
Number of Children	5.2	3.76	5.84	3.9
	(2.15)	(1.84)	(2.86)	(1.91)
Health	0.46	0.71	0.63	0.81
	(0.50)	(0.45)	(0.48)	(0.39)
Age	61	61.3	59.8	59.6
	(4.37)	(4.47)	(4.68)	(4.70)
No. of Observations	695	3,874	900	10,961

Table 2: Young Women's Labour Force Participation

	(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
Eligible Females								
(Treatgroup)*(Reform)	0.267	0.063	0.184	0.045	0.181	0.044	0.181	0.044
	(0.064)	(0.013)	(0.065)	(0.015)	(0.065)	(0.015)	(0.065)	(0.015)
	***	***	***	***	***	***	***	***
Log Likelihood	-14,716		-14,310		-14,267		-14,251	
No. of Obs.	29815		29815		29815		29815	
Sisters LFP								
(Treatgroup)*(Reform)	0.116	0.029	0.126	0.031	0.127	0.031	0.118	0.029
	(0.059)	(0.014)	(0.060)	(0.014)	(0.060)	(0.014)	(0.060)	(0.014)
	**	**	**	**	**	**	*	**
Log Likelihood	-14,979		-14,526		-14,469		-14,469	
No. of Obs.	30561		30561		30561		30561	
Controls								
Own Generation			X	X	X	X	X	X
All Generations					X	X	X	X
Economic							X	X
EITC							X	X
Time Dummies	X	X	X	X	X	X	X	X
Census Dummies	X	X	X	X	X	X	X	X

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on MG Sample.
Eligiblity based on Young adult women, having a child under 18, having less than high school education,
being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in
Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy
variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include
second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies
or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care
workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table 3: Elderly Women's Labour Supply

	(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
GM Retirement								
(Treatgroup)*(Reform)	-0.056	-0.022	-0.045	-0.018	-0.015	-0.006	0.090	0.034
	(0.105)	(0.041)	(0.107)	(0.041)	(0.119)	(0.046)	(0.128)	(0.048)
Log Likelihood	-8,163		-7,295		-7,271		-7,262	
No. of Obs.	16,429		16,429		16,429		16,429	
GM Work								
(Treatgroup)*(Reform)	0.090	0.036	0.079	0.031	0.076	0.030	-0.047	-0.018
	(0.109)	(0.043)	(0.112)	(0.044)	(0.128)	(0.050)	(0.138)	(0.053)
Log Likelihood	-7,810		-6,869		-6,839		-6,830	
No. of Obs.	16,429		16,429		16,429		16,429	
GM Hours Work								
(Treatgroup)*(Reform)	1.115	0.480	1.009	0.407	0.685	0.275	-1.292	-0.509
	(1.393)	(0.605)	(1.401)	(0.571)	(1.595)	(0.645)	(1.718)	(0.669)
Log Likelihood	-42,037		-41,0347		-41,010		-41,008	
No. of Obs.	16,429		16,429		16,429		16,429	
Controls								
Own Generation			x	x	x	x	x	x
All Generations					x	x	x	x
Economic							x	x
EITC							x	x
Time Dummies	x	x	x	x	x	x	x	x
Census Dummies	x	x	x	x	x	x	x	x

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on GM sample.
Eligiblity based on Young adult women, having a child under 18, having less than high school education,
being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in
Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy
variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include
second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies
or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care
workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table 3 Cont'd: Elderly Women's Labour Supply

	Table 3S: Single Elderly Woman								Table 3M: Married Elderly Woman							
	(1)		(2)		(3)		(4)		(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
GM Retirement (Treatgroup)*(Reform)	-0.155	-0.061	-0.076	-0.030	0.066	0.025	0.131	0.050	-0.077	-0.030	-0.050	-0.019	-0.037	-0.014	0.064	0.024
	(0.181)	(0.072)	(0.184)	(0.073)	(0.209)	(0.080)	(0.228)	(0.086)	(0.136)	(0.054)	(0.138)	(0.053)	(0.156)	(0.060)	(0.166)	(0.062)
Log Likelihood	-2,179		-1,804		-1,779		-1,777		-6,050		-5,430		-5,412		-5,405	
GM Work (Treatgroup)*(Reform)	0.284	0.113	0.279	0.111	0.308	0.122	0.256	0.102	0.093	0.037	0.062	0.024	-0.002	-0.001	-0.142	-0.053
	(0.185)	(0.072)	(0.191)	(0.075)	(0.225)	(0.088)	(0.242)	(0.095)	(0.143)	(0.057)	(0.147)	(0.057)	(0.167)	(0.064)	(0.180)	(0.065)
Log Likelihood	-2,128		-1,768		-1,743		-1,741		-5,720		-5,019		-4,996		-4,989	
GM Hours Work (Treatgroup)*(Reform)	2.373	1.045	2.215	0.949	1.213	0.515	0.966	0.409	1.617	0.691	1.632	0.647	0.720	0.282	-1.638	-0.627
	(2.240)	(1.003)	(2.234)	(0.978)	(2.577)	(1.108)	(2.817)	(1.205)	(1.792)	(0.776)	(1.811)	(0.729)	(2.054)	(0.811)	(2.180)	(0.821)
Log Likelihood	-12335		-11930		-11901		-11902		-30,010		-29,297		-29,250		-29,234	
Controls																
Own Generation			x	x	x	x	x	x			x	x	x	x	x	x
All Generations					x	x	x	x					x	x	x	x
Economic							x	x							x	x
EITC							x	x							x	x
Time Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Census Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
No. of Obs.	4,568		4,568		4,568		4,568		11,861		11,861		11,861		11,861	

