HKU BUSINESS SCHOOL
港大經管學院

Why is Hong Kong Housing So Expensive?

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A New Normal?

Year	Number of Subdivided units
2016	91,787
2021	107,371

Source: Population Census

“There are a lot of deformed housing types, and the poor are forced to live in sub-divided houses, board houses, cage houses, space capsules, etc., sleeping with lice and worms, suffering countless sleepless nights…. This is Hong Kong, our city.”

Source: SoCO 香港社區組織協會 Society for Community Organization

Reservations will be accepted from March 12, 2023.
Location: 2/F, 15 Ka Sin Street, Tai Kok Tsui
Guided Tour & Human Library

My goal today

Unpack economics of subdivided housing

Approach:

1. Examine census and housing data
2. Pay attention to institutional detail
3. Reason about economic mechanisms

Popular Hypotheses

1. Not enough **supply** of affordable houses
2. People increasingly **demand** small houses
3. Broken **ladder**: people cannot buy

Conclusion: Hard and expensive to fix!

My argument

Public housing rules are a key contributor

This is GOOD NEWS!

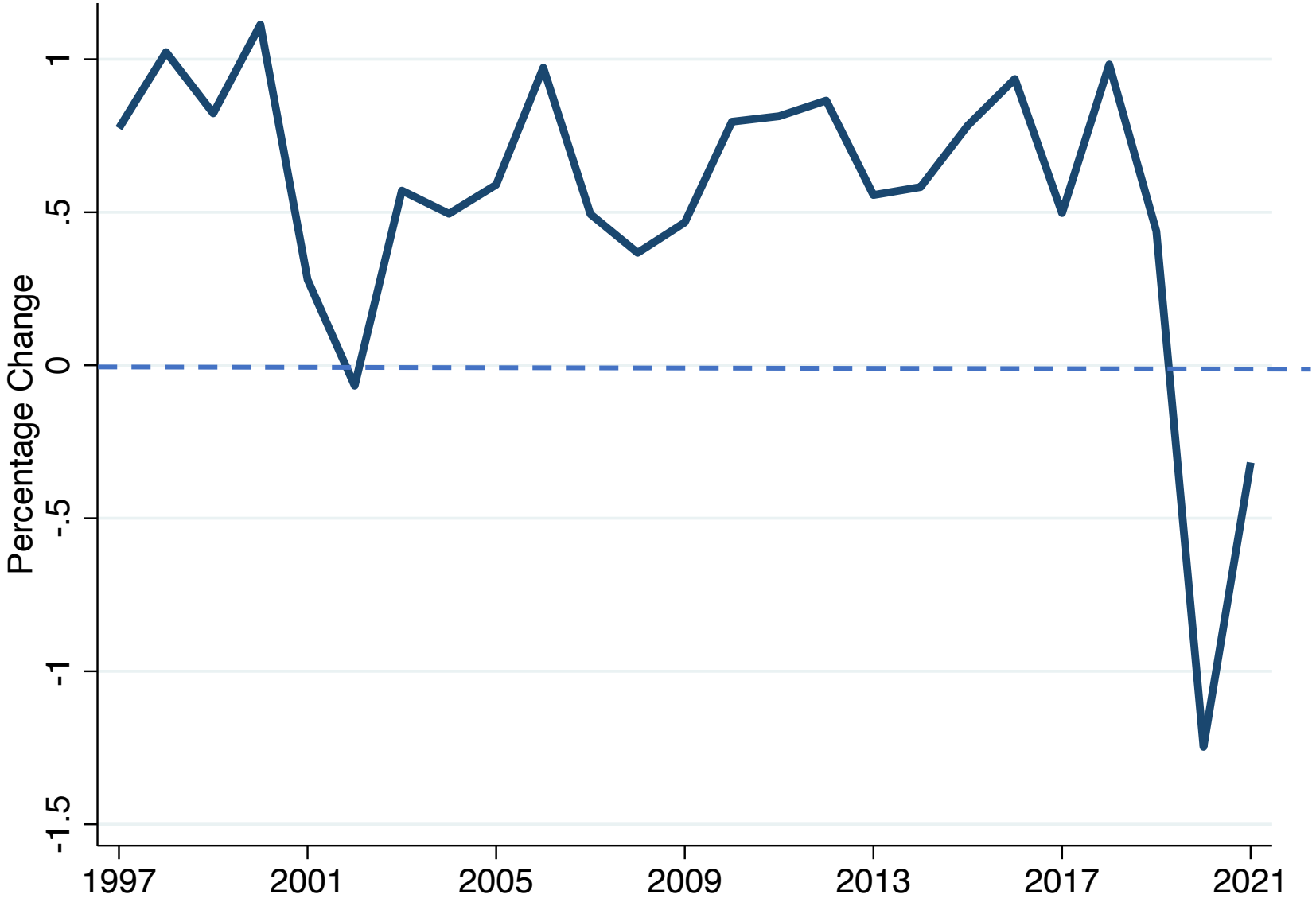
There are achievable policy solutions

Outline

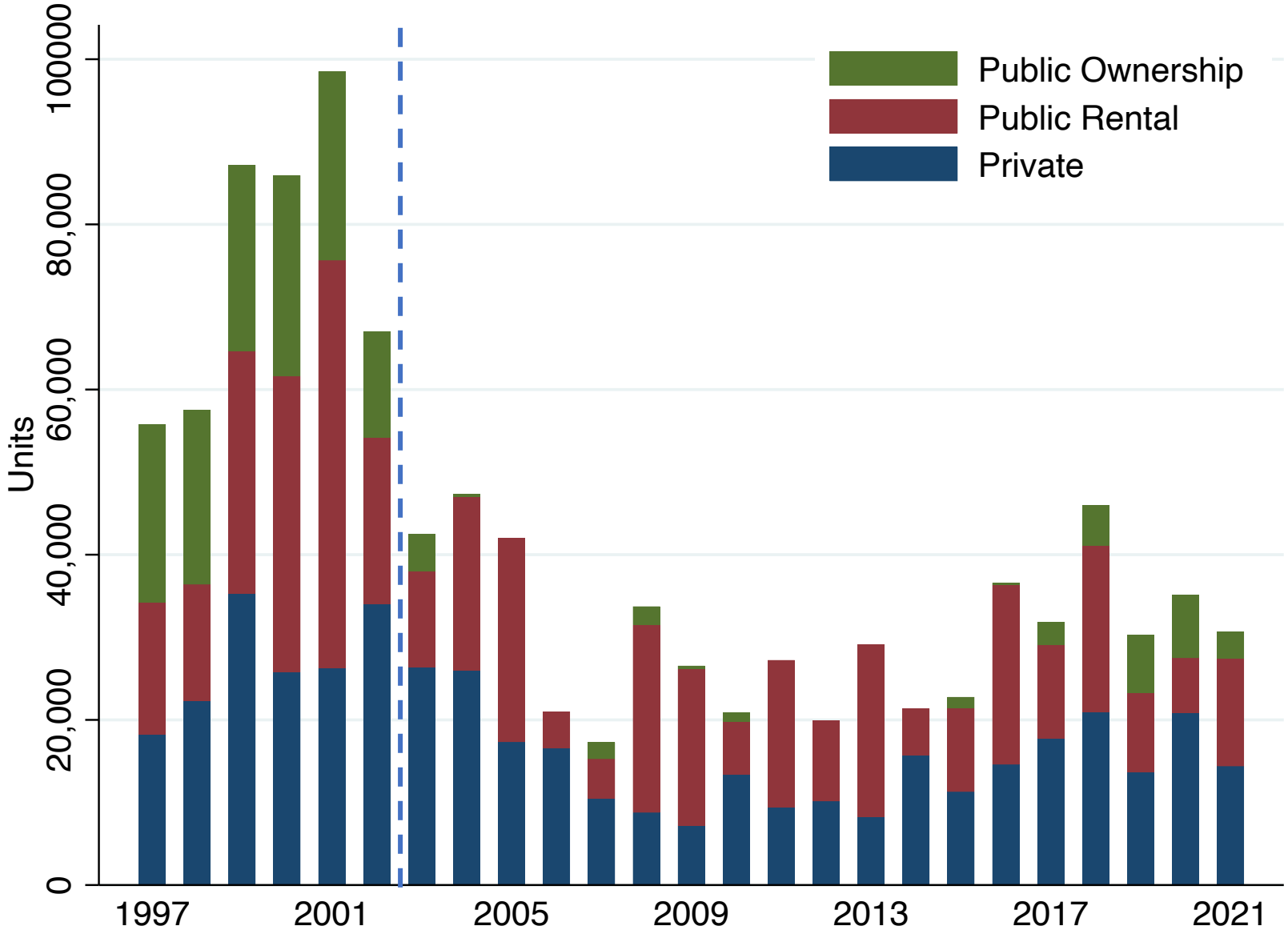
1. Basic Facts about Hong Kong
2. Housing Expenditure Shares
3. Misallocation and Affordability in the Rental Sector
4. Squeeze-ball Theory of Dual Housing Markets
5. Trends in Housing Mobility
6. Hermit Crab Theory of Housing Ladders
7. Policy Recommendations

Basic Facts about Hong Kong

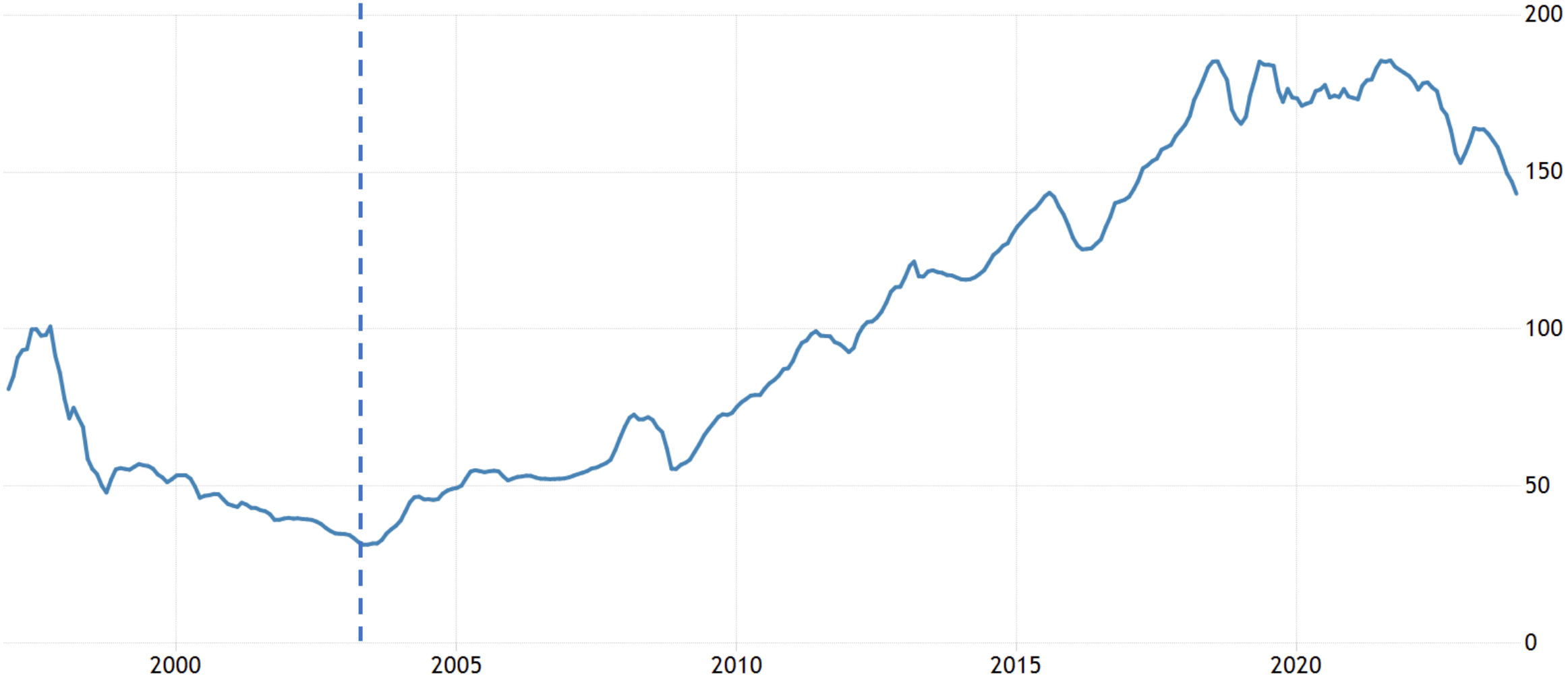
Population grew about 0.5% a year



After 2003, new construction slowed



After 2003, housing price index tripled



The standard story

1. Steadily increasing demand until 2019
2. Reduced construction after 2003
3. Very sharp price increase after 2003 until 2019

