

# Housing, Marriage and Employment for Young Adults: Parental Death vs Coresidence

Steven F. Koch    Jesse Naidoo

University of Pretoria

October 2023

# Introduction

# Families

Intergenerational links persist well into adulthood. Parents can provide their adult children with

- ▶ money
- ▶ childcare
- ▶ guidance, emotional support, social networks
- ▶ housing

Of course, parents can also make demands of their children's time.

None of these observations are unique to South Africa:

- ▶ Kaplan (2012), Dettling and Hsu (2018)
- ▶ Talamas Marcos (2023)

# Households

Most SA survey data samples “households”, usually defined as the set of people who

- ▶ usually sleep in a given dwelling
- ▶ share meals together

Much harder to get information on consumption, remittances or time use. If we want to observe in-kind transfers to adult children, housing would seem to be a good place to look.

We worry that adults who live with their parents are unusual along one or more dimensions:

- ▶ labour market prospects
- ▶ marriage and fertility

# Households in SA

Incentives to move out or in:

- ▶ Posel, Fairburn, and Lund (2006)
- ▶ Edmonds, Mammen, and Miller (2005)
- ▶ Ardington, Case, and Hosegood (2009)
- ▶ Klasen and Woolard (2009)

Effect of deaths:

- ▶ Case and Ardington (2006)
- ▶ Ardington et al. (2014)

Aggregate trends:

- ▶ Thornton and Wittenberg (2022)
- ▶ Branson and Wittenberg (2014)
- ▶ Wittenberg and Collinson (2007)

# Our Questions

What effects does the death of a parent have on the

- ▶ housing quality
- ▶ coresidence arrangements
- ▶ labour market success

of young adults in South Africa?

# Our Findings

Coresidence and death have very different associations with the outcomes we look at.

Under some assumptions, parental deaths:

- ▶ have small negative, but statistically detectable, effects on housing quality
  - ▶ typically 1-2pp, depending on measure
- ▶ very large effects on some aspects of coresidence arrangements
  - ▶ coresidence effects take several years to be fully realised
- ▶ induce more first marriages ( $\sim 3$ pp)
- ▶ reduce employment and LFP a little ( $\sim 1$ -2pp)
- ▶ mothers generally matter more than fathers

Data



# Sample Restrictions

- ▶ Africans aged 20 - 35
- ▶ HH size  $< 10$
- ▶ exclude those answering “don’t know” to “is your biological mother/father alive?”
- ▶ will use mostly Community Survey 2016, but also Census 2011 in places

# Basics: Community Survey 2016

Compare basic demographics of those who live with their mothers vs those who don't:

		FALSE (N=438811)		TRUE (N=233528)		Diff. in Means	Std. Error
		Mean	Std. Dev.	Mean	Std. Dev.		
age		27.8	4.5	25.9	4.3	-1.9	0.0
		N	Pct.	N	Pct.		
sex	Female	229235	52.2	117408	50.3		
	Male	209576	47.8	116120	49.7		
geotype	farm	13562	3.1	5334	2.3		
	traditional authority	138760	31.6	104026	44.5		
	urban	286489	65.3	124168	53.2		

## Basics: Community Survey 2016

Young adults living with mothers tend to be:

- ▶ about 2 years younger
- ▶ 13pp more concentrated in former homelands
- ▶ 2pp more males

# Basics: Community Survey 2016

Similar patterns for coresidence with fathers.

		FALSE (N=572472)		TRUE (N=99867)		Diff. in Means	Std. Error
		Mean	Std. Dev.	Mean	Std. Dev.		
age		27.4	4.5	25.5	4.2	-1.9	0.0
		N	Pct.	N	Pct.		
sex	Female	299516	52.3	47127	47.2		
	Male	272956	47.7	52740	52.8		
geotype	farm	16225	2.8	2671	2.7		
	traditional authority	201734	35.2	41052	41.1		
	urban	354513	61.9	56144	56.2		

Source: Community Survey 2016

# Housing Quality, by Mother's Coresidence

Some major differences by maternal coresidence, but inconsistent directions.

