

The Effect of Unexpected Inheritances on Wealth Accumulation

Precautionary Savings or Liquidity Constraints?

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A novel contribution in a crowded field

- **Characterize individual wealth accumulation strategies**
 - Long VS short run
- **Determinants of individual saving rates**
 - **Micro:** Household finance
 - **Macro:** Aggregate economic responses
- **Heavily contributed field**
 - Intertemporal consumption models
 - Structural estimation / fluctuation decomposition
 - **Reduced form (causal):** consumption responses

This paper:

- **Focus: Wealth accumulation**
 - Specific strategies to **different wealth components**
- **How: Causal effect of inheritances**
 - **Danish** register data

[...] the greatest inheritance of wealth in history

J. Shapiro (2004)

- **Colossal wealth flow**

- **US:** \$9 Trillions between 1990-2030 (Avery & Rendall, 1993;2002)
- **FR:** 2010, 15% of national GDP (Piketty, 2011)
- **DK:** Excluding top 1%, 1995-2010 avg of 1.6% of 2010 national GDP
 - Stimulus package \approx 1.4% 2010 GDP

- **Driver and perpetuator of wealth inequality**

((Bowles and Gintis, 2002; De Nardi, 2004; De Nardi and Yang, 2014; Boserup, Kopczuk and Kreiner, 2016)

- **Intergenerational transfers**

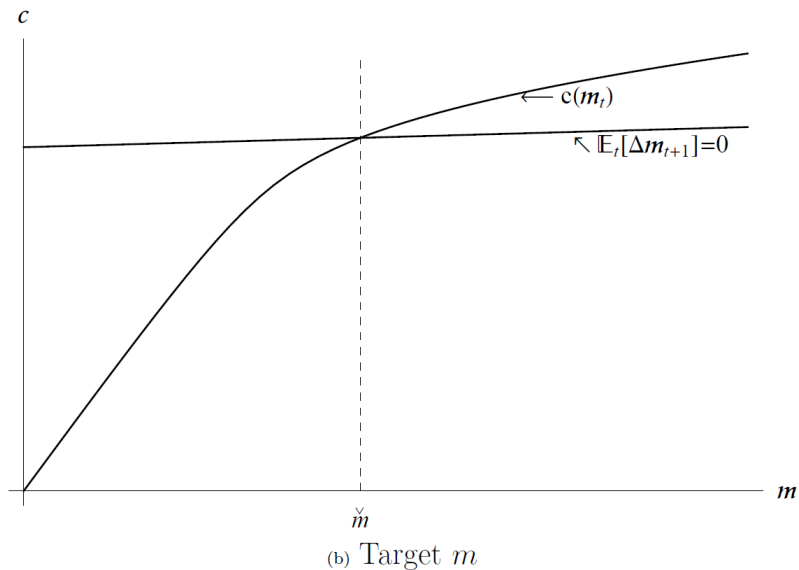
- **PIH - Permanent Income Hypothesis**

- Consumption **constant**, wealth as a **buffer**
- Can't explain high propensity to consume out of transitory shocks (Johnson, Parker and Souleles, 2006; Agarwal, Liu and Souleles, 2007; Parker et al., 2011; Kreiner, Lassen and Leth-Petersen, 2013)
- ... or responsiveness of consumption to liquidity (Gross and Souleles, 2002; Leth-Petersen, 2010)
 - **Liquidity constraints**

- **Buffer stock model** (Carroll, 1997; 2012)

- Combination of **impatience** & **uncertainty about the future**
- **Target buffer stock of precautionary savings**