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on GM sample. Eligiblity based on Young adult women, having a child under 18, having less than high school education, being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table 4: Intergenerational Transfers from Elderly Women

	(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
<u>GM Hours Care</u>								
(Treatgroup)*(Reform)	-2.726	-0.776	-2.479	-0.705	-3.136	-0.879	-2.734	-0.771
	(1.036)	(0.282)	(1.043)	(0.285)	(1.187)	(0.316)	(1.278)	(0.345)
	***	***	**	**	***	***	**	**
Log Likelihood	-37,498		-37,412		-37,323		-37,320	
No. of Obs.	16,429		16,429		16,429		16,429	
<u>Net Financial Transfers</u>								
(Treatgroup)*(Reform)	-0.033		2.926		3.492		0.166	
	(5.294)		(5.325)		(5.700)		(5.998)	
R^2	0.01		0.01		0.01		0.01	
No. of Obs.	16,429		16,429		16,429		16,429	
<u>Controls</u>								
Own Generation			x	x	x	x	x	x
All Generations					x	x	x	x
Economic							x	x
EITC							x	x
Time Dummies	x	x	x	x	x	x	x	x
Census Dummies	x	x	x	x	x	x	x	x

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on GM sample.
Fixed effects ordinary least squares regressions form net financial transfers
Eligiblity based on Young adult women, having a child under 18, having less than high school education,
being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in
Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy
variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include
second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies
or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care
workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table 4Cont'd: Intergenerational Transfers from Elderly Women

	Table 4S: Single Elderly Woman								Table 4M: Married Elderly Woman							
	(1)		(2)		(3)		(4)		(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
<u>GM Hours Care</u>																
(Treatgroup)*(Reform)	-6.707	-1.689	-6.330	-1.589	-7.034	-1.736	-6.228	-1.553	-0.271	-0.082	-0.331	-0.100	-0.921	-0.274	-1.118	-0.332
	(1.894)	(0.437)	(1.904)	(0.440)	(2.182)	(0.490)	(2.393)	(0.549)	(1.304)	(0.394)	(1.305)	(0.392)	(1.481)	(0.434)	(1.572)	(0.458)
	***	***	***	***	***	***	***	***								
Log Likelihood	-8,706		-8,663		-8,607		-8,606		-25,271		-25,205		-25,144		-25,142	
<u>Net Financial Transfers</u>																
(Treatgroup)*(Reform)	17.325		18.432		19.598		20.941		-5.693		-4.891		-4.695		-8.449	
	(9.426)		(9.546)		(9.155)		(9.446)		(6.572)		(6.494)		(7.284)		(7.663)	
	*		*		**		**									
R^2	0.02		0.02		0.03		0.03		0.01		0.01		0.01		0.01	
<u>Controls</u>																
Own Generation			x	x	x	x	x	x			x	x	x	x	x	x
All Generations					x	x	x	x					x	x	x	x
Economic							x	x							x	x
EITC							x	x							x	x
Time Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Census Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
No. of Obs.	4,568		4,568		4,568		4,568		11,861		11,861		11,861		11,861	

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on GM sample. Eligiblity based on Young adult women, having a child under 18, having less than high school education, being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table 5: Summary Statistics for HRS - Young Women Sample

