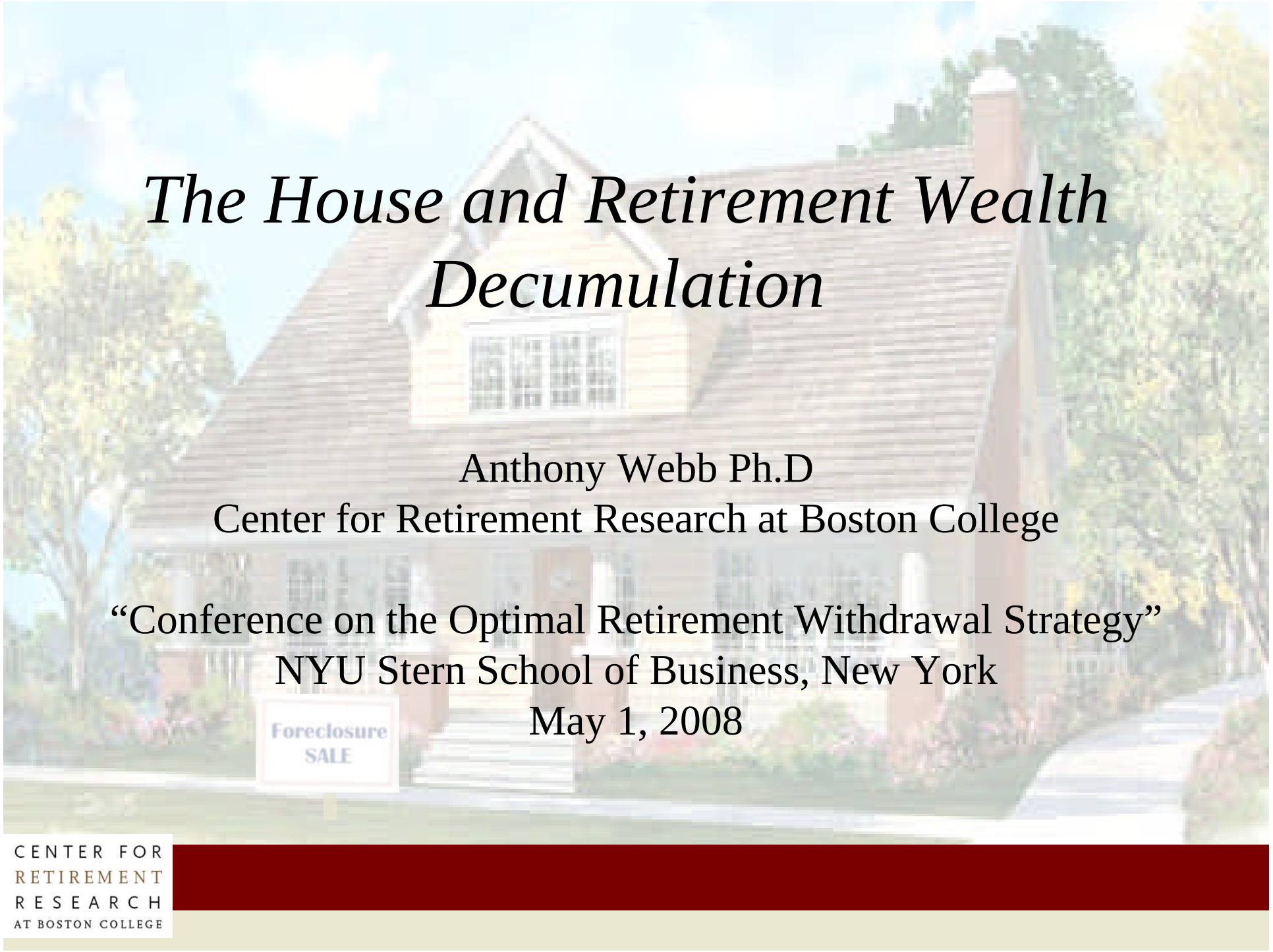

The House and Retirement Wealth Decumulation

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CENTER FOR RETIREMENT RESEARCH AT BOSTON COLLEGE

In ten minutes and twenty slides!, I will address two issues:

- Should the household repay its mortgage at retirement?
- Should the household take a reverse mortgage and if so, when?