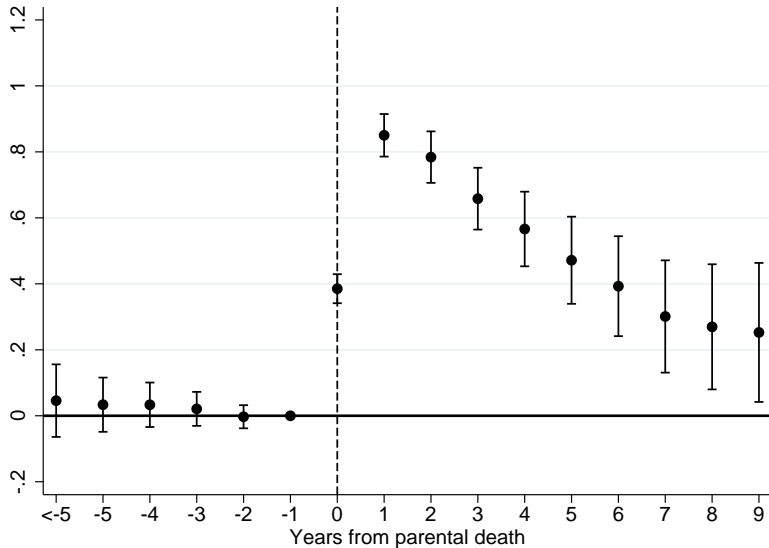
$$\mathbb{E}_t \left[\frac{m_{t+1}}{m_t} \right] \begin{cases} = 1 & \text{if } m_t = \check{m} \\ < 1 & \text{if } m_t > \check{m} \end{cases}$$

**Figure 4** The Consumption Function

1 Test wealth convergence implication

- **Exploit unexpected inheritances**, compare people receiving large inheritance at \neq points in time
- **Not only on net worth, but also on different wealth components**
 - Liquid assets, housing equity, financial investments, unc. debts

Plan of action – preview: net worth



1 Test wealth convergence implication

- **Exploit unexpected inheritances**, compare people receiving large inheritance at \neq points in time
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2 Precautionary savings or liquidity constraints?

- **Role of position in the lifecycle** (Guiso and Sodini, 2013)
 - Inheriting before VS after 40
- **Role of financial situation before inheritance**
 - Less of more than 1 months of permanent income in liquid assets

Danish administrative register data, 1996-2012

- **Income & Wealth:** tax reports & info from banks
- **Mortality & birth register**
- **Demographics**

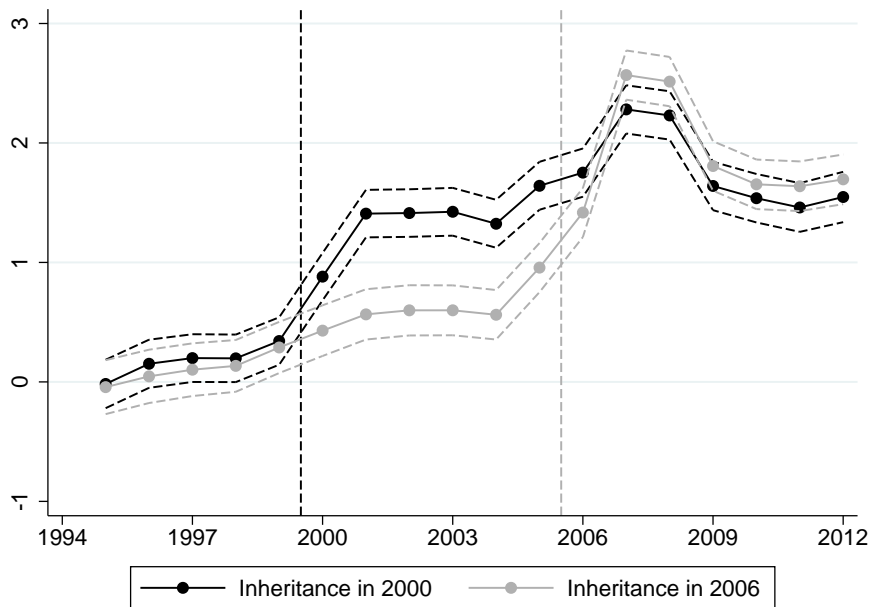
Key issues

- **Permanent income normalization**
 - Direct link to theory, easily comparable internationally
 - Rolling weighted average of disposable income
- **Inheritance**
 - Not observed, **imputed** from parent wealth before death
 - After-tax, split among kids (Andersen and Nielsen, 2011; 2012)
- **Main sample selection**
 - No top 1%, parent single at death

