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The Retirement-Savings Puzzle Revisited: The Role of Housing as a Bequeathable Asset

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Introduction

- › Contrary to what the basic life cycle model predicts, households do not significantly run down their wealth during retirement (Poterba et al., 2011 JEP; Van Ooijen et al., 2015 DE).
- › Solving the **retirement-savings puzzle (RSP)** is key to understand how individuals financially plan their retirement.
- › In this survey paper we connect the literature on the RSP with the literature on **housing equity during retirement (HER)** to provide new insights for the understanding of the RSP.



RSP Literature

- › The RSP literature can be classified according to the explanation given to solve the puzzle. We distinguish three branches:
 1. **Lifetime Uncertainty.** Yaari (1965 RES), De Nardi et al. (2009 AER), Cocco and Gomes (2012 JFE), Post and Hanewald (2013 JEBO).
 2. **Bequest Motive.** Becker (1974 JPE), Hurd (1989 E), Kopczuk and Lupton (2007 RES), De Nardi and Yang (2014 EER).
 3. **Medical Expenses.** Palumbo (1999 RES), Coile and Milligan (2009 RIW), De Nardi et al. (2010 JPE), Dobrescu (2015 JHR).



HER Literature

- › Housing deserves special attention due to its relevance in household portfolios, and its dual role as consumption and investment good.
- › The HER literature tackles the question of whether retirees regard home equity as a source of funds for general consumption. This is relevant for two reasons (Venti and Wise, 2004 UCP):
 - Evaluating potential demand for home equity release.
 - Understanding the adequacy of retirement savings.



HER Literature – US Studies

> Venti and Wise (2004 UCP):

- Use the HRS data and look at whether older homeowners who move increase or decrease their housing equity.
- They find that retirees are unlikely to move and if they do, they do not downsize, unless they move because of widowhood or nursing home entry.

> Sinai and Souleles (2007 NBER):

- Use SCF data and look at homeowners that stay in their residence and study how they reacted to house price increases between 1983 and 2004.
- They find that some households borrow against housing equity, and they suggest it would happen at a larger scale where financial products to do so more available.



HER Literature – International Studies

> Banks et al. (2012 E):

- Use PSID and BHPS data to compare housing moves among retirees in the US and in the UK.
- They find that British retirees move even less than American retirees, which they attribute to geographical and institutional factors.

> Angelini et al. (2014 JPopE):

- Use SHARE data on 13 European countries and find that retirees are unlikely to move, unless in case of divorce, widowhood or nest leaving by children.
- They find that economic factors still can play a role, since older retirees that are cash-poor and house-rich are the most likely to downsize.



HER Literature – Dutch Studies

> Van der Schors et al. (2007 DE):

- Use the Dutch SEP and find a strong negative cross-sectional relationship between age homeownership rates.
- However, the age gradient appears to be mostly due to cohort and time effects, e.g. changes in housing supply and relaxation of borrowing constraints.

> De Graaf and Rouwendal (2012 ASRS):

- Use WoON data and look at whether Dutch retirees use second mortgages to liquidate housing wealth.
- Although they find that many times retirees have not yet totally redeemed their mortgages, they do not find increases in mortgage debt among them.



HER Literature

Table 1 Homeownership and Housing Wealth among Older Adults

| | Homeownership rate | | | Housing equity over net worth | | |
|------|--------------------|----------|----------|-------------------------------|----------|----------|
| | Cohort 1 | Cohort 2 | Cohort 3 | Cohort 1 | Cohort 2 | Cohort 3 |
| 2009 | 59.36% | 51.11% | 49.07% | 39.14% | 36.86% | 34.13% |
| 2010 | 62.71% | 52.50% | 50.22% | 43.48% | 38.12% | 36.70% |
| 2011 | 60.12% | 49.89% | 49.60% | 41.81% | 37.74% | 36.02% |
| 2012 | 61.56% | 53.29% | 53.02% | 40.50% | 36.39% | 35.22% |
| 2013 | 60.39% | 53.53% | 51.94% | 40.65% | 37.96% | 35.81% |

Source: DHS. *Notes:* Cohorts 1, 2 and 3 include households with household heads aged 60 to 64, 65 to 69 and 70 to 74 in 2009. The second panel provides the average share of housing equity (*i.e.* house value minus remaining mortgage debt) over total net worth (assets minus liabilities) of households.



