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# The shape of the coming Housing Recovery

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IAP

1). Why there will be a recovery.
- Household Formation reviving , construction still way to low.

2). What kind of recovery (tenure).
- Permanent shift to renting?
- Prices soar, rents fall or the reverse.
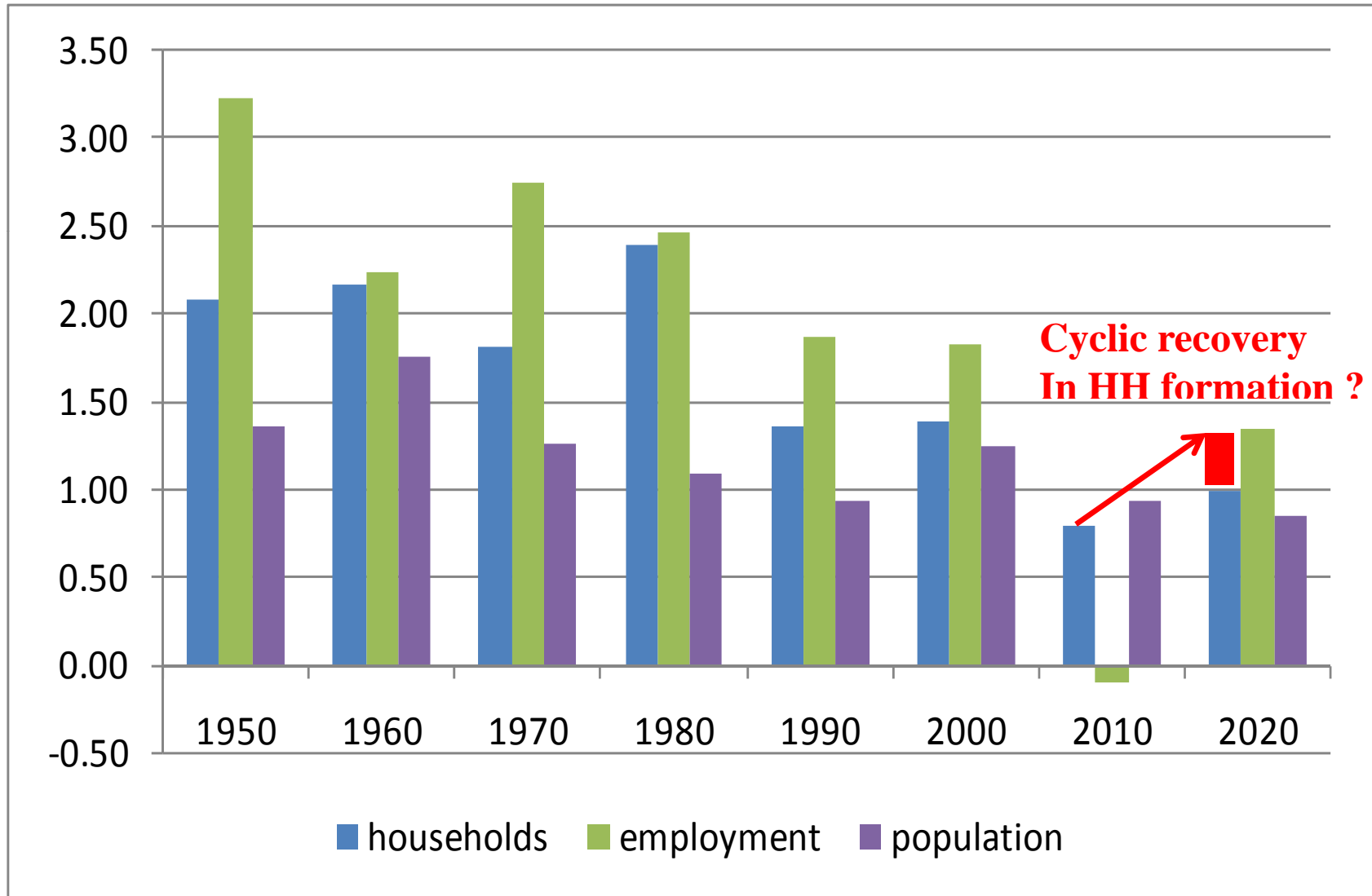- Multi versus Single family construction.

3). Where.
- Boom states (CANFLAZ)?
- Mid-west Industrial?
- Technology centers.
- The keys: supply elasticities, LT demand growth

# The Outlook for Population, jobs and Households: Aging = more HH/pop, fewer Jobs/pop



**Cyclic recovery In HH formation ?**

Legend: households (blue), employment (green), population (purple). Years: 1950, 1960, 1970, 1980, 1990, 2000, 2010, 2020.

## 1a). The recovery in Household Formation.

- 2000-2007 Household formation averages: 1,285,000 yearly

- Then 950,000 in 2008, 750,000 in 2009, 600,000 in 2010.

- In 2011 it recovered to 730 and estimates for 2012 are 950,000.

- It has to return to 1,200,000 range *plus* make up for lost formation of 2m during the downturn!

## 1b). Could there be a permanent shift in HH formation. What determines formation?

- Rents/ Prices

- Job prospects (doubling, nest leaving).

- Divorce (+), marriage(-)

## 1c). Some additional sources of housing unit "demand"

-   Annual demolitions average between 75,000 and 100,000, but there are "episodes": urban redevelopment in the 1960's, Failed developments today?

-   2nd home demand. The Census identifies homes that are vacant and for sale or rent, vacant and uninhabitable,  and then homes that are "seasonal, usual residence elsewhere,…"

- This latter category has grown from 8% of the stock in 1970 to 16% of the stock in 2010. Annual average growth is about 200,000.

# Forecast: still excess demand for new units during the next 5 years – even if construction recovers to 1.4m!

**Housing Starts Less New Households**
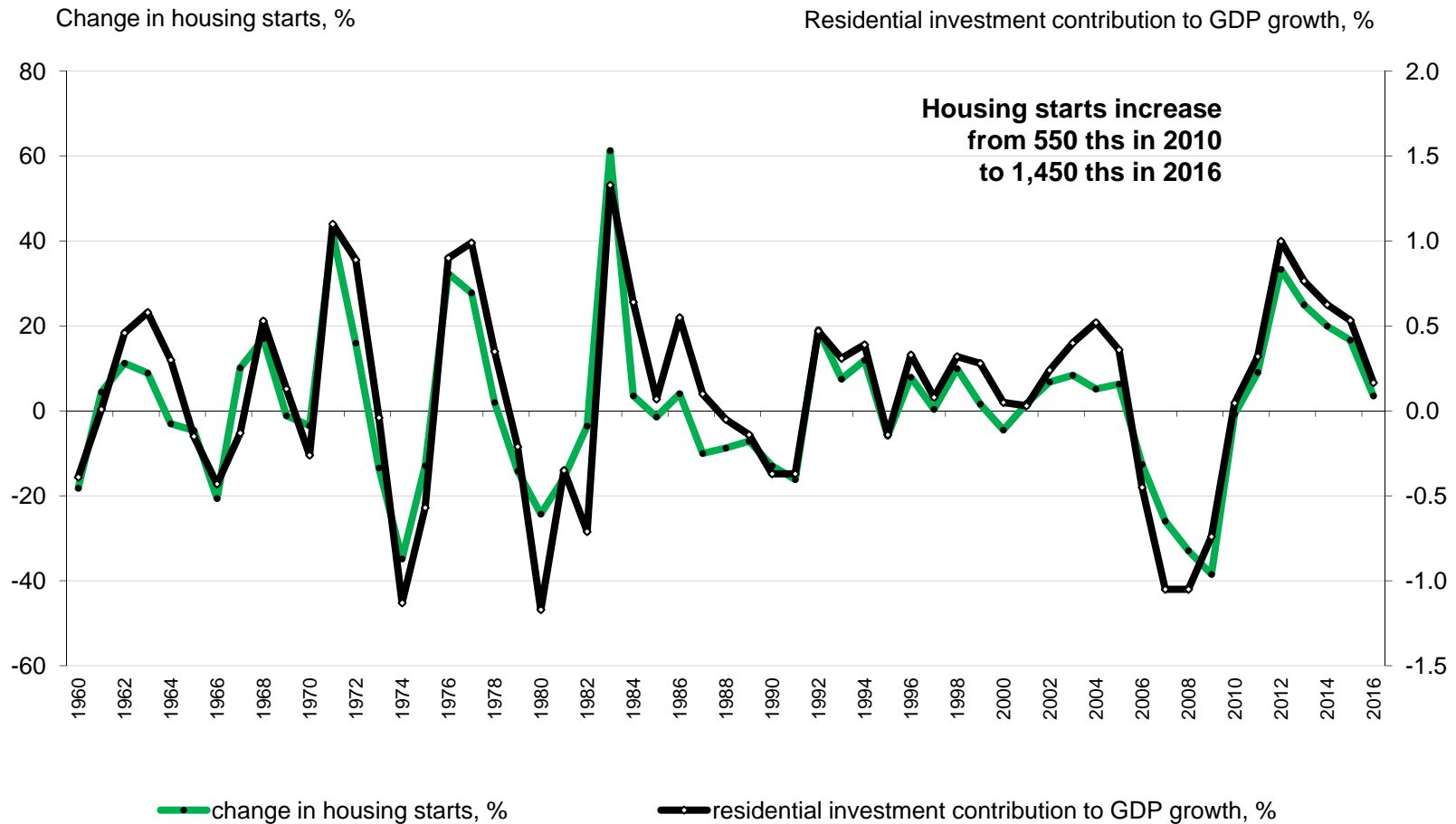
Millions

Historic Equilibrium: 280,000 excess units (=demolitions + $2^{nd}$ homes )
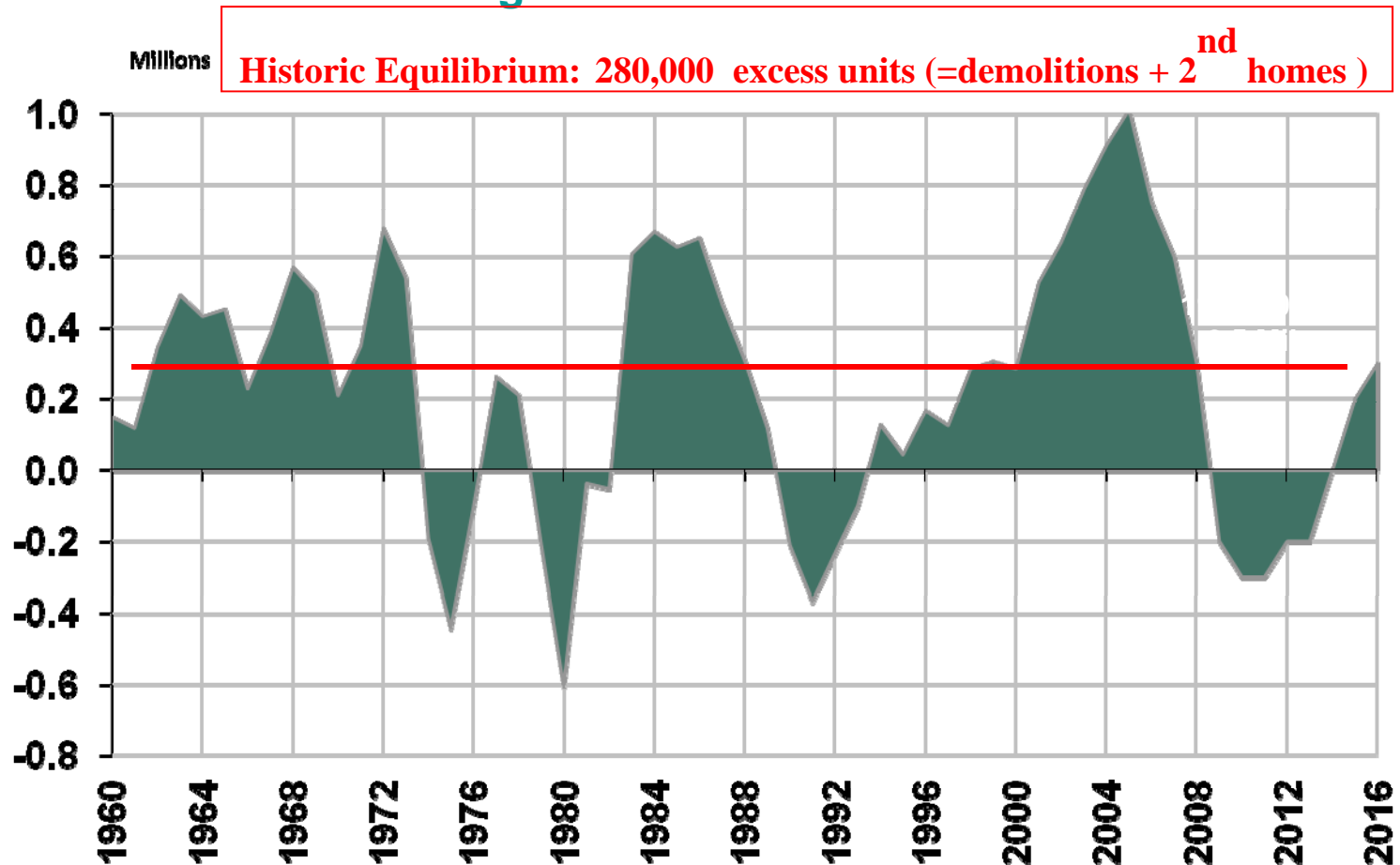