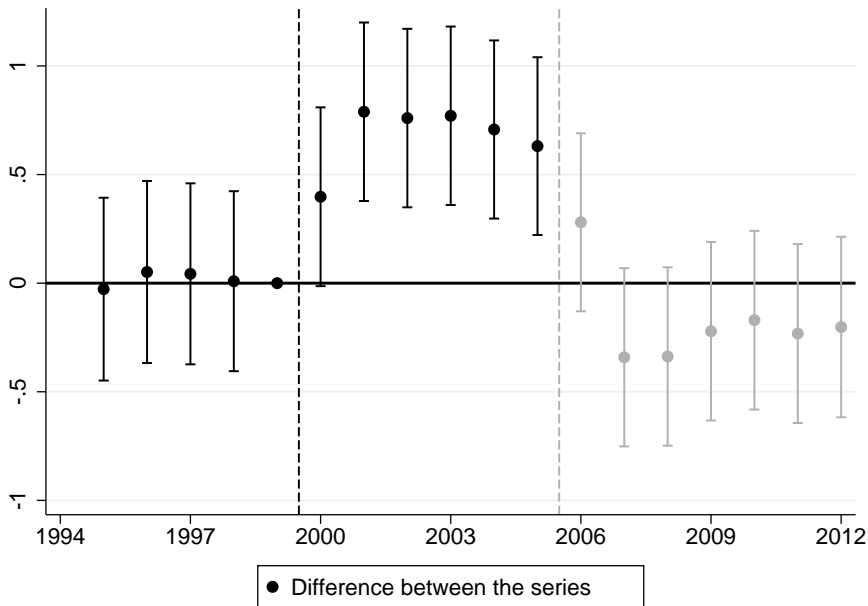
Descriptives - one year before parental death

	All	Unexpected			
		All	Large inheritance (> 1y p.i.)		
			All	Inheriting between 25-40	Inheriting after 40
Imputed inheritance, DKK	219.431	218.375	639.756	563.479	695.222
Disposable income	212.871	207.615	210.483	193.596	222.763
Inheritance	1.096	1.119	3.319	3.313	3.324
Net worth	0.250	0.197	0.628	0.139	0.984
Liquidity constrained	0.530	0.547	0.440	0.477	0.413
# episodes	223350	21727	6539	2753	3786

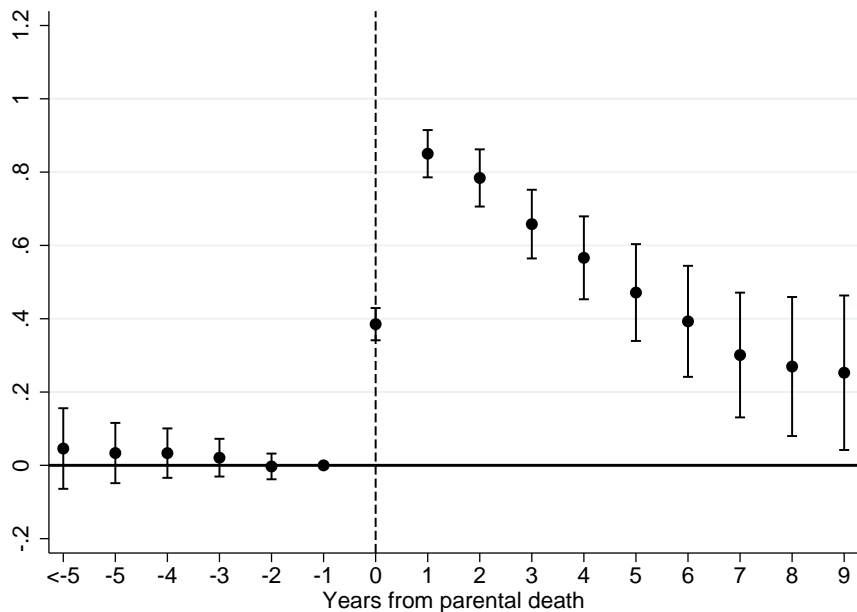
Identification - example (Fadlon & Nielsen, 2016)



