



A Housing “Correction” or a Housing “Recession”?

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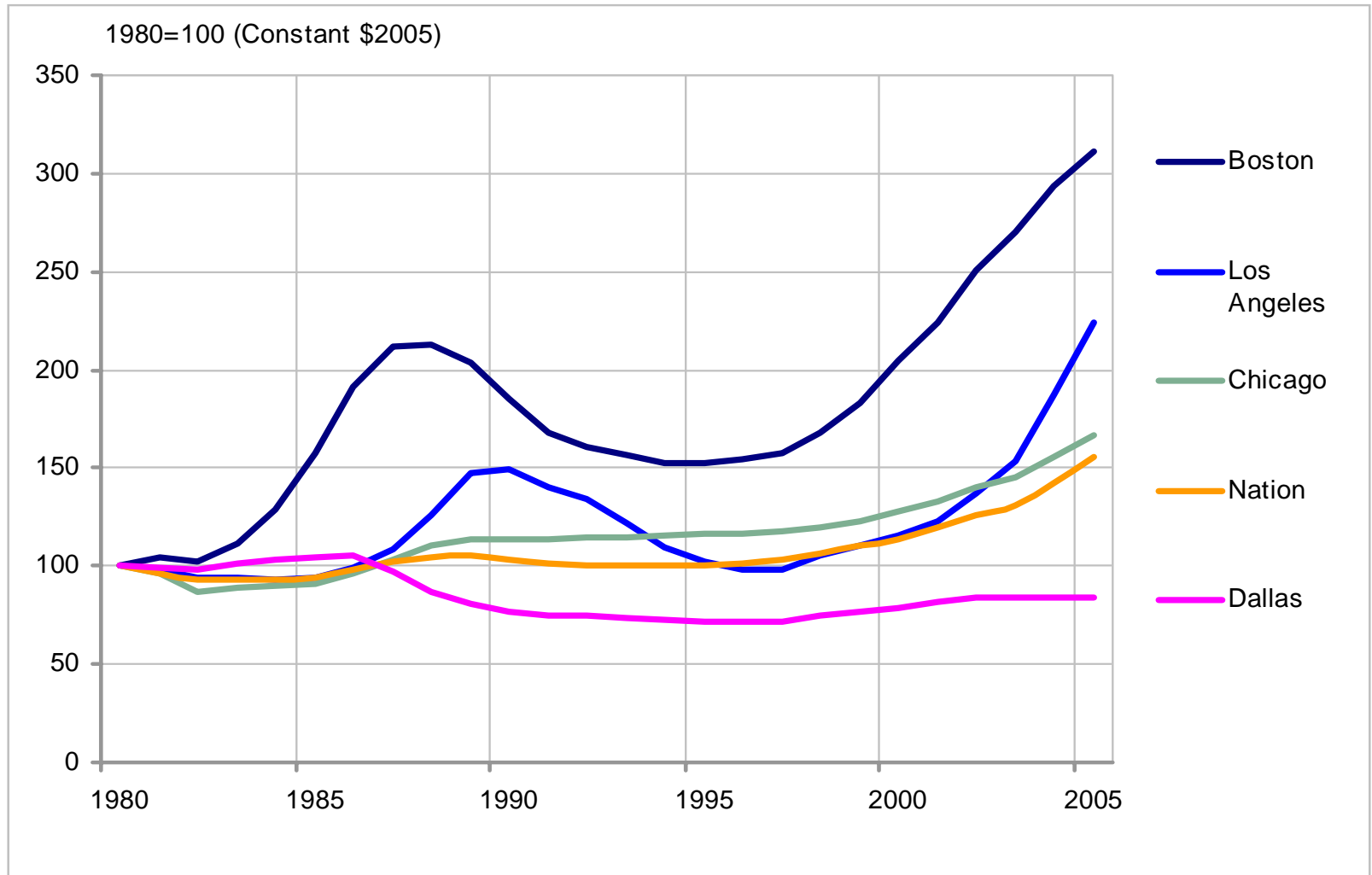


Topics:

- **1** Historic Housing Prices: relation to income. Cycles caused by contracting economy.
- **2** Why this time is different. A true “housing” correction.
- **3** What is driving the market this time?
- **4** Estimates of the impact of housing on the economy: MPCW, Equity extraction, GDP...
Could there be a true housing induced recession?
- **5** Sector and Area issues: homebuilding, finance, durables.



All House Price are Local: tremendous US variation between MSA in long term growth





Last 7 years has seen phenomenal growth relative to the previous 18

| <i>Market</i> | <i>1980Q1-1998Q4 (76 quarters)</i> | | | <i>1999Q1-2005Q4 (28 quarters)</i> | | |
|---------------|------------------------------------|----------|----------|------------------------------------|----------|----------|
| | <i>W</i> | <i>Y</i> | <i>P</i> | <i>W</i> | <i>Y</i> | <i>P</i> |
| Atlanta | 32% | 49% | 9% | 9% | 0% | 21% |
| Boston | 42% | 60% | 74% | 14% | 11% | 83% |
| Chicago | 23% | 34% | 11% | 7% | 1% | 42% |
| Dallas | 26% | 36% | -26% | 14% | 3% | 12% |
| Denver | 22% | 37% | 6% | 16% | 9% | 33% |
| Houston | 27% | 25% | -38% | 15% | 7% | 19% |
| Los Angeles | 31% | 13% | 10% | 12% | 6% | 123% |
| New York | 49% | 48% | 56% | 7% | 6% | 89% |
| Philadelphia | 27% | 44% | 21% | 7% | 8% | 60% |
| San Diego | 13% | 31% | 1% | 10% | 17% | 128% |
| San Francisco | 46% | 51% | 43% | 16% | 9% | 93% |
| Washington | 26% | 39% | 6% | 9% | 15% | 107% |

Sources: Bureau of the Census, Bureau of Labor Statistics, OFHEO.

Variables:

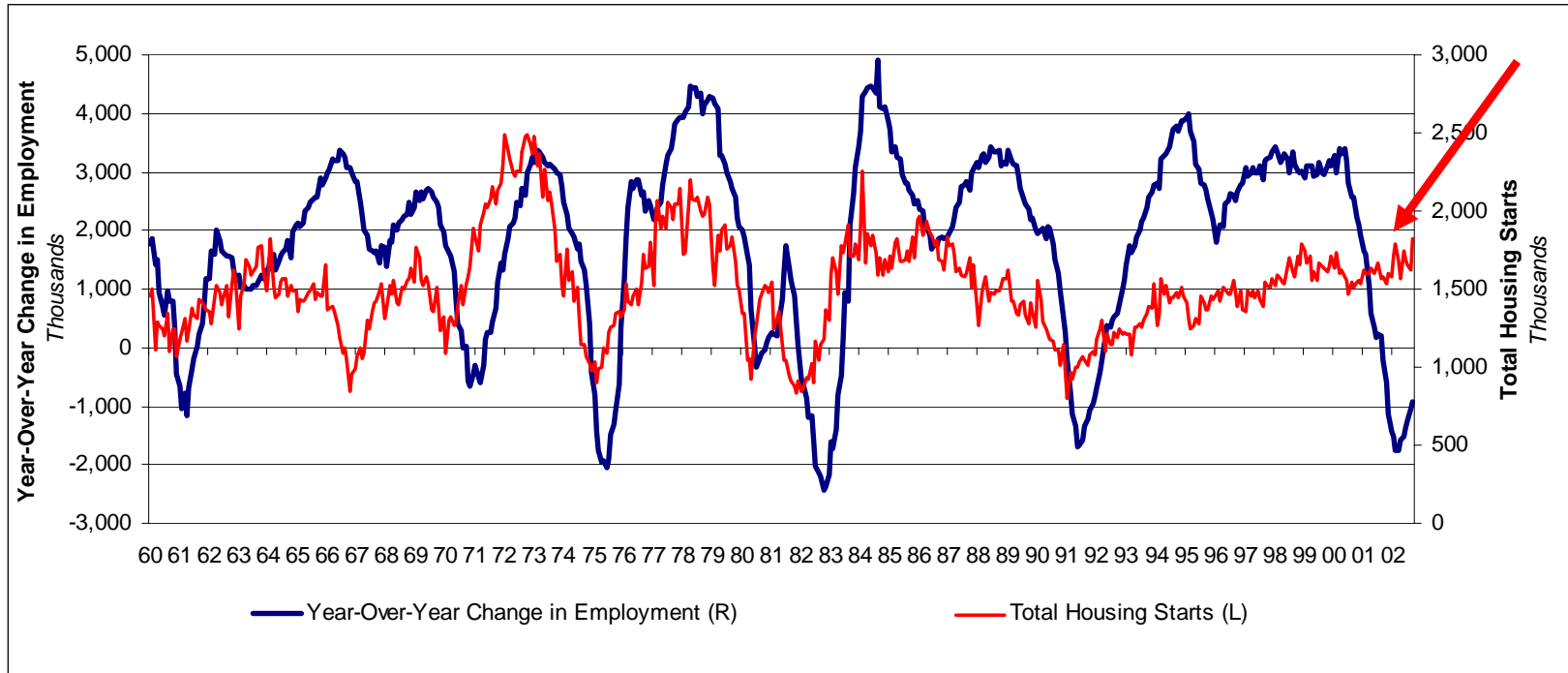
W - cumulative % change in real income/employment

