Optimal Use of Housing Wealth in a Two-Generation Model

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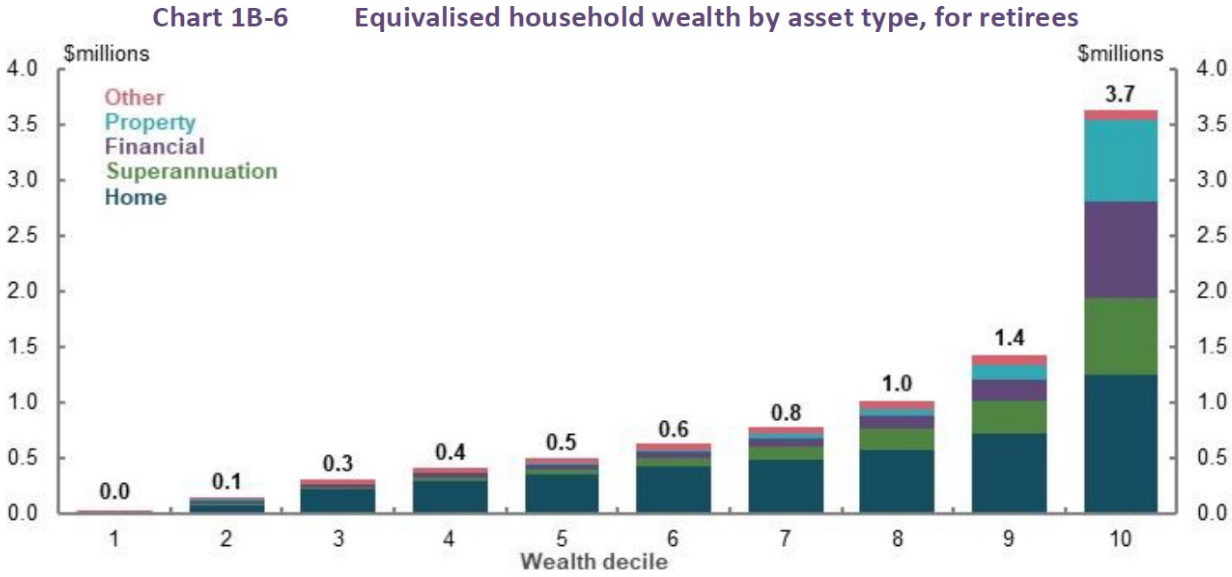
Motivation

- **Housing wealth:** largest component of Australian household wealth



Source: Australian Treasury, 2020 p.83

- **'Bank of Mum and Dad'**: 9th-largest mortgage lender
- Parents gift their children using their **financial assets**, yet few use their housing wealth

- Home equity release is available to liquefy housing wealth
- Economic theory: reverse mortgages can be welfare-enhancing for retirees (e.g., Davidoff, 2015; Hanewald et al., 2016; Shao et al., 2019)
- However, reverse mortgage take-up is limited
- Bequest motives are one reason for the low take-up rate (Jefferson et al., 2017; Whait et al., 2019; Dillingh et al., 2017)

Should bequest motives be a concern?

- Longevity: bequest happens very late
- Timing of the bequest is uncertain
- Reverse mortgages can bring forward the bequest and reduce the timing uncertainty

What are reverse mortgages?

moneysmart.gov.au/retirement-income/reverse-mortgage-and-home-equity-release

Reverse mortgage and home equity release

Reverse mortgage

A reverse mortgage allows you to borrow money using the equity in your home as security.

If you're age 60, the most you can borrow is likely to be 15–20% of the value of your home. As a guide, add 1% for each year over 60. So, at 65, the most you can borrow will be about 20–25%. The minimum you can borrow varies, but is typically about $10,000.

Depending on your age and lender policy, you can take the amount you borrow as a:

- regular income stream
- line of credit
- lump sum, or
- combination of these

How a reverse mortgage works

You stay in your home and don't have to make repayments while living there. Interest charged on the loan compounds over time, so it gets bigger and adds to the amount you borrow. The interest rate is likely to be higher than on a standard home loan.

You repay the loan in full, including interest and fees, when you or your deceased estate sell your home.

You may be able to make voluntary repayments earlier, if you wish. You may also be able to protect a portion of your home equity from being eroded by the loan. For example, to ensure you have enough money left to pay for aged care.

What a reverse mortgage costs

The cost of the loan depends on:

- how much you borrow
- how you take the amount you borrow (for example, a lump sum will cost more due to compounding interest)
- the interest rate and fees (for example, loan establishment, ongoing fees, valuation)
- how long you have the loan

Over time, your debt will grow and your equity will decrease (see our case study below).

Use the reverse mortgage calculator

See how much a reverse mortgage would cost over different time periods, such as 10 or 20 years.

