The Labor Market Costs of Parental Dementia: Evidence from the Health and Retirement Study

Greta Pesaresi[†]

[†]Department of Economics and Management, University of Padova, Italy.

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Email: greta.pesaresi@phd.unipd.it. ORCID: 0000-0002-4970-1102.
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Abstract

Alzheimer's disease or related dementia (ADRD) affects over 55 million people nowadays, estimated to double by 2050. ADRD is not only a major contributor to disability among older adults, but it also imposes significant emotional and financial effects on families through informal caregiving - typically by spouses or adult children - that becomes increasingly demanding as the disease progresses.

This study examines how having a parent with ADRD affects adult children's labor market outcomes - specifically whether and when children reduce hours or exit the workforce to provide care, whether employment trajectories shift before or after diagnosis - and living arrangements. I use longitudinal data from the Health and Retirement Study (HRS), a biennial panel survey of Americans aged 50 and older, tracking adult children's employment as their parents experience cognitive decline using the RAND-HRS children panel (waves 3-14). To causally estimate these effects, I employ an event-study design using two treatment definitions: the first reported parental ADRD diagnosis and, alternatively, the first transition from "Normal" to "Mild Cognitive Impairment" (MCI) or "Dementia" (MCI/dementia), according to the Langa-Weir classification based on cognitive function tests performed by the parent. Because ADRD is often diagnosed late - if at all - this second definition captures early stages of cognitive impairment often evident years before receiving a diagnosis.

The data show that while ADRD diagnosis typically occurs around age 80, initial cognitive impairment (MCI/dementia) is observable nearly a decade earlier. Of the 16,907 (14,798) households in the sample, 14% had a member with an ADRD diagnosis (48% with MCI/dementia). Results show strong evidence of adult children's employment disruptions following a parent's ADRD diagnosis. Labor force participation effects emerge immediately after diagnosis (-1.7 pp) and intensify to -5.9 pp six years post-diagnosis. The result is driven by full-time employment, which falls sharply to -8.4 pp eight years post-diagnosis and shows anticipatory effects up to four years prior, only partially offset by a slight increase in part-time employment of around 2pp. Using the first transition to MCI/dementia treatment definition - which satisfies parallel trends, supporting causal interpretation - I find the same pattern for employment and for full-time employment starting two years post, though smaller in magnitude. When looking at living arrangements, I find limited evidence of differential trends. Finally, caregiving emerges as a key mechanism: the probability of helping with ADLs, IADLs, or managing money increases markedly after ADRD diagnosis, though evidence of adjustment begins to appear eight years earlier. Such anticipatory responses are evident when using the first transition to MCI/dementia as the event. While the parallel trends assumption holds cleanly, I find a linearly rising trend in the probability of providing care starting two years post MCI/dementia, although smaller in magnitude, suggesting that caregiving roles start years before receiving a formal diagnosis and intensify thereafter.

By focusing specifically on dementia - a progressive and disabling condition that often goes undiagnosed for years - this study sheds new lights on how families adapt to parental cognitive decline and on the broader economic consequences it imposes on adult children.

1 Introduction

Alzheimer's Disease and Related Dementias (ADRD) represent one of the leading causes of disability and dependency among older adults and the seventh leading cause of death worldwide. The condition is estimated to affect 57 million people globally, over 60% of whom live in low- and middle-income countries, and is projected to double in prevalence over the next 25 years as populations age (WHO 2025). In the United States, an estimated 7.4 million Americans aged 65 and older are living with Alzheimer's disease - the most common form of ADRD, accounting for approximately 70% of cases - as of 2026 (Alzheimer's Association 2026). ADRD has no cure and is a long-lasting condition: while the average survival following an Alzheimer's diagnosis is estimated at four to eight years, some individuals live with the disease for up to 20 years (Alzheimer's Association 2026). These characteristics translate into substantial direct costs for healthcare systems and individuals (Chandra et al. 2023, Hurd et al. 2013, Kelley et al. 2020, Frech et al. 2024, Heun-Johnson et al. 2025). However, given the intensive and ongoing care demands of ADRD, as it requires a level of daily care and supervision that formal healthcare systems rarely cover in full, indirect costs are significant as well, most commonly measured through the value of unpaid informal caregiving (Coe, Skira, et al. 2018, Moore et al. 2001, Langa, Chernew, et al. 2001). Such care is predominantly provided by spouses - when present and cognitively intact - or by adult children (Choi et al. 2021, Friedman et al. 2015). Yet while the caregiving burden on families, in terms of intensity and effects on mental and physical health, is widely documented, less is known about its broader consequences for those who provide it - particularly adult children, who must often balance caregiving responsibilities against their own work and family lives (Freedman et al. 2022; Ingraham et al. 2024; National Alliance for Caregiving 2017; Connors et al. 2020).

In this paper I study the short and long-term impact of having a parent with ADRD on adult children's lives in the US. Specifically, I focus on labor market outcomes - whether and when children reduce hours or exit the workforce, and whether employment trajectories shift before or after diagnosis - and on living arrangements.

I use longitudinal data from the Health and Retirement Study (HRS), a biennial panel survey of Americans aged 50 and older, which allows me to track adult children's employment as their parents experience cognitive decline, over eleven waves spanning from 1996 to 2018. To causally estimate such effects, I employ an event-study difference-in-differences design, defining the treatment as the wave in which the parent first reports an ADRD diagnosis. However, given the progressive nature of the disease - which is typically diagnosed years after the first signs of cognitive impairment appear - a formal diagnosis does not represent a clean shock, posing an identification challenge from an econometric point of view (Kusoro et al. 2025). I therefore employ a second treatment definition based on the Langa-Weir classification of cognitive function, identifying the first wave in which a parent transitions from being classified cognitively "normal" to probable mild cognitive impairment or dementia (MCI/dementia), in order to capture behavioral responses that may show up before a formal diagnosis.

I focus on two sets of outcomes: labor supply, both at the extensive and intensive margin, and living

arrangements, specifically whether children are more likely to co-reside with or live in proximity to their parents following a diagnosis. The results show strong evidence of employment disruptions following a parent's ADRD diagnosis. Labor force participation falls by 1.7 pp immediately after diagnosis and intensifies to -5.9 pp six years later, with no sign of recovery. This effect is driven by a reduction in full-time employment, only partially offset by part-time employment, which rises modestly in absolute terms (up to 2.5pp) - though in relative terms, the probability of working part-time increases by around 10% immediately after diagnosis, reaching 23% four years later. Consistent with my hypothesis, I find clear evidence of anticipatory behavior in full-time employment up to four years before the formal diagnosis. When I instead use the first signs of cognitive impairment as the treatment definition, this anticipatory effect disappears: responses begin emerging two years after and increase linearly over time.

Turning to living arrangements, I find no meaningful results overall. If anything, daughters show a slightly higher probability of living close to or with a parent following the diagnosis - the stage at which disability and care needs are most acute.

Given these results, I examine the role of caregiving as a potential mechanism to explain the findings. I find a substantial increase in physical caregiving following a formal ADRD diagnosis of the parent, with clear anticipatory behavior emerging up to eight years before. Under the MCI/dementia treatment definition, this anticipation disappears and caregiving increases steadily from two years onward. Consistent with the existing literature, this burden falls disproportionately on daughters. Turning to financial support from adult children, help with managing money follows a pattern similar to physical care, while direct monetary transfers show a more temporary response concentrated around the time of diagnosis.

To my knowledge, this paper is one of the few studies to causally estimate the long-term impact of parents specifically diagnosed with ADRD on adult-children's labor supply. Altındağ et al. 2026 conduct a similar yet different analysis using Danish administrative data, looking at labor market outcomes and healthcare use in the years before and after a parent's death from ADRD. However, the Danish healthcare system differs substantially from the US one - indeed, they find no effect on labor supply or earnings, likely because families are protected by the generous public healthcare system. Stokes et al. 2024 instead investigate the same phenomenon in the US, finding no appreciable association between parental ADRD onset and changes in adult child employment overall, although they document heterogeneous effects across subgroups - particularly negative for daughters with the lowest educational attainment and older sons. I go a step further by using causal methods to estimate short and long-term effects, and by complementing the diagnosis-based treatment with a measure based on first signs of cognitive impairment, addressing the identification challenge that arise from ADRD not representing a clean shock.

I also contribute to the broader literature on the effects of informal caregiving on employment (Maestas et al. 2024; Bolin et al. 2008; Van Houtven et al. 2013; Crespo and Mira 2014; Løken et al. 2016). Rather than conditioning on caregiver status, my approach captures average effects across all adult children, regardless of whether they directly provide care, with a specific focus on ADRD.

In this respect, I complement the growing literature on spillover effects of parental health shocks - including cardiovascular events, cancer, hip fracture, and death - on adult children's outcomes (Bergeot et al. 2024; Frimmel et al. 2025; Ramirez Lizardi et al. 2025; Fevang et al. 2012; Jensen and Zhang 2026). These studies exploit unanticipated events to achieve identification. I instead focus on a progressive disease, and address the resulting identification challenge employing two treatment definitions.

Finally, my results speak to the literature on the role of healthcare system generosity and public long-term care insurance in shaping family spillover effects (Shen 2024; Coe, Shah Goda, et al. 2023). The US setting, instead, - characterized by limited public coverage of long-term care costs - provides a useful contrast to evidence from Scandinavian countries, and suggests that the costs sustained by adult children may be considerably larger where formal care substitutes are less available.

The remainder of the paper is organized as follows. Section 2 describes the data sources used in the analysis, presents descriptive statistics and discusses the empirical strategy. Section 3 presents the results and potential mechanisms, while robustness checks are discussed in Section 4. Finally, Section 5 concludes.

2 Data, Variable definitions, and Empirical Approach

2.1 Health and Retirement Study (HRS)

In this paper I use HRS data, a longitudinal panel study that surveys a representative sample of approximately 20,000 people in the United States.[1] The survey interviews respondents aged 50 and above and their partners, regardless of their age, every two years. It is a multidisciplinary survey and collects a rich set of information about income and wealth, work and pension plans, physical and mental health and health expenditure, family structure, and cognitive functioning. I use the RAND HRS Longitudinal File, 2022 version, a cleaned and easy-to-use data product containing information from Core and Exit Interviews of the HRS, with derived variables and imputed missing values, and complement it with the RAND HRS Family data, 2018 version, a user-friendly version of HRS Family data that contains, among other information, variables related to employment, parental caregiving, and living conditions of all children of HRS respondents and their spouses. Both versions are based on the HRS final data releases. While the first one includes 16 waves of core interview data across 16 survey years (1992, 1993, 1994, 1995, biennially 1996-2020, and the early release for 2022), the second one comprises waves until 2018, i.e. wave 14. For this reason I drop waves 15 and 16.

[1] The HRS (Health and Retirement Study) is sponsored by the National Institute on Aging (grant number NIA U01AG009740) and is conducted by the University of Michigan.

2.2 Variables definitions

2.2.1 Alzheimer's disease and related dementia (ADRD) measures

In this analysis I employ two different treatment definitions. The HRS survey asks respondents whether a doctor has ever told them (or since their last interview) that they have a memory-related disease, from wave 4 through wave 9, and whether they have Alzheimer's disease or dementia from wave 10 onward. I combine these three variables into a single indicator for Alzheimer's disease and related dementia (ADRD) to ensure continuity in the data. The treatment variable is defined as the first wave in which such a diagnosis is reported by the respondent over two consecutive waves - that is, provided the preceding wave is not missing, so that the switch can be properly identified.
Given the nature of ADRD, a disease that is often diagnosed late - if ever - and whose signs can appear years before any formal diagnosis, I construct a second treatment definition based on the Langa-Weir *Cog27* variable (Langa, Llewellyn, et al. 2009, Crimmins et al. 2011). The 27-point scale is available since wave 3 and comprises three components: an immediate and delayed ten-word list recall test measuring memory (0 to 20 points), a serial sevens subtraction test measuring working memory (0 to 5 points), and a counting backwards test measuring speed of mental processing (0 to 2 points). The Langa-Weir classification maps scores onto three categories: *Normal* (12 to 27 points), *Cognitively Impaired but Not Demented* (CIND, 7 to 11 points), and *Demented* (below 7 points). I adopt their classification and define the treatment variable as the first wave in which the respondent scores 11 or below - that is, the first time they show signs of mild cognitive impairment (MCI) or dementia (*MIC/dementia*), again over two consecutive waves. Unlike the diagnosis-based measure, which can be reported by either the respondent or a proxy, the cognitive function module is proxy-free and therefore skipped for proxy interviews. To maximize the number of respondents included, I draw on the proxy section of the survey regarding respondents' cognitive health to correctly identify the first switch. Details on how proxy interviews were handled are provided in Appendix A.1.