Y - cumulative % change in real income/population

P - cumulative % change in real home price index

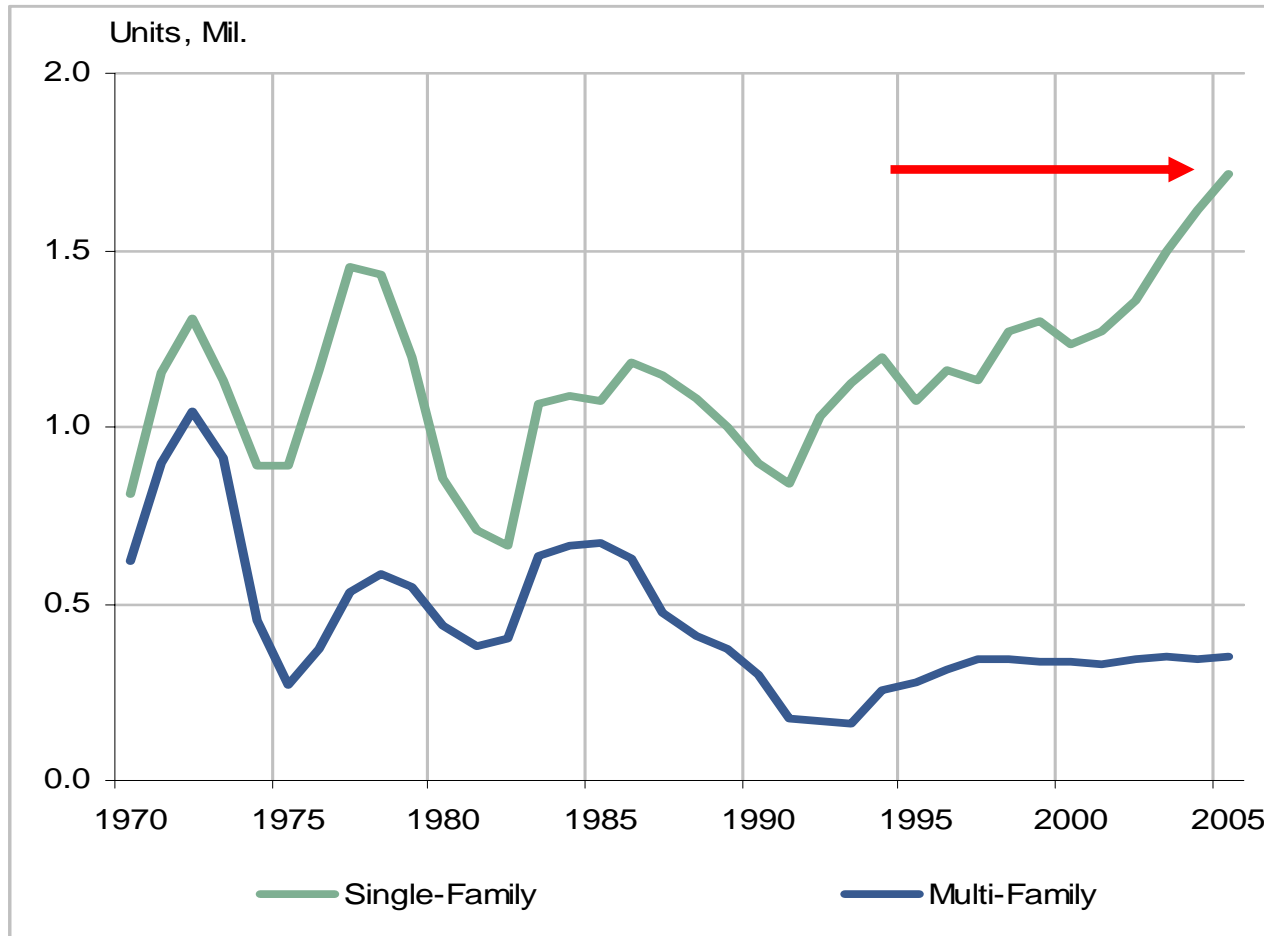


Cyclically: a perfect Historic correlation between job recessions and Housing Market construction – except for the last 5 years



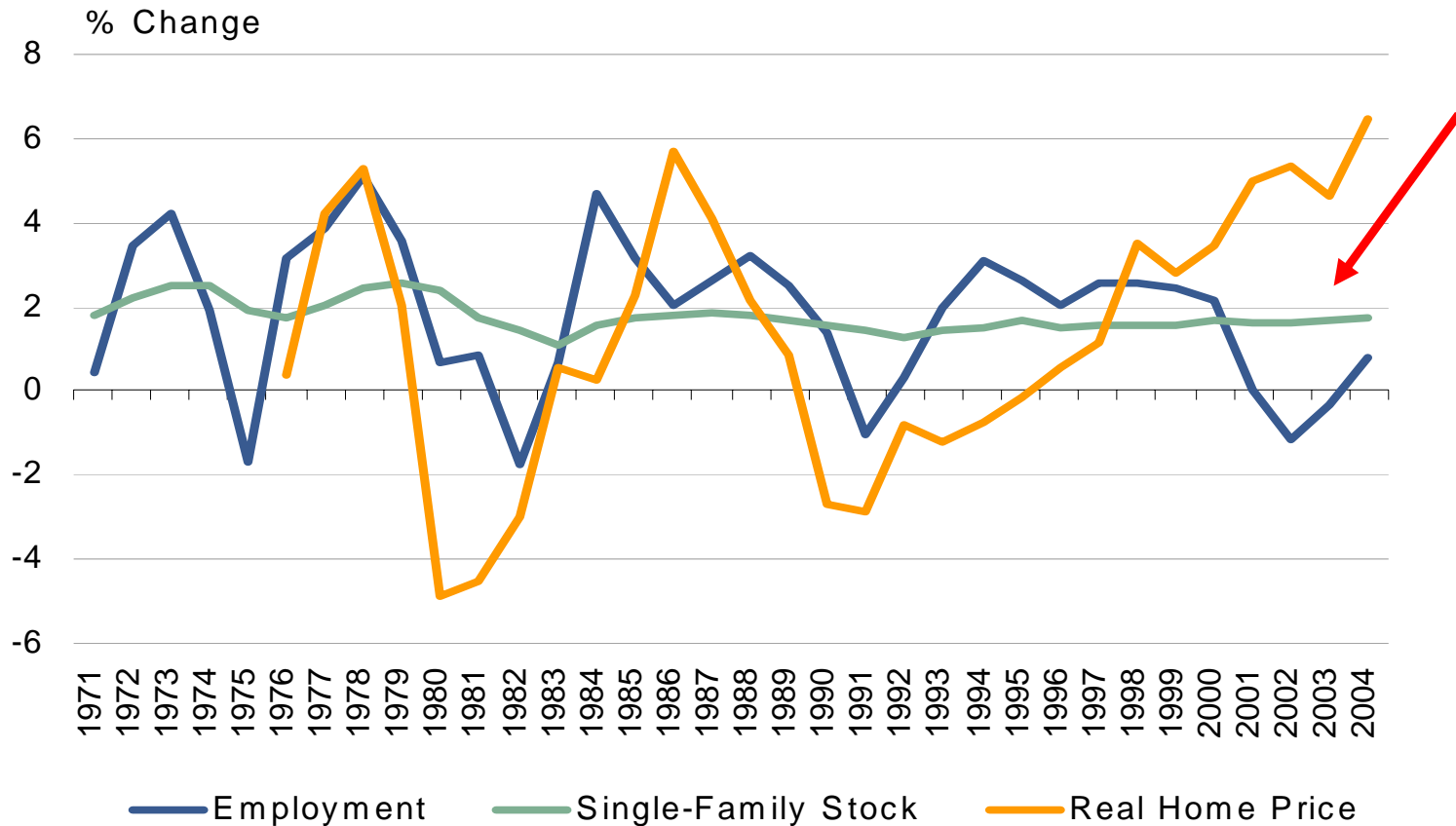


When Home production soared to new levels despite the 2002-4 “Recession”





House Prices too mirror Employment growth: *(except for 2001-2004)*





Lessons: *Pre 2002 “corrections”*

- **1** Permits: fall in half. Most speculative building stops, custom building (40% continues).
- **2** “National” Prices drop only 10% real, nominally barely at all. No one lives in the “nation”.
- **3** But, prices drop as high as 35% real and 20% nominal – in coastal markets (NYC, California..)
- **4** Condo’s more volatile. NYC (1989-1994) Single Family prices decline 25%, Condo’s 50%.
- **5** *But this time*: Severe job contraction was from Stock Market rather than the Fed tightening credit to fight inflation. The Fed loosened. Are low rates the only explanation?



Back testing the Role of all fundamentals: income, jobs, rates

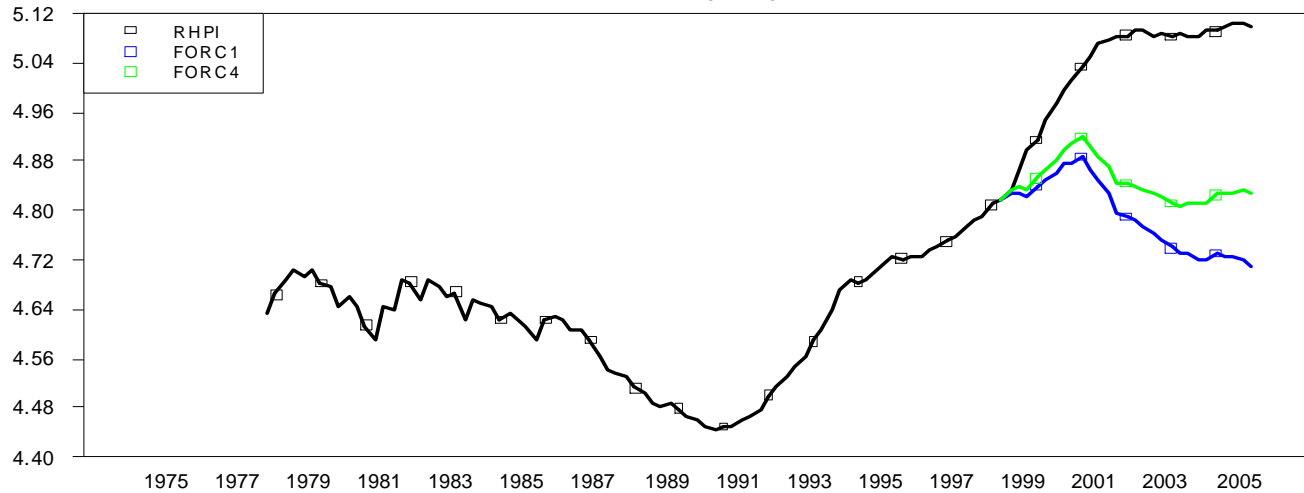
- Estimate well respected models using data from 1976 to 1998 for house prices in each of 59 MSA.
- Estimate 4 models: price levels and differences with and without lagged prices and AR1 corrections.
- Models have correct signs and plausible coefficients with respect to the three fundamental variables.
- Forecast forward with the model using actual fundamentals from 1998 through 2005.
- In *every* market model *under forecasts*.
- Errors range from 100+% (Florida, Arizona, California, D.C.) to 5% (St. Louis, Memphis).