Variable	Families Living Together				Families Living Separately			
	GM Single		GM Married		GM Single		GM Married	
	T	C	T	C	T	C	T	C
Young Women								
Proportion Working	0.35	0.72	0.43	0.72	0.5	0.76	0.53	0.77
	(0.48)	(0.45)	(0.50)	(0.45)	(0.50)	(0.43)	(0.50)	(0.42)
Education	9.6	12.8	10.1	13.1	9.85	13.3	10.2	13.9
	(2.52)	(1.90)	(2.59)	(1.76)	(2.27)	(2.12)	(2.02)	(5.40)
Age	33.2	32.8	29.7	29.8	35.2	36.1	34	34.9
	(6.45)	(6.34)	(6.49)	(5.94)	(5.88)	(5.44)	(6.19)	(5.40)
Number of Children	1.88	1.46	1.17	1.23	2.3	1.75	2.11	1.64
	(1.34)	(1.15)	(1.32)	(1.01)	(1.57)	(1.36)	(1.59)	(1.29)
Owns a House	0.04	0.16	0.02	0.07	0.2	0.54	0.22	0.65
	(0.18)	(0.36)	(0.13)	(0.26)	(0.40)	(0.50)	(0.41)	(0.48)
No. of Observations	114	501	109	597	730	6,345	996	19,731
Non Eligible Adult Sisters								
Proportion Working	0.52	0.72	0.77	0.72	0.71	0.76	0.66	0.77
	(0.51)	(0.45)	(0.43)	(0.45)	(0.45)	(0.43)	(0.47)	(0.42)
Education	11.2	12.8	12.6	13.1	12.2	13.3	12.2	13.9
	(3.45)	(1.90)	(2.38)	(1.76)	(1.95)	(2.12)	(2.18)	(5.40)
Age	34.6	32.8	29.6	29.8	36	36.1	35	34.9
	(5.46)	(6.34)	(5.20)	(5.94)	(5.39)	(5.44)	(5.70)	(5.40)
Number of Children	1.93	1.46	1.17	1.23	2.06	1.75	2.1	1.64
	(1.27)	(1.15)	(0.66)	(1.01)	(1.50)	(1.36)	(1.50)	(1.29)
Owns a House	0.19	0.16	0.03	0.07	0.41	0.54	0.49	0.65
	(0.40)	(0.36)	(0.17)	(0.26)	(0.49)	(0.50)	(0.50)	(0.48)
No. of Observations	27	501	35	597	859	6,345	1,446	19,731

Table 5: Summary Statistics for HRS - Elderly Women Sample

Variable	Families Living Together				Families Living Separately			
	GM Single		GM Married		GM Single		GM Married	
	T	C	T	C	T	C	T	C
Elderly Women Retired	0.68	0.52	0.57	0.45	0.62	0.5	0.59	0.57
	(0.47)	(0.50)	(0.50)	(0.50)	(0.49)	(0.50)	(0.49)	(0.49)
Elderly Women Work	0.31	0.48	0.39	0.5	0.37	0.55	0.4	0.46
	(0.46)	(0.50)	(0.49)	(0.50)	(0.48)	(0.50)	(0.49)	(0.50)
Weekly Hours Work (if>0)	33	35	41	37.7	37	36.7	34.8	33.9
	(14.0)	(13.80)	(15.33)	(12.96)	(11.22)	(13.00)	(13.50)	(14.50)
Provided Time Transfers	-	-	-	-	0.41	0.43	0.39	0.46
	-	-	-	-	(0.49)	(0.49)	(0.49)	(0.50)
Provided Money	-	-	-	-	0.2	0.3	0.26	0.37
	-	-	-	-	(0.40)	(0.46)	(0.44)	(0.48)
Time Transfers (if >0)	24.2	13.6	14.4	14.6	8.6	7.9	11.5	8
	(34.6)	(17.4)	(15.4)	(20.3)	(12.4)	(12.7)	(15.8)	(13.1)
Money Transfers (if>0)	31.2	78.1	50	68.3	72	65.4	47.8	86.9
	(45.7)	(216)	(53.8)	(111)	(251)	(125)	(52)	(212)
Other Income (per week)	131	161	471	827	169	259	589	1,142
	(113)	(231)	(335)	(1290)	(676)	(521)	(489)	(1417)
Wealth ($'000)	31.4	83.9	58.7	229	27.1	159	123	443
	(63.8)	(167)	(66.8)	(534)	(61)	(303)	(209)	(941)
Education	8.2	11.3	9.16	10.4	9.52	12	10	12.3
	(3.74)	(3.20)	(3.92)	(3.86)	(2.94)	(2.57)	(3.33)	(2.41)
Black	0.44	0.52	0.31	26.2	0.31	0.24	0.2	0.08
	(0.50)	(0.50)	(0.47)	(0.44)	(0.46)	(0.43)	(0.40)	(0.27)
Years of Work Experience	22.6	25.2	16.4	23.7	25.8	28	23.9	24.7
	(15.1)	(13.9)	(15.1)	(12.7)	(14.7)	(13.4)	(15.0)	(13.8)
Number of Children	5.7	4.5	5.06	4.2	4.86	3.6	5.9	3.8
	(2.19)	(2.51)	(3.04)	(2.02)	(2.14)	(1.73)	(3.06)	(1.90)
Health	0.44	0.64	0.51	0.69	0.5	0.73	0.61	0.83
	(0.50)	(0.48)	(0.50)	(0.46)	(0.50)	(0.44)	(0.49)	(0.38)
Age	60	60	59	57.8	61.2	61.3	59.9	60
	(4.44)	(4.39)	(4.82)	(4.69)	(4.43)	(4.48)	(4.63)	(4.69)
No. of Observations	88	380	51	466	332	2,701	599	8,549