Should the household repay its mortgage at retirement?

The facts:

In 2004 33.4% of 60-69 year olds had a mortgage.

Of these, 32.4% had sufficient non-retirement financial assets to repay the mortgage.

50.7% had sufficient retirement AND non-retirement financial assets.

Most of the above (72.2%, 75.9%) itemize.

Three questions:

Does a household contemplating delaying repayment of its mortgage one year face an arbitrage opportunity?

Does a household contemplating delaying repayment of its mortgage *n* years face an arbitrage opportunity?

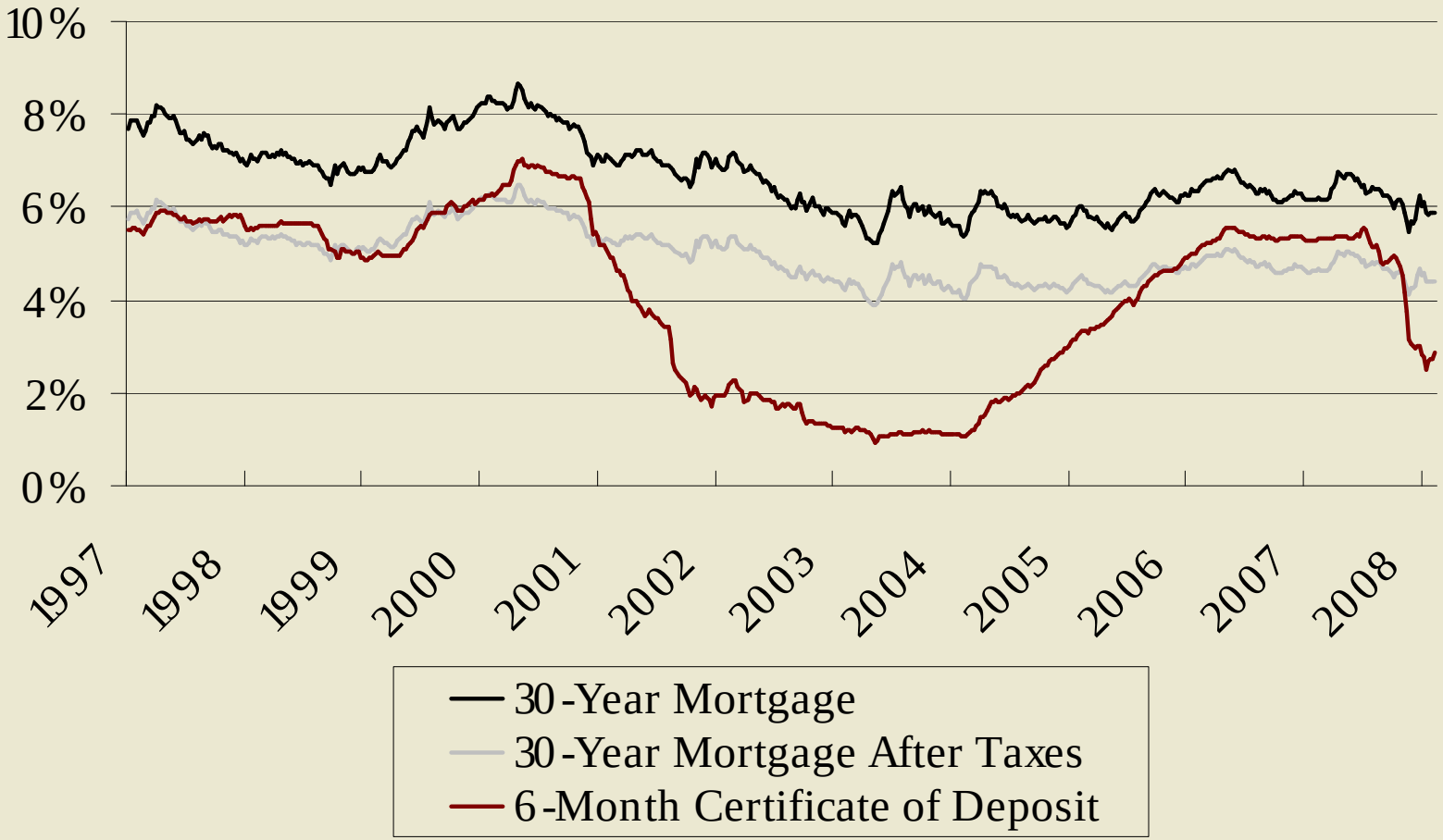
Even if it doesn't face an arbitrage opportunity, does keeping the mortgage get the household to a preferred risk-reward tradeoff?

