

Discussion of
“Accounting for Changes in the Homeownership Rate”

by Chambers, Garriga and Schlagenhauf

Dirk Krueger

University of Pennsylvania, CEPR, and NBER

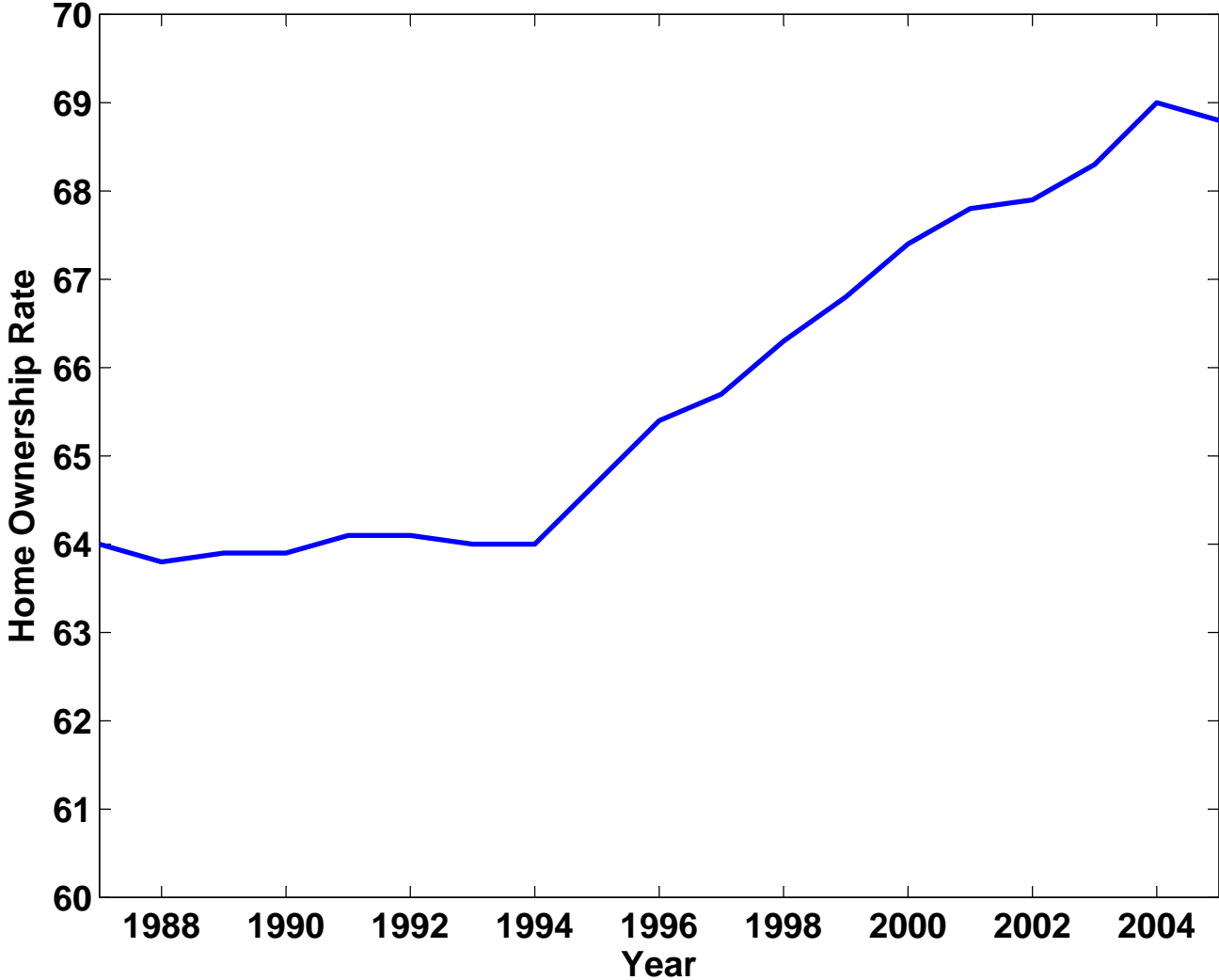
EFG Meetings in New York

February 8, 2007

