Parental Health, Aging, and the Labor Supply of Young Workers[*]

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Introduction

- Health status crucial for individual lifetime earnings and wealth inequality (Capatina et al., 2023, and De Nardi et al., 2022)

- Fewer studies on parents' health on labor market outcomes

- We study spillover effects of parents' adverse health events on their adult children:

  - Empirically quantify extent to which they might be negatively affected

  - Investigate strength of family ties and inter-family insurance

The Importance of Care and Family Ties

Did you spend a lot of time caring for your parents in the past?   29.65% Yes

Are you planning to spend a lot of time caring for your parents?   46.12% Yes

Did you give significant financial support to your parents in the past?   19.47% Yes

Are you planning to give significant financial support to your parents?   32.78% Yes

Source: PSID 2007, author's calculations

Q: How are young workers affected by health shocks that happen to their parents?

- Effect of parent's adverse health event on working-age children ex-ante ambiguous:

  1. **Loss of parental income and net monetary transfers + healthcare expenditure**
     $\Rightarrow$ negative wealth effect $\Rightarrow$ child increases their labor supply

  2. **Child provides informal care** $\Rightarrow$ child decreases their labor supply

We find:

- a strong negative effect on labor income and hours of non-fatal shocks

- Stronger impact if parent is single, widowed, or divorced and if child works in inflexible occupations

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Data: Constructing Extended Families

- We use: Panel Study Income Dynamics (PSID), Health and Retirement Survey (HRS)

- PSID follows children of original families even when they form a new household

$\longrightarrow$ Parents can be linked to their working-age children

- Focus on prime age children 24 to 55 years with both parents alive

- This identifies 14,101 working-age-children—parents pairs from 1999 to 2019

The Health News Shock

Measures of health deterioration: reporting of health diagnoses

- Starting 1999, PSID introduced questions like:

    - *"Has a doctor ever told you you have or have had a heart attack?"*
    - Use changes in answers to identify insurgence of health condition
    - Non-communicable ailments cause of ~ 60% of (non-COVID) US deaths
    - Also among top causes of years lived with disability (CDC NCHS Data Brief, 2022)
      ▸ Details

- HRS asks the same set of questions

- Self-reported diagnoses predict well disability, death and frailty indeces

Health and Disability in the U.S. Population

Age	N	Percentage: Health Shock	of which: Death	Percentage: Disabled	Percentage: Severe
30-39	93,117	3.8%	0.14%	10%	71%
40-49	63,683	6.2%	0.35%	15%	62%
50-59	41,620	7.5%	0.8%	24%	53%
60-69	25,183	8.5%	1.7%	36%	49%
70-79	11,617	6%	4.4%	46%	47%

Table 1: Source: Authors' calculations on Panel Study of Income Dynamics (PSID), 1999-2019.

Balancing

	Full Sample		Active Labor Force	
	Non-Treated	Treated*	Non-Treated	Treated*
A. Income and Wealth				
Unemployment				
Age 24-30	5%	6.6%	5.5%	7.3%
Age 30-40	3.4%	3%	3.8%	3.3%
Age 40-50	5%	1.8%	5.7%	2%
Labor Income (/000)				
Age 24-30	$30	$31	$31	$33
Age 30-40	$46	$53	$51	$58
Age 40-50	$49	$78	$58	$86
Wealth (family, /000)				
Age 24-30	$142	$169	$106	$132
Age 30-40	$123	$218	$131	$219
Age 40-50	$192	$422	$215	$430
B. Education				
College				
Age 24-30	43%	54%	43%	53%
Age 30-40	50%	57%	51%	58%
Age 40-50	35%	35%	37%	37%

Empirical Strategy

- Use a dynamic diff-in-diff centered around parent's health diagnosis:

$$y_{it} = \alpha_t + A_{it}^{own}\beta_1 + A_{it}^{parents}\beta_2 + \sum_k \delta_k D_{kit} + \epsilon_{it}$$

