

# INTERGENERATIONAL IMPACTS OF PENSION REFORMS ON FERTILITY

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Australia's fertility rate has dropped to a historic low level of 1.5 births per woman, well below the replacement rate of 2.1 required to maintain a stable population (Australian Bureau of Statistics, 2023). One factor affecting fertility decisions may be the availability of childcare, as it helps reduce financial and logistical barriers to child-rearing. Grandmothers are a vital source of informal childcare support for many families. However, policies that increase the labour market participation of older women, such as raising the Age Pension eligibility age from 60 to 67, may reduce grandmothers' availability to provide childcare.

This note investigates an underexplored trade-off in policy design: how measures encouraging work among the older population can unintentionally impact their offspring's fertility rates. Specifically, it investigates how changes to Age Pension eligibility age may have reduced grandmothers' availability for childcare, subsequently influencing their daughters' fertility decisions. Given Australia's low fertility rates and aging population, this note highlights the trade-offs in designing policies that encourage labour force participation among older people without negatively affecting fertility. Our results show:

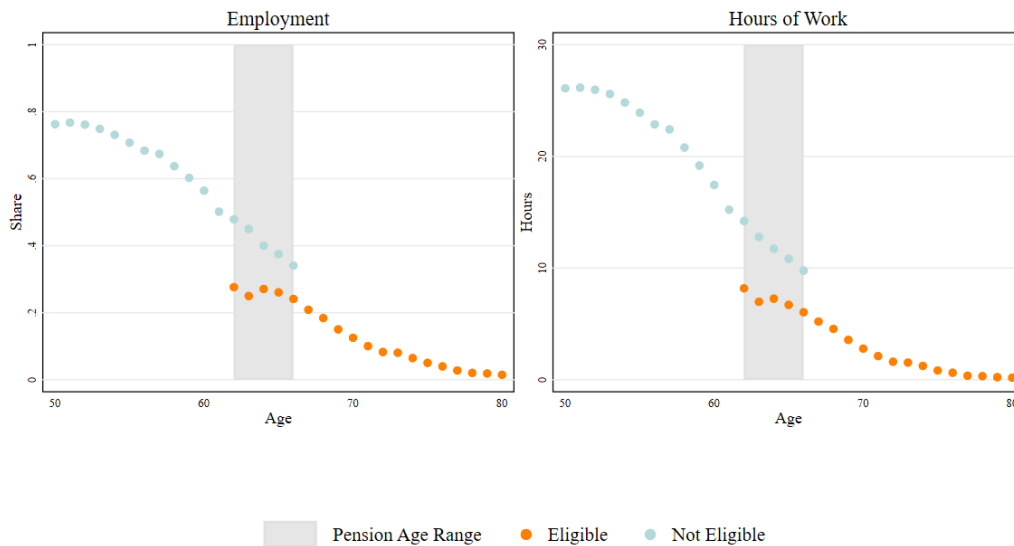
- The increase in the pension eligibility age delayed grandmothers' retirement, increasing their employment rate from 25% to 36%, and hours of work by 3.9 hours per week.
- Having a grandmother who qualifies for the pension based on her age increases the likelihood that her daughter will have a child, from 69% to 73.5%, and increases the average number of children per woman from 1.47 to 1.56. This effect on the average number of children per woman is comparable to the impact observed with the introduction of paid parental leave policies.
- Among daughters in lower-wealth households and those with lower educational attainment, grandmother's pension eligibility had a larger effect on fertility, suggesting that access to grandparental childcare may play a greater role in fertility decisions for these groups.
- The increase in pension eligibility age reduces grandmothers' ability to provide childcare by keeping them in the labour market longer. Grandmothers who are age-qualified for the pension are more likely to provide childcare, whereas those who work longer hours are less available for caregiving.

Fertility decisions are shaped by a range of factors, often reflecting a trade-off between career prospects and family planning. Support systems/arrangements, such as free or grandparental childcare, play a crucial role in easing the financial burden of child-rearing. The recent Productivity Commission report on early childhood education and care underscores the importance of grandparental childcare, highlighting its spillover effects: caring for grandchildren can act as a barrier to working for grandparents and lead them to reduce their working hours to provide this support (Productivity Commission, 2024). However, less attention has been paid to the reverse dynamic: policies aimed at increasing labour market participation among older individuals may reduce the availability of grandparental childcare, potentially impacting fertility choices among their offspring.

Census data reveal that grandparental care is predominantly provided by women, with the share of women caring for other children – likely their grandchildren – peaking around their age pension (AP) eligibility age (Figures A.1 and A.2). This pattern underscores the trade-offs they face between caregiving and labour market participation.