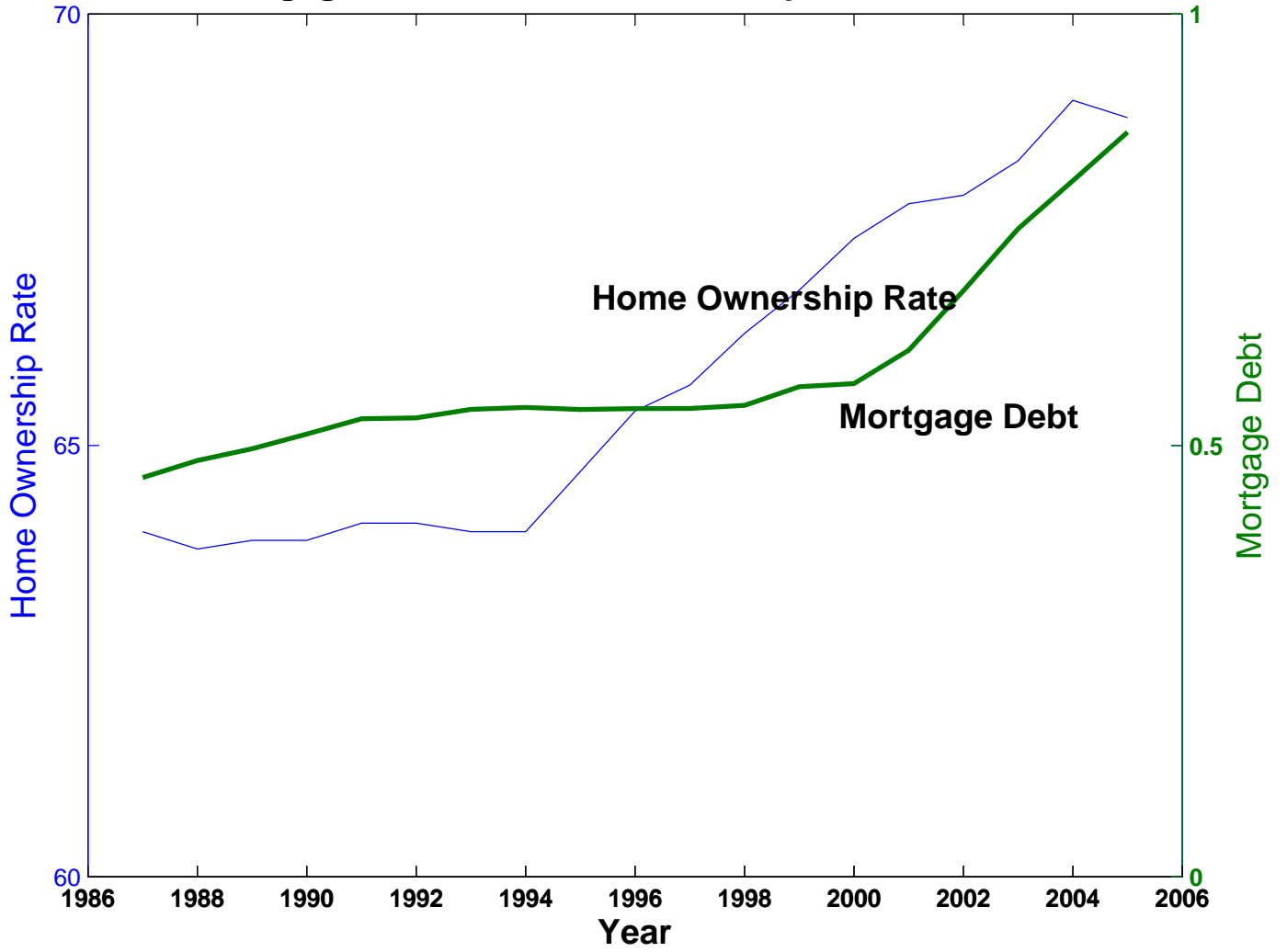
Key Trends in the Housing Market 1994-2005

- Home ownership rate has increased a lot.
- Mortgage debt has increased a lot.
- House prices have increased a lot.

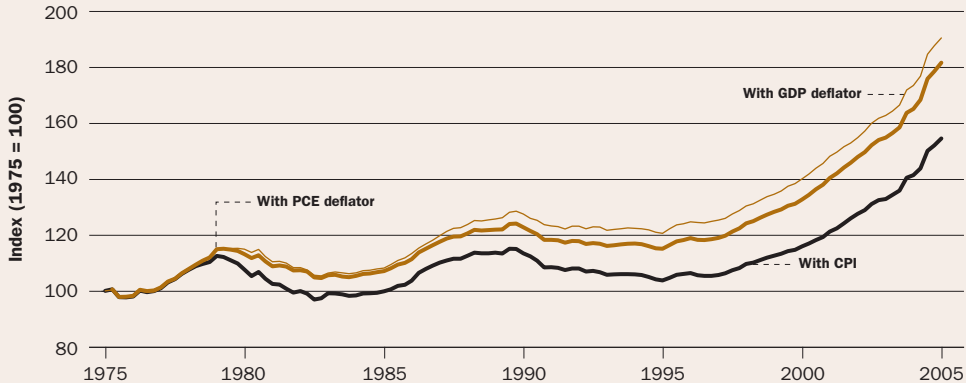
Home Ownership Rate in the U.S.