2.2.2 Outcome variables

The HRS collects detailed information on children of respondents through a dedicated section on the questionnaire, the *Family Structure* module, administered at the household level, to the designated family respondent - typically the first member interviewed. Among other socio-demographic characteristics, the family respondent is asked about the employment status of each child, reporting whether they work full-time (30 hours or more per week), part-time (fewer than 30 hours per week), or are not working at all.
The main outcome variable is an indicator for being employed, equal to one if the child is reported as working either full-time or part-time. To further explore whether a parental ADRD diagnosis leads children to adjust their working hours, I construct two additional binary indicators: one for full-time employment (relative to part-time and not employed) and one for part-time employment (relative to full-time and not employed).

I also examine living arrangements to assess whether children are more likely to live close to or with a parent following a diagnosis. Specifically, I construct two indicators: whether the child co-resides with the parent, and whether the child lives within 10 miles of the parent's home.

A third set of outcomes concerns caregiving, which I define separately as providing physical care or financial care to the parent. For physical care, I look at whether children provide help with Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs). For financial care, I look at whether children provide help with financial management tasks such as paying bills and tracking expenses. Since these questions are asked at the respondent level in the *Functional Limitations, ADL/IADL, Helpers* module, I construct child-level caregiving indicators.[2] I also consider direct money transfers as a second measure of financial care, using an indicator for whether the child transferred $500 or more to the parent in the past two years.

2.3 Sample Construction

The analysis requires individual-level data for each child. Since the treatment variable is defined at the parent level - that is, at the level of the HRS respondent - the sample construction follows a twofold approach.

In the first step, I select the sample of HRS respondents. Because the two treatment definitions differ both in timing - the diagnosis-based measure is available from wave 4 onward, the cognitive score-based measure from wave 3 - and in administration - the former allows proxy interviews while the latter does not - I construct two separate samples, one for each definition, following the same selection criteria throughout. I restrict the sample to respondents aged between 45 and 90 at the first observed wave. I then construct the treatment variable and drop always-treated units, defined as those already diagnosed with ADRD (or identified as MCI/dementia) at wave 4 (wave 3) or at their first observed wave. Finally, I transform the dataset from respondent-level to household-level: when both members of a couple are present, I collapse the household to a single entry per household-wave pair, retaining the demographic and health-related characteristics of the first parent diagnosed with ADRD (or first identified as MCI/dementia) if both qualify.

In the second step, I construct the child-level sample. First, I retain only children associated with households that passed the first-step selection. Among these, I keep biological, adopted, and step-children whose child-wave information is reported by the family respondent, in order to maximize the participation of the child in the data. I further restrict the sample to children who are alive throughout the observed period, who are between 25 and 65 years of age when first observed, and who are observed for at least two waves, in order to capture the evolution of outcomes over time. Given the primary focus of this paper is to capture the effect of parental cognitive impairment on labor supply, I further restrict the child-wave observations to ages up to 70, corresponding to the upper bound of the working age window. Moreover, children whose parent's event occurs after

[2] For children with an ADRD-diagnosed parent I use whether the child provides help to that specific parent; for children without an ADRD-diagnosed parent I take the maximum across both parents, capturing whether the child helps at least one parent.

the child has reached age 70 are reclassified as never-treated, as the treatment falls outside the working-age observation window. Children whose parent's event occurs when the child is between 65 and 70 years of age are excluded from the analysis.

This selection yields a sample of 50,031 children (329,552 observations) across 16,907 households under the ADRD diagnosis definition, and 43,220 children (311,805 observations) in 14,798 households under the alternative MCI/dementia definition.

2.4 Descriptive statistics

This section presents basic demographic characteristics at the household and child level. Table 1 reports household-level characteristics for both samples. Among households under the ADRD diagnosis definition, 14% have at least one parent diagnosed with ADRD at some point, while the share of treated households under the MCI/dementia definition is considerably higher, at 48%. In both samples, there are on average almost three observed adult children per household. Panel B in Table 1 reports basic demographics and health-related characteristics of the first parent with ADRD diagnosis or MCI/dementia, under the respective sample.[3] In both samples, almost 60% of parents are mothers, 32% are highly educated, and 21%-26% are non-white.

The average age at ADRD diagnosis is 79, but signs of cognitive deterioration are evident nearly a decade before, as the average age at first MCI/dementia identification is 71. This gap is consistent with the literature, and reflects the well-documented lag between the onset of cognitive deterioration and a formal diagnosis (Alzheimer's Association 2026, Kusoro et al. 2025). This difference in age at treatment has visible consequences for both household composition and individual health. At the time of diagnosis, 47% of parents have a spouse or partner, compared to 56% at the time of MCI/dementia identification. The parent with an ADRD diagnosis also shows considerably greater functional limitations, reporting on average 1.78 difficulties with ADLs and 2.64 with IADLs, compared to 0.47 and 0.37 respectively among those identified with MCI/dementia.

Regarding public and private insurance coverage at the time of the event, 91% of parents with an ADRD diagnosis are enrolled in Medicare, compared to 71% among those first identified with MCI/dementia, reflecting the older age of the former group. Medicaid enrollment follows a similar pattern, with 22% of ADRD-diagnosed parents enrolled compared to 11% among MCI/dementia parents. LTC insurance coverage is low in both samples, at 11% and 9% respectively, and does not differ substantially across the two groups.

Finally, drawing on exit interviews and information provided by the surviving spouse, another household member, or a third party, I am able to assess mortality outcomes for parents in both samples. Among parents with an ADRD diagnosis, 84% are known to have died, with death occurring on average 48 months - roughly four years - after diagnosis. Among those identified as MCI/dementia, 61% are known to have died, with death arriving on average 93 months - nearly eight years - after the first identification. The later onset of the formal diagnosis is thus reflected not only in greater

[3] 14,269 households appear in both samples and 1,470 are treated in both. Among these, the first parent is the same individual in 71.4% of cases.

functional impairment at the time of treatment, but also in a shorter observed survival window.
Table 2 presents descriptive statistics at child level. Panel A reports statistics pooled over waves. The sample comprises 329,552 observations under the ADRD diagnosis definition and 311,805 under the MCI/dementia definition. Children are on average almost 45 years old, more than one third has a partner, and 78 and 77%, respectively, have at least one child of their own. Employment rates are similar across the two samples: 80% are employed, of whom 72% work full-time and 8% part-time under the ADRD diagnosis definition, while 82%, 74% and 8%, respectively, under the MCI/dementia definition. In terms of living arrangements, around 7% co-reside with their parents and 29% live within 10 miles. Finally, caregiving and financial support are relatively rare when looking at the pooled numbers: 2 to 3% of children help with ADLs, IADLs, or financial management, and a similar share provides financial transfers to their parents.
Panel B reports individual-level characteristics. Of the 50,031 children in the ADRD diagnosis sample, 16% are in the treatment group at some point, compared to 53% of the 43,220 children in the MCI/dementia sample. Half are daughters and half are highly educated. On average, children are observed for seven waves, corresponding to approximately 14 years.
Among treated children (Panel C), the older age of parents at diagnosis is mirrored in the age of their children: on average, children are 50 years old at the time of a parent's ADRD diagnosis, compared to almost 45 at the time of first MCI/dementia identification. This earlier identification under the MCI/dementia definition translates into a longer post-treatment observation window: I observe treated children for more than four waves on average after first MCI/dementia identification, compared to three waves after a formal ADRD diagnosis. Furthermore, when a diagnosed parent passes away, I observe the child in the sample for almost one additional wave on average, thanks to the other parent continuing to participate in the survey.

2.5 Empirical Strategy

The aim of this analysis is to estimate the short and long-term effects of parental ADRD on adult children's employment and living arrangements. To causally estimate such effects, I employ an event-study difference-in-differences design.
As discussed in Section 2.2.1 and as shown in Table 1, individuals with ADRD typically receive a formal diagnosis years after the first signs of cognitive impairment appear. This has direct implications for the two core identifying assumptions of event-study difference-in-differences designs: parallel trends, i.e. in the absence of the treatment, both treated and untreated individuals would have experienced the same outcome evolution, and no anticipation, i.e. treated individuals' current outcome does not depend on its future treatments. As cognitive decline progresses, the parent may require increasing care and attention, imposing growing costs on the family, both in terms of dedicated time and money. I therefore expect disruptions in children's labor supply and in living arrangements to emerge before a formal diagnosis is received, violating both core assumptions. For this reason, I propose the second treatment definition, the MCI/dementia-based indicator, to capture initial signs of cognitive impairment and therefore the point in which the adult-children begin to

respond to parental cognitive decline.
The starting point would be the following event-study specification:

$$Y_{it} = \alpha_i + \phi_t + \sum_{\ell \neq -1} \beta_\ell \cdot \mathbf{1}[t = F_i + \ell] + \varepsilon_{it} \tag{1}$$

where Y_{it} is the outcome of interest for child i at wave t, F_i is the wave of the parent's first ADRD diagnosis (or MCI/dementia identification), α_i and ϕ_t denote child and wave fixed effects, and $\ell = -1$ is the omitted reference period. The coefficients β_ℓ capture the effect of parental diagnosis ℓ waves before (if $\ell < 0$) or after (if $\ell \geq 0$) the event. Standard errors are clustered at the household level to account for correlation among siblings (Bertrand et al. 2004). Both treatment definitions are treated as absorbing states: once treatment switches on, it does not switch off. While this is a reasonable assumption for a formal ADRD diagnosis, it may be too restrictive for the MCI/dementia-based definition, given that performances in cognitive tests and, consequently cognitive scores, can fluctuate over time. I address this in a robustness check discussed in Section 4.
However, estimating Equation (1) via standard Two-Way Fixed Effects (TWFE) would be problematic under staggered adoption - that is, when treatment hits individuals at different points in time. Indeed, recent literature has shown that TWFE estimates are biased in the presence of heterogeneous treatment effects and differential treatment timing, due to the so-called forbidden comparisons problem, where already-treated units are implicitly used as controls for later-treated ones (de Chaisemartin and D'Haultfœuille 2020; de Chaisemartin and D'Haultfœuille 2023; Goodman-Bacon 2021). I therefore estimate the event-study using both the estimator proposed by de Chaisemartin and D'Haultfœuille 2026 and Callaway and Sant'Anna 2021, which address this issue by comparing treated units at specific time to not-yet-treated ones and averaging across group- and time-specific effects to recover the event-study dynamics. Estimation is carried out using the `did_multiplegt_dyn` and `csdid` commands. I include five post-treatment periods (lags) and four pre-treatment periods (leads), the latter helping in visually inspecting the validity of the parallel trends assumption.
As baseline specification, I do not condition on any covariates. As results are broadly consistent across the two estimators, I report in the next section results from de Chaisemartin and D'Haultfœuille 2026's estimator; results from Callaway and Sant'Anna 2021's estimator are reported in Appendix B.2.

Alternative identification set up. The baseline unconditioned specification pools children observed from 1996 to 2018. This strategy may capture effects partly driven by differential macroeconomic labor market conditions across waves rather than those purely due to parental cognitive deterioration. To address this, I define two alternative identification strategies, exploiting variation in the child's age. The first conditions the baseline event-study on the child's age at baseline. The second structures the event study in terms of the child's age and defines treatment groups by the child's age at the time of the parental event. Both approaches allow me to account for the fact that the labor supply response to parental cognitive impairment may differ systematically across career

stages.
Preliminary results suggest that both strategies deliver consistent findings, with employment effects following the same pattern as the baseline, although with attenuated magnitudes. More work has to be done in this respect, and results will be presented in a forthcoming version of the paper.

3 Results

This section presents the main results on employment and living arrangements, treating the sample as a whole. Given well-documented gender differences in labor supply and the persistent gender wage gap, I also present heterogeneity analyses by child gender.

3.1 Main results

Employment. Figure 1 presents event-study estimates of the effect of parental cognitive impairment on the probability of children being employed. Figure 1a uses a formal ADRD diagnosis as the treatment, while Figure 1b uses the MCI/dementia-based definition. Figure 1a shows strong evidence of employment disruptions following a parent's ADRD diagnosis. The probability of being employed drops by 1.7 percentage points immediately after diagnosis and intensifies to -5.9 percentage points three waves later, roughly six years post-diagnosis, with no sign of recovery. When using the MCI/dementia-based definition, Figure 1b shows a similar pattern, though smaller in magnitude. Indeed, the effects emerge more gradually, with the first drop appearing one wave (i.e. two years) after the event, and the negative effect intensifies linearly three to four waves later - six to eight years after first identification.
The probability of working full-time falls by 8.4 percentage points four waves after the ADRD diagnosis - eight years post-event - with no sign of recovery, while the probability of working part-time increases, with effects growing over time and reaching 2.5 percentage points five waves after diagnosis - roughly ten years post-event. This suggests that some children shift from full-time to part-time employment in response to a parent's diagnosis, rather than exiting the labor force entirely. Also, the full-time estimates show evidence of anticipatory effects up to 4 years before diagnosis, consistent with the discussion in Section 2.5: a formal diagnosis is not a clean shock, and children appear to begin adjusting their full-time labor supply before it is received. A very similar pattern emerges under the MCI/dementia definition (Figure 2b), though effects are again smaller in magnitude, while part-time employment shows no significant response. Importantly, the parallel trends assumption holds more cleanly under this definition.
Given the still significant, although narrowing, gender gap in labor force participation and earnings - which implies lower opportunity costs of care for daughters than for sons - I explore heterogeneity by child gender. Figures are reported in Appendix B.1. Overall, I do not find large differences in employment effects between sons and daughters. However, some heterogeneity emerges at the intensive margin. Daughters appear to drive the part-time employment result: following a parent's ADRD diagnosis, they experience an increasing probability of working part-time, suggesting they

either reduce their hours - transitioning from full-time to part-time - or return to work at reduced hours after a period of labor force exit. Sons, on the contrary, appear to respond primarily on the extensive margin, exiting the labor force entirely.

