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ERES 2015

The Trade-Off between Housing and Pensions in the Household Portfolio of the Eldery

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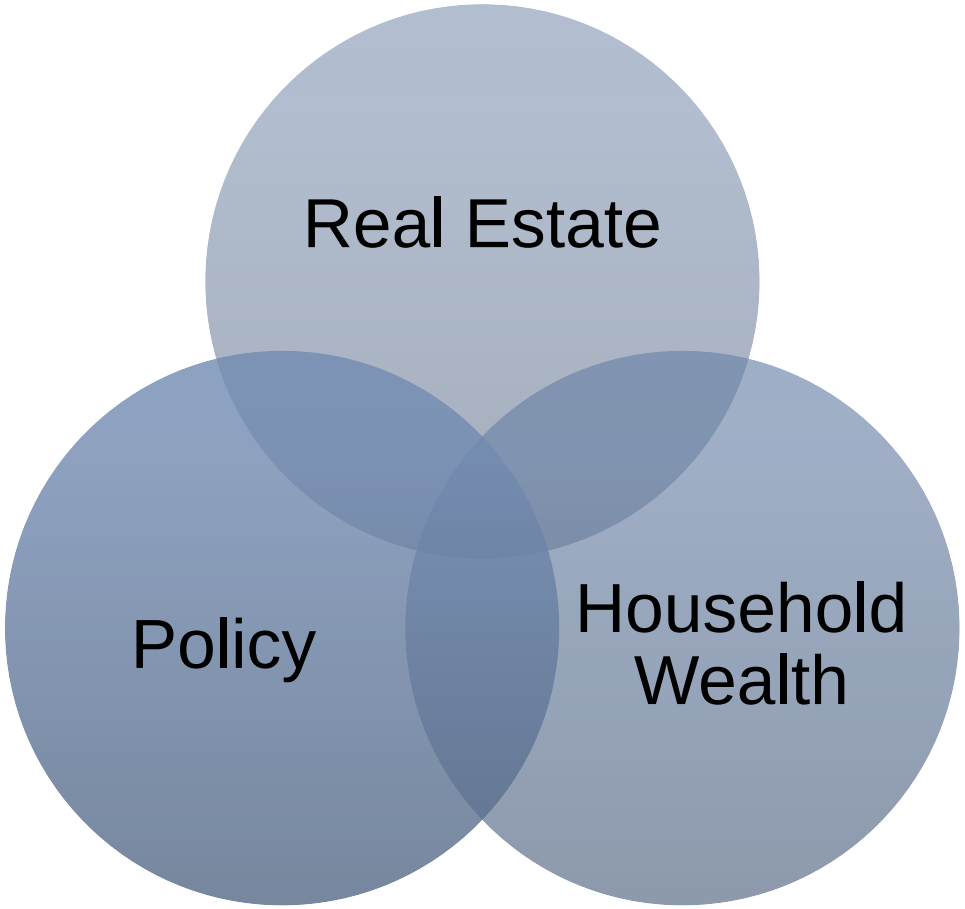
Inspiring Personalities.