→ *Not enough housing supply*

The standard story is incomplete

1. Public sector is ignored
   → Nearly half of HK population lives in public housing

2. Housing heterogeneity is ignored
   → Prices rose much faster for low-quality / small units

3. Population growth is slow
   → Cannot easily explain rapid price increase

Public Rental Housing (PRH)

- ~30% of population
- Size: 200-400 sq ft
- Rent: ~HKD 2000/mo
- Income and asset tested
- First-come first-serve
- Rents increase at most 10% every two years

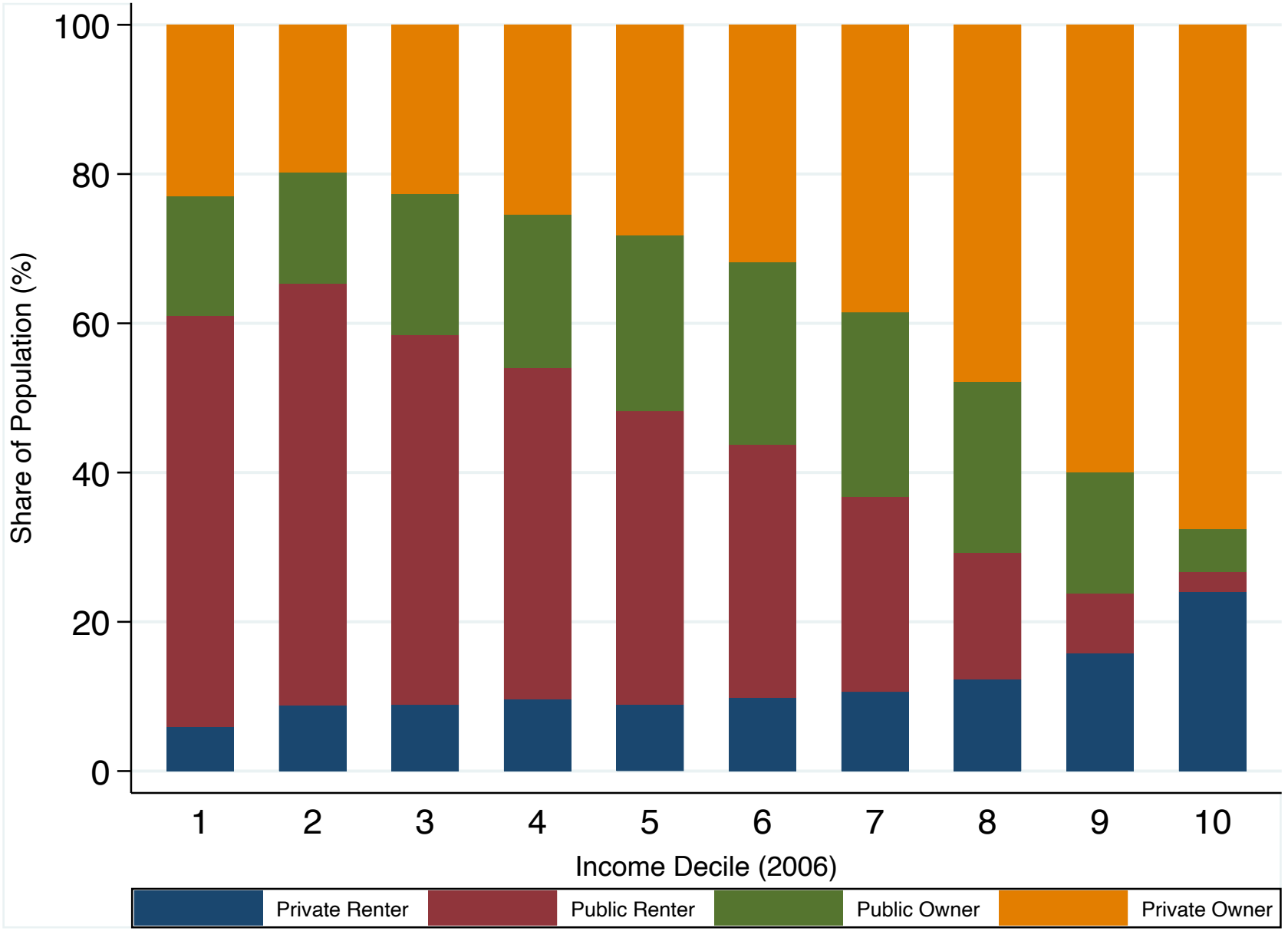
Homeownership Scheme (HOS)

- ~10% of population
- Size: ~600 sq ft
- Market price: ~HKD 4M
- Premium discount: 35-50%
- Lottery among qualified applicants
- Cannot lease or resale until premium repaid

Tenants Purchase Scheme (TPS)

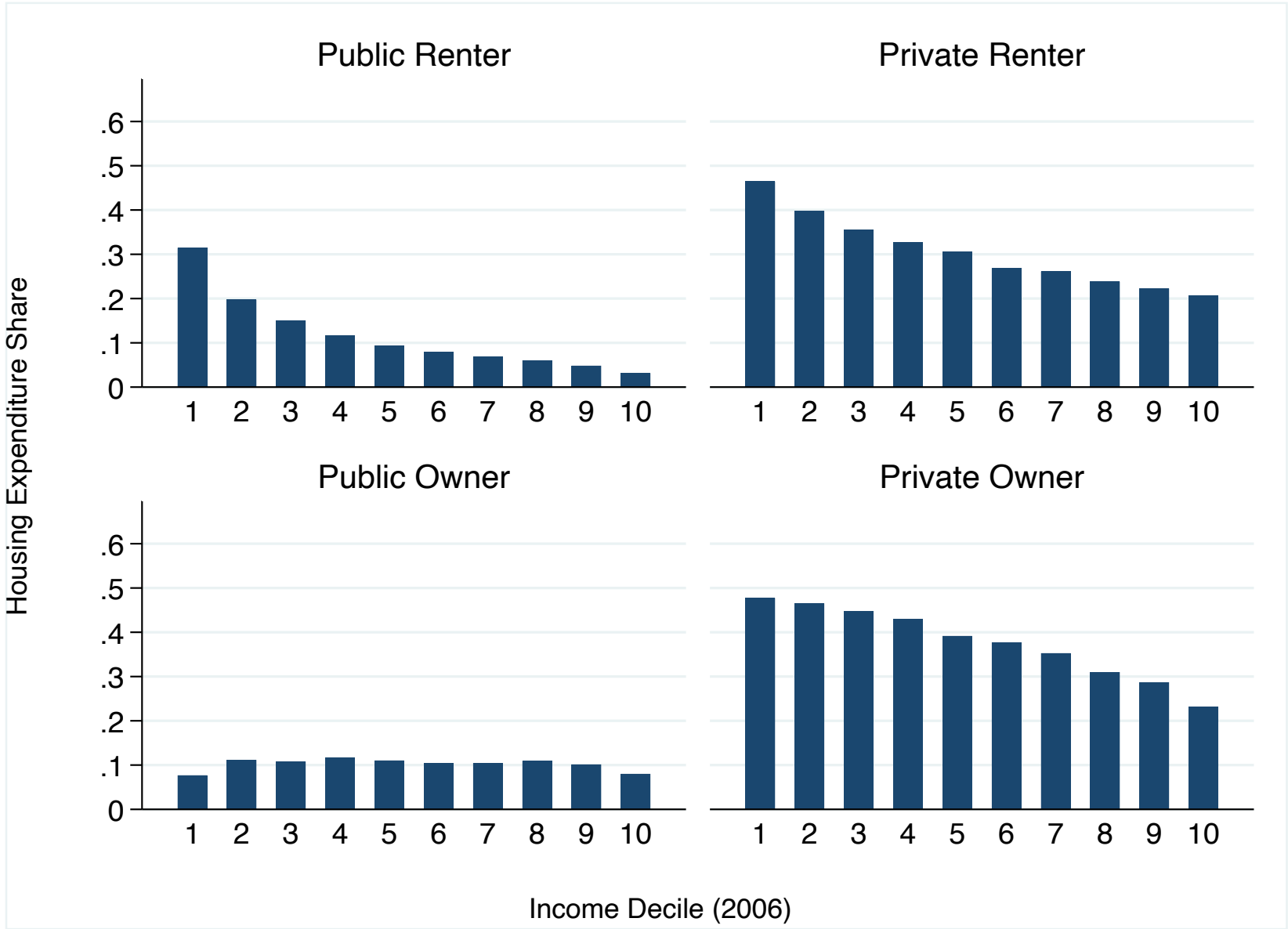
- Allowed renters in some PRH estates to buy unit (1998-2006)
- Size: Same as PRH
- Market price = ~HKD 2M
- Premium discount = 82-86%
- ~5% population
- Cannot lease or resale until premium repaid (same as HOS)

Hong Kong's Housing Ladder (2006)