**Figure 1 :**

Effect of Age Pension Eligibility on Women's Labour Market Outcomes  
By Age Pension Eligibility



Sources: e61 Institute; HILDA Survey Release 22.0

## What is the Effect of Pension Reform on the Labour Supply of Older Women?

The Australian AP reform has gradually raised the minimum age for AP eligibility for women from 60 to 67, increasing by six months every two years since July 1, 1995, to decrease the fiscal cost of the aging population. Using data from the Household, Income, and Labour Dynamics in Australia (HILDA) survey, Figure 1 illustrates that women eligible for the pension based on their age<sup>1</sup> have lower employment rates and work fewer hours per week compared to those who are not eligible. However, this raw comparison does not account for the differences between cohorts, which are influenced by the gradual implementation of the reform. For example, consider two women born in June 1952 and June 1954, respectively. The woman born in 1952 would qualify for the pension at age 65, while the woman born in 1954 would qualify at age 66. As a result, when these women are 65 years old, one becomes eligible for the pension based on age, while the other would still be ineligible. These differences in outcomes by pension eligibility reflect not only the staggered rollout of the policy, but also the varying social and economic contexts experienced by different birth cohorts. As a result, women from different cohorts may have been influenced by varying economic, social, and labour market conditions, potentially confounding the observed relationship between pension eligibility and employment outcomes. Therefore, it is important to control for these differences.

To address this, we control for observed and unobserved, time-invariant factors affecting labour market outcomes, such as cohort-specific differences.<sup>2</sup> After accounting for individual differences, our analysis shows that the employment rate among grandmothers eligible for the pension is 25%, compared to 36% for those who are ineligible. Additionally, eligible grandmothers worked 3.9 fewer hours per week (Table A.2). These results suggest that the Australian pension reform was effective in keeping older women in the labour market, achieving its intended policy goal.

## What is the Effect of Mother's Age Pension Eligibility on the Fertility of Daughters?

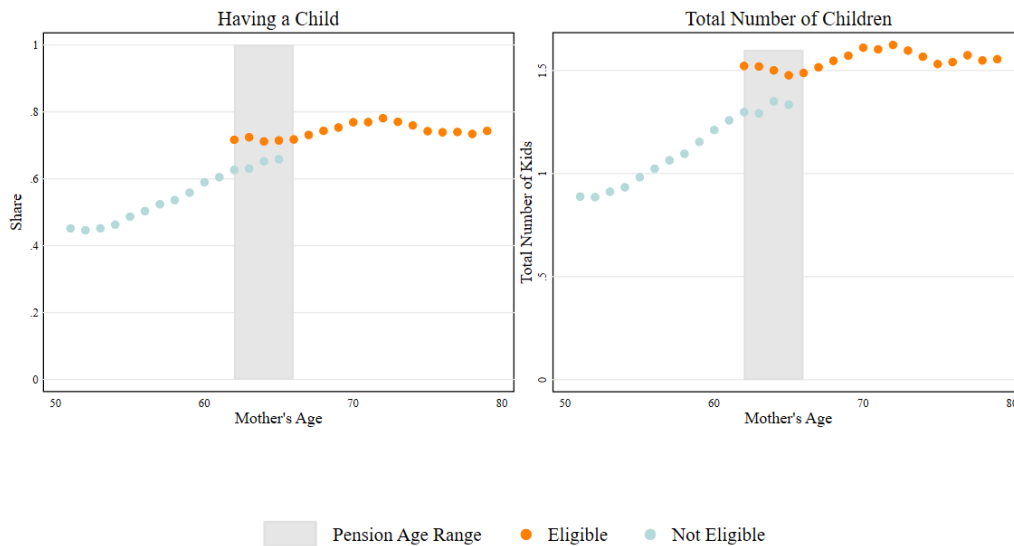
Women whose mothers are eligible for the AP based on their age are more likely to have children and have more children on average, compared to women whose mothers are of similar age but ineligible (Figure 2). However, this association may also reflect cohort differences, as women whose mothers qualified for AP earlier belong to older cohorts that may have different norms, socioeconomic conditions, and characteristics.

<sup>1</sup> Throughout this note, pension eligibility refers only to age-based eligibility, excluding income, assets, or residency criteria.

<sup>2</sup> We also include year-fixed effects and potentially time-varying characteristics such as education, region, etc. The details of the analysis are presented in Appendix A.4.

**Figure 2: :**

**Effect of Mother's Age Pension Eligibility on Fertility of Daughters  
By Age Pension Eligibility**



Sources: e61 Institute; HILDA Survey Release 22.0

After taking into account individual, age- and year-specific factors, we find that having a mother eligible for AP increases the probability of having a child from 69% to 73.5% and increases the average number of children from 1.47 to 1.56.<sup>3</sup> These effects are more pronounced for women in lower-income households and those without a university degree, suggesting that grandparent support is likely more important for women facing greater financial or social constraints (Figure A.7).