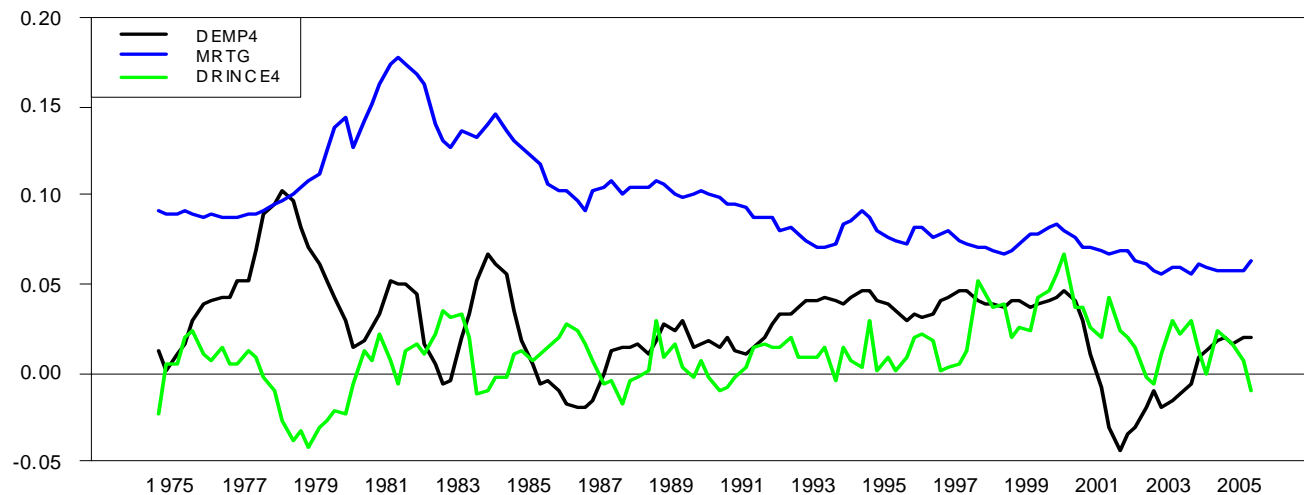
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Forecasts are perfectly understandable: poor job market offsets low rates yielding just slight real price growth

DENVER (#14)



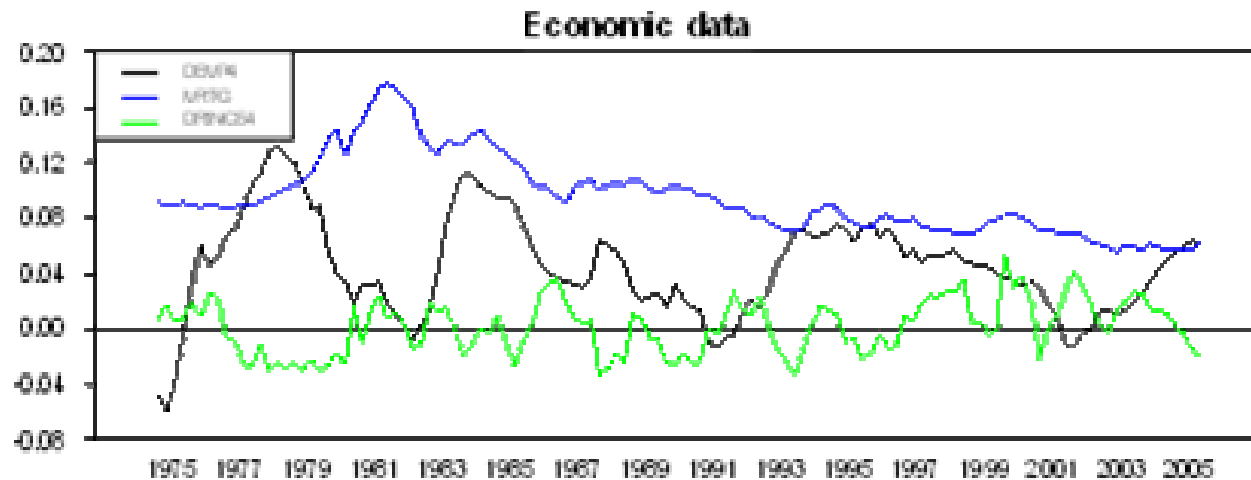
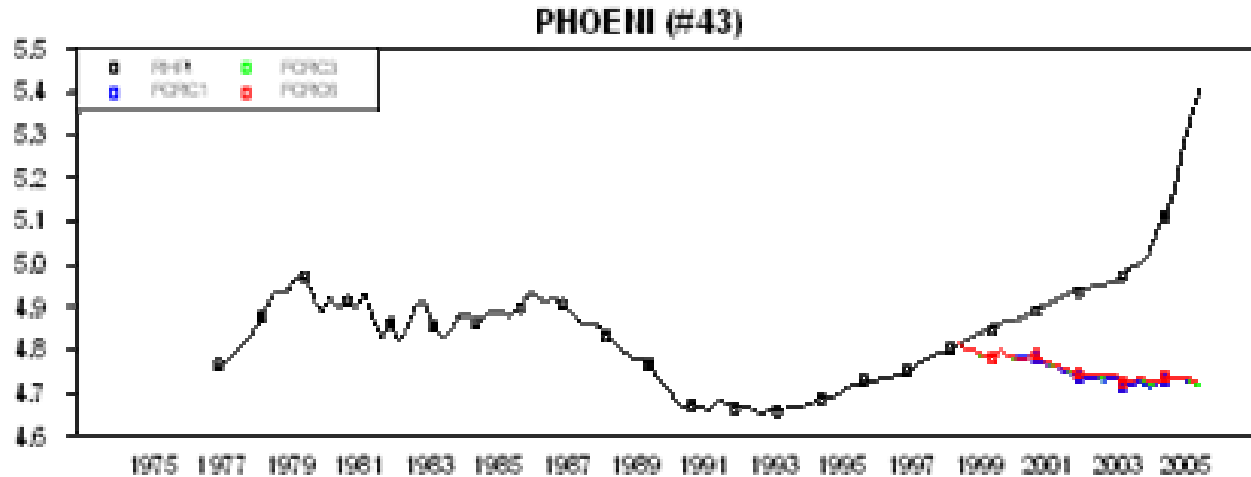
Economic data





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But in some markets actual prices are just totally at odds with the forecasts.





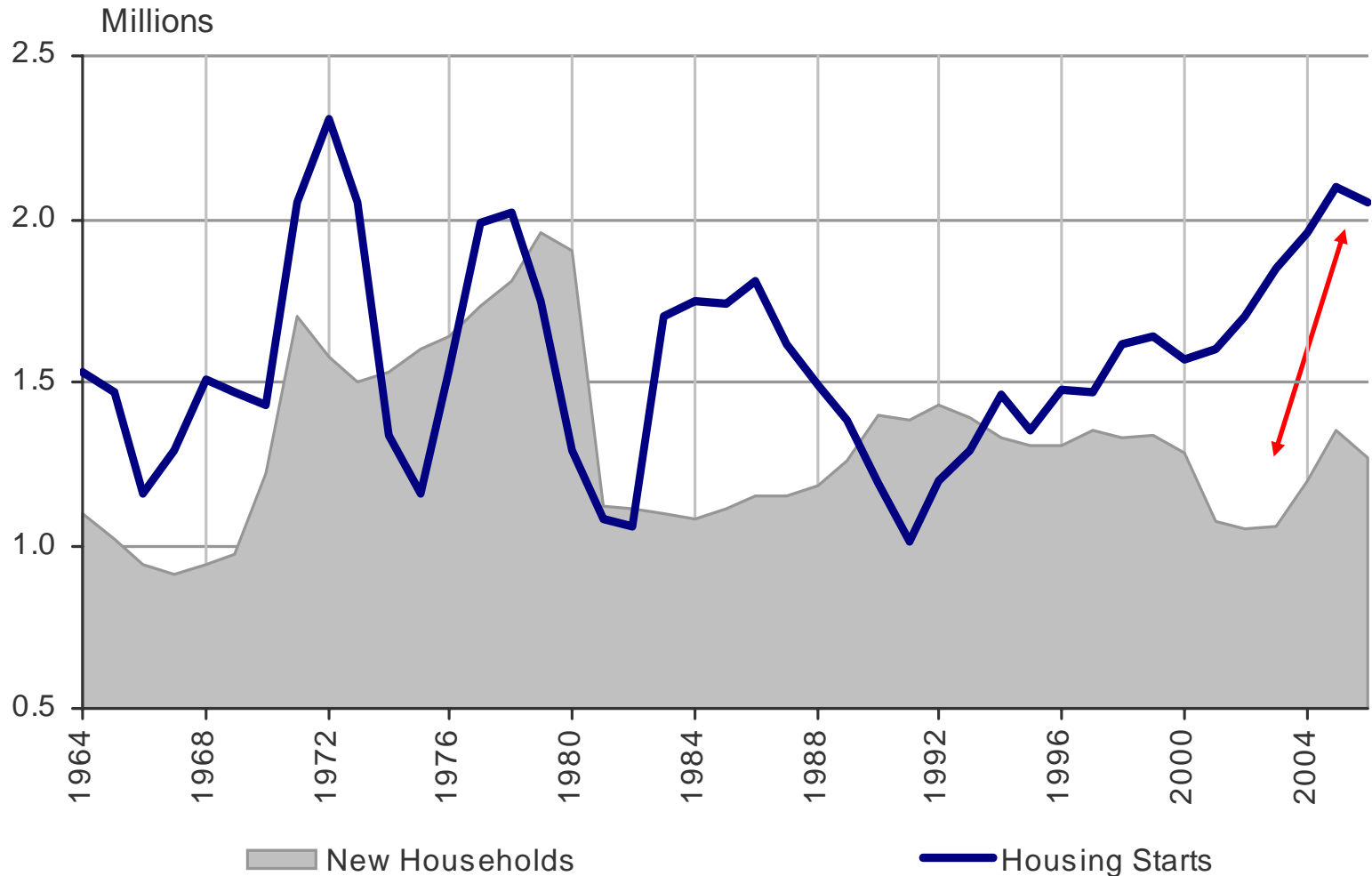
Back testing the Role of all fundamentals: What explains forecast errors?