- Focus on non-fatal shocks (parent is alive eight years later)

- Restrict the analysis to group of people who will receive a diagnosis (Fadlon and Nielsen (2021))

- Gives us around 8,000 observations

Effect of Health Diagnoses on Own Income and Hours is Large
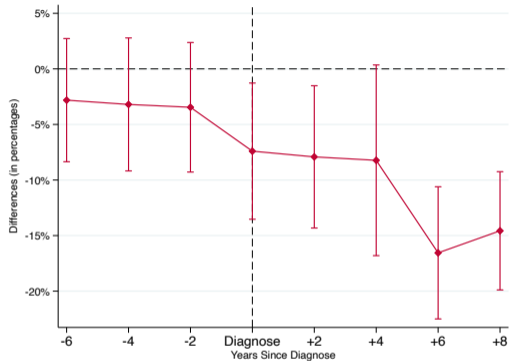
(a) Labor income
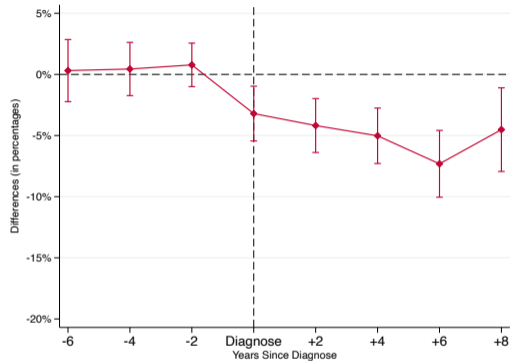
(b) Hours Worked

Figure 1: Impact of a health diagnosis on the individual that receives them. Red diamonds are point estimate with 95% confidence intervals around. ▸ Impact on Employment
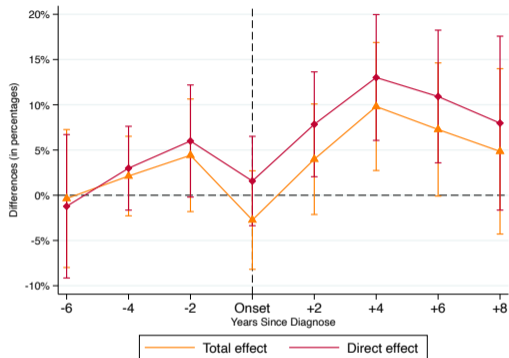
(a) Health Related Expenditure
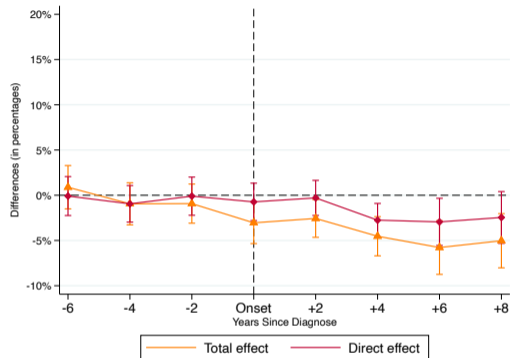
(b) Consumption of non-durables and services

Figure 2: Non-Durable and Services includes spending for Food, Transport, Utilities, Recreation. Difference between total and direct effect captures impact of health on income / employment.

Time and Monetary Transfer Indicate Inter-Family Insurance!
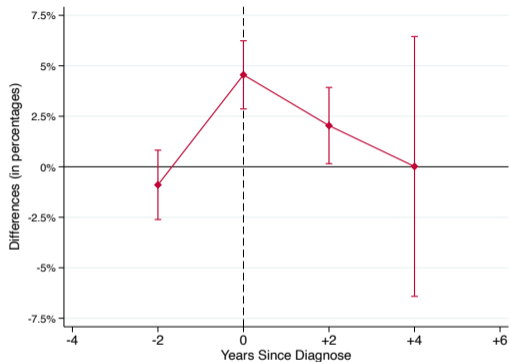
(a) Help with Chores and Errands
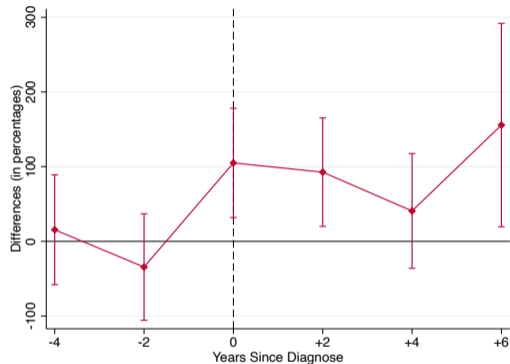
(b) Monetary transfers by children

