

Single Again?

Asset and portfolio changes due to shock

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Motivation

- 1 Increasing number of households of women living alone
 - Increasing number of years women live alone
 - Elderly well-being will increasingly depend on private assets
- 2 Potential impacts
 - Increasing number of households in poverty—particularly older ladies
 - ▶ Poverty rates
 - Elderly people not being able to manage their finances (e.g. victims of fraud, low financial literacy)

Research Question

- What are the asset trajectories of single people?
- Are there differences between women and men?
- Are the asset trajectories similar for all wealth components?

Research Design

- Most single women and men have been either divorced/separated or widowed
- Difficult to focus on single-never married people
- Focus on couples that have experienced a shock and household size has diminished
 - Going from two person decision making to one is likely to influence accumulation and portfolio decisions
 - As a result of the shock the survivor has to manage wealth
 - S/he will do so according to her/his preferences

Background (1): Wealth Accumulation

How is wealth accumulated/decumulated? How does that work?

- Assets accumulate over time according to the "usual" rule:
- $A_t = (1 + r_t)A_{t-1} + y_t - c_t$
- $A_t = (1 + r_t)A_{t-1} + s_t$ ▶ Life-cycle

r is interest rate, A is asset, y income and c consumption

What determines the accumulation pace?

- Saving and dissaving decisions are made at the household level
- The unit of analysis and decision-making is the household
Traditionally, a household has been considered to be made of one (working) person

Background (2): Household Level Decision

- How much to consume and save is determined at the household level
- A household is composed by one or more individuals
- How are different preferences reflected within a couple?
 - Browning(2000) & Mazzocco (2004) highlight that saving decisions are the result of bargaining power within the couple
- Women and men tend to differ in their patience and preferences in general. Is it shown in the accumulation decisions too?
 - When the husband decides, more prevalence of risky asset (Bertocchi, Brunetti and Torricelli, 2012; Grabka, Marcus and Sierminska 2013)

Background (3): Household Level Decision

- Love (2008) marital status transitions have an effect on stock shares. For example, when there is a transition to widowhood there is a sharp adjustment against stock shares, but the effects are larger for women and individuals with children.
- Friedberg and Webb (2006) wealth levels reflect the life-cycle horizon of the person with more bargaining power (men in charge: households with older husbands have significantly higher wealth and those with older wives lower wealth; wives are in charge: results are reversed)

Thus, if the woman in the couple is more inclined to save than her partner, the higher her bargaining power, the more the couple will save to reflect her preferences

Research Question

- When a household shrinks due to a shocks, such as widowhood, do asset trajectories change accordingly?
- what happens at widowhood to the accumulation pattern?
At widowhood the survivor has to manage wealth and its de/accumulation patterns
- does the new pattern systematically differ?
- Which assets are affected?

Empirical Challenges

1 Data & Measurement

- Data over-time of couple wealth holdings
- information on both spouses
- information on different assets
- big enough sample to capture the event

This paper

1 Approach

- Use several waves of data to trace out the wealth trajectories
- Consider the decision-making in the household prior and after the event
- Analyze whether the effect differs for women and men
- Show which assets are affected

2 Advantages of our paper

- data: unbalanced panel of total wealth and its components
- data: 2558 couples that experienced widowhood; more than 15 000 observations
- research design: exogenous shock.