		FALSE (N=438811)		TRUE (N=233528)	
		N	Pct.	N	Pct.
formal_dwelling	FALSE	74909	17.1	16703	7.2
	TRUE	359864	82.0	215242	92.2
	NA	4038	0.9	1583	0.7
piped_water_within_200m	FALSE	60584	13.8	39415	16.9
	TRUE	378227	86.2	194113	83.1
toilet_flush_chemical	FALSE	174980	39.9	106368	45.5
	TRUE	263831	60.1	127160	54.5
electricity_cooking	FALSE	82069	18.7	49508	21.2
	TRUE	356742	81.3	184020	78.8
electricity_heating	FALSE	166012	37.8	94152	40.3
	TRUE	272799	62.2	139376	59.7
electricity_lighting	FALSE	53764	12.3	19845	8.5
	TRUE	385047	87.7	213683	91.5

Source: Community Survey 2016

# Housing Quality, by Mother's Survival

Differences by maternal survival are much smaller and directions more consistent.

		No (N=137367)		Yes (N=534972)	
		N	Pct.	N	Pct.
formal_dwelling	FALSE	20169	14.7	71443	13.4
	TRUE	115982	84.4	459124	85.8
	NA	1216	0.9	4405	0.8
piped_water_within_200m	FALSE	21117	15.4	78882	14.7
	TRUE	116250	84.6	456090	85.3
toilet_flush_chemical	FALSE	59176	43.1	222172	41.5
	TRUE	78191	56.9	312800	58.5
electricity_cooking	FALSE	26158	19.0	105419	19.7
	TRUE	111209	81.0	429553	80.3
electricity_heating	FALSE	56086	40.8	204078	38.1
	TRUE	81281	59.2	330894	61.9
electricity_lighting	FALSE	16229	11.8	57380	10.7
	TRUE	121138	88.2	477592	89.3

Source: Community Survey 2016

# Housing Tenure, Family Relationships, Labour Market

Those living with their mothers are

- ▶ 36pp more likely to be never-married
- ▶ 19pp less likely to be employed
- ▶ 10pp more likely to be out of labour force, etc.

		FALSE (N=618859)		TRUE (N=236128)	
		N	Pct.	N	Pct.
housing_tenure_own	FALSE	344029	55.6	70091	29.7
	TRUE	274830	44.4	166037	70.3
housing_tenure_rent	FALSE	420846	68.0	221372	93.8
	TRUE	198013	32.0	14756	6.2
never_married	FALSE	260798	42.1	15691	6.6
	TRUE	358061	57.9	220437	93.4
employed	FALSE	351812	56.8	182968	77.5
	TRUE	267047	43.2	53160	22.5
participation	FALSE	136489	22.1	77630	32.9
	TRUE	482370	77.9	158498	67.1

Source: Census 2011

# Housing Tenure, Family Relationships, Labour Market

Differences by maternal survival are, by comparison, tiny.

		No (N=195230)		Yes (N=659757)	
		N	Pct.	N	Pct.
housing_tenure_own	FALSE	96550	49.5	317570	48.1
	TRUE	98680	50.5	342187	51.9
housing_tenure_rent	FALSE	146897	75.2	495321	75.1
	TRUE	48333	24.8	164436	24.9
never_married	FALSE	72520	37.1	203969	30.9
	TRUE	122710	62.9	455788	69.1
employed	FALSE	121223	62.1	413557	62.7
	TRUE	74007	37.9	246200	37.3
participation	FALSE	46655	23.9	167464	25.4
	TRUE	148575	76.1	492293	74.6

Source: Census 2011



## Estimation Strategy

# Regression Specification

We will run regressions of the form

$$Y = \beta D + \gamma X + \varepsilon$$

where  $D$  is a vector of dummies, either

- ▶ (mother alive, father alive, both alive)
- ▶ (mother coresident, father coresident, both coresident)

and  $X$  is a vector of covariates:

- ▶ age dummies, sex dummies, and their interactions
- ▶ local municipality and geotype dummies

Cluster standard errors at the household level.