Does a household contemplating delaying repayment of its mortgage one year face an arbitrage opportunity?

Assume the household itemizes, but is repaying its mortgage from a tax deferred account – the most favorable scenario.

Defer if after-tax mortgage cost exceeds the six month CD rate.

6-Month Certificate of Deposit Rate and 30-Year Conventional Mortgage Rate Before and After Taxes, 1997-2008

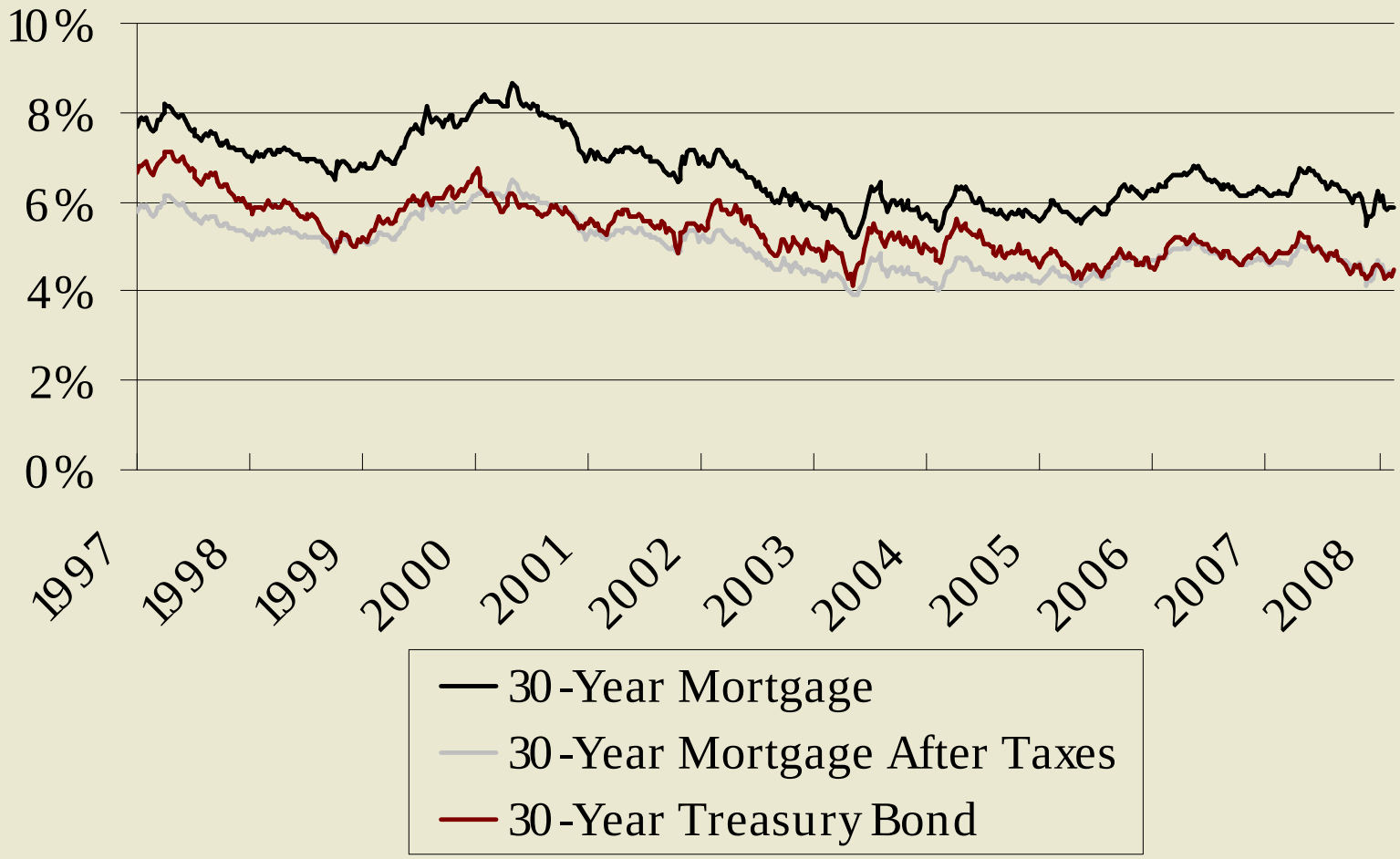


Source: Board of Governors of the Federal Reserve System (2008).

Does a household contemplating delaying repayment of its mortgage *n* years face an arbitrage opportunity?

Can it cover the after tax mortgage cost by investing in a portfolio of risk-free Treasury bond of appropriate durations, and have something left over?

30-Year Treasury Bond Rate and 30-Year Conventional Mortgage Rate Before and After Taxes, 1997-2008



Source: Board of Governors of the Federal Reserve System (2008).

Even if it doesn't face an arbitrage opportunity, does keeping the mortgage get the household to a preferred risk-reward tradeoff?

Only if the size of the household's equity portfolio is otherwise constrained.

Conclusion –

Your parents were right. Aim to be debt-free in retirement.

In ten minutes and twenty slides!, I will address two issues:

- Should the household repay its mortgage at retirement?

- Should the household take a reverse mortgage and if so, when?