- Errors range from nearly 100+% (Florida, Arizona, California, D.C.) to 5% (St. Louis, Memphis).
- Examine 2005 forecast errors and find two factors *explain 65% of model error*:
- 2nd or Investment home buying.
- Greater “Subprime” mortgage lending activity.



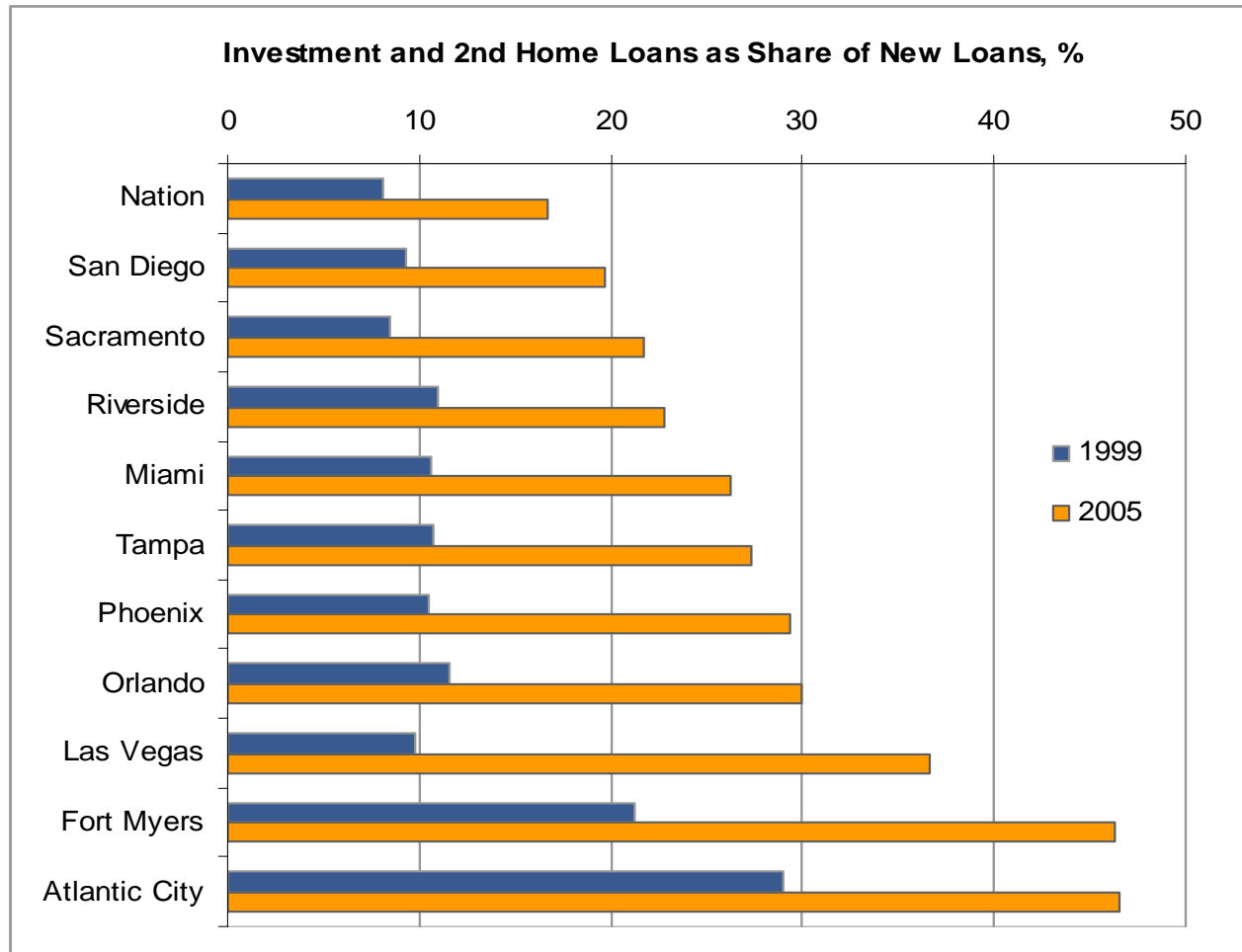
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Since 1998, total new housing supply exceeds total household formation by a record





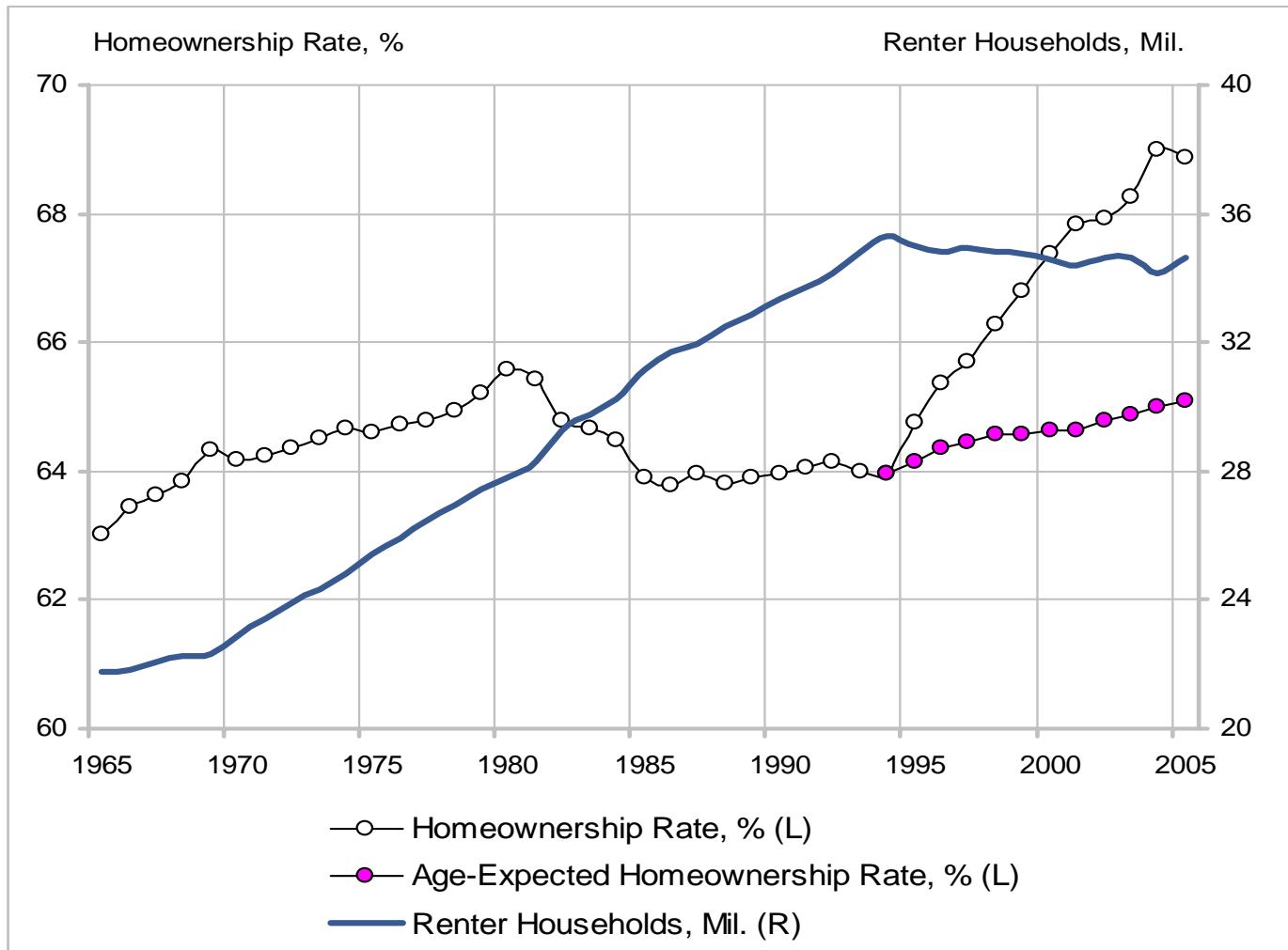
As Individuals “Discover” Real Estate and Gobble up the Excess Supply as Investment and 2nd Homes (Condos excluded)