Data: Health and Retirement Survey (HRS)

- longitudinal panel study that surveys a representative sample of more than 26,000 Americans over the age of 50 every two years since 1992
- information about income, work, assets, pension plans, health insurance, disability, physical health and cognitive functioning, and health care expenditures
- collected at the household level
- 10 waves of data (1992-2010)

Data: Health and Retirement Survey (HRS) - Variables

- we distinguish: $t < 0$ (prior to shock) $t = 0$ (time of shock), $t > 0$ (after shock)
- first shock can occur between 1st and 2nd wave
- last shock could occur between 8th and 9th wave [▶ Table 1](#)
- wealth and its components
- rich set of explanatory variables: time since shock, have children (inheritances), health insurance, bargaining power [▶ Table 2](#)

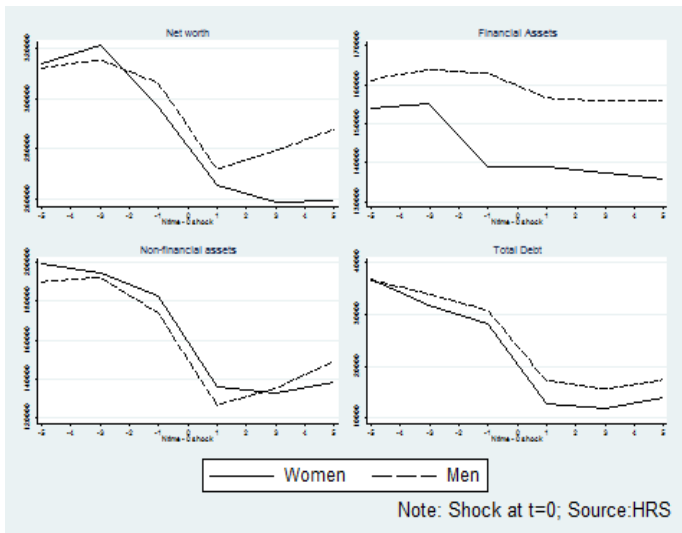
Net Wealth=Financial Assets+Non-financial Assets-Debt

Non-financial Assets=Primary Residence+Investment Real Estate

Table: Means before and after widowhood.

	Before	After	Total
Net Wealth	335475	265374	300696
Financial Assets	167086	143341	155306
Non Financial Assets	201593	133019	167572
Debts	33205	10987	22182
Value of primary residence	142394	121217	131887
Value of investment real estate	59199	11803	35685
Home Ownership	90	73	82

Asset and its component before and after shock I



Comments

- Net wealth declines after the shock
- Gradient over time seems different for women and men
- Decline not homogeneous across types of wealth
- Non Financial Asset seems to be more affected by the shock
- Total debt declines

Empirical specification I

- We use a fixed effect strategy and estimate the following equation (with interaction terms)

$$wealth = \alpha + \beta widow + \theta bargain + \sigma child + \mu X + \varepsilon \quad (1)$$

- bargain: bargaining power (and bargain squared) is included
- bargain is calculated as the ratio of wife's income and hh income
- widow ==1 once widowhood occurs
- We include: financial respondent, age, age2, income, LMS, health vars
- equation is estimated for total net wealth and for each component

Empirical specification II

- To check if the shock persists over time, we add a set of dummy variables for each year after the shock occurred:

$$wealth = \alpha + \gamma time - since - wid + \theta bargain + \sigma child + \mu X + \varepsilon \quad (2)$$

- equation is estimated for total net wealth and for each component

Regression Results. Total net wealth

	(1)	(2)	(3)	(4)	(5)
widow	-29944.74**	-54678.40***	-19310.77		
female*wid	15687.51	35784.77*	31097.37		
children	47396.41	42243.85	39986.00	47040.70	48163.48
child*wid	5892.98	11111.37	8718.61	-24257.01	-24087.78
child*female*widow	4196.36	-91.62	38.77	36813.12	29765.27
age	57627.52***	61690.83***	38840.64***	38416.82***	38665.25***
age sq	-369.64***	-394.29***	-255.90***	-238.46***	-236.46***
age*female	-16359.67	-18154.76*	-12086.95	-12183.05	-11238.71
age sq*female	80.10	91.26	54.16	50.75	53.58
bargaining		-135552.31***	-186529.85***	-146989.67***	-143114.82***
bargaining sq		113031.19**	173685.12***	102157.10*	96348.01*
financial switch			-33872.67	-42056.26	-41969.10
year 1 after shock				15717.09	12184.57
year 3 after shock				-20944.93	-25724.96
year 4 after shock				-17701.86	-23467.60
year 7 after shock				-15799.46	-22596.29
year 1 after shock *female				36431.56	31899.16
year 3 after shock*female				75631.47***	61609.45**
year 4 after shock*female				67984.00**	51167.26
year 7 after shock*female				62283.12*	42663.72
year 1 before shock					-7333.47
year 1 before shock *female					-18805.11
health insurance	No	No	Yes	Yes	Yes
r2	0.05	0.05	0.06	0.06	0.06