*Sources: Bureau of the Census, Moody's Economy.com, Torto Wheaton Research.*

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# In the aggregate Residential Construction must recover: When it does - watch GDP growth

Change in housing starts, %

Residential investment contribution to GDP growth, %



Housing starts increase
from 550 ths in 2010
to 1,450 ths in 2016

change in housing starts, %

residential investment contribution to GDP growth, %

## 2a). Will there be a recovery in the ownership rate?

- **-** Homeownership driven to unsustainable levels by easy credit – 69-70%. Underwriting or rates?
- Foreclosures have dropped ownership to 65.3%.
- Base case: economic recovery prevents further foreclosures due to job losses. Price recovery encourages under water owners to hang in there.
- Ownership still desired, result: ownership stabilizes at 65%

## 2b). Downside: strategic defaults – walking.

- **-** Recent evidence of widespread underwater loans
- Great resistance by Banks to principal reductions
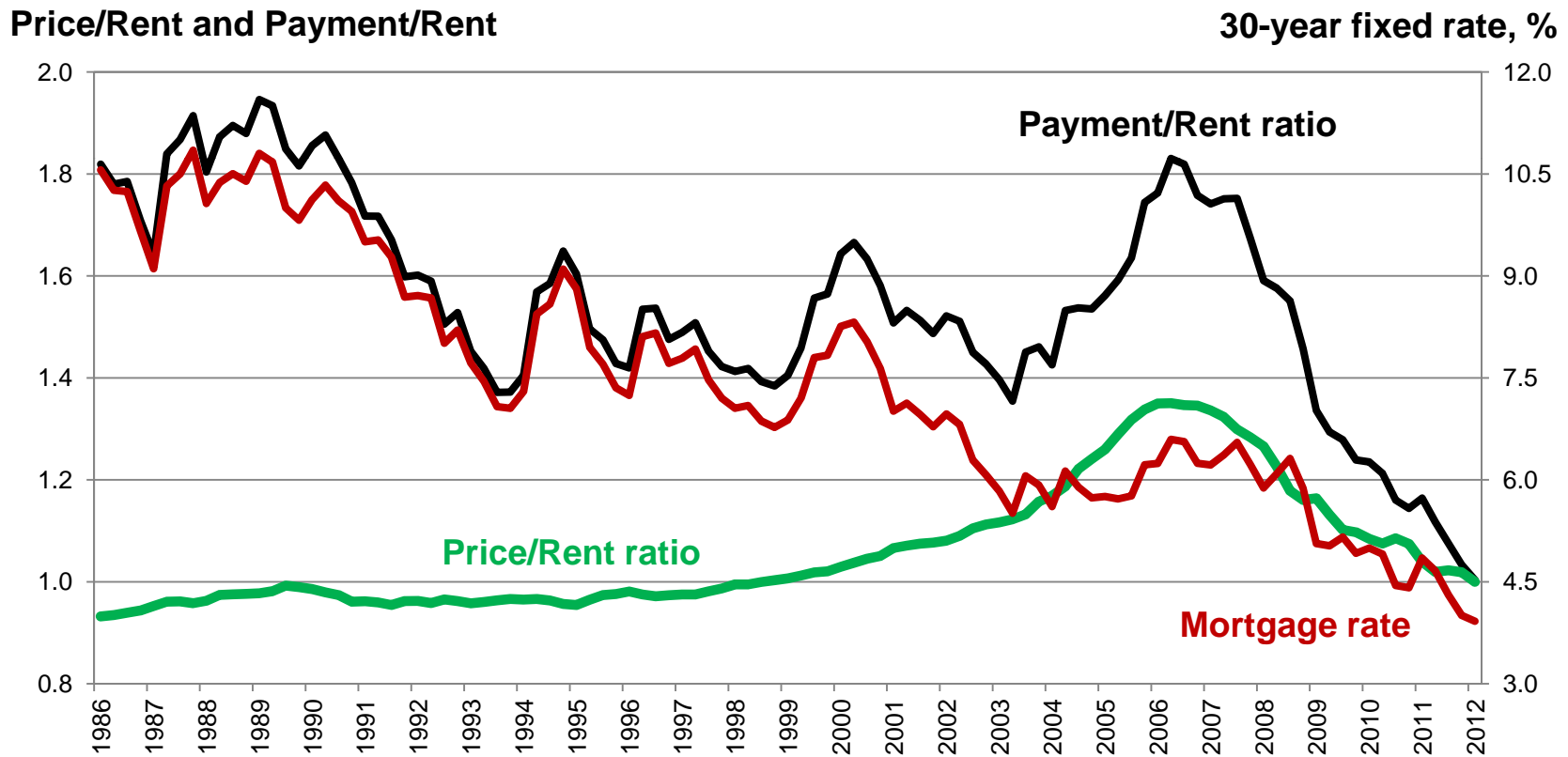- Massive walking defaults? Ownership drops to 62-63% (later)
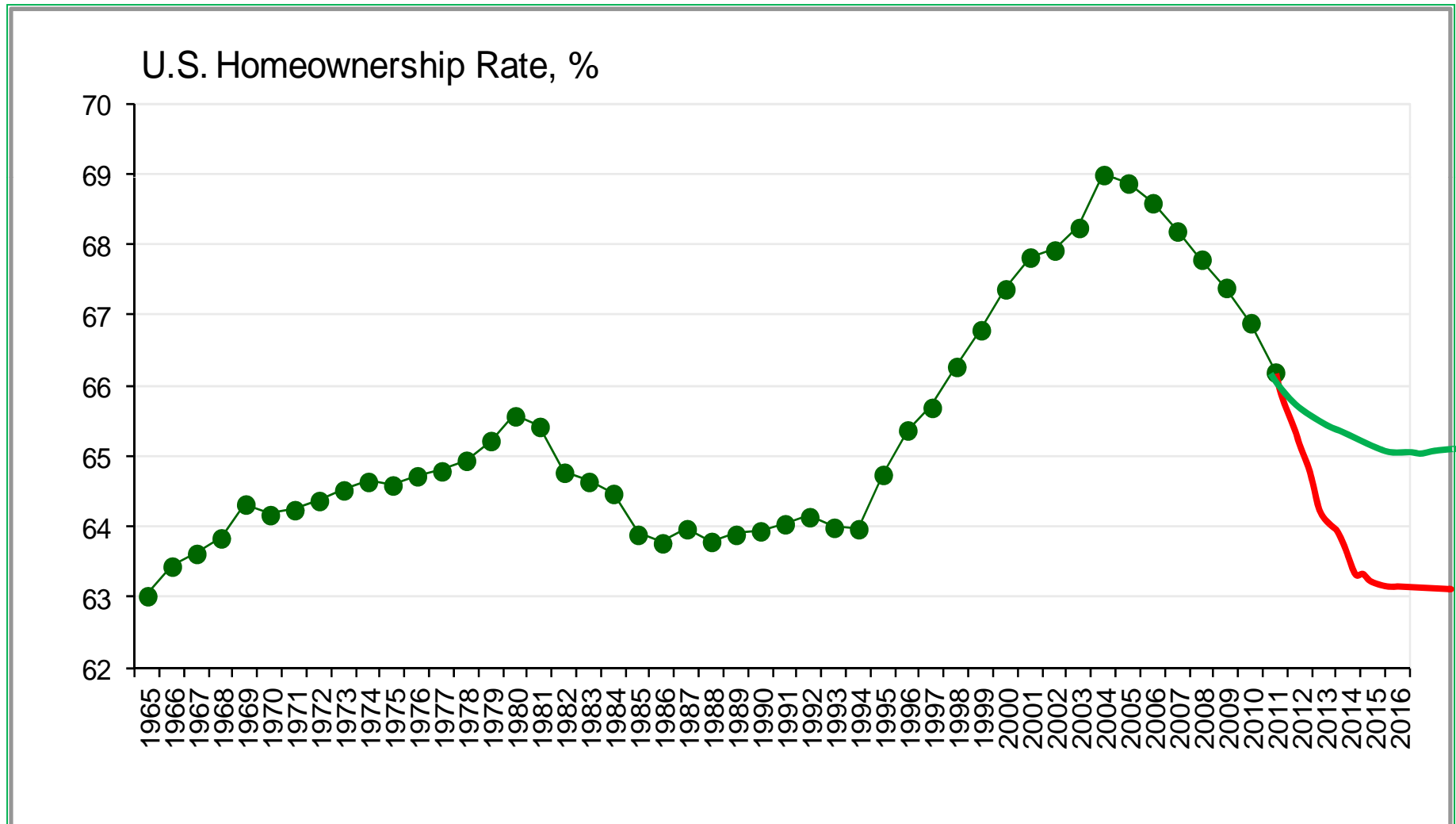
# Mortgage Delinquency dropping: transition to foreclosure is also (All Loans)
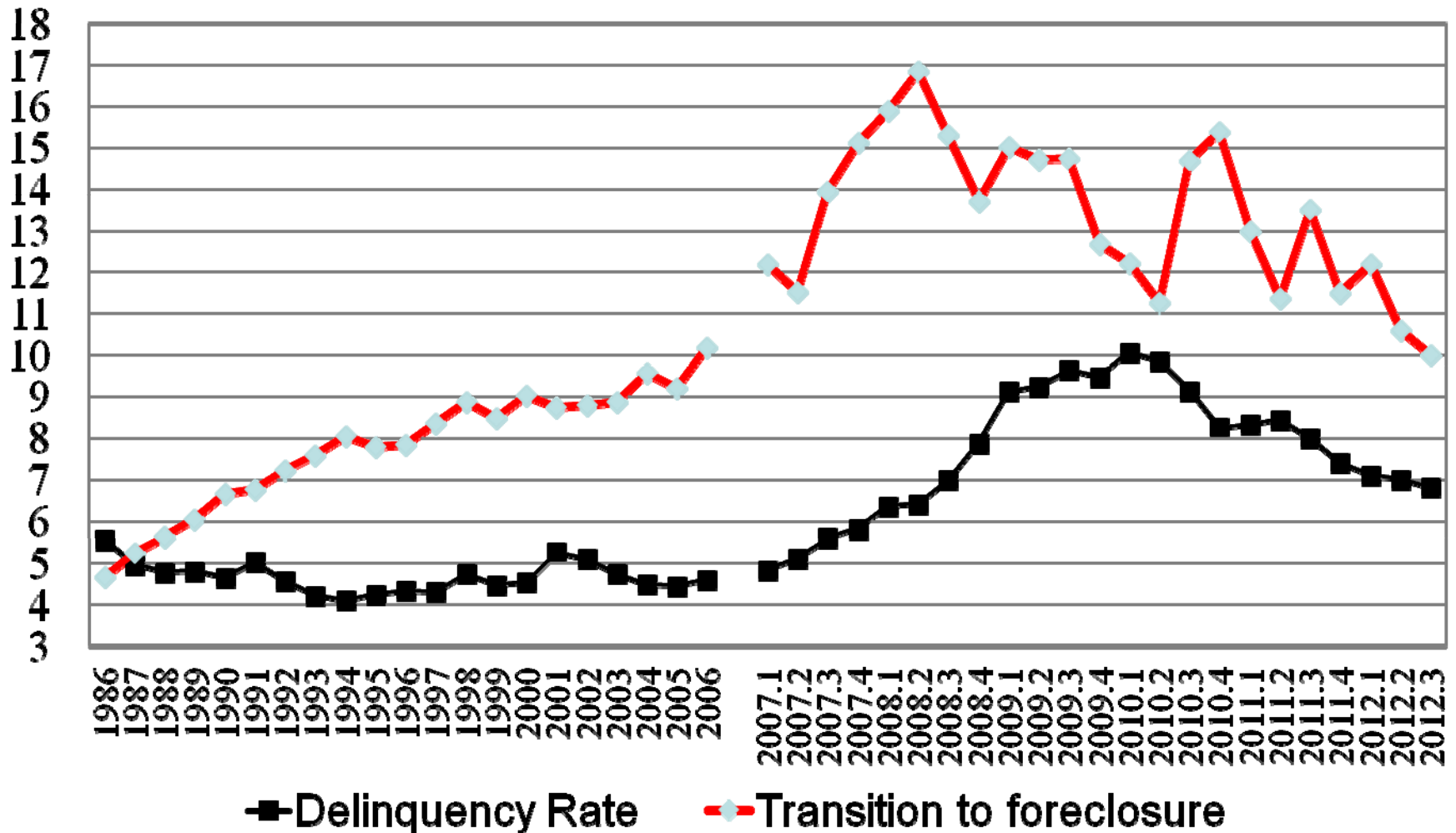