Table 6: Young Women's Labour Force Participation - Intergenerational Families Living Together

	Table 6S: Single Elderly Woman Sample								Table 6M: Married Elderly Woman Sample							
	(1)		(2)		(3)		(4)		(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
<u>Eligible Females</u>																
(Treatgroup)*(Reform)	0.451	0.136	0.192	0.060	0.189	0.005	0.222	0.007	-0.162	-0.053	-0.214	-0.072	-0.428	-0.146	-0.443	-0.151
	(0.354)	(0.092)	(0.368)	(0.109)	(0.371)	(0.015)	(0.375)	(0.020)	(0.387)	(0.133)	(0.393)	(0.139)	(0.427)	(0.159)	(0.429)	(0.160)
Log Likelihood	-328		-303		-272		-270		-375		-358		-331		-329	
No. of Obs.	615		615		615		615		706		706		706		706	
<u>Sisters LFP</u>																
(Treatgroup)*(Reform)	-0.167	-0.052	0.329	0.080	0.403	0.000	0.458	0.000	-0.212	-0.063	-0.128	-0.037	0.524	0.097	0.565	0.101
	(0.693)	(0.229)	(0.729)	(0.149)	(0.748)	(0.000)	(0.752)	(0.000)	(0.736)	(0.235)	(0.715)	(0.216)	(0.837)	(0.110)	(0.852)	(0.104)
Log Likelihood	-281		-255		-223		-222		-325		-312		-282		-279	
No. of Obs.	528		528		528		528		632		632		632		632	
<u>Controls</u>																
Own Generation			x	x	x	x	x	x			x	x	x	x	x	x
All Generations					x	x	x	x					x	x	x	x
Economic							x	x							x	x
EITC							x	x							x	x
Time Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Census Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on GM sample. Eligiblity based on Young adult women, having a child under 18, having less than high school education, being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table 7: Elderly Women's Labour Supply - Intergenerational Families Living Together

	Table 7S: Single Elderly Woman								Table 7M: Married Elderly Woman							
	(1)		(2)		(3)		(4)		(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
GM Retirement (Treatgroup)*(Reform)	-0.669	-0.261	-0.600	-0.178	-2.063	-0.676	-2.054	-0.688	0.688	0.269	0.932	0.331	1.276	0.358**	0.483	0.176
	(0.575)	(0.212)	(0.628)	(1.383)	(1.334)	(14.564)	(1.499)	(7.272)	(0.708)	(0.264)	(0.762)	(0.209)	(1.016)	(0.158)	(1.098)	(0.358)
Log Likelihood	-219		-162		-124		-121		-273		-212		-179		-176	
GM Work (Treatgroup)*(Reform)	0.520	0.204	0.364	0.133	3.805*	0.911	2.180	0.724	-0.772	-0.282	-1.387	-0.360	-0.045	-0.010	0.355	0.096
	(0.649)	(0.254)	(0.774)	(1.711)	(2.001)	(23.121)	(2.154)	(2.391)	(0.702)	(0.215)	(0.790)*	(0.103)***	(1.260)	(1.060)	(1.426)	(14.761)
Log Likelihood	-208		-130		-81		-79		-256		-193		-155		-151	
GM Hours Work (Treatgroup)*(Reform)	11.970*	5.442	8.024	2.981	12.545	4.230	14.410	5.027	-11.258	-4.369	-14.727	-4.754	-3.802	-1.134	6.731	2.282
	(6.498)	(3.211)*	(7.248)	(3.253)	(11.611)	(6.447)	(12.509)	(6.444)	(9.251)	(3.265)	(10.182)	(2.775)*	(11.198)	(4.285)	(11.996)	(6.822)
Log Likelihood	-1119		-1035		-982		-980		-1367		-1285		-1240		-1232	
Controls																
Own Generation			x	x	x	x	x	x			x	x	x	x	x	x
All Generations					x	x	x	x					x	x	x	x
Economic							x	x							x	x
EITC							x	x							x	x
Time Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Census Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
No. of Obs.	468		468		468		468		517		517		517		517	

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on GM sample. Eligiblity based on Young adult women, having a child under 18, having less than high school education, being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table 8: Intergenerational Transfers from Elderly Women - Intergenerational Families Living Together

