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Presidential Address to the
American Finance Association
January 7, 2006

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Household Finance

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Household Finance

- A field with much interesting research but still lacking in definition and status.
- How do households use financial instruments to attain their objectives?
- Unlike asset pricing, no special status for wealthy or risk-tolerant households.

Positive vs. Normative

- **Positive household finance:**
  - How **do** households invest?
  - Hard to measure.
- **Normative household finance:**
  - How **should** households invest?
  - Hard to model.
- **Can they be different?**
  - Revealed preference.
  - Investment mistakes.

Investment Mistakes

- Some decisions are inconsistent with
  - a broad range of standard models, and
  - the advice commonly given by financial planners.
- I will interpret these as investment mistakes.
- Households may make them, but can learn to avoid them.

Investment Mistakes

- **Who makes them?**
- **What are the welfare costs?**
- **Does financial innovation help?**
- **How can we help?**

Three Examples

- **Mistake 1:** Failure to participate.
- **Mistake 2:** Failure to diversify.
- **Mistake 3:** Failure to refinance.

Mistake 1:
Failure to Participate

Figure 1: The US Wealth Distribution

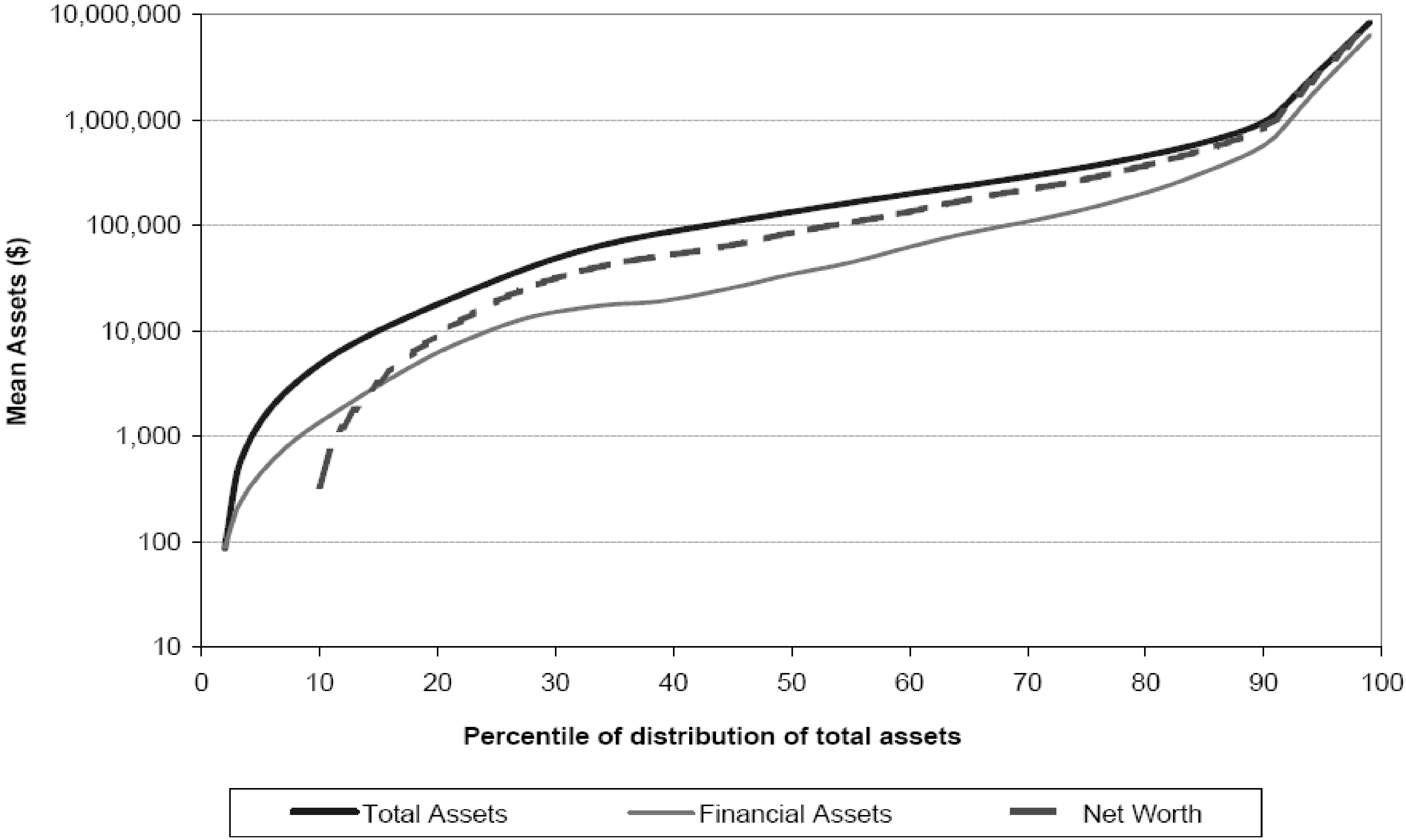


Figure 2: Participation Rates by Asset Class

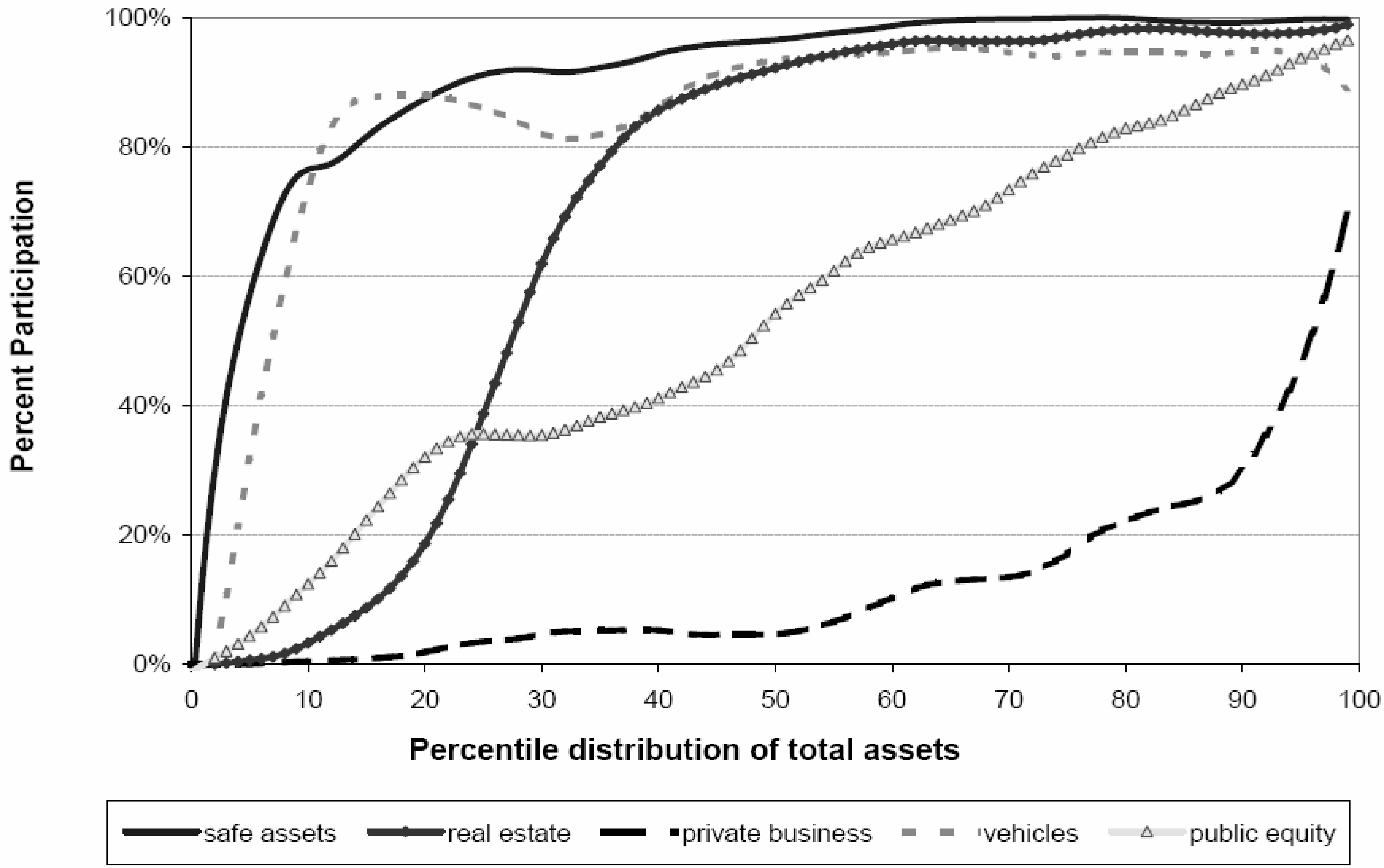
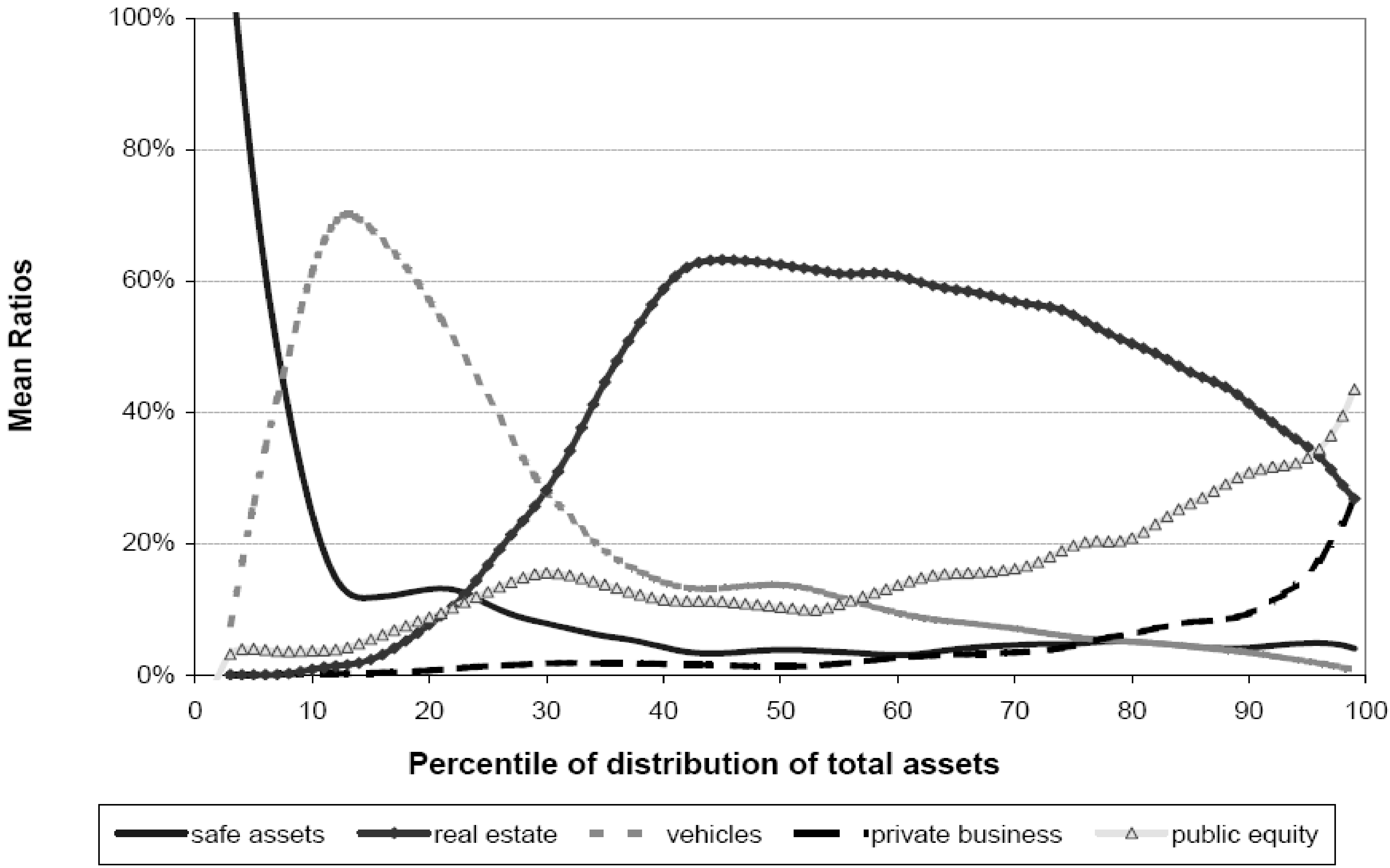


Figure 3: Asset Class Shares in Household Portfolios



Who Participates?

