
Digesting the Credit Crunch

Home Prices Are Key

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A Passion to Perform.

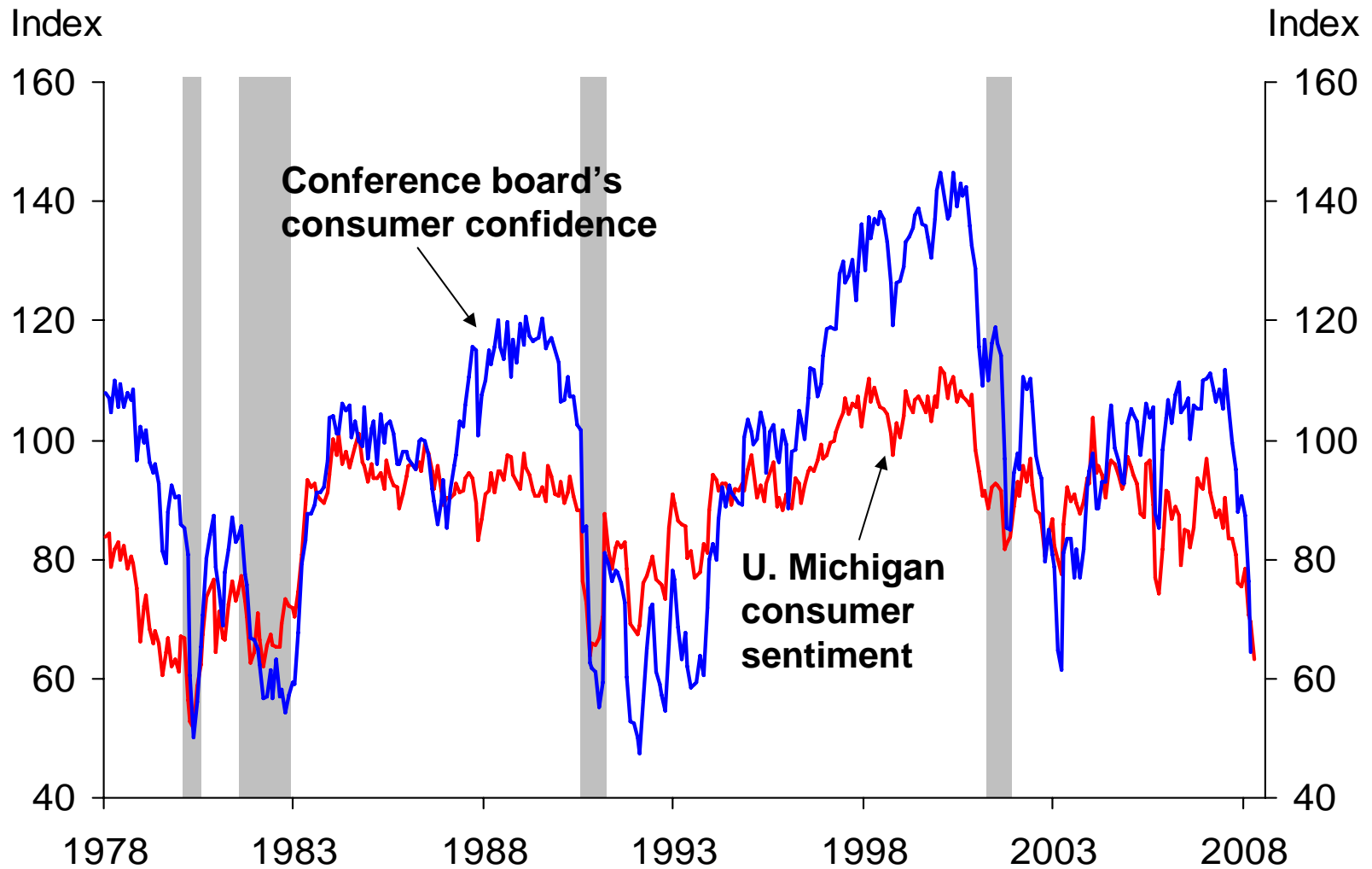


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Key Issues

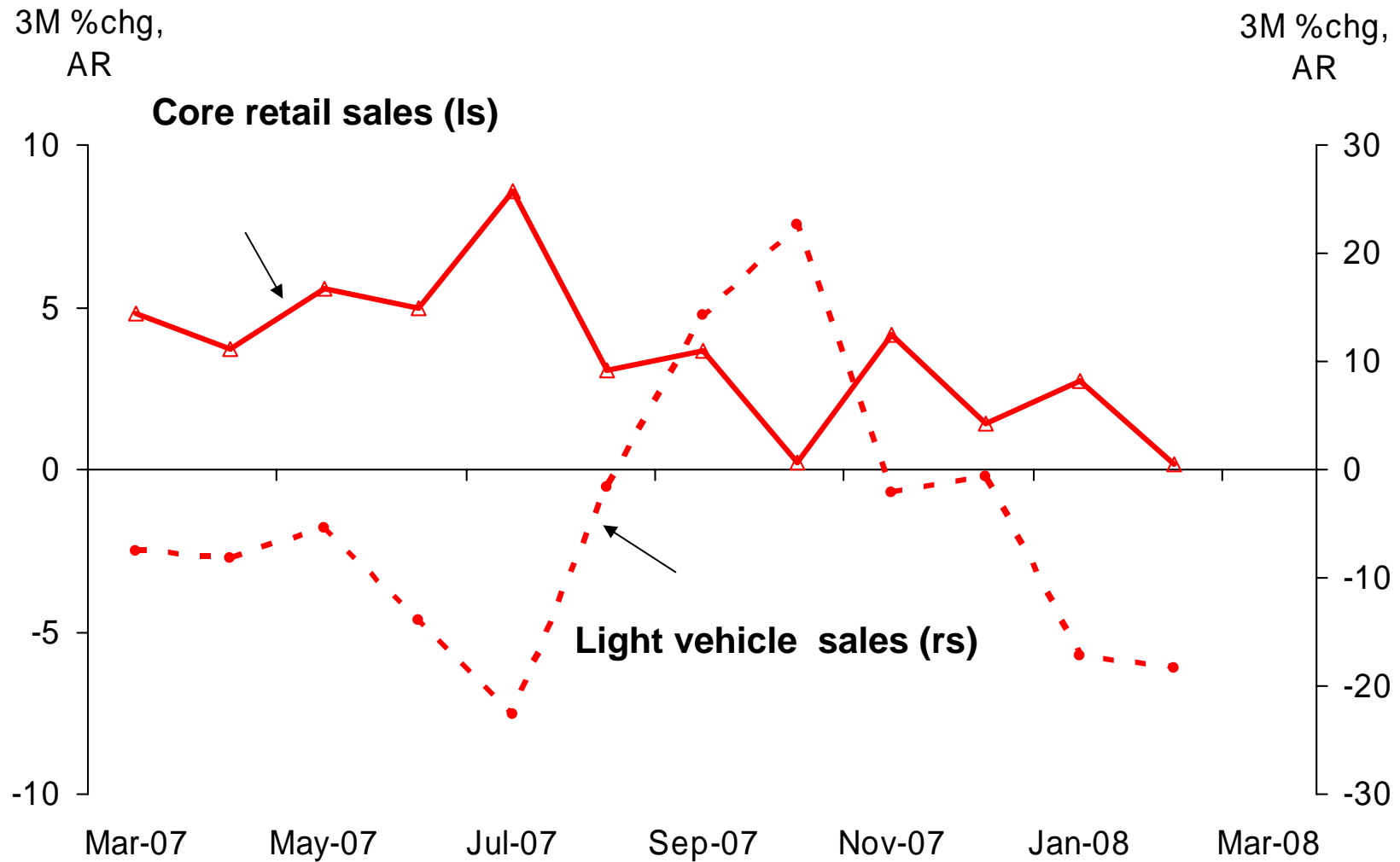
- Central Scenario: Mild Recession, sluggish recovery
- Risks: Deep/prolonged recession vs. inflation.
- Critical Recession Risk factor: Home prices (HP).
 - HP Drivers: and why they point to mild Recession
 - HP Effects: Credit crunch and Wealth Loss
- What the Fed has done, and what more might be done.
- Inflation risk.
- Conclusions

Consumer sentiment in mild recession territory



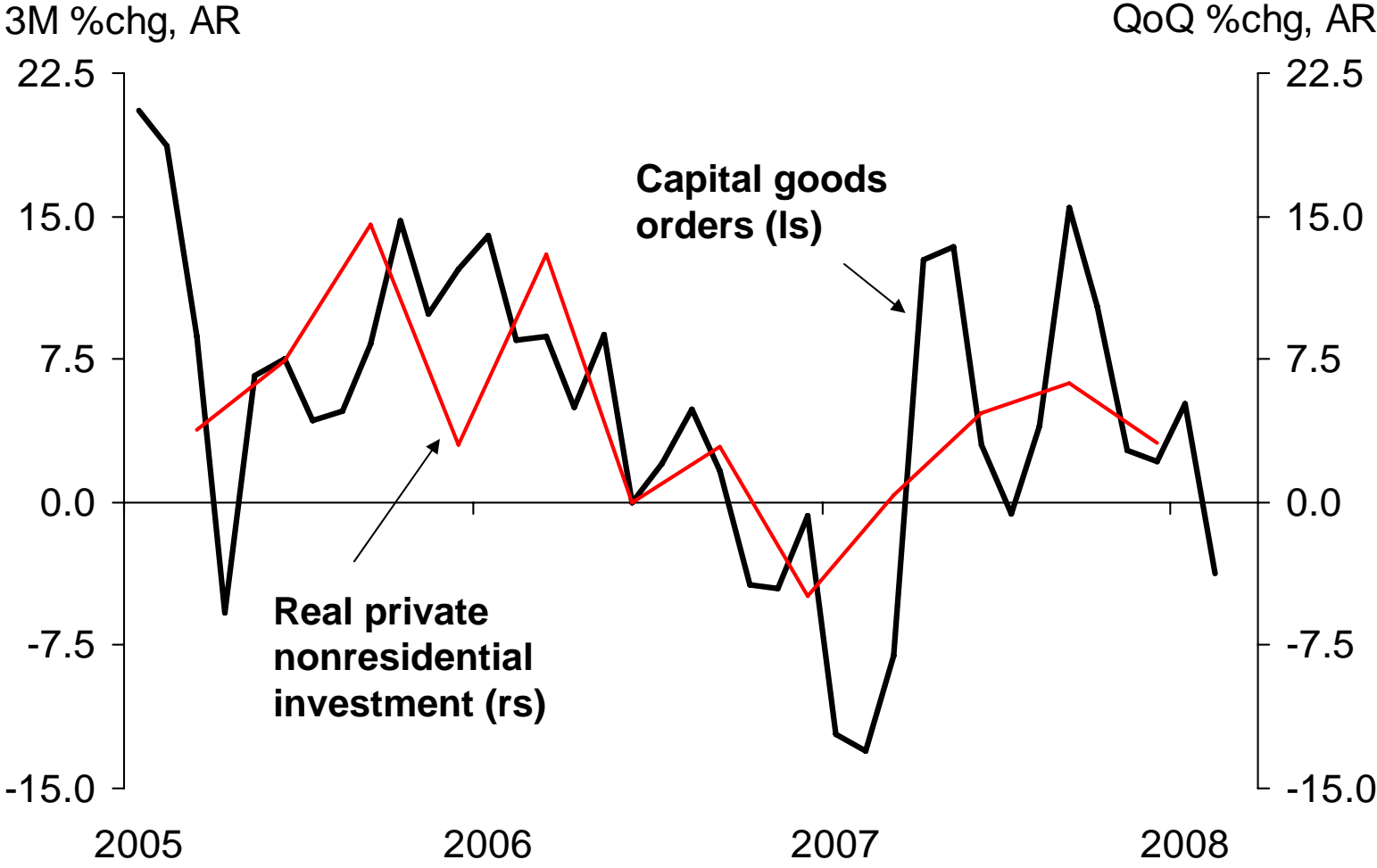
Source: University of Michigan, Conference Board, DB Global Markets Research

Key components of consumer spending have been slowing



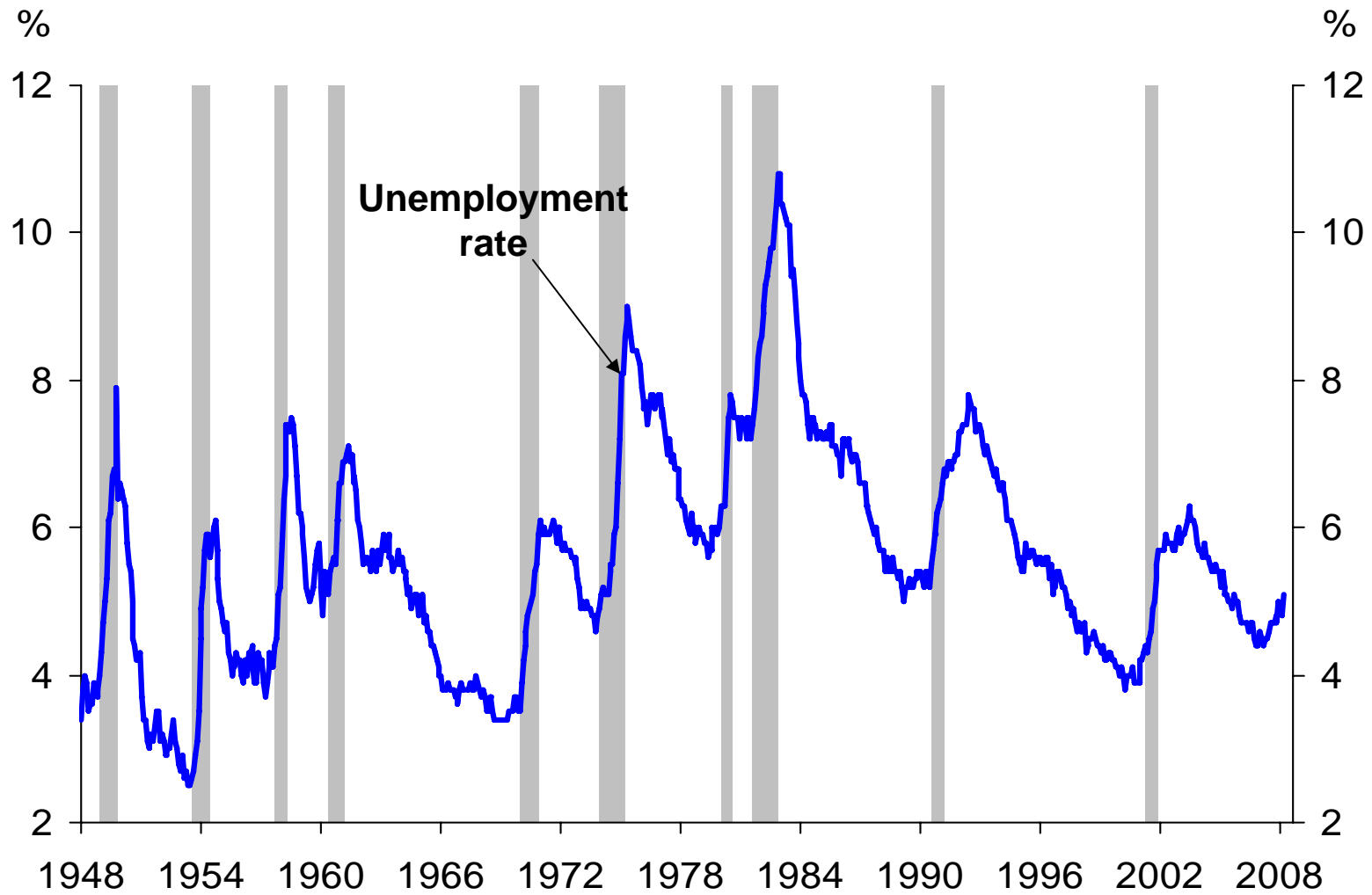
Source: BEA, Autodata Corporation, DB Global Markets Research