Mortgage Debt and Home Ownership Rate in the U.S.



Real house price index



Objective of the Paper

- Construct an OLG model with endogenous housing choice to answer:
- Question 1: Can a calibrated version of the model account for observed home ownership rates (by age) in 1994?
- Question 2: Can changes in the age structure of the population and financial innovation in the mortgage market account for the increase in homeownership rate between 1995 and 2005?

Outline of the Discussion

- What drives tenure decisions over the life cycle?
- How well does the model account for home ownership over the life cycle?
- Why do home ownership rates change along the transition from 1994 to 2005?
- What may be missing?

Housing Choice over the Life Cycle

- Frictionless benchmark model

$$\max_{\{c_t, s_t, a_{t+1}, h_{t+1}\}} \sum_{t=0}^T \beta^t u(c_t, s_t)$$

s.t.

$$c_t + a_{t+1} + h_{t+1} = y_t + (1 + r)a_t + (1 - \delta)h_t + R(h_{t+1} - s_t)$$

Housing Choice over the Life Cycle

- Households indifferent between owning and renting, portfolio choice indeterminate

$$\begin{aligned} 1 + r &= \frac{1 - \delta}{1 - R} \\ \frac{u_2(c_t, s_t)}{u_1(c_t, s_t)} &= \frac{r + \delta}{1 + r} \end{aligned}$$