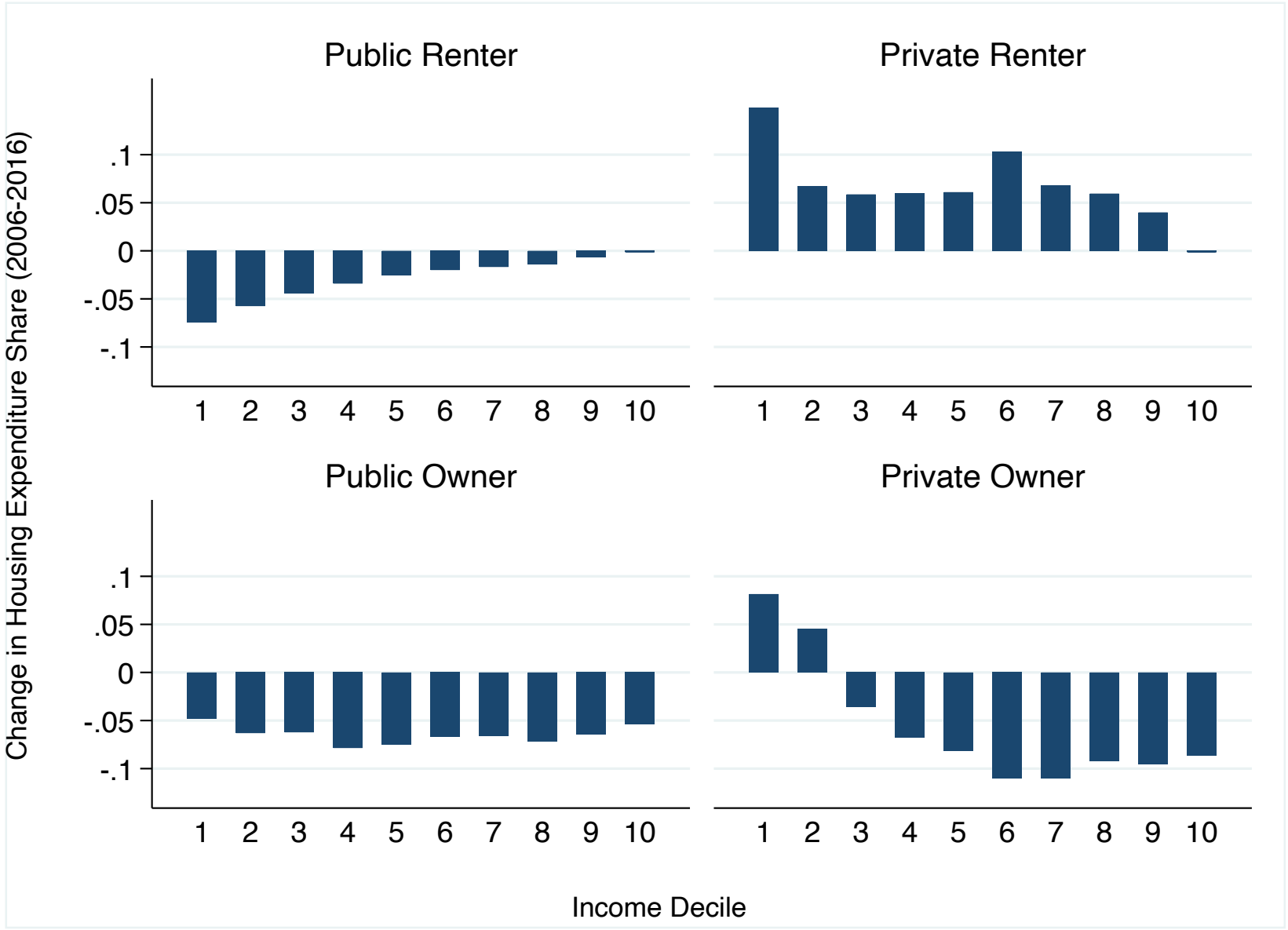


Housing Expenditure Shares: 2006-2016

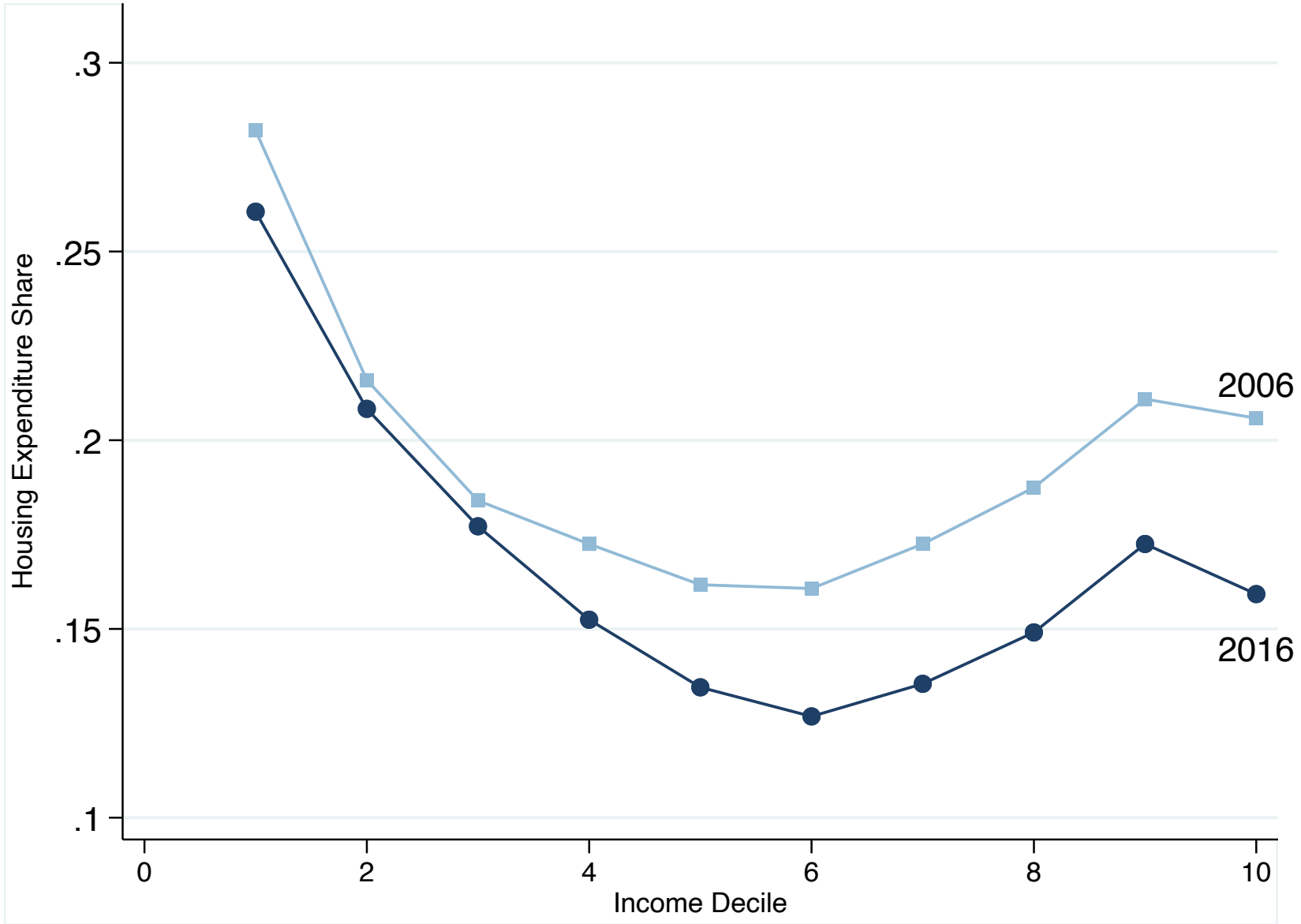
Housing expenditure share, by income and tenure, 2006



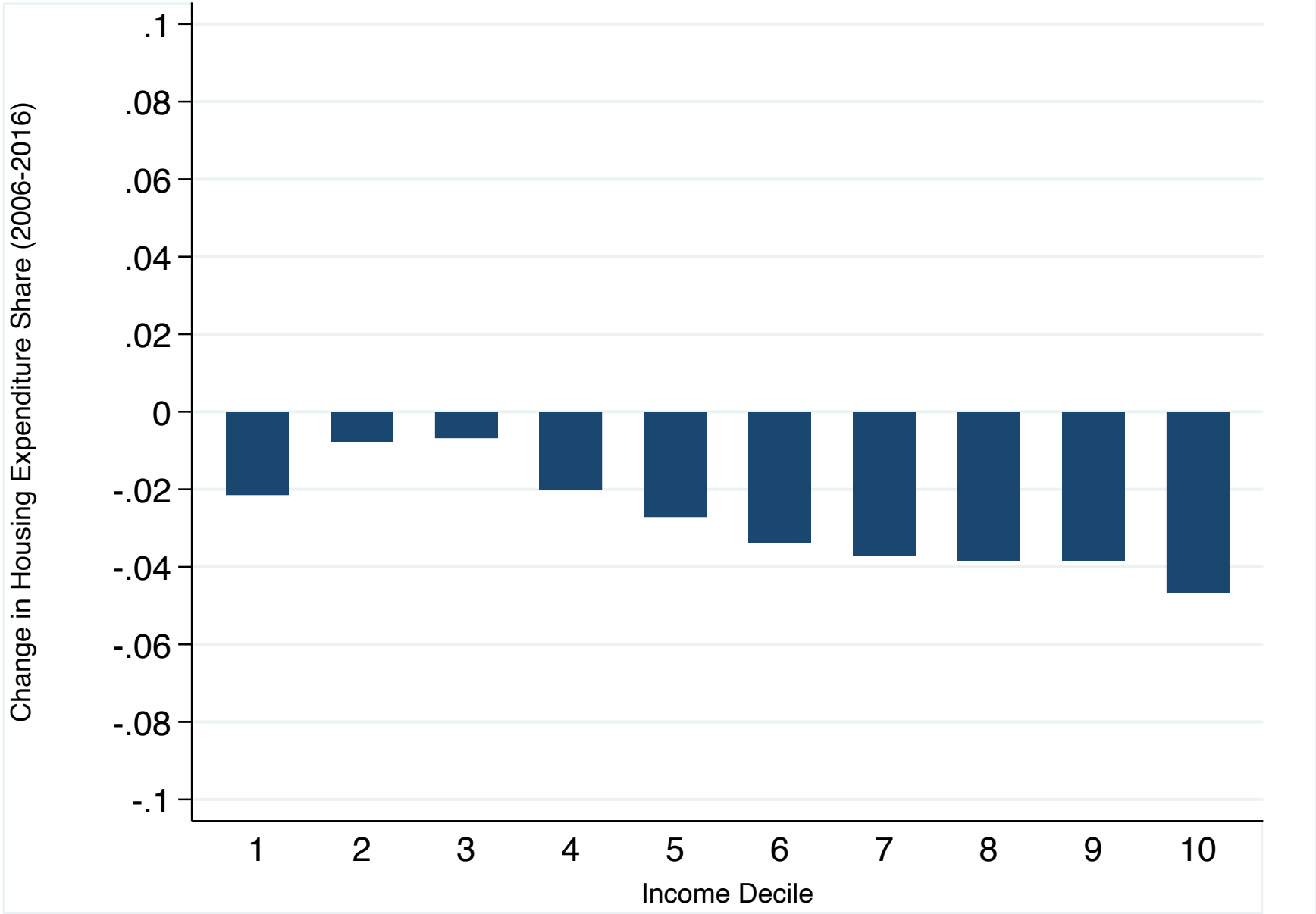
Change in housing expenditure share, 2006-2016



Housing expenditure share, by income



Change in housing expenditure share, 2006-2016



Summary: Housing Expenditure Shares

1. Fell in 2006-16 despite skyrocketing prices

2. Increased only for low-income households in private sector

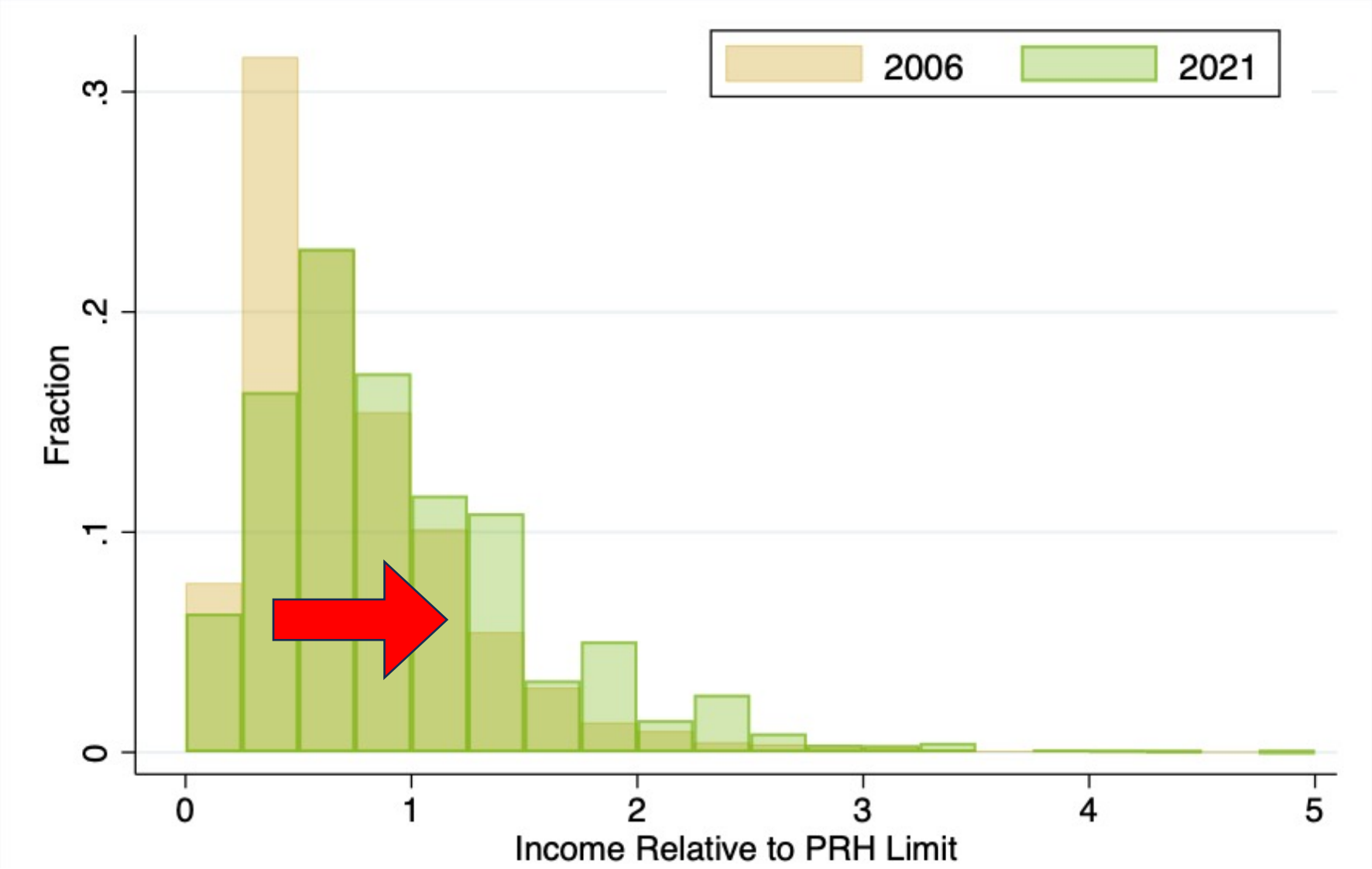
Misallocation and Affordability in the Rental Sector: 2006-2021