Business spending softening too



Source: BEA, Census, DB Global Markets Research

Labor market pointing to recession

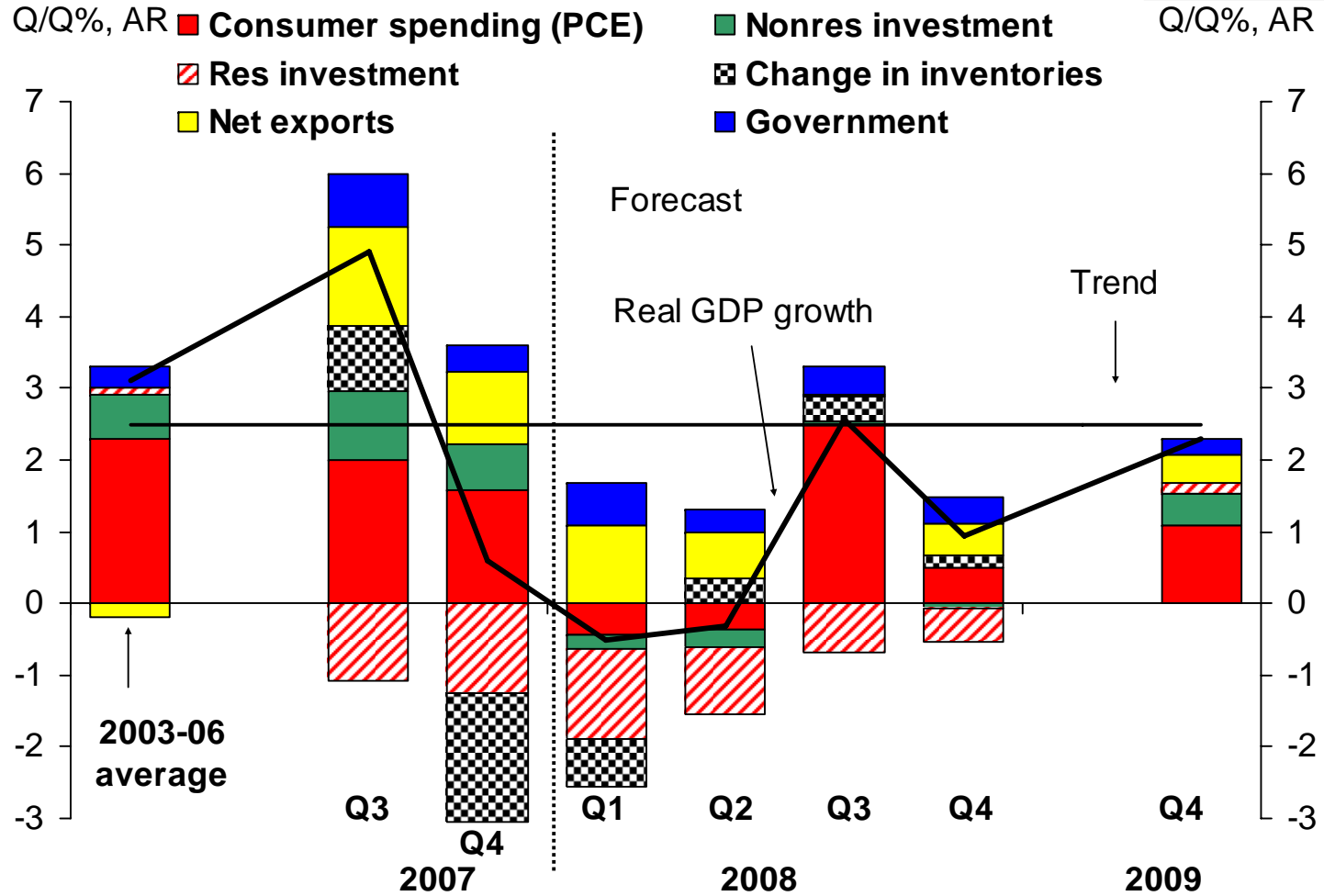


Source: BLS, DB Global Markets Research

Mild Recession Scenario

Real GDP Q4/Q4	
2007	2.8
2008	0.8
2009	2.3

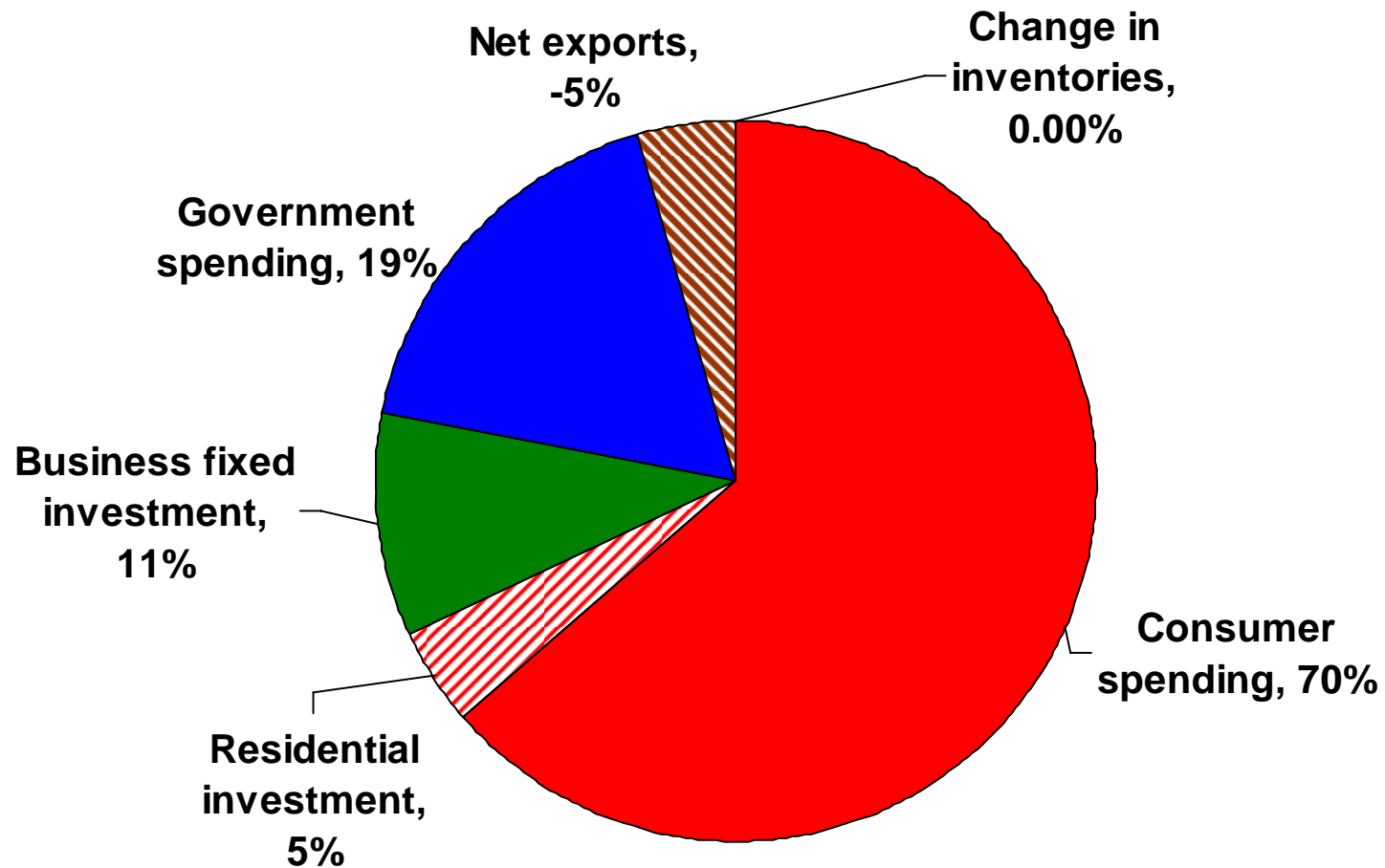
Spending contributions



Source: BEA, DB Global Markets Research

Key Components of GDP

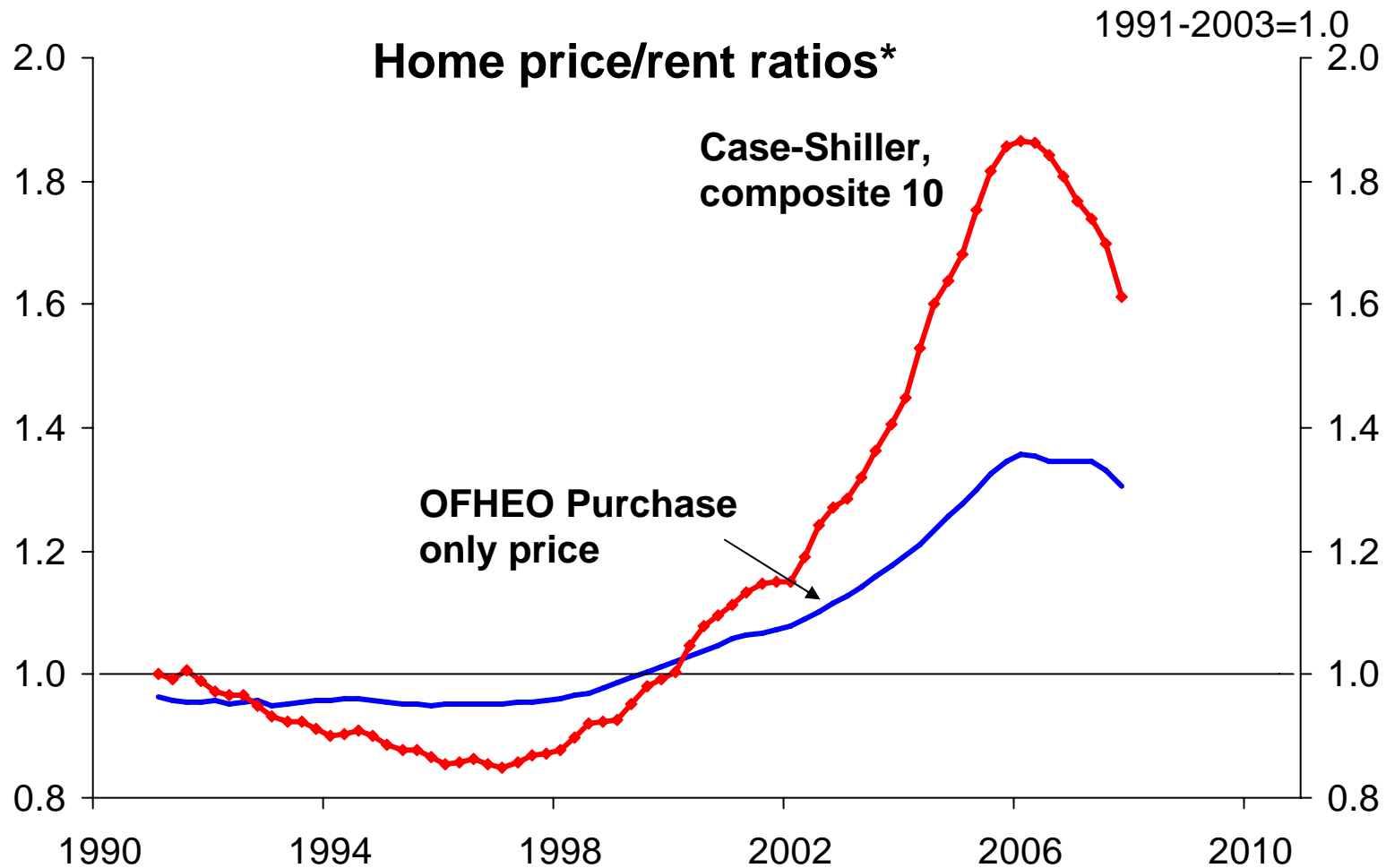
Spending components of GDP in 2007



Risk of deeper/more prolonged recession:

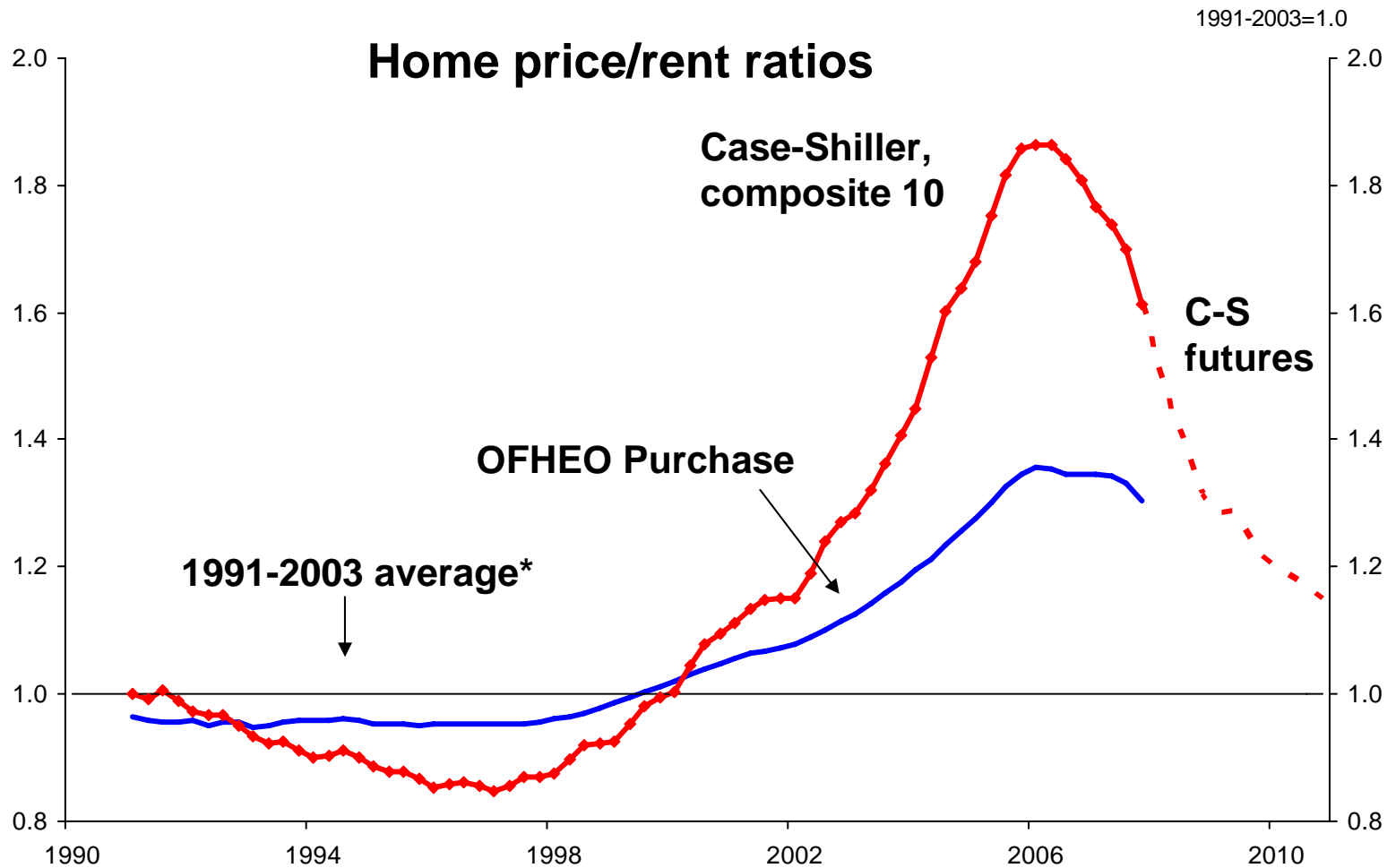
- **Critical factor is how far and how fast home prices fall**
- **Fall in housing equity affects aggregate demand through:**
 - **Drop in household wealth depressing consumer spending.**
 - **Credit crunch: Loss on foreclosures, decline in MBS values, de-leveraging, credit cutbacks.**

Renormalization of home price/rent ratios points to substantial drop in home prices