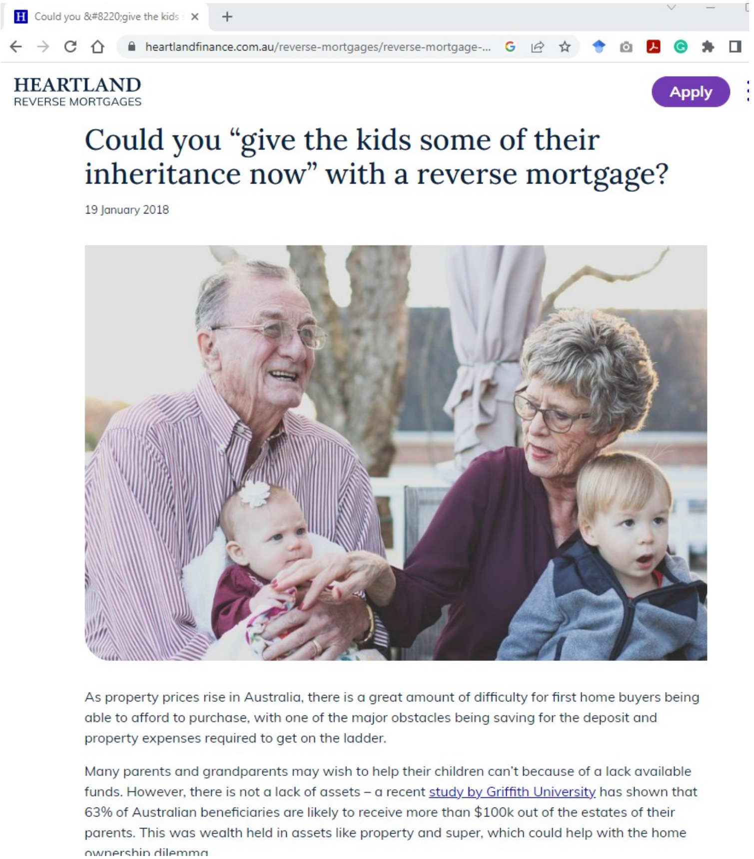
Your lender or broker must go through reverse mortgage projections with you, showing the impact on your home equity over time. Get a copy of this to take away, and discuss it with your adviser. Ask questions if there's anything you're not sure about.

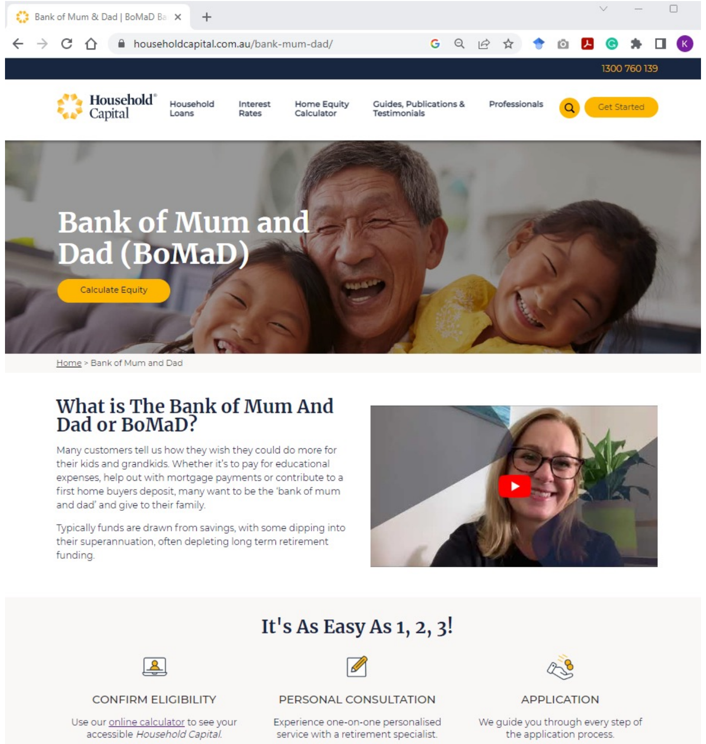
Negative equity protection

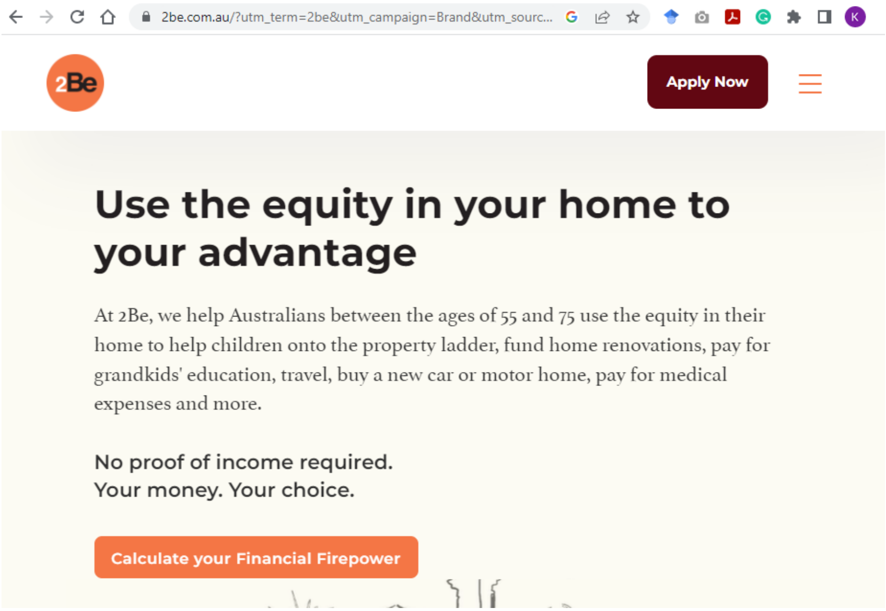
Reverse mortgages taken out from 18 September 2012 have negative equity protection. This means you can't end up owing the lender more than your home is worth (market value or equity).