# Identifying Assumptions

What do we need to believe in order to give  $\hat{\beta}$  a causal interpretation?

Everyone's parent will die at some point.

So we are assuming that - conditional on (age, sex, municipality) - the timing of your parent's death is unrelated to idiosyncratic variation in potential outcomes.

What does that mean?

## Identifying Assumptions, Part 2

Suppose we are talking about  $Y = \text{wages}$ . There is only one time period.

$W_0 = \text{wages if parents alive}$

$W_1 = \text{wages if parents dead}$

OLS is a good idea if  $(W_0, W_1) \perp\!\!\!\perp D|X$ , and a bad idea otherwise.

## Identifying Assumptions, Part 3

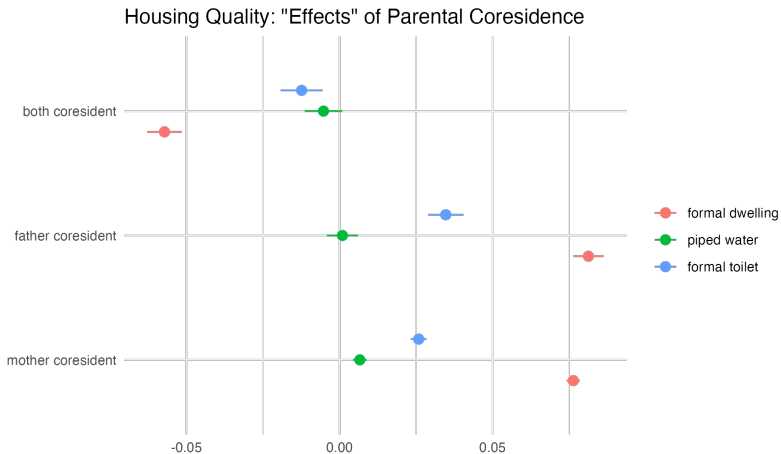
Is it plausible that parental mortality varies across families in a way that is correlated with potential wages and is not fully accounted for by  $X = (\text{child's age, child's sex, municipality})$ ? Some concerns would be

- ▶ heritable aspects of human capital could affect both parents' health and child's potential wages
- ▶ fine geographic sorting into different local labour markets that also affect mortality (think pollution or crime)

We cannot rule these concerns out but we highlight them as potential limits to the interpretation of our estimates.

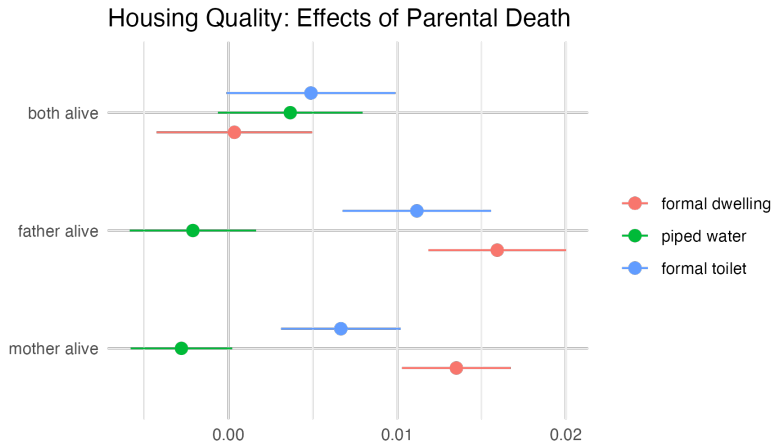
Results: Coresidence vs Death

# Coresidence vs Death: Housing Quality



Data source: Community Survey 2016. Covariates: age, sex, local municipality, geotype.