HER Literature

- › In summary, the HER literature points at the fact that retirees are generally reluctant to withdraw housing equity.
- › Most of the studies are rather descriptive and the link with the RSP literature, even though potentially fruitful, is hardly present.
- › Why is housing wealth not withdrawn? Is it because of lifetime uncertainty? Is it because it is used as precautionary savings? Or is it because it is regarded as an asset to be bequeathed?



A RSP Structural Model with Housing

- › The RSP and the HER literature come together in the work of Nakajima and Telyukova (2011 FRBP).
- › Based on De Nardi et al. (2010 JPE), NT study housing within the context of a structural life cycle model of retirement saving.
- › Like in De Nardi et al. the model includes: lifetime uncertainty, bequests and uncertain medical expenditures.
- › Different from De Nardi et al. the model considers housing as a separate element of the portfolio, and includes two person households.



A RSP Structural Model with Housing

- > NT estimate the parameters of the model such as to provide the best match between the model and several moments in a sample of three HRS cohorts.

- > **Main findings:**
 - Strong bequest motive that correlates with homeownership.
 - Large effect of utility benefits of homeownership.
 - No significant effect of out of pocket medical expenditures.



Homeownership and Bequests

- > The bequests-homeownership link potentially explains a large share of the RSP.
- > Due to public coverage of LTC in the Netherlands, medical expenditures are unlikely to explain homeownership in old age.

Table 4 Correlation between Homeownership and the Bequest Motive (2003-2013)

| | | Homeowners | | N. of | Renters | | N. of |
|---------------------------------------|--------------|------------|--------|-------|---------|--------|-------|
| | | Mean | Median | obs. | Mean | Median | obs. |
| Importance of saving for a bequest | Full sample | 2.99 | 3 | 9493 | 2.35 | 2 | 3981 |
| | Older adults | 3.30 | 3 | 3793 | 2.38 | 2 | 1508 |
| Chance of leaving a bequest | Full sample | 81.50 | 99 | 9233 | 48.60 | 50 | 3967 |
| | Older adults | 83.26 | 100 | 3798 | 42.24 | 25 | 1587 |

Source: DHS. Notes: Older households are defined as households with a household head who is 60 or older. Importance of saving for a bequest is measured on a scale from 1 (very unimportant) to 7 (very important). Chance of leaving a bequest is measured on a scale from 0 (no chance) to 100 (100 % chance).



Homeownership and Bequests

- > Why would households leave bequests in the form of a house? Why not simply in the form of cash?
- > NT argue that because there are utility benefits of homeownership, households who save for a bequest prefer to do it in the form of housing.
- > There are alternative ways of modelling bequests that provide additional insights on the bequests-homeownership link.



Alternative Bequests

- › Kopczuk and Lupton (2007) distinguish three types of bequest motive:
 - Egoistic bequests. Hurd (1989 E)
 - Altruistic bequests. Laitner (2002 AER)
 - Strategic bequests. Bernheim et al. (1985 JPE)
- › NT apply an egoistic bequest motive since the bequest does not affect the utility of the recipients.



Altruistic Bequests

- › Initiated by Becker (1974 JPE) and Barro (1974 JPE), the altruistic bequest motive implies that the bequest function depends on the consumption possibilities of the heirs.
- › The higher the lifetime income of the recipient, the lower the marginal utility of additional bequeathed wealth.
- › Laitner and Juster (1996 AER) and Laitner and Ohlsson (2001 JPubE) find evidence supporting altruistic bequest. However, Altonji et al. (1997 JPE) and Kopczuk and Lupton (2007 RES) find evidence against it.