If you took out a reverse mortgage before this date, check your contract. If it doesn't include negative equity protection, talk to your lender or get independent advice on what to do.

Can you use RMs to give to kids?







This paper

Research questions:

1. Explore if & how reverse mortgages can **benefit families' financial planning**
2. Study reverse mortgage strategies and designs that allow **families** to make optimal use of housing wealth.

Modelling contribution:

- New multi-period simulation model for two generations
- Model reflects Australian institutional setting
- Model accounts for the welfare gains of both parents and children
- Compare different approaches to intergenerational transfers: bequest and gifting

Model overview

The model aims to …

- Capture the timing and size of intergenerational transfer in Australia
- Focus on how older homeowners may use a reverse mortgage to assist the next generation in purchasing a housing property

The model assumes …

- Each generation includes only one member
- Initial age of the parent: 67, and the child: 36
- The child does not own a house at the beginning of the simulation

Risks faced by the parent faces house price, interest rate, longevity and long-term care risks

Wealth and income variables (inputs of the model) are estimated from the **HILDA survey data**

Model timing and structure

Parent

Parent is in good health, owns home, superannuation, and FOA

Decisions:

- Take out a reverse mortgage
- Self-use or gift to child

Realisation of stochastic interest rate, inflation rate, house value and health states

If the parent is alive: pay LTC costs?

If the parent dies: Bequeath net assets

Parent dies for certain: RM is settled, bequeath net assets

Period 1 | Period k | Period $T^{P,D}$

t = 0 | t = 1 | t = k-1 | t = k | t = $T^{P,D}$-1 | t = $T^{P,D}$ | t = T_{KD}

Child

Child does not own a house, rents

With RM: Receive home deposit from parent and buy a house

- Mortgage repayment thereafter

Without RM: Rent

With RM: Inherit parent's net assets

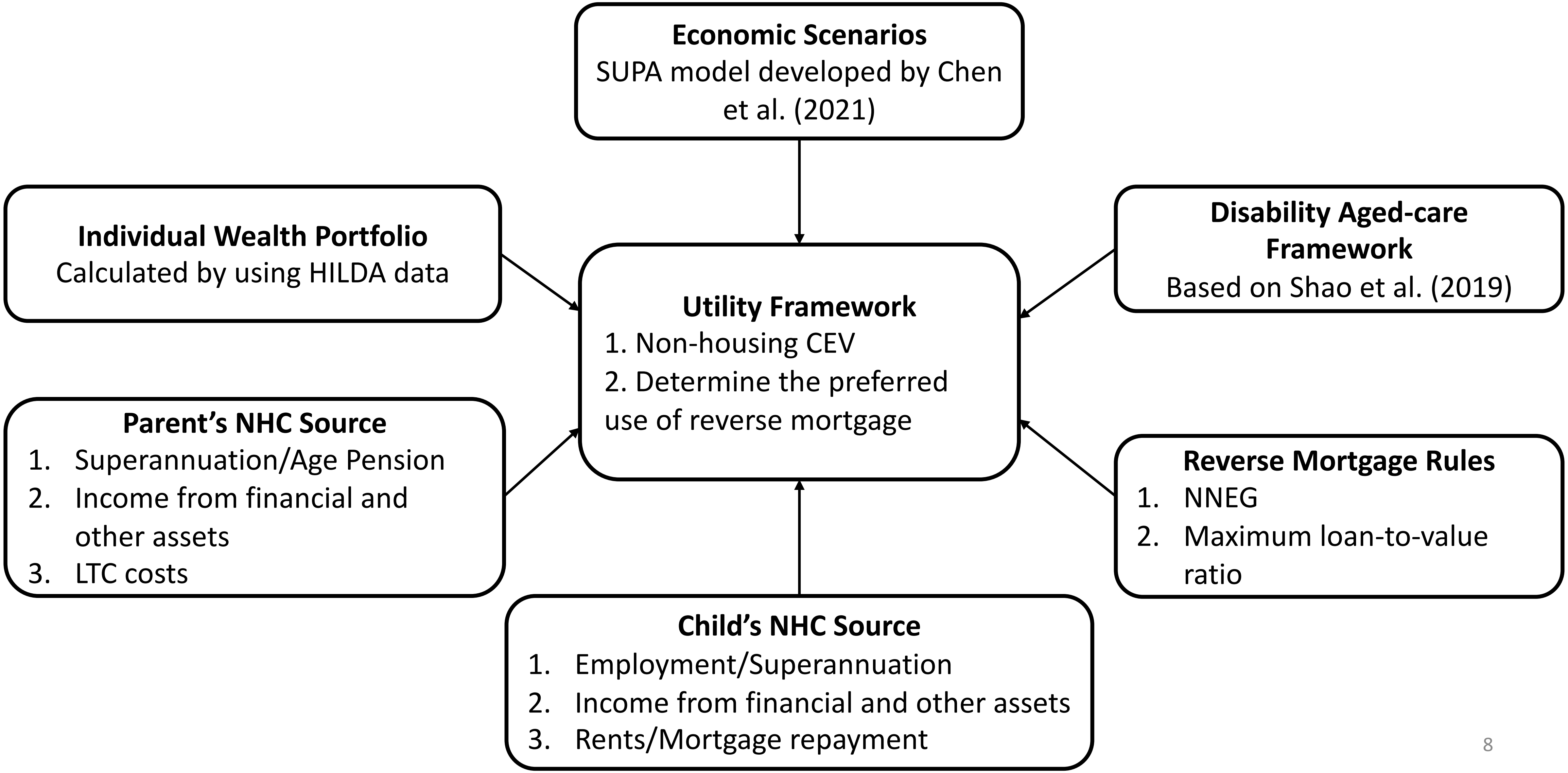
Without RM: Inherit house and other net assets