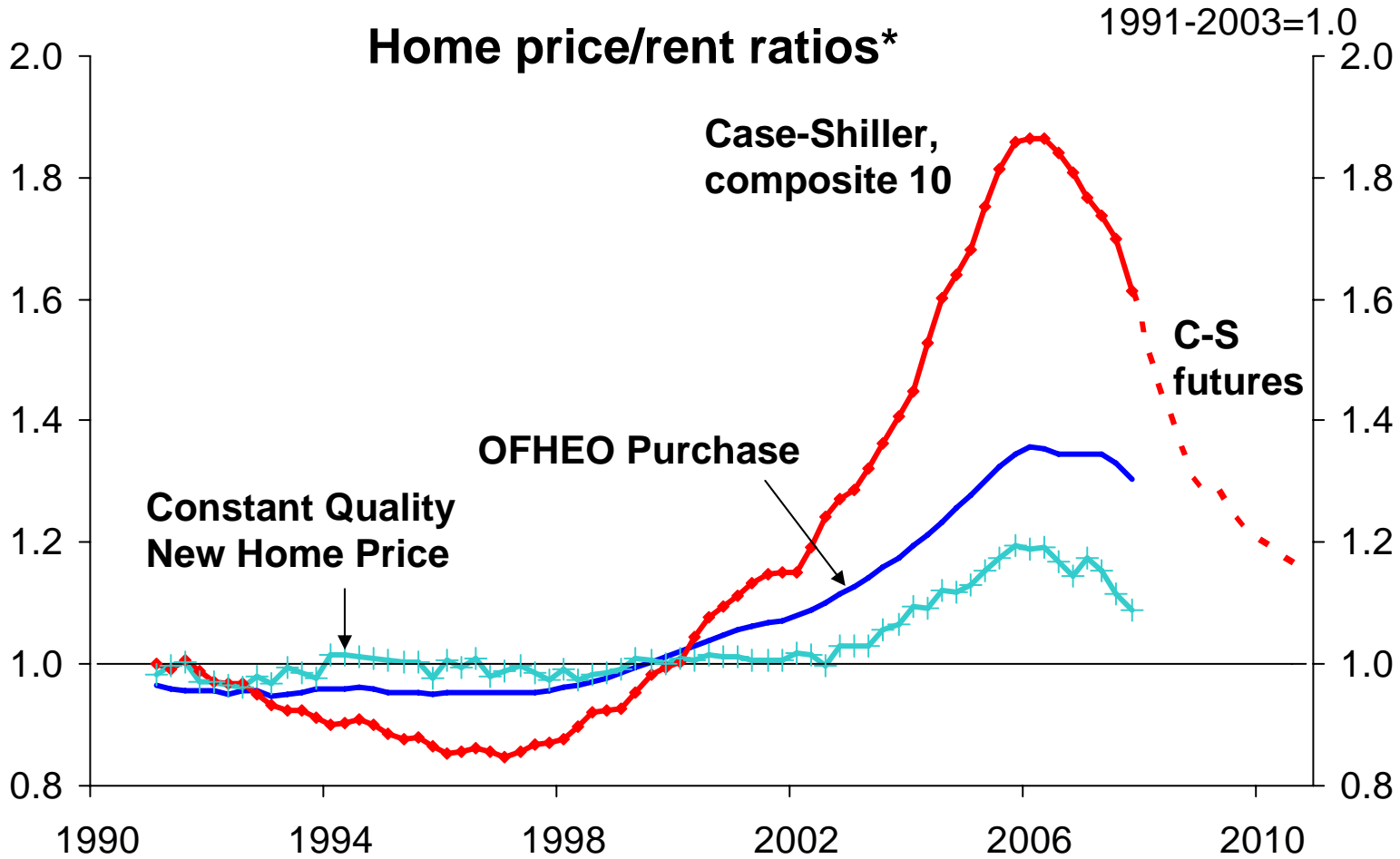
*Uses Owners' equivalent rent from CPI

Case-Shiller futures not anticipating full renormalization



***Also in line with longer-term trend for Case Shiller price/OER rent ratio.**

Conventional home price indexes may overstate the problem—price run-up reflected improving quality



*Uses Owners' equivalent rent from CPI

Factors Driving Home Prices Lower

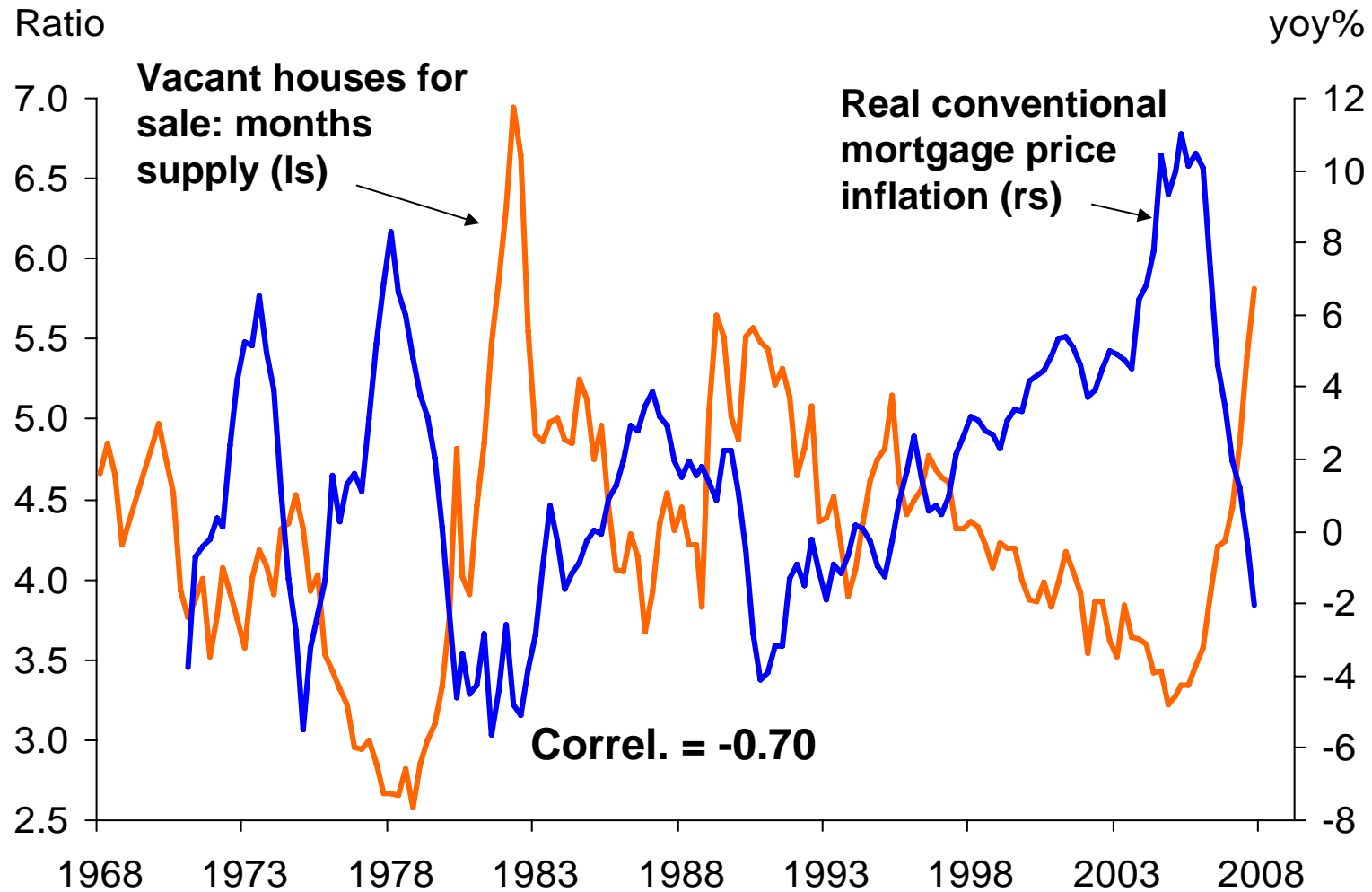
1. Underlying supply and demand fundamentals:

- Excess stock of housing = total no. of housing units minus no. of households
- Change in excess housing stock = housing completions – (household formations + demolitions (removals))

2. Shift in demand from owner-occupied to rental units, due to:

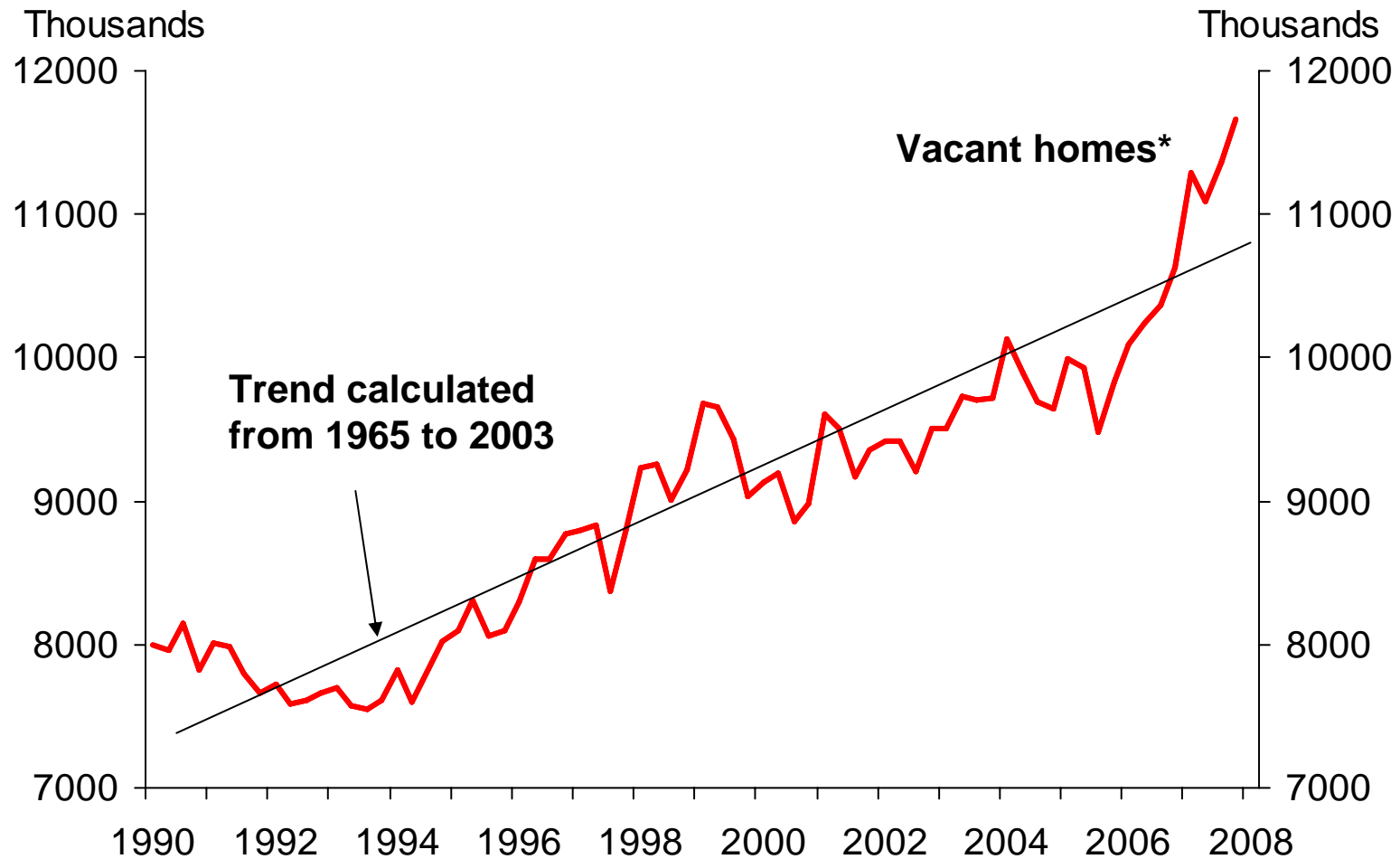
- Rising foreclosure rate.
- But increase in home affordability is beginning to shift demand back from rental to owner-occupied, a plus for prices.

Stock of vacant homes inversely correlated with HPA



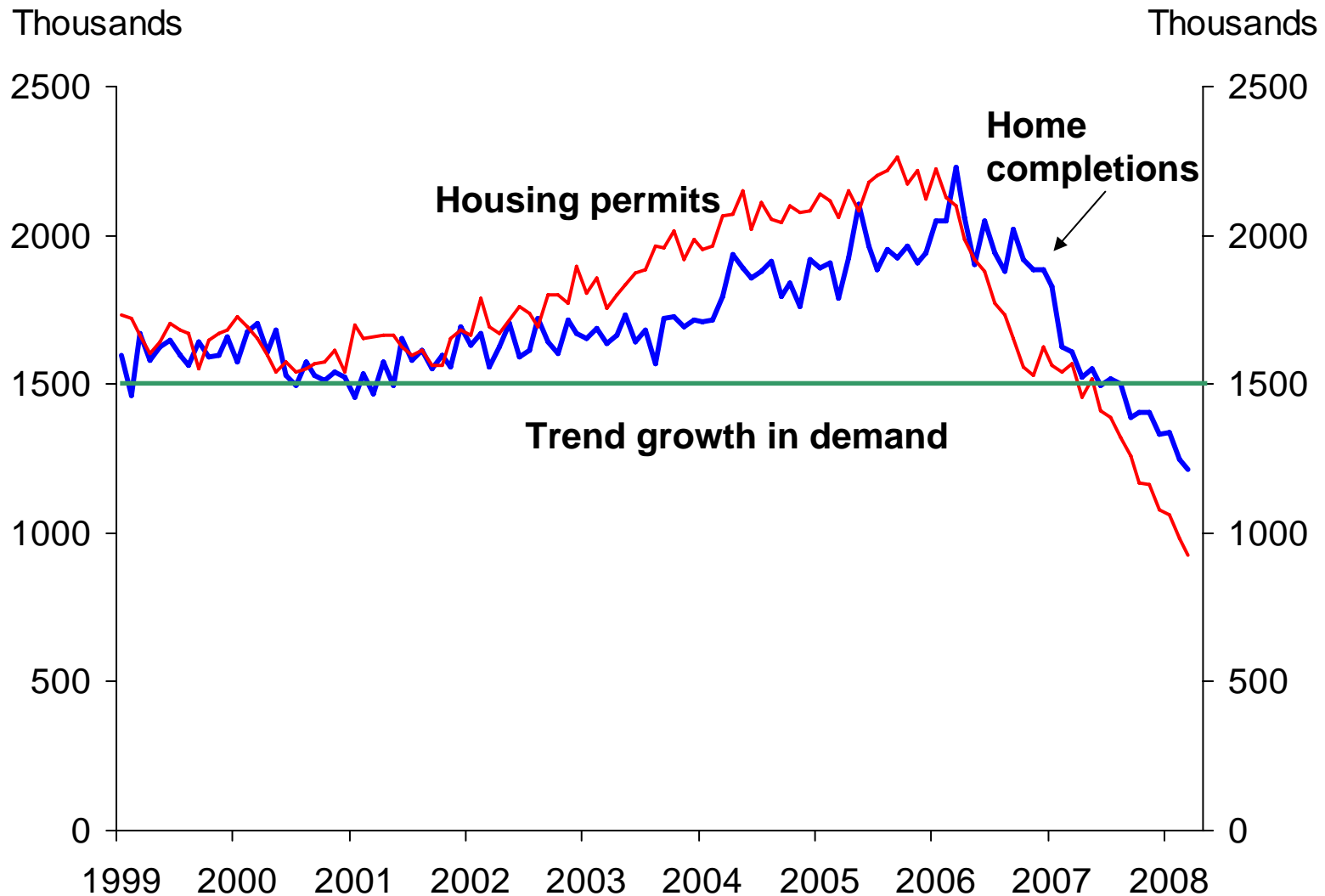
Source: Census, Realtor, DB Global Markets Research