Living arrangements. Given the gradual decline in functional abilities and increasing care needs that characterize ADRD, one might expect children to respond by moving closer to - or even in with - their ill parent. Figure 3 presents estimates of the effect on living arrangements for the full sample. I find no meaningful effects on either the probability of co-residing or proximity, neither following a formal ADRD diagnosis nor in the years after the first MCI/dementia identification. This null result holds across both child gender groups. If anything daughters have an increased probability of co-residing with their parent, although the magnitude of the effect is relatively small (around 2pp after ADRD diagnosis, and 1.5pp after the first MCI/dementia signs – see Figure B3 in Appendix B.1). However, the full-sample estimates may mask important heterogeneity. Whether a child living arrangements are affected likely depends on the parent's circumstances: a parent who lives alone or lacks a healthy spouse to provide daily care may generate stronger pressure on children to move closer or co-reside (Choi et al. 2021). Conversely, wealthier families may be more able to rely on professional care or nursing home placement as an alternative to family-provided support. The effects on living arrangements also depend on the child's own circumstances: children who are only children, or whose siblings are too young to take up caregiving duties, may be more likely to co-reside with their ill parent. At the same time, children with young children of their own may be less inclined to leave their own household.

3.2 The Role of Caregiving

Informal caregiving in the US is widespread and predominantly provided by family members, with adult children representing a significant share of caregivers for older adults (Choi et al. 2021, Friedman et al. 2015). The literature documents substantial effects of caregiving on caregivers' own health and well-being, including higher levels of psychological distress and physical health deterioration (Coe and Van Houtven 2009). Beyond health, caregiving has been shown to affect labor market outcomes, with caregivers - and women in particular - more likely to reduce working hours or exit the labor force (Maestas et al. 2024; Bolin et al. 2008; Van Houtven et al. 2013). Such costs are especially pronounced when caring for a family member with dementia, given the progressive and highly demanding nature of the disease (Ingraham et al. 2024, Connors et al. 2020, National Alliance for Caregiving 2017).

Understanding whether and how children take up caregiving roles following a parent's cognitive decline is a natural first step in explaining the employment disruptions documented above. Therefore, I examine caregiving take-up as a potential mechanism, dividing my results into two types: physical care - either personal care or help with daily tasks - and financial care, encompassing both help with managing the parent's finances and direct economic support.

Physical care. The results are in line with the literature on informal caregiving: adult children take up caregiving roles following a parent's cognitive decline, and this is especially pronounced when the parent receives a formal ADRD diagnosis (Figure 4). As shown in Figure 4a, both help with ADL and IADL limitations increase immediately after diagnosis, reaching 4.8 and 5 percentage points, respectively, on impact and peaking at 6.8 pp for ADLs and 5.7 pp for IADLs four years later. These estimates are likely lower bounds, as the parallel trends assumption fails: there are clear anticipatory effects up to six years before the diagnosis. Under the MCI/dementia-based definition, by contrast, no anticipatory effects are present and parallel trends holds. The effect instead increases linearly for both measures, reaching 1.6 to 2 pp, broadly mapping onto the anticipatory pattern observed under the diagnosis definition. Taken together, these results suggest that children begin providing care after the first signs of cognitive impairment appear, though less intensively - likely because, as shown in Table 1, parents at the time of first MCI/dementia identification are still in relatively good health and therefore less in need of assistance. As the disease progresses, difficulties with daily activities intensify and care needs grow accordingly, roughly doubling upon a formal diagnosis and peaking several years later. This is consistent with the health profile of diagnosed parents, who are not only older but report on average nearly between two and two and a half limitations across ADL and IADL at the time of diagnosis. These caregiving dynamics help explain the employment withdrawals documented above: as caregiving demands become increasingly intensive, combining work and care becomes progressively harder to sustain.

When examining gender differences, again results align with the literature on informal caregiving, with daughters bearing a disproportionate share of the caregiving burden. The full-sample results appear to attenuate the effects for daughters: immediately after diagnosis, daughters show an increase of 7 pp in help with ADLs compared to 2.7 pp for sons, and 6.4 pp compared to 3.6 pp for IADLs (see Figure B4a in Appendix B.1). Moreover, while the effect for sons stabilizes around 4 pp for ADLs two years after diagnosis and declines over time for IADLs, the effect for daughters keeps increasing, reaching 9.7 pp for ADLs and 8.5 pp for IADLs four years after diagnosis, and remains stable for another two years before declining. Both genders show anticipatory responses, which disappear when using the MCI/dementia-based definition. However, Figure B4b shows that while daughters begin providing help with ADLs and IADLs two years after the first signs of cognitive impairment - increasing to 2.3 pp after eight years for ADLs and 2.9 pp for IADLs - sons never meaningfully step in when signs are still mild. If anything, they begin helping with either ADLs or IADLs after six years, but at roughly half the magnitude of daughters.

Financial care. The final set of outcomes concerns two distinct measures of financial care. As Figure 5 shows, there is a clear and persistent increase in help with managing money - such as paying bills and tracking expenses - following an ADRD diagnosis, while the response in terms of direct monetary transfers is considerably more modest and short-lived, concentrated upon diagnosis and in the period immediately after. The former also displays anticipatory behavior, consistent with what I observed for ADL and IADL help, while no signs of anticipation are evident for monetary transfers.

These results are consistent with the MCI/dementia-based findings in Figure 5b: while help with managing money increases gradually over time, no effects emerge for monetary transfers. Overall, this suggests that children tend to step in to handle the practical side of their parents' finances well before - and well after - a formal diagnosis, while direct financial transfers are more of a temporary response concentrated around the time of diagnosis.
Looking at gender differences, daughters again drive the results. As shown in Figure B5a, daughters reach a probability of helping with financial management roughly twice as large as sons, at around 10 pp two to six years after diagnosis. The gap is less pronounced under the MCI/dementia definition but remains, although it is much smaller in magnitude (Figure B5b).

4 Robustness checks

The following robustness checks are planned:

- Analysis on restricted sample of households both in the ADRD diagnosis sample and in the MCI/dementia-definition sample
- Check on change in question wording about Memory problems and Alzheimer Disease
- Caregiving variables definition for treated children
- Different definitions for MCI/dementia using Langa and Weir thresholds
- Attrition

5 Conclusions

ADRD is a growing public health challenge with consequences that extend well beyond the individuals diagnosed. This paper focuses on the consequences on the labor market costs borne by adult children as their parents experience cognitive decline, using longitudinal data from the Health and Retirement Study and an event-study difference-in-differences design. Given the progressive nature of ADRD disease and the consequent difficulty in identifying a clean moment, a key contribution of my approach is the use of two complementary treatment definitions - a formal ADRD diagnosis and a measure of first signs of mild cognitive impairment based on the cognitive function tests present in the survey - which together allow me to document the full trajectory of behavioral responses, including those that emerge before a diagnosis is received.
The results show that parental ADRD imposes substantial costs on adult children's employment. Labor force participation falls immediately after diagnosis, reaching -5.9 percentage points six years after, driven primarily by a reduction in full-time work; part of this decline is offset by an increase in part-time employment, suggesting some children reduce their hours rather than exit the labor force entirely. Anticipatory effects on full-time employment emerge up to four years before the formal diagnosis, consistent with the progressive nature of the disease. Indeed, when I use the

first signs of cognitive impairment as the treatment indicator, anticipation disappears and effects build gradually, suggesting that the formal diagnosis captures a later and more acute stage of a process that already started years before. Living arrangement responses are limited on average, though daughters show a slightly higher tendency to co-reside with the ill-parent. The caregiving results help explain the employment patterns. Children - daughters in particular - take on increasing caregiving responsibilities as the disease progresses, with clear anticipatory behavior emerging even earlier than the anticipatory effects observed for employment. As caregiving demands intensify, combining work and care becomes increasingly difficult to sustain, consistent with the persistent and growing employment effects I document. Taken together, these findings point to a hidden labor market cost of ADRD that extends well beyond the moment of formal diagnosis, and as ADRD prevalence rises with population aging, such cost will only grow. These results have direct policy implications. Earlier screening and diagnosis of ADRD could help families plan and access support sooner, potentially reducing labor market disruptions. At the same time, expanded access to paid family leave, respite care, and public long-term care coverage could reduce the burden currently absorbed by adult children - particularly in the US context, where formal care substitutes remain limited relative to other countries.

Table 1: Descriptive Statistics - Household level

	ADRD Diagnosis			Langa & Weir		
	Mean	(SD)	N	Mean	(SD)	N
Panel A) Households:						
Treated	0.14	(0.35)	16907	0.48	(0.50)	14798
Number of observed children	2.95	(1.97)	16907	2.90	(1.92)	14798
Panel B) Among treated HHs — (First) parent with diagnosis:						
Female	0.58	(0.49)	2341	0.59	(0.49)	7176
Tertiary education	0.32	(0.47)	2341	0.32	(0.47)	7176
Non-white	0.21	(0.41)	2339	0.26	(0.44)	7166
Age at time of event	78.79	(9.66)	2341	70.84	(10.62)	7176
In a couple at time of event	0.47	(0.50)	2341	0.56	(0.50)	7176
N. ADL limitations (0-5) at time of event	1.78	(1.89)	2337	0.47	(1.04)	7163
N. IADL limitations (0-5) at time of event	2.64	(1.93)	2337	0.37	(0.89)	7163
Owned LTC insurance at time of event	0.11	(0.31)	2258	0.09	(0.28)	6987
Enrolled in Medicare at time of event	0.91	(0.28)	2316	0.71	(0.45)	7120
Enrolled in Medicaid at time of event	0.22	(0.41)	2273	0.11	(0.32)	7075
Known to be dead	0.84	(0.37)	2341	0.61	(0.49)	7176
— Months from diagnosis to death	48.26	(41.54)	1969	92.88	(64.79)	4346

Notes: The table reports descriptive statistics at the household level for the two estimation samples. Panel A) reports household-level characteristics in each sample. Panel B) reports demographic and health characteristics of the first parent with an ADRD diagnosis or MCI/dementia, among treated households.

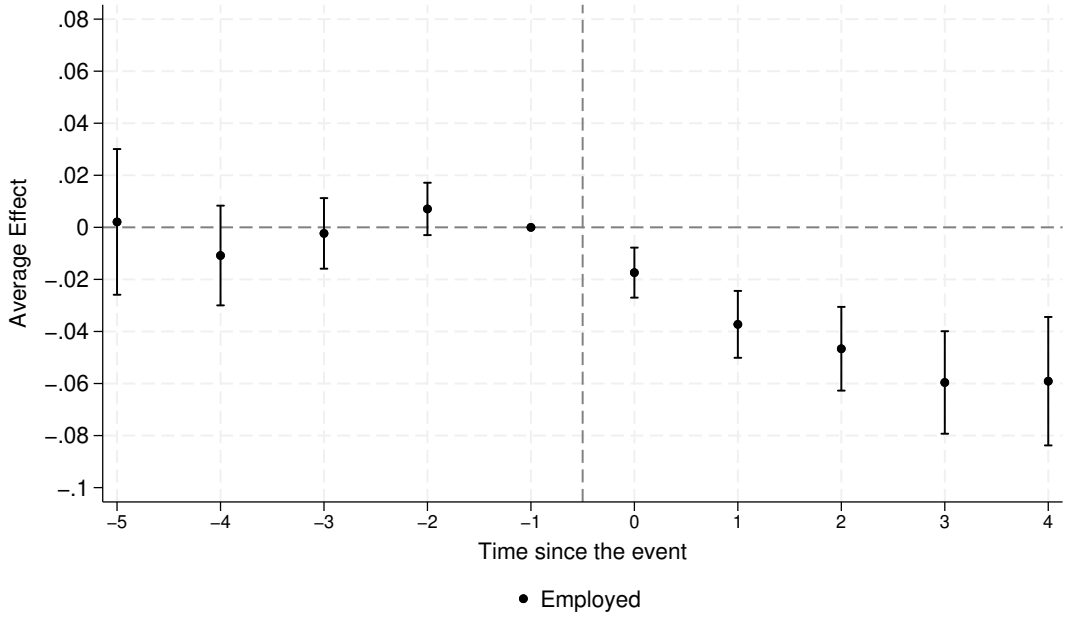
Table 2: Descriptive Statistics - Child level