2001 Survey of Consumer Finances

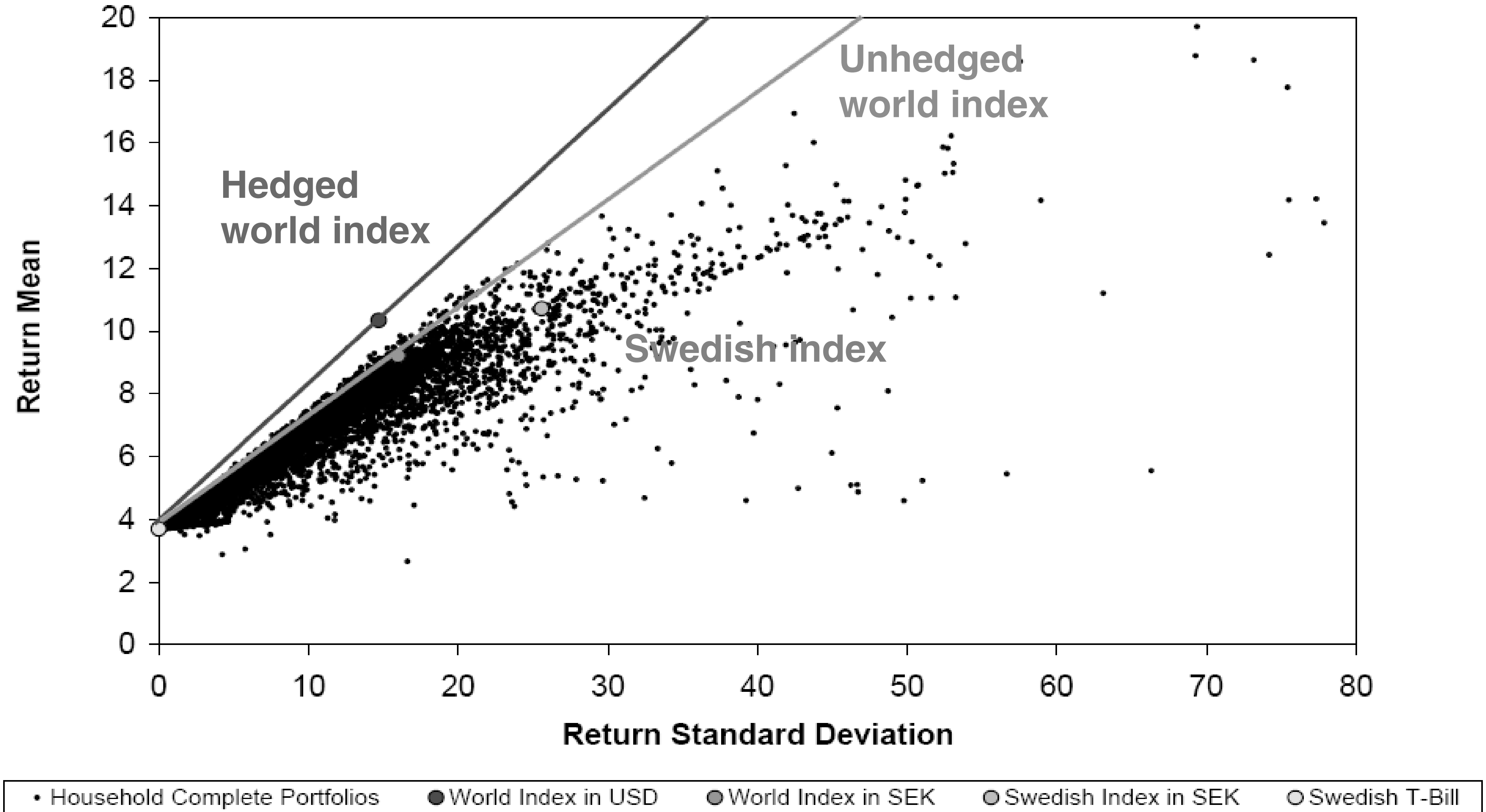
Reference	57% participation
High school	**15% increase**
College	**28% increase**
Income +1σ	**43% increase**
Wealth +1σ	**11% increase**

Mistake 2:
Failure to Diversify

The Measurement Challenge

- Surveys do not generally go down to the individual asset level.
- Brokerage account data do not show a household's complete portfolio.
- Calvet, Campbell, and Sodini (CCS 2005) use Swedish government data:
  - collected because Sweden has a wealth tax.
  - details of each citizen's portfolio at the end of each year.