Source: Mortgage Bankers Association

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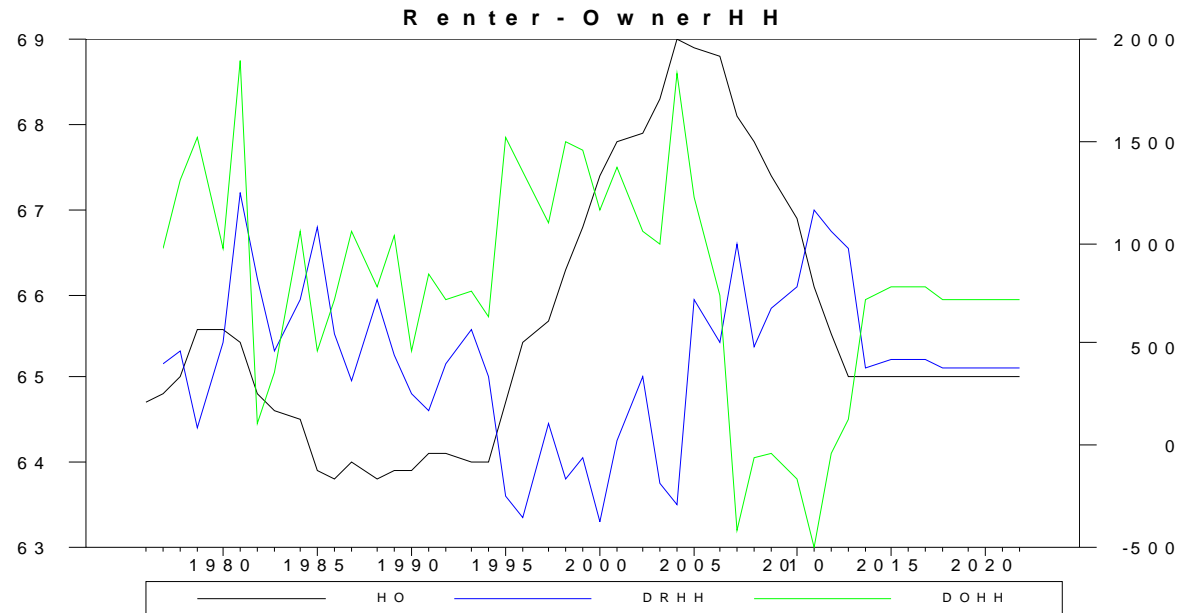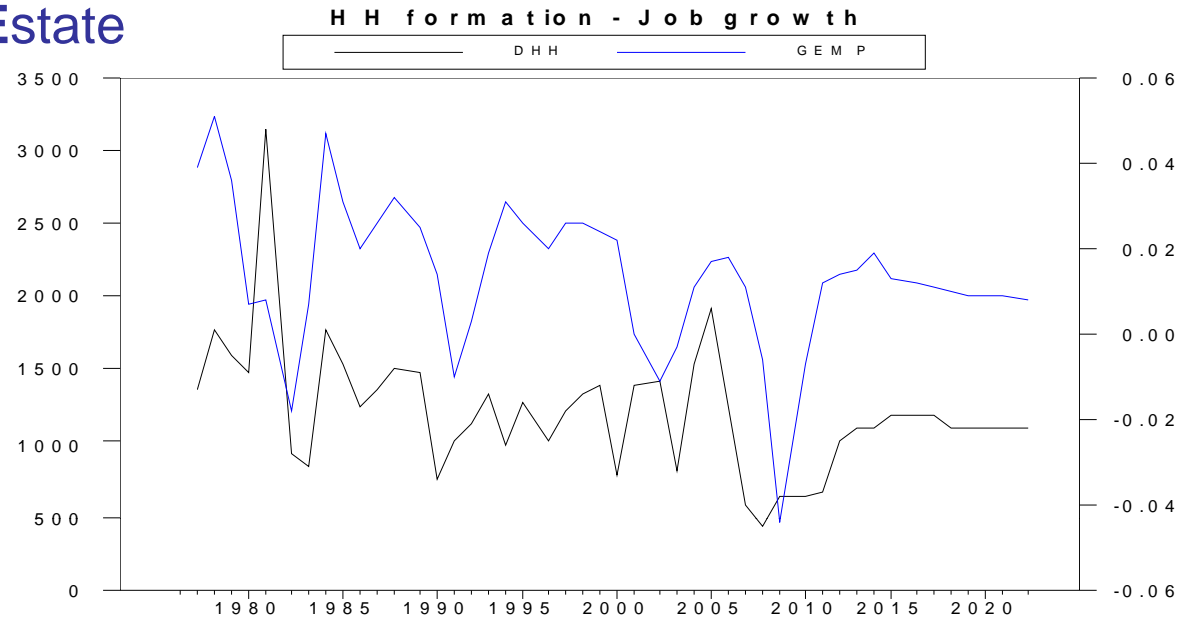
# Are there enough buyers to take advantage of a once in a generation opportunity?

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**Base Case:**
Ownership: 65% HH
formation 1.2m
Owners: 800k yearly
Renters: 400k

**Renters MF construction**

| DRHH | MCMP |



**Base Case:**
SF construction
1.1m
MF construction
.3m
Gaps: conversions
And demolitions
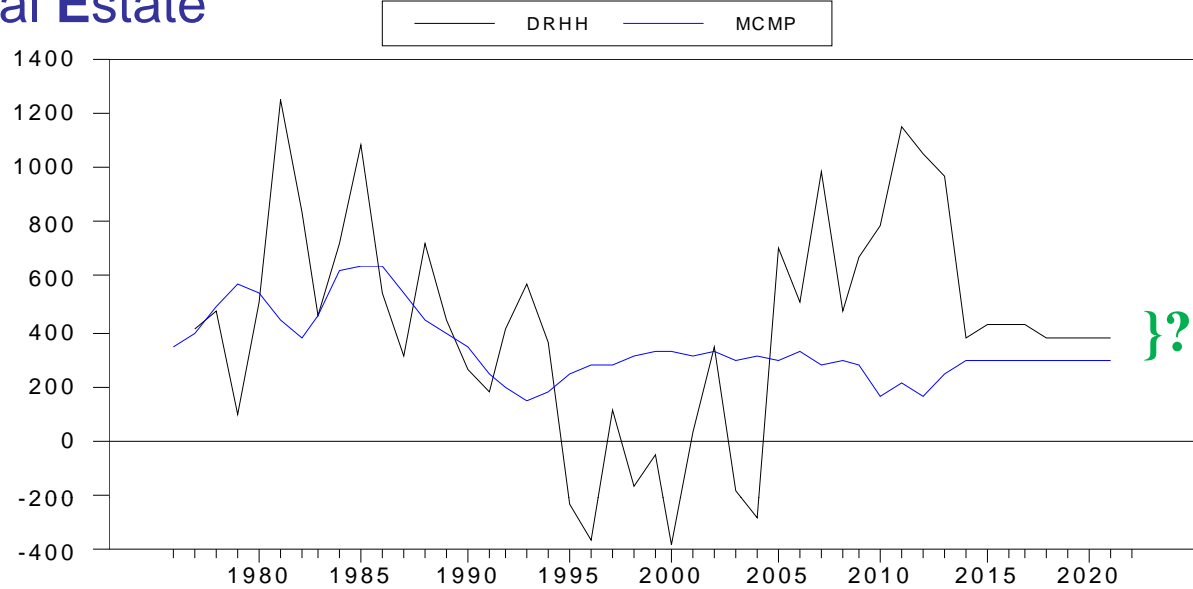
**Owners - SF construction**



| DOHH | SCM |
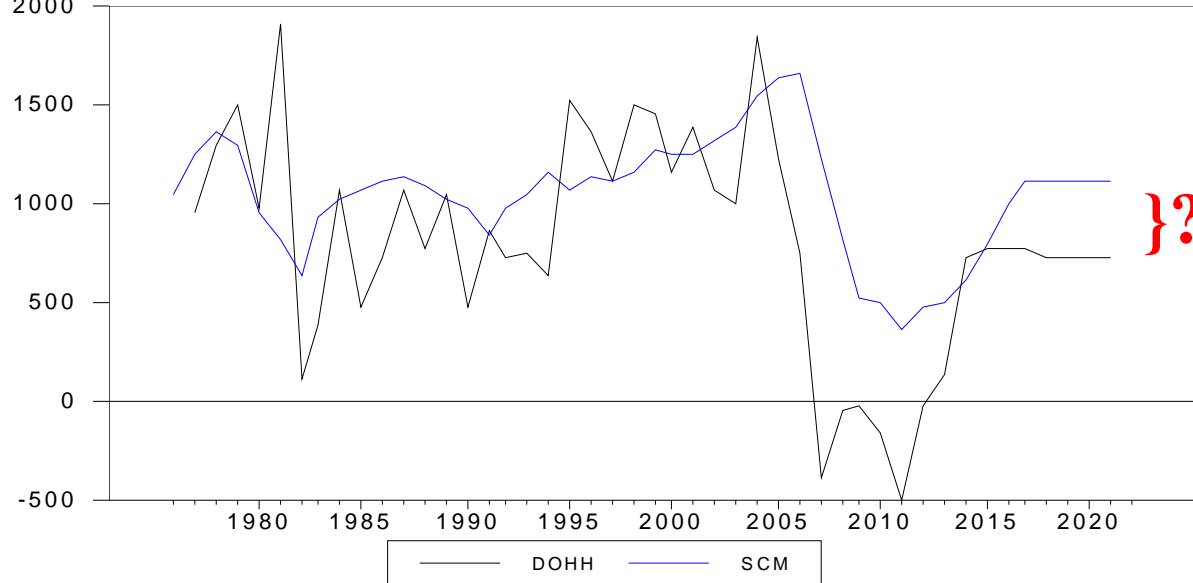
# Conversions responsible for most of Δ rental Stock (Investors: 1998-2005 vs. 2006-2011)