	ADRD Diagnosis			Langa & Weir		
	Mean	(SD)	N	Mean	(SD)	N
Panel A) Pooled over waves:						
Age	44.90	(9.55)	329552	44.18	(9.50)	311805
Had at least one child	0.78	(0.42)	324060	0.77	(0.42)	306586
In a couple	0.68	(0.47)	329439	0.68	(0.46)	311662
Outcome variables:						
Employed	0.80	(0.40)	302481	0.82	(0.39)	288149
— Full time employed	0.72	(0.45)	302481	0.74	(0.44)	288149
— Part time employed	0.08	(0.27)	302481	0.08	(0.27)	288149
Coreside	0.07	(0.25)	329403	0.06	(0.24)	311668
Live Nearby (less 10 mi.)	0.28	(0.45)	322973	0.29	(0.45)	305774
Helps with ADLs limitations	0.02	(0.13)	322006	0.01	(0.12)	294565
Helps with IADLs limitations	0.03	(0.17)	321914	0.02	(0.15)	294567
Helps with managing finances	0.02	(0.13)	322194	0.01	(0.11)	294749
Gave financial transfer to parent(s)	0.03	(0.16)	321827	0.03	(0.16)	304593
Panel B) Individual level:						
Treated	0.16	(0.36)	50031	0.53	(0.50)	43220
Female	0.50	(0.50)	50030	0.50	(0.50)	43219
Tertiary education	0.50	(0.50)	47933	0.53	(0.50)	41445
Number of waves in sample	7.10	(3.37)	50031	7.21	(3.44)	43220
Panel C) Individual level - treated:						
Age at time of event	50.29	(8.21)	7381	44.80	(9.04)	21775
N. of waves from event	3.11	(2.24)	7898	4.68	(2.86)	23082
N. of waves after diagnosed parent's death	0.84	(1.67)	6643	0.87	(1.79)	14475

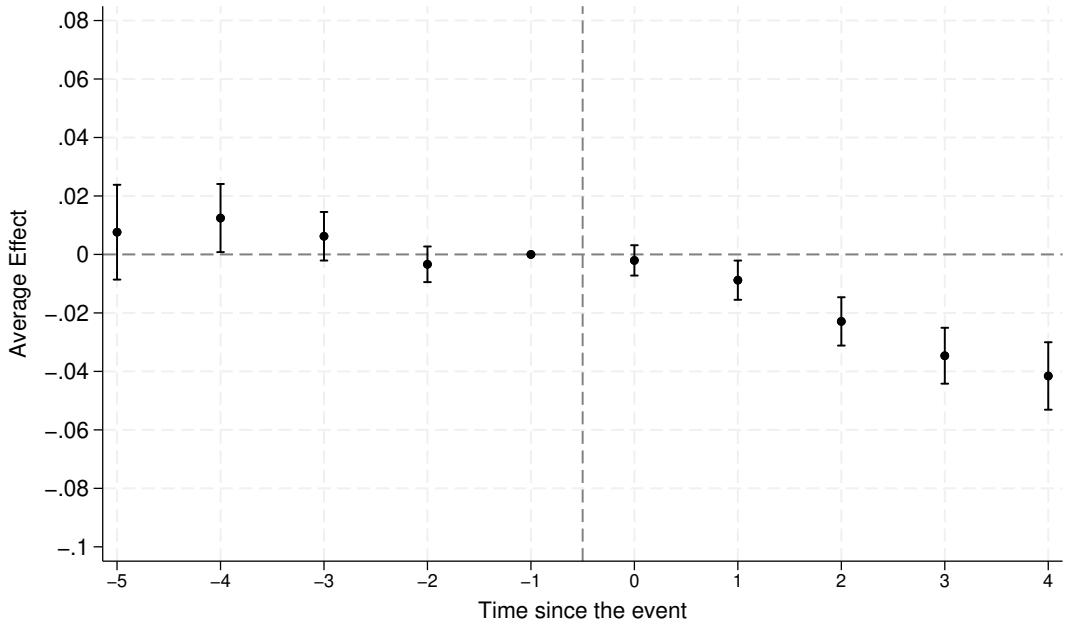
Notes: The table reports descriptive statistics at the child level for the two estimation samples. Panel A) reports outcome and demographic variables pooled over all waves. Panel B) reports individual-level time-invariant characteristics (not pooled). Panel C) reports characteristics of treated children only, measured at the time of the parent's event.

Figure 1: Event-Study: Effect of Parental ADRD on Adult Children's Employment

(a) Treatment: ADRD Diagnosis



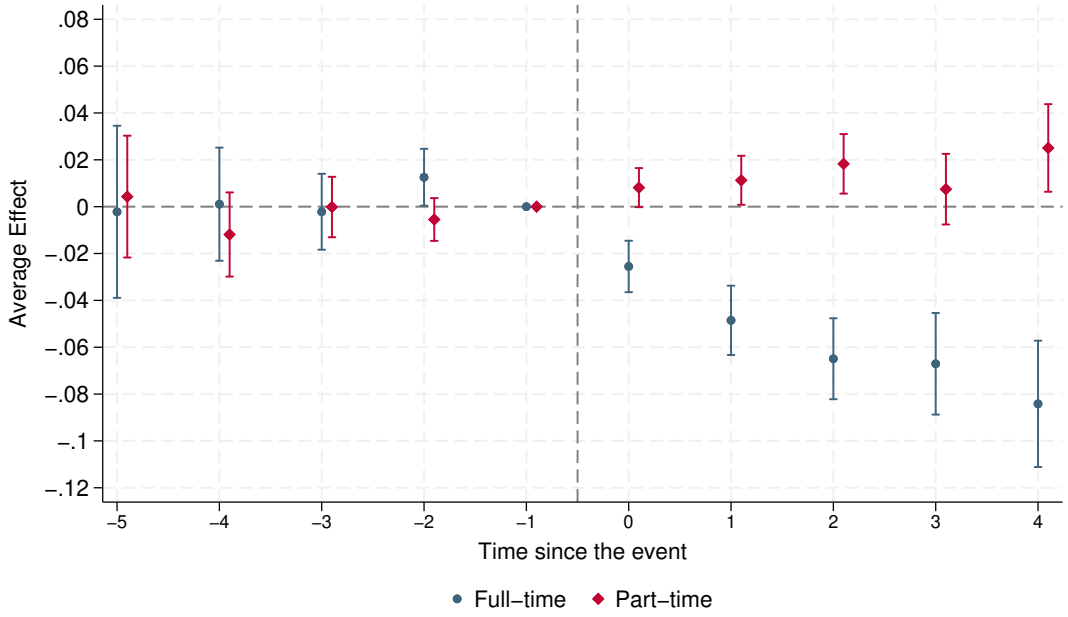
(b) Treatment: MCI/dementia (Langa & Weir Definition)



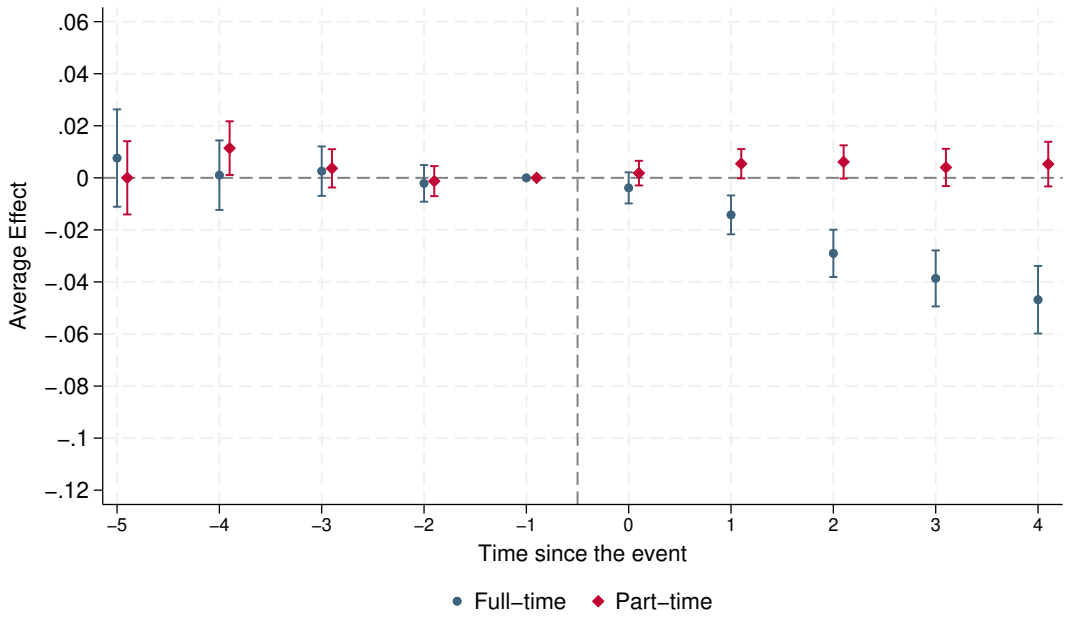
Notes: The figure shows event-study estimates of the effect of parental ADRD on children's probability of being employed. Panel (a) uses a formal ADRD diagnosis as the treatment; Panel (b) uses the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator. The outcome is a binary indicator equal to one if the child is employed. Time 0 corresponds to the first wave of treatment and time -1 is the omitted reference period. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure 2: Event-Study: Effect of Parental ADRD on Adult Children's Working Hours

(a) Treatment: ADRD Diagnosis



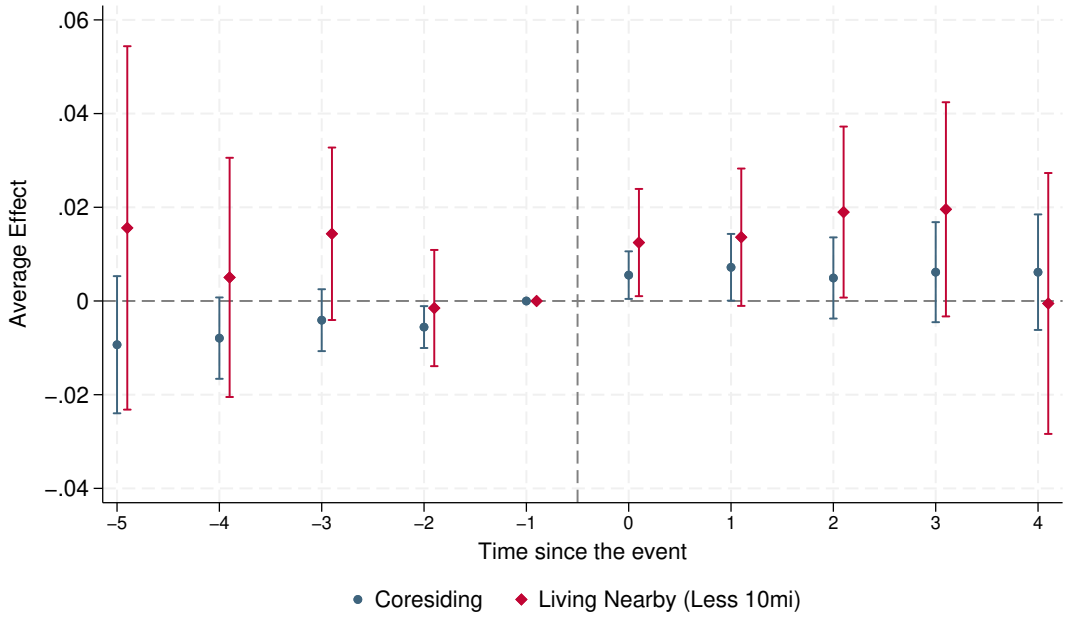
(b) Treatment: MCI/dementia (Langa & Weir Definition)