Figure 4: Mean-Variance Efficiency of Swedish Household Portfolios (from Calvet, Campbell, and Sodini 2005)

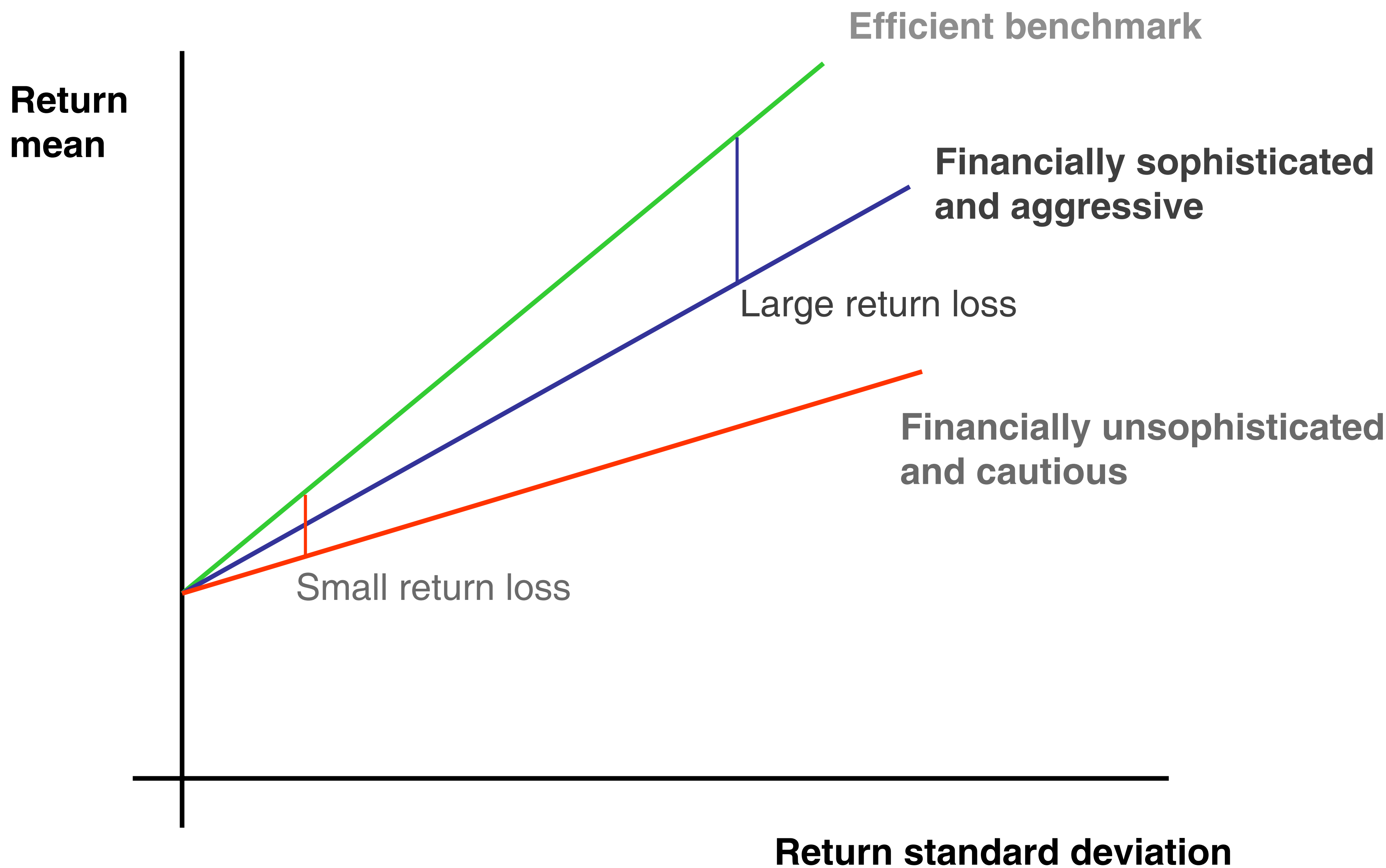


Who Fails to Diversify?