Well-off public renters sharply increased

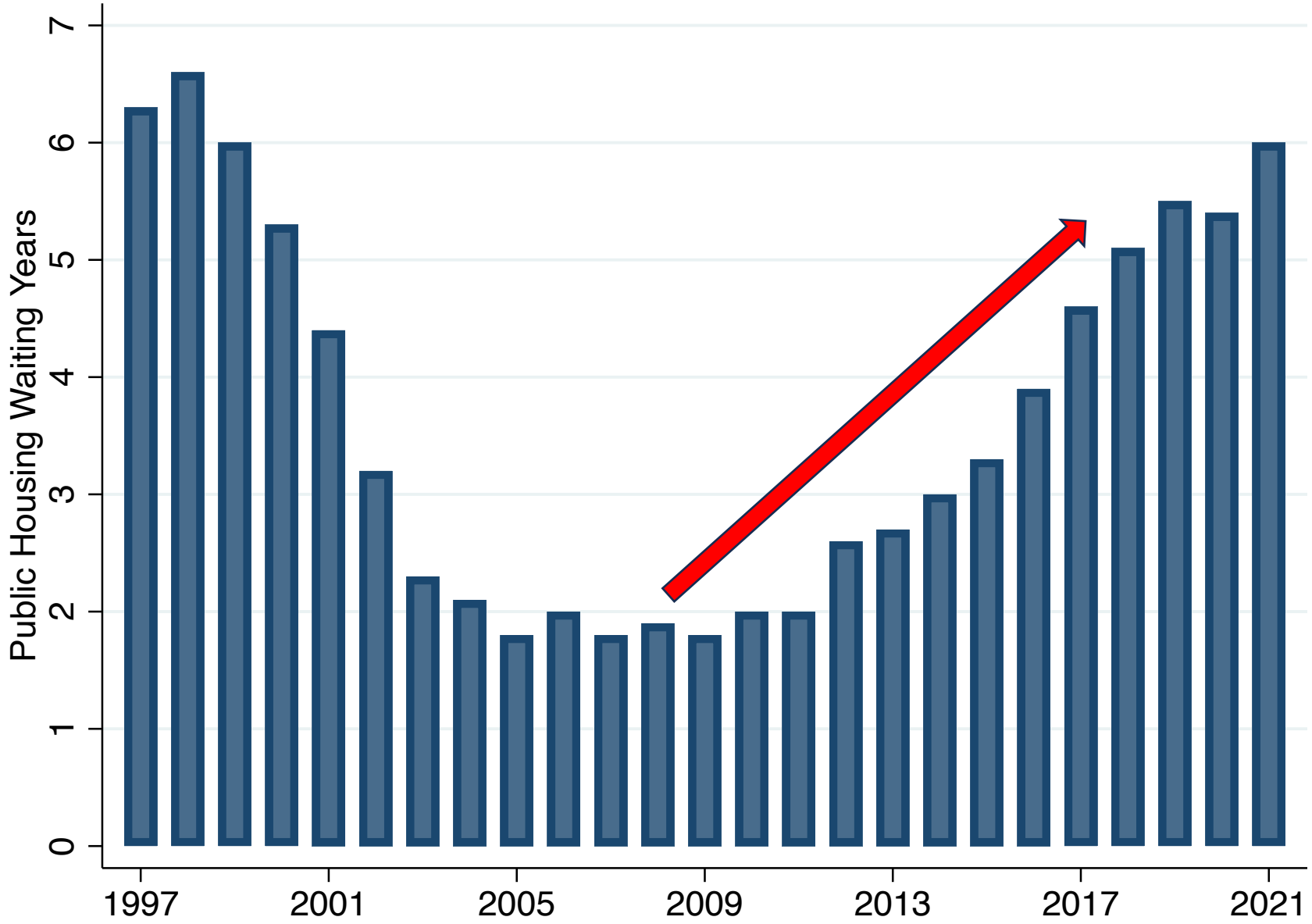
	2006	2011	2016	2021
Below PRH Limit	536,180	574,340	495,180	521,840
1-2X PRH Limit	137,080	157,240	237,120	244,860
2-3X PRH Limit	13,640	14,620	29,260	41,920
> 3X PRH Limit	5,260	4,420	7,520	9,660
Total	692,160	750,620	769,080	818,280

Source: 5% Samples of the Hong Kong Population Census. Real incomes are computed using non-housing CPI. The 2021 PRH Income Limit is used throughout.

Real income of public renters rose by 25%



Average PRH wait time is now 5.6 years

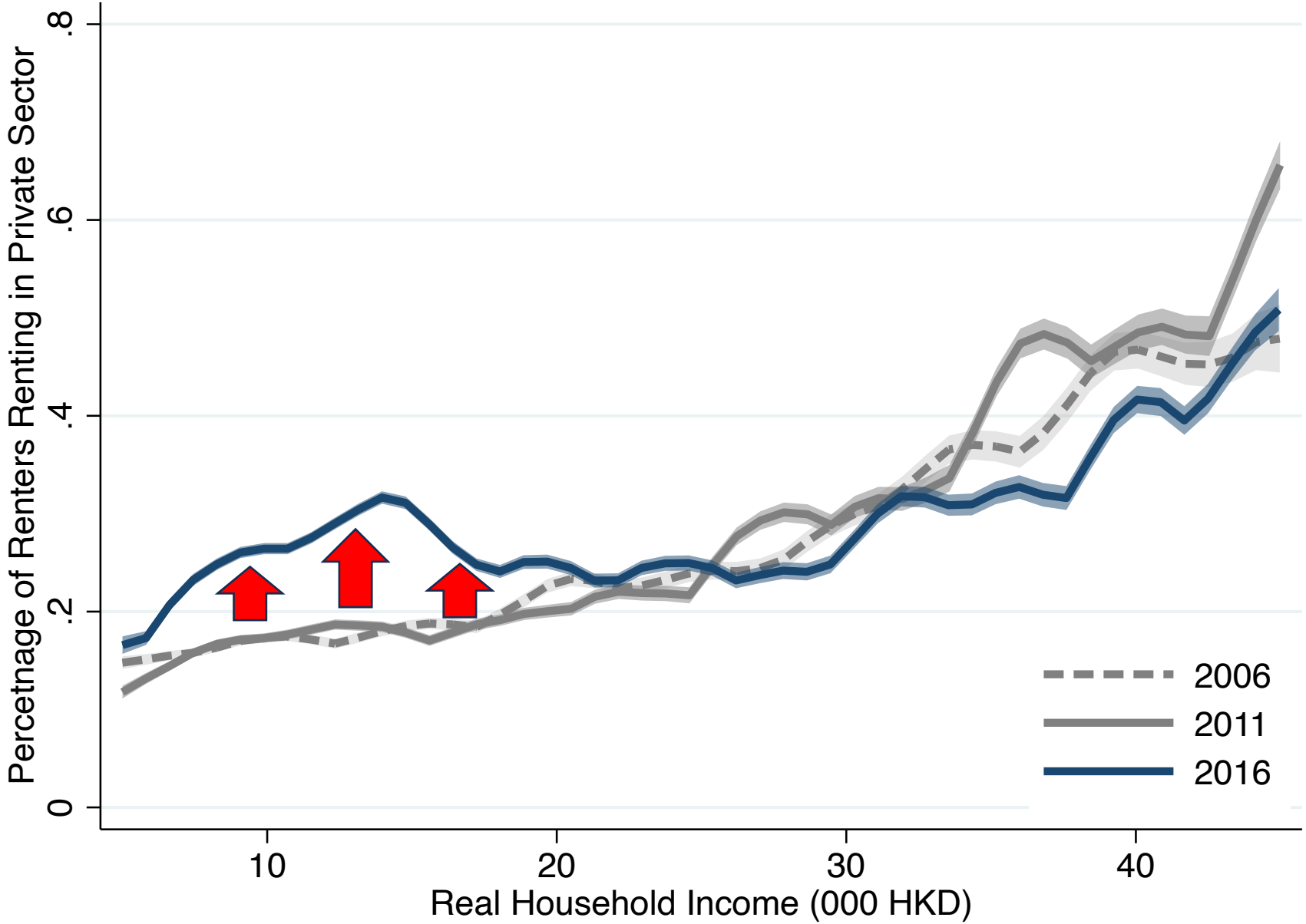


Private renter population exploded

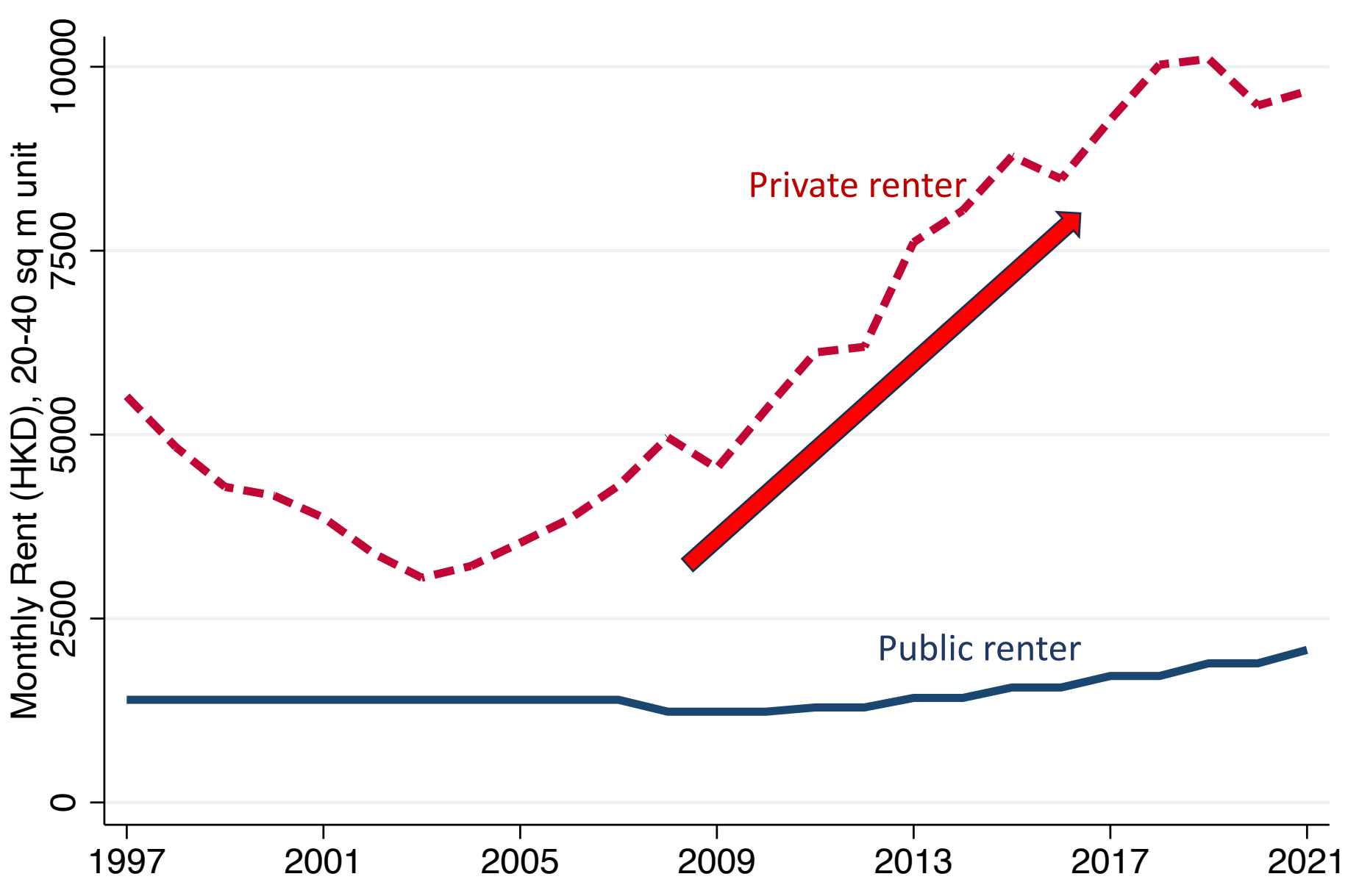
	Private Owner	Private Renter	Public Owner	Public Renter
1996	2,091,140	884,740	693,180	2,453,420
2001	2,263,280	954,780	1,115,460	2,136,520
2006	2,446,140	885,620	1,181,160	2,134,640
2011	2,462,800	1,058,400	1,361,380	2,198,800
2016	2,325,400	1,337,420	1,277,080	2,167,220
2021	2,366,840	1,370,340	1,293,580	2,244,520

Notes: Table summarizes population residing in each housing type, using the 5% sample of the Hong Kong Population Census from 1996 to 2021.