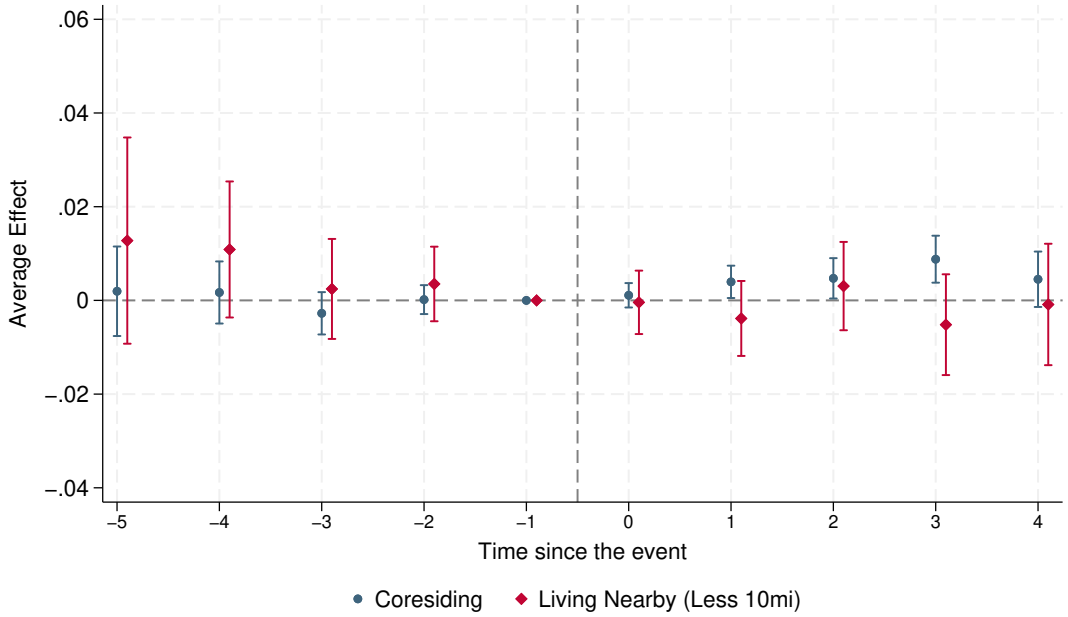
Notes: The figure shows event-study estimates of the effect of parental ADRD on children's working hours. Panel (a) uses a formal ADRD diagnosis as the treatment; Panel (b) uses the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator. The outcomes are two binary indicators: a full-time employment indicator, equal to one if the child works full-time (relative to part-time or not employed), and a part-time employment indicator, equal to one if the child works part-time (relative to full-time or not employed). Time 0 corresponds to the first wave of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure 3: Event-Study: Effect of Parental ADRD on Adult Children's Living Arrangements

(a) Treatment: ADRD Diagnosis



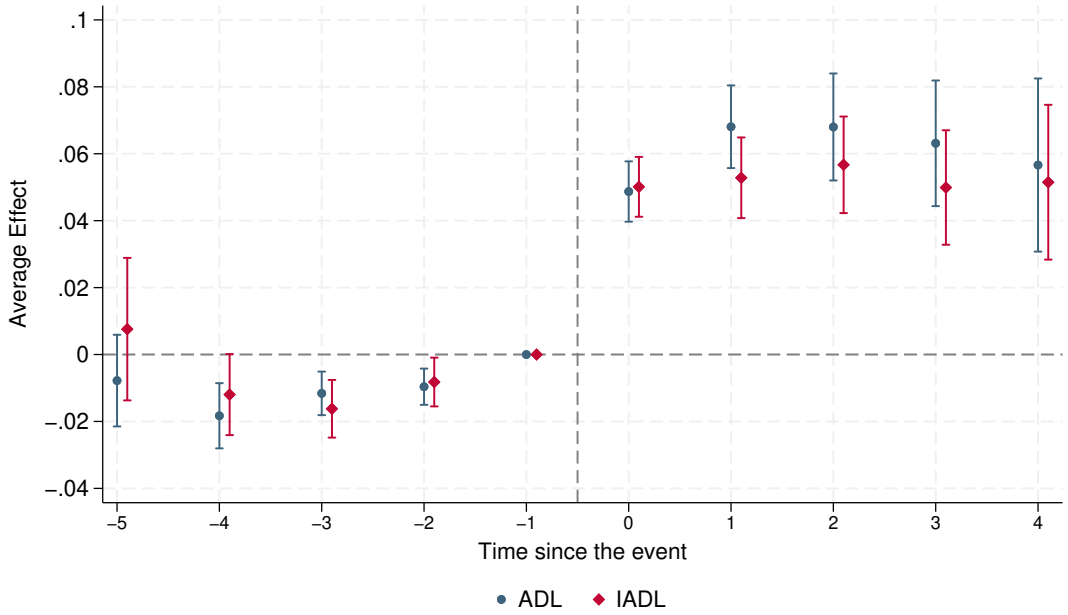
(b) Treatment: MCI/dementia (Langa & Weir Definition)



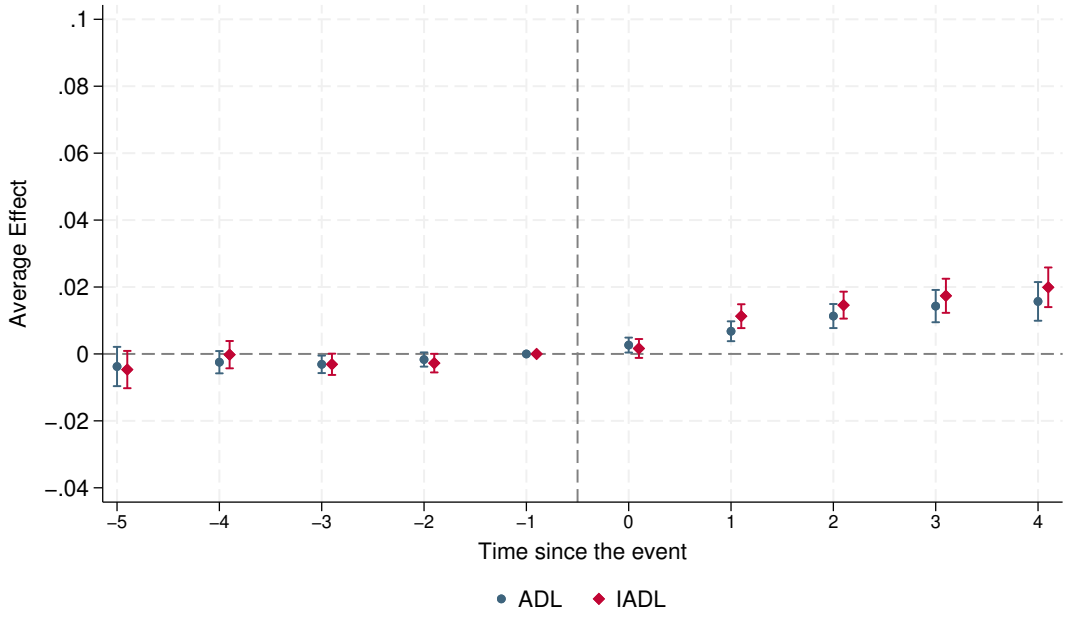
Notes: The figure shows event-study estimates of the effect of parental ADRD on children's living arrangements. Panel (a) uses a formal ADRD diagnosis as the treatment; Panel (b) uses the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator. The outcomes are two binary indicators: whether the child co-resides with the parent, and whether the child lives within 10 miles of the parent's home. Time 0 corresponds to the first wave of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure 4: Event-Study: Effect of Parental ADRD on Adult Children Providing Physical Care

(a) Treatment: ADRD Diagnosis



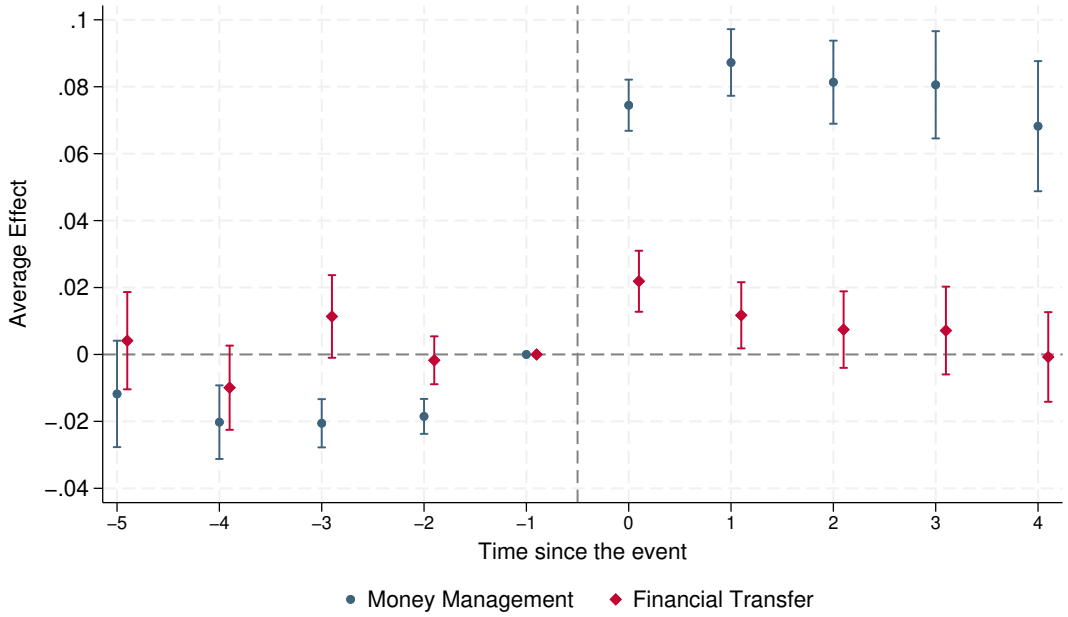
(b) Treatment: MCI/dementia (Langa & Weir Definition)



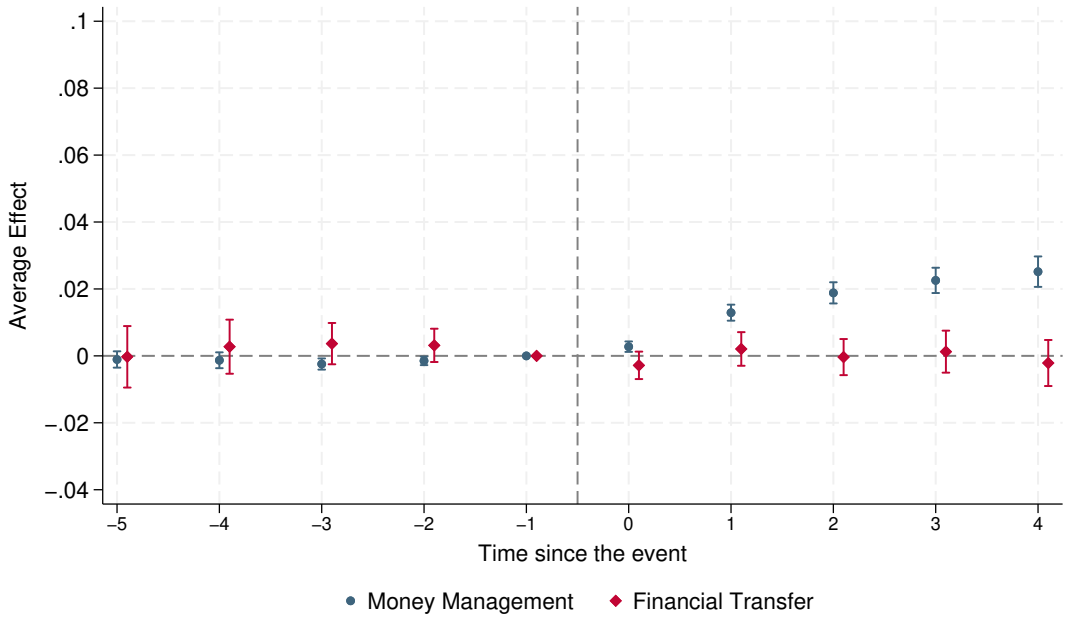
Notes: The figure shows event-study estimates of the effect of parental ADRD on children providing physical care to the parent. Panel (a) uses a formal ADRD diagnosis as the treatment; Panel (b) uses the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator. The outcomes are two binary indicators: whether the child helps the parent with Activities of Daily Living (ADLs), and whether the child helps with Instrumental Activities of Daily Living (IADLs). Time 0 corresponds to the first period of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure 5: Event-Study: Effect of Parental ADRD on Adult Children Providing Financial Care

(a) Treatment: ADRD Diagnosis



(b) Treatment: MCI/dementia (Langa & Weir Definition)



Notes: The figure shows event-study estimates of the effect of parental ADRD on children providing financial care to the parent. Panel (a) uses a formal ADRD diagnosis as the treatment; Panel (b) uses the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator. The outcomes are two binary indicators: whether the child helps the parent with financial management tasks such as paying bills and tracking expenses, and whether the child transferred $500 or more to the parent in the past two years. Time 0 corresponds to the first period of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