Excess Housing Stock now at about 900k units

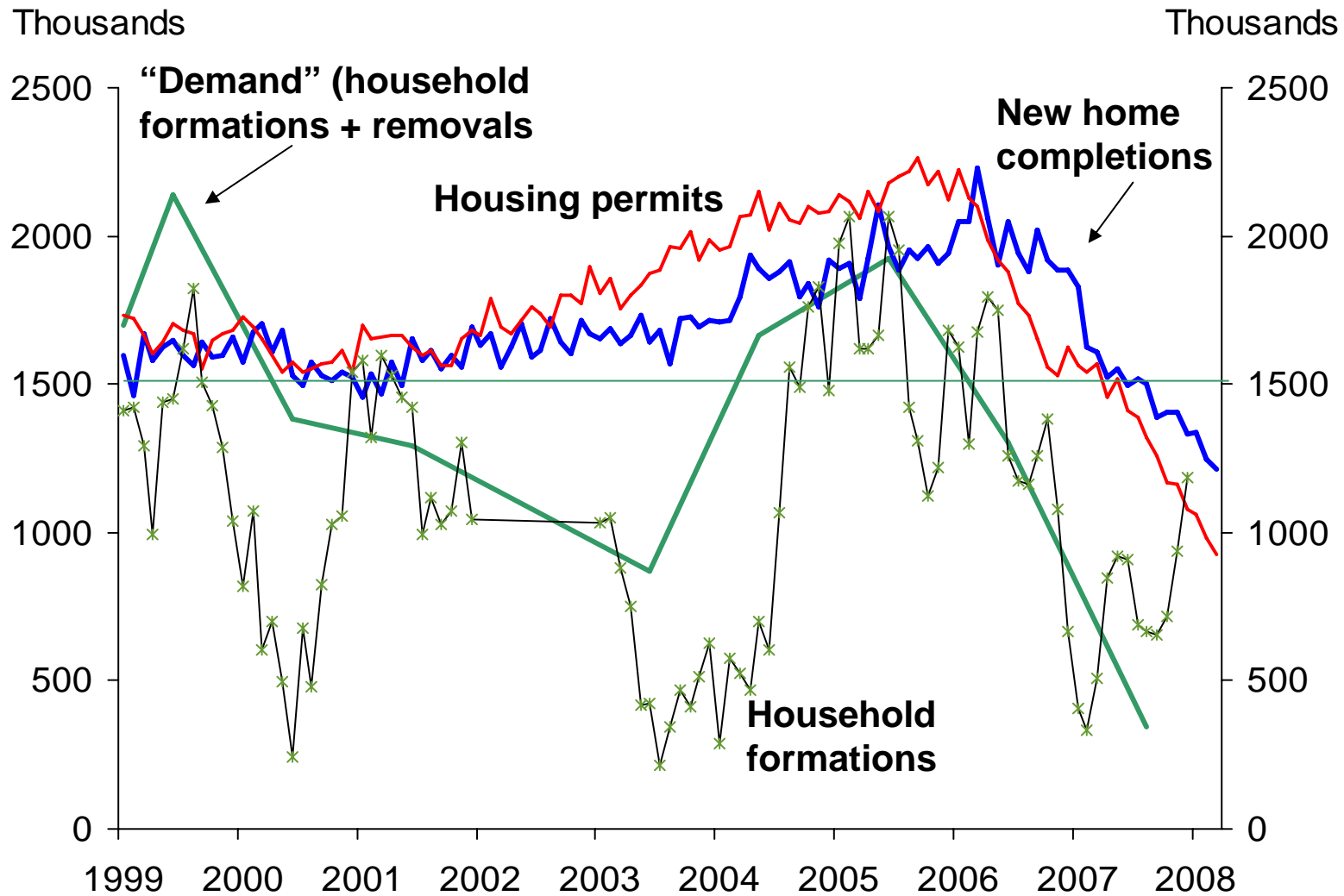


* Includes homes for sale, homes for rent, and homes held off the market; excludes seasonal homes and second homes not used a primary residence.

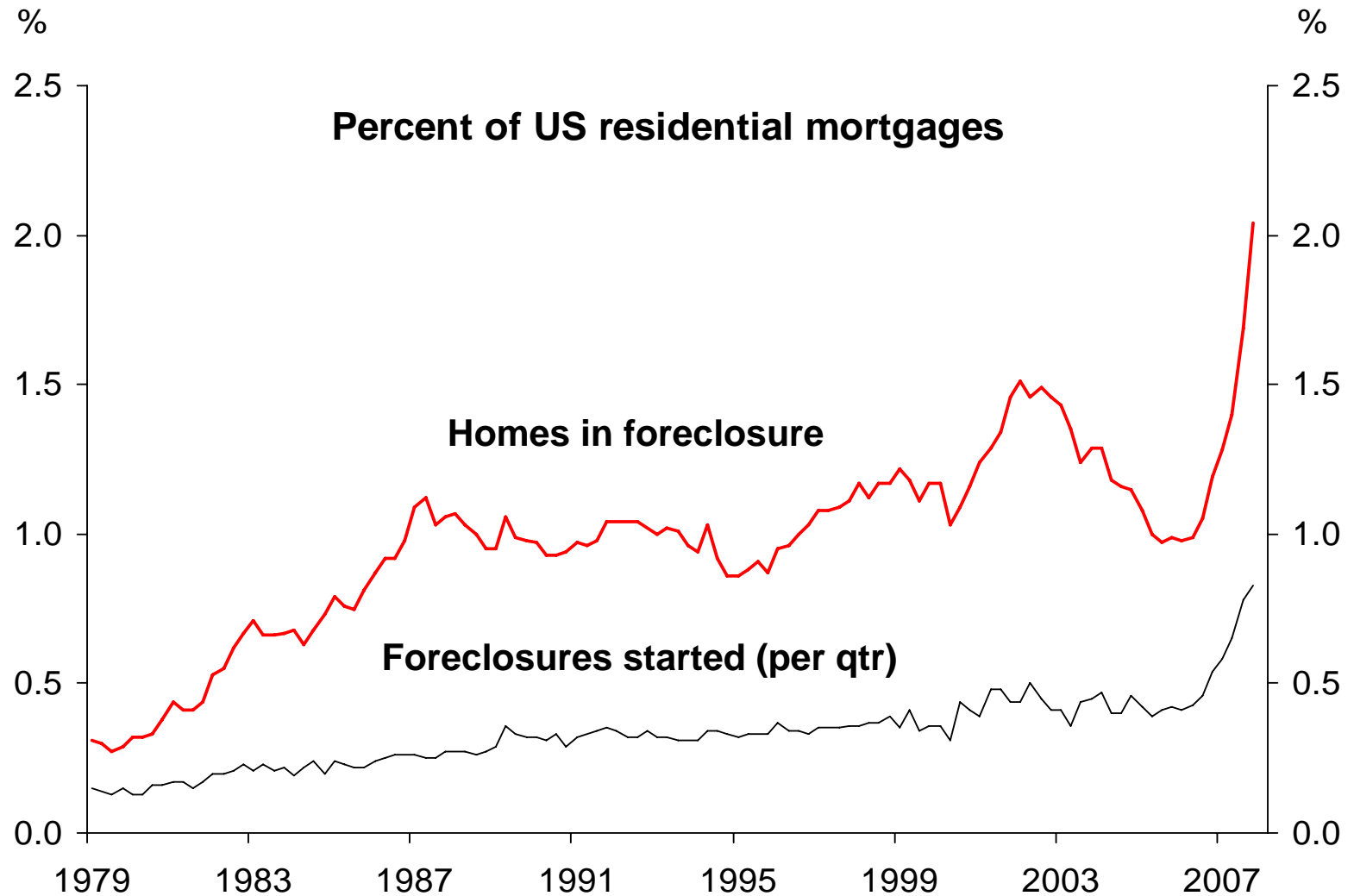
Growth of housing stock has now fallen below long-run average growth in demand



“Demand” fluctuates around trend; returns to trend implies runoff of excess stock could exceed 500k AR.

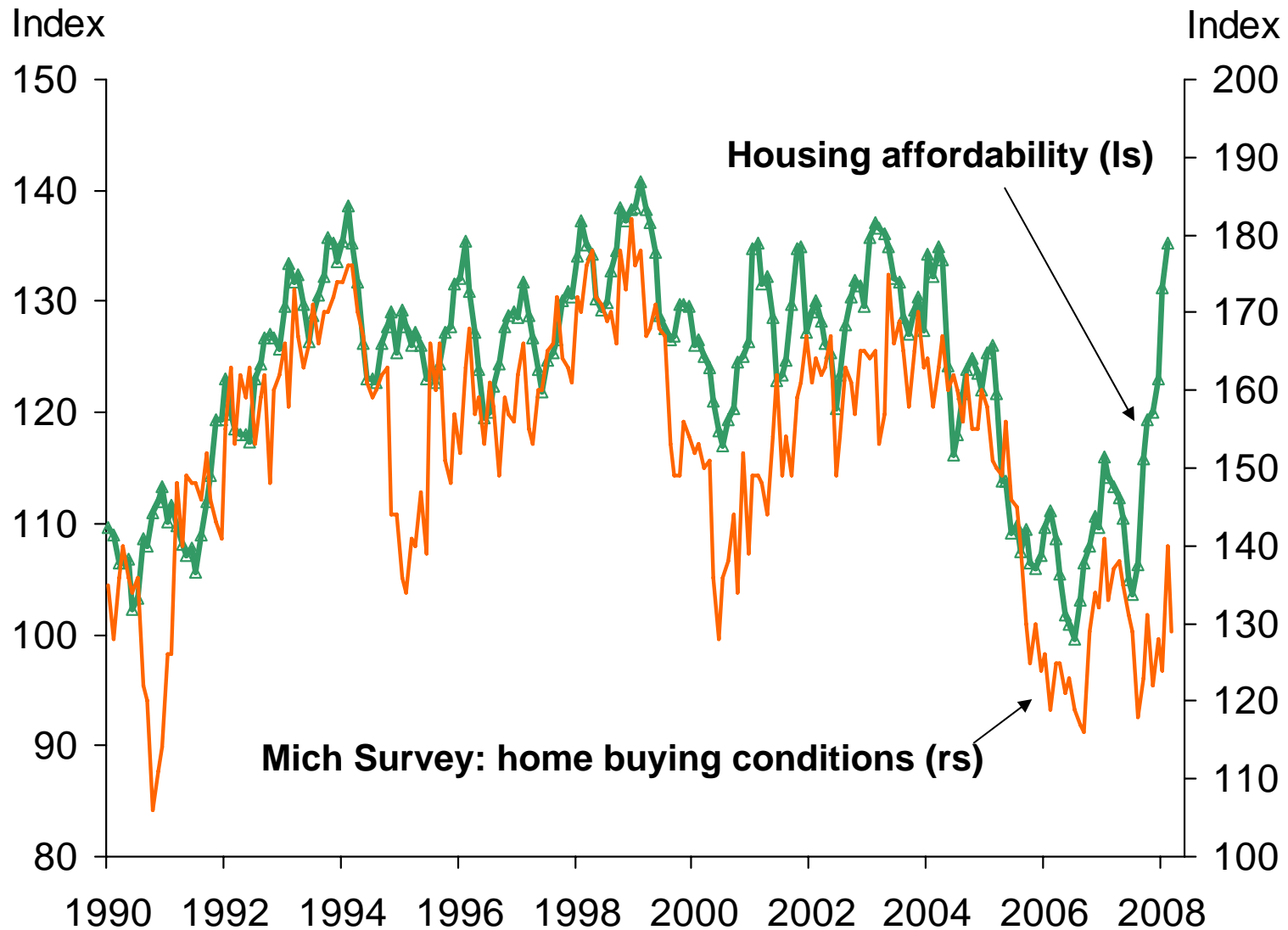


Shift from owner-occupied to rental units: Foreclosures are soaring and depressing prices