Child owns a house

Continues mortgage repayment if she purchased her own house

Child dies: Bequeath net assets

Model components



Household types

Table 1: Summary of Wealth Statistics of the Female Parent

Notes: The estimates are based on the subsample of 65- to 69-year-old female homeowners in HILDA (2018).

Quartile	Superannuation	Housing wealth	Financial and other wealth	Total wealth
1	0	272,500	11,189	283,689
2	70,000	480,000	56,000	606,000
3	194,000	600,029	99,500	893,529
4	600,000	1,005,000	492,400	2,142,400

Table 2: Summary of Wealth Statistics of Female Child

Notes: The estimates are based on the subsample of 34- to 38-year-old female non-homeowners in HILDA (2018).

Quartile	Income from employment	Income from government assistance	Annual rent	Superannuation	Financial and other wealth
1	0	44,921	11,988	200	0
2	4,509	44,823	13,320	7,500	3,970
3	42,590	15,741	14,472	30,168	8,800
4	105,538	10,804	18,768	130,000	104,462

Simulations – Economic Scenario Generator

- Simulation of Uncertainty for Pension Analysis (SUPA) by Chen et al. (2021) to generate economic variables
- Cascade style model, estimated using data from 1992 to 2008
- Use model to generat:
  - Inflation
  - House price growth
  - Wage growth
  - Returns on Aus and intl. equities and bonds

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Institute and Faculty of Actuaries

PAPER

Using a stochastic economic scenario generator to analyse uncertain superannuation and retirement outcomes