Field of Science



Motivation

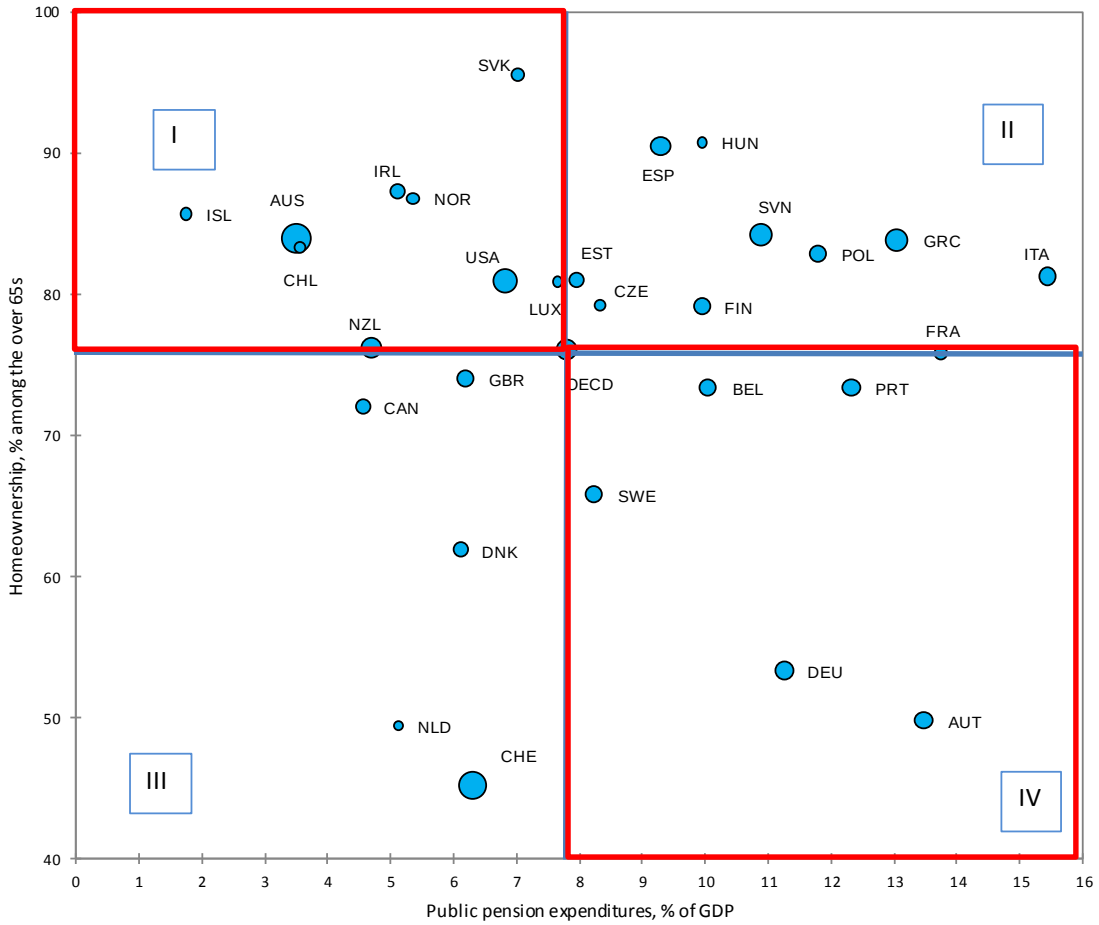
“Home ownership is the way it redistributes income within the life cycle of households from youth to old age.” Kemeny (2005)

Hypotheses:

Low retirement pensions and poor public welfare provision for the elderly force them to make provisions for their old age. They buy into home ownership in the expectation of having low housing costs in the old age to eke out the public pension.

→ There is a negative relationship between home ownership / housing value and public pension.

Homeownership and Pension Expenditure



Source: OECD – Pensions at a Glance 2013

Inspiring Personalities.

Existing Literature

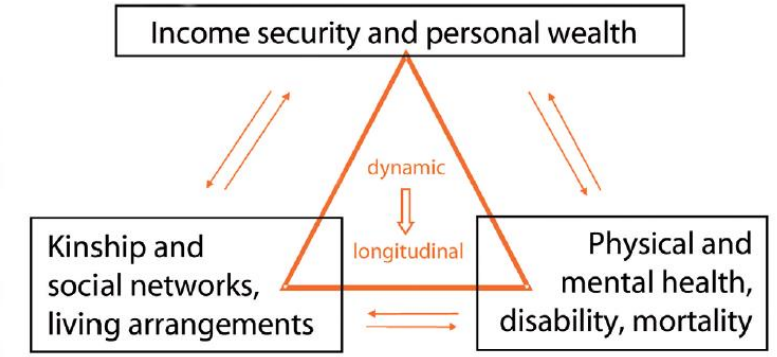
“Home ownership is the way it redistributes income within the life cycle of households from youth to old age.” Kemeny (2005)