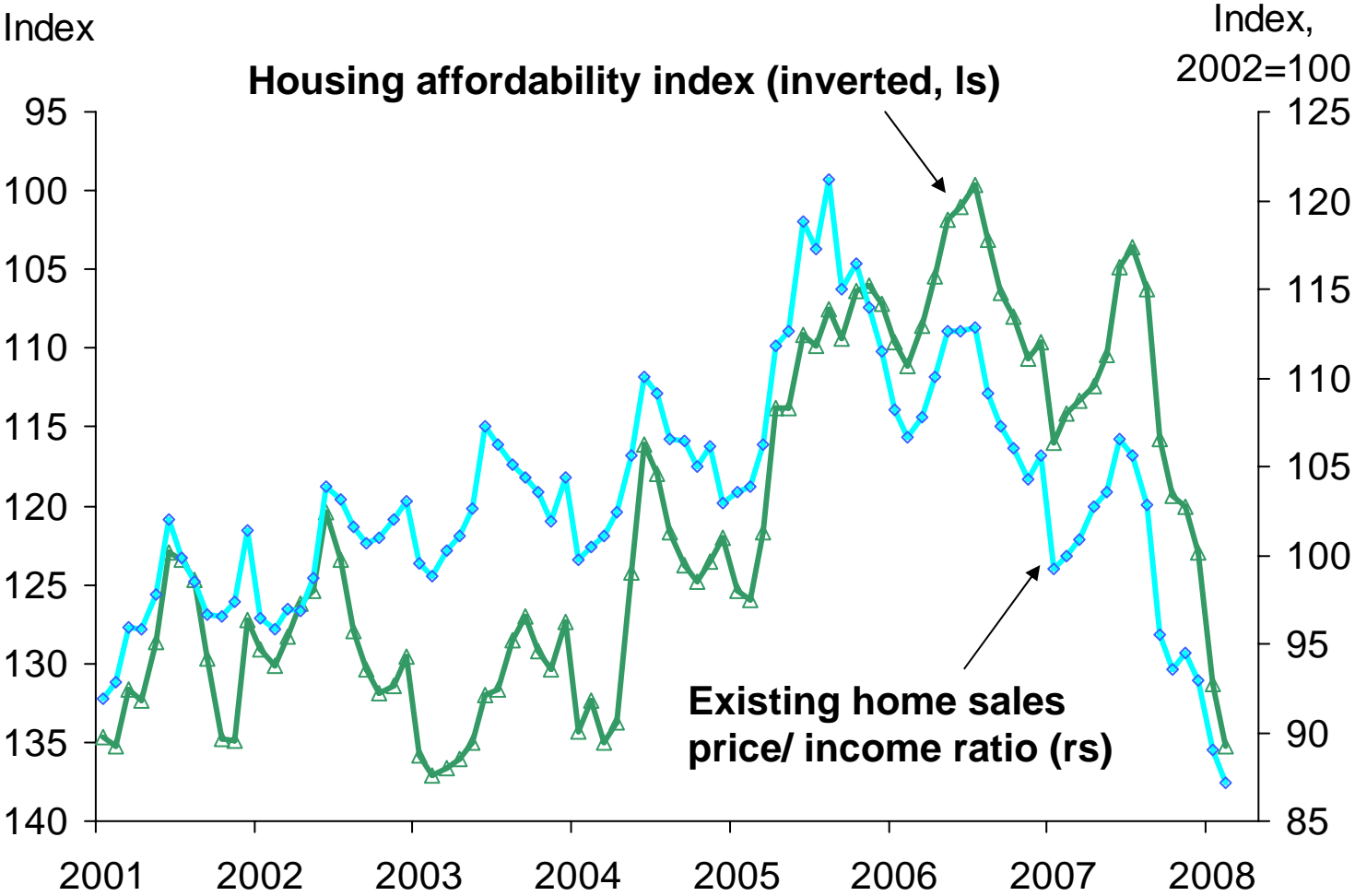
Source: MBA, DB Global Markets Research

Strong bounce-back in housing “affordability” will help



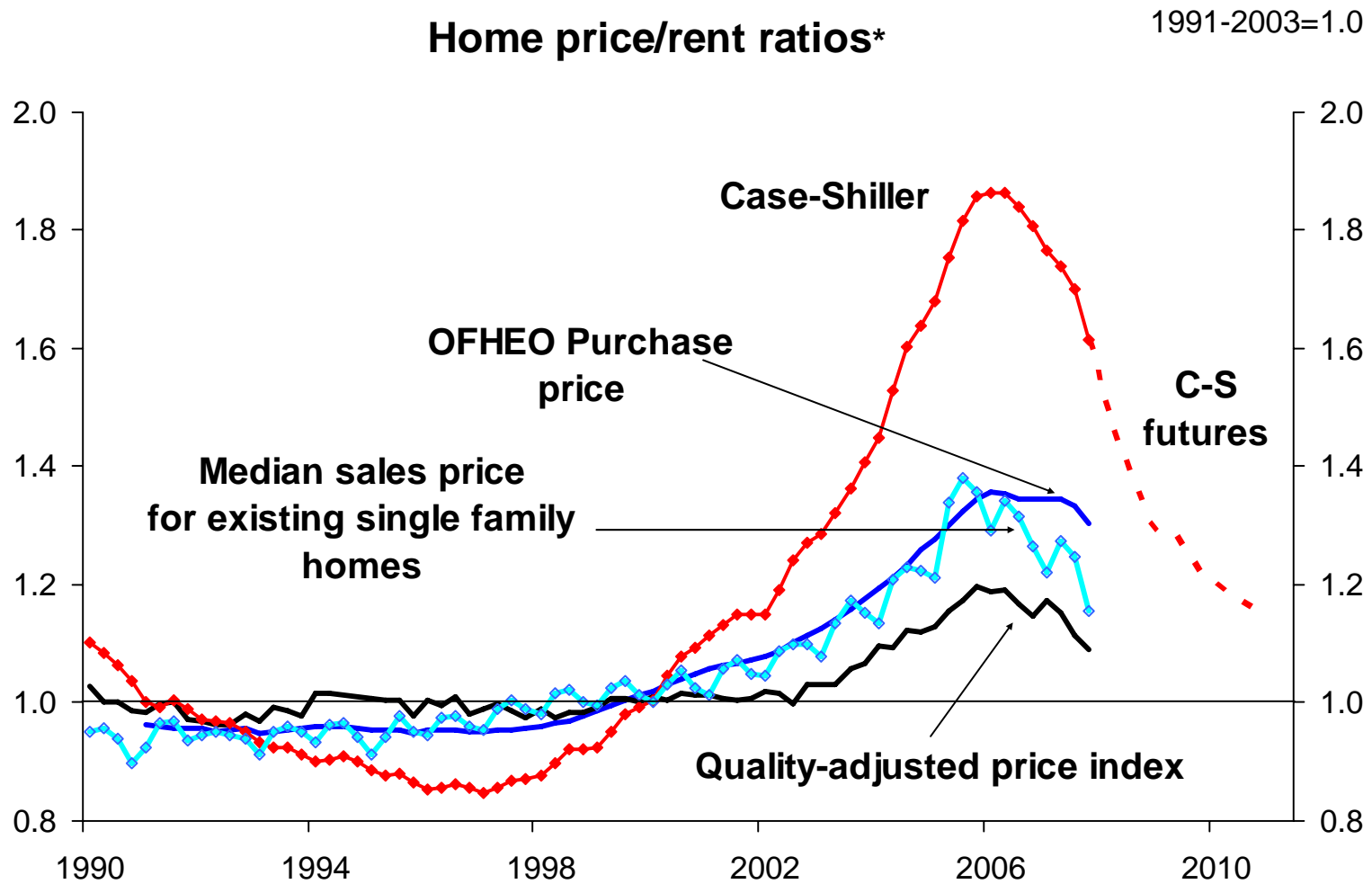
Source: UM ICH, NAR, DB Global Markets Research

Affordability has improved as home prices have declined relative to income.



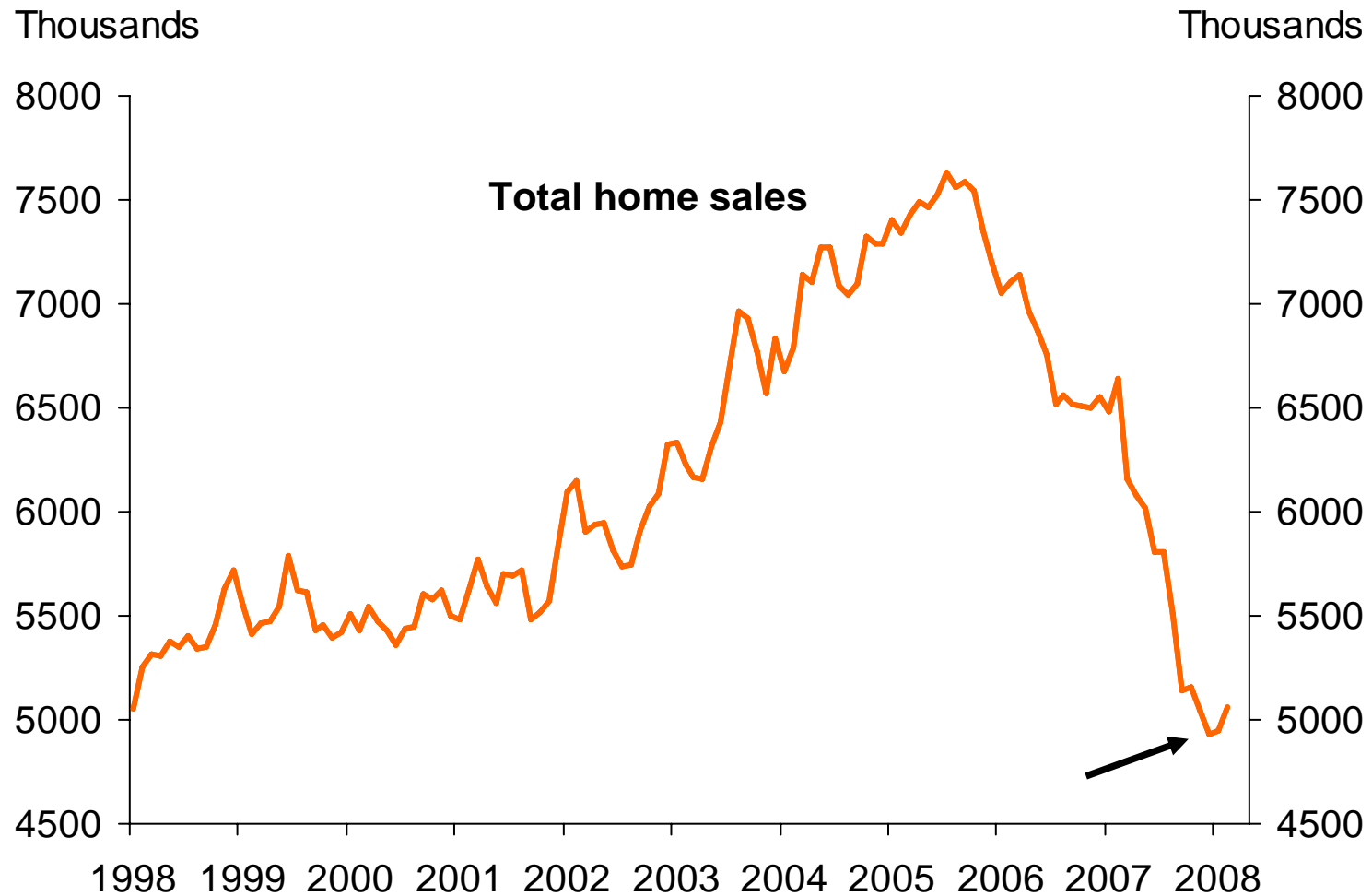
Source: REALTOR, BEA, DB Global Markets Research

Affordability index uses median existing home sales price



*Uses Owners' equivalent rent from CPI

Home sales may be starting to respond to improvement in affordability

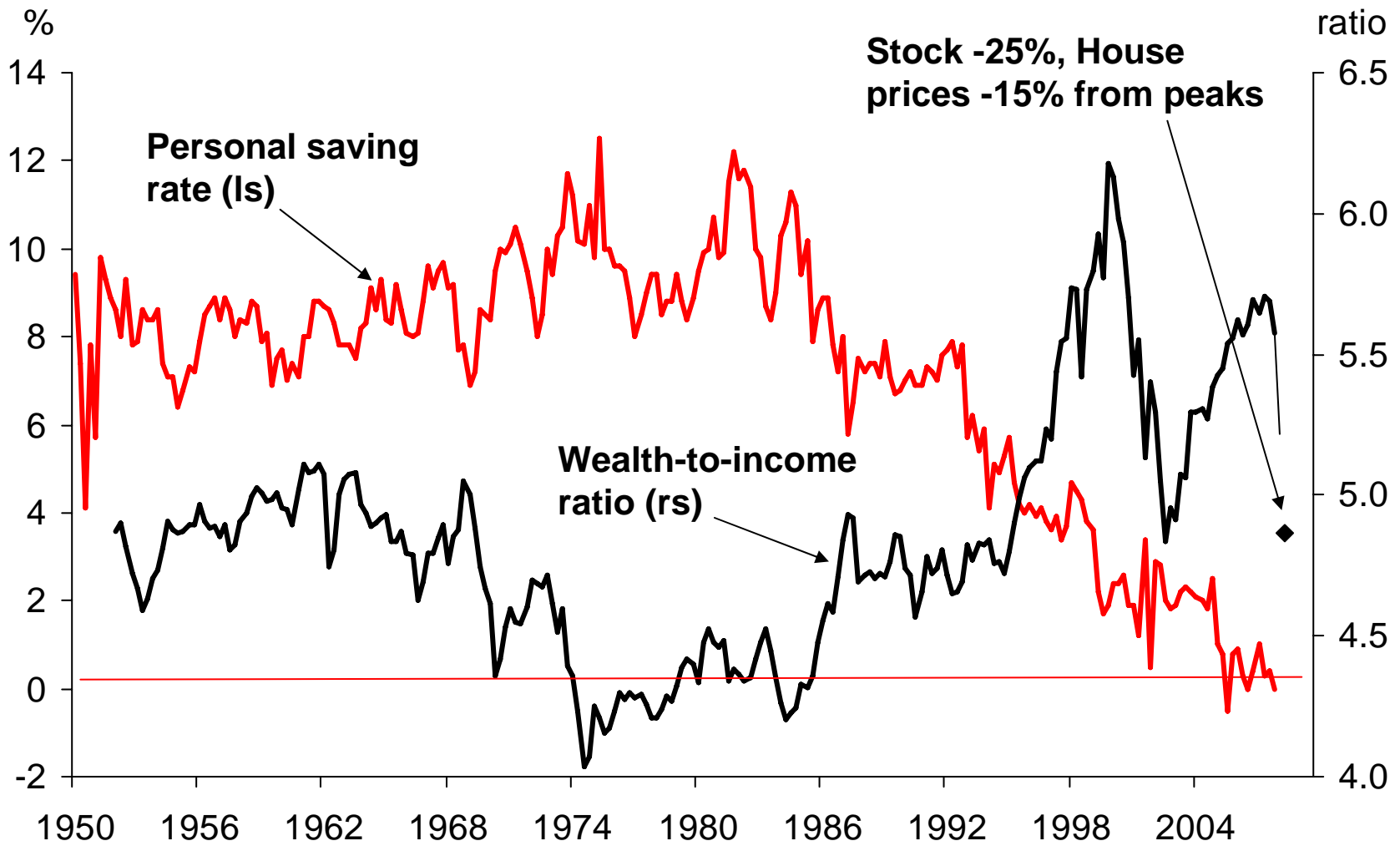


Source: Realtor, Census, DB Global Markets Research

How lower home prices impact the economy

- **Wealth Effect:** effect of declining housing wealth on consumer spending
- **Credit crunch Effect:** effect of declining housing asset values on mortgage-related financial losses; implications for cost of credit as de-leveraging occurs.

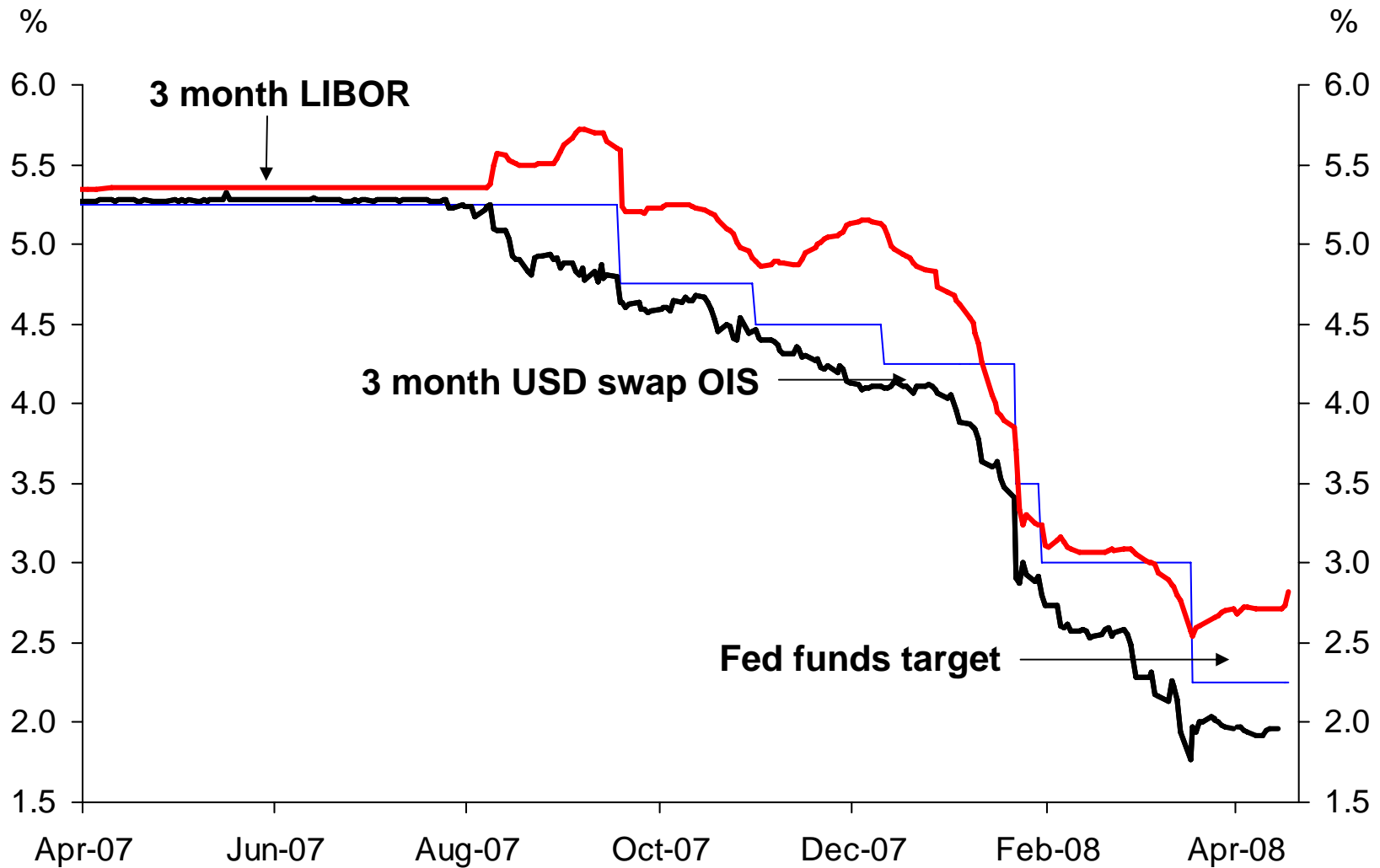
Household saving rate should rise as wealth/income ratio recedes