- The median Swedish household does quite well:
  - Sharpe ratio 35% below the hedged world index,
  - but only 14% below the unhedged world index,
  - and 8% above the Swedish index.
- A minority does much worse:
  - The 95th percentile Sharpe ratio reduction is 66% relative to the hedged world index,
  - and 55% relative to the unhedged world index.
- The dollar losses can be substantial:
  - 95th percentile \$1800/year relative to hedged index,
  - and \$650/year relative to the unhedged index.

Who Fails to Diversify?

- Older, poorer, less educated households tend to have lower Sharpe ratios.
- But they also tend to invest more cautiously.
- Offsetting effects on return losses from portfolio inefficiency.


Efficient benchmark
Return mean
Financially sophisticated and aggressive
Large return loss
Financially unsophisticated and cautious
Small return loss
Return standard deviation

Out of the Frying Pan

- These results suggest that some mistakes may result from attempting to avoid others.
- Less skillful households may take less risk, or may avoid risky assets altogether.
- CCS calculate the portfolio return loss for a typical nonparticipant:
  - 4.0% relative to efficient investing and total risk of a typical participant.
  - 2.2% relative to risk and Sharpe ratio predicted by demographic regression.

Mistake 3:
Failure to Refinance

The US Mortgage Market

- The mortgage is the largest financial contract for a typical household.
- In the US, nominal fixed-rate mortgages predominate.
- These mortgages carry a valuable option to refinance.
- Some households refinance slowly and pay high rates on old mortgages.