„A weak welfare state providing an incentive to home ownership as a means of life cycle saving or a well developed state tax crowding out the possibility of saving for private home ownership.“ Castles (1998)

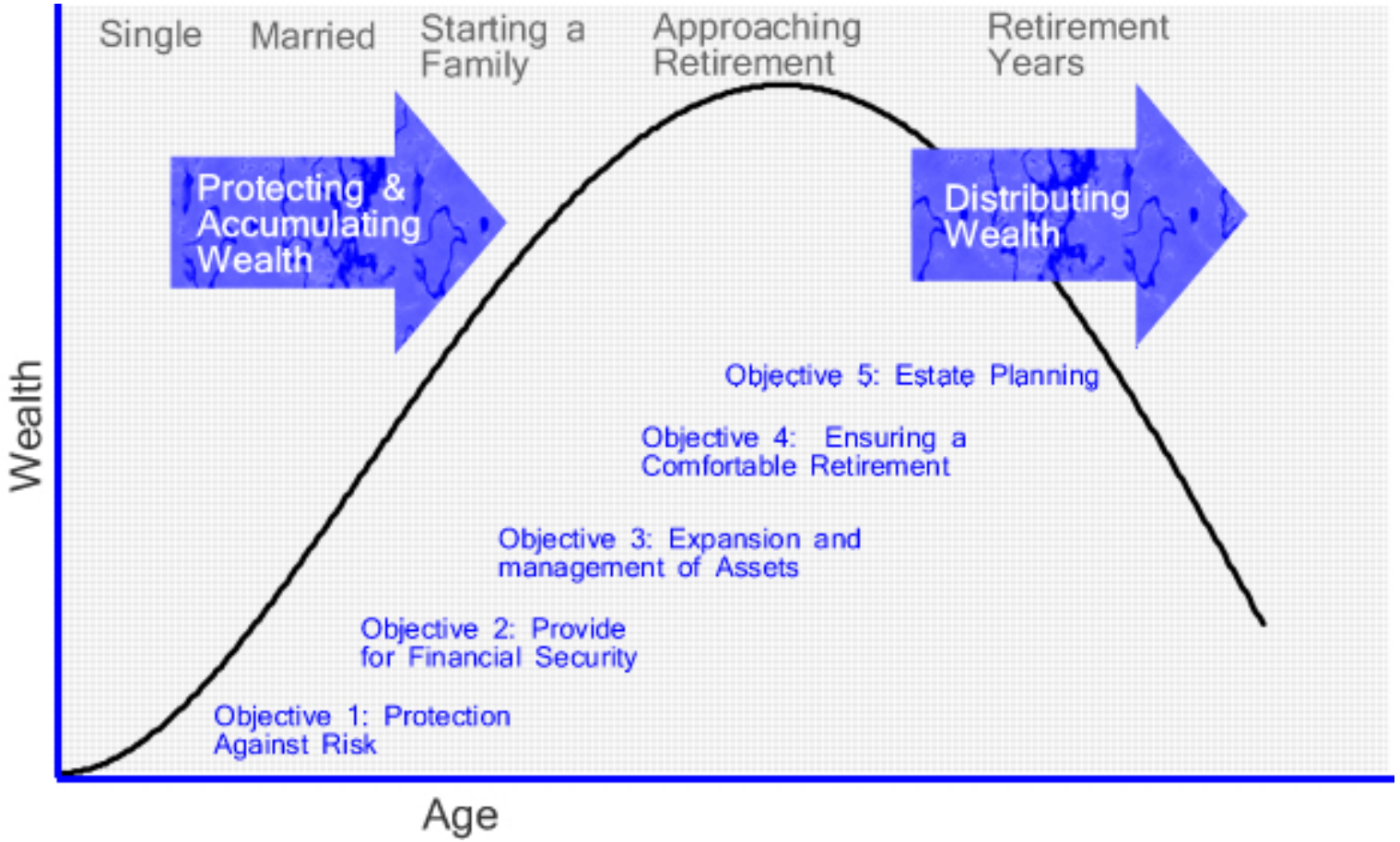
„Developments in housing markets seemingly leading to subsequent adjustments in public spending on older people.“ Doling&Horsewood (2011)