The observed impact of grandmother's AP eligibility on the average number of births is around 4.5%, comparable to the effect of introducing paid parental leave policies, which increased the average number of births by 5% through improved childcare support and reduced financial burdens (Gray et al., 2022).

### How Does Grandmothers' Pension Eligibility Affect Their Childcare Provision?

The most plausible mechanism linking grandmothers' AP eligibility to their daughters' fertility is the availability of informal childcare. Pension reform delayed grandmothers' retirement, which could have reduced their ability to provide childcare to their grandchildren. Our results confirm this, showing that grandmothers eligible for pension based on their age are more likely to provide childcare, with the proportion increasing from 59.4% to 63.4%. Additionally, the frequency of care increases with their pension eligibility (Table A.5).

We examine grandmothers' hours of work to understand whether this increase in childcare provision is driven by the reform's effect on grandmothers' labour market participation. Our analysis shows that once we account for the hours worked by grandmothers, the effects of pension eligibility on the provision and frequency of childcare become smaller and less pronounced. Moreover, grandmothers who work longer hours are less likely to provide care for their grandchildren and tend to do so less frequently. Overall, our findings suggest that pension eligibility increases grandmothers' availability for childcare by reducing their labour market participation.

These findings suggest that pension reforms that increase the eligibility age can have unintended intergenerational consequences on fertility. While such policies aim to improve fiscal sustainability and labour market outcomes, they may inadvertently reduce the availability of grandparental childcare, influencing daughters' fertility decisions. This highlights the importance of designing policies that balance the needs of an aging population with support for young families. In future research, we will further explore alternative childcare policies to offset the loss of grandparental support.

<sup>3</sup> We present the details of our analysis in Appendix A.5.

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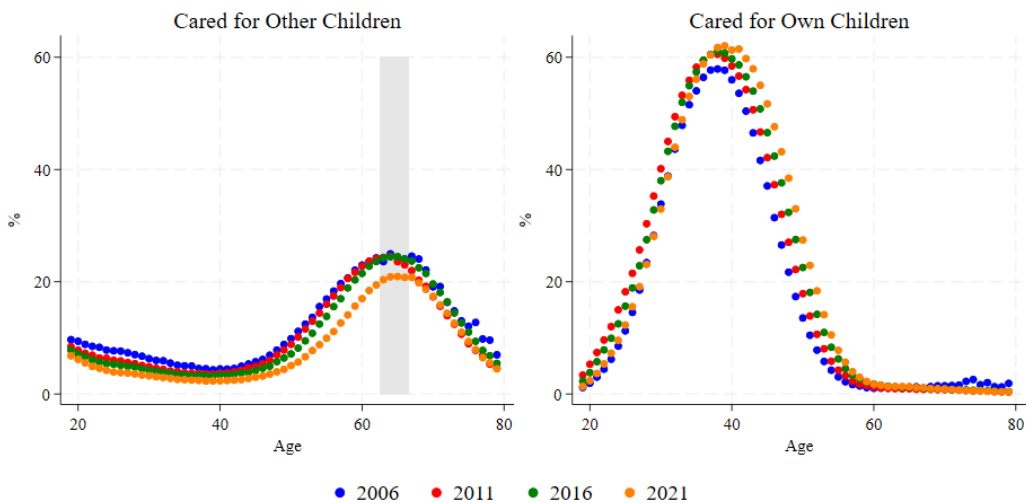
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## A.1. Additional Figures

Figures A.1 and A.2 depict the share of women and men providing childcare by age, care type (caring for other children vs. caring for their own children), and years.

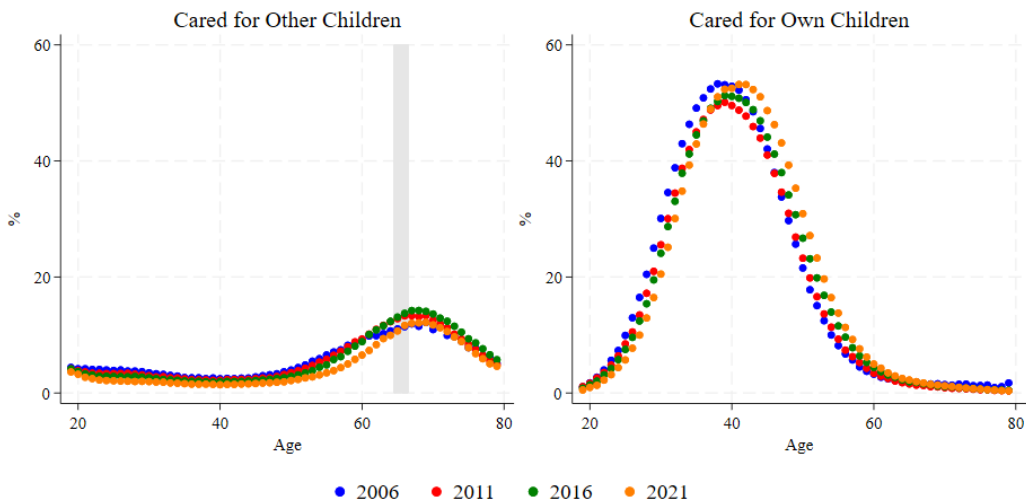
Figures show that care provided for other children - likely their grandchildren - increases gradually with age, peaking around the retirement age (highlighted by the shaded area), then decreases. Retirement age (shaded area) appears to coincide with increased caregiving for others, particularly among women.