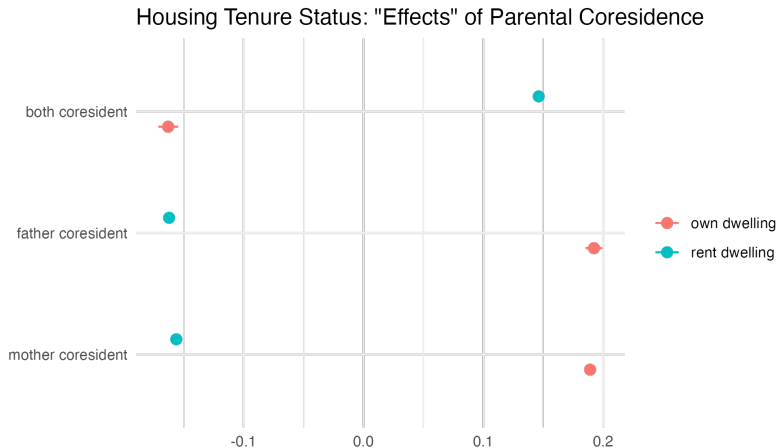
# Coresidence vs Death: Housing Quality



Data source: Community Survey 2016. Covariates: age, sex, local municipality, geotype.

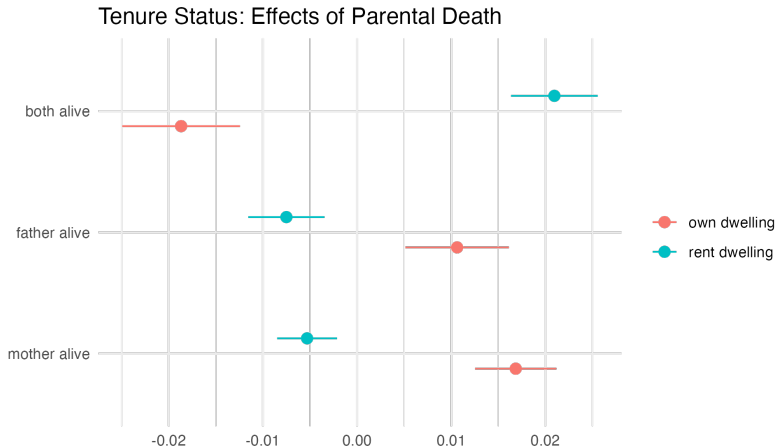


# Coresidence vs Death: Housing Tenure



Data source: Community Survey 2016. Covariates: age, sex, local municipality, geotype.

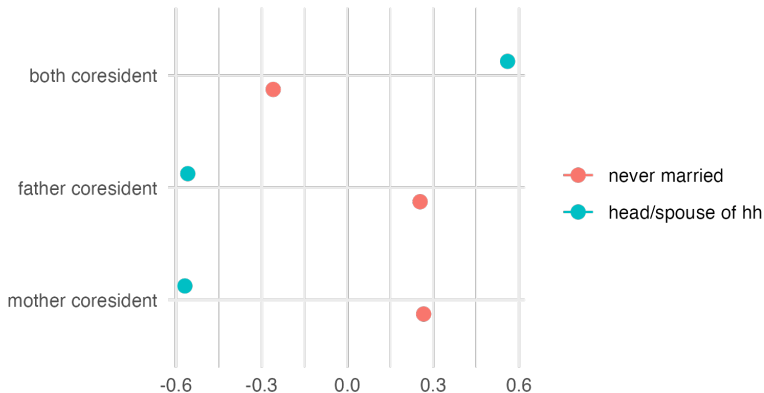
# Coresidence vs Death: Housing Tenure



Data source: Community Survey 2016. Covariates: age, sex, local municipality, geotype.

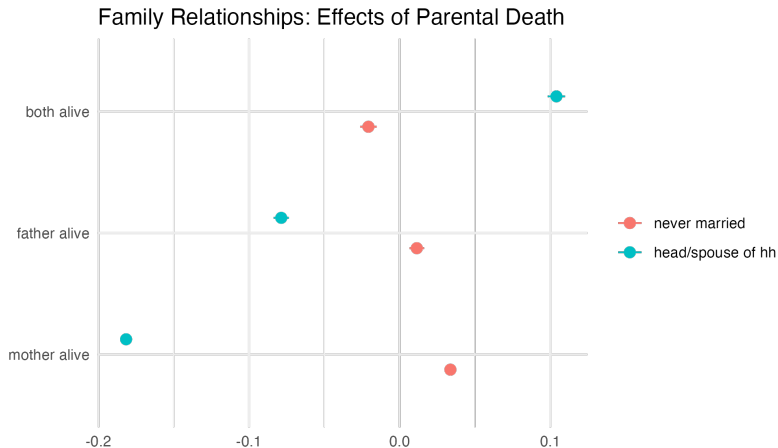
# Coresidence vs Death: Family Relationships