Source: BEA, FRB, DB Global Markets Research

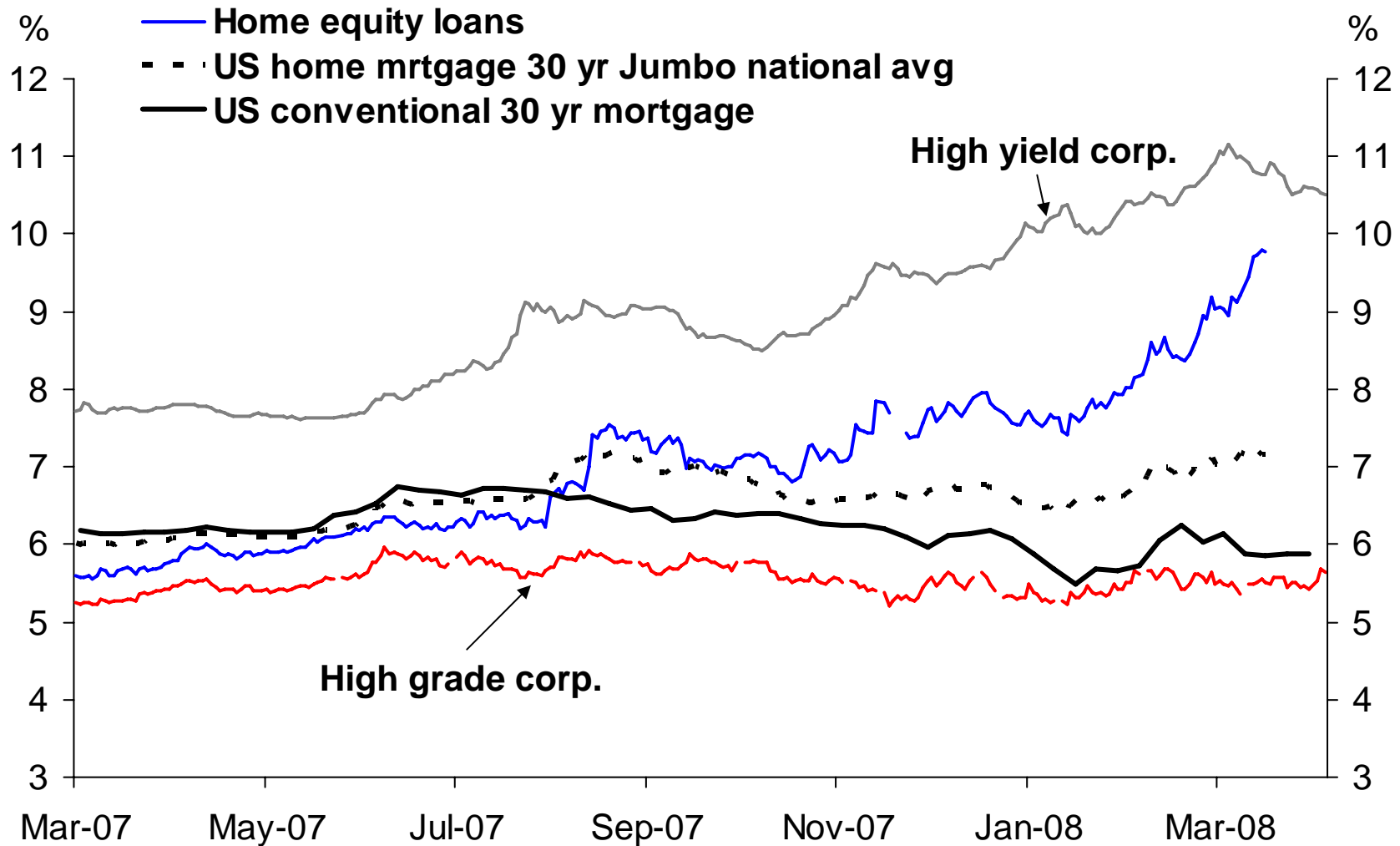
The Credit Crunch

Interbank risk spreads have remained wide despite Fed rate cuts



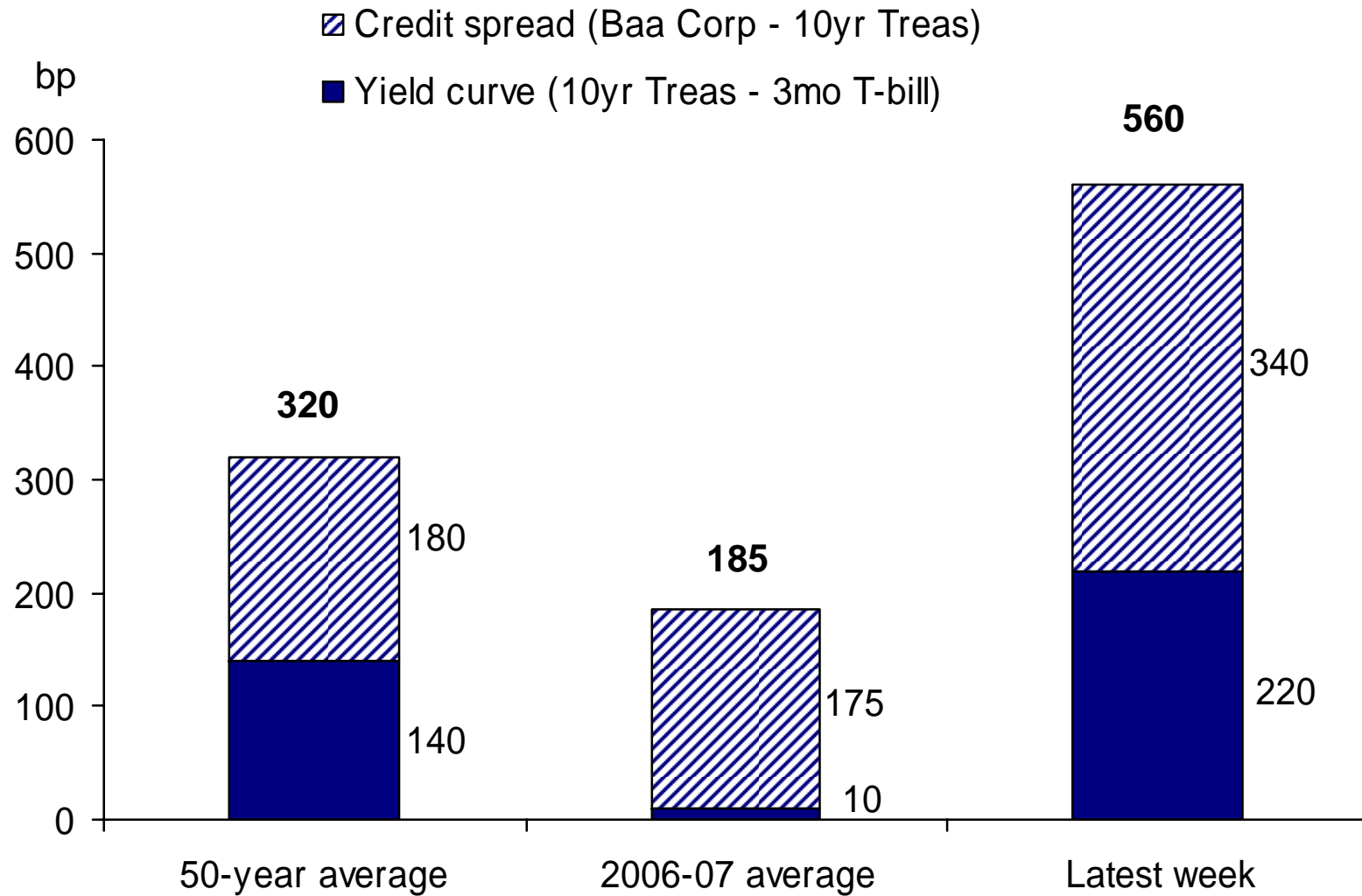
Source: Bloomberg, Haver, FRB, DB Global Markets Research

