

Renting and Supply Restrictions

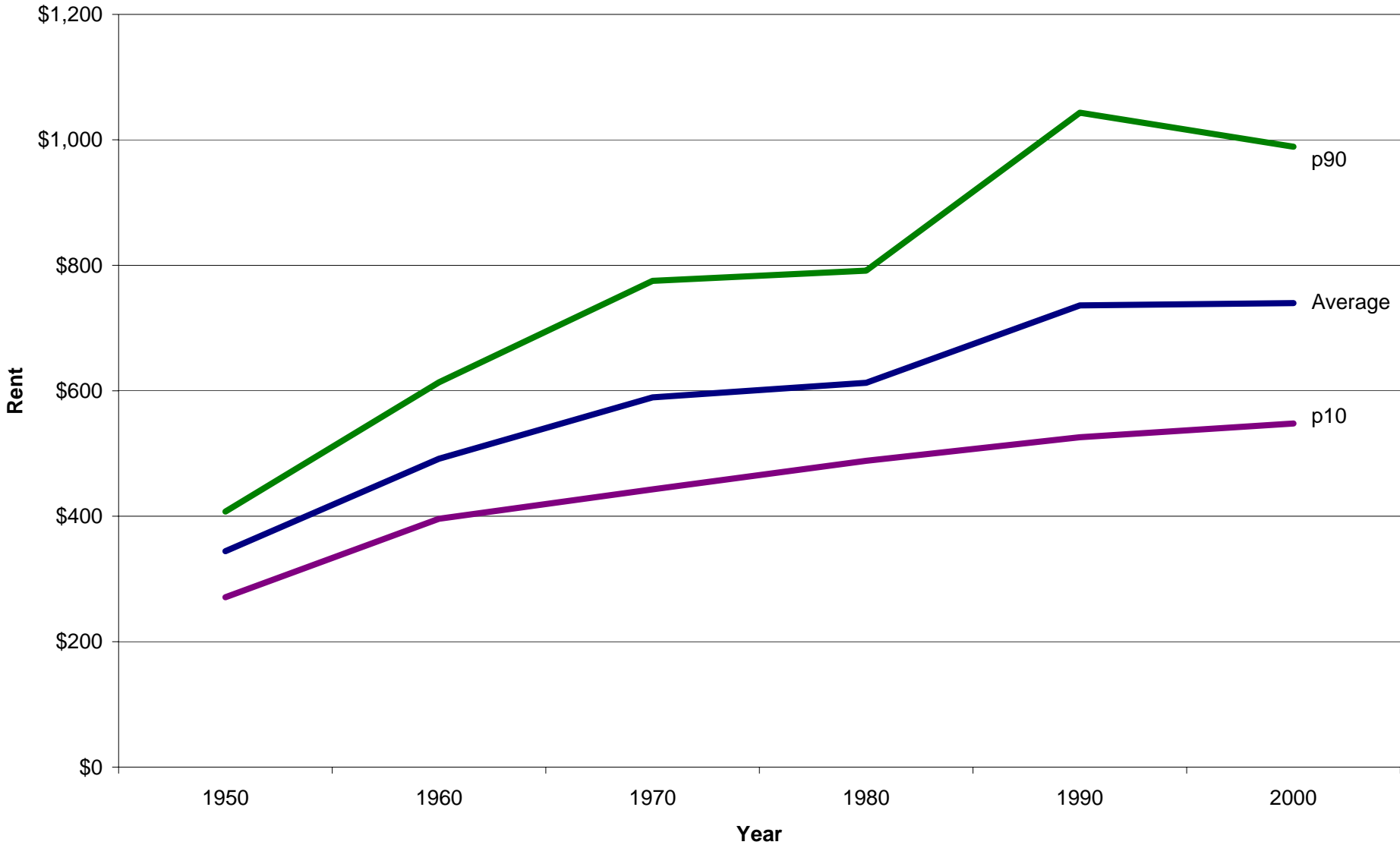
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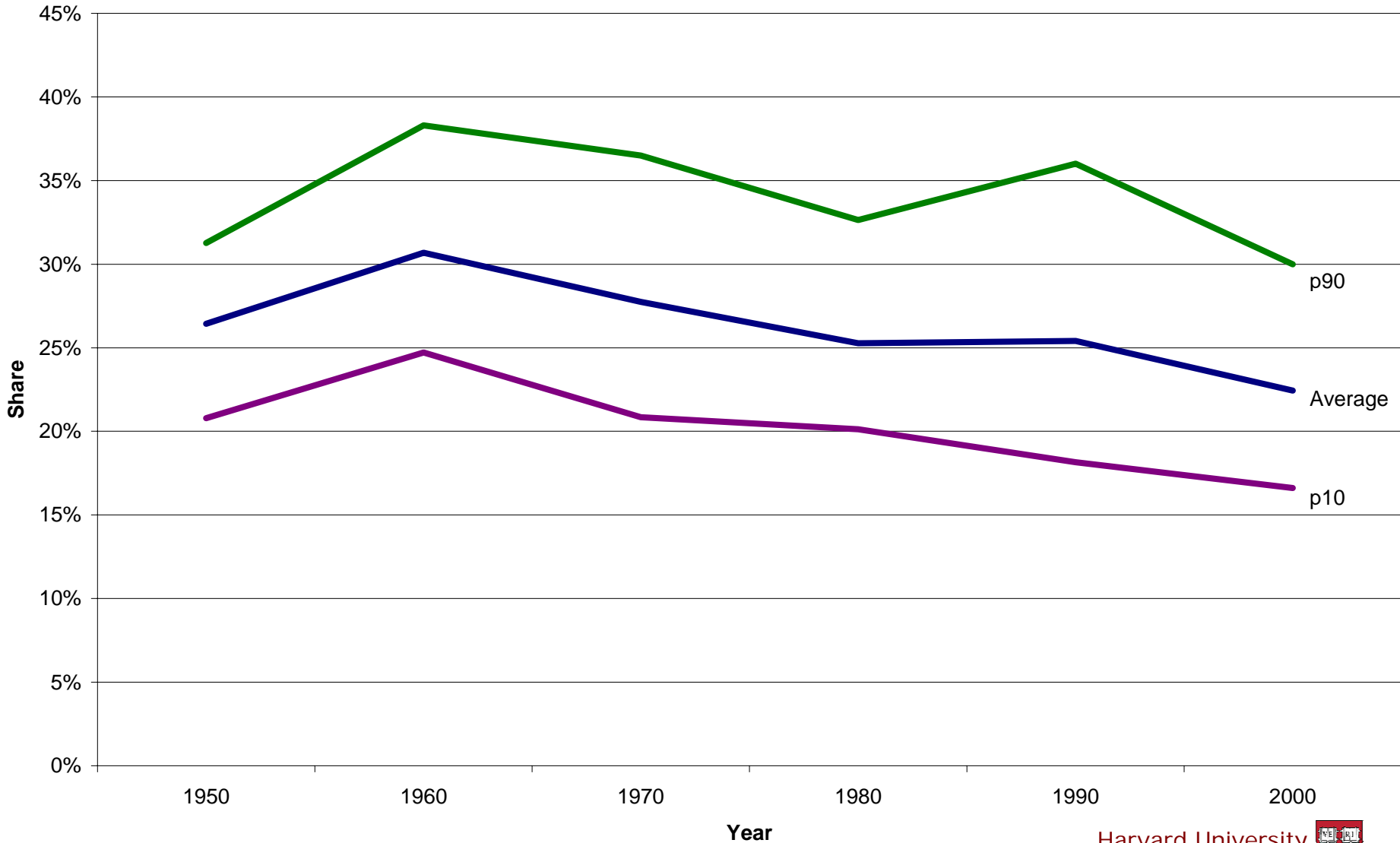
Outline