Source: Loan Performance, Torto Wheaton Research

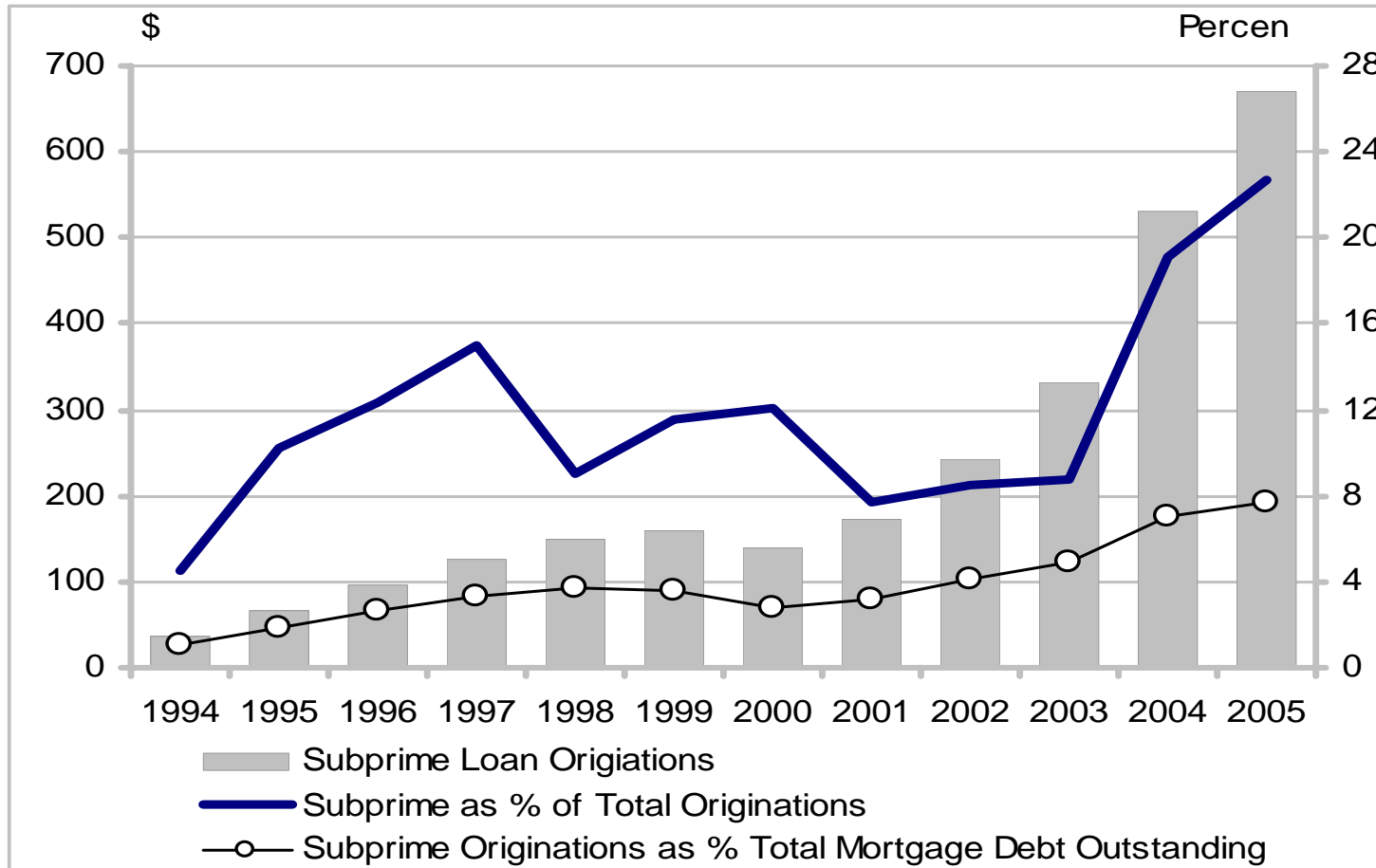


Also Recent unprecedented and huge shift into home ownership from renting





Caused by explosive growth of the sub-Prime Lending Market: loans with bad credit, high LTV, subordination

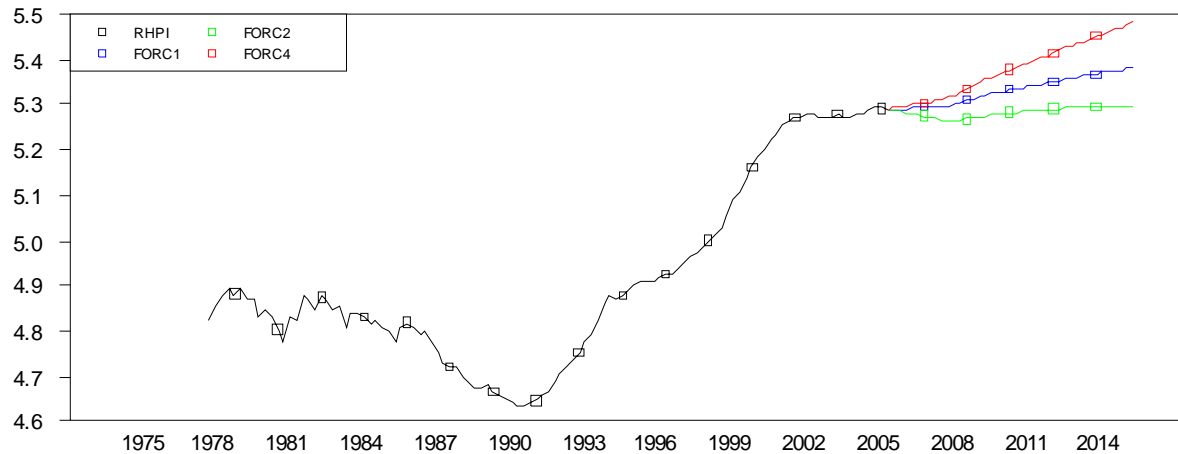




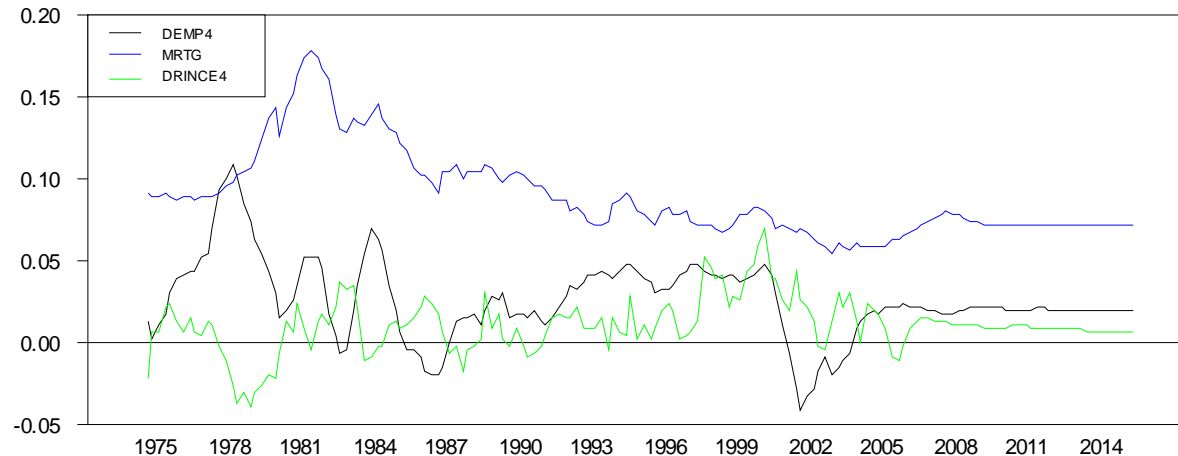
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Without these 2 “Wildcard” factors, fundamentals outlook should yield a mild correction: +5% to -15% real

DENVER (#14)



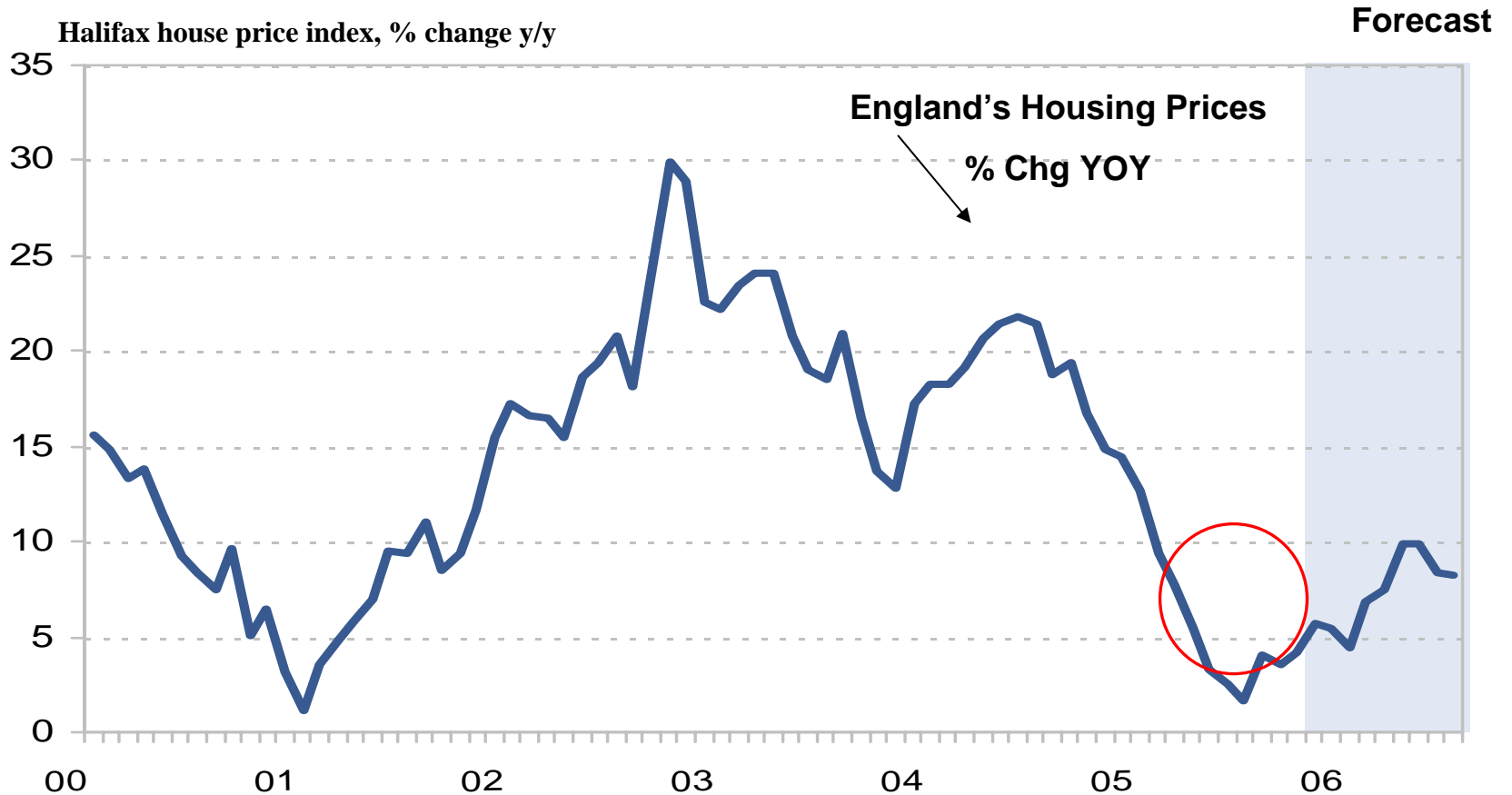
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The UK experience. Rates rose (only 200bps) just enough to cool Housing. But the UK is not US. (variable/fixed, supply constraints, conservative lending)