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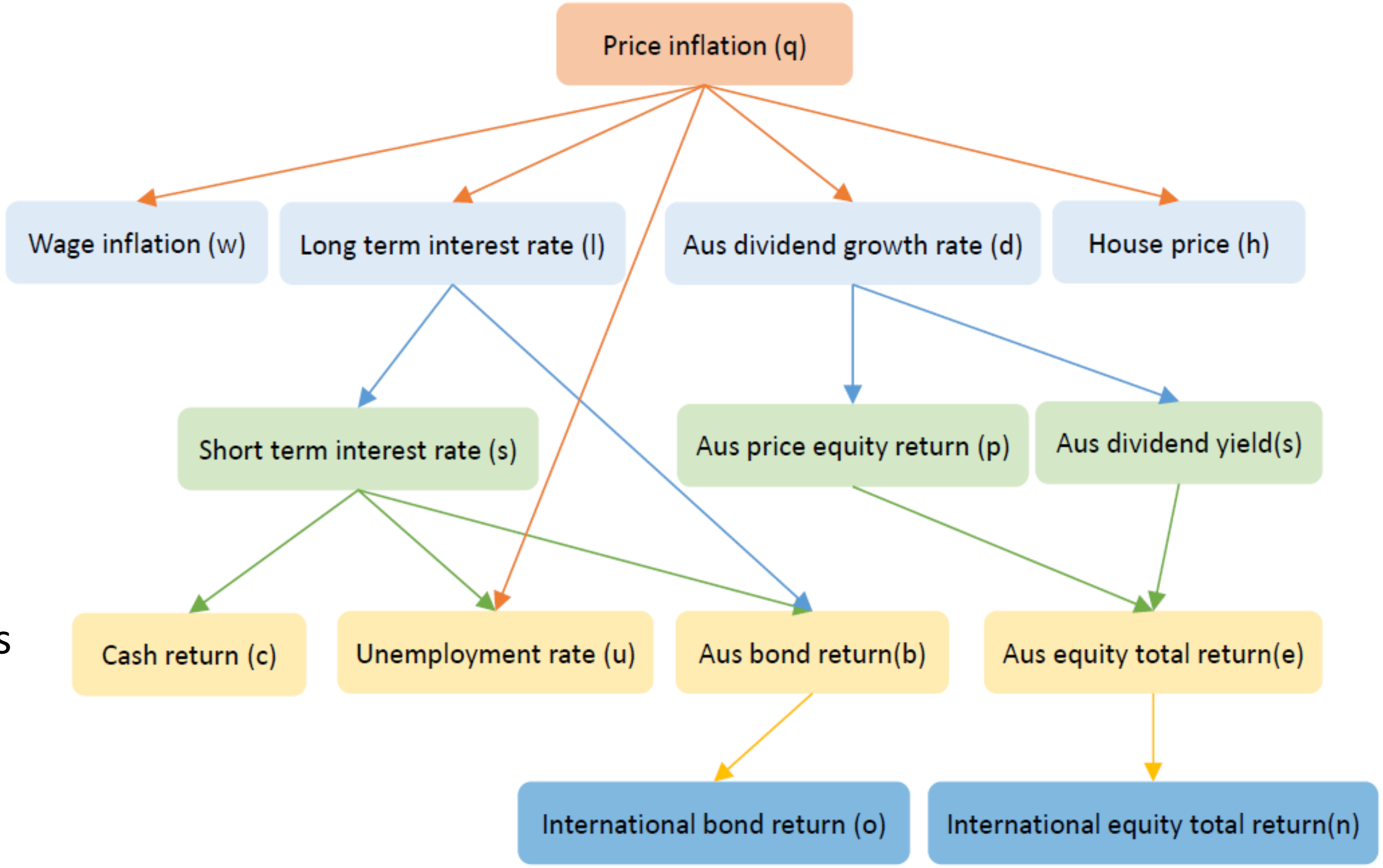
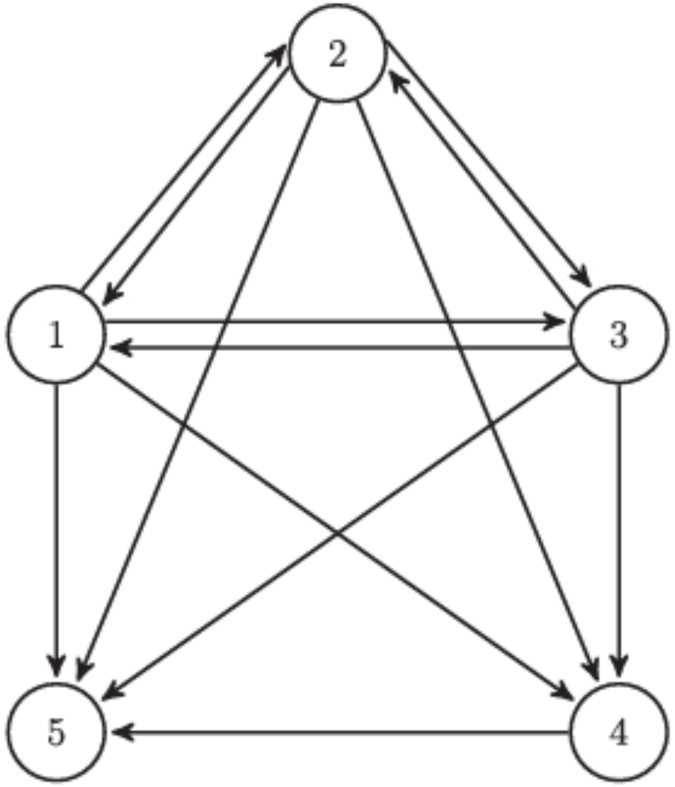


Source: Chen et al. (2020)

Simulations – Disability and care framework

Parent's aged-care states



Source: Shao et al. (2019)

1: Healthy
2: Mildly disabled at home, need care at cost LTC_2
3: Severely disabled at home, need care at cost LTC_3
4: In residential care, need care at cost LTC_4
5: Death

- Use model developed by Shao et al. (2019) based on US data(HRS)
- Adjust the model to match Australian data from the ABS Survey of Disability, Ageing and Carers

- **Annual Care costs** are based on the government-provided Home Care Package (asset/income means tested)

Scenarios

Baseline scenario:

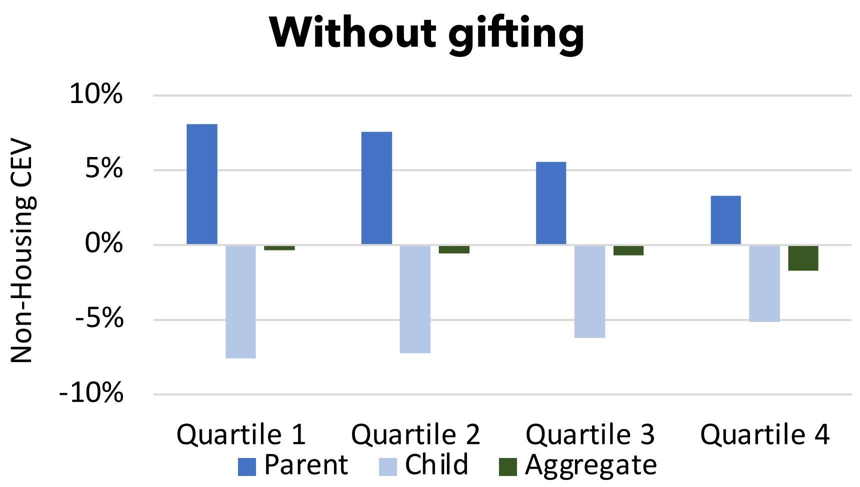
- Parent does not take out a reverse mortgage
- Parent receives retirement income only from superannuation, the Age Pension and FOA
- Child doesn’t own a house until she inherits her parent’s house.