Figure 5: Fixed Rate Mortgage Share and Mortgage Rates

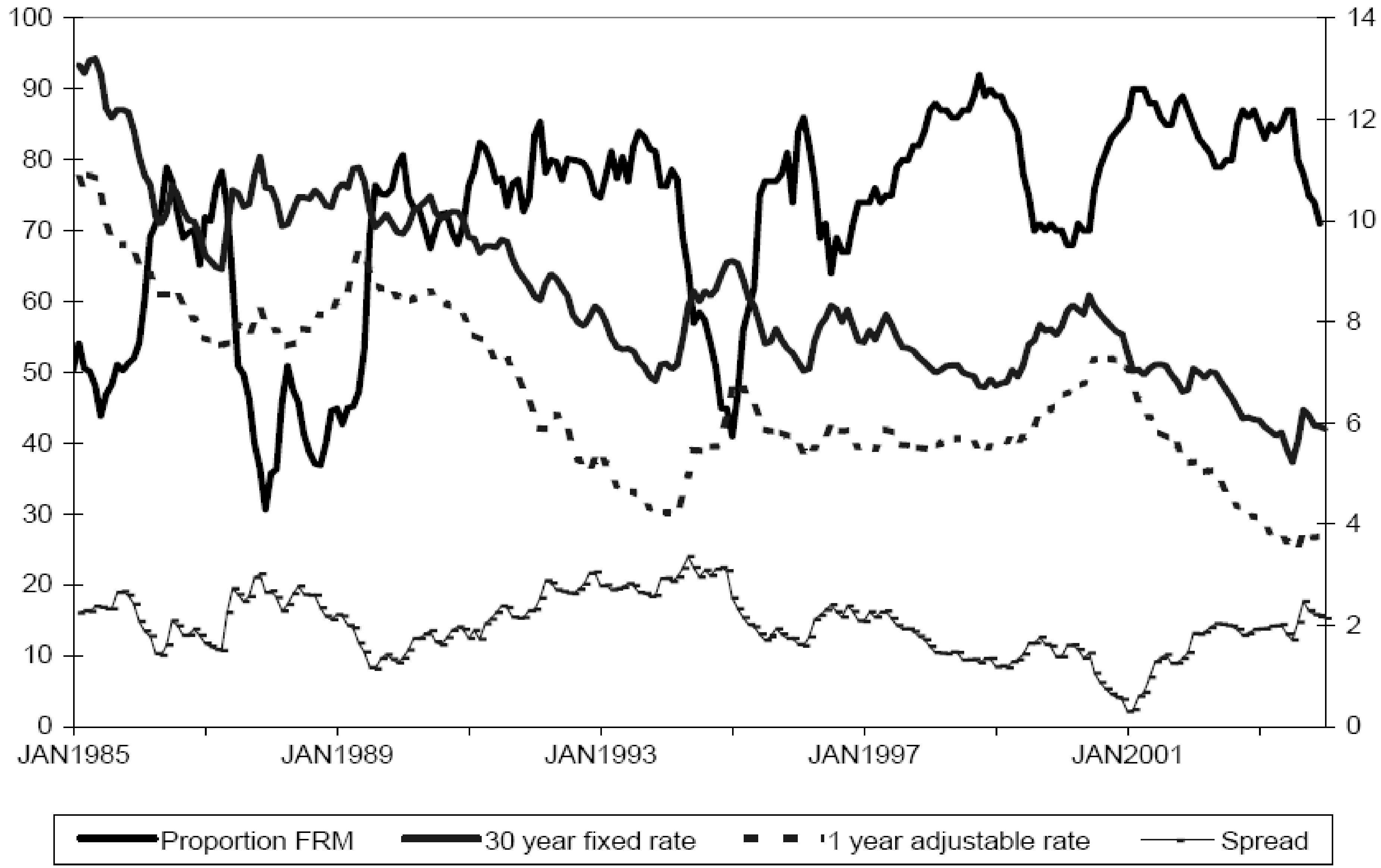
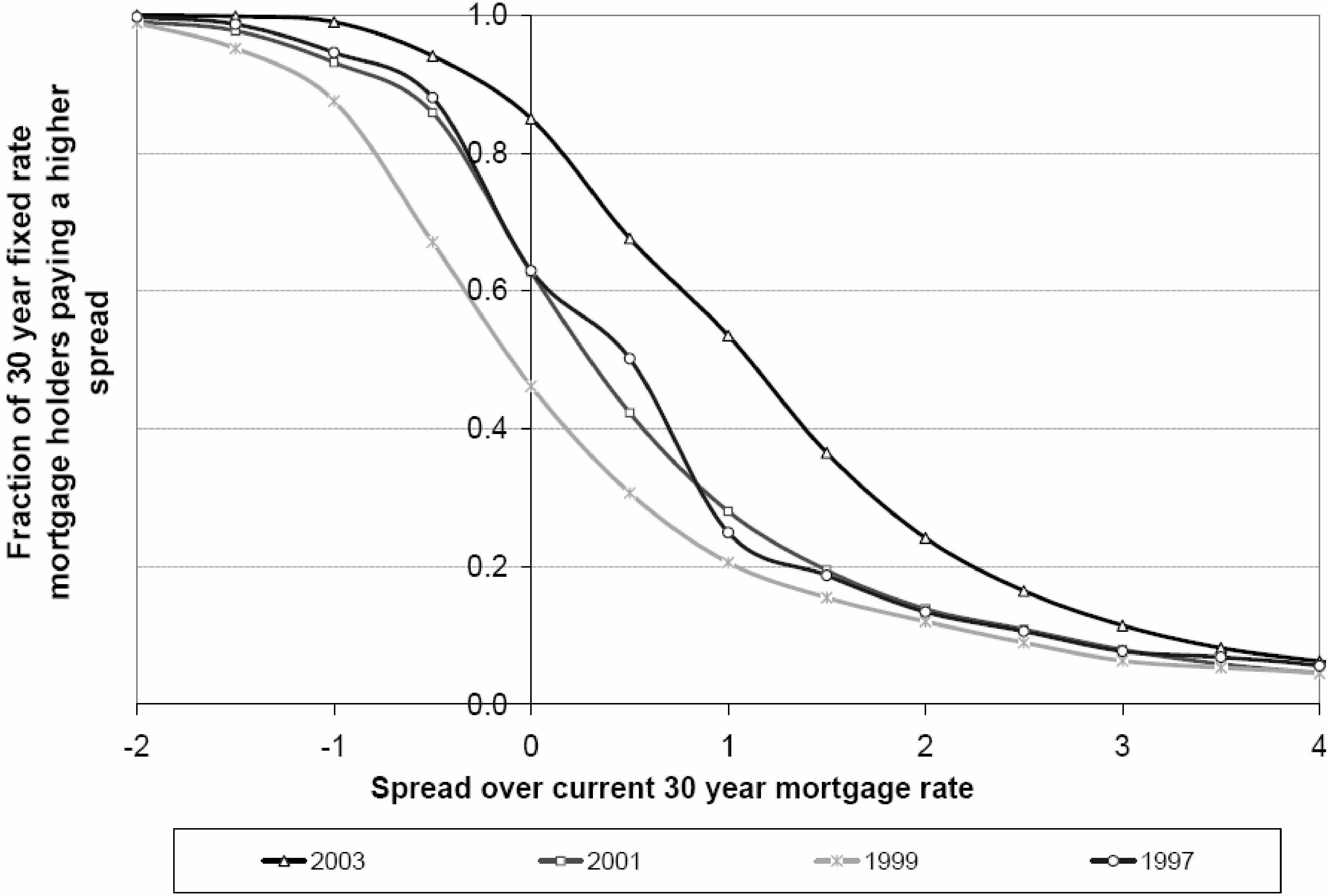