Note: Fixed Effects, N=17740. Other regressors: education, health status

Research Strategy: Asset and its components

- Does widowhood affect smoothly all component of wealth?
- Do households first react by changing their financial wealth and later their housing wealth?
- Does gender shape the pattern differently and mostly which type of asset?

Regression Results. Financial, Non financial Wealth and Total Debt

	Financial Asset	Non Financial Asset	Total Debt
widow	-9137.75	-9439.61	3106.83
female*wid	20577.18	16278.64	-114.50
children	10973.80	37681.01**	8225.19*
child*wid	4859.85	2909.55	1740.15
child*female*widow	-10405.58	4682.71	-2355.21
age	5905.30	52021.25***	12673.79***
age sq	-46.12	-272.23***	-68.05***
age*female	-10095.78	-5173.00	-3160.66**
age sq*female	56.04	15.29	16.03*
bargaining	-189394.89***	-342.53	10448.67*
bargaining sq	180452.19***	-6667.78	-10700.85*
financial switch	57154.79	-71709.69*	13040.16
health insurance	Yes	Yes	Yes
r2	0.04	0.33	0.48

Note: Fixed Effects, N=17471. Other regressors: education, health status

Regression Results. Home Ownership, Principal Residence, Investment Real Estate

	Home Ownership	Principal Residence	Investment Real Estate
widow	-0.05**	-14129.44*	5534.19
female*wid	0.03	17484.94*	-2185.22
children	0.09**	14887.87	23133.62**
child*wid	0.02	3426.18	-319.88
child*female*widow	0.02	5214.57	109.85
age	0.09***	11961.63***	34420.39***
age sq	-0.00***	-76.48***	-179.66***
age*female	0.01	4684.22	-8083.13***
age sq*female	-0.00	-39.37	41.70**
bargaining	0.15***	-15026.01	16789.99
bargaining sq	-0.17***	3481.78	-11521.36
financial switch	0.14	-32728.93	-11752.15
health insurance	Yes	Yes	Yes
r2	0.14	0.02	0.60

Note: Fixed Effects, N=17471. Other regressors: education, health status

Regression Results. Financial, Non financial Wealth and Total Debt

	FA(1)	FA(2)	NFA(1)	NFA(2)	TD(1)	TD(2)
children	14445.06	14885.31	39482.16**	40059.23**	8210.10*	8274.58*
child*wid	-10293.89	-10315.96	1534.64	1813.02	-2704.84	-2771.58
child*female*widow	17450.63	14029.98	1057.05	-3531.16	4645.56	4370.85
age	5857.13	5858.95	51552.57***	51822.01***	12421.84***	12384.20***
age sq	-33.28	-33.14	-270.58***	-267.73***	-66.24***	-66.85***
age*female	-10100.74	-9657.83	-5072.98	-4619.40	-2715.10*	-2633.85*
age sq*female	43.75	46.07	21.12	20.92	10.38	11.25
bargaining	-176693***	-175215***	24164.92	26332.95	15694**	15832**
bargaining sq	146487***	144106***	-38500.99	-41694.13	-19242**	-19447***
financial switch	54252.88	54175.88	-76552.98*	-76825.25*	12092.70	12215.48
year 1 after shock	-4544.46	-4831.37	3464.42	-2839.89	7324.75	8787.47
year 3 after shock	-22299.55	-22853.24	3274.98	-4416.71	2627.14	4318.31
year 4 after shock	-27068.79	-27758.97	10139.59	1061.91	2607.60	4578.07
year 7 after shock	-27308.24	-28145.57	9480.69	-1042.68	833.28	3093.99
year 1 after shock *female	27265.99	23570.78	25076.24	26798.46	-770.14	-2574.84
year 3 after shock*female	59018.38***	50510.04**	17342.96	13796.80	4543.22	1985.14
year 4 after shock*female	60313.05**	50192.13*	12080.32	7711.39	8250.49*	5245.02
year 7 after shock*female	66946.31**	55163.54*	3259.23	-1908.10	11354.04**	7886.23
year 1 before shock		-1099.32		-10529.14		2130.81
year 1 before shock *female		-11198.75		-4793.27		-3309.41
health insurance	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.04	0.04	0.33	0.33	0.48	0.48