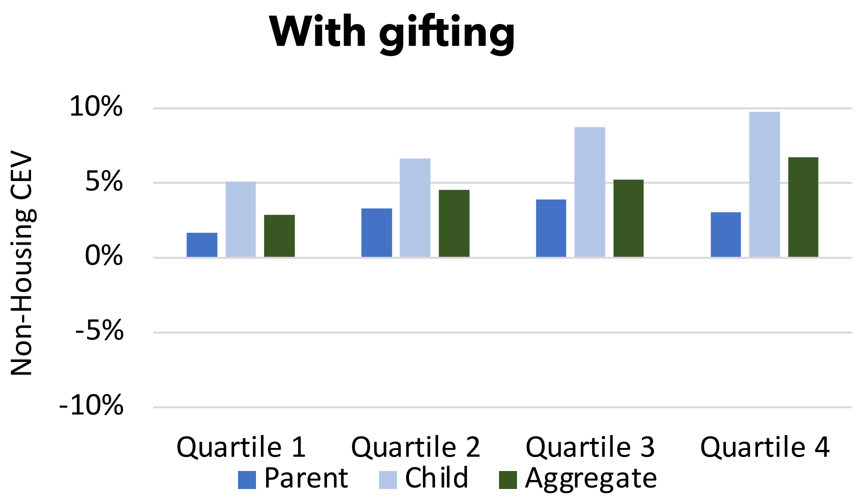
Alternative scenarios:

- Assume the parent takes out a reverse mortgage at t = 0
- Assume the child provides informal care
- Compare gifting vs not gifting
- Compare lump sum vs income stream
  - Withdraw annually to achieve ASFA Comfortable Retirement Standard
  - Withdraw 2.5% of housing equity annually
- Product designs:
  - Lower interest rate if the child makes repayments on both home loan and RM
  - Increase the loan-to-value ratio
- Policy experiments: gifting rule:
  - Annual gifting limit \$10k → \$16k
  - No gifting limit