- Preliminary Motivation
- The Demand for Renting
 - Demand for location– Income and Amenities
 - Financial Aspects of Renting
 - Renting and Structure
- The Supply for Renting
 - General Supply Restrictions– Land and Regulation
 - Targeted New Supply
- Policies towards Renters

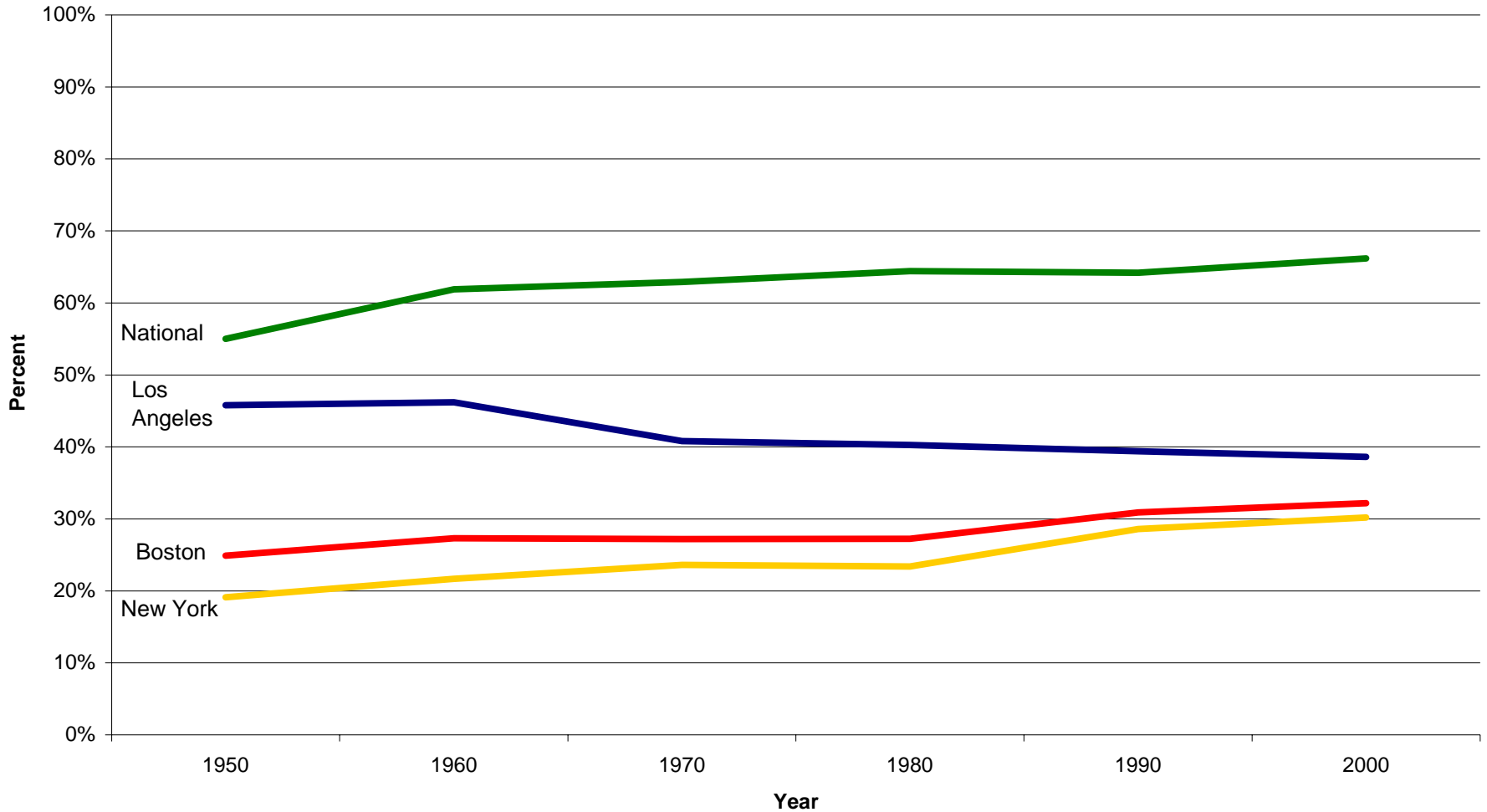
Median Gross Monthly Rent of United States Cities, in 2005 Dollars
(calculated using 254 cities with populations of 100,000 or more)



Median Gross Rent of United States Cities as Percent of National GDP per Capita (in 2005 Dollars, calculated using 254 cities with populations of 100,000 or more)