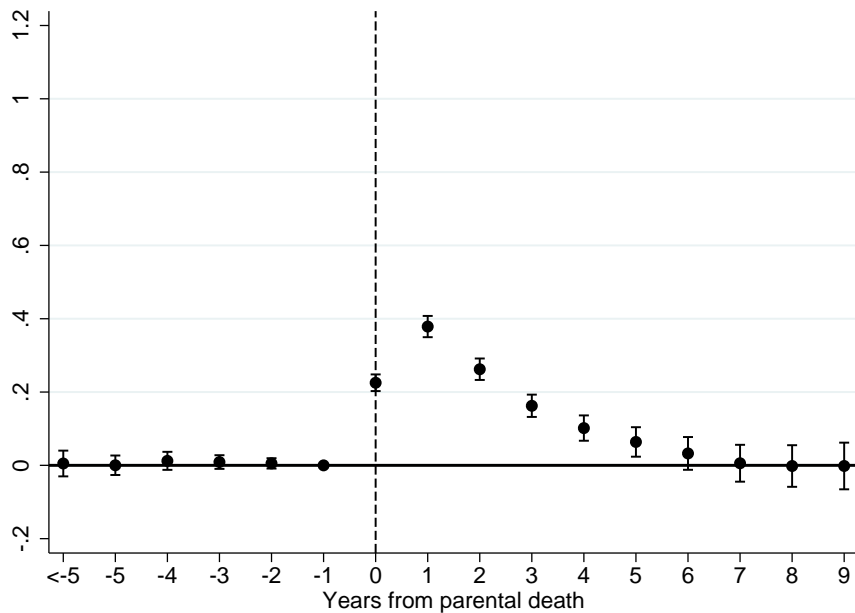
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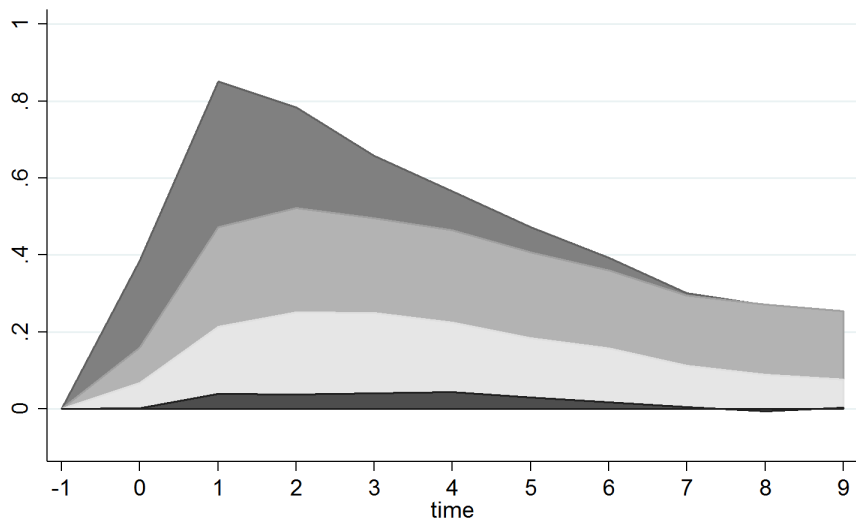
Main (sudden, large inheritance): Net worth