Source: Halifax PLC, Torto Wheaton Research



Assessing the impact of the 2 “Wild Cards”

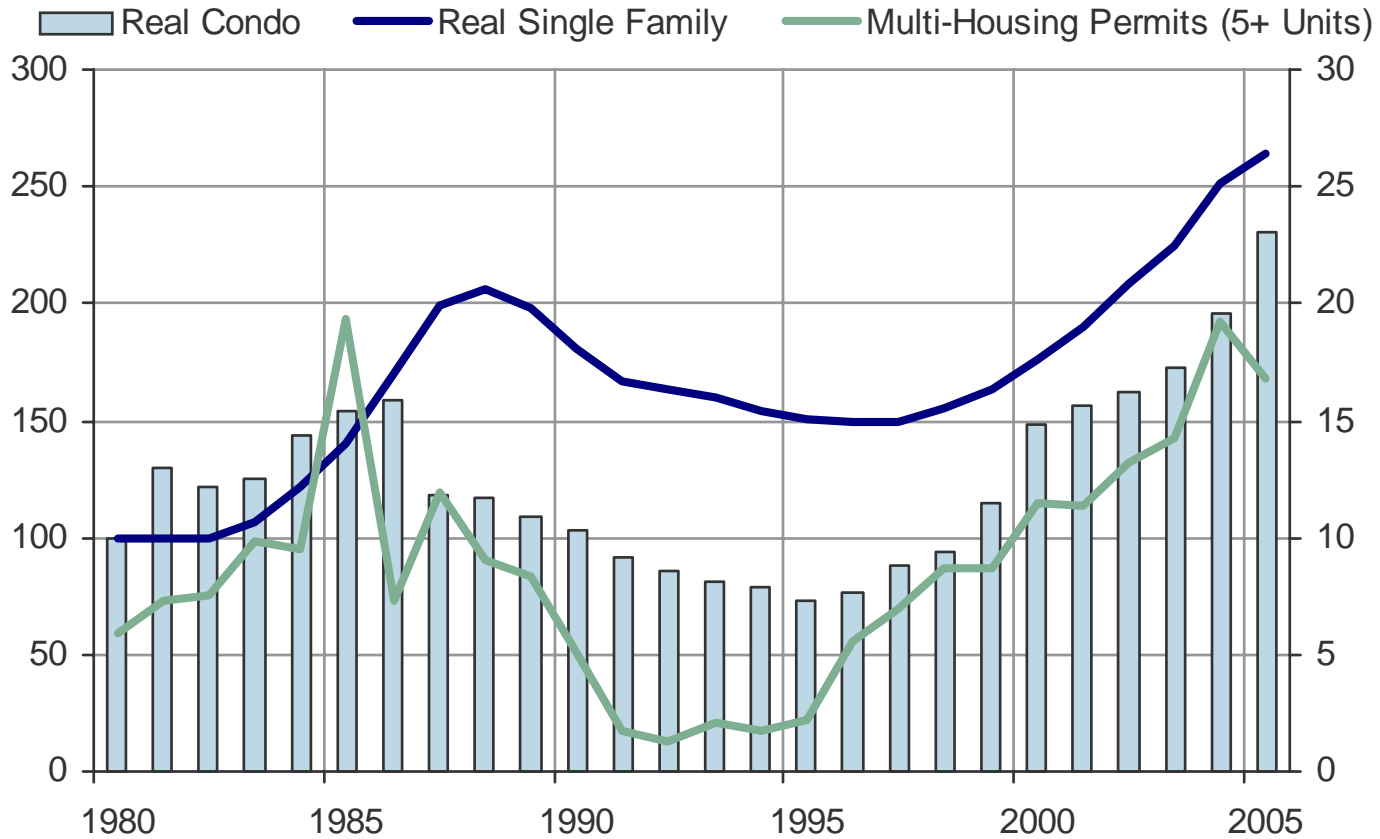
#1. Investor/2nd homes represent “net supply”. A small amount of selling/buying has a huge impact on vacancy and prices - much more so that selling by primary home owners (churn)

Will investor’s head for the door at once (deep correction)? If they have high “reservations” = slow long drag on the market?

#2. Recent first time home buyers are especially “fragile” with respect to interest rate or income shocks. What if 5 million recent buyers were foreclosed upon and were forced back into the rental market?



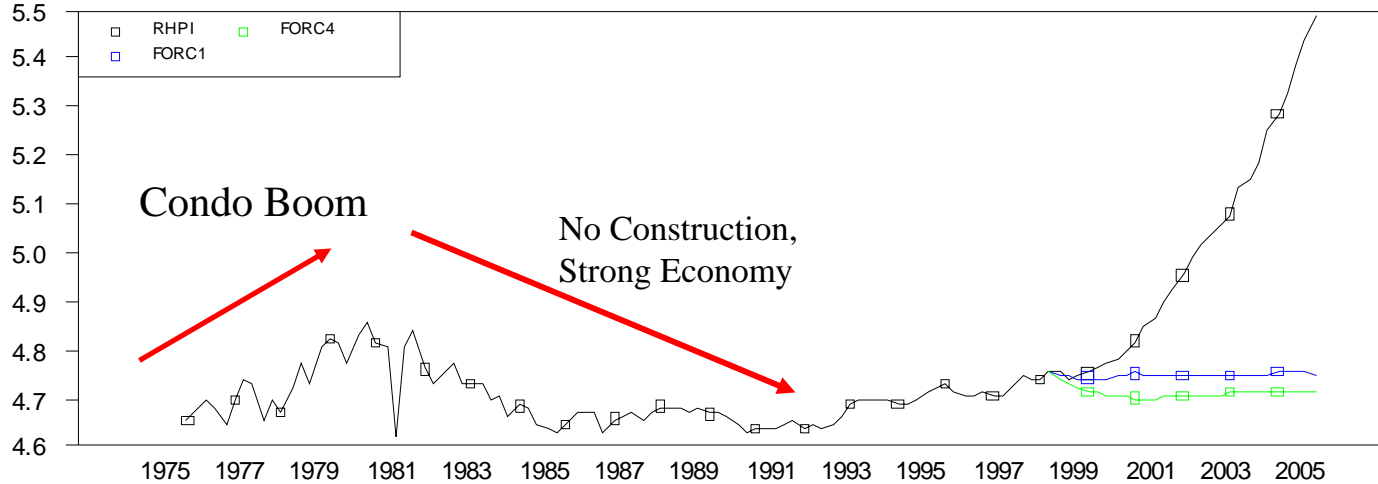
2nd homes contribute to the greater volatility of condos relative to Single Family Homes: NYC



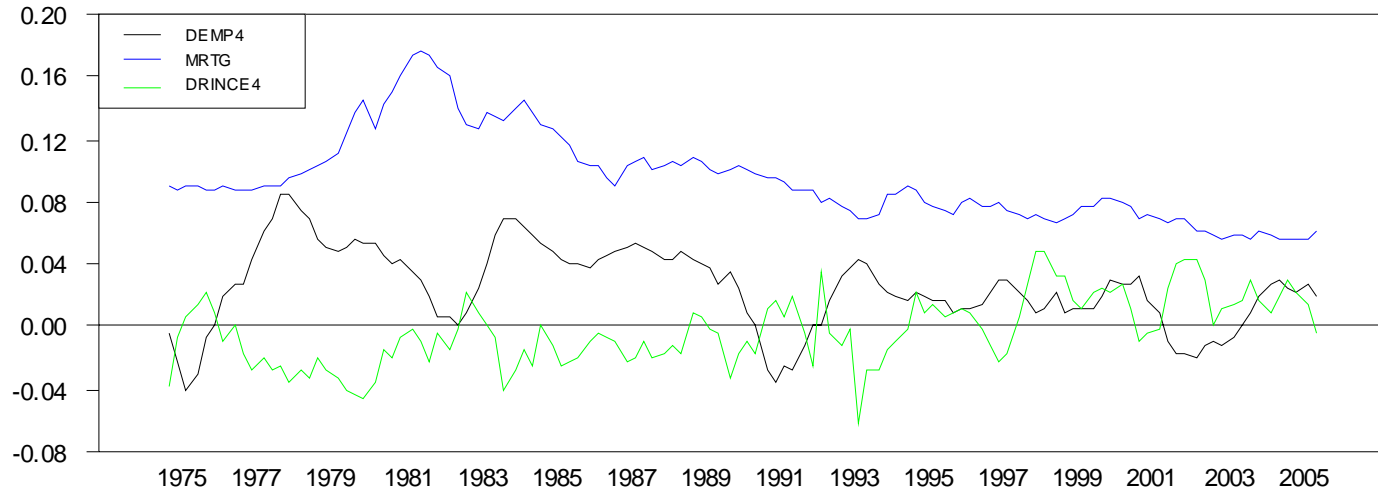


Lesson from historic Florida condo boom (1970s)