Year-over-year change in rental stock, mil units

Legend: new completions · demolitions · conversions · total
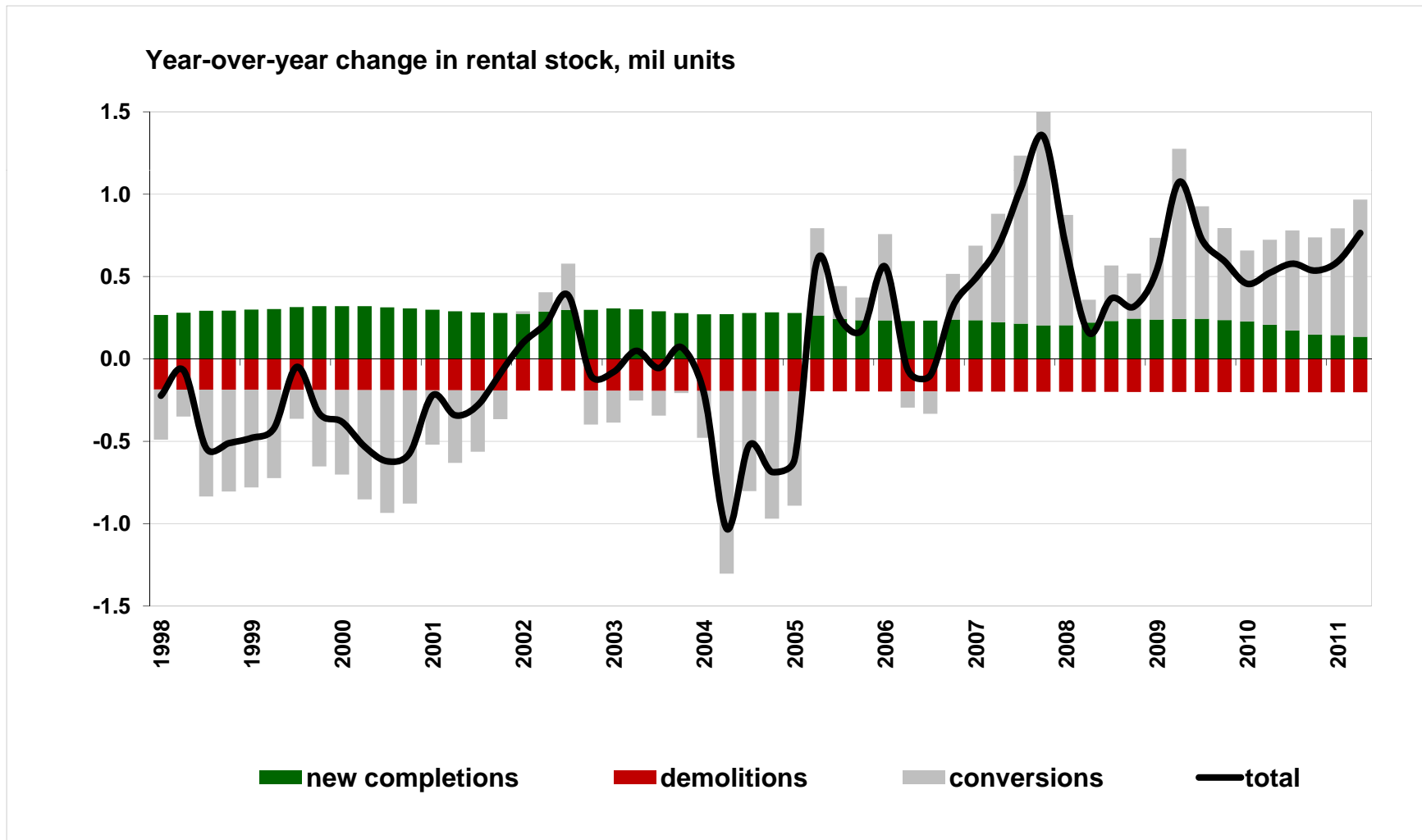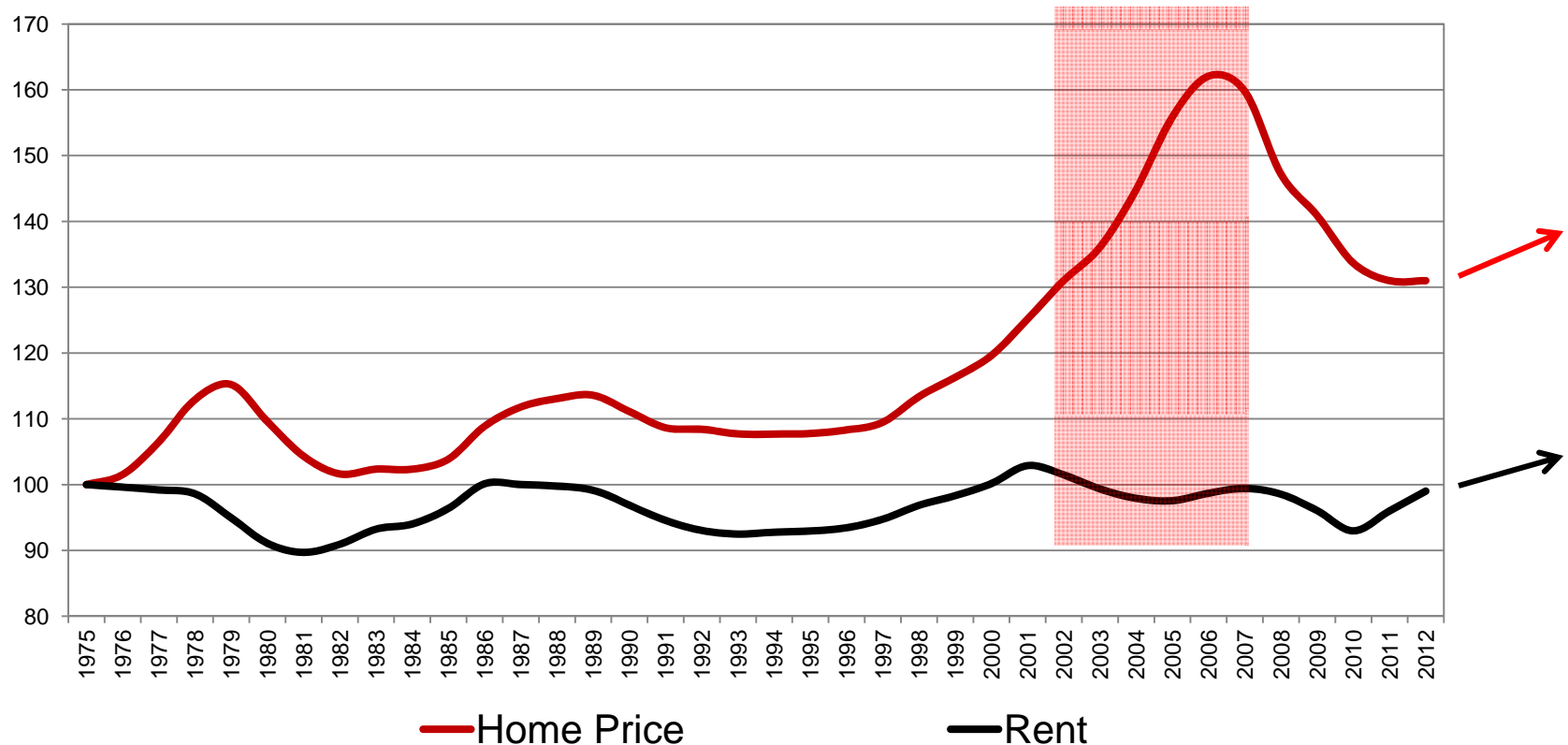
# Historically prices move with rents (their "fundamental") – except for 2001-2006. Back moving together in the last 3-4 years

1975=100 Constant $2011
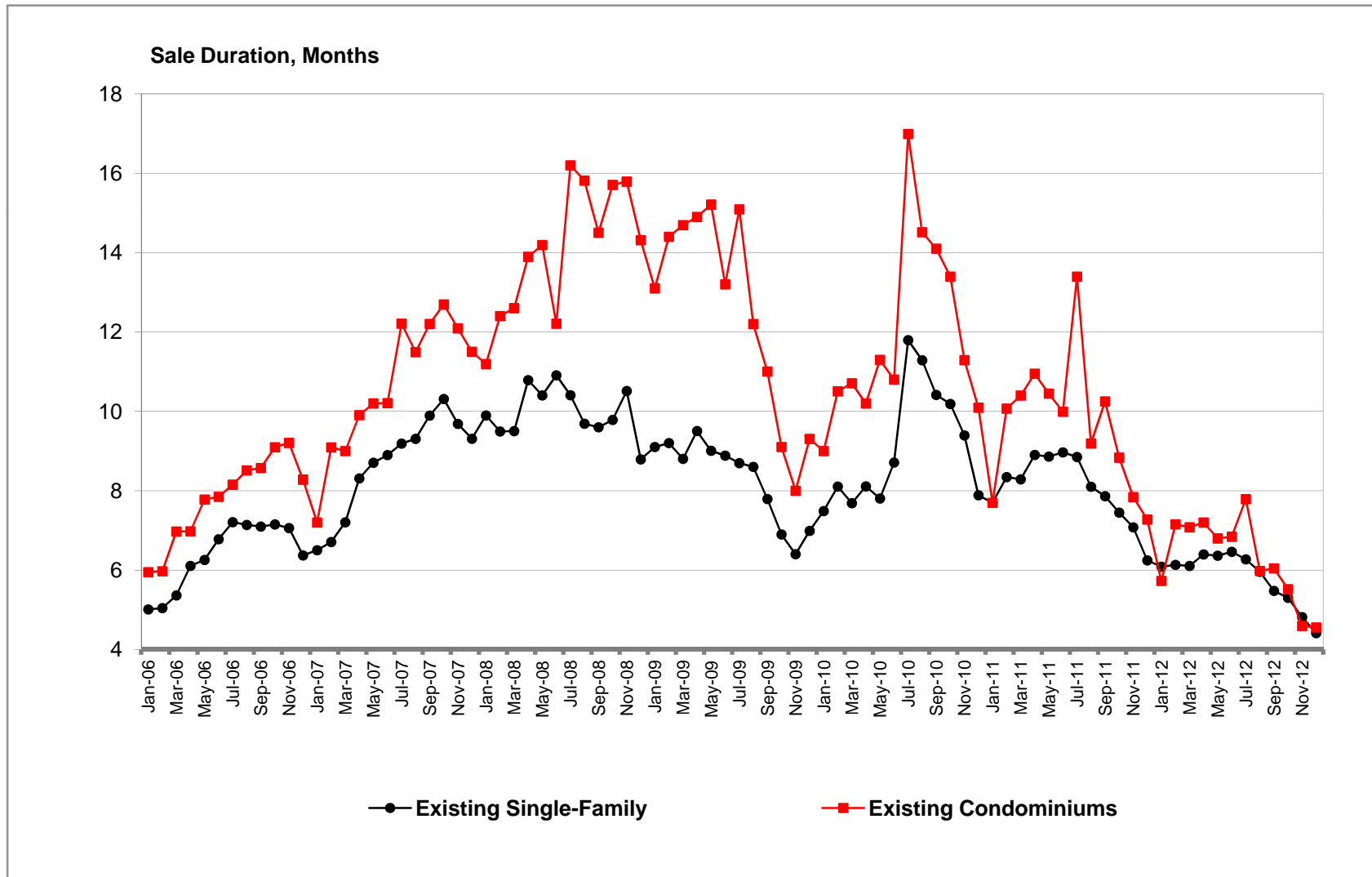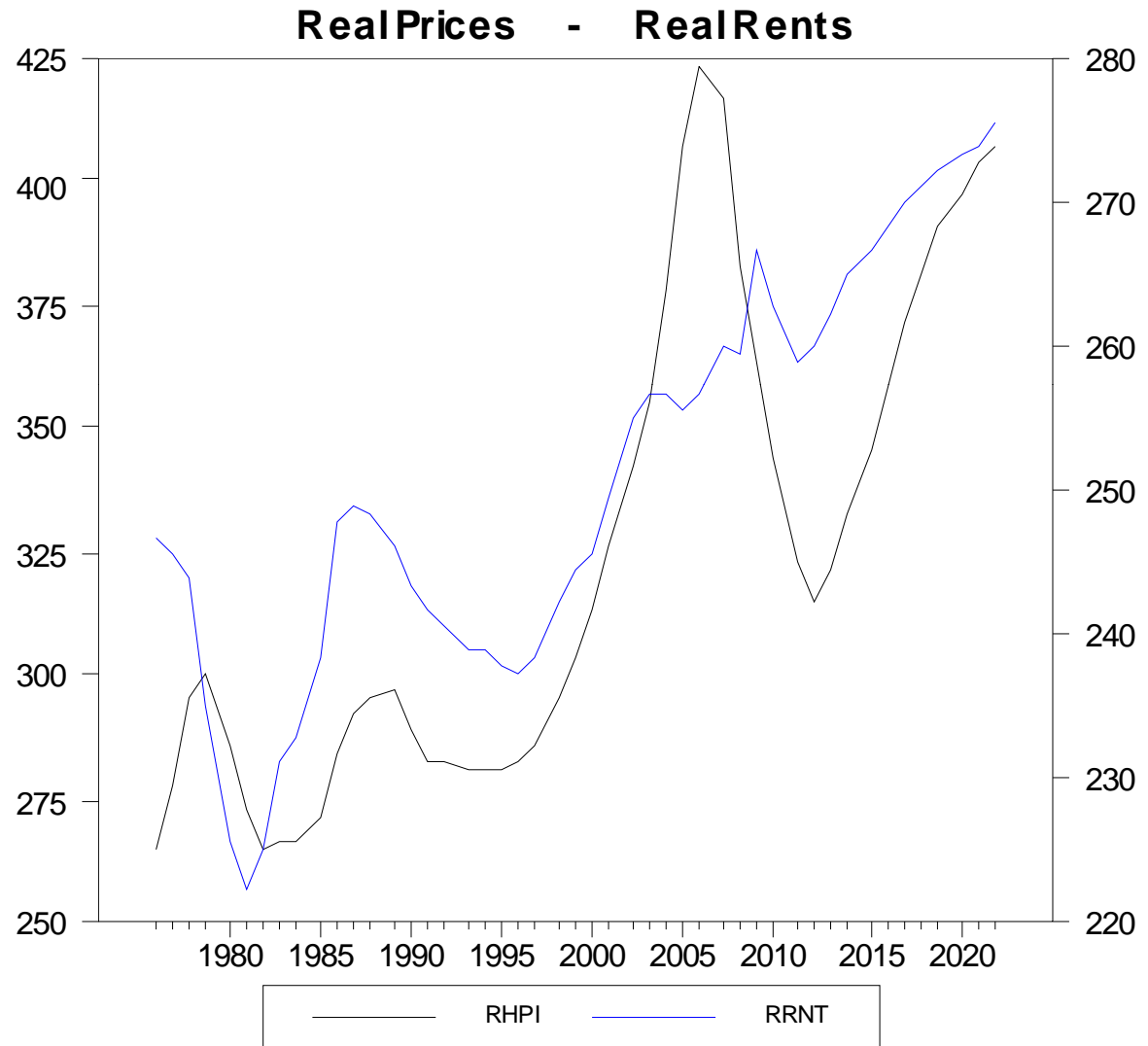