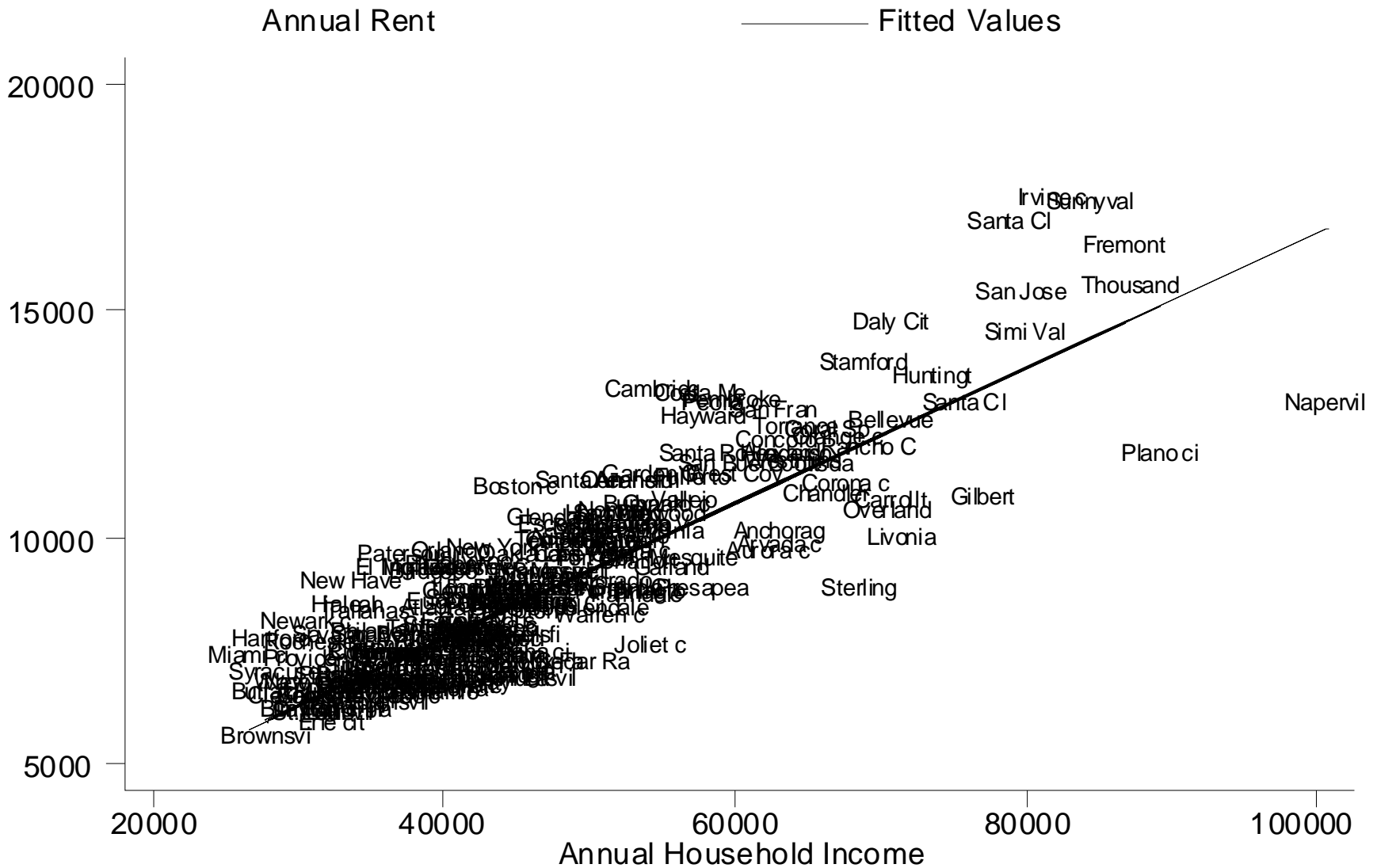


Owner Occupied Housing Units as a Percent of Total Occupied Units National and Select Cities



The Demand for Renting

- Demand for place A vs. place B both within and across cities
 - Alonso and Rosen/Roback
- The financial advantages of renting
- The strong correlation with structure



Rents across Cities

- Coefficient is 15 cents in the cross-section; r-squared is 75 percent.
- Coefficient is 17 cents in the changes specification; r-squared is 66 percent.
- We can IV for change in income using share w/Bas in 1980—coefficient becomes 15 cents.
- In the cheapest places, rents too low to justify new construction (durable housing)

The Income Puzzle

- The Rosen/Roback Framework tells us that:
Wages-Rents+Amenities = Reservation Utility

This should be constant across space.

- $dWage-dRent=0$ or $dRent/dWage=1$
- So why do we get a coefficient of 15 cents, not a dollar.

Rental Affordability Silliness

- One particular popular notion is looking at affordability by looking at the share of income being spent on housing.
- This may make some sense across time, but it makes little sense across space.
- Compare two places— high productivity land and low productivity land.
- In HP land, income is 50k.
- In LP land, income is 30k and rents are 6k.

What do we expect rents to be in HP land?

- The R/R model tells us that

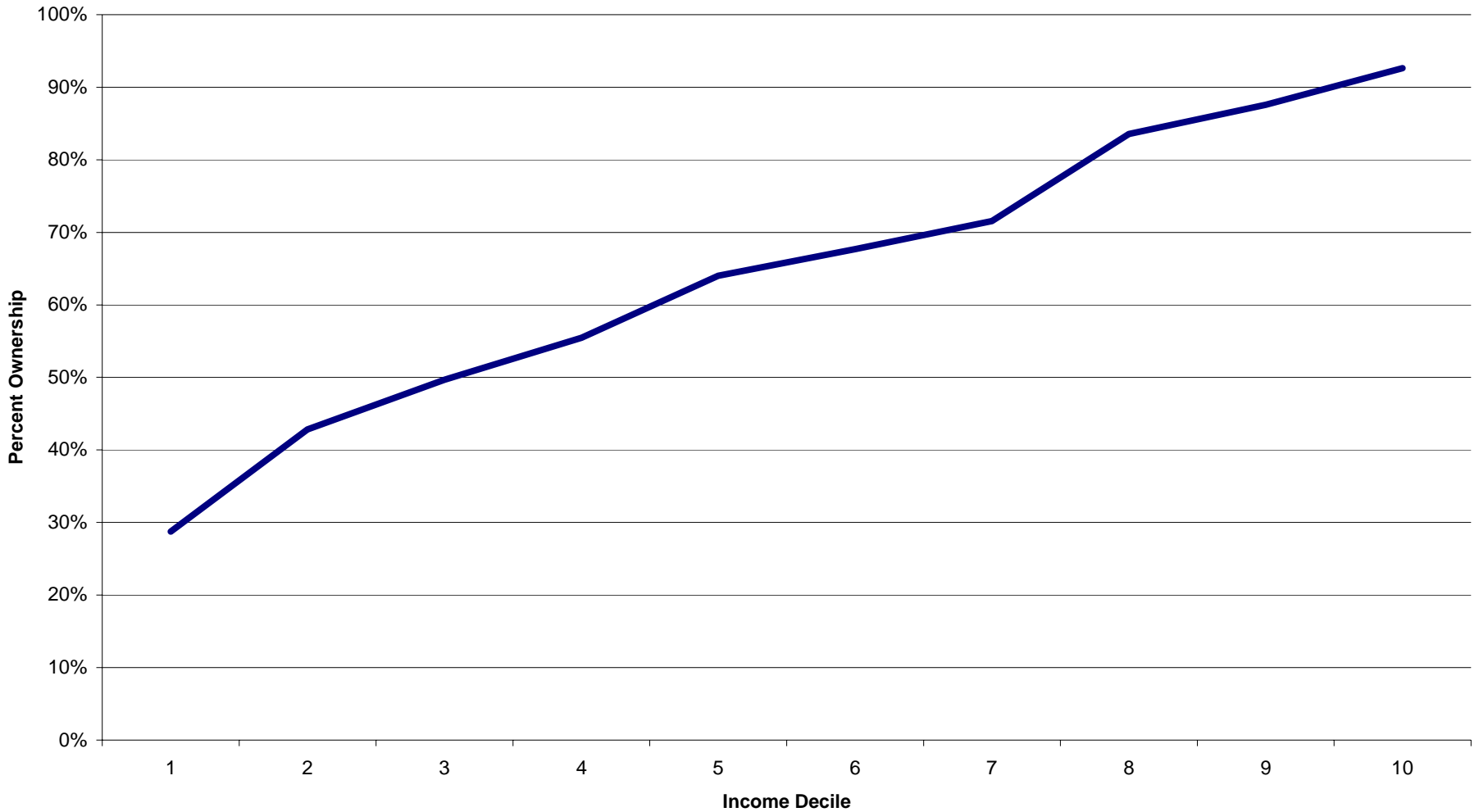
$$50k - \text{Rents in HP land} = 30k - \text{Rents in LP Land} = 24k$$