**Figure A.1: :**  
Share of Women Providing Childcare  
By Care Type



Sources: e61 Institute; Census 2006, 2011, 2016, 2021

**Figure A.2: :**  
Share of Men Providing Childcare  
By Care Type

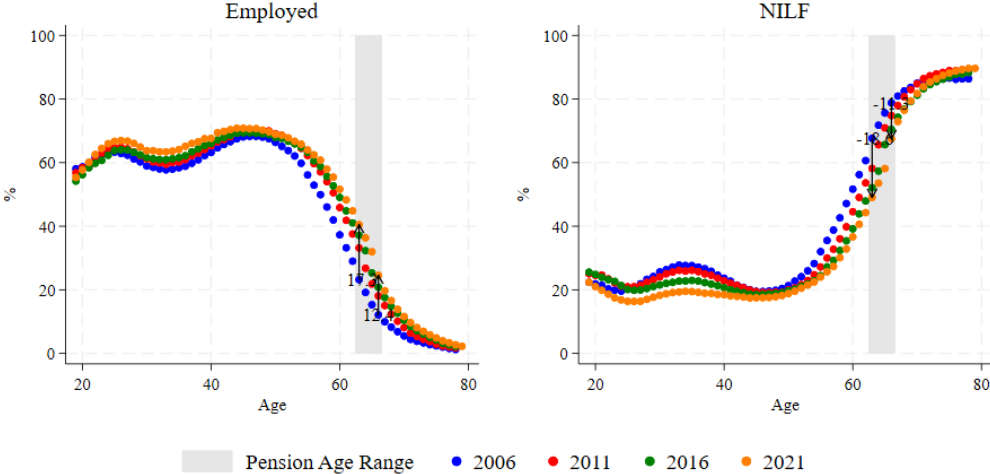


Sources: e61 Institute; Census 2006, 2011, 2016, 2021

Figures A.3 and A.4 present the employment and not-in-the-labour-force shares by age, census year, and gender. These figures highlight the possible impact of changes in AP eligibility age, showing a substantial increase in women's labour market participation rates, as the AP eligibility age for women increased by three years during the observed period. In contrast, for men, we observe a smaller effect, as their AP eligibility age increased by only one year.

**Figure A.3: :**

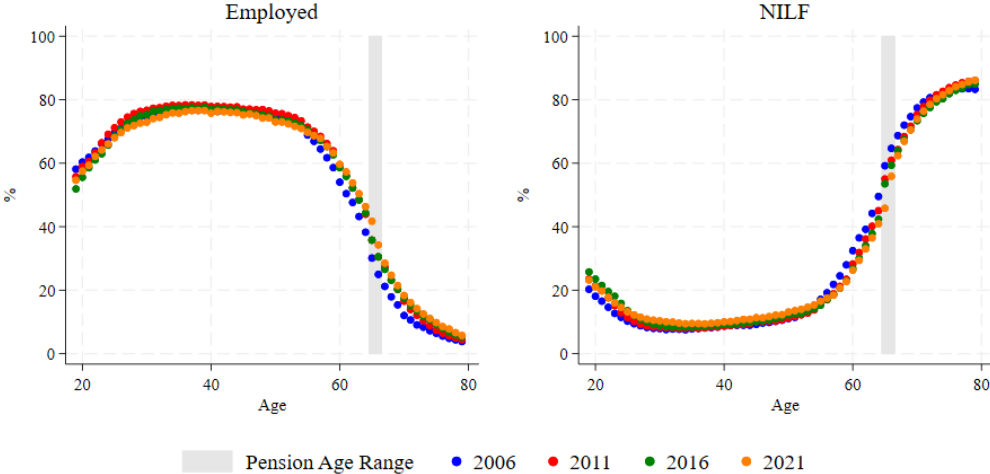
**Labour Market Participation of Women  
by Age and Year**