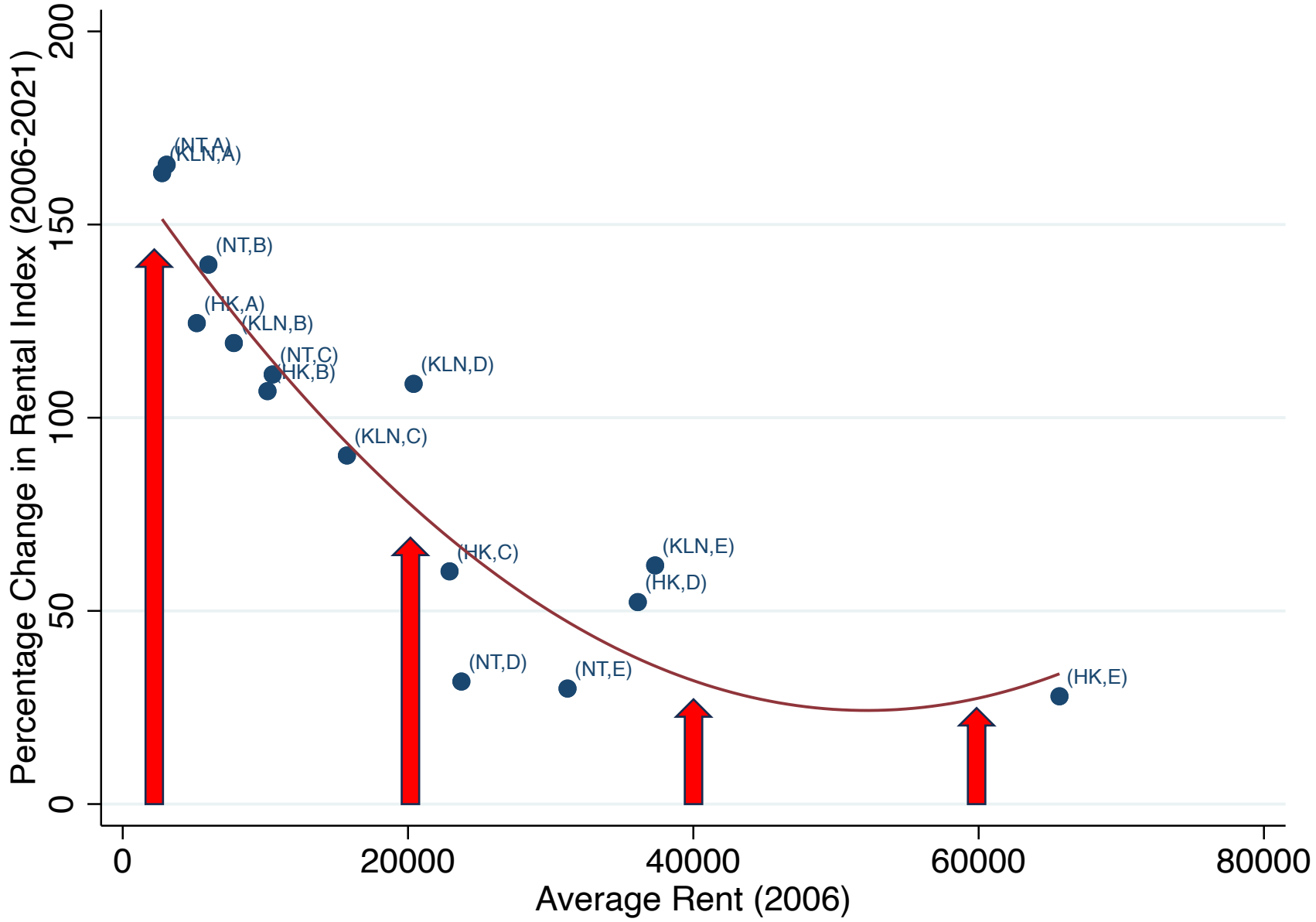
Share of low-income renters in private sector increased



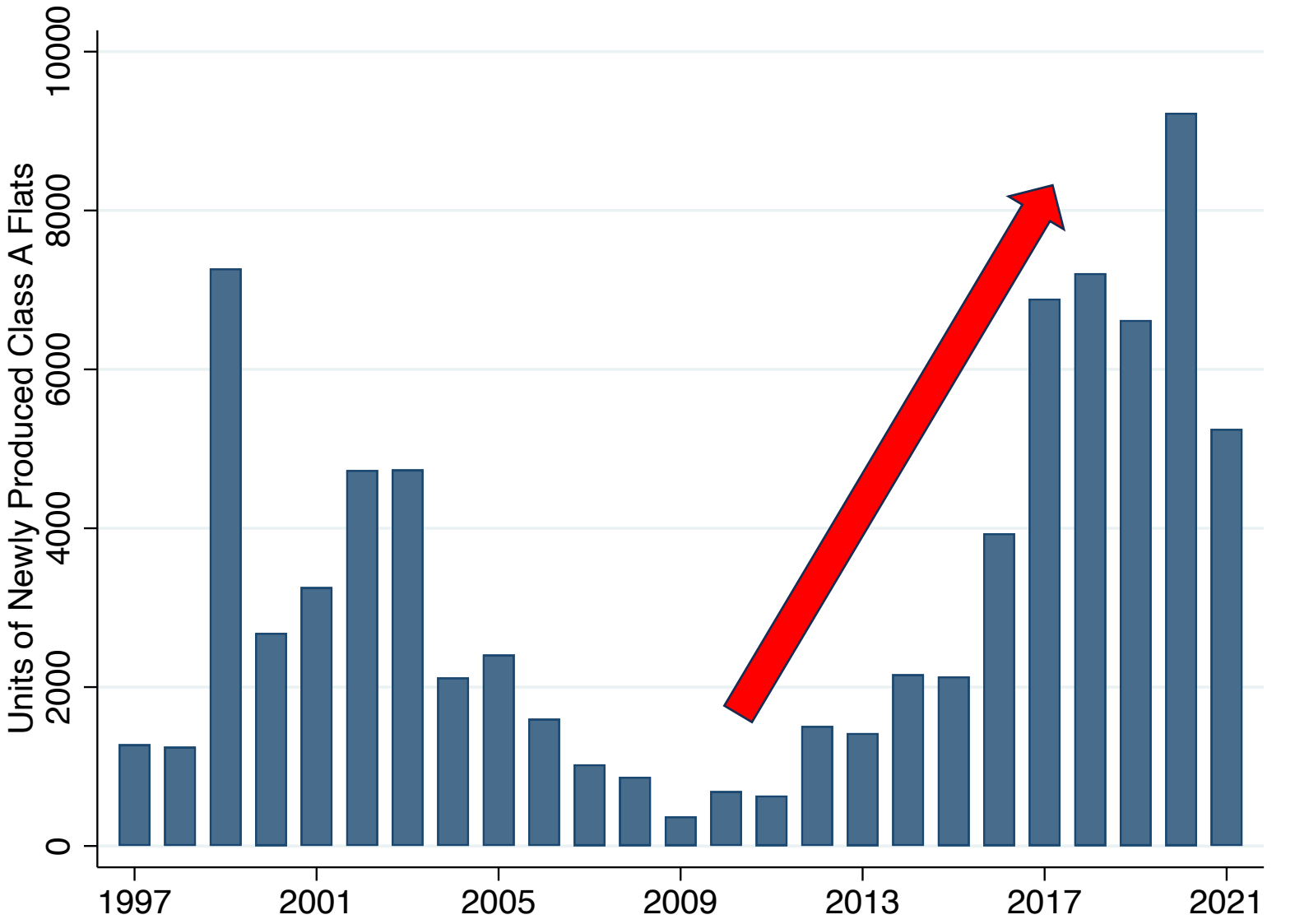
Private rents diverged from PRH rent



Low-end rents disproportionately rose



Construction of small units sharply increased



Housing quality of private renters fell

Summary: Rental Sector

Misallocated public housing towards well-off tenants

→ Longer PRH wait times

→ Excess low-income population in private sector

→ More demand for low-quality housing

→ Higher prices for low-quality housing

→ Unit subdivision and construction of nano flats

→ Worsened living conditions for low-income renters

Squeeze-ball Theory of Dual Housing Markets

Effect of rent regulation on unregulated prices

- Existing models assume unregulated houses are perfectly divisible and has a single price (Wang 2011)
- Empirical evidence assumes uniform effects (Autor, Palmer, Pathak 2014; Mense, Michelsen and Kholodilin 2023)
- Need model with imperfectly divisible housing and heterogeneous effects in unregulated sector instead

Introducing the “Squeeze-ball” Theory

Below-market rents in regulated sector

↓

Excess demand for similar units

↓

Higher prices for similar units in unregulated sector

Model

- Households with different incomes match with houses
- **House quality** can take on **two different values** {H,L}
- Household trade off house quality and other consumption
- Fraction m of L houses have regulated rent r_C

Model

- Regulated houses have fixed supply and are randomly rationed
- Endogenous supply of new construction and subdivision in unregulated sector
- Unregulated rents (r_L, r_H) are such that no household wishes to move and housing markets clear

Squeeze-ball effect

Proposition 1: *If m increases or r_c falls:*

- *r_L increases and r_H decreases, and*
- *The supply of L increases and the supply of H falls.*

Rent regulation → Households downgrade

Targeting reduces squeeze-ball effect

Proposition 2: *Suppose households with incomes above an optimal cutoff are either:*
(a) not allowed to reside in regulated housing, or
(b) charged regulated rents above-market rates.
Then r_L, r_H, and housing supply are unaffected by changes in m and r_c.