## Family Relationships: "Effects" of Parental Coresidence



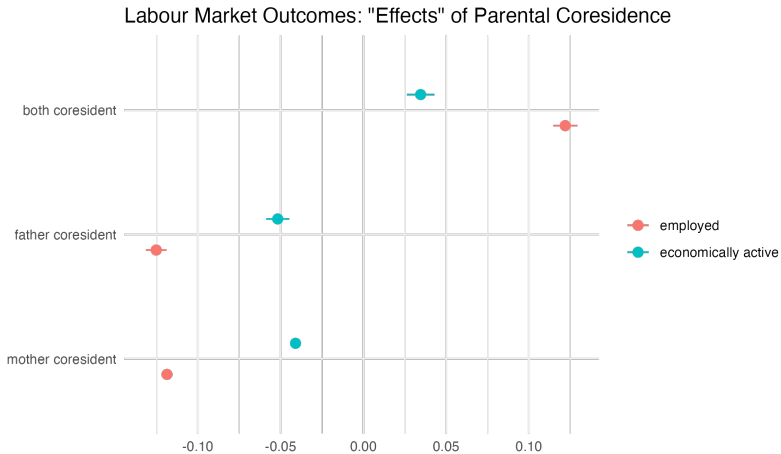
Data source: Community Survey 2016. Covariates: age, sex, local municipality, geotype.

# Coresidence vs Death: Family Relationships



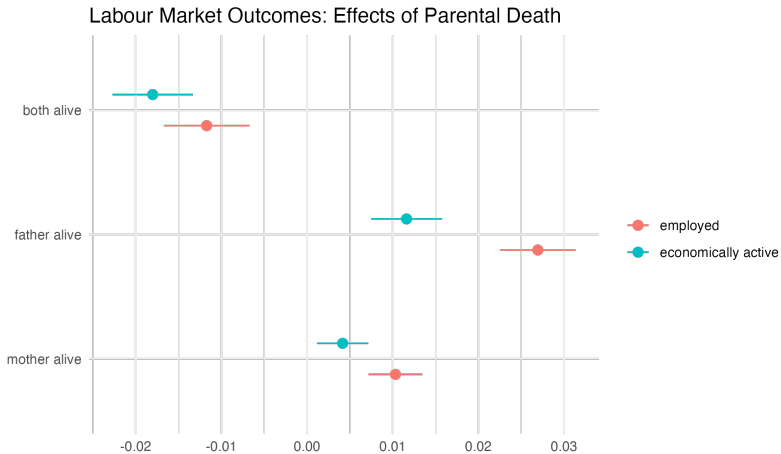
Data source: Community Survey 2016. Covariates: age, sex, local municipality, geotype.

# Coresidence vs Death: Labour Market Outcomes



Data source: Census 2011. Covariates: age, sex, local municipality, geotype.

# Coresidence vs Death: Labour Market Outcomes



Data source: Census 2011. Covariates: age, sex, local municipality, geotype.

## Results: Dynamics

# Health and Predictability

Perhaps a “sudden” death is different to one preceded by a long illness.

One way to formalize this is to expand the set of “treatment” states: healthy, sick, dead. Then one might ask if the effect of having a sick or disabled parent is similar to parental death.

We observe some aspects of parents’ health, but only *conditional on coresidence*.

Instead we can use the fact that the CS2016 includes a question on the timing of parental death.



## “Dynamic” Specification

Now we are going to estimate

$$Y = \sum_{t=0}^T \beta_t D_t + \gamma X + \varepsilon$$

where  $D_t$  is a dummy for your parent having died  $t$  years ago.

Obviously, those with living parents do not appear here (their  $t$  is missing, although we know  $t < 0$ ).