Private long-term rates rising, or declining only slowly

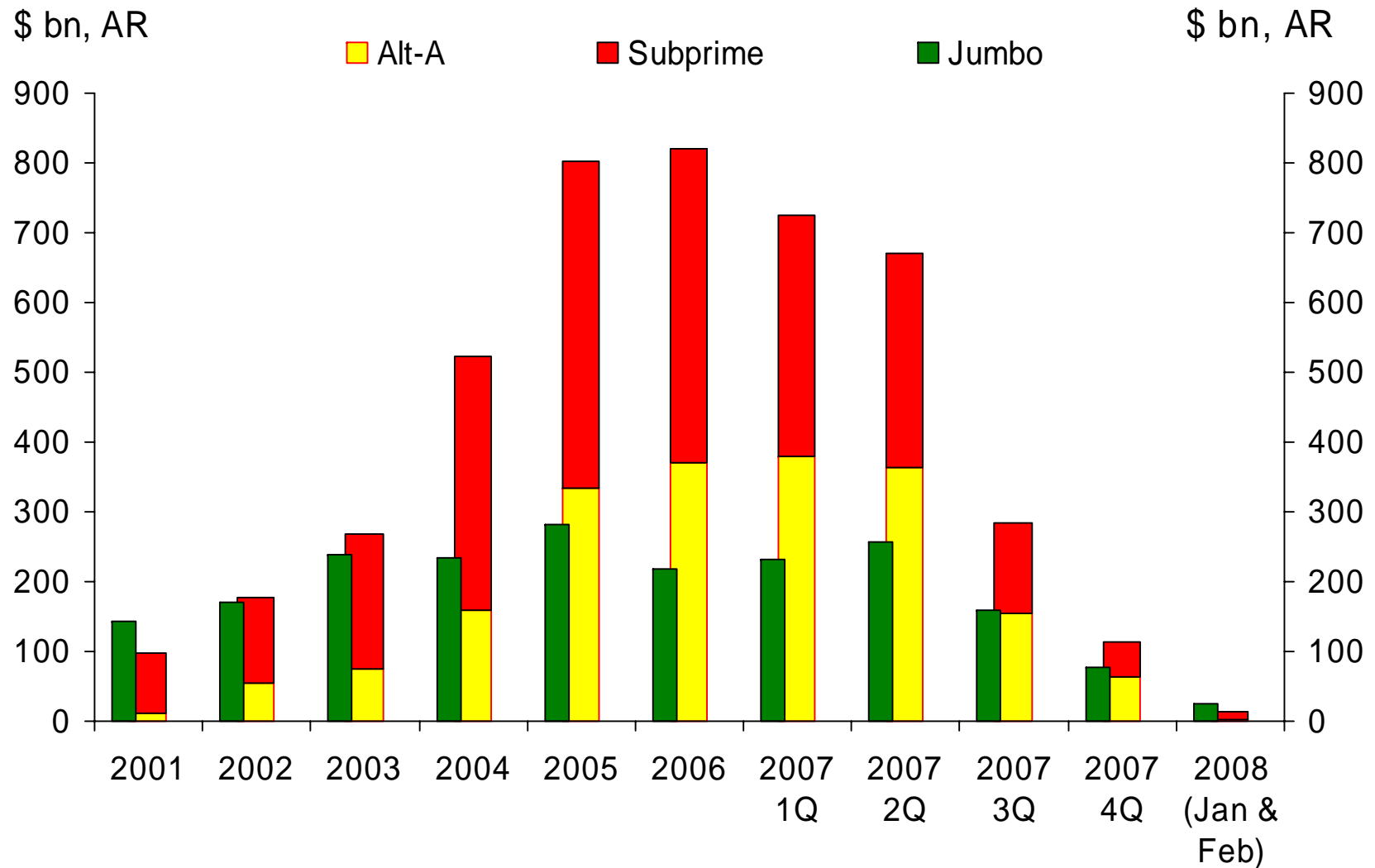


Source: Bloomberg, Haver, FRB, DB Global Markets Research

Corporate funding costs up sharply

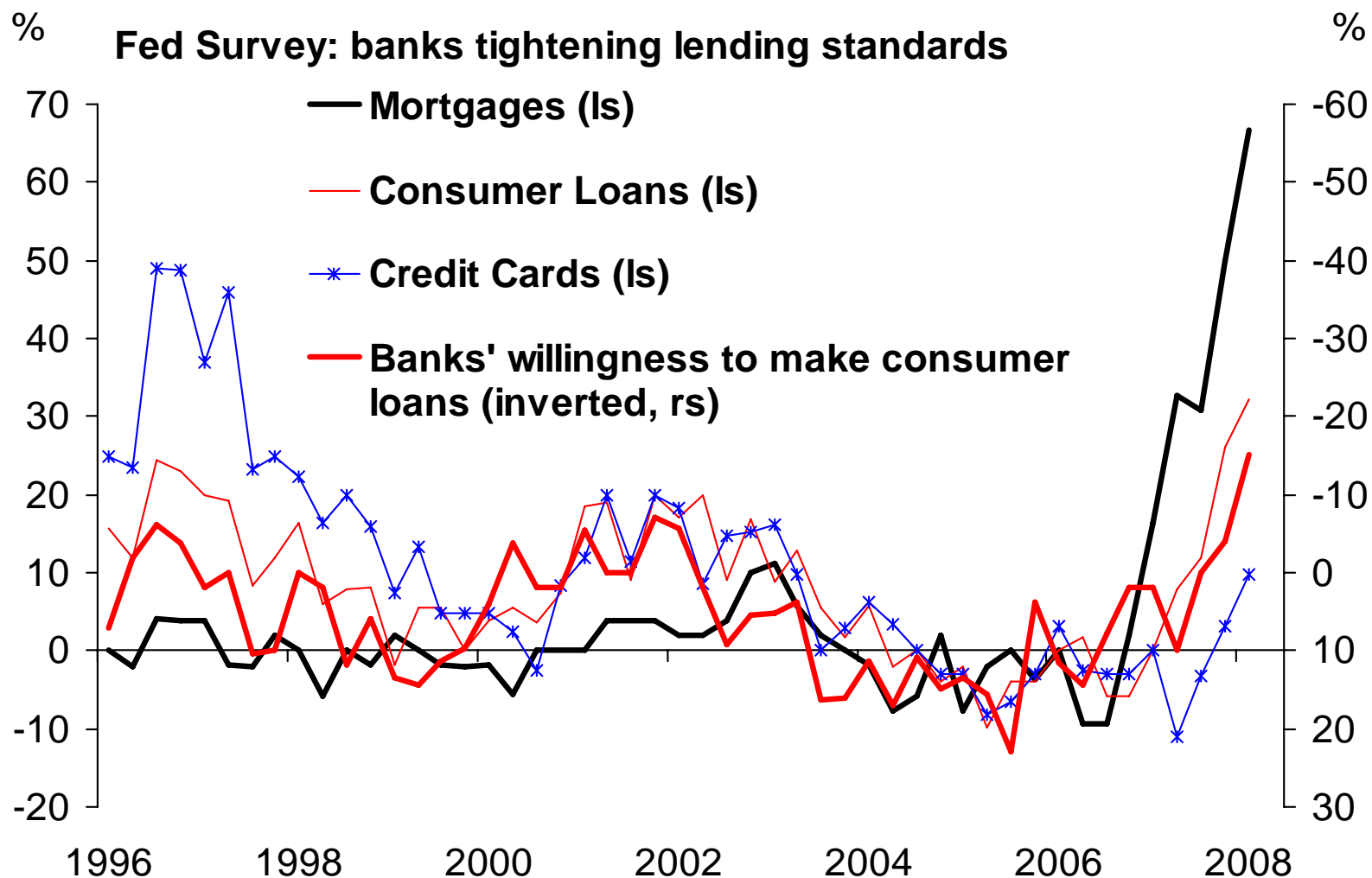


Securitized mortgage lending has disappeared



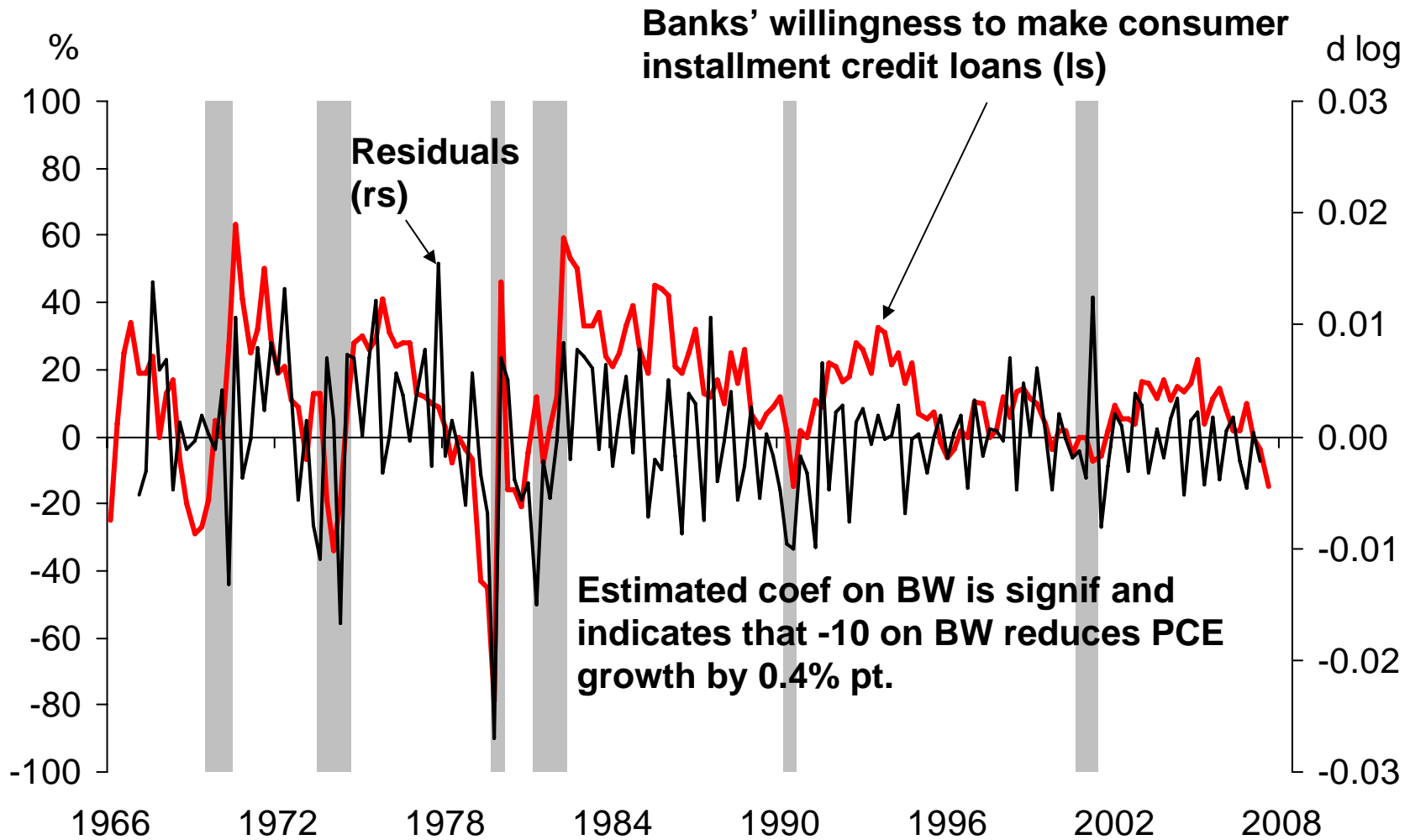
Source: MBA, DB Global Markets Research

But bank credit conditions for households are tightening



Source: Federal Reserve Senior Loan Officer Survey, DB Global Markets Research

Residuals show relationship to banks willingness to extend consumer credit around recessions

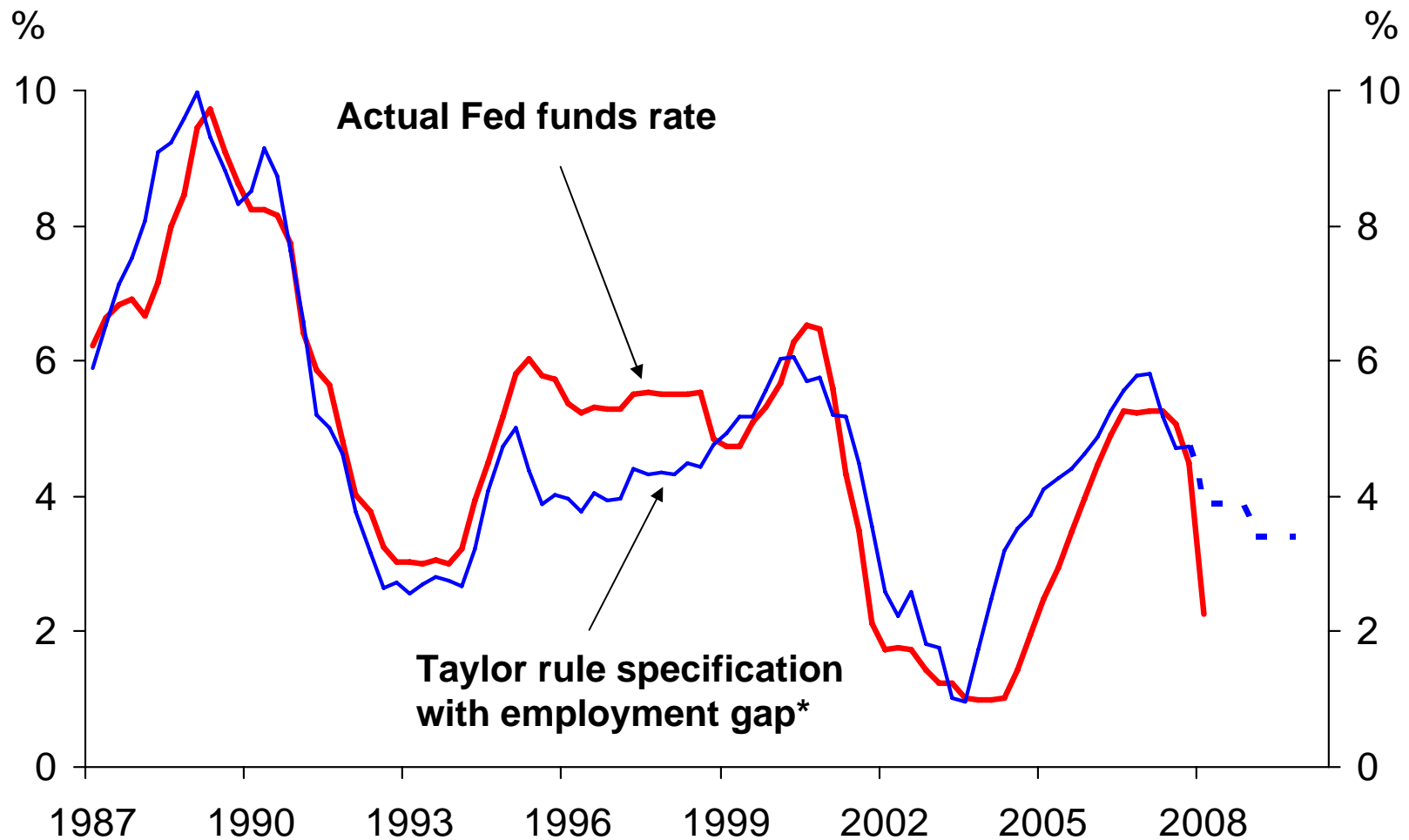


Source: FRB, DB Global Markets Research

Summing up Downside Risks

- **For every 10% additional drop in home prices:**
 - **Household wealth falls by \$2 trn**
 - **Consumer spending is reduced by 1% via wealth effects**
 - **Financial sector losses on foreclosures increase by \$50-100bn**
 - **Tightening of credit conditions associated with de-leveraging could reduce GDP by an additional 1/4-1/2%**
- **There is considerable uncertainty surrounding the magnitude of these wealth and credit effects.**

Fed has cut unusually aggressively in response to downside risks



* $FFnom = 2.5 - 2*(UR - NAIRU) + 0.5*(Core\ PCE\ inflation - 1.75) + Core\ PCE\ inflation$

Source: FRB, BEA, CBO, DB Global Markets Research

US Policy Actions to Address Housing and Credit Crunch

- **Fed rate cuts: 300 bps.**

- **Liquidity enhancements:**

- Fed Discount Window penalty cut 75bps, term increased to 90 days
- TAF 28-day credit to banks, broad (DW) collateral, auction det. rate
- TSLF 28-day credit to primary dealers, AAA-rated collateral, auction det. rate
- PDCF Overnight loan facility for primary dealers BBB or better collateral, DW rate
- Large scale FHLB advances to banks, favorable rates, broad collateral.
- Fed \$29bn rescue package for Bear Stearns
- Swap arrangement with ECB and other central banks.

- **Measures to bolster mortgage market.**

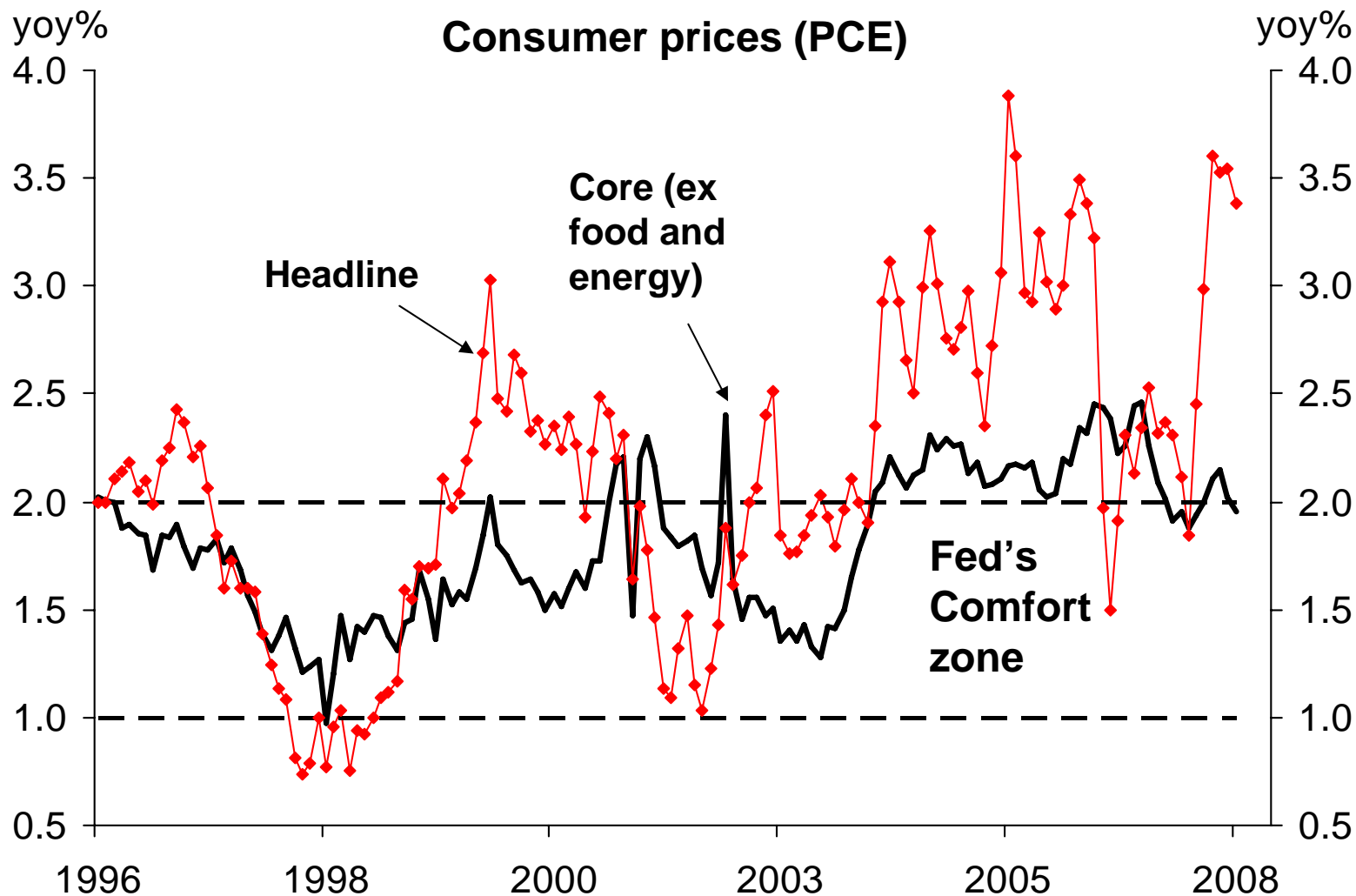
- Agency loan limits raised to reflect diff. median home price levels across regions
- Agency capital limits increased and requirements relaxed, allowing \$400bn more Agency purchases.
- FHLB purchases of Agency MBS doubled (\$100+ bn)

- **Fiscal stimulus package:** \$168bn tax rebates to households, credits to firms.

- **Possible further measures.**

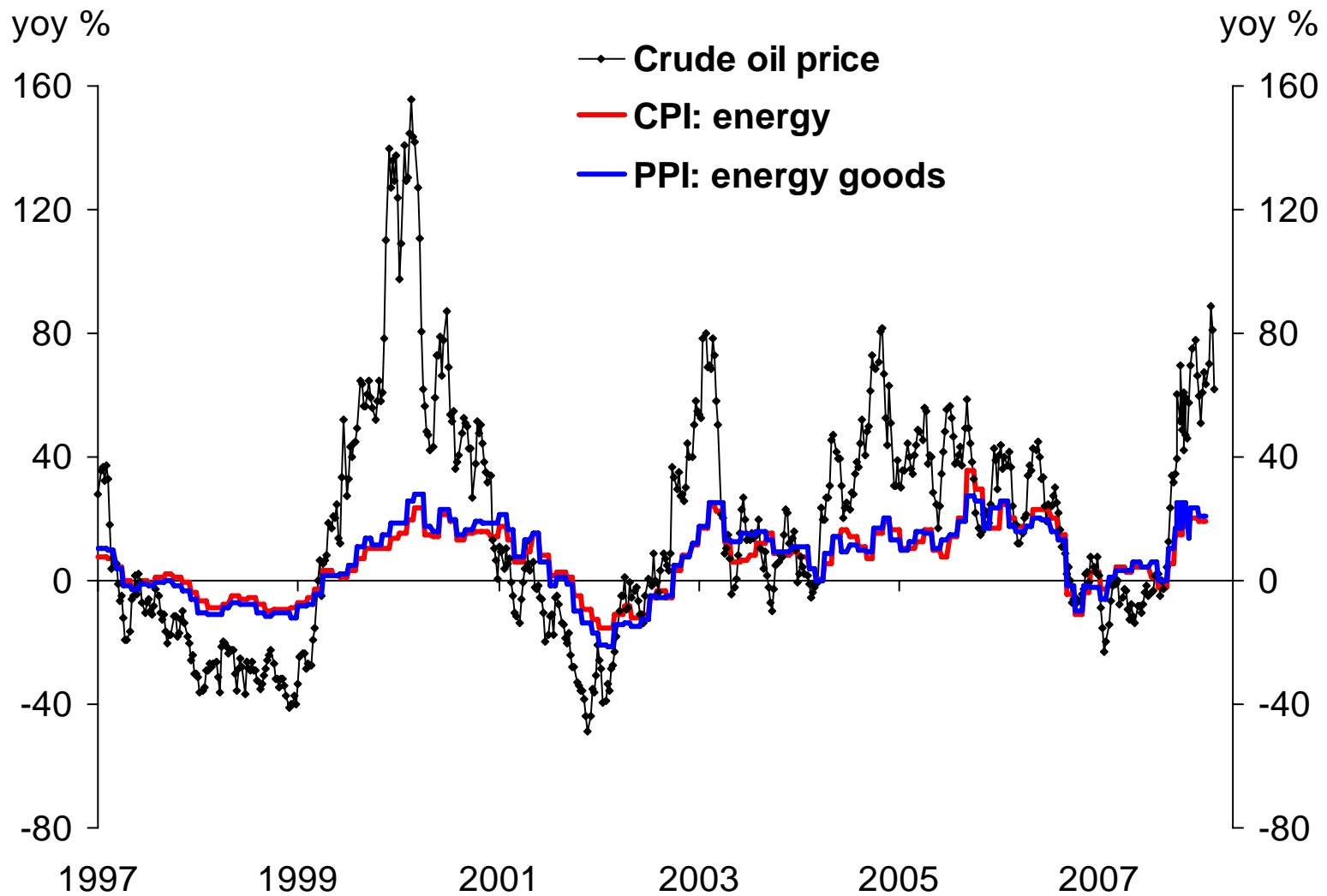
- Fed purchases of Agency MBS.
- Mortgage write-down proposals.
- Government purchases of private mortgages and MBS..