Sources: e61 Institute; Census 2006, 2011, 2016, 2021

**Figure A.4: :**

**Labour Market Participation of Men  
by Age and Year**



Sources: e61 Institute; Census 2006, 2011, 2016, 2021

## A.2. Literature

Access to childcare is an important factor affecting fertility and labour market decisions of women. While significant attention has been given to the effects of formal childcare systems on fertility and labour supply (Baizán, 2009; Berlinski & Galiani, 2007; Del Boca, 2002; Gong et al., 2010; Haan & Wrohlich, 2011; Lundin et al., 2008), the role of grandparents as informal caregivers remains underexplored despite their substantial contribution to family dynamics. Surveys indicate that 40–44% of grandparents provide childcare across regions such as the EU, the US, and Australia (Baxter, 2022; K. Glaser et al., 2013; Livingston & Parker, 2010).

Decisions on fertility and labour supply often reflect trade-offs between time and financial resources. Grandparents' availability plays a dual role:

- As caregivers, grandparents can reduce childcare costs, alleviating the financial burden on parents. This support may influence mothers' labour market participation as well as their fertility decisions.
- As financial supporters, they can enable decisions that potentially reduce labour market participation or increase fertility.

Key Findings from the Literature:

### 1. Grandparental Childcare and Labour Market Participation

- Aparicio-Fenoll and Vidal-Fernandez (2015) demonstrate that grandmothers' labour force participation reduces their availability for childcare, decreasing daughters' labour supply but increasing fertility through enhanced financial transfers.
- Kaufmann et al. (2022), using Dutch pension reform, highlight intergenerational spillovers, showing how increased work hours for grandmothers reduce their daughters' labour supply by half an hour per week while improving children's test scores.
- Pinto (2023), using the Argentinian Moratoria Previsional pension reform, show that grandmothers' retirement increases their daughters' labour supply by 7.9 percentage points and their labour force participation by 4.1 percentage points, primarily through the provision of informal childcare.
- Akyol and Yilmaz (2024) show grandmothers' proximity increases mothers' labour supply through their childcare provision in the Turkish setting.
- Laczek (2024) examines Danish pension reforms, revealing that early maternal retirement reduces the "child penalty" for daughters, emphasizing the importance of informal care even in countries with universal childcare systems.
- Bratti et al. (2018) find that maternal labour force participation increases by 11% when maternal grandmothers become pension-eligible, reflecting their increased availability for childcare. No significant effects are observed for paternal grandparents or grandfathers, emphasizing the role of maternal grandmothers in supporting working mothers with young children.

### 2. Retirement Reforms and Fertility

- Ilciukas (2023) finds that delayed retirement, due to Dutch pension reform, reduced fertility in the next generation by decreasing grandparental childcare availability.
- Battistin et al. (2014) examine how extended retirement ages in Italy, reducing grandparental childcare availability, impact fertility. One additional grandparent during early childbearing years boosts fertility by 5%, particularly in close-knit families.

### 3. Grandparenthood and Their Own Labour Supply, Health and Well-being

- Rupert and Zanella (2018) explore how becoming a grandparent reduces their labour supply. The results show a 30% reduction in employed grandmothers' work hours, primarily among those with weaker labour market attachment.
- Frimmel et al. (2022) use Austrian administrative data to examine the impact of becoming a grandmother on older workers' labour supply. Their findings show that the birth of a first grandchild increases the likelihood of leaving the labour market by 9%, particularly when informal childcare is highly valued or when grandmothers live nearby.

- Eibich and Zai (2024) discuss the health costs of grandparental childcare on grandparents, finding detrimental effects on physical functioning and subjective health when caregiving is intense.

#### 4. Fertility Decisions in the Absence of Parental Support

- F. Glaser and Wiesinger (2024) use Austrian administrative data to estimate the causal effect of parental death on daughters' fertility. The findings show no significant impact, even in scenarios where informal childcare loss is expected to be substantial.

### A.3. Data and Descriptive Statistics

The data used come from the first 22 waves (2001–2022) of the longitudinal Household, Income and Labour Dynamics in Australia (HILDA) Survey. The data set includes socioeconomic information of individuals along with their selected variables of parental history in waves 8,12, 15, and 19 along with information from grandparents. In this data, we focus on two groups: (i) Grandmothers: Women aged 50–80 who have reported having grandchildren. (ii) Daughters: Partnered women aged 23–45 whose mothers are alive and aged 50–80. Table A.1 provides the summary statistics.