Figure 3: Data: HRS.

Negative impact on Children of Non-Fatal Shocks: Labor Outcomes
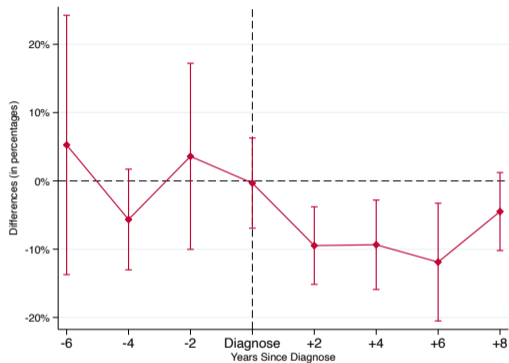
(a) Labor income
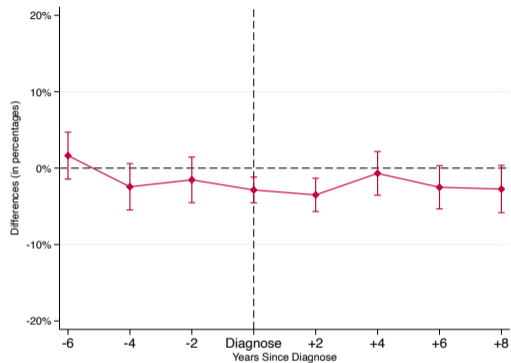
(b) Hours Worked

Figure 4: Data: families where both parents were present in sample. Parents survives the shock in the time window.

Largest Impact when Father not Married
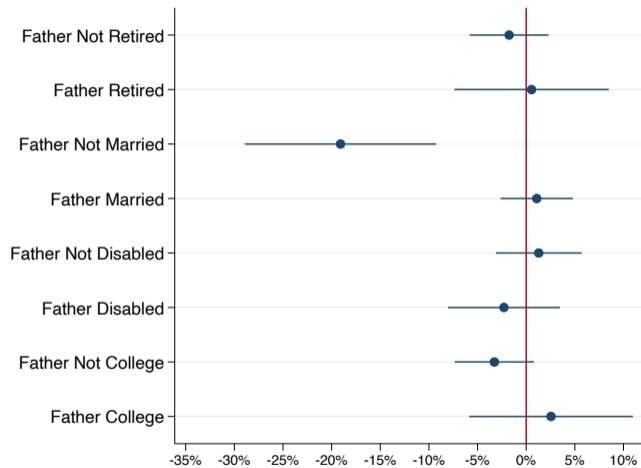
Figure 5: Impact of paternal shocks on income by father characteristics

Impact of Maternal and Parental Disability: Role of Caregiving
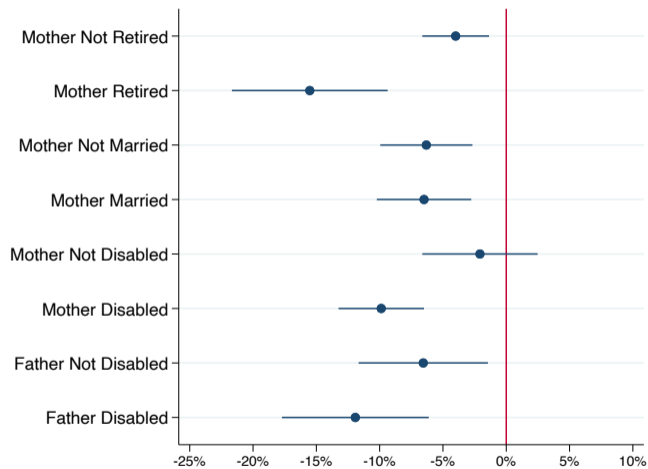
Figure 6: Impact of maternal shocks on income by mother characteristics