MIAMI (#32)



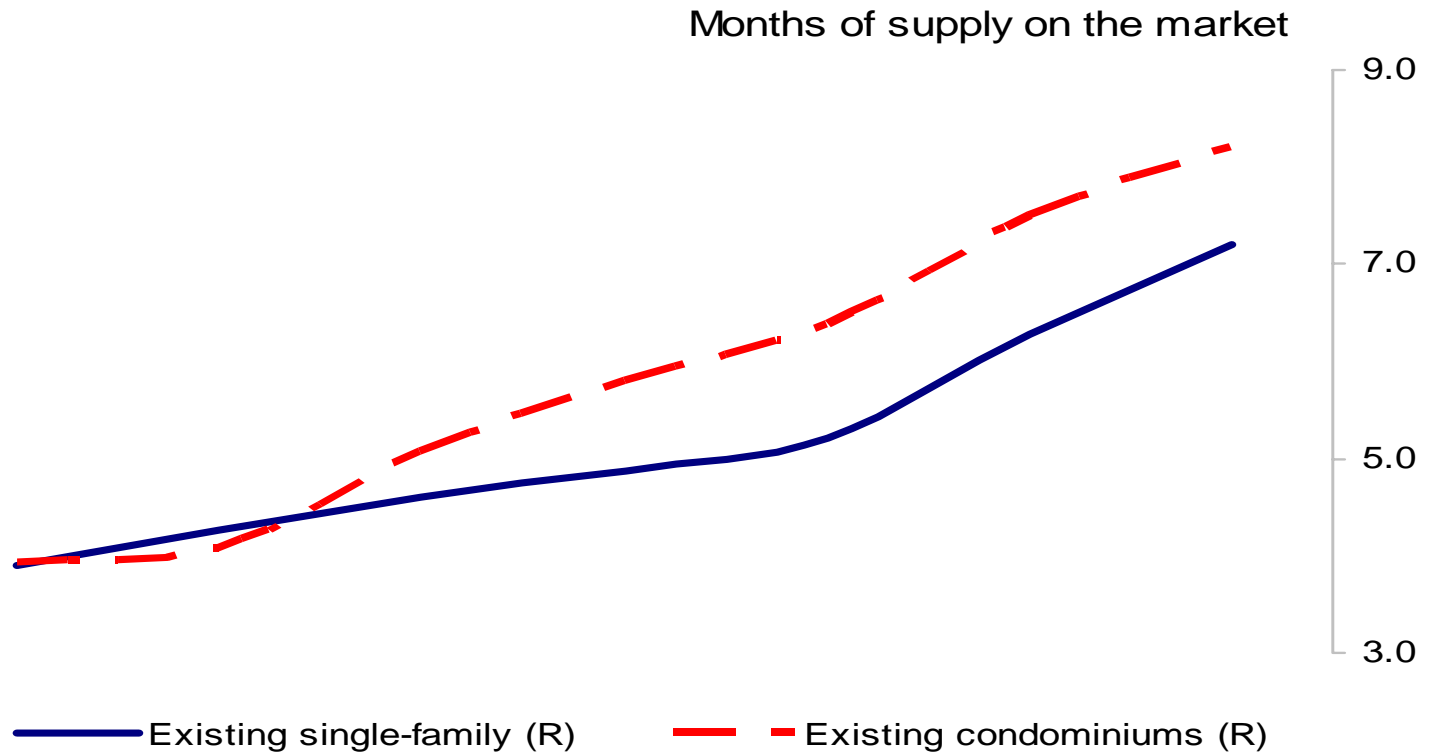
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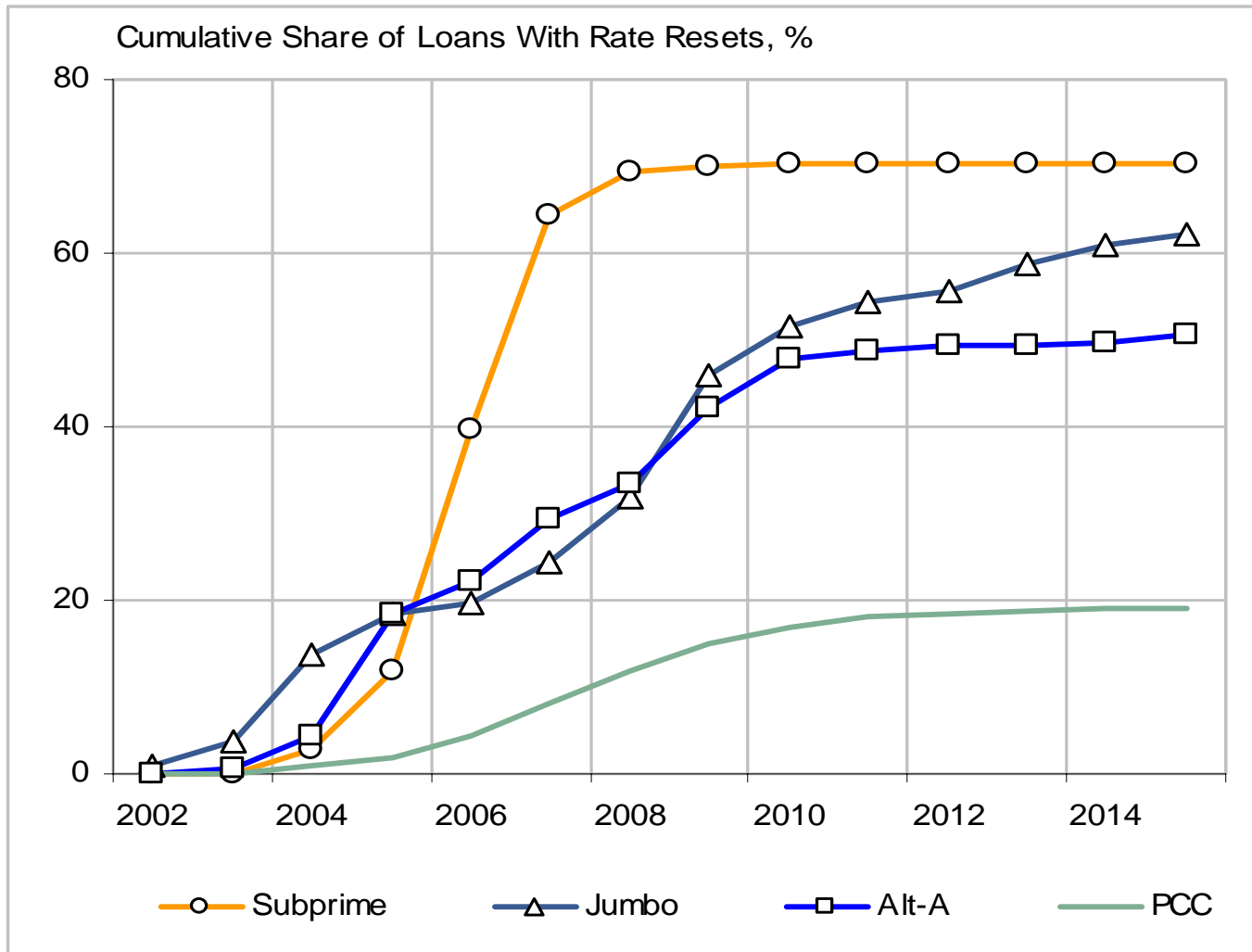
Historic recessions: Sales - 30%, Inventory +60%, months supply nearly doubles. Current correction just beginning - but already there



Sources: FRB, NAR



Recent Fannie Mae Study: Only conforming, conventional loans are insulated from Rate Rise!