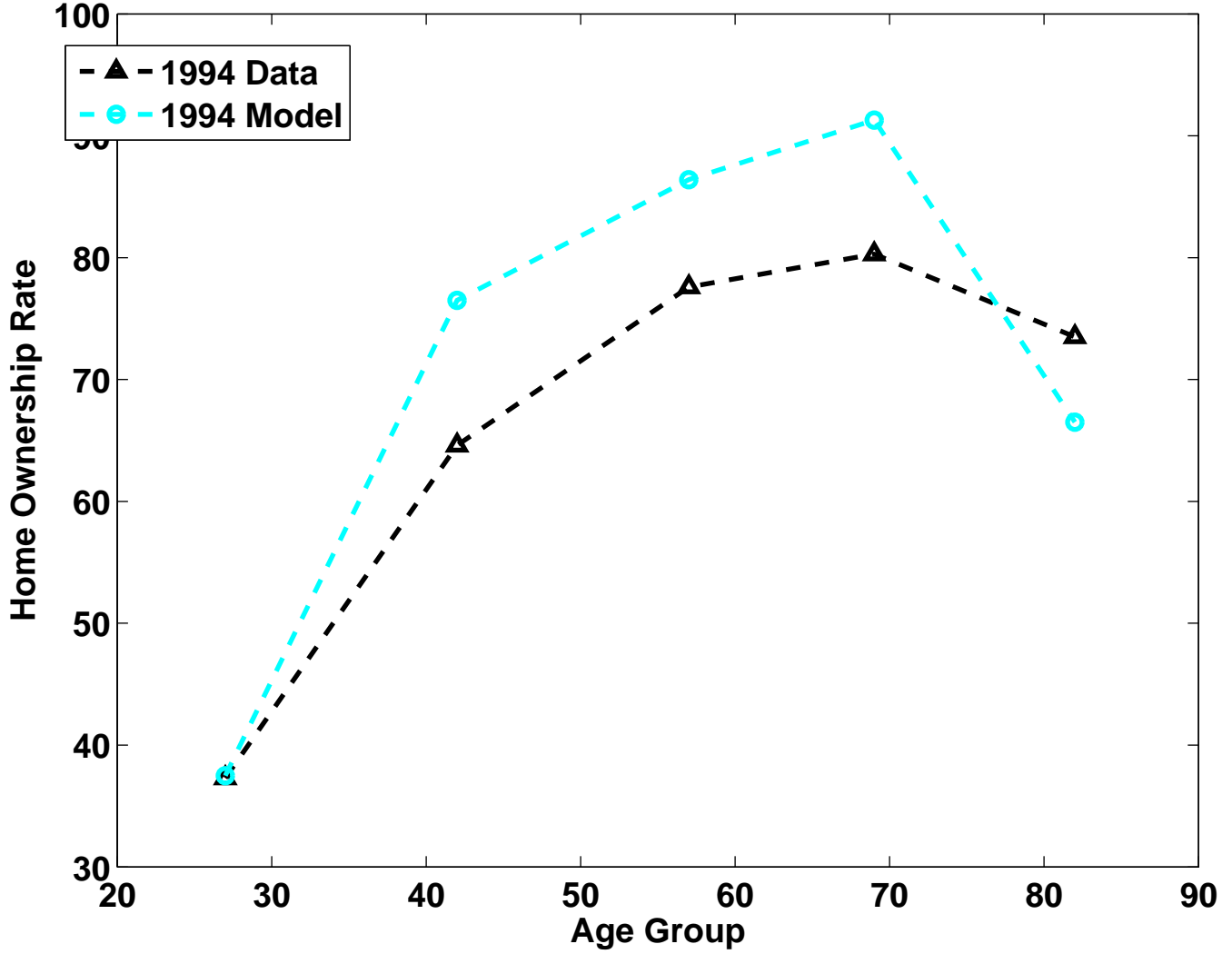
Introducing Trade-Offs

- Elements that favor renting/discourage owning:
 - Downpayment requirement: only mortgage contract is 30 year fixed with 20% down.
 - Housing is lumpy: $h_{t+1} \in \{0, \underline{h}, \dots, \bar{h}\}$.
 - Transaction costs for buying.
 - Selling is risky (but not costly).
 - Fixed cost of becoming a landlord.

Introducing Trade-Offs

- Elements that favor owning:
 - Renting is more expensive: $\delta_o < \delta_r$
 - Tax system: mortgage interest payments tax-deductible, imputed income from owner-occupied housing not taxed.

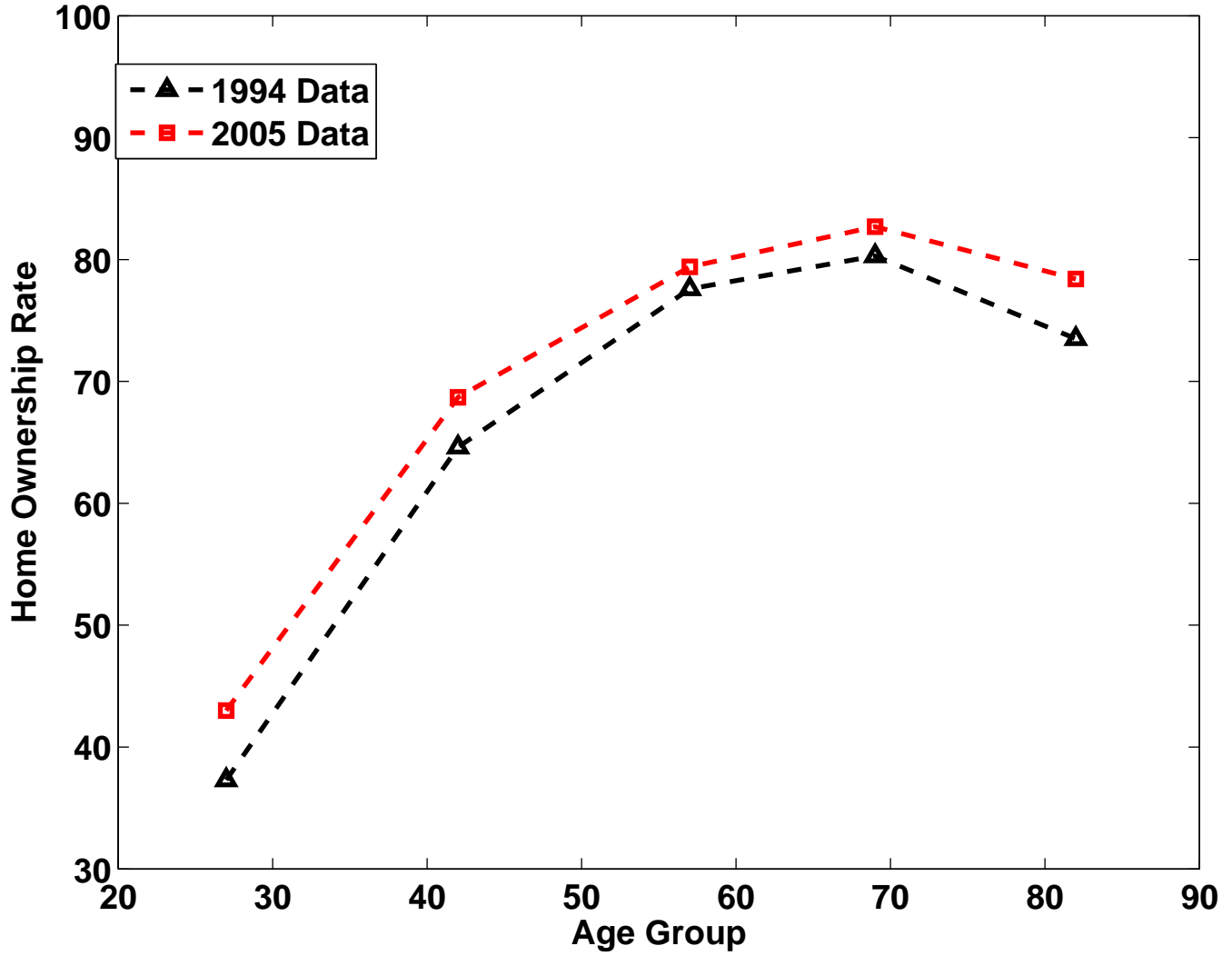
Home Ownership Rate by Age



Accounting for the Change: Contenders _____

- Changes in demographics
- Financial innovation in the mortgage sector
 - Reduction in transaction costs
 - Relaxation in downpayment constraint
 - Introduction of combo loan