Higher Incomes, Bigger Losses: Hours Inflexibility?
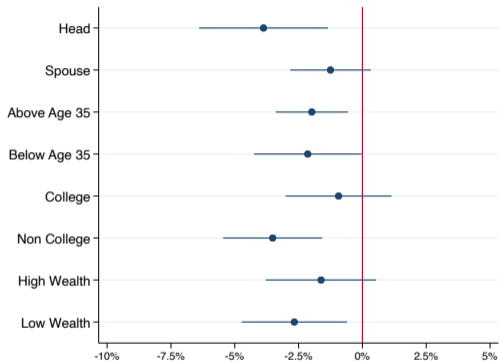
(a) Changes in Hours, Average Years $+2/+8$
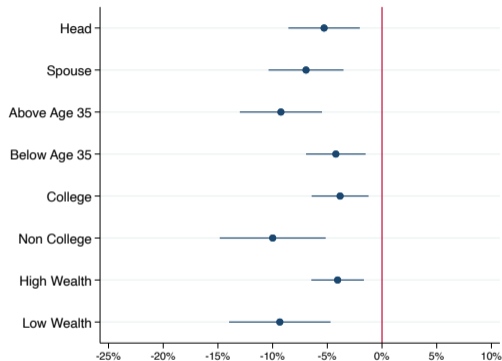
(b) Changes in Income, Average Years $+2/+8$

Evidence of Occupational Displacement

Figure 8: Odds of switching to a lower paid occupation, Ordered Logit Regression
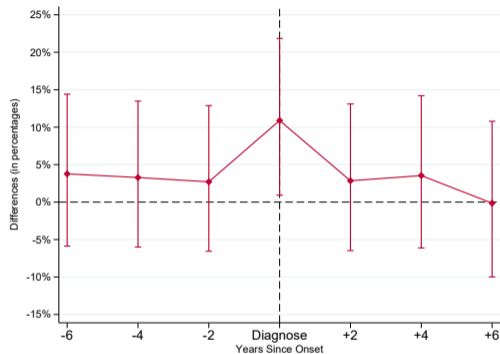
- Rank occupations by average earnings
  (Huckfeldt, 2022)

- 10 p.p. higher probability of switching to a lower paid occupation

Children Working in "Long Hours" Occupations Bear Largest Cost

	Horizon	
	(a)	(b)
Health Shock	-2.19**	-1.66
	1.24	1.28
Health Shock × Long Hours	-7.52*	-6.57**
	3.85	3.30
Total Effect	-9.71***	-8.24***
	3.78	3.06

Table 2: Column (a): Average Effects in the 6 Years After Treatment. Column (b): Average Effects in the 8 Years After Treatment

- Divide Occupations by Quartile of Average Yearly Hours Worked (Erosa Fuster Kambourov Rogerson 2022)

- Interact parental health shock with highest quartile

Effect of Deaths: A Different Story
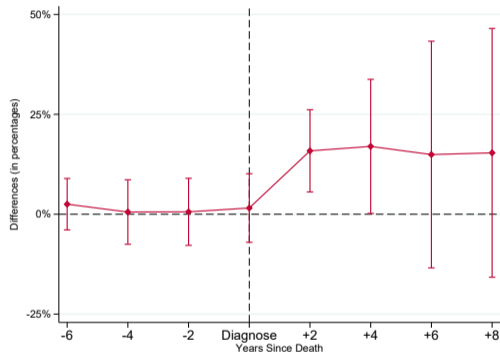
Figure 9: Hours Worked

- Crucial: control here is again not-yet-treated.