Targeting → Households **don't** downgrade

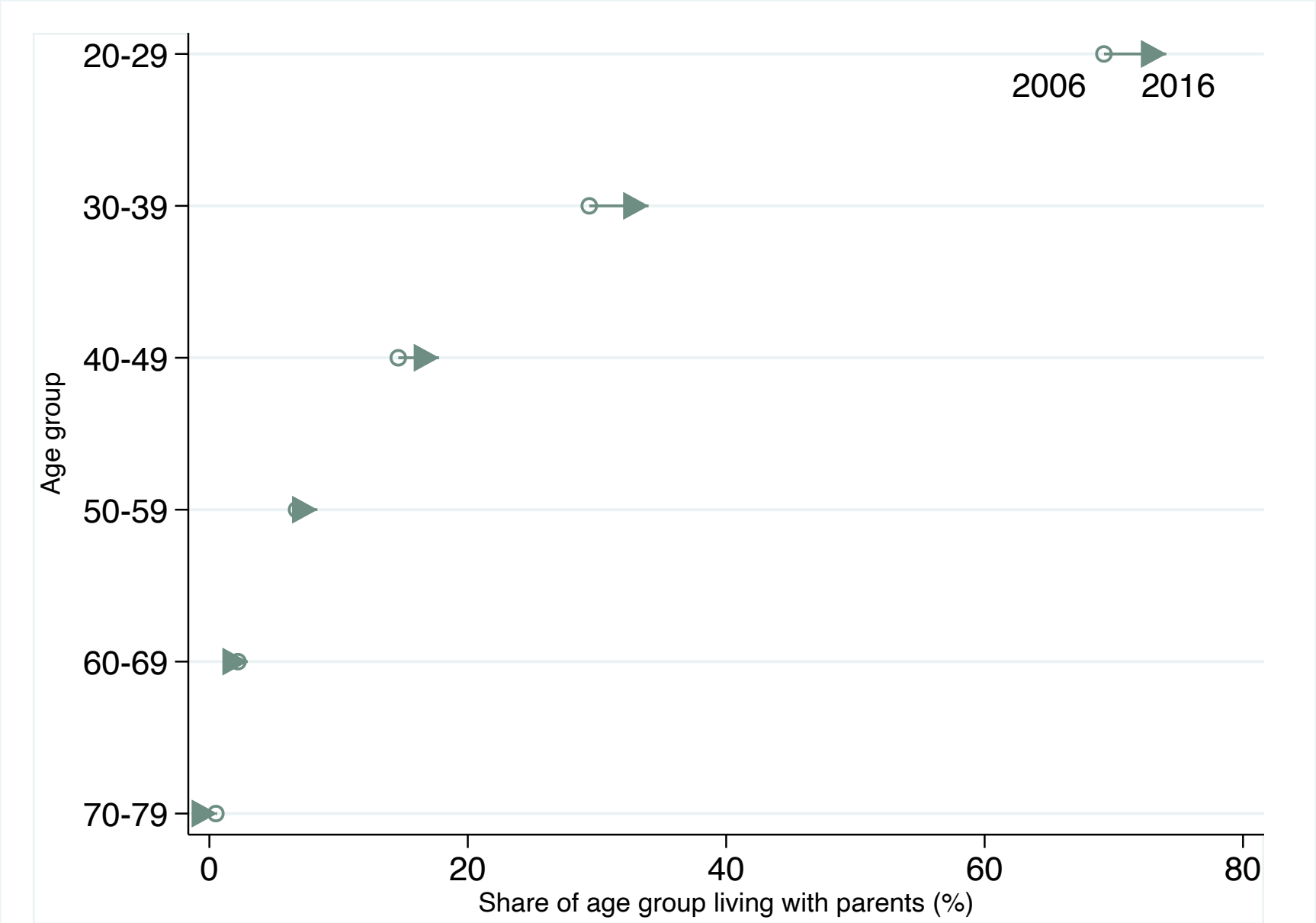
Lessons: Squeeze-ball Theory

1. Below-market public-sector rents causes high-income households to downgrade

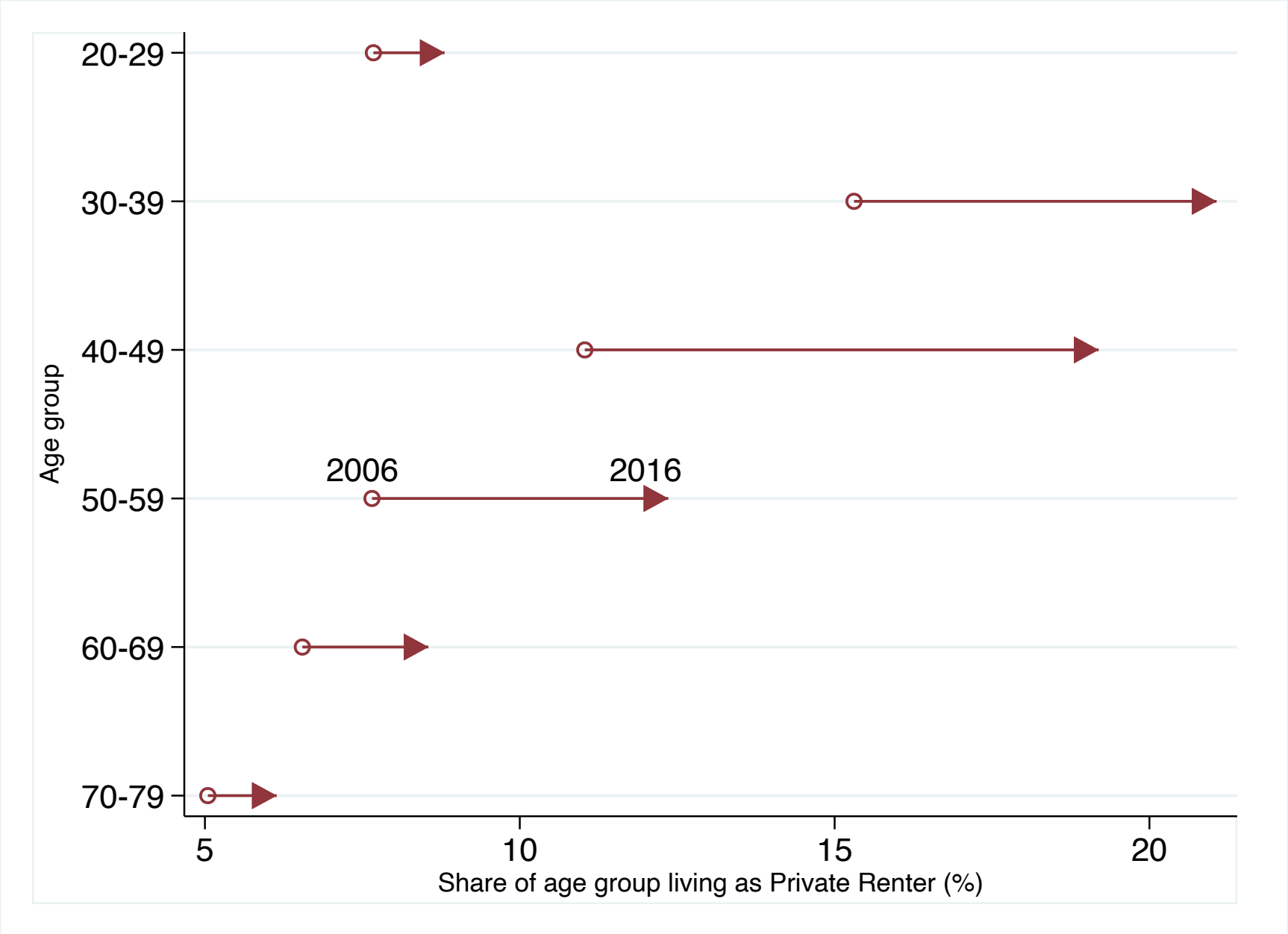
2. Better targeting of public housing reduces the squeeze-ball effect

Trends in Housing Mobility

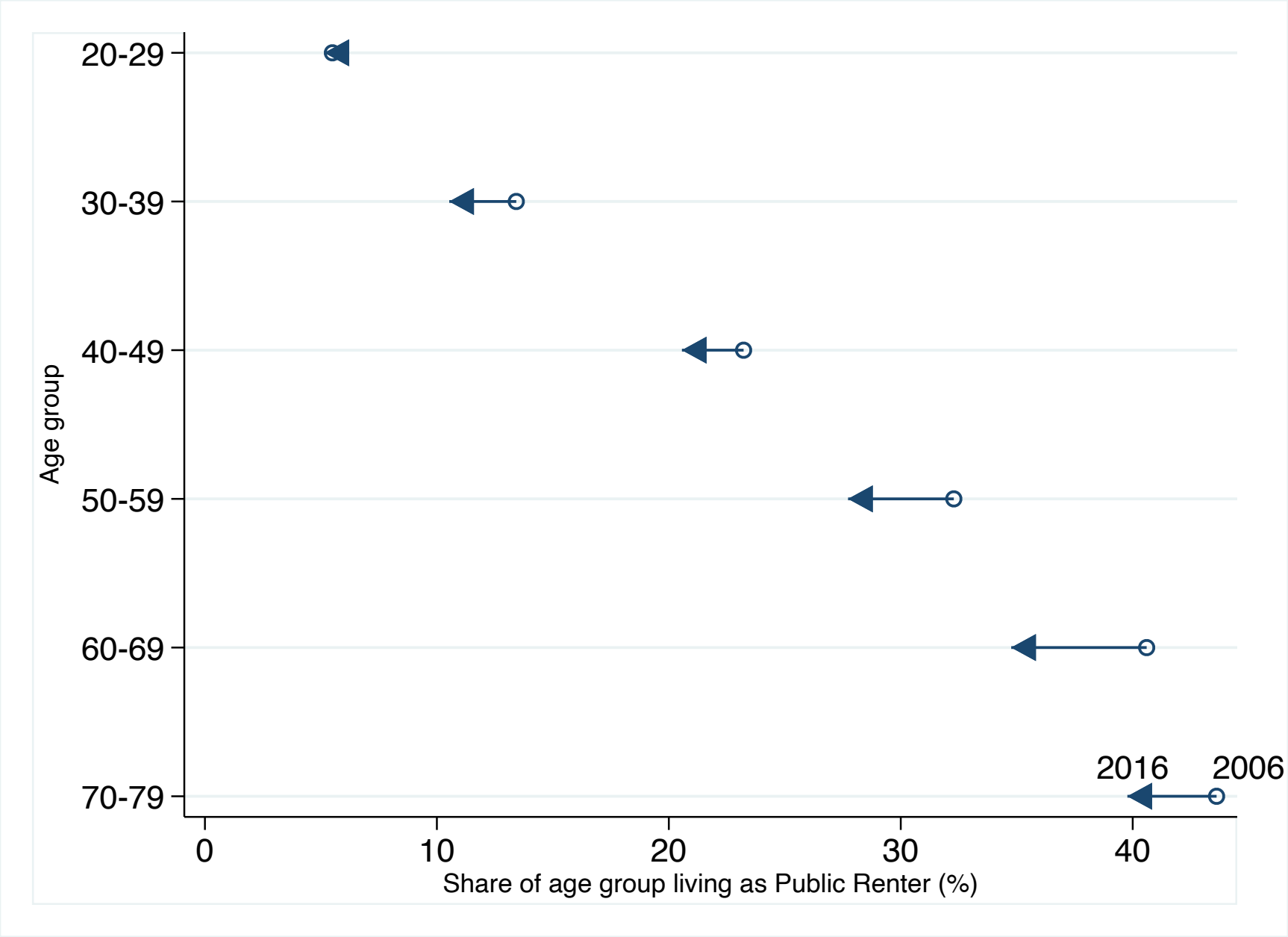
Living with parents increased among young



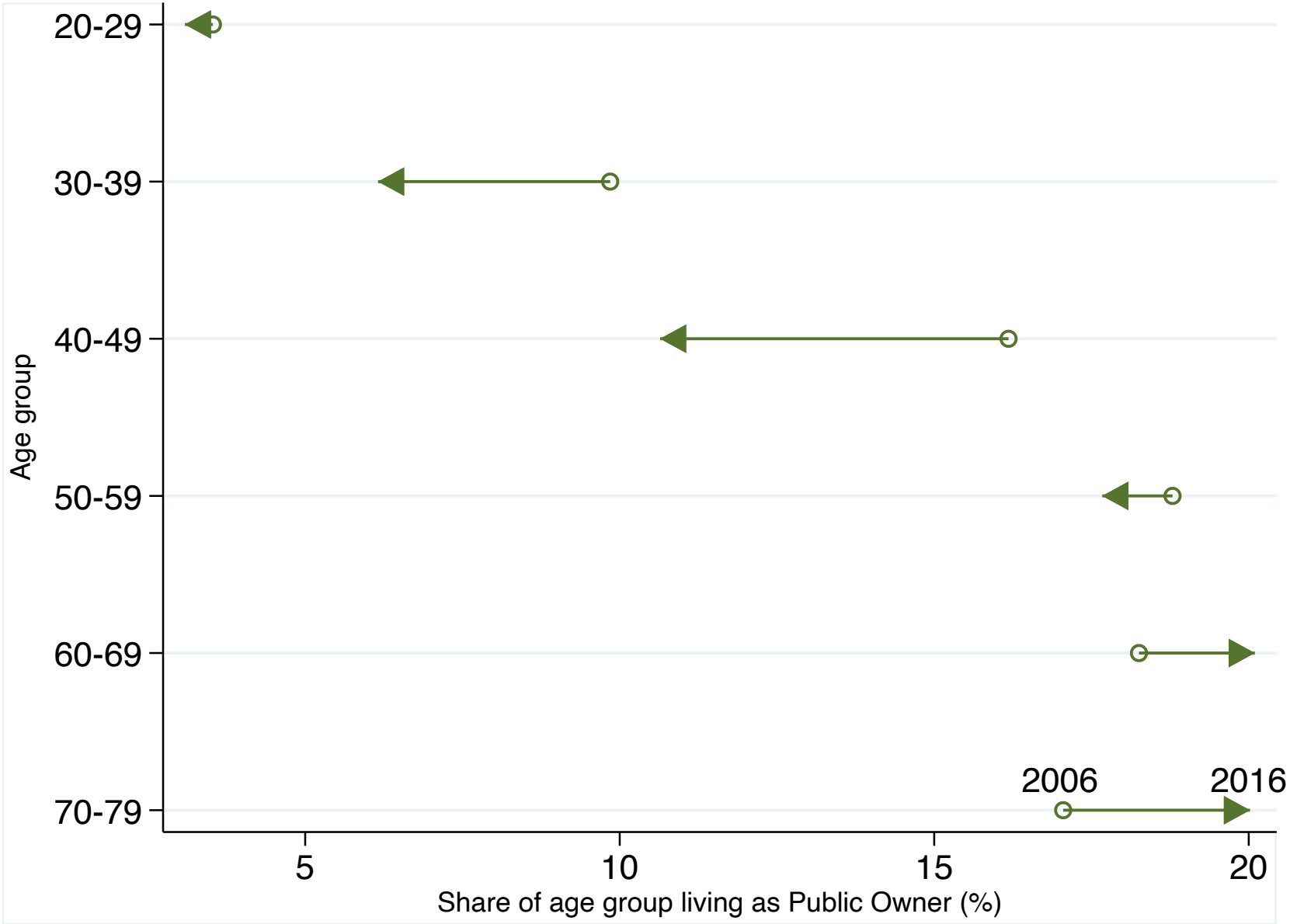
Private renter share increased more among young