Home Ownership Rate by Age



Accounting for the Change: Demographics

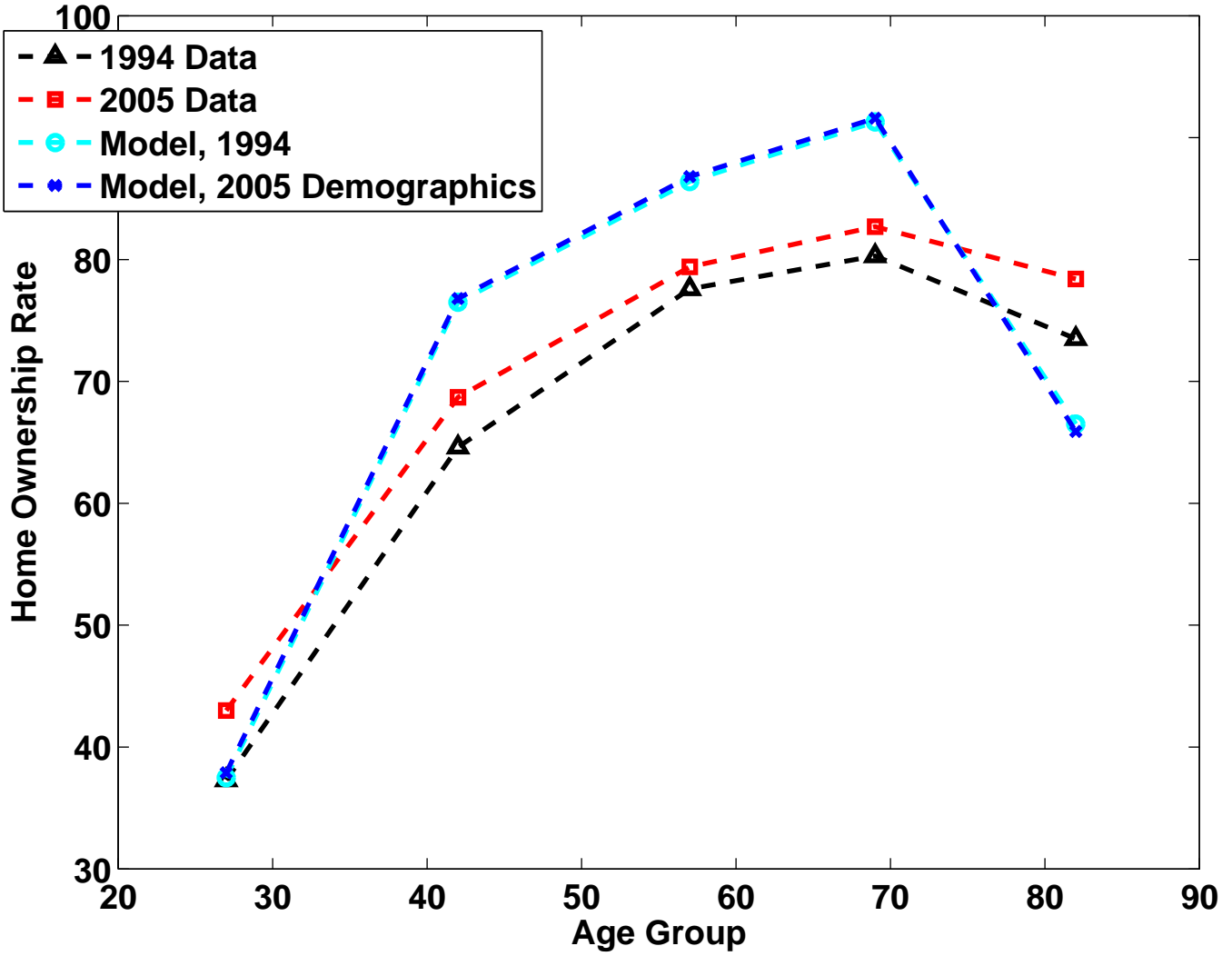
- Changes in the population age structure:

Table I: Changes in Demographics

	20-34	35-49	50-64	65-74	75-89
1994	32%	32%	19%	10%	8%
2005	29%	31%	23%	9%	8%
HOR 94	37%	65%	78%	80%	74%

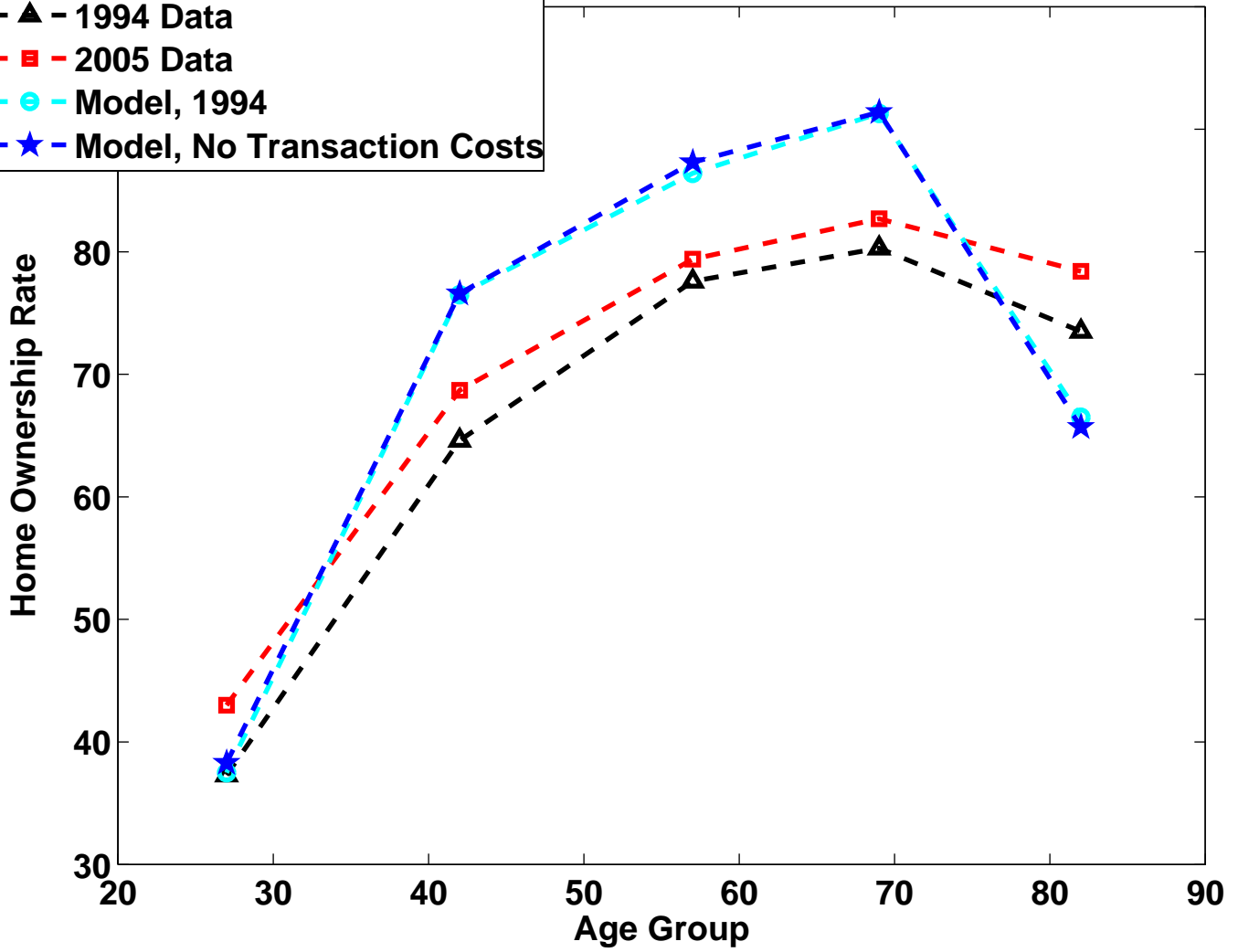
- Pure accounting generates an increase in the HOR of 1.5 percentage points.