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Appendix

A Sample Selection and Variables definitions

A.1 Handling proxy interviews

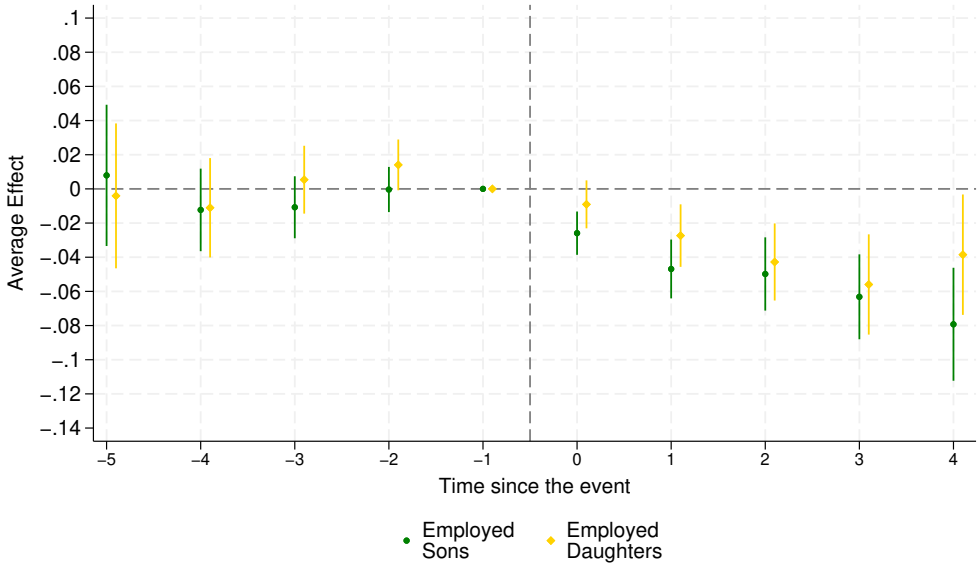
When a respondent is unable to complete the interview, a proxy - typically a spouse or a third party - answers on their behalf. Proxy interviews do not pose a problem for the ADRD diagnosis measure, as the proxy completes the relevant section. However, since the cognitive function module requires the respondent to perform the cognitive function tests directly, it is skipped for proxy interviews, generating missing values in the Cog27 score. To recover information on cognitive status during proxy waves, I draw on a dedicated proxy section of the survey, in which the proxy rates the respondent's memory on a five-point scale (Excellent, Very Good, Good, Fair, Poor). Using this information, I construct a Proxy Memory Indicator equal to one if the proxy rates the respondent's memory as poor or fair. The handling of proxy interviews follows a case-by-case logic, using the first observed wave in which the respondent scores as *MCI or Dementia* on the *Cog27* scale as the reference point. Respondents who are never interviewed by proxy are retained as is, while those who are always interviewed by proxy are dropped entirely, as no direct cognitive assessment is ever available. The more complex case arises when a respondent has some proxy interviews. If the respondent is never classified *MCI or Dementia* in non-proxy waves, missing values on the Cog27 classification are assigned to "Normal" cognition. If instead the respondent is classified as *MCI or Dementia* in at least one non-proxy wave, the position of the proxy waves relative to the first observed event matters. Proxy waves falling after the first observed event are not problematic, given the absorbing state assumption. Proxy waves falling before the first observed event are handled using the Proxy Memory Indicator: if the indicator is always zero, the timing of the first observed event is considered valid; if the Proxy Memory Indicator is sometimes one, I examine the two waves closest to the proxy spell - if both are zero the respondent is retained and the first event is considered valid, whereas if either is one the respondent is dropped, as the timing of the first event cannot be reliably identified. When proxy waves fall both before and after the first observed event, I apply a combination of these two rules.

B Additional Figures

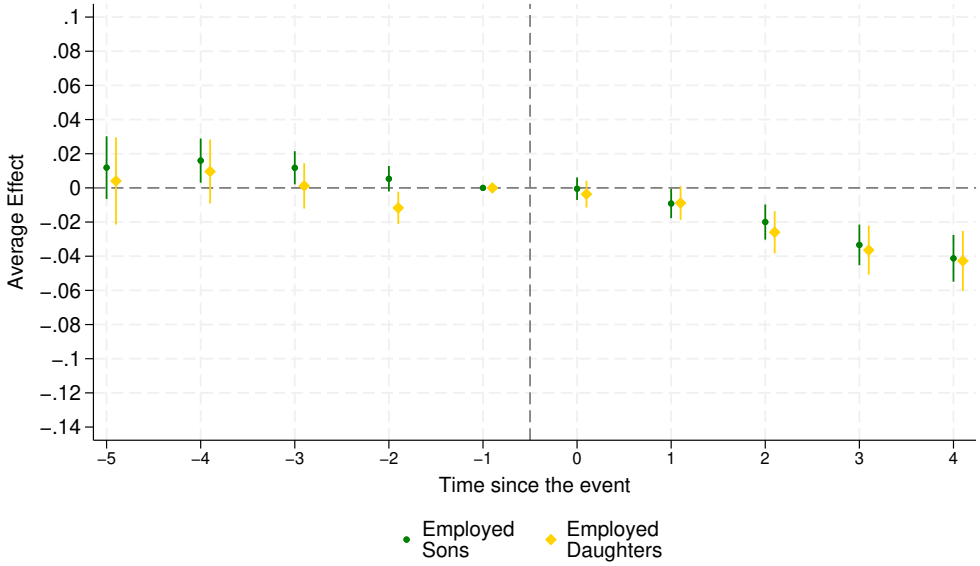
B.1 Heterogeneity by gender of the child

Figure B1: Event-Study: Effect of Parental ADRD on Children's Employment - By Gender of the Child

(a) Treatment: ADRD Diagnosis



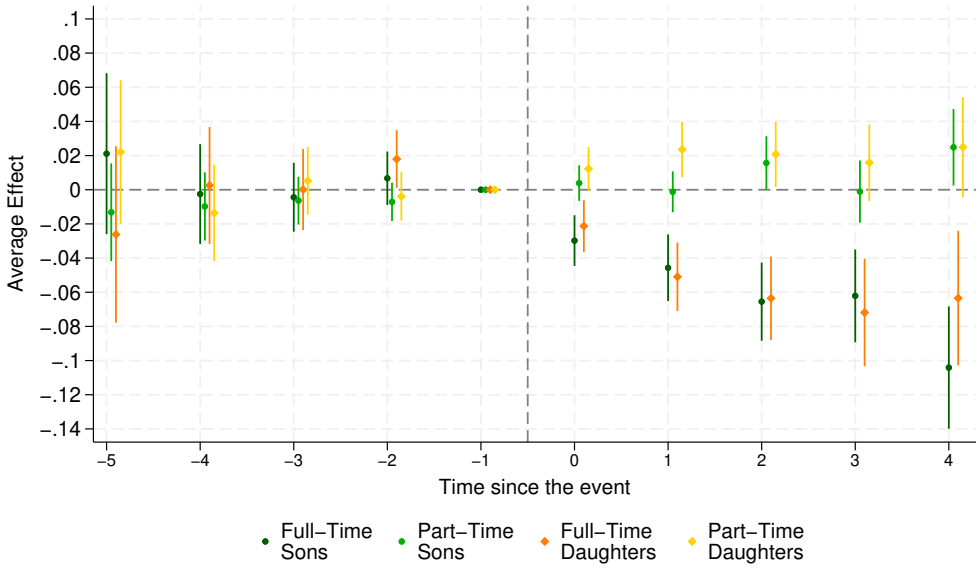
(b) Treatment: MCI/dementia (Langa & Weir Definition)



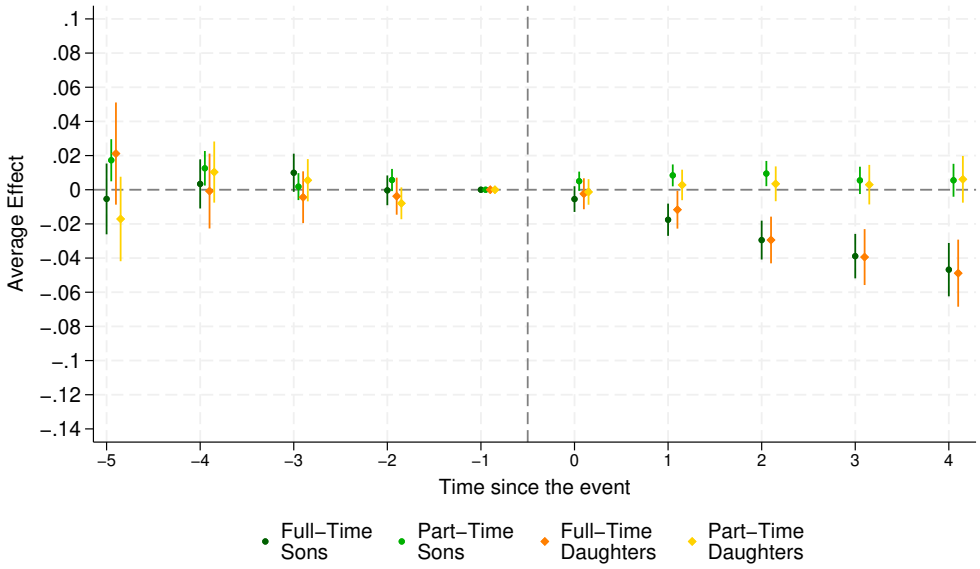
Notes: The figure shows event-study estimates of the effect of parental ADRD on children's probability of being employed, by gender of the child. Panel (a) uses a formal ADRD diagnosis as the treatment; Panel (b) uses the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator. The outcome is a binary indicator equal to one if the child is employed. Time 0 corresponds to the first wave of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure B2: Event-Study: Effect of Parental ADRD on Adult Children's Working Hours - By Gender of the Child

(a) Treatment: ADRD Diagnosis



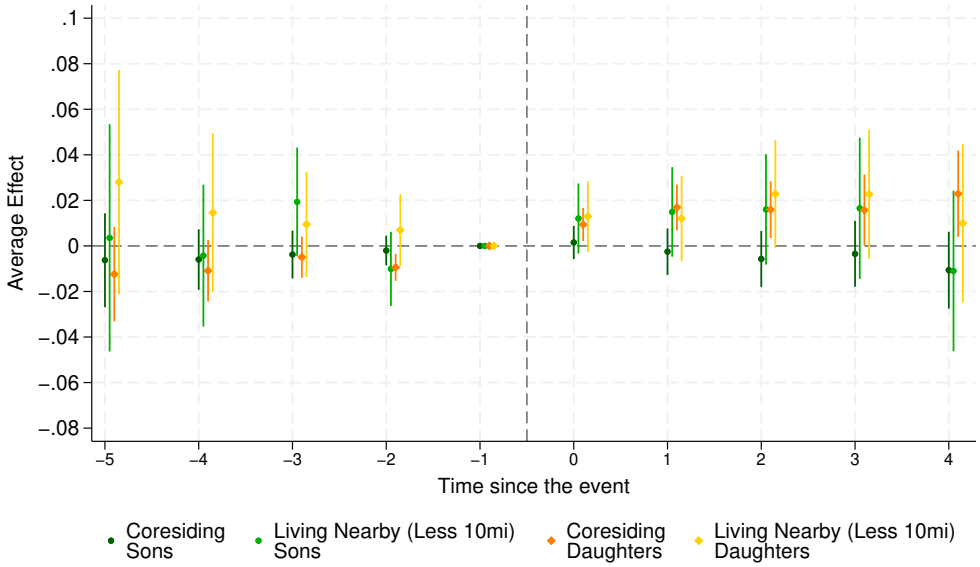
(b) Treatment: MCI/dementia (Langa & Weir Definition)



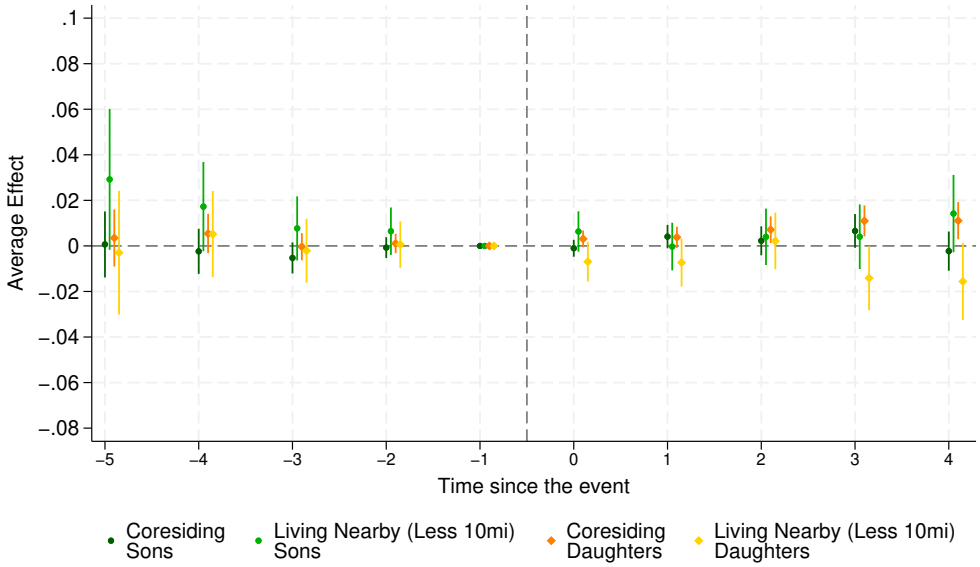
Notes: The figure shows event-study estimates of the effect of parental ADRD on children's working hours, by gender of the child. Panel (a) uses a formal ADRD diagnosis as the treatment; Panel (b) uses the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator. The outcomes are two binary indicators: a full-time employment indicator, equal to one if the child works full-time (relative to part-time or not employed), and a part-time employment indicator, equal to one if the child works part-time (relative to full-time or not employed). Time 0 corresponds to the first wave of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure B3: Event-Study: Effect of Parental ADRD on Adult Children's Living Arrangements - By Gender of the Child