Home Price            Rent

# Sales Duration recovering: Prices set to rise significantly (duration-price relationship)



**Sale Duration, Months**

Existing Single-Family • Existing Condominiums ■

**Base Price Recovery:** homeownership stabilizes at 65%



**RealPrices  -  RealRents**

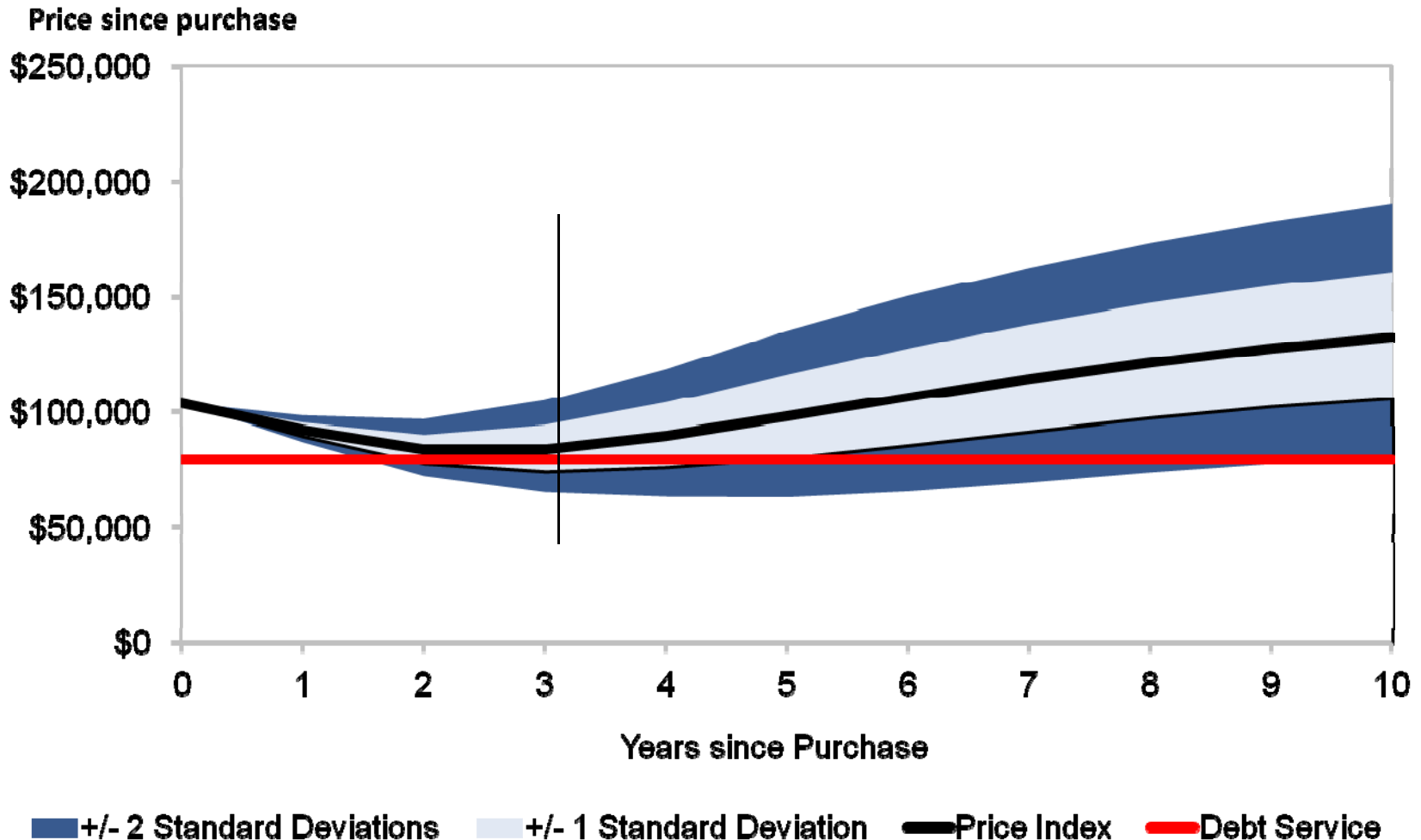# But, Shadow inventory of strategic defaults?

## Whose #s to believe?

1). AHS (2010) 12% self report having negative equity (estimated values)

2). Core Logic. Take each mortgage LTV at origination and move the V by the market's estimated price index.  (22% under water).

3). Korteweg /Sorensen (2012)  price indices are estimated and hence have a probability distribution… (30+%)
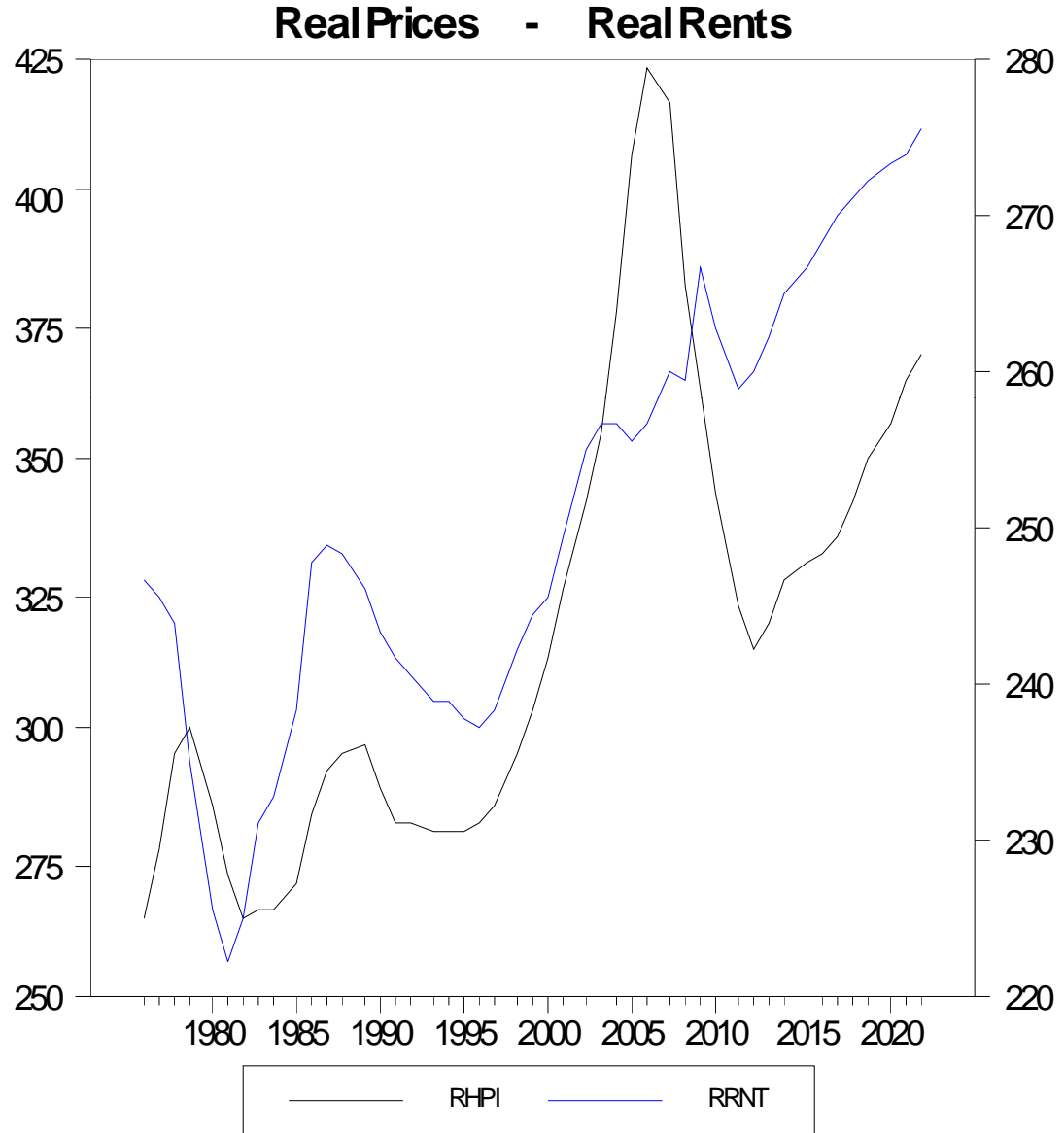
# Under Water?