We truncate our sample to deaths within the previous 10 years.

## Identifying Assumptions, Part 4

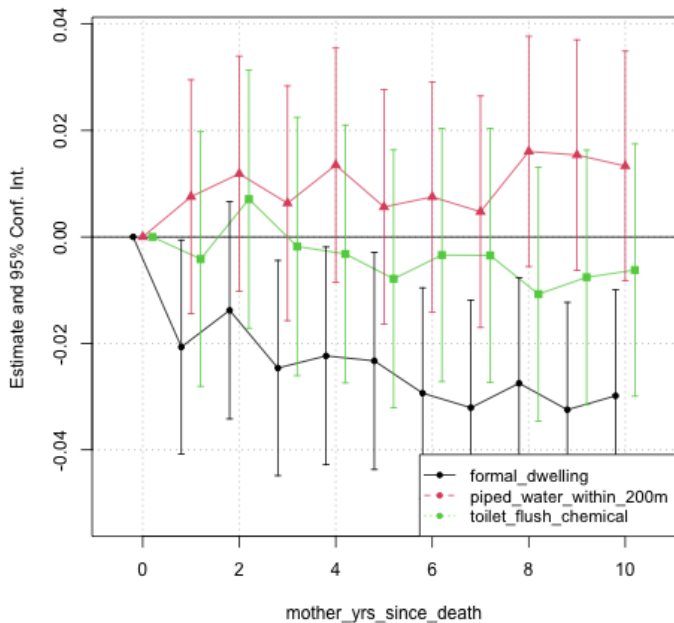
The CS2016 is a single cross-section so by controlling for age we are sweeping “period” or “cohort” effects into the constant.

This is an “intensive margin”: we have to interpret  $\beta_t$  as effects relative to some period (we choose  $t = 0$ ).

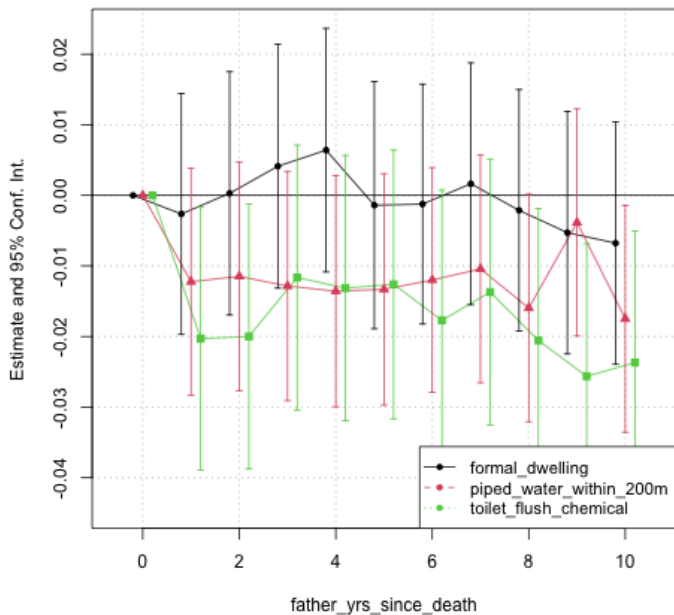
Again, conditional on child’s age in 2016, we are free to interpret these coefficients as the effects of

- ▶ child’s age at parental death (“life-cycle”), OR
- ▶ time since parental death (“dynamic treatment effects”)