(a) Treatment: ADRD Diagnosis



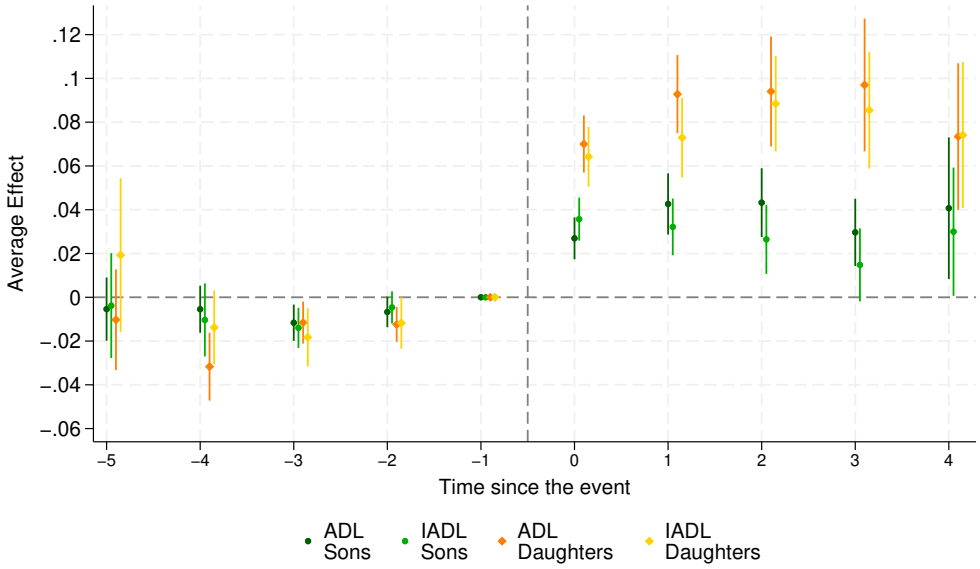
(b) Treatment: MCI/dementia (Langa & Weir Definition)



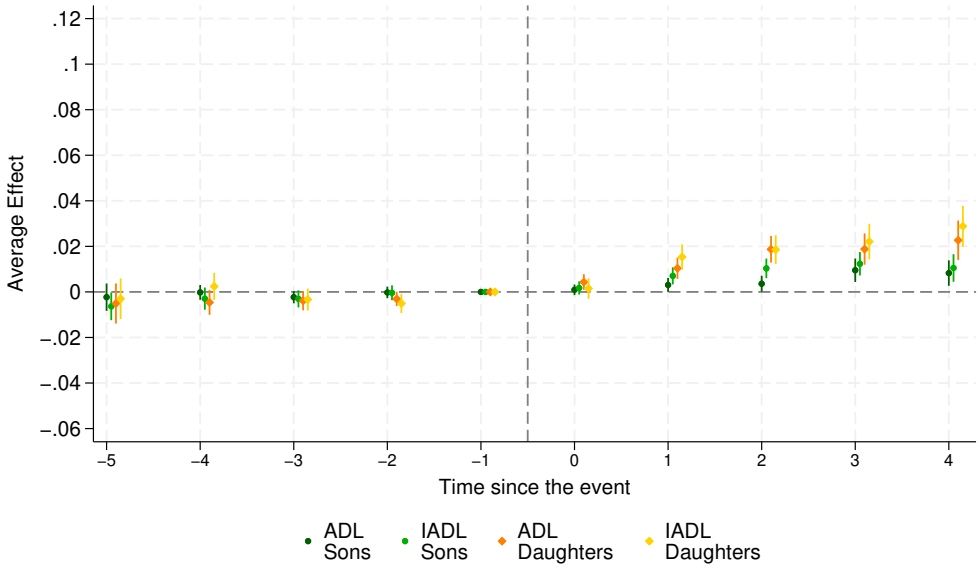
Notes: The figure shows event-study estimates of the effect of parental ADRD on children's living arrangements, by gender of the child. Panel (a) uses a formal ADRD diagnosis as the treatment; Panel (b) uses the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator. The outcomes are two binary indicators: whether the child co-resides with the parent, and whether the child lives within 10 miles of the parent's home. Time 0 corresponds to the first wave of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure B4: Event-Study: Effect of Parental ADRD on Adult Children Providing Physical Care - By Gender of the Child

(a) Treatment: ADRD Diagnosis



(b) Treatment: MCI/dementia (Langa & Weir Definition)



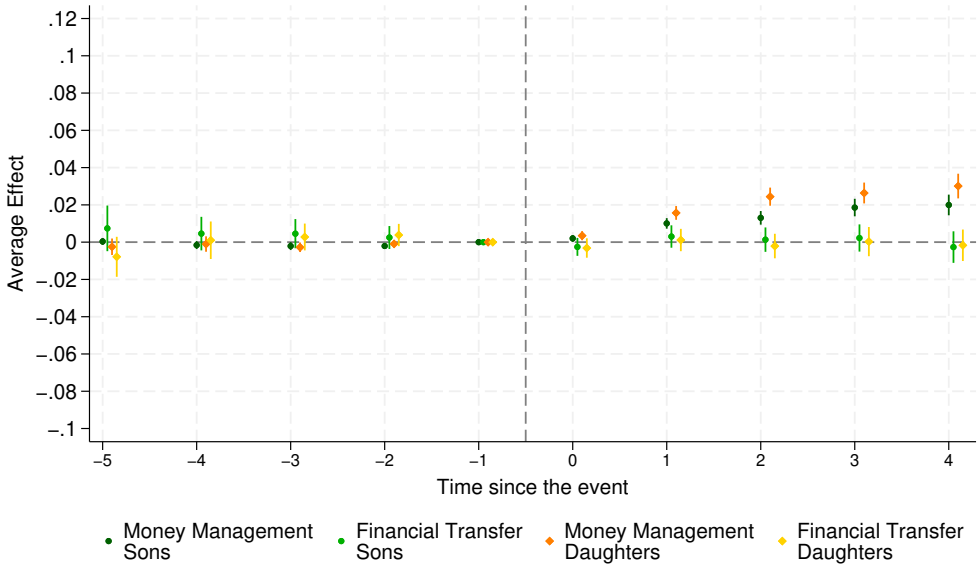
Notes: The figure shows event-study estimates of the effect of parental ADRD on children providing physical care to a parent, by gender of the child. Panel (a) uses a formal ADRD diagnosis as the treatment; Panel (b) uses the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator. The outcomes are two binary indicators: whether the child helps the parent with Activities of Daily Living (ADLs), and whether the child helps with Instrumental Activities of Daily Living (IADLs). Time 0 corresponds to the first period of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure B5: Event-Study: Effect of Parental ADRD on Adult Children Providing Financial Care - By Gender of the Child

(a) Treatment: ADRD Diagnosis



(b) Treatment: MCI/dementia (Langa & Weir Definition)

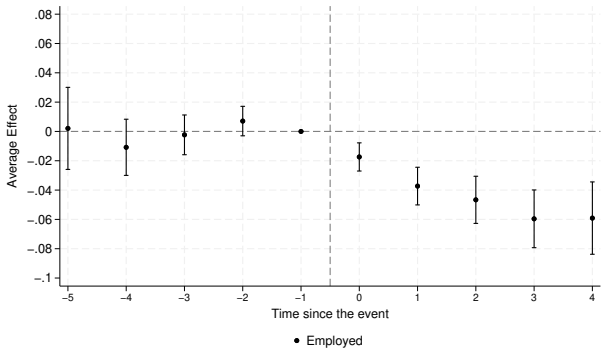


Notes: The figure shows event-study estimates of the effect of parental ADRD on children providing financial care to a parent, by gender of the child. Panel (a) uses a formal ADRD diagnosis as the treatment; Panel (b) uses the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator. The outcomes are two binary indicators: whether the child helps the parent with financial management tasks such as paying bills and tracking expenses, and whether the child transferred $500 or more to the parent in the past two years. Time 0 corresponds to the first period of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

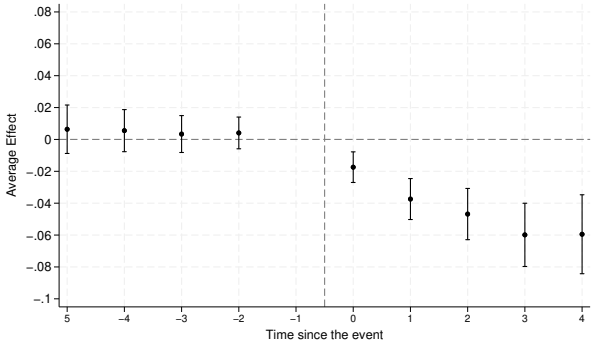
B.2 Using Callaway and Sant'Anna (2021) estimator

Figure B6: Event-Study: Effect of Parental ADRD on Adult Children's Employment

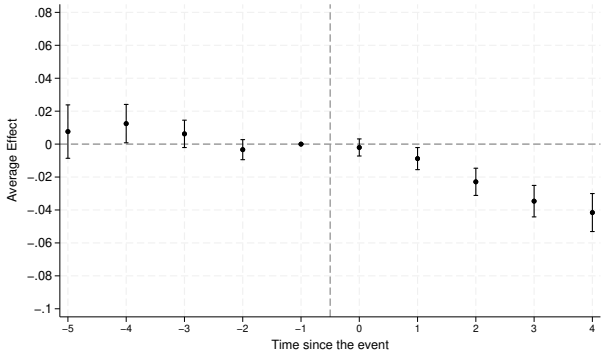
(a) dCDH: ADRD Diagnosis



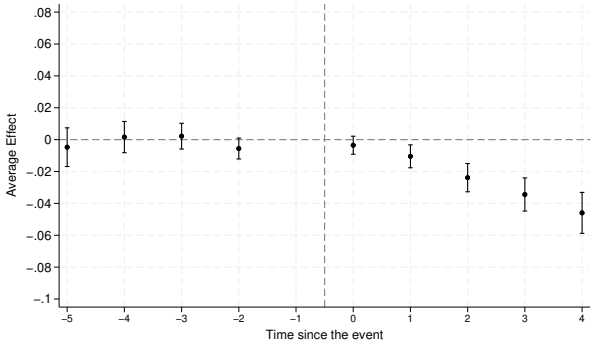
(b) CS: ADRD Diagnosis



(c) dCDH: MCI/dementia (Langa & Weir)



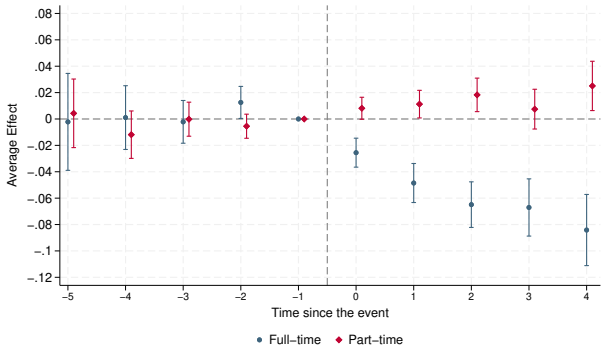
(d) CS: MCI/dementia (Langa & Weir)



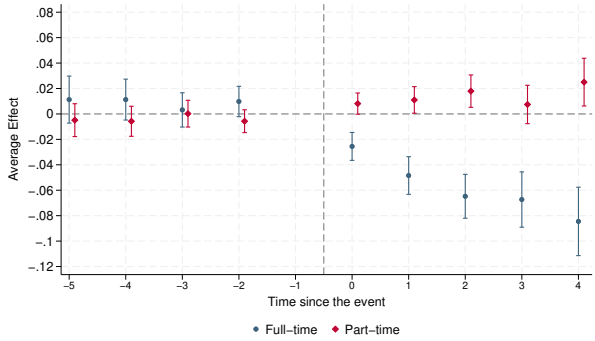
Notes: The figure shows event-study estimates of the effect of parental ADRD on children's probability of being employed. Panels (a) and (b) use a formal ADRD diagnosis as the treatment; Panels (c) and (d) use the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates in panels (a) and (c) are obtained using the de Chaisemartin and D'Haultfœuille 2026 estimator; panels (b) and (d) use the Callaway and Sant'Anna 2021 estimator. The outcome is a binary indicator equal to one if the child is employed. Time 0 corresponds to the first wave of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure B7: Event-Study: Effect of Parental ADRD on Adult Children's Working Hours