Home Ownership Rate by Age



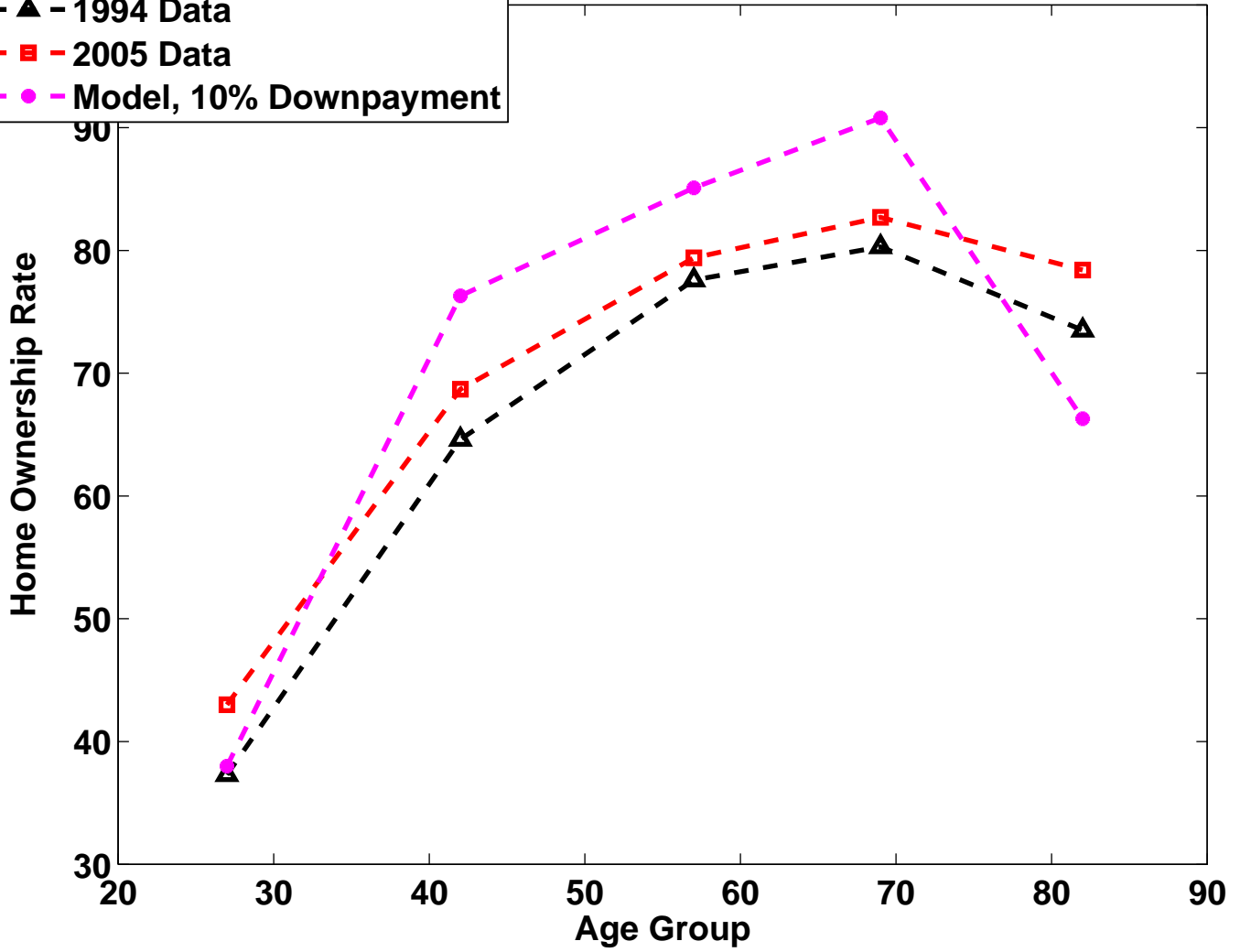
Home Ownership Rate by Age

- ▲- 1994 Data
- 2005 Data
- Model, 1994
- ★- Model, No Transaction Costs

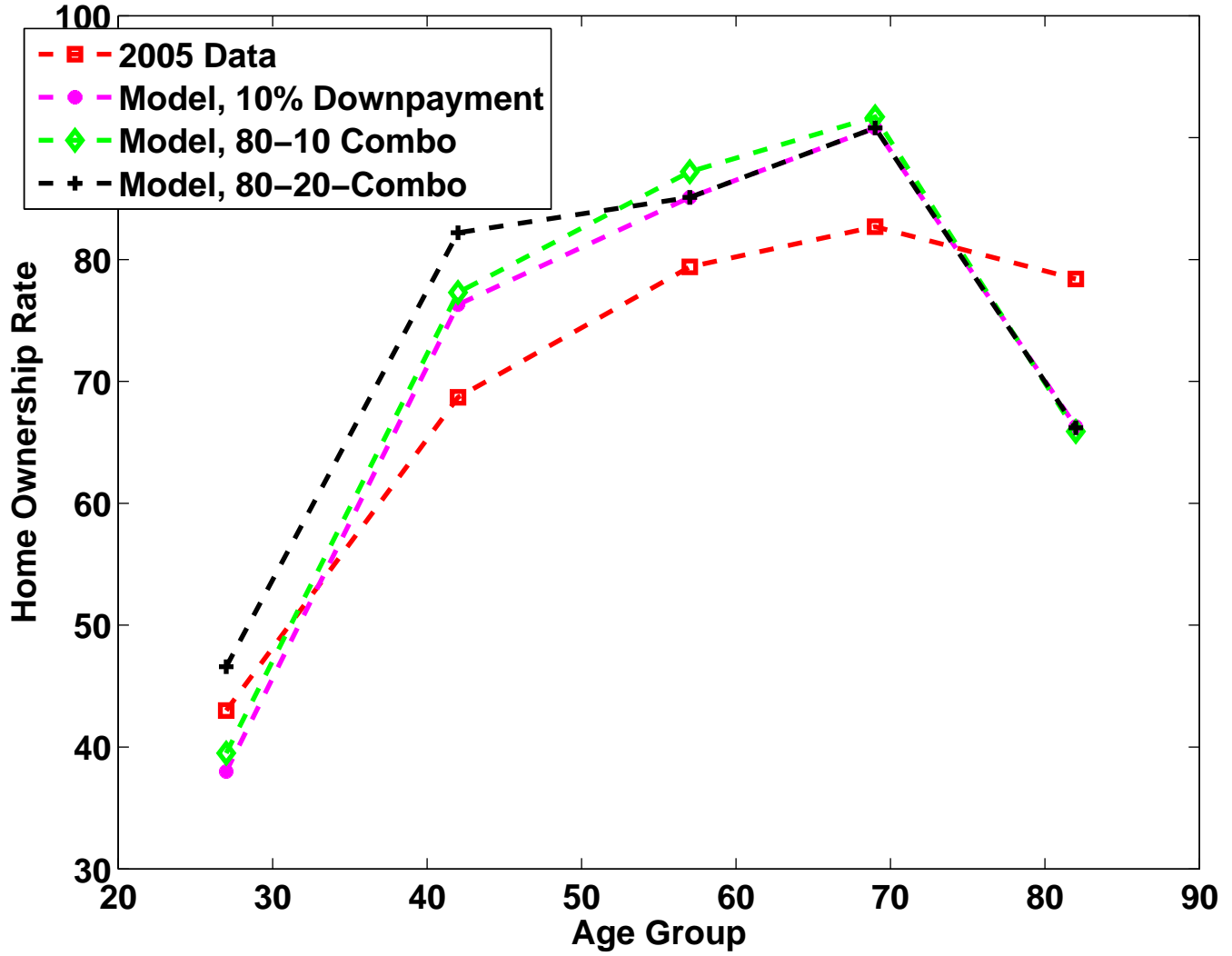


Home Ownership Rate by Age

- ▲ - 1994 Data
- ■ - 2005 Data
- ● - Model, 10% Downpayment



Home Ownership Rate by Age



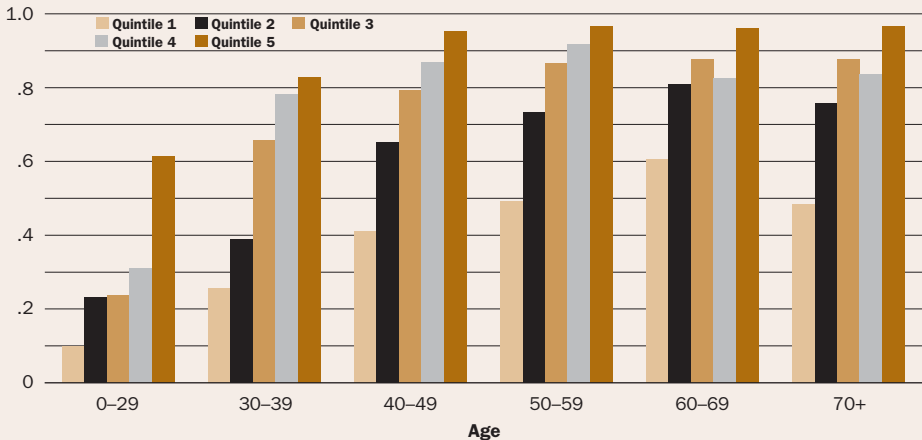
What is Missing from the Paper

- Transition analysis is remarkable. Document what comes out in much greater detail (at expense of steady state analysis).
- Show joint distribution of home ownership rate by age and income.
- Document implications for mortgage debt.
- Discuss the role of peculiar model elements (e.g. the house price shock ξ , the timing assumption s_t vs. h_{t+1}).

What is Missing from the Model?

- Allow for changes in p between 1994 and 2005 (and expectations of p beyond 2005). Li and Yao (2007).
- Optimal leverage and equilibrium default (Krueger and Jeske, 2005).
- (Constrained-) Optimal mortgage design (Piskorski, 2007).

Homeownership ratios by income quintile and age group



To Conclude...

- Very careful piece of quantitative work that addresses an important and big stylized fact.
- Passes the time series test for the U.S. For other countries, too?
- Can you predict what tighter credit/falling prices will do to the home ownership rate in the next few years?