**Market Price indices do not apply to every property: they are averages with a distribution. There is a probability that any given house is underwater – not a single answer**



Price since purchase

+/- 2 Standard Deviations    +/- 1 Standard Deviation    Price Index    Debt Service

**Default Price Recovery:** homeownership drops to 62.5% with strategic defaults



RealPrices   -   RealRents

# Where will prices recover the Most?

1). Where they have fallen the most?

2). Yes, but only if the fall has taken them below the cost of developing new housing.

3). And *if* the prospects for new development (economic growth) are strong.

4). And the cost of development is continually increasing from regulations…. (*in*elasticity of supply)

# Geographic Imbalance

## CANFLAZ is a huge share of the "trouble", relative to population or Housing Market share

| | CANFLAZ as a % of US | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2001 | 2003 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010* |
| Total population | 20.4 | 20.7 | 21.0 | 21.0 | 21.0 | 21.1 | 21.1 | 21.1 |
| Residential permits | 25.2 | 27.7 | 29.3 | 25.5 | 20.7 | 18.2 | 15.7 | 16.8 |
| Existing home sales | 20.6 | 20.8 | 20.4 | 16.5 | 14.0 | 18.0 | 21.8 | 21.4 |
| 2nd/investment home loans | 35.4 | 39.9 | 44.2 | NA | NA | NA | NA | NA |
| Total loans | 27.6 | 27.1 | 29.4 | 27.7 | 25.8 | 26.1 | 26.3 | 26.3 |
| "Under Water" Loans | NA | NA | NA | NA | NA | NA | NA | 49.2 |
| Foreclosure starts | NA | NA | 23.8 | 26.6 | 37.9 | 47.4 | 50.4 | 46.8 |

*\* year-to-date*
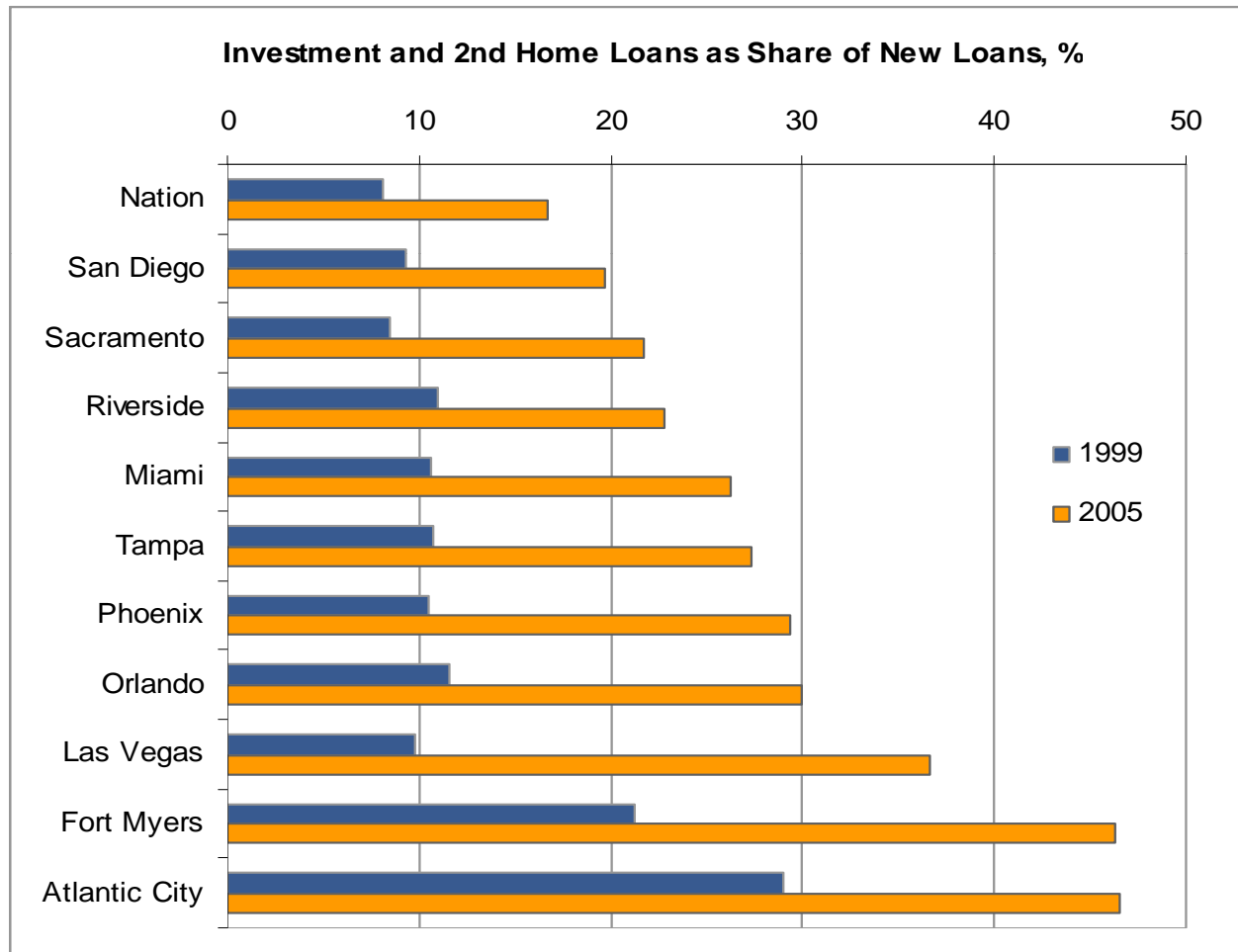
*Sources: BLS, BOC, HopeNow, HMDA, Loan Performance, NAR, RealtyTrac.*
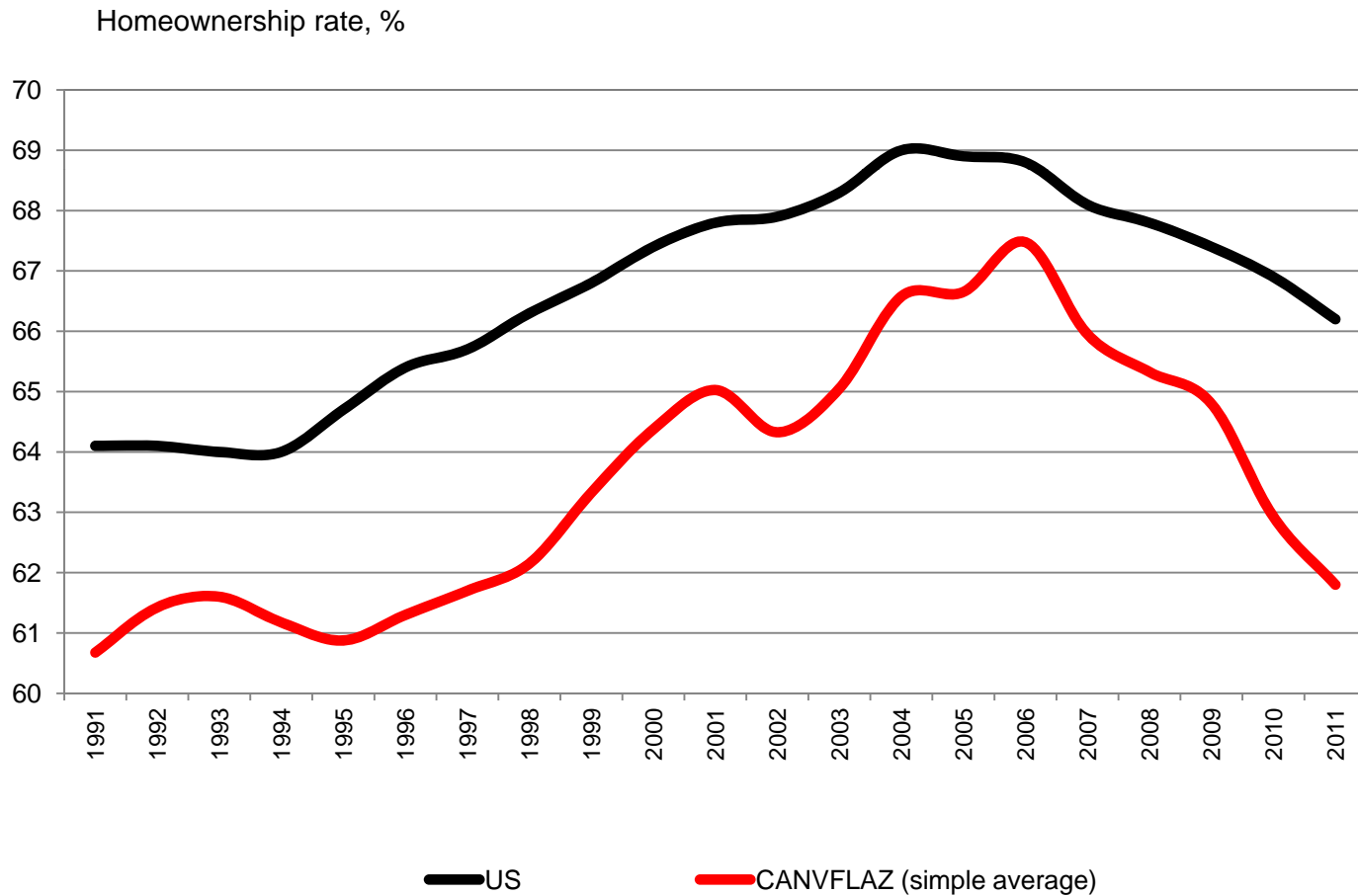
# CANFLAZ purchase of 2nd or Investment (speculative) homes 2x US average (Condos excluded)