- This implies that rents in HP land must equal 26k for this to be a spatial equilibrium
- As such, the prediction is that rents are 20 percent of income in LP land and more than 50 percent of income in HP land.
- Implication look at after rent income in levels not in percent.

Why is the coefficient 15 cents rather than a dollar?

- Explanation # 1: Different people rent and own and the difference across space and over time are smaller for those people.
- Explanation # 2: Income differences are overstating true differences because of human capital.
- Explanation # 3: Amenities offset income (congestion, commute times, etc.)

Percent Residence Ownership by Income Decile



Source: Glaeser and Shapiro (2002)



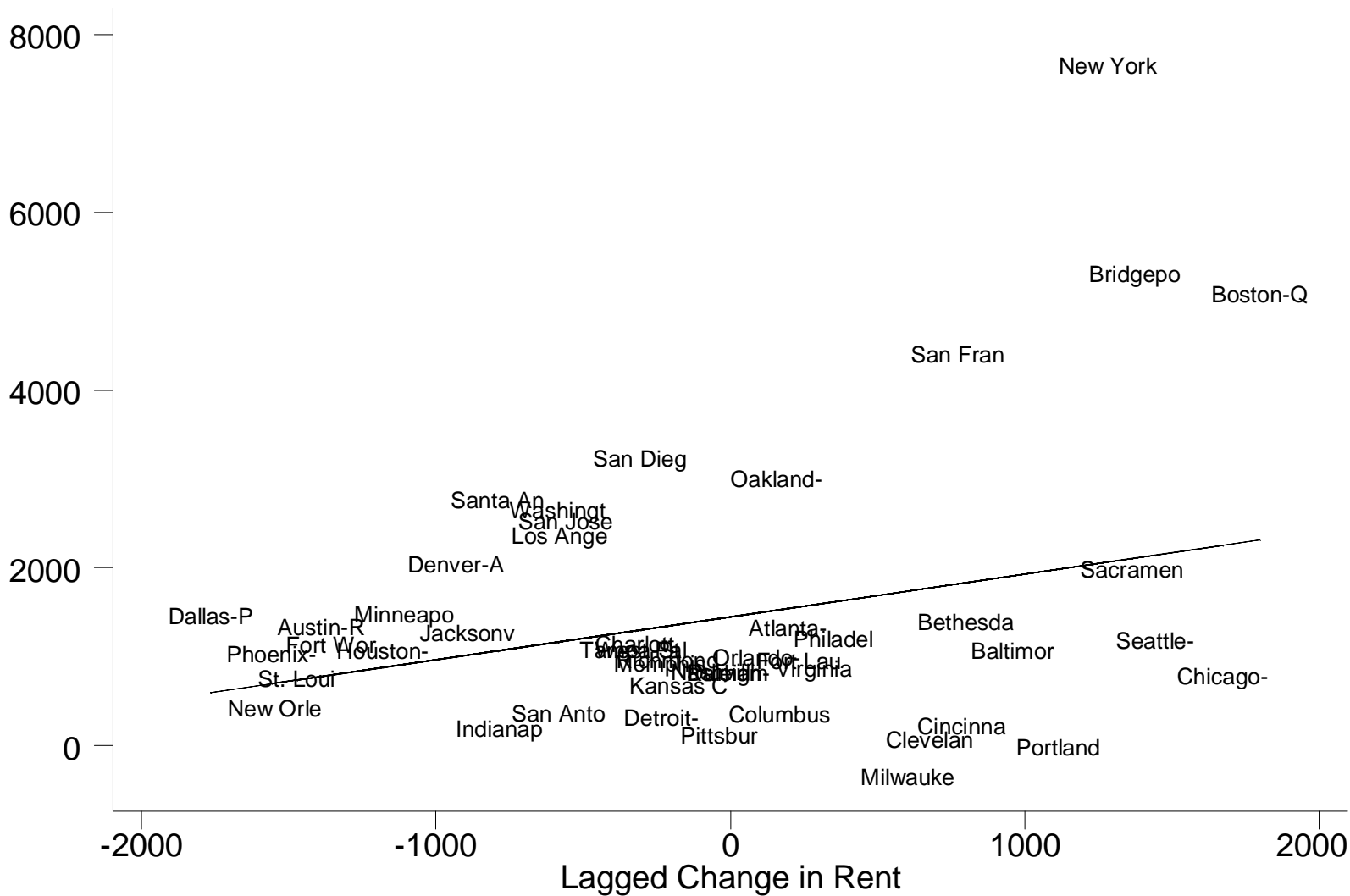
Over time within NYC (from Glaeser and Gyourko, 2006)