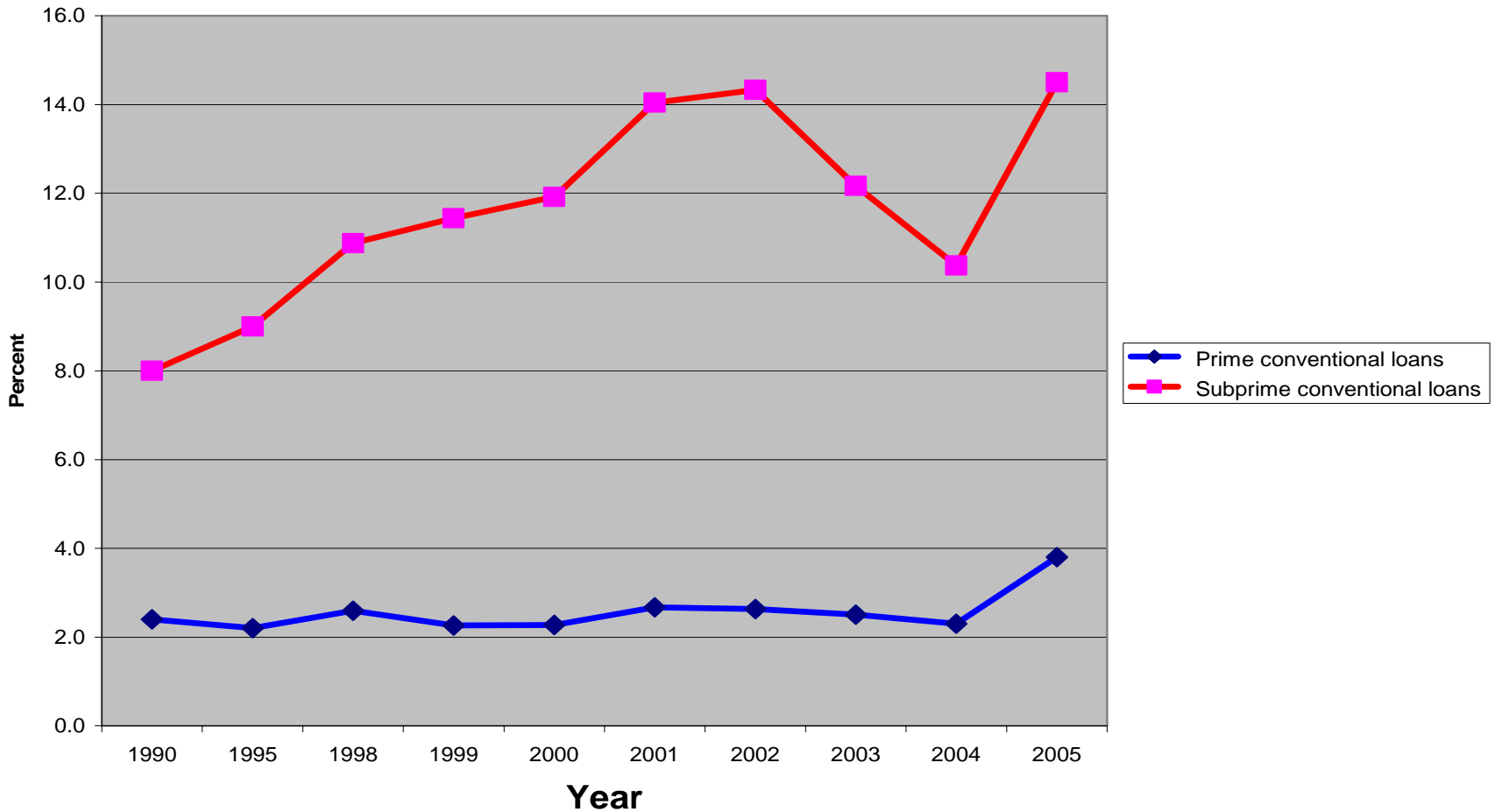




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Subprime Delinquency is beginning to look Ominous

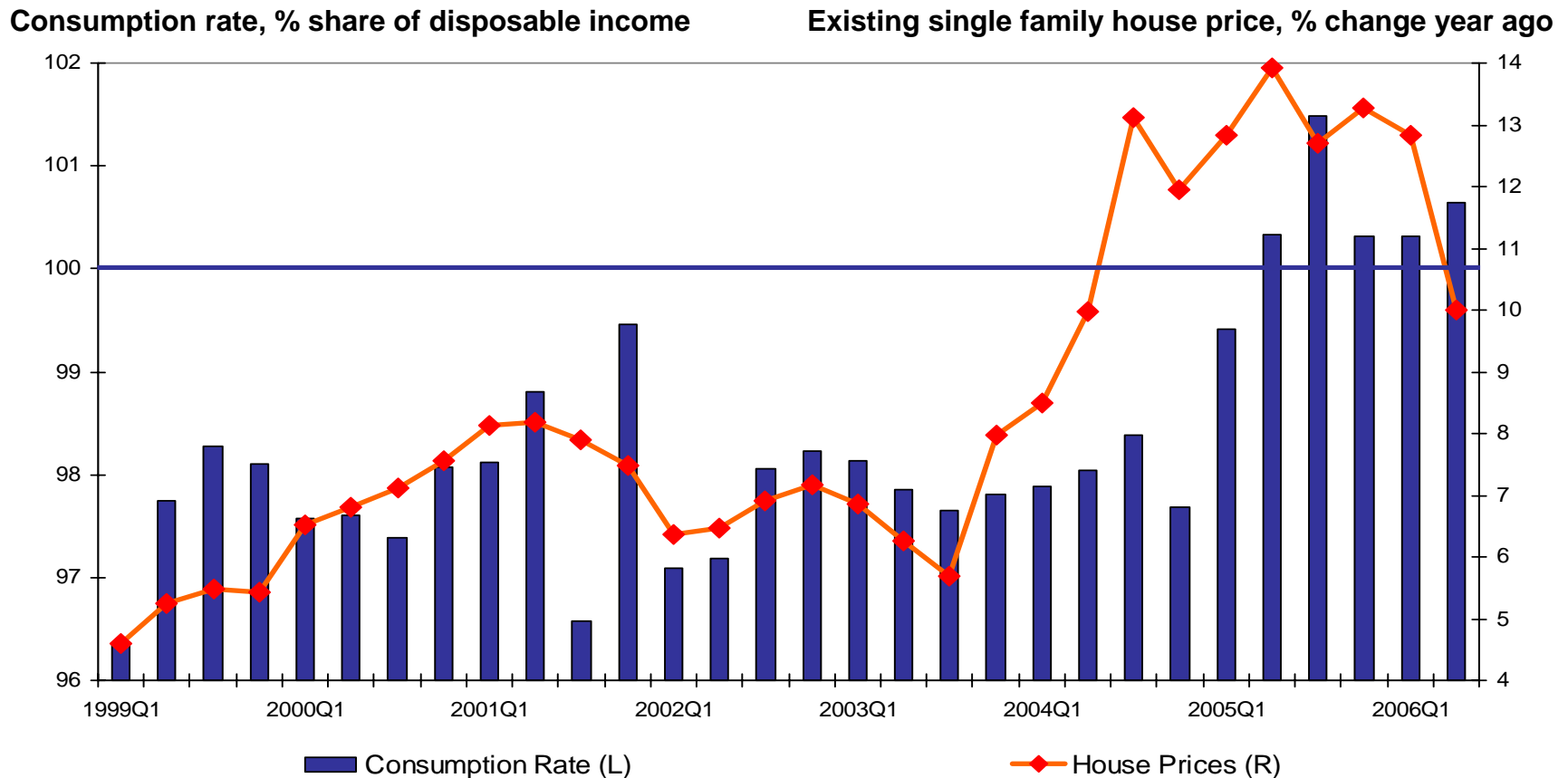
Mortgage Delinquency



Determining the Marginal Propensity to consumer wealth (MPCW)

- **Theory: MPCW = [interest rate] if wealth preserver. $>$ $<$ if borrower or saver. Change in wealth generates a permanent shift in consumption, then consumption growth resumes as before. Empirical work.**
- **Aggregate time series useless – cannot disentangle correlated effects.**
- **(1996) Micro study (PSID). Housing gains: MPCW=.01, but housing losses MPCW= .30 (!)**
- **(2001) Panel study. US States, MPCW = .03 - .09, International (14 countries) MPCW = .10- .14**

Take 2: MPCW = spending rate out of “cash out” borrowing. Puzzle: if consumption *rate* is constant, owners did not *spend* what they borrowed! (last 5 Q?)



Source: OFHEO, BEA



The Puzzle again: 2000-2006

- Personal consumption rose from 7 to 9.2 trillion. Cumulative increase was 6.2 trillion
- This was very close to the increase in Personal Disposable income. Just 270 billion or so more (last 5 quarters).
- Mortgage debt increased 4.3 Trillion (from 5.0 to 9.3). Home equity increased 3.5 trillion (from 7.0 to 10.5 trillion, its share declined from 58 to 54%)
- Hence 4.3 Trillion in borrowing did *NOT* go into PCE! Only 270 billion did.
- = a MPCW of $270/7800=.030$. Can Academics be right?



The Puzzle again: 2000-2006

- 4.0 Trillion of the 4.3 increase in debt must have gone back into “Investment” = asset purchases: back into bigger more expensive houses, major home expansions, 2nd homes, real estate investments, ...
- Suppose we had an *unprecedented 20% future* drop in national Housing values (40% drop in housing wealth). Generates a 3% decline in consumption which we *grow out of* at the end of that year. GDP stagnates.
- If spread out over 2-3 years just a slowdown (GDP growth remains positive).



Sector Impacts: a pure housing correction

1). Home building/construction/materials

- Likely to be *more* severe than traditional housing contractions since price decline will be greater.

- If much of the wealth gain went back into real estate, much of the loss could go out!

2). Durable goods.

- Likely to be less severe than traditional housing contractions since income and jobs not declining at the same time, this time.

- Durable/nondurable ratio related to Housing?

- Was the 270 billion cumulative increase in PCE targeted? Growth in home/electronics... sales?



Which Markets are most exposed to a more serious Housing Slowdown?

Location quotient (construction, real estate brokerage & real estate services), U.S.=1

| | | | | | |
|--------------|-----------------|------|---------------|------|--------------|
| HARD? | West Palm Beach | 1.81 | Dayton | 0.63 | SOFT? |
| | Fort Lauderdale | 1.57 | Philadelphia | 0.69 | |
| | Orange County | 1.55 | Memphis | 0.72 | |
| | San Francisco | 1.53 | Tulsa | 0.72 | |
| | Orlando | 1.44 | Cleveland | 0.73 | |
| | San Diego | 1.44 | Oklahoma City | 0.74 | |
| | Las Vegas | 1.41 | Detroit | 0.75 | |
| | Houston | 1.39 | Louisville | 0.75 | |
| | Oakland | 1.37 | El Paso | 0.76 | |
| | Sacramento | 1.37 | Greensboro | 0.78 | |
| | Jacksonville | 1.31 | Columbus | 0.79 | |
| | Washington | 1.29 | Greenville | 0.84 | |
| | Phoenix | 1.27 | Pittsburgh | 0.84 | |
| | Portland | 1.27 | Kansas City | 0.85 | |
| | Norfolk | 1.22 | Nashville | 0.85 | |
| | Seattle | 1.22 | Fort Worth | 0.86 | |
| | Riverside | 1.21 | New York | 0.86 | |
| | Miami | 1.17 | San Jose | 0.88 | |
| | Honolulu | 1.16 | Northern NJ | 0.89 | |
| | Albuquerque | 1.14 | Chicago | 0.90 | |