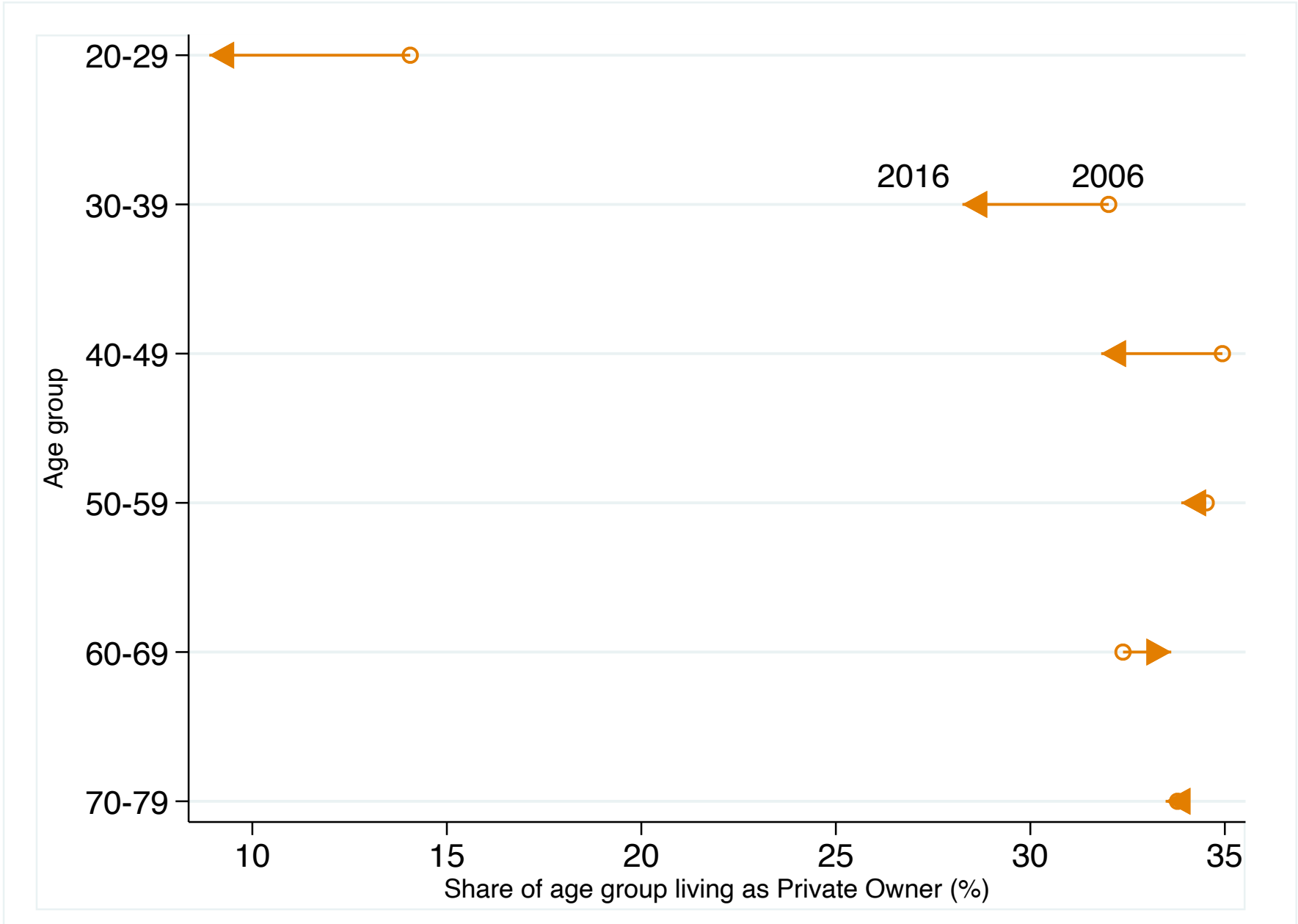
Public renter share fell in all cohorts



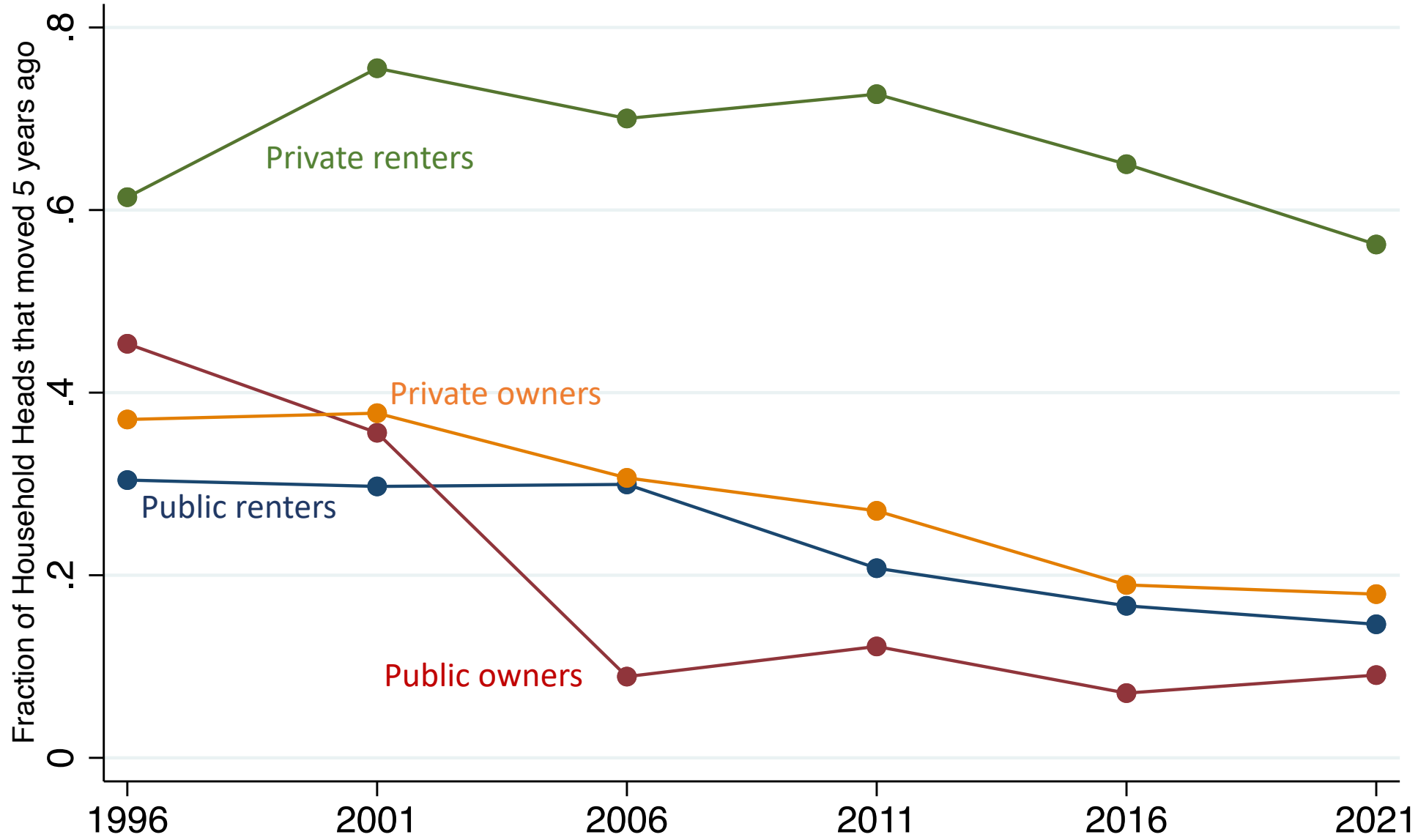
Public owner share fell among young



Private owner share fell among young



Households move less overall

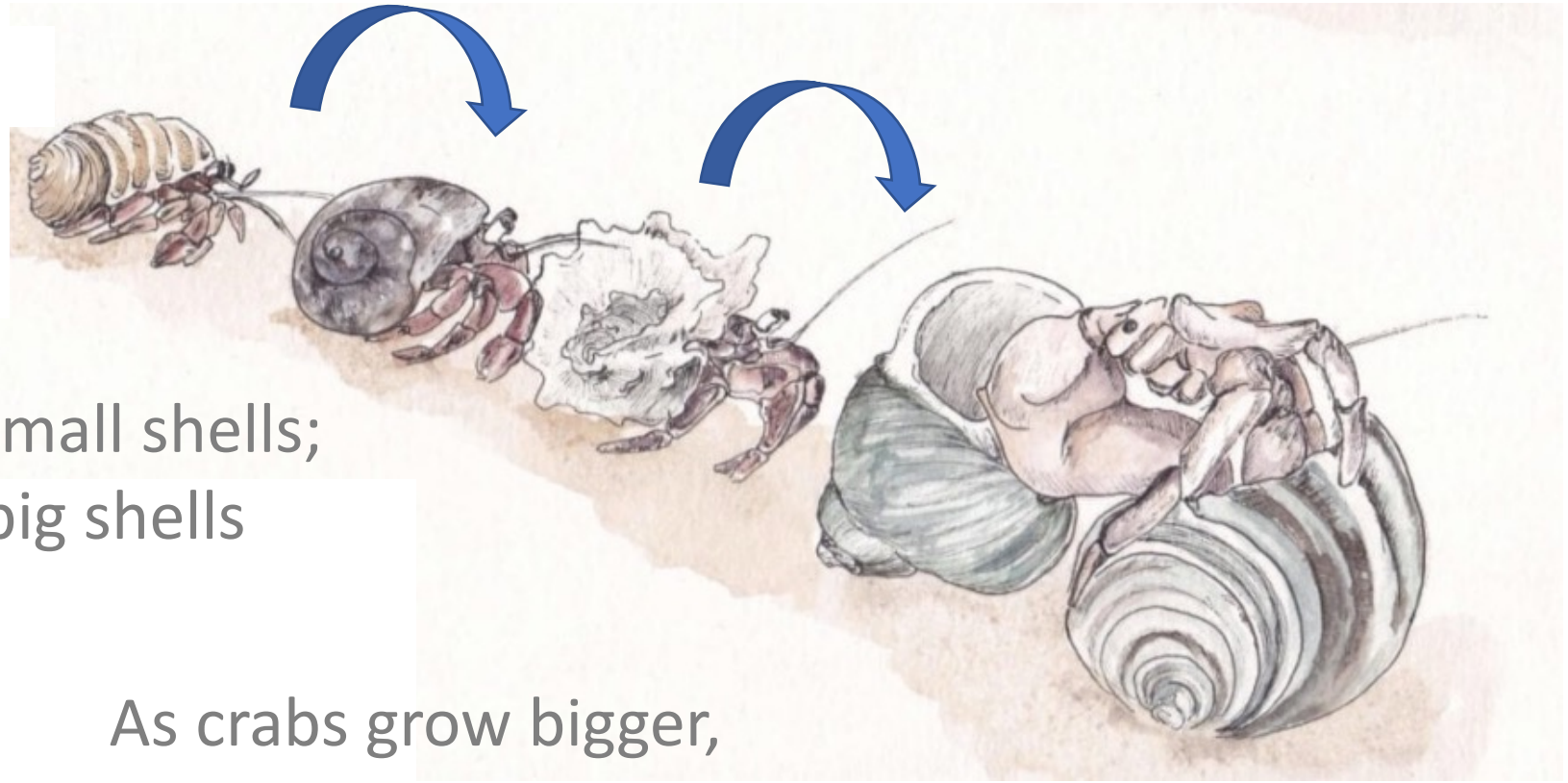


Summary: Housing Mobility

1. Youth less likely to move up housing ladder
2. Households move less overall

Hermit Crab Theory of Housing Ladders

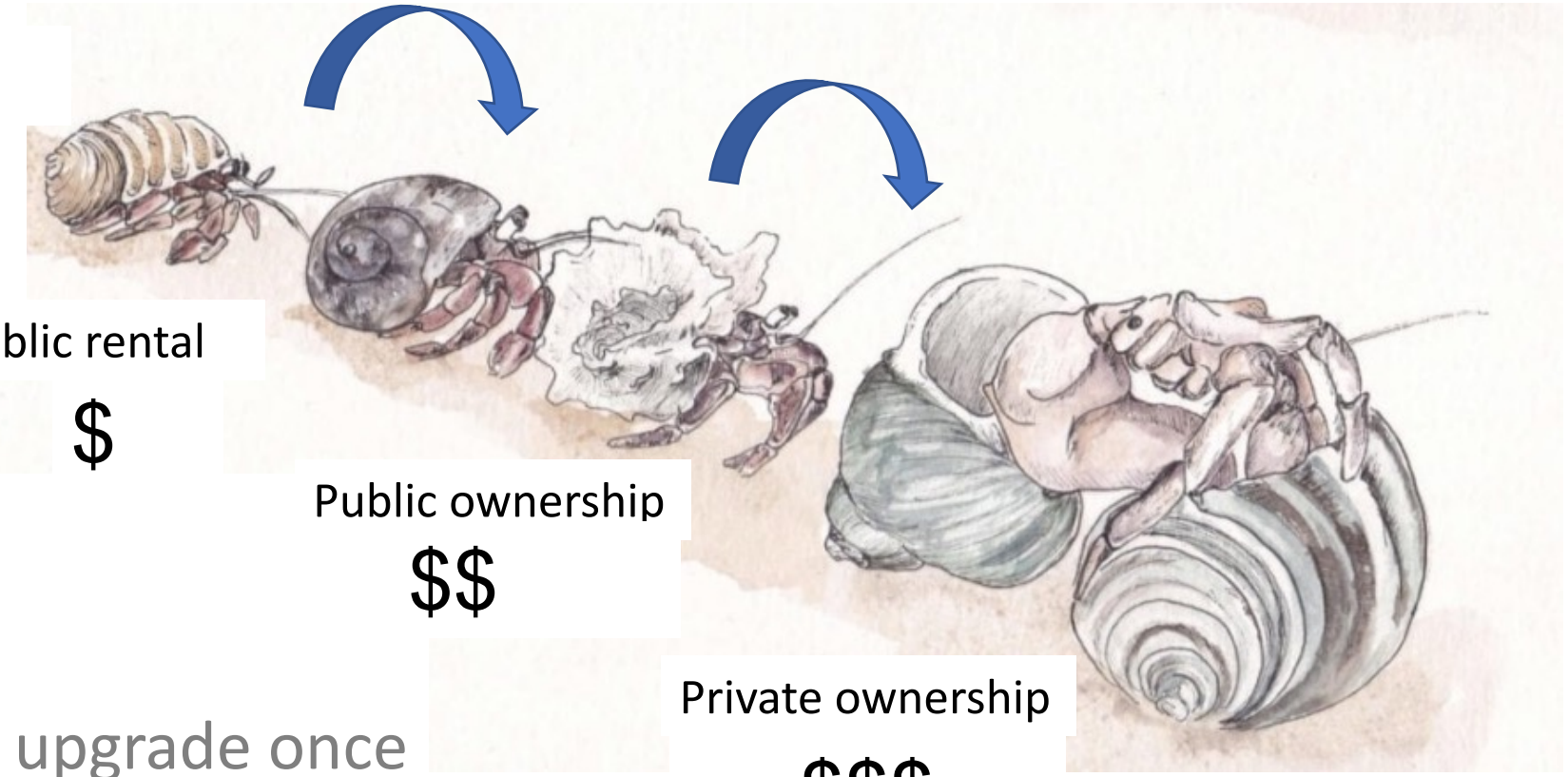
Hermit crab housing ladder



Small crabs live in small shells;
big crabs live in big shells

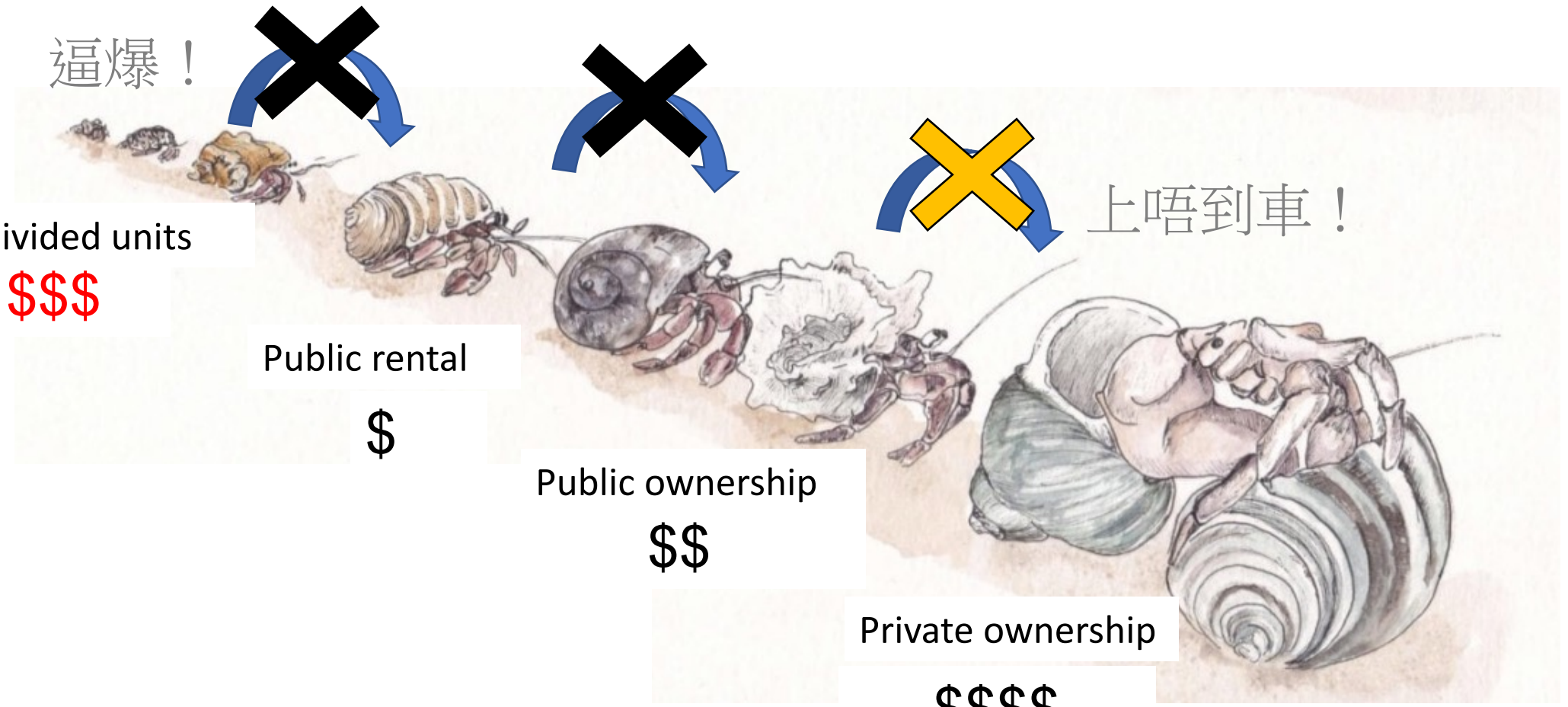
As crabs grow bigger,
move into bigger shells

Hong Kong's housing ladder: Theory



Rent when young; upgrade once you save enough

Reality: “Traffic jam”



Existing policy discourages upgrades

1. Rents for well-off PRH tenants too low
   → Well-off public renters don't upgrade

2. HOS/TPS premium requirements too high
   → Public owners don't upgrade

Lessons: Hermit Crab Theory

1. Slowdown in upgrading anywhere on housing ladder causes a traffic jam at the bottom

2. To solve subdivided housing crisis, key is to encourage upgrades

Policy Recommendations

1) Make PRH rents = 10% income