- Using NYC housing and vacancy data, we can regress median income for recent buyers and renters on total HH income over the past 25 years.
- Coefficient is 1.3 for recent buyers (more volatile).
- Coefficient is .5 for renters (much less volatile).

Rental Dynamics

- Mean reversion: the coefficient of change in log rents on initial log rent at the tract level is $-.5$.
- Reversion to neighborhood mean: coefficient on mean neighboring tract rent is $.15$.
- Strong schooling effects of one's own tract and neighboring tracts (esp in 1990s): $.1$ percent BA own and $.27$ neighbors BA
- Proximity to city center: coefficient of $.01$ in both the 1980s and 1990s

Change in Rent

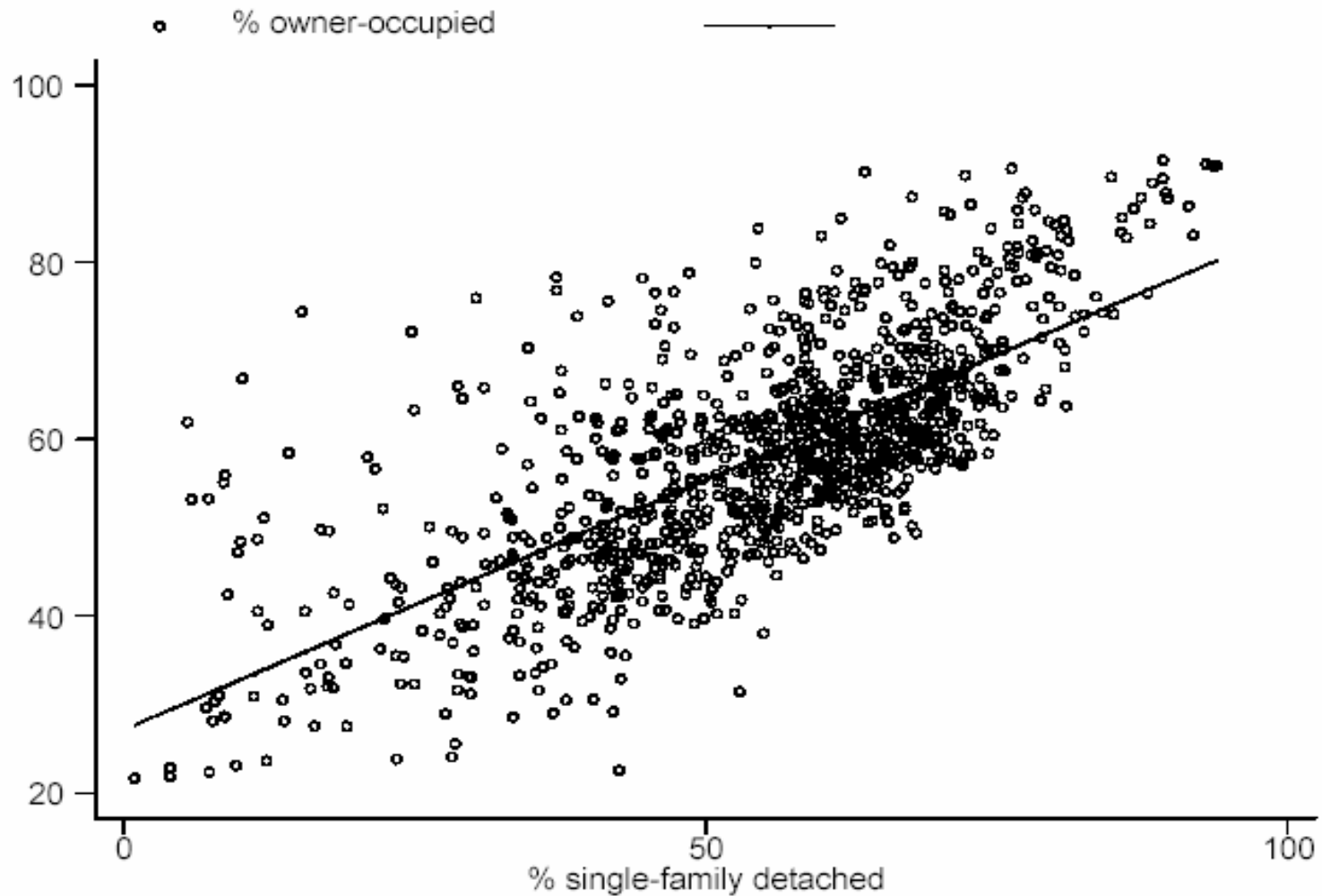


Financial Aspects of Renting

- Owning obviously is tax advantaged, and this must explain some of the income relationship.
- Risks involved in owning and renting.
 - Owners are hedged against change in rental price; renters are hedged against change in asset price.
 - Short term in location makes renting dominate; long term makes owning dominate.