The house is most retired households' largest single asset outside of Social Security.

Married Couples Aged 65, Mean Asset Balances (in $'000)

Decile	1	2	3	4	5	6	7	8	9	10
Non-retirement financial wealth	7	15	20	43	78	88	163	218	261	1096
Property	27	49	61	81	102	121	132	178	232	634
Social Security	210	299	351	365	377	376	390	381	393	401
DB pensions	7	22	47	78	91	155	173	235	268	394
DC pensions	1	6	6	8	10	16	23	25	33	142
Total wealth	252	390	485	575	658	776	881	1037	1287	2667

Source: Irena Dushi and Anthony Webb. 2004. "Household Annuitization Decisions: Simulations and Empirical Analyses." *Journal of Pension Economics and Finance* 3(2).

Strategies for accessing housing wealth for non-housing consumption.

a) Sell the house, buy an annuity, and use part of the annuity income to pay rent.
PROBLEMS:
1) Attachment to the house.
2) Exposes household to rent risk (Sinai and Souleles, 2005).

b) Take out a regular mortgage/home equity loan.
PROBLEMS:
1) How do you meet the mortgage payments?
2) The most needy households may not qualify for a mortgage.

c) A reverse mortgage: “sell” the eventual sale proceeds to a financial institution.

How much of the house is available to financ non-housing consumption?

100% can’t be the right answer – you can’t simply sell the house and spend the proceeds on non-housing consumption – because you need somewhere to live.

Can decompose the value of the house into the following:

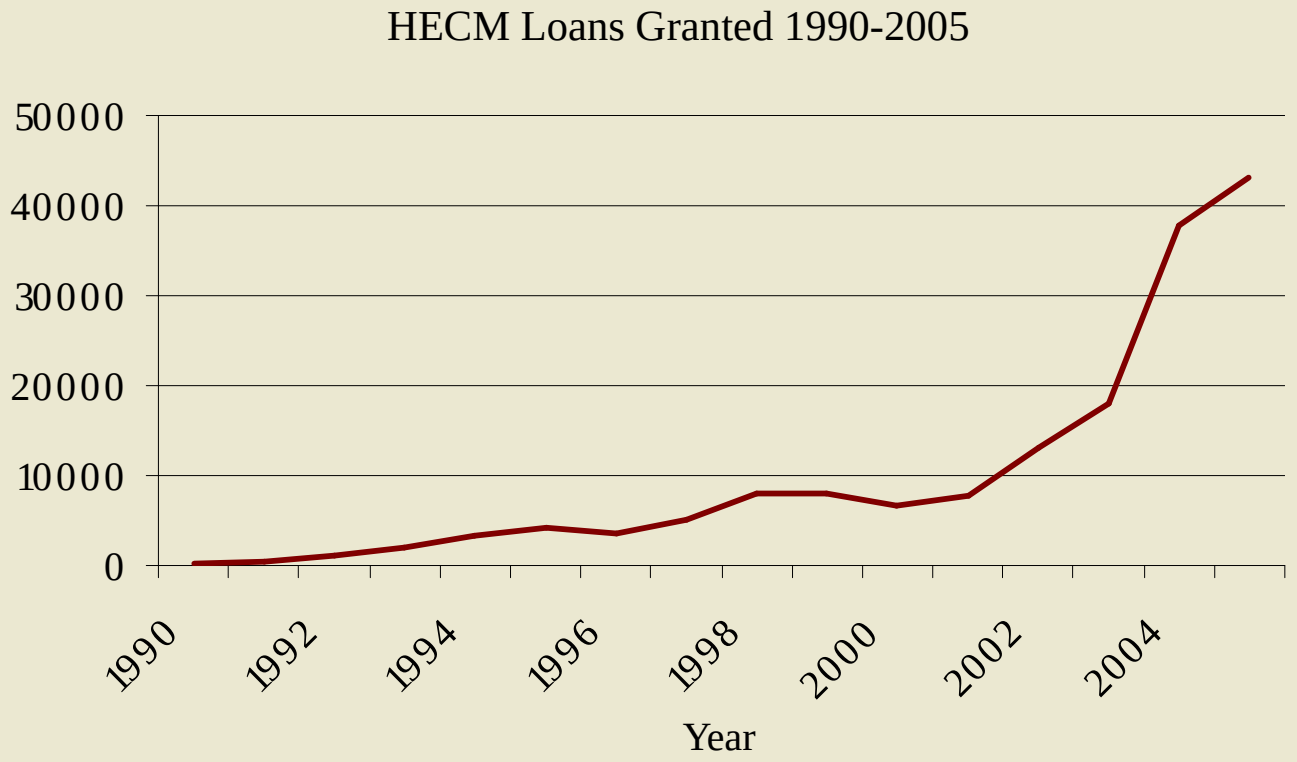
- Present value of flow of housing services for duration of ownership (say) till death
- Present value of eventual sale proceeds

It is the latter that is potentially available for non-housing consumption

How reverse mortgages work:

- Household borrows a percentage of the value of the house from a financial institution.
- Interest is added to the principal – to be repaid on death or earlier sale.
- Lender buys insurance against risk that loan plus accumulated interest exceeds sale proceeds – premium (for HECM program) of an initial 2% plus 0.5% a year loan supplement paid by borrower.

Reverse mortgage sales have grown rapidly, from a low base.