Note: Fixed Effects, N=17471. Other regressors: education, health status

Regression Results. Home Ownership, Principal Residence, Investment Real Estate

	Own (1)	Own (1)	PR(1)	PR(2)	IR(1)	IR(2)
children	0.10**	0.10**	17551.75	17685.41	22336.54**	22650.69**
child*wid	0.04	0.04	5131.05	5076.50	-6069.19	-5985.85
child*female*widow	-0.05	-0.06	-4801.22	-6521.61	10233.37	7901.46
age	0.09***	0.09***	12296.56***	12416.98***	33669.57***	33769.03**
age sq	-0.00***	-0.00***	-76.17***	-74.21***	-179.26***	-178.35**
age*female	0.01	0.01	4067.16	4193.29	-7369.05**	-7100.82**
age sq*female	-0.00	-0.00	-31.16	-31.95	38.40*	38.91*
bargaining	0.13**	0.14**	-4524.83	-3796.66	28660.00**	29768.20**
bargaining sq	-0.14**	-0.14**	-12667.65	-13897.79	-24062.19*	-25694.98*
financial switch	0.15	0.15	-37246.88	-37470.95	-12696.43	-12737.86
year 1 after shock	-0.07	-0.09	-11917.03	-16460.66	18084.48	16163.13
year 3 after shock	-0.05*	-0.07**	-10238.28	-15785.74*	13218.86**	10809.54*
year 4 after shock	-0.03	-0.06*	-5753.00	-12240.72	16703.27***	13842.07*
year 7 after shock	-0.08**	-0.11***	-6730.36	-14211.52	17272.55**	13939.26*
year 1 after shock *female	0.08	0.10	32008.09*	34420.78*	-12417.45	-12872.05
year 3 after shock*female	0.01	0.03	20992.47*	21766.87*	-4441.19	-7878.67
year 4 after shock*female	-0.02	-0.00	15465.90	16253.72	-4410.53	-8543.72
year 7 after shock*female	0.01	0.03	8247.39	9072.33	-5270.31	-10098.24
year 1 before shock		-0.03*		-7176.78		-3426.54
year 1 before shock *female		0.02		678.52		-4543.01
health insurance	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.14	0.15	0.03	0.03	0.60	0.60

Note: Fixed Effects, N=17471. Other regressors: education, health status

Summary I

Overall:

- Wealth decline differs across types of wealth
- Gender of survivor differently shapes the changes
- Financial assets increase for women over time
- Overall, non-financial assets not affected
- Total debt significantly increases for women only

Summary II

Non-financial assets in more details:

- Homeownership declines after the shock (men)
- Principal Residence significantly increases for women soon after the shock
- Investment real estate increases after the shock (men)

Bargaining power:

- Bargaining power does usually matter in asset trajectories.
- the higher the income of female spouse the higher the financial assets
- the higher the income of female spouse the lower the investment real estate and debt. (the relationships hold for value of BP bigger than 0.5)