- If you know you are going to buy soon (within 5 years) risks are enormous in coastal markets and you should almost always buy now.

Structural Aspects of Owning

Structure Type	Homeownership Rate
Single-family (66%)	84%
Multi-family (2-4 ; 9%)	18%
Multi-family (5+ ; 17%)	11%
Mobile home (8%)	78%
Other (boats, etc. .25%)	72%



Notes: Graph shows percent of housing owner-occupied and percent of housing that is single-family detached in 1990 for places containing 25,000 people or more. Data from the City and County Data Book, 1994.

Why the structure correlation?

- Some of this is omitted personal characteristics– poorer people preferring to rent but structure effects are much stronger than income or any other effect.
- A natural explanation is the agency problems involved in renting and owning.
- Maintenance moral hazard and customization push single family ownership.
- Collective maintenance problems push multi-family renters (problems with coop boards).
- One roof– one owner rule.

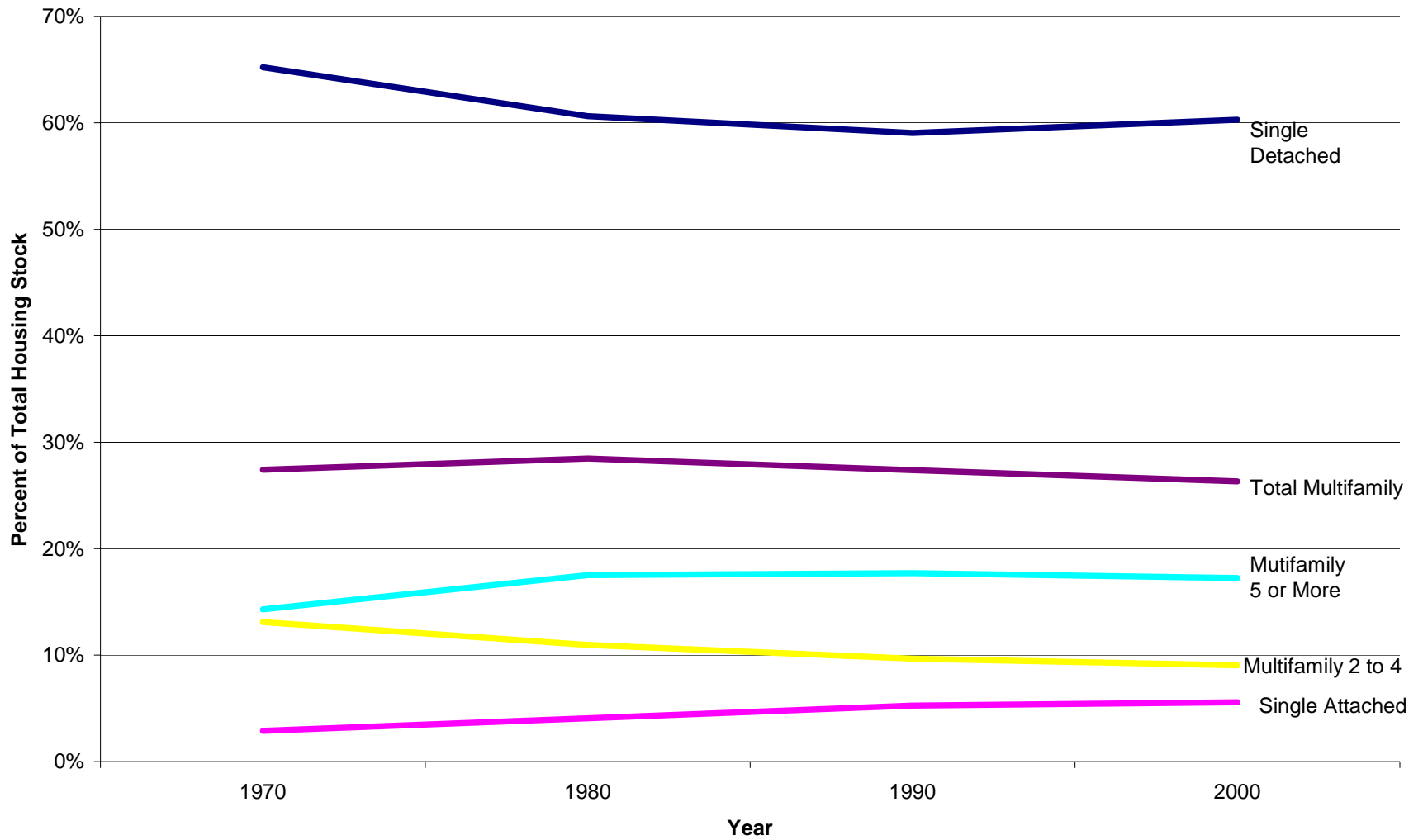
Why does the structural correlation matter?