- No decrease in hours after fatal shock: rebound after caregiving?

- We document direct evidence of parental health deterioration spillovers on young workers labor market outcomes and consumption

- **Take-away:** Non-fatal parental health shocks imply a significant reduction in hours and more than proportional reduction in earnings of adult children

- Ignoring these effects underestimates the impact of health on labor supply and inequality

Thanks!

Diagnose	SSA Category	PSID Question: *Has a doctor ever told you...*	Years Available
Lung Disease	Respiratory Disorders (3)	*you have or have had a chronic lung disease such as bronchitis or emphysema?*	1999-2019
Diabetes	Cardiovascular System (4)	*you have or have had a diabetes or high blood sugar?*	1999-2019
Heart Attack	Cardiovascular System (4)	*you have or have had a heart attack?*	1999-2019
Hypertension	Cardiovascular System (4)	*you have or have had high blood pressure or hypertension?*	1999-2019
Stroke	Neurological Disorders (7)	*you have or have had a stroke?*	1999-2019
Cancer	Malignant Neoplastic Diseases (13)	*you have or have had cancer or a malignant tumor, excluding skin cancer?*	1999-2019
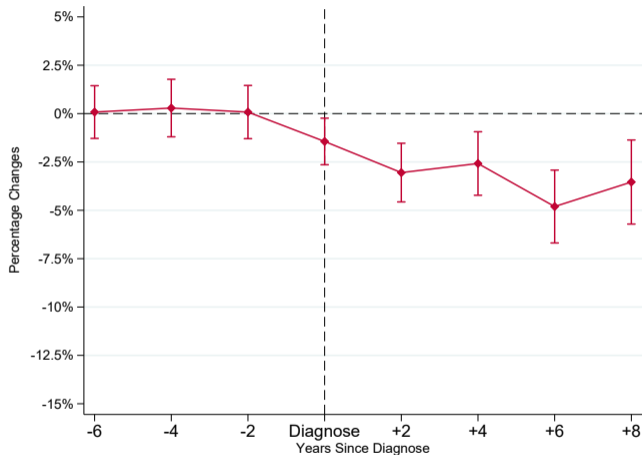
Figure 10: Probability of Being Employed (Probit Regression)