**Investment and 2nd Home Loans as Share of New Loans, %**



*Source: Loan Performance, Torto Wheaton Research*

# The result: Housing price "bubble" in CANFLAZ: 2x rest of the US



CSW Sales-weighted home price index, Jan-2001=100

Legend: CS20 metros — CANVFLAZ 7 metros — Others 13 metros
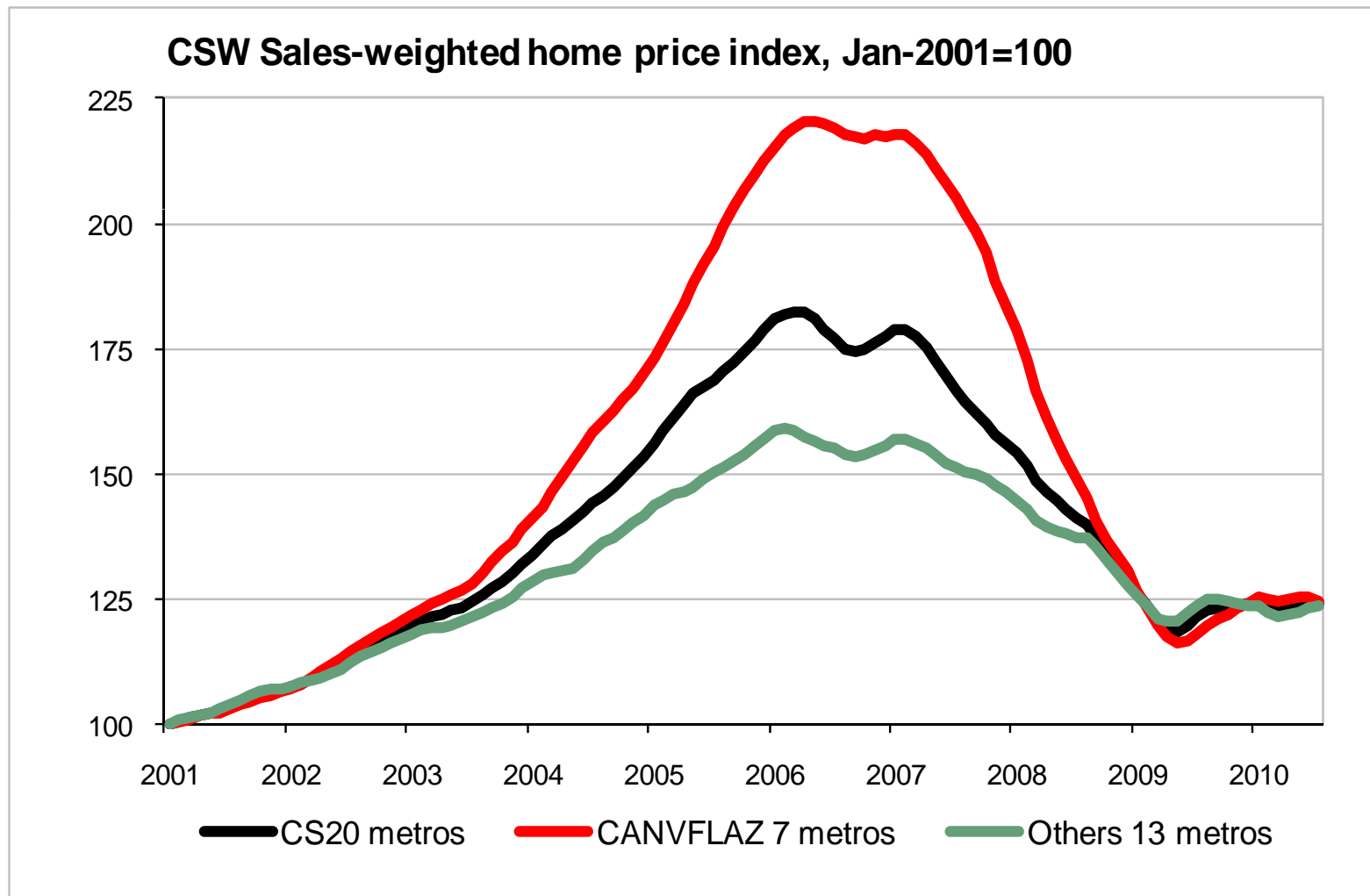
# Estimating Price Recovery: Methodology

1). Assume that development returns to each market at 90% of the development that occurred during the decade prior to the bubble: 1993-2003.

2). Estimate a statistical dynamic model of new development wherein prices drive supply.

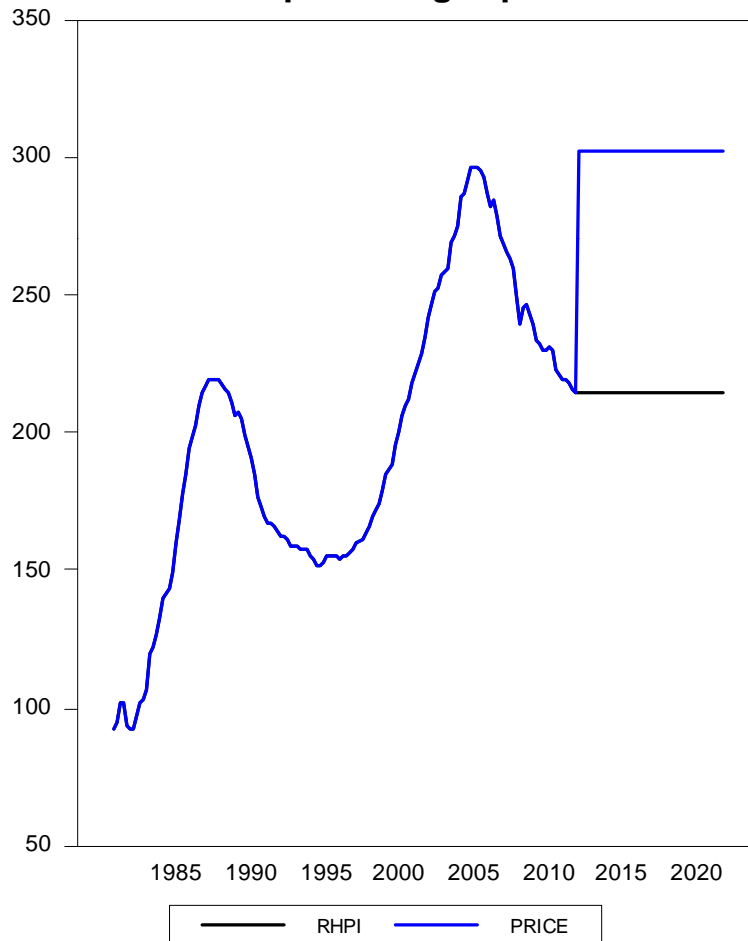3). Ask how much will prices have to increase to meet the anticipated development – given each market's supply model. …..
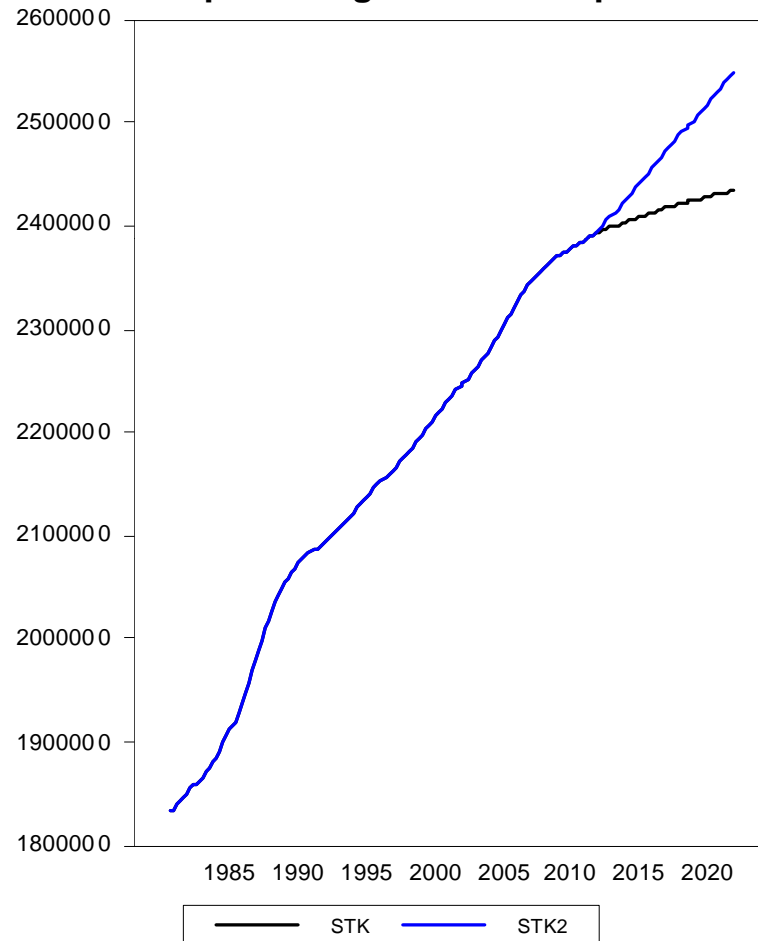
# Price change needed for Target Stock Response -vs- Stock Response to status quo prices