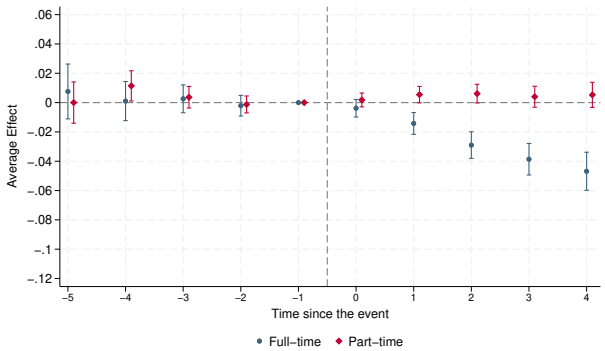
(a) dCDH: ADRD Diagnosis



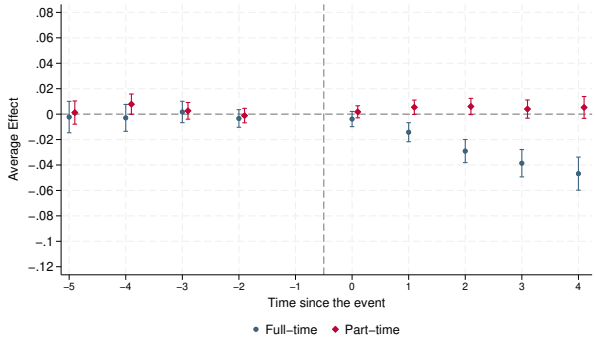
(b) CS: ADRD Diagnosis



(c) dCDH: MCI/dementia (Langa & Weir)



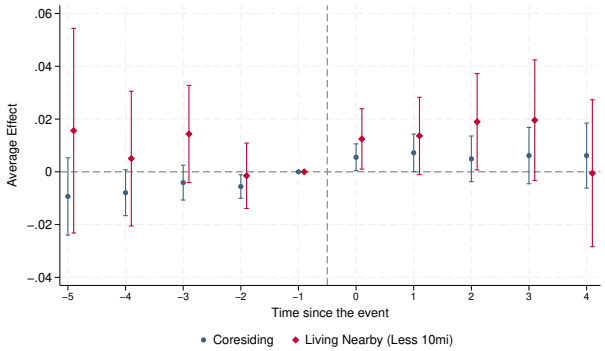
(d) CS: MCI/dementia (Langa & Weir)



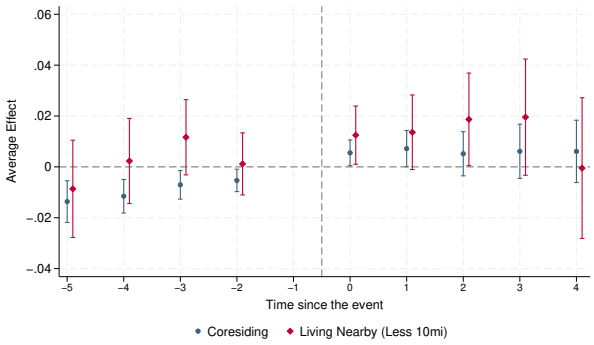
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Figure B8: Event-Study: Effect of Parental ADRD on Adult Children's Living Arrangements

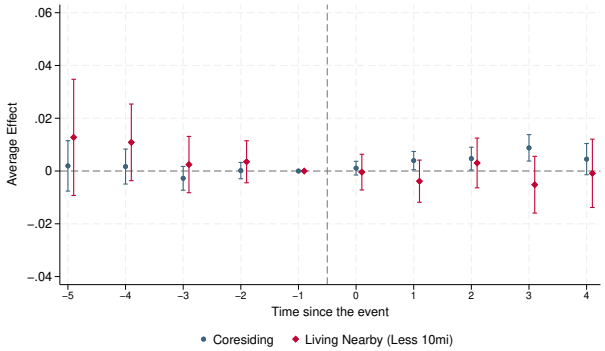
(a) dCDH: ADRD Diagnosis



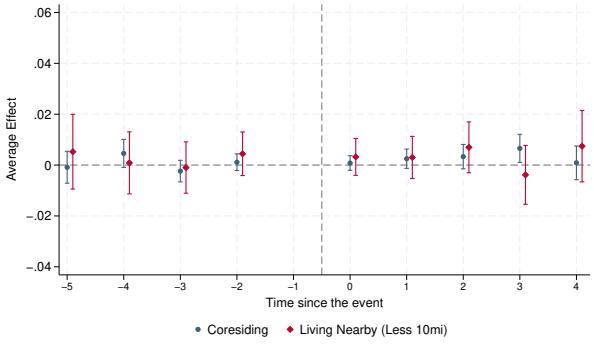
(b) CS: ADRD Diagnosis



(c) dCDH: MCI/dementia (Langa & Weir)



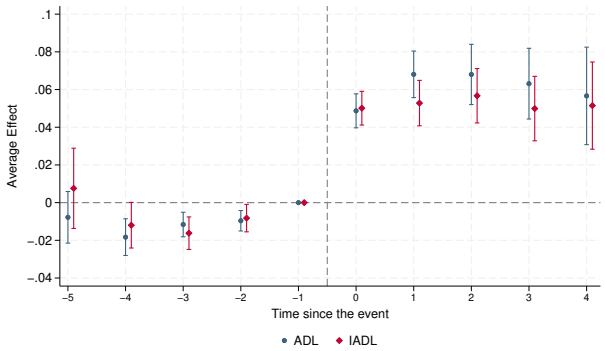
(d) CS: MCI/dementia (Langa & Weir)



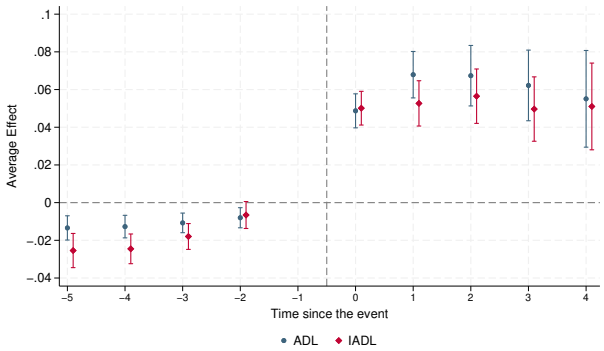
Notes: The figure shows event-study estimates of the effect of parental ADRD on children's living arrangements. Panels (a) and (b) use a formal ADRD diagnosis as the treatment; Panels (c) and (d) use the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates in panels (a) and (c) are obtained using the de Chaisemartin and D'Haultfœuille 2026 (dCDH) estimator; panels (b) and (d) use the Callaway and Sant'Anna 2021 (CS) estimator. The outcomes are two binary indicators: whether the child co-resides with the parent, and whether the child lives within 10 miles of the parent's home. Time 0 corresponds to the first wave of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure B9: Event-Study: Effect of Parental ADRD on Adult Children Providing Physical Care

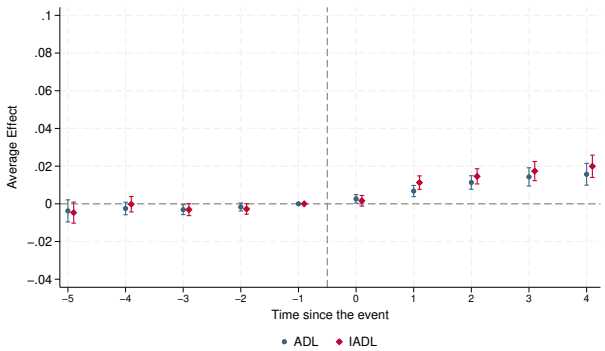
(a) dCDH: ADRD Diagnosis



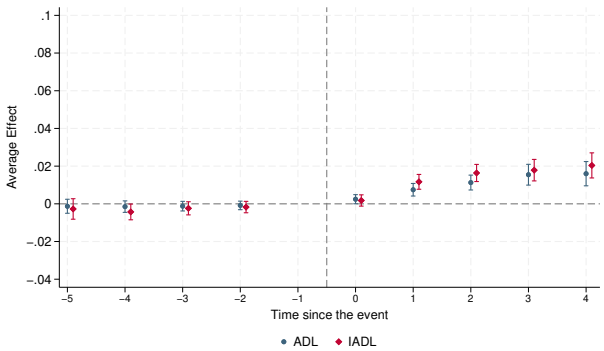
(b) CS: ADRD Diagnosis



(c) dCDH: MCI/dementia (Langa & Weir)



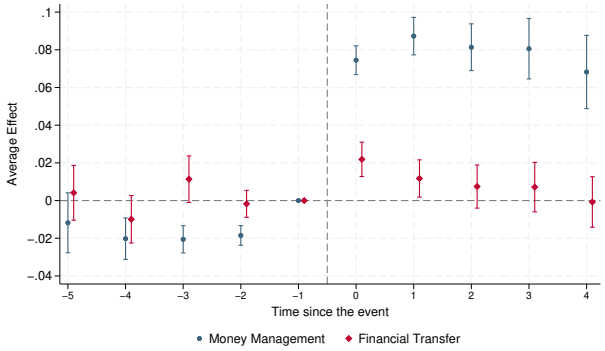
(d) CS: MCI/dementia (Langa & Weir)



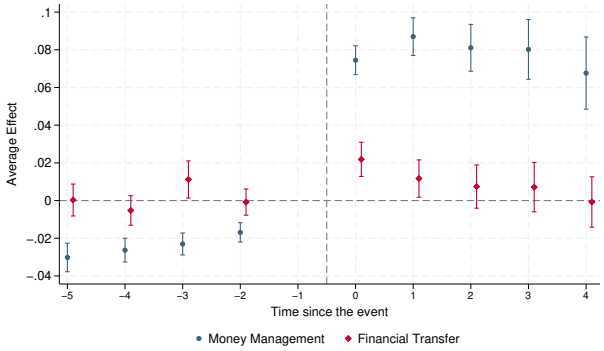
Notes: The figure shows event-study estimates of the effect of parental ADRD on children providing physical care to the parent. Panels (a) and (b) use a formal ADRD diagnosis as the treatment; Panels (c) and (d) use the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates in panels (a) and (c) are obtained using the de Chaisemartin and D'Haultfœuille 2026 (dCDH) estimator; panels (b) and (d) use the Callaway and Sant'Anna 2021 (CS) estimator. The outcomes are two binary indicators: whether the child helps the parent with Activities of Daily Living (ADLs), and whether the child helps with Instrumental Activities of Daily Living (IADLs). Time 0 corresponds to the first period of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.

Figure B10: Event-Study: Effect of Parental ADRD on Adult Children Providing Financial Care

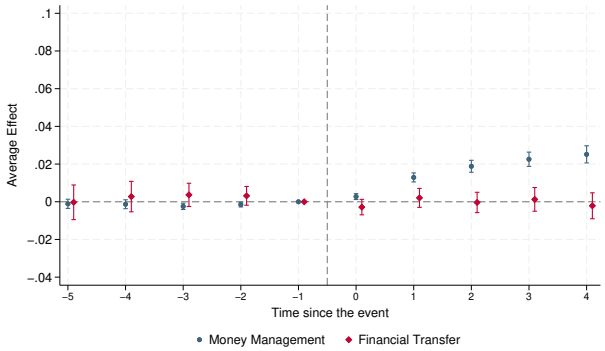
(a) dCDH: ADRD Diagnosis



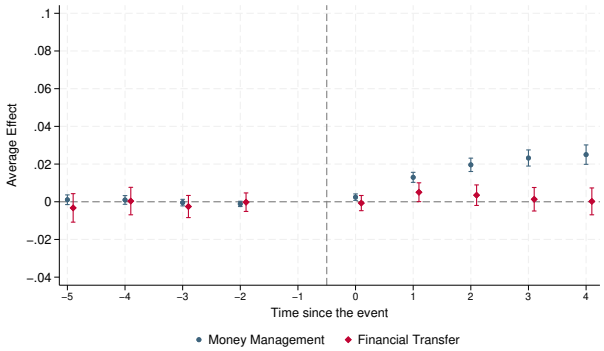
(b) CS: ADRD Diagnosis



(c) dCDH: MCI/dementia (Langa & Weir)



(d) CS: MCI/dementia (Langa & Weir)



Notes: The figure shows event-study estimates of the effect of parental ADRD on children providing financial care to the parent. Panels (a) and (b) use a formal ADRD diagnosis as the treatment; Panels (c) and (d) use the MCI/dementia classification based on the Langa-Weir cognitive score. Estimates in panels (a) and (c) are obtained using the de Chaisemartin and D'Haultfœuille 2026 (dCDH) estimator; panels (b) and (d) use the Callaway and Sant'Anna 2021 (CS) estimator. The outcomes are two binary indicators: whether the child helps the parent with financial management tasks such as paying bills and tracking expenses, and whether the child transferred $500 or more to the parent in the past two years. Time 0 corresponds to the first period of treatment and time -1 is the omitted reference period. Each time period corresponds to two years, reflecting the biennial HRS interview schedule. Bars represent 95% confidence intervals. Standard errors are clustered at the household level.