Monthly income	Current rent	NEW rent
$20,000	$2,000	$2,000
$40,000	$2,000	$4,000
$60,000	$2,000	$6,000
$80,000	$3,000	$8,000
$100,000	$4,000	$10,000 (~market rent)

2) Discount HOS+TPS premium by ~50%

	Homeownership Scheme (HOS)	Tenants Purchase Scheme (TPS)
Number of units	351,000	152,000
Market value	~ HKD 4M	~ HKD 2M
Premium requirement	35-50%	82-86%
Share with premium unpaid	77.5%	>99%
REVISED requirement	20%	40%
Increase in gov't revenue (est.)	+ HKD 56B	+ HKD 12B

Expected Impact

Benefits

- Shorter PRH wait times
- Fewer subdivided homes
- Affordable rents in low-end market
- Upward mobility for youth
- Higher prices in high-end market
- Increased gov’t revenue

Risks

- Cash assistance may be needed to help renters who face rent hikes
- Higher prices in high-end market may hurt some

Conclusion

Targeting and upward mobility out of public housing are key to fixing Hong Kong's housing system

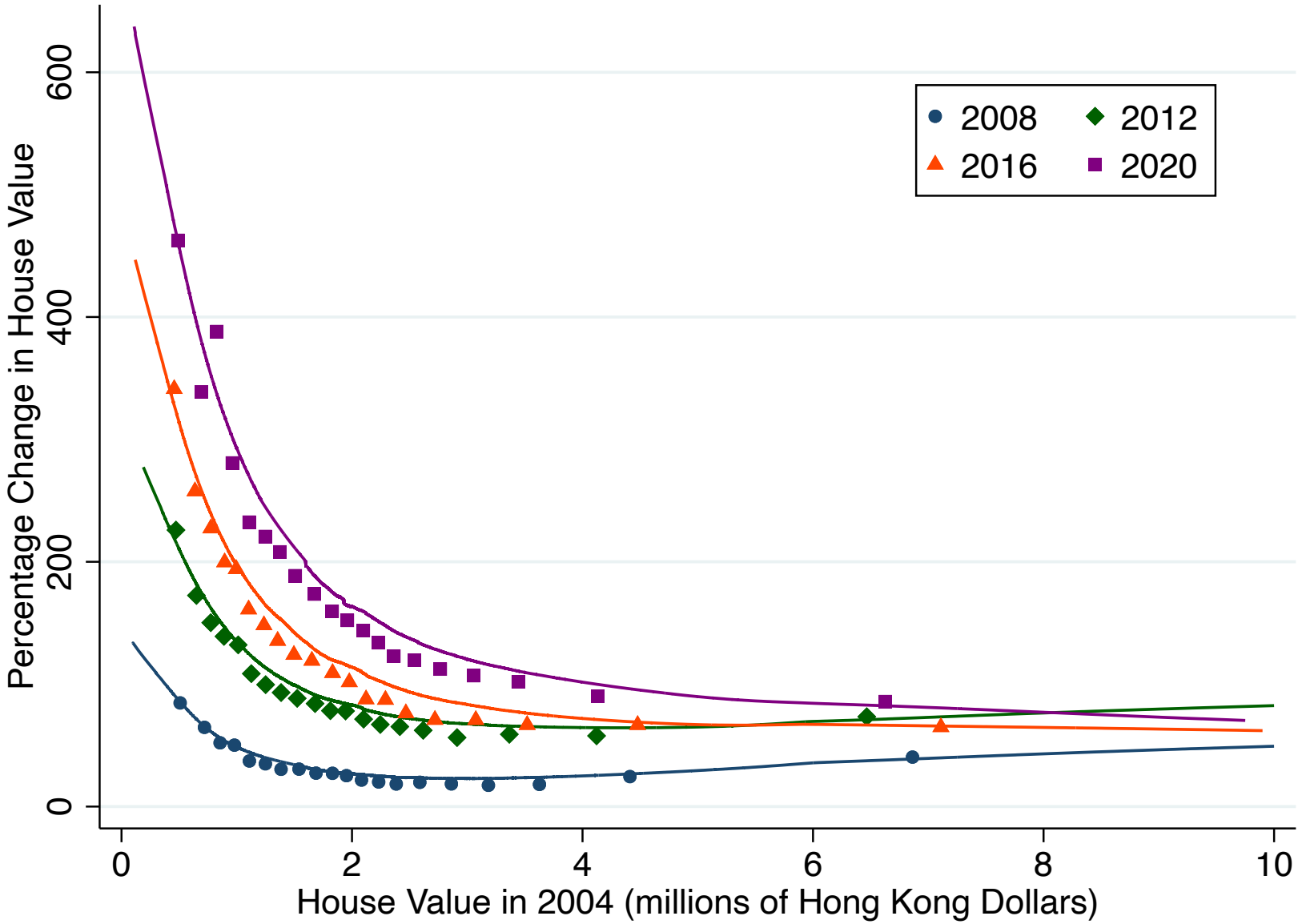
Recommendations:

1. Make PRH rents = 10% income
2. Discount HOS+TPS premium by ~50%

Reform will bring **broad benefits** and **little risk**

Appendix

Low-end prices sharply rose



Prices of small units sharply rose