Summary III

Health insurance:

With health insurance similar results, but effects are not immediate (cancels out (+) effect at first (-) with time)

- financial assets increase for women only
- later on increase in debt for women only
- robust ownership decline
- housing value robust for women
- bargaining power results robust for financial assets, debt and net wealth
- housing decision is made jointly

Results-supplements

- robustness (random control) ▶ Random
- race ▶ Race
- wealth before ▶ Own
- health insurance

Conclusions

- Net Wealth decline differs across types of wealth
- Gender of survivor differently shapes the changes
- Robust effect on housing
- Principal Residence declines less for women than men (ownership falls)
- Total debt significantly increases for women only and is delayed
- Bargaining power does usually matter in asset trajectories (except main residence).

Significance of results

Given an increasing number of people living alone (particularly women), we examine how asset trajectories change if people are left alone to manage their finances.

Findings indicate that there are differences among women and men.

Women accumulate more compared to men after the event (financial assets). Principal residence: men are more likely to sell and invest in other real estate. Women do not sell their home and the PR value increases after the event.

Older women and men have different preferences when it comes to savings and decumulation.

Thank you for your attention
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Table: Poverty rates

	Elderly	2004	2007	2010	All	2004	2007	2010
Germany		16,0	18,6	20,2		14,3	14,8	16,4
Italy		21,6	19,8	16,6		20,3	19,7	19,1
United States		34,7	33,4	29,2		24,0	24,4	24,7

Source: LIS Key Figures

Appendix

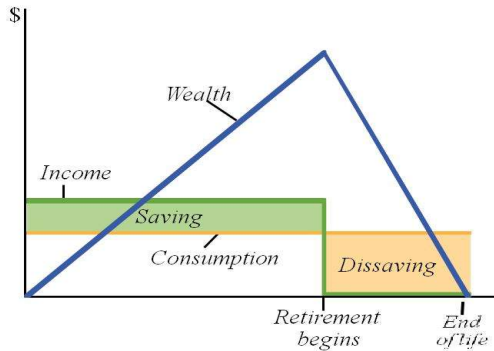
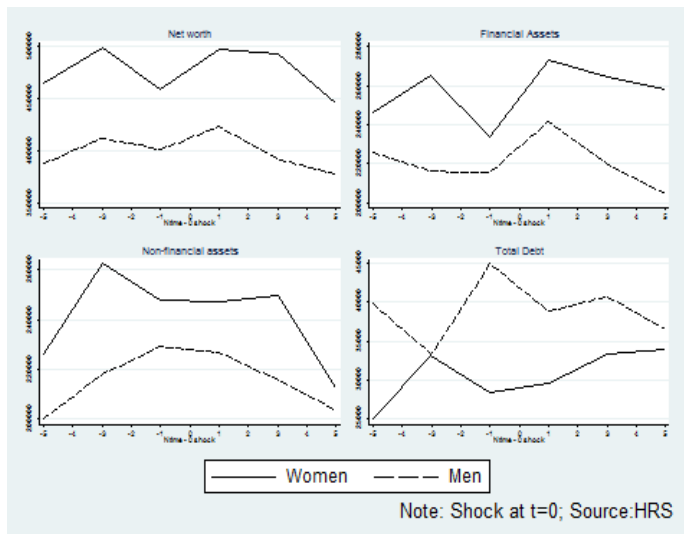


Table: Number of observations, by wave and year of survey

wave	Year	Number of couples	Number of deaths by next wave	
1	1992	245	29	12
2	1994	1 873	334	18
3	1996	2 070	391	19
4	1998	2 461	412	17
5	2000	2 490	375	15
6	2002	2 436	316	13
7	2004	2 333	347	15
8	2006	2 205	324	15
9	2008	1 989	357	18
10	2010	1 661		
Total		19 763	2 885	15

Asset and its component before and after shock I (random control)