- Point # 1: owned and rented units are very different– not really the same market.
- Point # 2: renters are intimately tied together with traditional high density cities.
- The success of the rental market is intimately tied together with ultra-high density agglomerations.
- Renting is also intrinsically linked to public transportation.

Does structure explain the 3.3% rise in ownership rates since 1970?

	1970	1980	1990	2000
Single-family	68%	65%	64%	66%
Multi-family (2-4)	13%	11%	10%	9%
Multi-family (5+)	14%	18%	18%	17%
Mobile home	3%	5%	7%	8%
Other	1%	2%	1%	0%
Total	100%	100%	100%	100%

Housing Units by Type (as percent of total housing stock)



The Supply of Rental Units

- Land is rarely all that crucial for taller buildings– increases in supply come from building up.
- Regulating of heights and multi-family is the big supply response.
- Supply effects are also created by targeted programs to low income rental housing.

The Declining Height of Manhattan Buildings



Rental Units and Supply in Greater Boston

- Jennie Schuetz thesis uses the Pioneer/Rappaport data base to look at this across 187 cities and towns in greater Boston.
- We have run some separate regressions looking at quantities and prices with regulations.
- Regressions are preliminary and imperfect.

Tables from Schuetz (2006)

Table 1: Land Area Allowing Multi-family Housing

Number/Percent of Municipalities						
Percent of Land Area	By Right		By Special Permit		By Either Process	
None	127	68%	60	32%	34	18%
<10%	47	25%	65	35%	81	44%
11-20%	6	3%	13	7%	15	8%
21-50%	0	3%	7	4%	14	8%
51-80%	0	0%	14	8%	13	7%
81-90%	0	0%	12	7%	13	7%
91-100%	0	0%	15	8%	16	9%
Total	186	100%	186	100%	186	100%

Note: Columns may not sum to 100 due to rounding.

Schuetz Table 2

Table 2: Distribution of Average Multi-family Minimum Lot Sizes

Lot Size (Sq. Feet)	Number/Percent of Municipalities			
	By Right		By Special Permit	
Under 10,000	10	17%	17	13%
10-20,000	23	39%	30	24%
20-40,000	12	20%	32	25%
40-80,000	10	17%	19	15%
80,000+	4	7%	28	22%
Total	59	100%	126	100%

Note: If multi-family is not permitted by a particular process, then no minimum lot size is defined. Municipalities may specify different lot sizes for each process, if both are allowed.

Schuetz Table 4

Table 4: Linear Relationship Between Number of Multi-family Lots, Permits and Rents

	(1) Multi-family Permits	(2) Monthly Rents	(3) Multi-family Permits	(4) Monthly Rents
By-right Lots	0.065** (0.030)	-0.001 (0.003)		
Special Permit Lots			0.006 (0.004)	-0.005*** (0.001)
Constant	237*** (27)	470*** (9.7)	270*** (34.7)	486*** (10.2)
Time Fixed Effects	Yes	Yes	Yes	Yes
Observations	555	739	558	743
R-squared	0.24	0.52	0.11	0.55

Robust standard errors in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%.

More results

- In non-linear specification, Schuetz finds that towns with more than 1,000 by right lots have 75 dollars lower rents
- And towns with more than 10,000 special permit lots have 100 dollars lower rents.
- Higher quantities do appear to be associated with lower costs of living even with a small area despite the OPEC problem

Towards a New Renter's Policy

- Two things can reduce the costs to renters– the cost of supplying and the subsidy beyond market price.
- One set of policies– that I favor– think seriously about reducing supply costs for the entire market.
- A second set of policies subsidize renters either directly (through Section VIII vouchers) or with subsidized construction.

Subsidizing Renters vs. Builders

- There are many reasons to think that subsidizing renters makes sense, and few to support subsidizing rental construction.
- When renters have choice they can move, markets function, etc.
- When subsidies go to builders or to public construction, politics becomes dominant and potential waste is huge.
- The track record is awful.

The Adverse Consequences of Affordable Housing Policies

- A popular policy is to require builders to include affordable units as part of land use regulation.
- The downside of this is that it is actually a tax on new construction that keeps prices high.
- Moreover, it creates a bifurcated rental market with the well-connected getting the cheap apartments, which is not ideal.

Reducing the Costs of Supply

- There is tremendous upside in eliminating the barriers to building up.
- Mayors can do this on their own– the state can create carrots and stick to move localities.
- But at best, this can only reduce costs to construction costs (150k/unit perhaps)
- This puts a floor on market rents.