**Table 1:** Descriptive Statistics

| Panel A: Grandmothers Sample       |       |       | Panel B: Mothers Sample      |       |       |
|------------------------------------|-------|-------|------------------------------|-------|-------|
|                                    | Mean  | Std   |                              | Mean  | Std   |
| Age                                | 65.57 | 7.65  | Age                          | 34.84 | 5.75  |
| Have Partner                       | 0.65  | 0.48  | Years of Schooling           | 13.23 | 2.16  |
| Years of Schooling                 | 11.03 | 2.28  | University Graduate          | 0.424 | 0.49  |
| University Graduate                | 0.131 | 0.34  | Overall Health (SF-36)       | 66.62 | 26.78 |
| Overall Health (SF-36)             | 57.29 | 28.21 | Partner's Age                | 36.59 | 7.36  |
| Homeowner                          | 0.795 | 0.40  | Partner's Years of Schooling | 12.89 | 2.09  |
| Urban Residence                    | 0.506 | 0.50  | Partner University Graduate  | 0.326 | 0.47  |
| Pension Eligibility Age            | 63.69 | 2.23  | Partner in labour force      | 0.952 | 0.21  |
| Age Pension Eligible               | 0.569 | 0.50  | Partner's Overall Health     | 63.98 | 27.66 |
| Household Income ('000)            | 86.87 | 122   | Homeowner                    | 0.667 | 0.47  |
|                                    |       |       | Household Income ('000)      | 164.1 | 113   |
| <i>Dependent Variables</i>         |       |       | <i>Dependent Variables</i>   |       |       |
| In Labour Force                    | 0.31  | 0.46  | Have at least one child      | 0.71  | 0.46  |
| Employed                           | 0.30  | 0.46  | Number of Children           | 1.49  | 1.25  |
| Hours of Work per week             | 8.86  | 15.87 | In Labour Force              | 0.78  | 0.42  |
| Even been a Carer of a Grandchild* | 0.62  | 0.49  | Receives Funds from Family   | 0.04  | 0.20  |
| Number of Observations             | 9336  |       | Number of Observations       | 35629 |       |
| Number of Individuals              | 2464  |       | Number of Individuals        | 4529  |       |

Notes:\*Due to non-response to this question, the final sample consists of 6,328 observations and 2,151 respondents.

### A.4. Pension Eligibility and Grandmother's Availability

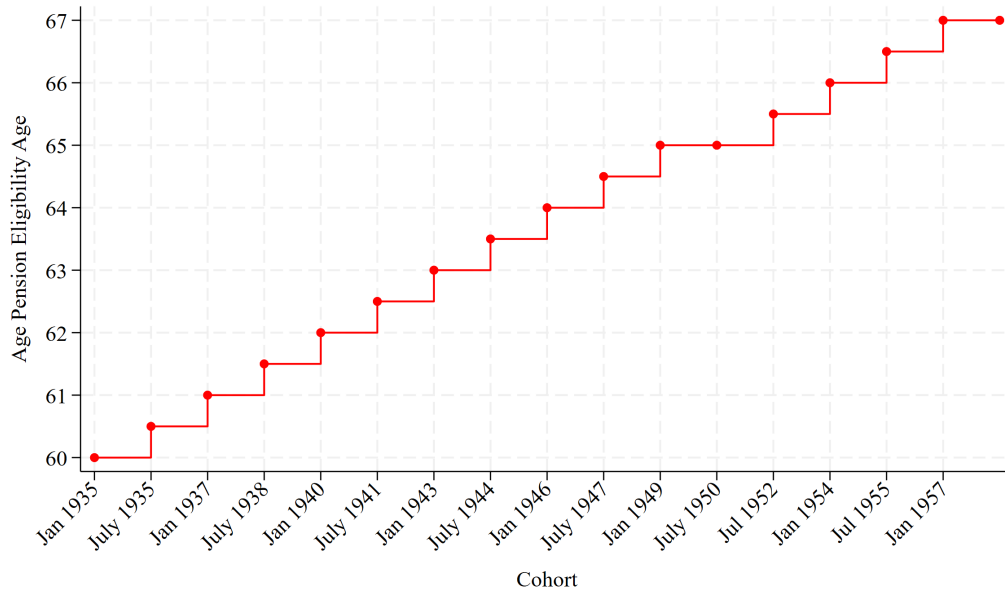
The Age Pension eligibility age for women increased by about 5 (61.5 to 66.5) years during our observation period in HILDA.