Main (sudden, large inheritance): Liquid assets

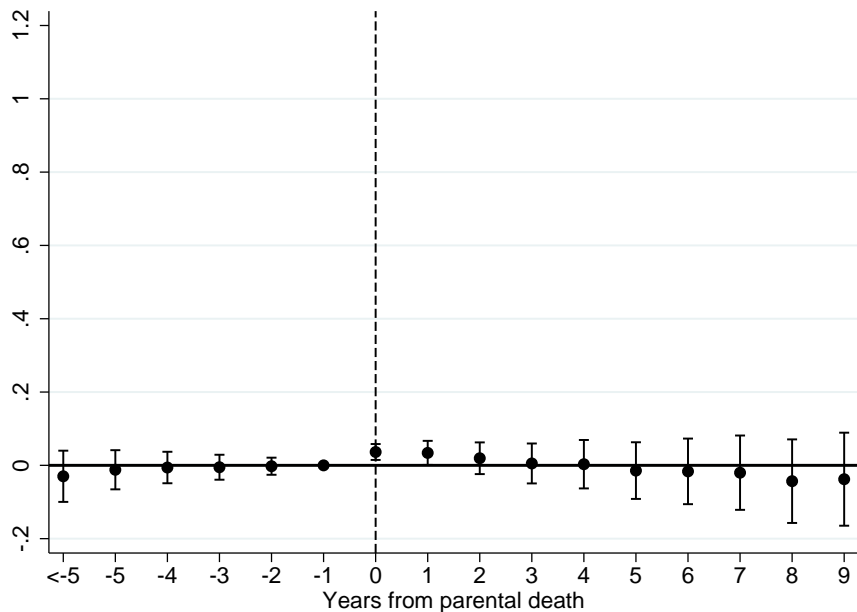


Main (sudden, large inheritance): Wealth decomposition



↑ liquid assets ↑ financial assets
↑ housing equity ↓ non-collateralized debts

Placebo (sudden, small inheritance): Net worth



What we learned so far

- **Net worth:** partial convergence
- Convergence driven by **liquid assets**
 - **Precautionary savings**
- **Persistent investments in financial wealth**
 - **Long-run investments**
- **Placebo:** Effect not due to specification / parental death alone
- **No effect on household composition, small effects on income and spouse wealth**

Next step

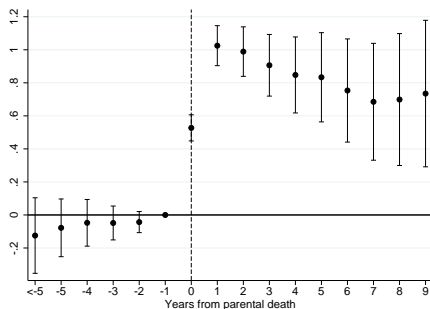
- **Combination of impatience & uncertainty (buffer-stock model)**
- **Exogenous liquidity constraints?**
 - **Age at inheritance**
 - **Liquidity at inheritance**

The role of position in the lifecycle

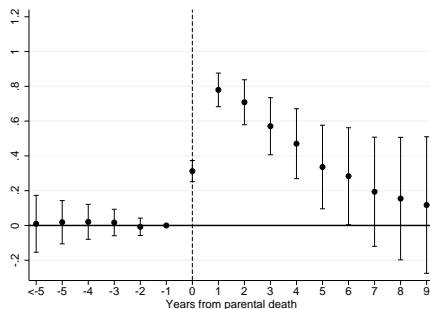
- Younger \implies \nearrow human-to-total capital ratio \implies react more

Sudden inheritance: Net Worth

Inheriting 25-40



Inheriting after 40

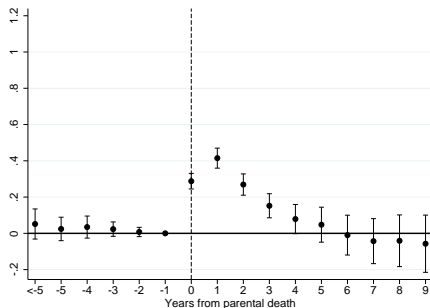


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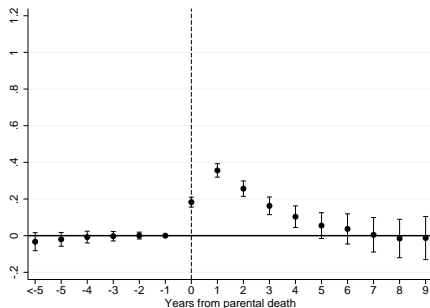
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Sudden inheritance: Liquid assets