	Table 8S: Single Elderly Woman								Table 8M: Married Elderly Woman							
	(1)		(2)		(3)		(4)		(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
GM Hours Care (Treatgroup)*(Reform)	-10.446	-2.972	-9.783	-2.688	-28.763	-6.385	-25.010	-5.667	-0.666	-0.253	-1.366	-0.507	-1.509	-0.553	3.167	1.246
	(7.259)	(1.868)	(7.453)	(1.863)	(10.320)	(1.681)	(10.873)	(1.865)	(8.195)	(3.083)	(7.876)	(2.873)	(8.617)	(3.095)	(9.459)	(3.888)
					***	***	**	***								
Log Likelihood	-1557		-1135		-1097		-1089		-1584		-1552		-1524		-1519	
Net Financial Transfers (Treatgroup)*(Reform)	-24.397		-19.879		-1.111		11.871		13.27		16.216		15.973		10.891	
	(33.625)		(32.086)		(25.000)		(28.679)		(10.433)		(16.518)		(16.477)		(17.215)	
R^2	0.01		0.03		0.05		0.08		0.06		0.11		0.15		0.15	
Controls																
Own Generation			x	x	x	x	x	x			x	x	x	x	x	x
All Generations					x	x	x	x					x	x	x	x
Economic							x	x							x	x
EITC							x	x							x	x
Time Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Census Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
No. of Obs.	468		468		468		468		517		517		517		517	

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on GM sample. Eligiblity based on Young adult women, having a child under 18, having less than high school education, being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table 9: Young Women's Labour Force Participation - Intergenerational Families Living Separately

	Table 9S: Single Elderly Woman Sample								Table 9M: Married Elderly Woman Sample							
	(1)		(2)		(3)		(4)		(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
Eligible Females																
(Treatgroup)*(Reform)	0.219	0.055	0.133	0.034	0.123	0.031	0.117	0.030	0.285	0.065	0.261	0.059	0.257	0.059	0.258	0.059
	(0.120)	(0.027)	(0.121)	(0.029)	(0.121)	(0.029)	(0.122)	(0.030)	(0.099)	(0.019)	(0.100)	(0.020)	(0.100)	(0.020)	(0.100)	(0.020)
	*	**							***	***	***	***	***	***	**	***
Log Likelihood	-3,528		-3,412		-3,393		-3,387		-10,208		-9,867		-9,832		-9,820	
No. of Obs.	7,073		7,073		7,073		7,073		20,727		20,727		20,727		20,727	
Sisters LFP																
(Treatgroup)*(Reform)	0.305	0.069	0.340	0.074	0.341	0.073	0.342	0.074	0.137	0.033	0.152	0.036	0.158	0.037	0.153	0.036
	(0.119)	(0.023)	(0.121)	(0.022)	(0.121)	(0.022)	(0.122)	(0.022)	(0.087)	(0.020)	(0.087)	(0.019)	(0.088)	(0.019)	(0.088)	(0.019)
	***	***	***	***	***	***	***	***			*	*	*	*	*	*
Log Likelihood	-3,532		-3,399		-3,369		-3,364		-10,399		-10,050		-10,009		-9,996	
No. of Obs.	7,204		7,204		7,204		7,204		21,177		21,177		21,177		21,177	
Controls																
Own Generation			X	X	X	X	X	X			X	X	X	X	X	X
All Generations					X	X	X	X					X	X	X	X
Economic							X	X							X	X
EITC							X	X							X	X
Time Dummies	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Census Dummies	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on GM sample. Eligiblity based on Young adult women, having a child under 18, having less than high school education, being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table 10: Elderly Women's Labour Supply - Intergenerational Families Living Separately

	Table 10S: Single Elderly Woman								Table 10M: Married Elderly Woman							
	(1)		(2)		(3)		(4)		(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
GM Retirement (Treatgroup)*(Reform)	0.138	0.053	0.218	0.084	0.428	0.159	0.377	0.142	-0.110	-0.042	-0.066	-0.025	0.012	0.004	0.149	0.053
	(0.268)	(0.102)	(0.276)	(0.103)	(0.327)	(0.112)	(0.347)	(0.122)	(0.163)	(0.063)	(0.165)	(0.062)	(0.189)	(0.069)	(0.201)	(0.069)
Log Likelihood	-1,405		-1,142		-1,121		-1,118		-4,571		-4,114		-4,094		-4,089	
GM Work (Treatgroup)*(Reform)	-0.042	-0.017	-0.062	-0.025	-0.022	-0.009	0.016	0.007	0.118	0.046	0.092	0.035	-0.039	-0.014	-0.228	-0.080
	(0.247)	(0.099)	(0.254)	(0.101)	(0.297)	(0.118)	(0.314)	(0.125)	(0.173)	(0.068)	(0.178)	(0.068)	(0.203)	(0.074)	(0.220)	(0.073)
Log Likelihood	-1,424		-1,179		-1,155		-1,153		-4,339		-3,823		-3,805		-3,800	
GM Hours Work (Treatgroup)*(Reform)	-2.046	-0.888	-1.645	-0.716	-2.381	-1.033	-2.479	-1.074	3.039	1.279	3.323	1.295	1.778	0.682	-1.287	-0.479
	(2.962)	(1.267)	(2.966)	(1.268)	(3.457)	(1.463)	(3.741)	(1.579)	(2.226)	(0.958)	(2.232)	(0.899)	(2.555)	(0.997)	(2.730)	(1.003)
Log Likelihood	-8,337		-8,023		-7,493		-7,990		-22,021		-21,387		-21,369		-21,363	
Controls																
Own Generation			x	x	x	x	x	x			x	x	x	x	x	x
All Generations					x	x	x	x					x	x	x	x
Economic							x	x							x	x
EITC							x	x							x	x
Time Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Census Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
No. of Obs.	3,033		3,033		3,033		3,033		9,148		9,148		9,148		9,148	