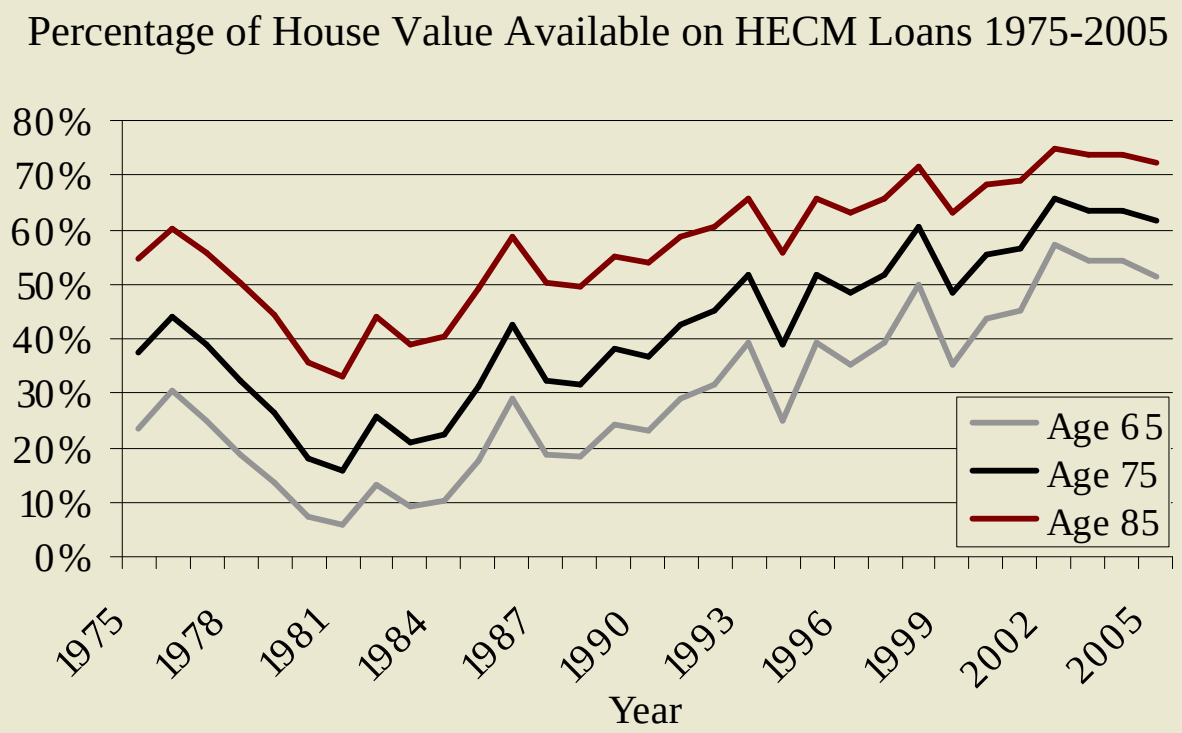


Source: Wei Sun, Robert K. Triest, and Anthony Webb. 2006. "Optimal Retirement Asset Decumulation Strategies: The Impact of Housing Wealth." Working Paper 2006-22. Center for Retirement Research at Boston College: Chestnut Hill, MA.

Amount households can borrow depends on:

- House value
- Age of youngest borrower
- Anticipated interest rates

The percentage of the value of the house that can be borrowed has varied dramatically.



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The “reversionary interest” as a financial asset:

Home owners get a bundle of two assets:

(1) The right to live in the house – this provides insurance against rent risk.

(2) The present value of the eventual sale proceeds – a risky asset.

Previous work examines the interplay of these two characteristics – Cauley, Pavlov, and Schwartz (2003); Cocco, Yao and Zhang (2004); and Sinai and Souleles (2005).

Reverse mortgages enable you to separate the two – to keep (1) and sell (2).

The "reversionary interest" is a pretty risky asset, although weakly correlated with returns on financial assets.

Real Returns on Housing and Financial Assets 1975-2005

	Mean	Standard deviation
One year treasury bill	2.2%	2.0%
Ten year treasury bond	4.4%	10.3%
S&P 500 incl. dividends	9.2%	15.5%
Housing – capital return	1.9%	3.7%
Housing – reversionary interest		
Postpone from 65 to 66	16.0%	40.6%
Postpone from 75 to 76	10.2%	23.4%
Postpone from 85 to 86	6.9%	13.5%

Source: Wei Sun, Robert K. Triest, and Anthony Webb. 2006. "Optimal Retirement Asset Decumulation Strategies: The Impact of Housing Wealth." Working Paper 2006-22. Center for Retirement Research at Boston College: Chestnut Hill, MA.

Asset decumulation strategies using reverse mortgages – Sun, Triest, and Webb (2007)

- Do you take a reverse mortgage immediately on retirement, or delay?
- How do you allocate your financial assets before and after taking the reverse mortgage?
- Do you take the proceeds as a lump sum, line of credit, or lifetime income?

Our tentative conclusion - It can make sense to take a reverse mortgage at retirement, given the riskiness of an investment in the reversionary interest