Appendix

	Before			After		
	Men	Women	Total	Men	Women	Total
Shock at t	0.00	0.00	0.00	0.80	0.76	0.78
hhrisk	3.32	3.34	3.33	3.30	2.97	3.13
bar_inc	0.22	0.27	0.25	0.00	1.00	0.53
age	65.69	64.66	65.08	66.47	64.65	65.50
age_shock	72.44	70.54	71.31	65.07	63.18	64.06
fswitch	0.43	0.64	0.56	0.40	0.35	0.38
lifeins	0.00	0.00	0.00	0.53	0.59	0.56
ltins_d	0.05	0.04	0.05	0.00	0.00	0.00
ltins_r	0.06	0.07	0.06	0.07	0.24	0.16
govins_d	0.37	0.64	0.53	0.00	0.00	0.00
govins_r	0.49	0.40	0.44	0.73	0.47	0.59
hins_d	0.57	0.56	0.56	0.00	0.00	0.00
hins_r	0.56	0.59	0.58	0.67	0.65	0.66
othins_d	0.21	0.25	0.23	0.00	0.00	0.00
othins_r	0.26	0.25	0.25	0.07	0.12	0.09
_lny	10.38	10.33	10.35	10.43	10.17	10.29
rworking	0.36	0.25	0.29	0.20	0.29	0.25
runemployed	0.01	0.01	0.01	0.00	0.00	0.00
rsomecolle	0.17	0.20	0.18	0.20	0.24	0.22
rcollabove	0.13	0.11	0.12	0.20	0.29	0.25
rcatholic	0.24	0.30	0.28	0.13	0.41	0.28
rprotestant	0.68	0.65	0.66	0.60	0.59	0.59
rjewish	0.02	0.02	0.02	0.07	0.00	0.03
rgoodhealth	0.75	0.81	0.79	0.80	0.71	0.75
rbetter	0.08	0.07	0.07	0.00	0.00	0.00
rworse	0.16	0.13	0.14	0.33	0.35	0.34

- do not find any race specific effects for net worth of blacks and Hispanics
- results in line with overall results
- Immediate effect among Hispanics is more negative for women
- for white and black women widowhood is less of a shock than for men

Appendix

	Men	Women	Total
Widowhood shock at time t	0.04	0.03	0.03
hhrisk	3.32	3.33	3.32
bar_inc	0.21	0.30	0.26
age	65.73	64.66	65.09
age_shock	72.08	70.26	71.00
fswitch	0.43	0.63	0.55
lifeins	0.03	0.02	0.02
ltins_d	0.05	0.04	0.05
ltins_r	0.06	0.07	0.07
govins_d	0.35	0.62	0.51
govins_r	0.50	0.40	0.44
hins_d	0.54	0.54	0.54
hins_r	0.56	0.59	0.58
othins_d	0.20	0.24	0.22
othins_r	0.25	0.25	0.25

Appendix

	Men	Women	Total
Net Total Wealth (without be)	235952.32	245648.72	241716.00
Total Financial Assets	116889.83	124208.79	121240.33
Total Non Financial Assets (without be)	143360.01	147120.88	145595.53
Total Debts	24297.53	25680.95	25119.86
Value of primary residence	122449.18	126877.05	125081.17
Value of secondary residence	20910.83	20243.83	20514.35
hous	88.85	89.26	89.10

Appendix

	Men	Women	Total
.lny	10.38	10.32	10.35
rworking	0.35	0.25	0.29
runemployed	0.01	0.01	0.01
rsomecolle	0.17	0.20	0.18
rcollabove	0.14	0.12	0.13
rcatholic	0.24	0.31	0.28
rprotestant	0.68	0.65	0.66
rjewish	0.02	0.02	0.02
rgoodhealth	0.75	0.81	0.78
rbetter	0.07	0.06	0.07
rworse	0.17	0.14	0.15