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on GM sample. Eligiblity based on Young adult women, having a child under 18, having less than high school education, being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table 11: Intergenerational Transfers from Elderly Women - Intergenerational Families Living Separately

	Table 11S: Single Elderly Woman								Table 11M: Married Elderly Woman							
	(1)		(2)		(3)		(4)		(1)		(2)		(3)		(4)	
	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx	Coeff.	Mfx
GM Hours Care																
(Treatgroup)*(Reform)	-1.066	-0.280	-0.797	-0.208	-1.653	-0.422	-2.043	-0.518	-0.570	-0.170	-0.458	-0.136	-1.790	-0.517	-1.477	-0.428
	(2.327)	(0.600)	(2.337)	(0.603)	(2.775)	(0.688)	(3.020)	(0.740)	(1.542)	(0.456)	(1.549)	(0.457)	(1.791)	(0.500)	(1.902)	(0.537)
Log Likelihood	-5,265		-5,228		-5,180		-5,179		-18,958		-18,901		-18,834		-18,830	
Net Financial Transfers																
(Treatgroup)*(Reform)	32.293		34.108		26.877		28.843		-0.226		0.166		2.799		-2.456	
	(15.822)		(15.944)		(11.612)		(12.761)		(4.380)		(4.457)		(5.129)		(5.142)	
	**		**		**		**									
R^2	0.02		0.02		0.03		0.03		0.01		0.01		0.01		0.01	
Controls																
Own Generation			x	x	x	x	x	x			x	x	x	x	x	x
All Generations			x	x	x	x	x	x			x	x	x	x	x	x
Economic							x	x							x	x
EITC							x	x							x	x
Time Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Census Dummies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
No. of Obs.	3,033		3,033		3,033		3,033		9,148		9,148		9,148		9,148	

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption. Estimation based on GM sample. Eligiblity based on Young adult women, having a child under 18, having less than high school education, being single or married with spouse unemployed. Controls for Young Adult Generation include second order polynomials in Age, Education, and Number of Children under 18 and dummy variable for home ownership (interacted with dummy variables for whether eligible female, non eligible female and non eligible male). Controls for Elderly Generation include second order polynomials in Age, Unearned income, Wealth, Education, Work Experience, Number of Children, Dummies or Health, Ethnicity. Controls for Economic Conditions include average unemployment rate and average wage of child care workers in census division of residence for each generation. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table A
Approval and Implementation Dates of Major AFDC Waivers And TANF, 1992 – 1998

State	Earliest major waiver		TANF Implemented	
	Approved	Implemented	Official	Actual
Alabama			11-15-96	
Alaska			7-1-97	
Arizona	5-22-95	11-1-95	10-1-96	
Arkansas	4-5-94	7-1-94	7-1-97	
California	10-29-92	12-1-92	11-26-96	1-1-98
Colorado			7-1-97	
Connecticut	8-29-94	1-1-96	10-1-96	
Delaware	5-8-95	10-1-95	3-10-97	
Dist. of Columbia			3-1-97	
Florida	6-26-96	—[1]	10-1-96	
Georgia	11-1-93	1-1-94	1-1-97	
Hawaii	6-24-94	2-1-97	7-1-97	
Idaho	8-19-96		7-1-97	
Illinois	11-23-93	11-23-93	7-1-97	
Indiana	12-15-94	5-1-95	10-1-96	
Iowa	8-13-93	10-1-93	1-1-97	
Kansas	8-19-96		10-1-96	
Kentucky			10-18-96	
Louisiana	2-5-96		1-1-97	
Maine	6-10-96		11-1-96	
Maryland	8-14-95	3-1-96	12-9-96	
Massachusetts	8-4-95	11-1-95	9-30-96	
Michigan	8-25-92	10-1-92	9-30-96	
Minnesota		—[2]	7-1-97	
Mississippi	9-1-95	10-1-95	10-1-96	7-1-97
Missouri	4-18-95	6-1-95	12-1-96	
Montana	4-18-95	2-1-96	2-1-97	
Nebraska	2-27-95	10-1-95	12-1-96	
Nevada			12-3-96	
New Hampshire	6-18-96		10-1-96	
New Jersey	7-20-92	10-1-92	2-1-97	7-1-97
New Mexico			7-1-97	
New York			12-2-96	11-1-97
North Carolina	2-5-96	7-1-96	1-1-97	
North Dakota		—[3]	7-1-97	
Ohio	3-13-96	7-1-96	10-1-96	
Oklahoma			10-1-96	
Oregon	7-15-92	2-1-93	10-1-96	
Pennsylvania			3-3-97	
Rhode Island			5-1-97	
South Carolina	5-3-96		10-12-96	
South Dakota	3-14-94	6-1-94	12-1-96	
Tennessee	7-25-96	9-1-96	10-1-96	
Texas	3-22-96	6-1-96	11-5-96	
Utah	10-5-92	1-1-93	10-1-96	
Vermont	4-12-93	7-1-94	9-20-96	
Virginia	7-1-95	7-1-95	2-1-97	
Washington	9-29-95	1-1-96	1-10-97	
West Virginia	7-31-95	2-1-96	1-11-97	
Wisconsin	6-24-94	1-1-96	9-30-96	9-1-97
Wyoming			1-1-97	