Figure 6: Distribution of Mortgage Spreads



Who Refinances?

American Housing Survey 2001-03

Reference	28%
High school	**5% increase**
College	**9% increase**
Income +1σ	**1% increase**
Home val. +1σ	**7% increase**
Age +1σ	**4% decrease**

Who Moves?

American Housing Survey 2001-03

Reference	5% confirmed
High school	**4% increase**
College	**5% increase**
Income +1σ	**1% increase**
Home val. +1σ	**0% decrease**
Age +1σ	**2% decrease**

Who Misstates Their Rate?

American Housing Survey 2001

Reference	1.3%
High school	**0.6% decrease**
College	**0.5% decrease**
Income +1σ	**0.3% decrease**
Home val. +1σ	**0.1% increase**
Age +1σ	**0.1% decrease**

Equilibrium Household Finance

Equilibrium Household Finance

- Household investment problems are inherently complex.
- Often, contracts do not make them easier.
- It may not be surprising that households make investment mistakes.
- But why don’t easier-to-manage contracts evolve?

Barriers to Financial Innovation

- **General barriers:**
  - Costs of reaching households.
  - Lack of effective patent protection.
- **Specific barrier to simplifying innovation:**
  - Complex products create cross-subsidy from naïve to sophisticated households.
  - Example: mortgage refinancing option.

Cross-Subsidy and Equilibrium

- Cross-subsidy permits “shrouded equilibrium” (Gabaix and Laibson 2006).
- Naïve households do not adopt a new product because they do not understand it.
- Sophisticated households lose cross-subsidy if they switch to the new product.
- Innovators do not gain by educating households.
- How important is cross-subsidy in practice?

Cross-Subsidy in Mortgages

- In the US, fixed mortgage rates are lower because of sluggish refinancing:
  - Total payments made in AHS exceeding current rate + 1%: 53bp in 1997, 43 bp in 1999, 66bp in 2001, and 107bp in 2003.
- This inhibits the development of automatically refinancing or inflation-adjusted mortgages.

Cross-Subsidy in Mortgages

- Miles Report on UK mortgage finance
- UK adjustable mortgages offer
  - low teaser rate (roughly LIBOR).
  - high standard rate (LIBOR + 175bp).
  - no refinancing penalty.
- This is possible only because of sluggish refinancing
  - almost 1/3 of borrowers paid standard rate in 2003.
- It inhibits the use of fixed-rate mortgages.

Conclusion

Investment Mistakes

- **Who makes them?**
  - Poorer and less educated households.
- **What are the welfare costs?**
  - Modest for many, substantial for some.
  - Interactions across mistakes.

Investment Mistakes

- **Does financial innovation help?**
  - Often proceeds slowly in retail markets.
  - The problem of cross-subsidy.
  - IT may help by allowing cheap customization.

- **How can we help?**
  - Basic financial literacy.
  - Disclosures, default options, and product design: household financial engineering.