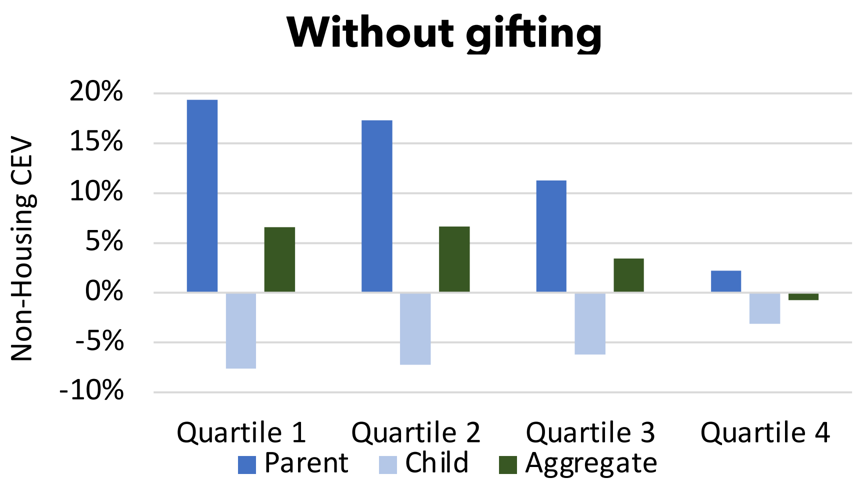
Scenarios

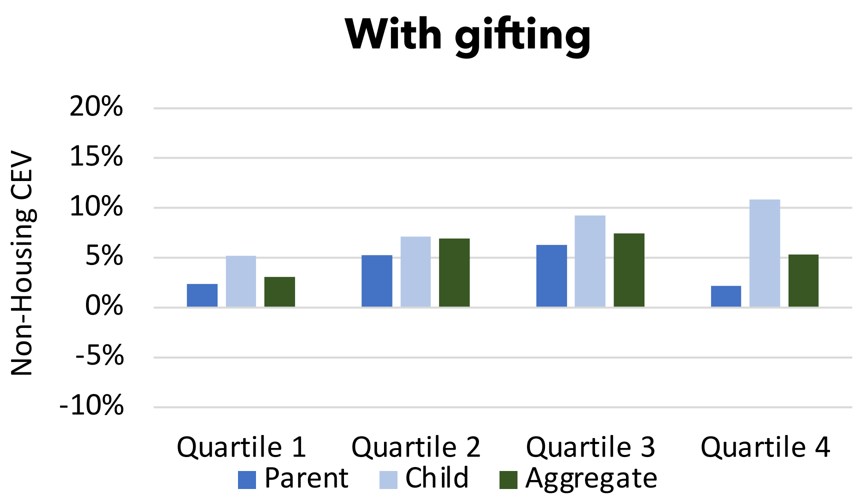
Scenario 1 – Single maximum lump sum





Scenario 2 – Withdraw annually to achieve ASFA Comfortable Retirement Standard





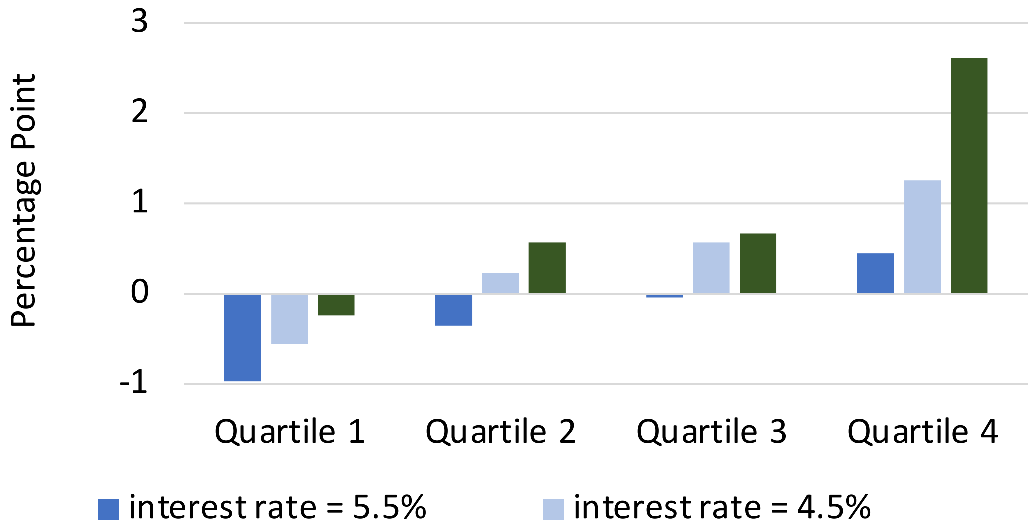
Product Design Experiments

Scenario 3 – Lower interest rate if the child makes repayment on both home loan and RM

Assumption:

- Amount borrowed from the RM = the child's home deposit and is gifted

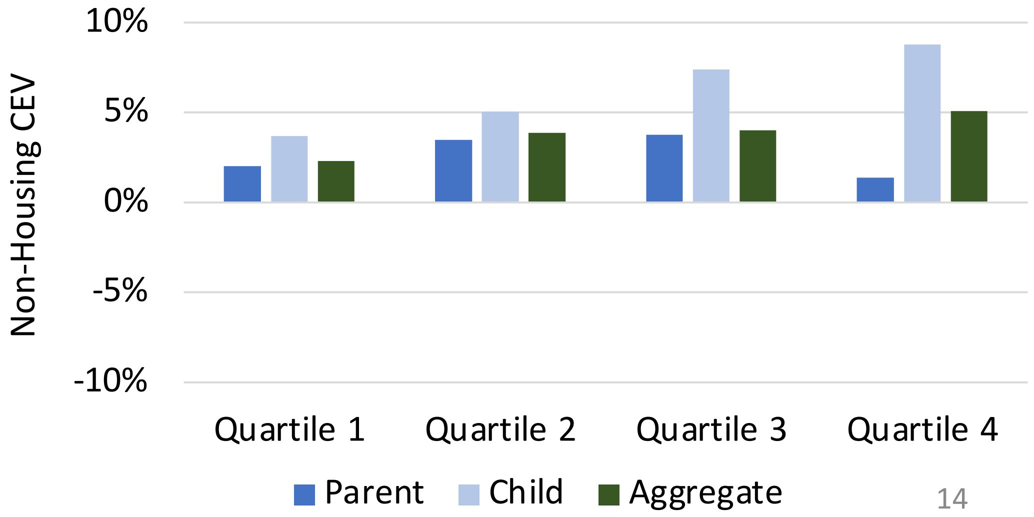
Percentage Point Change of **Aggregate** Non-housing CEV



Scenario 4 – Increase the loan-to-value ratio

Assumptions:

- Parent borrows maximum lump sum and gifts the child
- Increase the maximum LVR by 10 pp
- Increase RM rate by 2 pp