Note: Implementation dates are arbitrarily stated as of the first of the month absent specific information to the contrary. The "actual" dates for TANF implementation are based on communications from Urban Institute staff.

Source: Health and Human Services, Assistant Secretary for Planning and Evaluation, *Setting the Baseline: A Report on State Welfare Waivers* and other unpublished documents.

Table B1: Summary Statistics for PSID

Variable	Treatment (T)		Control (C)	
	Mean	s.d	Mean	s.d
Proportion Working	0.6	0.49	0.84	0.37
Weekly Hours of Work (if >0)	29.5	15.7	34.5	13.5
Other Income ($'000)	8.2	12.1	30.6	61.2
Wealth ($'000)	12	70	94.7	355
Years of Schooling	10.1	1.29	13.3	2.03
Black	0.64	0.48	0.29	0.45
Age	34.4	7.6	35.5	7.7
No. of Children below 2	0.12	0.36	0.11	0.33
No. of Children between 2-5	0.28	0.57	0.22	0.48
No. of Children between 5-13	0.73	0.46	0.62	0.87
Good Health	0.73	0.45	0.91	0.29
Married	0.17	0.37	0.69	0.46
Years of Work Experience	10.2	7.2	13.4	8.3
No. of Observations	2,880		41,827	

Table B2: Young Women's Labour Supply

	(1) Coeff.	(1) Mfx	(2) Coeff.	(2) Mfx	(3) Coeff.	(3) Mfx
Labour Force Participation						
(Treatgroup)*(Waiver)	-0.138	-0.014	-0.153	-0.015	-0.153	-0.015
	(0.096)	(0.064)	(0.095)	(0.015)	(0.095)	(0.015)
(Treatgroup)*(TANF)	0.390	0.027	0.287	0.020	0.285	0.019
	(0.080)	(0.132)	(0.081)	(0.017)	(0.081)	(0.016)
	***		***		***	
Log Likelihood	-15,231		-14,271		-14,268	
No. of Obs.	44,707		44707		44707	
Weekly Hours of Work						
(Treatgroup)*(Waiver)	0.056	0.037	0.015	0.011	-0.019	-0.013
	(0.928)	(0.608)	(0.904)	(0.629)	(0.904)	(0.629)
(Treatgroup)*(TANF)	5.505	3.788	4.380	3.173	4.439	3.222
	(0.762)	(0.551)	(0.747)	(0.563)	(0.747)	(0.565)
	***	***	***	***	***	***
Log Likelihood	-159,607		-158,121		-158,097	
No. of Obs.	44,707		44,707		44,707	
Controls						
Demographics			x	x	x	x
Economic					x	x
Maximum EITC benefit					x	x
State Dummies	x	x	x	x	x	x
Time Dummies	x	x	x	x	x	x
Individual Fixed Effect			x	x	x	x

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption.
Demographic controls include age, age squared, wealth, wealth squared, unearned income, unearned
income squared, health, dummies for whether there are children under 2, 2-5, 5-13, no. of children under
2, 2-5, 5-13, no. of children under 2, 2-5, 5-13 squared, education, education squared, ethnicity, work
experience, work experience squared and dummy for whether owns a house marital status
Controls for economic conditions include average unemployment rate and average wage of child care
workers in state of residence. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table B3: Young Women's Labour Supply Trend Test