SHARE – Survey of Health, Ageing and Retirement in Europe

- Multidisciplinary and cross-national panel database of micro data on health, socioeconomic status and social and family networks of
- More than 60.000 individuals aged 50 or over
- Consisting of 5 waves: 2004, 2006/7, 2008/9, 2011, 2015



Wealth-Age-Distribution



Household Wealth Model

Household Utility Function

$$U(C_t) = \frac{C_t^{1-\rho}}{1-\rho} \qquad \max_{C_t} \int_0^T \frac{C_t^{1-\rho}}{1-\rho} e^{-\delta t} \mathrm{d}x$$

Budget Constraint

$$\int_R^T B_t e^{-rt} \mathrm{d}t + \int_0^R E_t e^{-rt} \mathrm{d}t = \int_0^T C_t e^{-rt} \mathrm{d}t$$

$$W_A = (1-Q) \int_0^A E_t e^{r(A-t)} \mathrm{d}t - Q \int_R^T B_t e^{r(A-t)} \mathrm{d}t - Q \int_A^R E_t e^{r(A-t)} \mathrm{d}t$$

Wealth Model Literature

Author	Data / Methodology	Results
William G. Gale – The Effects of Pensions on Household Wealth: A Revaluation of Theory and Evidence	1983 Survey of Consumer Finances (SCF) on U.S. households / least absolute deviation with substitutes for lifetime income	Trade-Off between pensions and other wealth
Rob Alessie, Viola Angelini, Peter van Santen – Pension Wealth and Household Saving in Europe: Evidence from SHARELIFE	SHARE wave 2 + SHARELIFE / Robust and median regression	Trade-Off between pensions and other wealth
Gary V. Engelhardt – Pensions and Household Wealth Accumulation	1992 Health and Retirement Study (HRS) on U.S. households / Instrumental variable approach	Trade-Off between pensions and other wealth

Sample Characteristics

Country	Housing W.	Pension W.	Lifetime Earn.	Future Earn.	Couple	Children	Inheritance	Education
Austria	.3642212	.5855355	1.367033	.0218408	.6666667	.8	.0666667	7.311111
	45	45	45	45	45	45	45	45
Germany	.3652411	.5224801	1.796344	.0697692	.8402367	.8639053	.0710059	13.74556
	169	169	169	169	169	169	169	169
Sweden	.32599	.529026	2.503357	.0563464	.73125	.8625	.15	11.425
	160	160	160	160	160	160	160	160
Netherlands	.3442717	.8072495	.8075139	.2985362	.5	1	0	10
	2	2	2	2	2	2	2	2
Spain	.4316885	.4567803	1.789881	.0124394	.8793103	.9310345	.1034483	6.396552
	58	58	58	58	58	58	58	58
Italy	.4179767	.4882335	1.704333	.048013	.8458781	.8315412	.0537634	8.175627
	279	279	279	279	279	279	279	279
France	.3431685	.5274157	2.553217	.059669	.6567164	.858209	.1119403	13.09701
	134	134	134	134	134	134	134	134
Denmark	.398275	.5059456	2.413904	.1129603	.736	.828	.112	8.876
	250	250	250	250	250	250	250	250
Switzerland	.4165401	.5070128	2.783341	.1246751	.8314607	.7865169	.1910112	10.8427
	89	89	89	89	89	89	89	89
Belgium	.3313909	.51722	2.178564	.0348671	.7697368	.8157895	.1907895	13.15132
	152	152	152	152	152	152	152	152
Czechia	.3854051	.5485301	2.617593	.0273807	.6197183	.8732394	.0492958	11.83803
	142	142	142	142	142	142	142	142
Total	.3786084	.5151421	2.191039	.0628534	.7621622	.8432432	.1054054	10.65608
	1480	1480	1480	1480	1480	1480	1480	1480