Impact on Medical Expenditure and Consumption
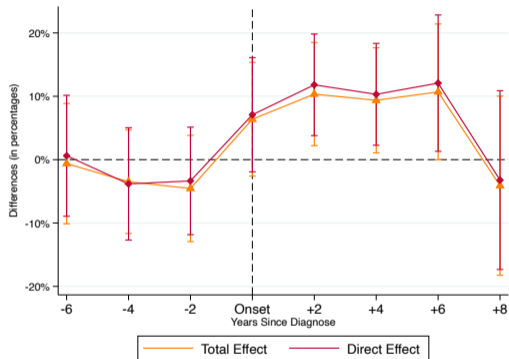
(a) Health Related Expenditure: Own or Transfer?
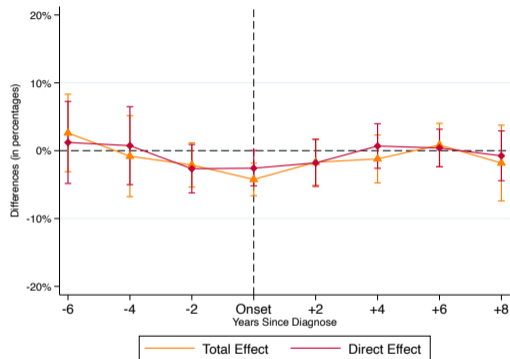
(b) Consumption
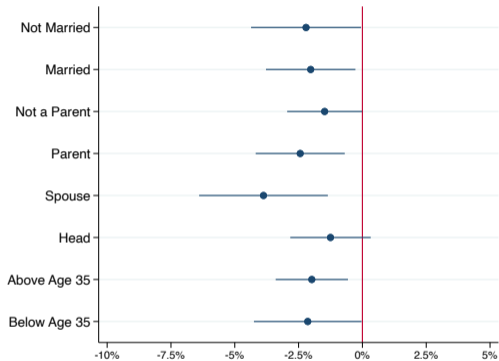
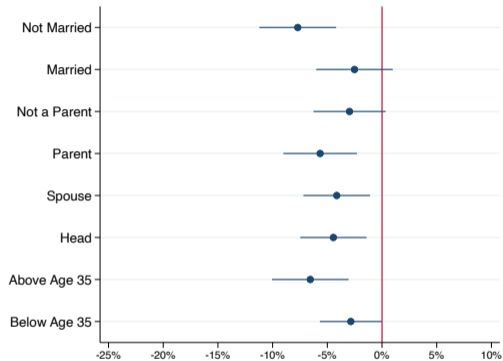# Both Parents and Kids Dissave Following a Diagnose
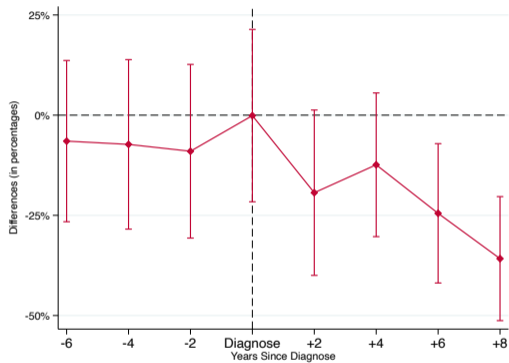
(a) Own shock health
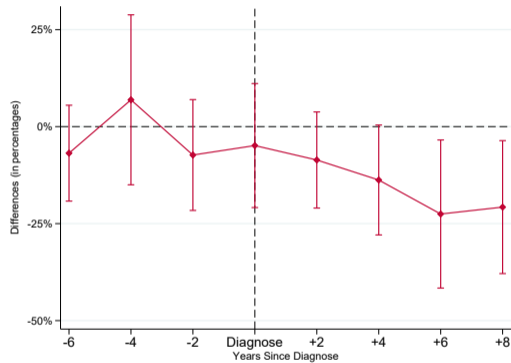
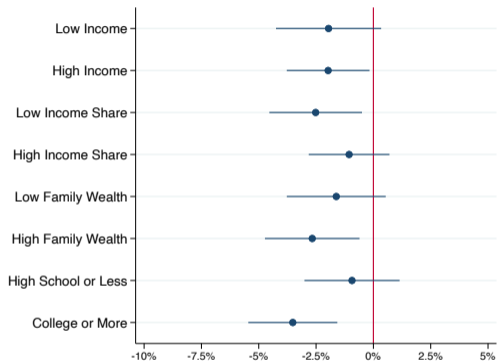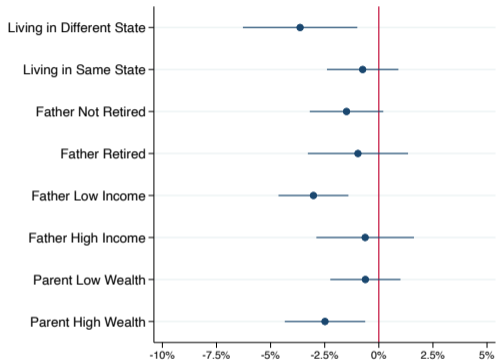(b) Parent shock health