Hours of Work	(1)	(2)	(3)
(Treatgroup)*(Year 1982)	-0.009	-0.145	-0.095
	(0.647)	(0.650)	(0.651)
(Treatgroup)*(Year 1983)	-0.710	-0.806	-0.774
	(0.796)	(0.798)	(0.798)
(Treatgroup)*(Year 1984)	-1.673**	-1.802**	-1.844**
	(0.823)	(0.823)	(0.824)
(Treatgroup)*(Year 1985)	-0.784	-0.354	-0.449
	(0.902)	(0.900)	(0.901)
(Treatgroup)*(Year 1986)	0.271	0.515	0.424
	(0.965)	(0.969)	(0.970)
(Treatgroup)*(Year 1987)	-0.271	-0.085	-0.171
	(1.032)	(1.021)	(1.020)
(Treatgroup)*(Year 1988)	0.221	0.472	0.371
	(1.045)	(1.045)	(1.042)
(Treatgroup)*(Year 1989)	0.872	1.163	1.020
	(1.046)	(1.036)	(1.035)
(Treatgroup)*(Year 1990)	0.971	1.030	0.892
	(1.107)	(1.095)	(1.092)
(Treatgroup)*(Year 1991)	0.407	0.142	-0.019
	(1.139)	(1.137)	(1.135)
(Treatgroup)*(Year 1992)	0.151	-0.157	-0.342
	(1.207)	(1.208)	(1.204)
(Treatgroup)*(Year 1993)	1.913	1.163	0.956
	(1.279)	(1.264)	(1.261)
(Treatgroup)*(Year 1994)	2.404**	1.695	1.481
	(1.226)	(1.205)	(1.201)
(Treatgroup)*(Year 1995)	2.317*	1.739	1.528
	(1.244)	(1.219)	(1.214)
(Treatgroup)*(Year 1996)	1.427	0.641	0.403
	(1.324)	(1.311)	(1.306)
(Treatgroup)*(Year 1997)	3.724***	2.829**	2.586*
	(1.411)	(1.379)	(1.375)
(Treatgroup)*(Year 1998)	5.489***	4.632***	4.413***
	(1.417)	(1.391)	(1.388)
(Treatgroup)*(Year 1999)	5.162***	3.870***	3.645***
	(1.437)	(1.402)	(1.396)
(Treatgroup)*(Year 2000)	6.803***	5.435***	5.228***
	(1.513)	(1.475)	(1.473)
(Treatgroup)*(Year 2001)	5.967***	4.130***	4.039***
	(1.486)	(1.487)	(1.484)
Controls			
Demographics		x	x
Economic			x
Maximum EITC benefit			x
State Dummies	x	x	x
Time Dummies	x	x	x
Individual Fixed Effect	x	x	x

Ordinary least squares regressions. Demographic controls include age, age squared, wealth, wealth
squared, unearned income, unearned income squared, health, dummies for whether there are children
under 2, 2-5, 5-13, no. of children under 2, 2-5, 5-13, no. of children under 2, 2-5, 5-13 squared. Controls for
economic conditions include average unemployment rate and average wage of child care workers in state
of residence. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%

Table B4: Low Educated Young Women's Labour Supply

	(1) Coeff.	(1) Mfx	(2) Coeff.	(2) Mfx	(3) Coeff.	(3) Mfx
Labour Force Participation						
(Treatgroup)*(Waiver)	-0.157	-0.054	-0.150	-0.051	-0.156	-0.053
	(0.142)	(1.389)	(0.140)	(9.182)	(0.140)	(10.928)
(Treatgroup)*(TANF)	0.358	0.113	0.292	0.092	0.297	0.093
	(0.126)	(3.682)	(0.129)	(20.206)	(0.129)	(23.524)
	***		**		**	
Log Likelihood	-2,831		-2,707		-2,703	
No. of Obs.	5,635		5,635		5,635	
Weekly Hours of Work						
(Treatgroup)*(Waiver)	0.270	0.120	0.717	0.330	0.733	0.338
	(1.711)	(0.764)	(1.680)	(0.777)	(1.682)	(0.780)
(Treatgroup)*(TANF)	5.843	2.698	4.713	2.231	4.864	2.313
	(1.487)	(0.715)	(1.495)	(0.732)	(1.504)	(0.740)
	***	***	***	***	***	***
Log Likelihood	-16,800		-16,665		-16,656	
No. of Obs.	5,635		5,635		5,635	
Controls						
Demographics			x	x	x	x
Economic					x	x
Maximum EITC benefit					x	x
State Dummies	x	x	x	x	x	x
Time Dummies	x	x	x	x	x	x
Individual Fixed Effect			x	x	x	x

Maximum likelihood estimation under Mundlak (1978) fixed effect assumption.
Demographic controls include age, age squared, wealth, wealth squared, unearned income, unearned income squared, health, dummies for whether there are children under 2, 2-5, 5-13, no. of children under 2, 2-5, 5-13, no. of children under 2, 2-5, 5-13 squared, education, education squared, ethnicity, work experience, work experience squared and dummy for whether owns a house marital status
Controls for economic conditions include average unemployment rate and average wage of child care workers in state of residence. *Significant @ 10%, **Significant @ 5% & *** Significant @ 1%