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Inheriting after 40

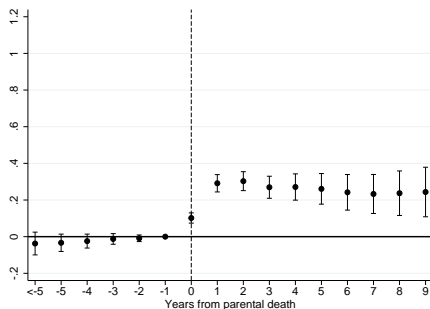


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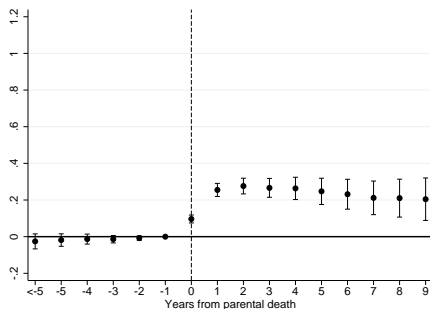
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Sudden inheritance: Financial assets

Inheriting 25-40



Inheriting after 40

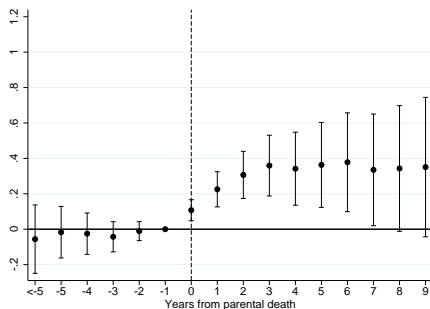


The role of position in the lifecycle

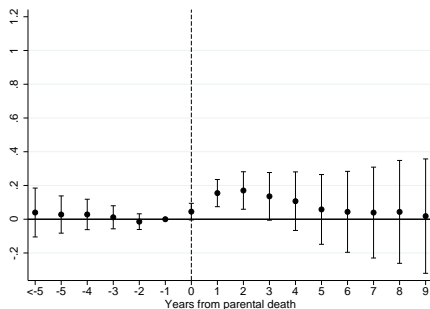
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Sudden inheritance: Housing equity

Inheriting 25-40



Inheriting after 40

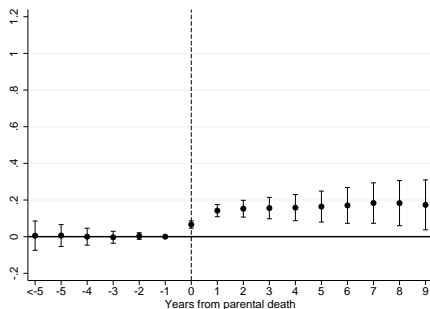


The role of position in the lifecycle

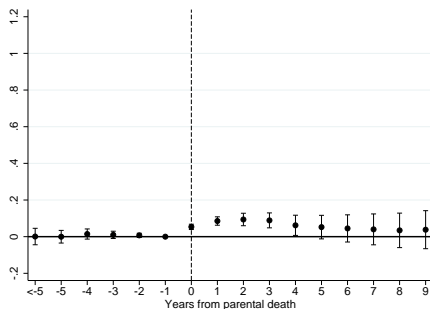
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Sudden inheritance: # housing units