We estimate the effects of pension eligibility on labour supply of grandmothers by using the following specification in the sample of grandmothers:

$$Y_{it} = \beta_1 I(Age_{it} \geq APA_c) + \beta_2 X_{it} + \delta_t + \gamma_i + \varepsilon_{it}$$

where  $Y_{it}$  represents the outcome of interest (such as labour force participation, employment, hours of work or caregiving for grandchildren) for grandparent 'i' in period 't'. The indicator  $I(Age_{it} \geq APA_c)$  is a dummy variable indicating whether an

**Figure A.5: Age Pension Eligibility Age for Women by Birth Cohort**



individual has reached the age eligibility threshold for the Age Pension. Here,  $Age_{it}$  is the age of individual 'i' at time 't',  $APA_c$  is the minimum age for being eligible for the pension for individuals born in cohort 'c' (Figure A.5), and  $I$  is an indicator function.  $X_{it}$  is the time-varying control variables which include quadratic age control, schooling, marital status, and health status.  $\delta_t$  captures year fixed effects, while  $\gamma_i$  accounts for individual fixed effects which, capture time-invariant factors such as cohort effects. This fixed-effects design leverages changes in the age pension eligibility ages, which create thresholds where the economic incentives to retire significantly increase. Standard errors are clustered at the individual level.

**Table A.2: Effect of Pension Eligibility on Grandmothers' Outcomes**

| VARIABLES               | (1)<br>Being in Labour Force | (2)<br>Employed      | (3)<br>Hours of Work |
|-------------------------|------------------------------|----------------------|----------------------|
| Eligible to Age Pension | -0.114***<br>[0.017]         | -0.112***<br>[0.017] | -3.927***<br>[0.554] |
| Observations            | 9,336                        | 9,336                | 9,336                |
| Number of Individuals   | 2,464                        | 2,464                | 2,464                |
| Mean of Outcome Var.    | 0.309                        | 0.300                | 8.855                |

Notes: The sample consists of women aged 50 to 80 with at least one grandchild. The estimates presented are based on fixed effects regressions (Equation 1) controlling for schooling, marital status, health, quadratic age, state, wave, and individual fixed effects. Standard errors are clustered at the individual level. \*\*\*p<0.01, \*\*p<0.05, \*p<0.1 indicate significance levels.

Our results for grandmothers presented in Table A.2 show that being eligible for pension decreases the rate of employment, labour force participation and hours of work per week.<sup>4</sup>

<sup>4</sup> Figure A.3 presents the share of women employed (not in the labour force) has been increasing (decreasing) for people of the same age over the years.

**Figure A.6: :**



Sources: e61 Institute; HILDA Survey Release 22.0

## A.5. Mother’s pension eligibility and daughter’s fertility

We estimate the impact of grandmothers’ pension eligibility on their daughter’s fertility by using the following regression specification, where the subscript  $g$  denotes the grandmother and  $d$  denotes the daughter:

$$F_{dit} = \beta_1 I(Age_{git} \geq APA_{gc}) + \beta_2 X_{dit} + \delta_t + \gamma_i + \varepsilon_{it}$$

where  $F_{dit}$  is an indicator for daughter  $i$  being a mother at survey year  $t$ .  $I(Age_{git} \geq APA_{gc})$  takes a value of 1 if the maternal grandmother has reached the age pension threshold and is therefore eligible to receive the pension. The expression  $X_{dit}$  includes a comprehensive set of age-related variables (individual age dummies for the daughter, quadratic terms for her partner and grandmother), along with controls for schooling and health status for both the daughter and her partner, as well as individual fixed effects for daughters and time-fixed effects. The results are presented in Table A.2 and illustrated in Figure A.7.

**Table A.3: Effect of Mother’s Pension Eligibility on Daughter’s Outcomes**

|                                   | Being Mother        | Number of Children  |
|-----------------------------------|---------------------|---------------------|
| Mother is Eligible to Age Pension | 0.046***<br>[0.010] | 0.067***<br>[0.024] |
| Observations                      | 35,629              | 35,629              |
| Mean of Outcome                   | 0.707               | 1.494               |

Notes: The table presents results for partnered women aged 23–45, whose mothers are alive and aged 50–80. Regressions include controls for the woman’s age, the partner’s and mother’s ages, schooling, health status, state, wave, and individual fixed effects. Standard errors are clustered at the individual level. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$  indicate significance levels.