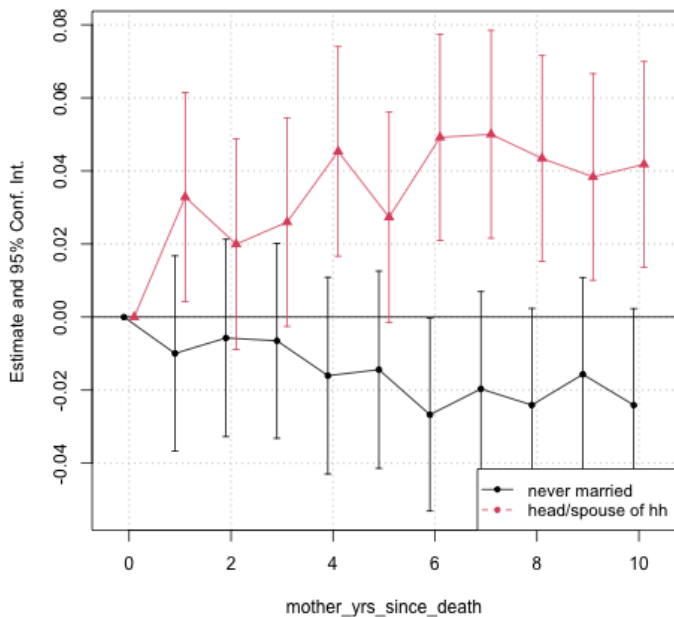
## Housing Quality: Time Since Mother's Death



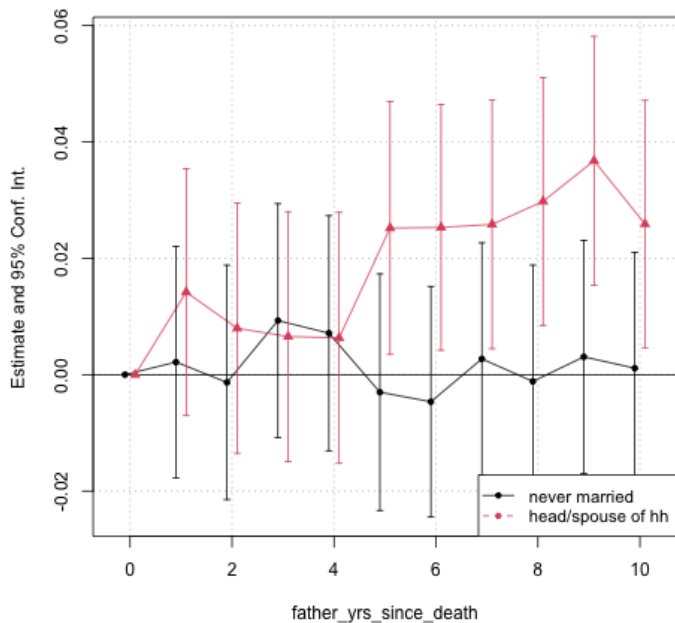
## Housing Quality: Time Since Father's Death



## Family Relationships: Time Since Mother's Death



## Family Relationships: Time Since Father's Death



## Summary: Estimates of “Dynamics”

Mostly, we are pushing the data harder than we should here.

In most cases we cannot reject  $\beta_t = 0$  for all  $t$  - that all the effects of a death occur at once, when  $t = 0$ .

It does seem that “headship” drifts up over time for both maternal and paternal deaths.

One (speculative) story might be:

- ▶ people move in with other relatives initially
- ▶ but, the relationship is not as harmonious as with a parent
- ▶ eventually the person moves out on their own.

## References

- Ardington, Cally, Till Bärnighausen, Anne Case, and Alicia Menendez. 2014. "The Economic Consequences of AIDS Mortality in South Africa." *Journal of Development Economics* 111 (November): 48–60.  
<https://doi.org/10.1016/j.jdeveco.2014.08.001>.
- Ardington, Cally, Anne Case, and Victoria Hosegood. 2009. "Labor Supply Responses to Large Social Transfers: Longitudinal Evidence from South Africa." *American Economic Journal: Applied Economics* 1 (1): 22–48.  
<https://doi.org/10.1257/app.1.1.22>.
- Branson, Nicola, and Martin Wittenberg. 2014. "Re-Weighting South African National Household Survey Data to Create a Consistent Series over Time: A Cross Entropy Estimation Approach." *South African Journal of Economics* 82 (1): 19–38.  
<https://doi.org/10.1111/saje.12017>.
- Case, Anne, and Cally Ardington. 2006. "The Impact of Parental Death on School Outcomes: Longitudinal Evidence from South Africa." *Demography* 43 (3): 401–20.  
<https://doi.org/10.1353/dem.2006.0022>