Inheriting 25-40



Inheriting after 40

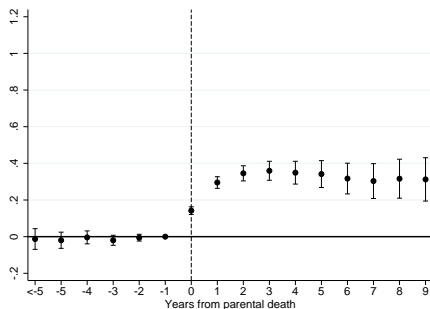


The role of position in the lifecycle

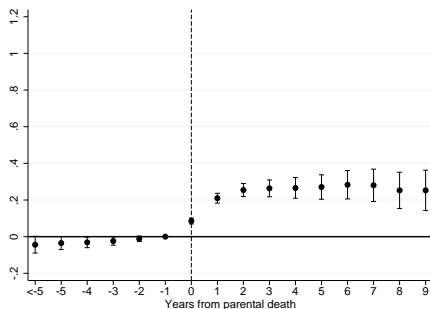
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Potentially expected inheritance: Housing equity

Inheriting 25-40



Inheriting after 40

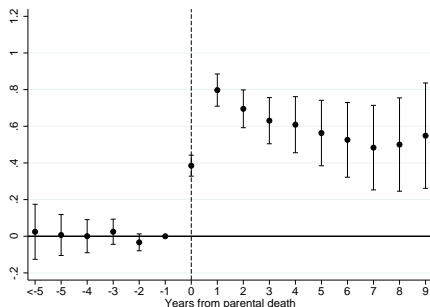


The role of financial situation before inheritance

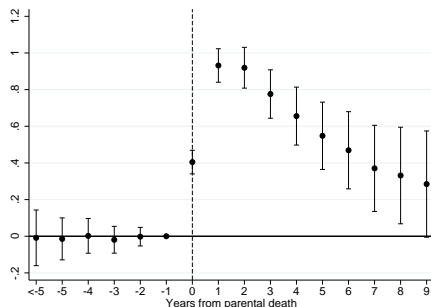
- ↗ **liquidity constraints** \implies **react more**

Sudden inheritance: Net Worth

Less than 1 month of income in liquid assets before inheritance



More than 1 month of income in liquid assets before inheritance

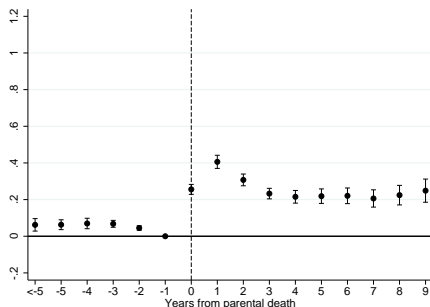


The role of financial situation before inheritance

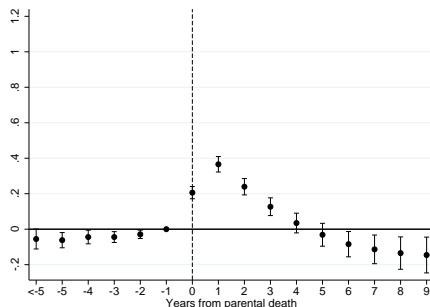
- ↗ **liquidity constraints** \implies **react more**

Sudden inheritance: Liquid assets

Less than 1 month of income in liquid asset before inheritance



More than 1 month of income in liquid asset before inheritance



① Role of position in the lifecycle

- Younger household strategy shaped by need of housing
- Importance of **downpayment constraints, transaction costs**

② Role of liquidity constraints

- Liquidity constrained **exploit inheritance to accumulate buffer of precautionary savings**

⇒ **Liquidity constraints do not drive the results**

Causal effect of inheritance → individual saving strategies

- **Buffer-stock model** predictions fit **liquid assets** perfectly
 - **Precautionary savings**
- For other assets, **PIH** good approximation
 - **Financial investments**
- **Precautionary behavior** > **liquidity constraints**

Implications

- **Different strategies coexist in a saving plan**
- **Specific assets serve specific strategies**
- **Need for models incorporating \neq asset types**