**Table A.4: Heterogeneity of Fertility Outcomes**

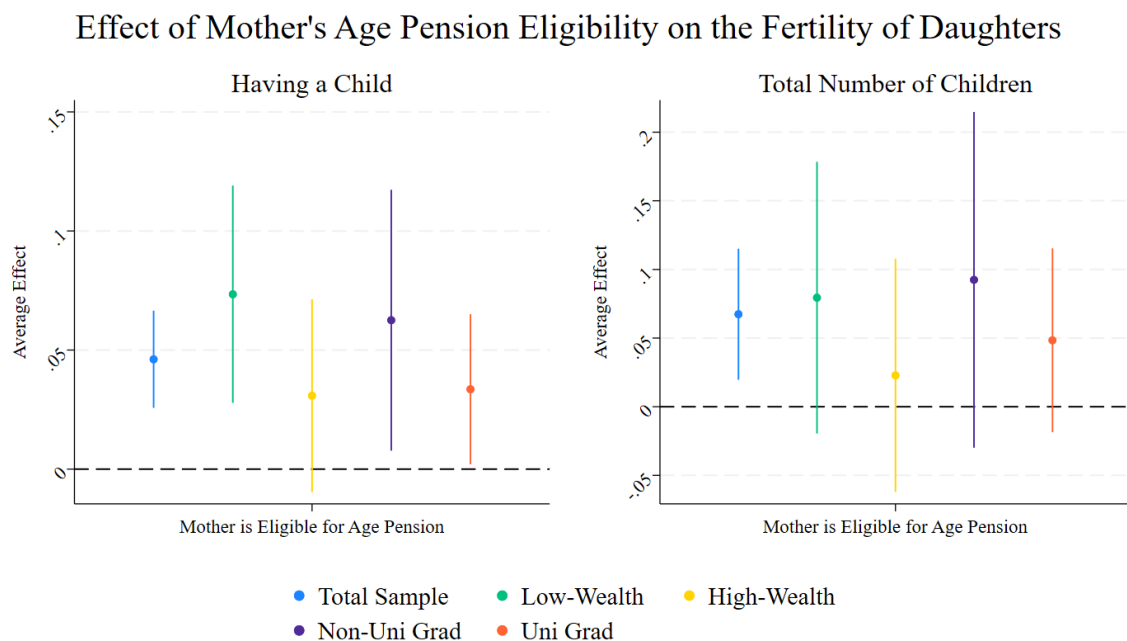
| VARIABLES                         | Below Median Wealth |                    | Above Median Wealth |                    |
|-----------------------------------|---------------------|--------------------|---------------------|--------------------|
|                                   | Being a Mother      | Number of Children | Being a Mother      | Number of Children |
| Mother is Eligible to Age Pension | 0.073***<br>[0.023] | 0.079<br>[0.050]   | 0.031<br>[0.021]    | 0.023<br>[0.043]   |
| Observations                      | 4,093               | 4,093              | 2,935               | 2,935              |
| Mean of Outcome Var.              | 0.680               | 1.454              | 0.819               | 1.769              |

| VARIABLES                         | High School Graduate |                    | University Graduate |                    |
|-----------------------------------|----------------------|--------------------|---------------------|--------------------|
|                                   | Being a Mother       | Number of Children | Being a Mother      | Number of Children |
| Mother is Eligible to Age Pension | 0.063**<br>[0.028]   | 0.092<br>[0.062]   | 0.034**<br>[0.016]  | 0.048<br>[0.034]   |
| Observations                      | 5,304                | 5,304              | 15,088              | 15,088             |
| Mean of Outcome Var.              | 0.738                | 1.648              | 0.638               | 1.253              |

Notes: The table presents results from Equation 2 for partnered women aged 23–45, whose mothers are alive and aged 50–80. Panel A uses the sample in which household wealth is reported and hence the sample is smaller. The regressions include dummy variables for the woman's age, quadratic terms for the partner's and mother's ages, and controls for schooling, health status, state, wave, and individual fixed effects. Standard errors are clustered at the individual level. \*\*\*p<0.01, \*\*p<0.05, \*p<0.1 indicate significance levels.

**Figure A.7: :**



Sources: e61 Institute; HILDA Survey Release 22.0

**Table A.5: Effect of Pension Eligibility on Grandmothers' Childcare Provision and Frequency**

| VARIABLES               | (1)                                 | (2)                  | (3)                                 | (4)                  |
|-------------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|
|                         | Provide Childcare for Grandchildren |                      | Frequency of Care: 0-Never, 7-Daily |                      |
| Eligible to Age Pension | 0.040**<br>[0.020]                  | 0.030<br>[0.020]     | 0.184*<br>[0.098]                   | 0.098<br>[0.098]     |
| Hours of Work           |                                     | -0.002***<br>[0.001] |                                     | -0.019***<br>[0.003] |
| Observations            | 6,238                               | 6,238                | 6,228                               | 6,228                |
| Number of Individuals   | 2,151                               | 2,151                | 2,147                               | 2,147                |
| Mean                    | 0.617                               | 0.617                | 0.164                               | 0.164                |

## A.6. HILDA Disclaimer

This paper uses unit record data from Household, Income and Labour Dynamics in Australia Survey [HILDA] conducted by the Australian Government Department of Social Services (DSS). The findings and views reported in this paper, however, are those of the authors and should not be attributed to the Australian Government, DSS, or any of DSS' contractors or partners.  
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