Altruistic Bequests

Table 5 Correlation between Having Children and the Bequest Motive (2003-2013)

| | | Children | | N. of | No children | | N. of |
|---------------------------------------|--------------|----------|--------|-------|-------------|--------|-------|
| Homeowners | | Mean | Median | obs. | Mean | Median | obs. |
| Importance of saving for a bequest | Full sample | 3.32 | 3 | 7107 | 1.746 | 1 | 1823 |
| | Older adults | 3.45 | 3 | 3357 | 1.683 | 1 | 322 |
| Chance of leaving a bequest | Full sample | 81.12 | 99 | 6962 | 80.37 | 99 | 2271 |
| | Older adults | 83.37 | 100 | 3327 | 82.48 | 100 | 471 |
| | | Children | | N. of | No children | | N. of |
| Renters | | Mean | Median | obs. | Mean | Median | obs. |
| Importance of saving for a bequest | Full sample | 2.65 | 2 | 2256 | 1.87 | 1 | 1415 |
| | Older adults | 2.47 | 2 | 1244 | 1.65 | 1 | 194 |
| Chance of leaving a bequest | Full sample | 41.86 | 25 | 2302 | 60.48 | 75 | 1665 |
| | Older adults | 40.14 | 20 | 1310 | 52.16 | 50 | 277 |

Source: DHS. *Notes:* Older households are defined as households with a household head who is 60 or older. Importance of saving for a bequest is measured on a scale from 1 (very unimportant) to 7 (very important). Chance of leaving a bequest is measured on a scale from 0 (no chance) to 100 (100% chance).



Strategic Bequests

- › Initiated by Bernheim et al (1985 JPE) the strategic approach implies that bequests happen in a context of intergenerational exchange.
- › Parents are still altruistic, however they also care about the services received from their children. Hence, they use the bequest as incentive for the children to provide services.
- › Perozek et al (1998 JPE) and Angelini (2007 MF) find evidence supporting strategic bequests.
- › Angelini (2007 MF) points that **housing** is an asset that parents can specially use to signal a future bequest to their heirs.



Strategic Bequests

Table 6 Presence of Strategic and Altruistic Bequests Motives (2003-2013)

| | Full sample | | Older households | |
|--------------------------------------|-------------|---------|------------------|---------|
| | Homeowners | Renters | Homeowners | Renters |
| (1) Strategic bequest | 3.33% | 1.38% | 3.54% | 1.98% |
| (2) Altruistic bequest | 21.66% | 9.01% | 30.74% | 9.43% |
| (3) No explicit plans about bequests | 66.55% | 55.12% | 57.53% | 51.79% |
| (4) No bequest | 1.55% | 6.44% | 1.51% | 8.30% |
| (5) None of the above | 6.90% | 28.05% | 6.68% | 28.49% |
| Number of observations | 7563 | 2531 | 2515 | 1060 |

Source: DHS. *Notes:* Conditional on having children, respondents are asked which statement is closest to their opinion: (1) Leaving a bequest if children provide services; (2) Leaving a bequest regardless of services provided; (3) No explicit plans about leaving a bequest; (4) No intention to leave a bequest; (5) None of the above. Older households are defined as households with a household head who is 60 or older.



Housing as a Commitment

- › If immediate consumption is a temptation good in the sense of Gul and Pesendorfer (2004 E), households can commit to save by investing their wealth in housing.
- › Angelini et al. (2013 NDP) and Kovacs (2014) find evidence suggesting that housing is used for commitment purposes.
- › If parents care about their heirs, locking wealth in housing may be a commitment to leaving a bequest, as well as a good way to signal, for strategic purposes, that a bequest will come.



Conclusion

- › Understanding the underlying causes of the RSP is crucial for the assessment of the adequacy of retirement savings.
- › The HER literature indicates that retirees are generally reluctant to withdraw their housing equity, which has clear implications for the understanding of the RSP.
- › Housing as a bequeathable asset seems to play an important role in answering the questions posed by the RSP and HER literatures.



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Thank you