Heterogeneity I

(a) Changes in Hours, Average Years +2/+8

(b) Changes in Income, Average Years +2/+8

Heterogeneity II

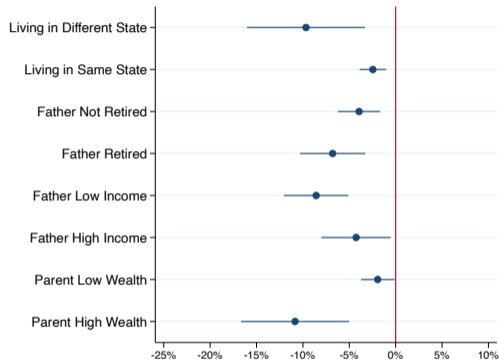**(a)** Changes in Hours, Average Years $+2/+8$
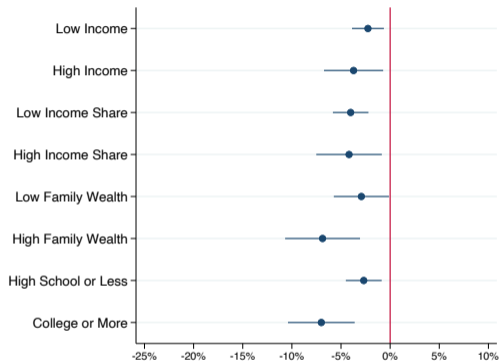
(b) Changes in Income, Average Years $+2/+8$
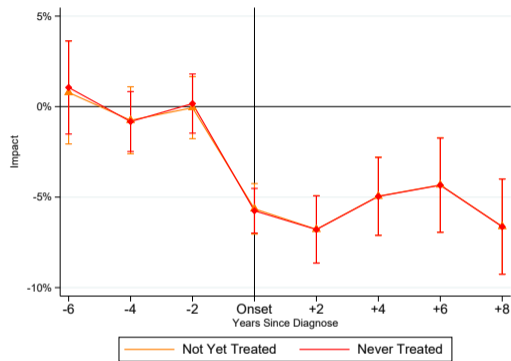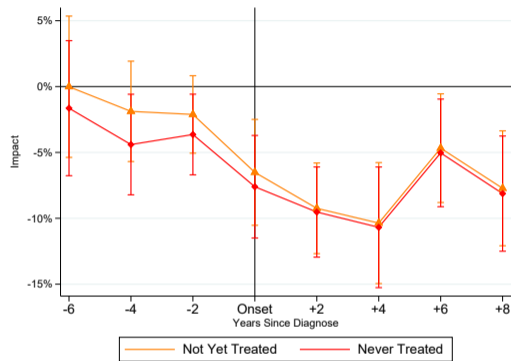
Heterogeneity II

(a) Changes in Hours, Average Years +2/+8

(b) Changes in Income, Average Years +2/+8
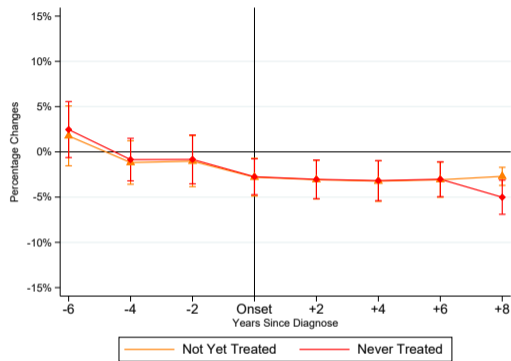
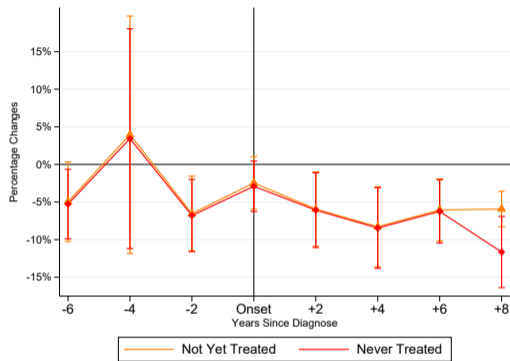# Robustness: Sun and Abrams (2021)

(a) Hours (Own Shock)

(b) Labor Income (Own Shock)

Figure 16: Event Study With the Method of Sun and Abrams (2021), using two different control groups

(a) Hours (Parent Shock)

(b) Labor Income (Parent Shock)

Figure 17: Event Study With the Method of Sun and Abrams (2021), using two different control groups