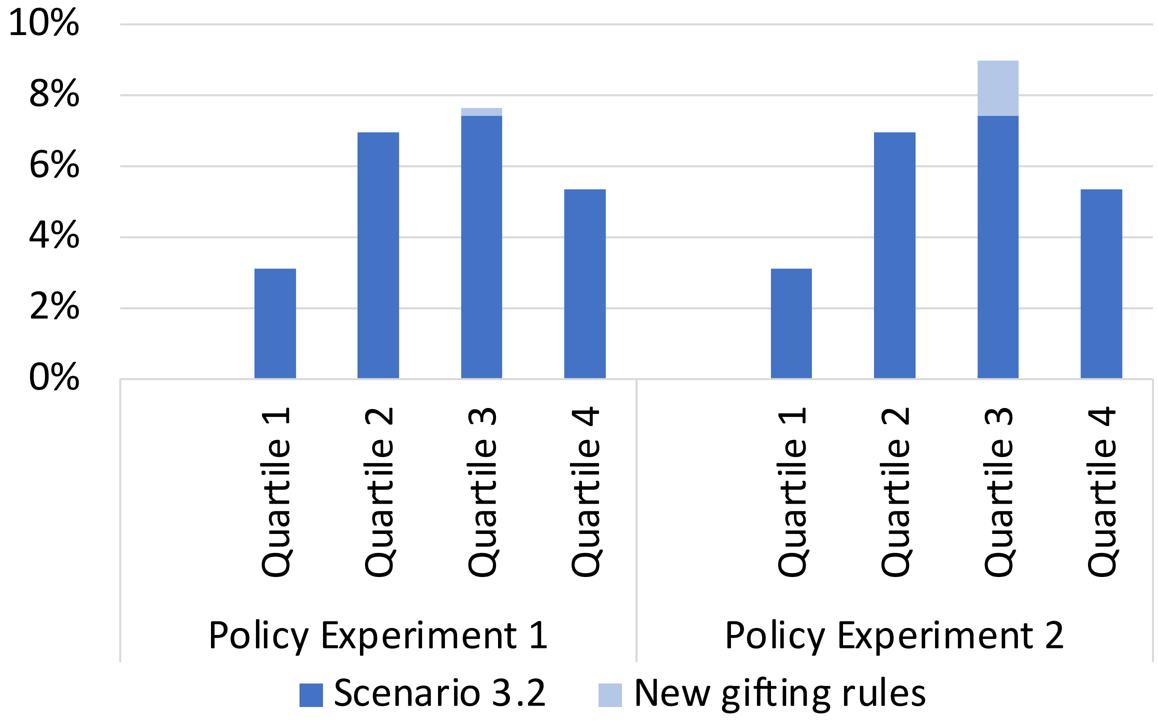
Policy Design Experiment

Scenario 5 – Change gifting rules

Assumptions:

- Annual gifting limit \$10k → \$16k
- No gifting limit

Aggregate Non-housing CEV by Wealth Quartiles



Summary of results

- Most families across all wealth quartiles enjoy **welfare gains** when the parent shares a portion of reverse mortgage payments with the child
    - Least wealthy: regular income (no gifting)
    - Wealthier families: regular income + lump sum gift

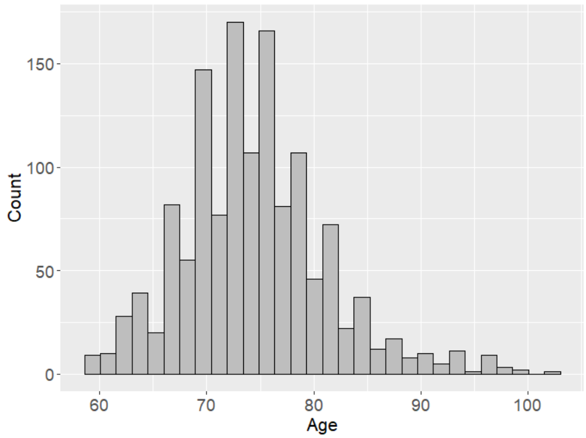
- Child repayments on RM (with lower RM rates) → Only Q4 benefits
- Higher LVRs (with higher RMs rates) → Most households benefit from small increase
- Changes to **Age Pension gifting rules** → Only Q3 benefits

Comparison with market data

- Client data from Household Capital
- 1,354 processed reverse mortgage loans from 17 June 2019 to 20 June 2022
- Main use of funds:

Purpose	Percentage
Renovation	29.89%
Contingency	24.50%
Transport and travel	19.48%
Mortgage	8.27%
Give to family	**3.24%**
Investment	2.34%
Other	12.28%

Figure (Left): Ages of Household Capital RM Participants
Figure (Right): Housing Value of Household Capital RM Participants



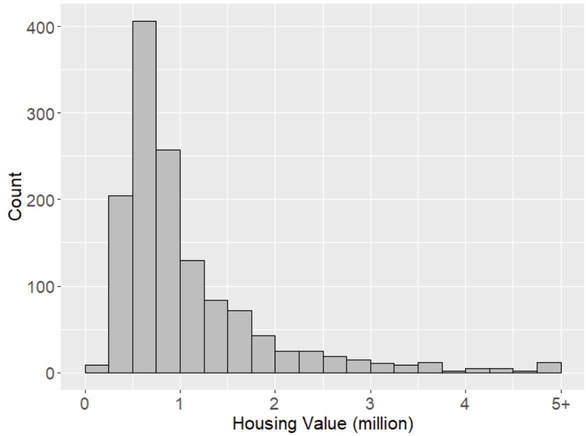


Table: Percentage of Household Capital RM age participants that belong to each illustrative wealth quartile estimated by HILDA survey data (based on housing wealth)

	Quartile 1	Quartile 2	Quartile 3	Quartile 4
Percentage	2.56%	16.38%	24.06%	56.40%

Conclusion

- First/one of few studies that model housing wealth usage through reverse mortgages **in an intergenerational context**
- Results showed that families across different wealth quartiles (excluding the lowest) **could benefit** if the parent shared a portion of RM payments with their children
- Determined **optimal strategies** for families at different wealth levels
- Comparison with Household Capital client data:
  - No strong evidence that gifting family members is a common use of a RM

  → **Opportunity** for providers to increase demand for this product by promoting its 'gifting purpose'

Thank you!

Contact:

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