Boston



**statusquo - Target prices**

**statusquo - Target stock response**

# Price change needed for Target Stock Response -vs- Stock Response to status quo prices

WashingtonDC



statusquo - Target prices



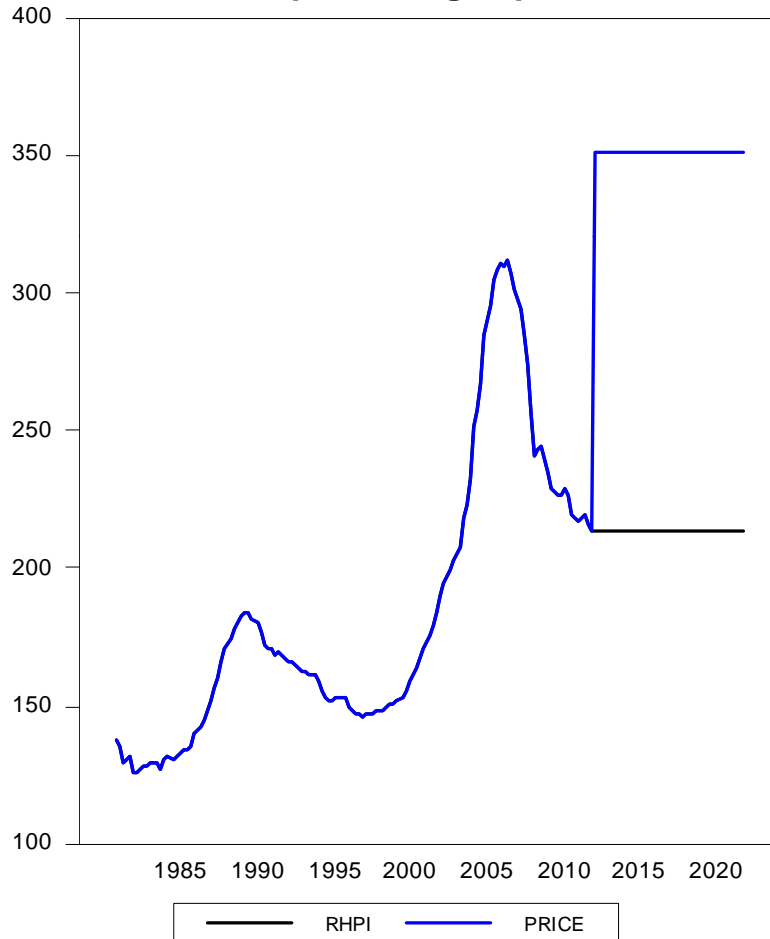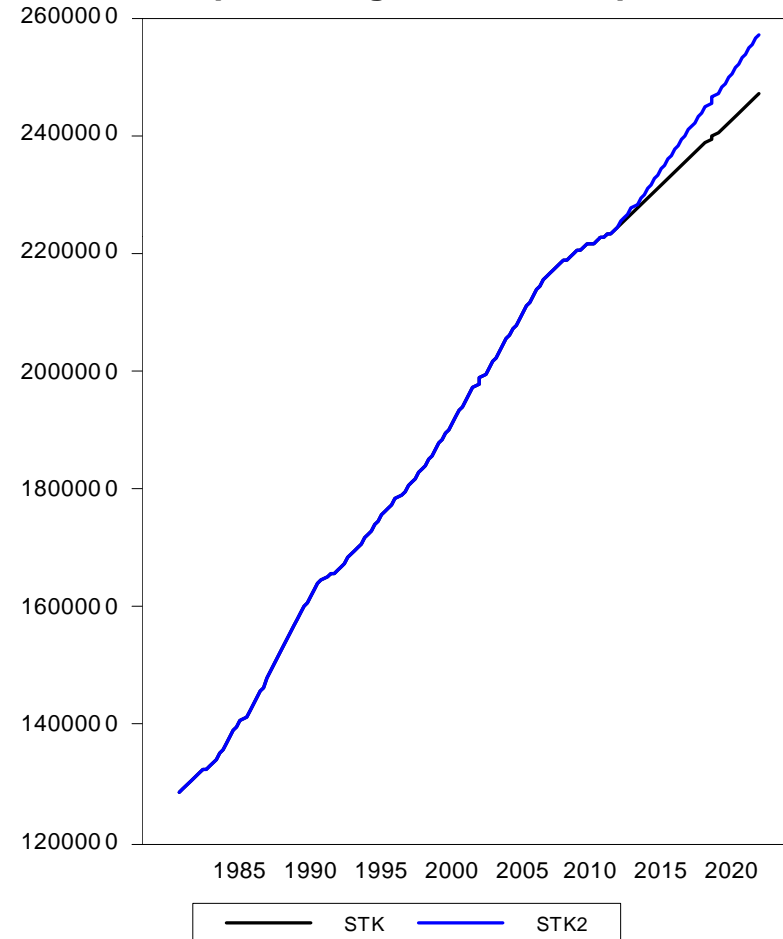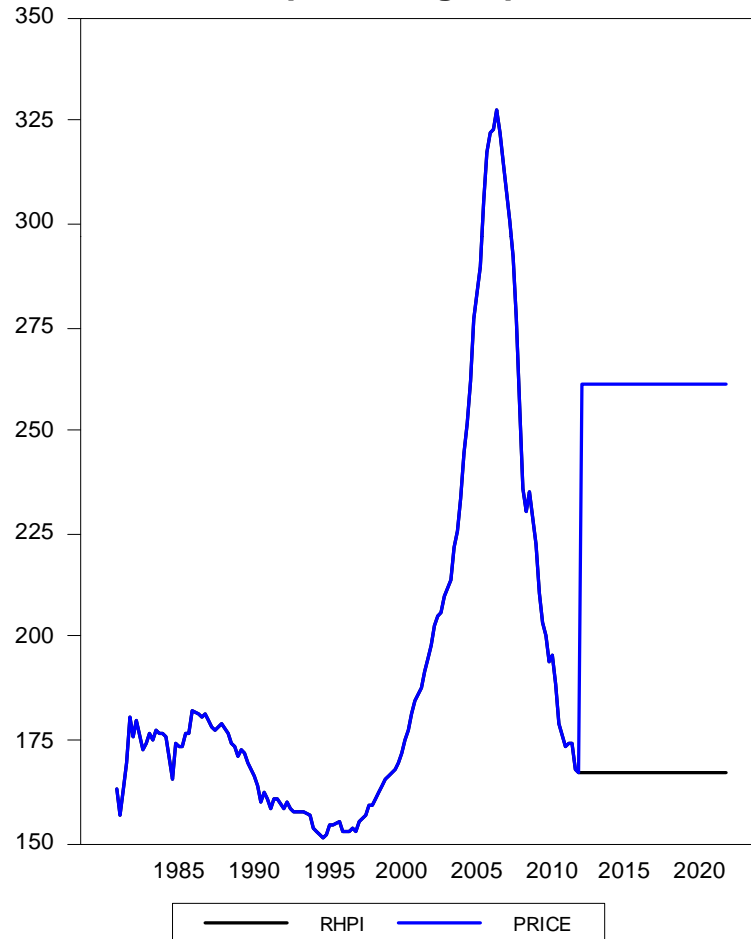statusquo - Target stock response
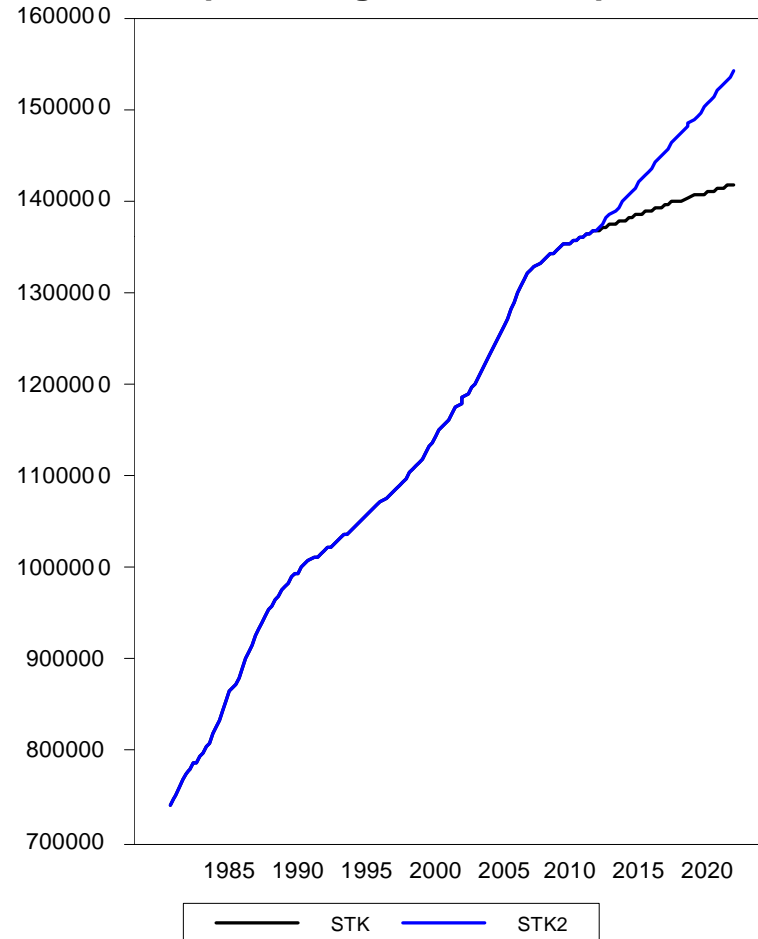
# Price change needed for Target Stock Response -vs- Stock Response to status quo prices

Tampa



**statusquo - Target prices**

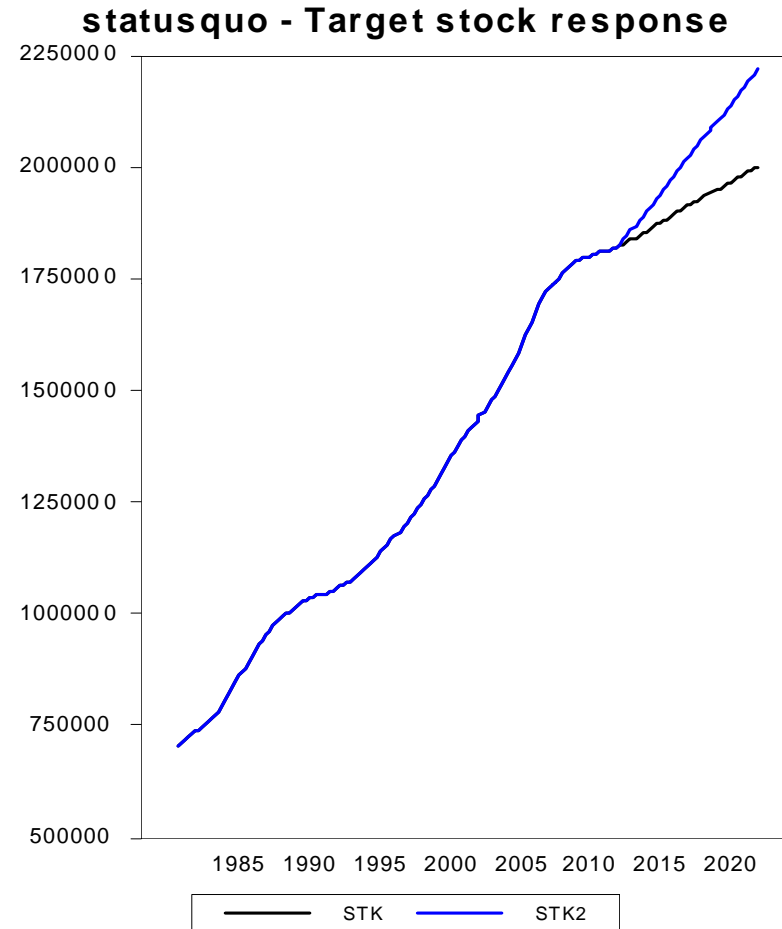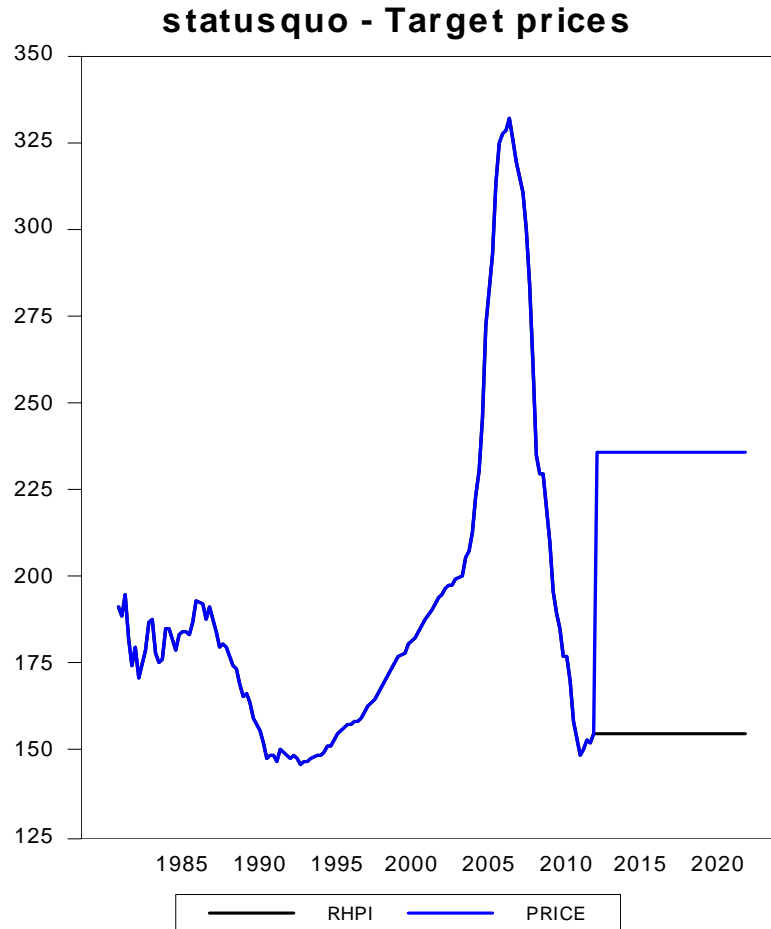**statusquo - Target stock response**

# Price change needed for Target Stock Response -vs- Stock Response to status quo prices

Phoenix



**status quo - Target prices**

Legend: RHPI, PRICE

**status quo - Target stock response**

Legend: STK, STK2

# Results for a sample of markets (prices in constant $)

| MSA | Price: 2007:2 | Price:2012:2 | Target dev. | Elasticity | Price change |
|---|---|---|---|---|---|
| Austin | 212.32576 | 199.38 | 152048.36 | 5.17624 | 1.2736 |
| Boston | 272.02235 | 214.554 | 155543.9 | 0.25404 | 87.2052 |
| Charlotte | 193.48061 | 153.26 | 168587.18 | 3.58407 | 33.92153 |
| Chicago | 221.16033 | 146.828 | 361260.65 | 0.59311 | 68.8798 |
| Denver | 219.19071 | 189.51 | 239602.71 | 0.91603 | 75.06508 |
| Miami | 377.74312 | 185.31 | 115004.96 | 0.3626 | 111.22758 |
| Minneapolis | 253.59721 | 173.82 | 201743.94 | 0.5852 | 97.48444 |
| Orlando | 307.50209 | 146.49 | 210766.44 | 2.16768 | 69.22595 |
| Phoenix | 319.49446 | 154.84 | 402427.02 | 1.88614 | 81.21866 |
| Riverside | 357.28424 | 166.34 | 174992.12 | 0.73076 | 59.16605 |
| SanDiego | 337.45538 | 212.47 | 105407.3 | 0.17845 | 138.02685 |
| SanFrancisco | 331.13314 | 236.45 | 33763.665 | 0.13969 | 108.75516 |
| Washington | 301.06268 | 213.518 | 325840.88 | 0.34024 | 138.09908 |
| WestPalmB | 330.04996 | 163.49 | 101253.49 | 0.21161 | 197.16402 |

# Conclusions

- Housing construction is already beginning to recover and has a lot of ground to make up.
- Going from 600,000 to 1.4m units yearly adds .7% to GDP growth over the next 3-4 years.
- There has not been any permanent "return to renting" and in fact buying a home today looks like a lifetime opportunity.
- The question of how much of a recovery in price is necessary to spur on such development is complicated and depends very much on the market in question.
- In markets with less decline, strong growth, and inelastic supply, prices will recover to new highs.
- Those with big declines, modest growth and elastic supply will not recover to 2007 highs.