Source: Own Calculations

Regression Results (1/2)

	(1) Housing Wealth	(2) Housing Wealth	(3) Housing Wealth	(4) Housing Wealth	(5) Housing Wealth	(6) Housing Wealth
Lifetime Earnings	0.00593***	0.00562***	0.00579***	0.00575***	0.00549***	0.00540***
Future Earnings	0.0821***	0.0951***	0.0878***	0.0897***	0.100***	0.105***
Pension Wealth	-0.493***	-0.496***	-0.496***	-0.499***	-0.500***	-0.499***
Owner	0.0941***					0.104***
Austria	-0.0699	-0.0612	-0.0690	-0.0677	-0.0735	-0.0603
Germany	-0.106	-0.0925	-0.106	-0.105	-0.0940	-0.0750
Sweden	-0.119	-0.135	-0.145	-0.142	-0.139	-0.0925
Netherlands	0	0	0	0	0	0
Spain	-0.0676	-0.0518	-0.0671	-0.0654	-0.0744	-0.0519
Italy	-0.0683	-0.0540	-0.0678	-0.0670	-0.0708	-0.0502
France	-0.130	-0.122	-0.129	-0.127	-0.118	-0.106
Denmark	-0.0809	-0.0788	-0.0885	-0.0867	-0.0902	-0.0650
Switzerland	-0.0731	-0.0600	-0.0729	-0.0696	-0.0692	-0.0469
Belgium	-0.142	-0.130	-0.142	-0.138	-0.131	-0.112
Czechia	-0.0676	-0.0675	-0.0739	-0.0730	-0.0661	-0.0489
Couple		-0.0339***				-0.0451***
Children			0.000158			0.0113
Inheritance				-0.0191		-0.0196
Years of Education					-0.00271**	-0.00248**
_cons	0.619***	0.729***	0.714***	0.715***	0.741***	0.643***
N	1480	1480	1480	1480	1480	1480

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Regression Results (2/2)

	(1) Housing Wealth	(2) Housing Wealth	(3) Housing Wealth	(4) Housing Wealth	(5) Housing Wealth	(6) Housing Wealth
P_Austria	-0.456***	-0.455***	-0.450***	-0.454***	-0.466***	-0.483***
P_Germany	-0.527***	-0.516***	-0.521***	-0.525***	-0.510***	-0.517***
P_Sweden	-0.519***	-0.562***	-0.561***	-0.561***	-0.561***	-0.519***
P_Netherlands	-0.376**	-0.388**	-0.374**	-0.379**	-0.382**	-0.411**
P_Spain	-0.444***	-0.427***	-0.436***	-0.437***	-0.462***	-0.459***
P_Italy	-0.463***	-0.451***	-0.456***	-0.461***	-0.472***	-0.478***
P_France	-0.546***	-0.545***	-0.539***	-0.542***	-0.530***	-0.551***
P_Denmark	-0.445***	-0.459***	-0.457***	-0.460***	-0.470***	-0.463***
P_Switzerland	-0.430***	-0.420***	-0.424***	-0.425***	-0.429***	-0.430***
P_Belgium	-0.580***	-0.573***	-0.573***	-0.573***	-0.565***	-0.573***
P_Czechia	-0.473***	-0.485***	-0.479***	-0.484***	-0.477***	-0.485***
Lifetime Earnings	0.00542***	0.00513***	0.00531***	0.00527***	0.00507***	0.00494***
Future Earnings	0.0726**	0.0868***	0.0796***	0.0820***	0.0927***	0.0954***
Owner	0.103***					0.112***
Couple		-0.0329***				-0.0452***
Children			0.00141			0.0120
Inheritance				-0.0220		-0.0225
Years of Education					-0.00274**	-0.00246**
_cons	0.518***	0.642***	0.616***	0.620***	0.647***	0.565***
N	1480	1480	1480	1480	1480	1480

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$