Inflation: Headline running well above comfort zone

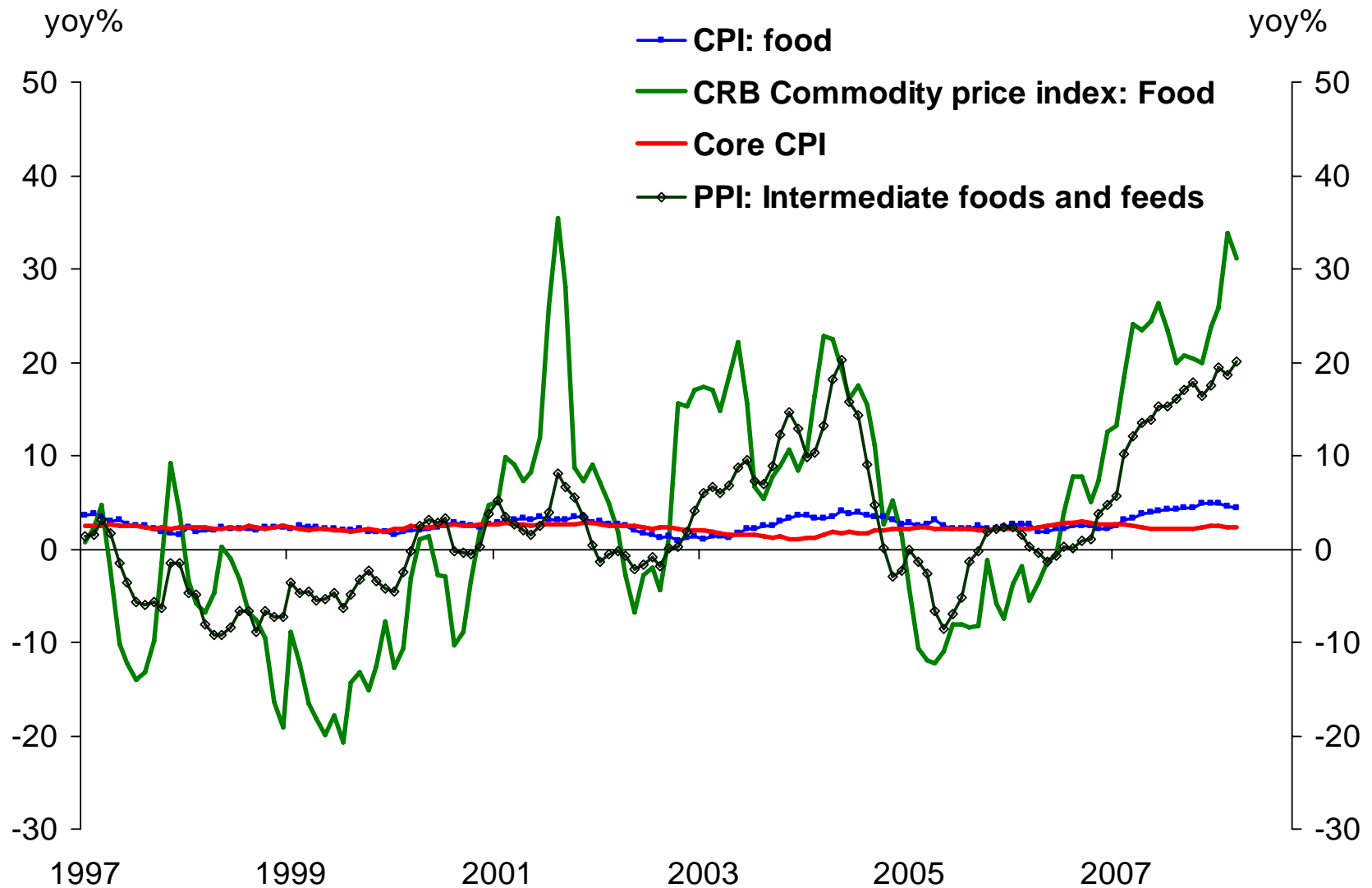


Source: BEA, DB Global Markets Research

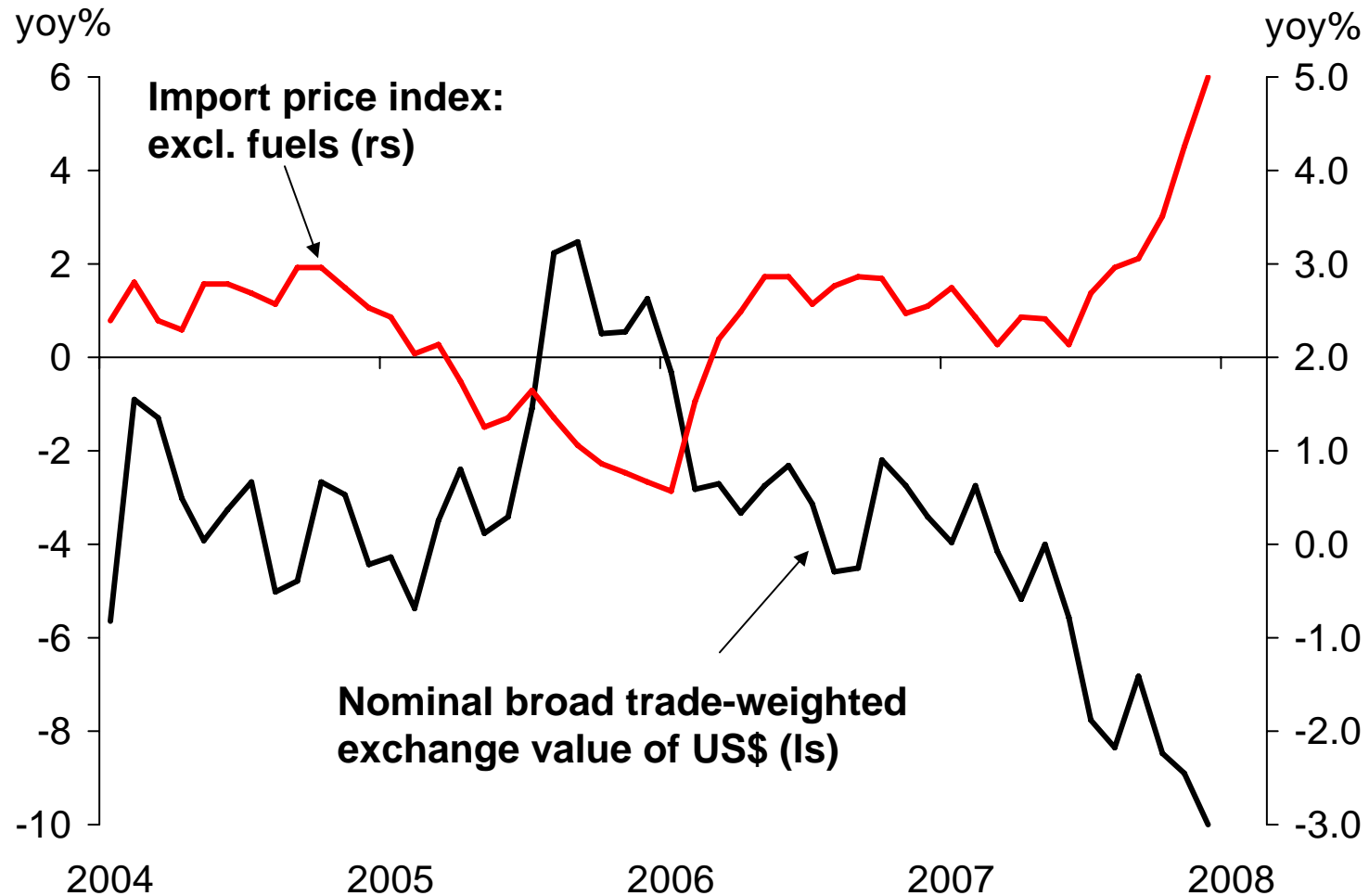
Surge in oil prices still poses inflation risk



Food prices still look troublesome too

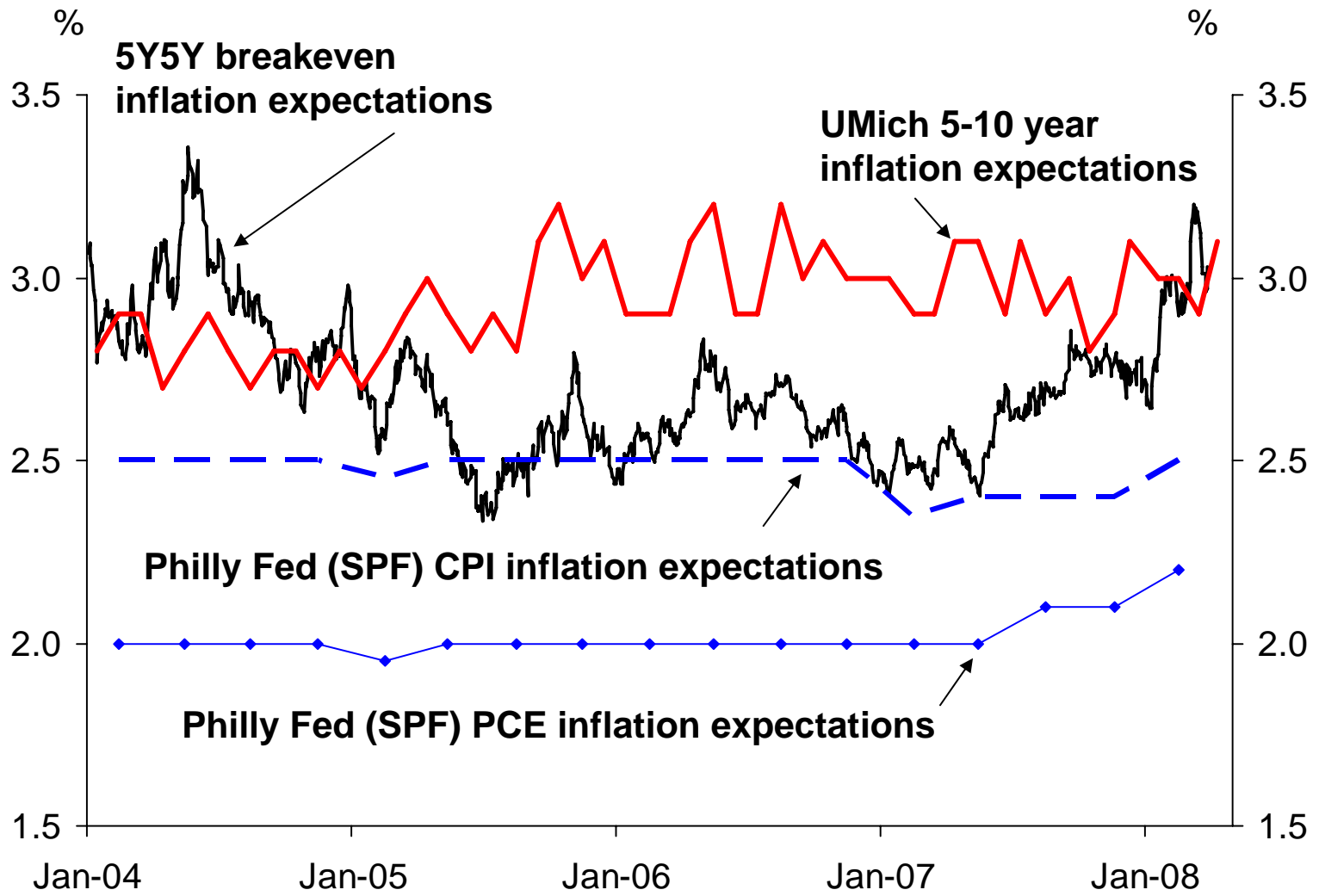


Falling dollar means more import price inflation

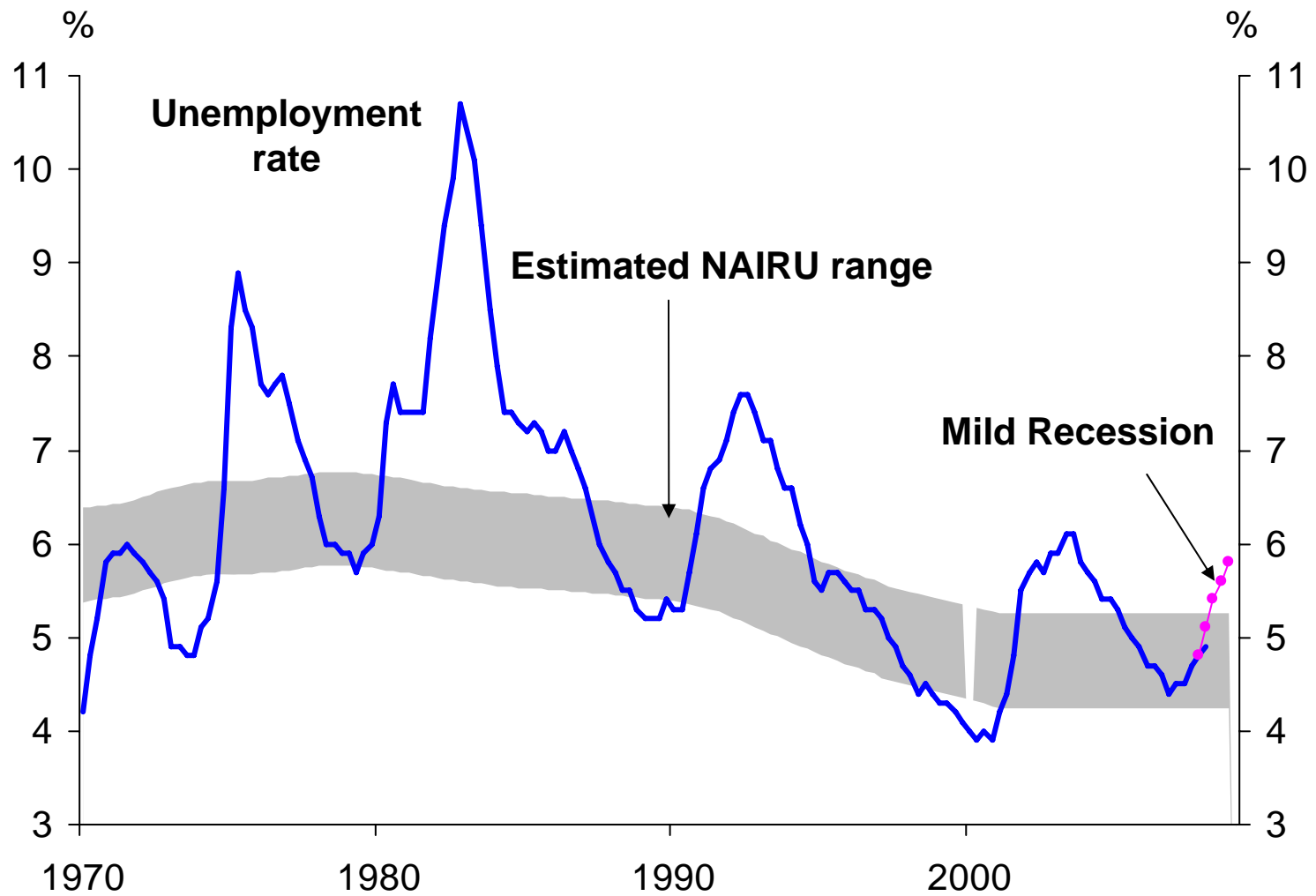


Source: BLS,FRB, DB Global Markets Research

Longer term inflation expectations moving upward

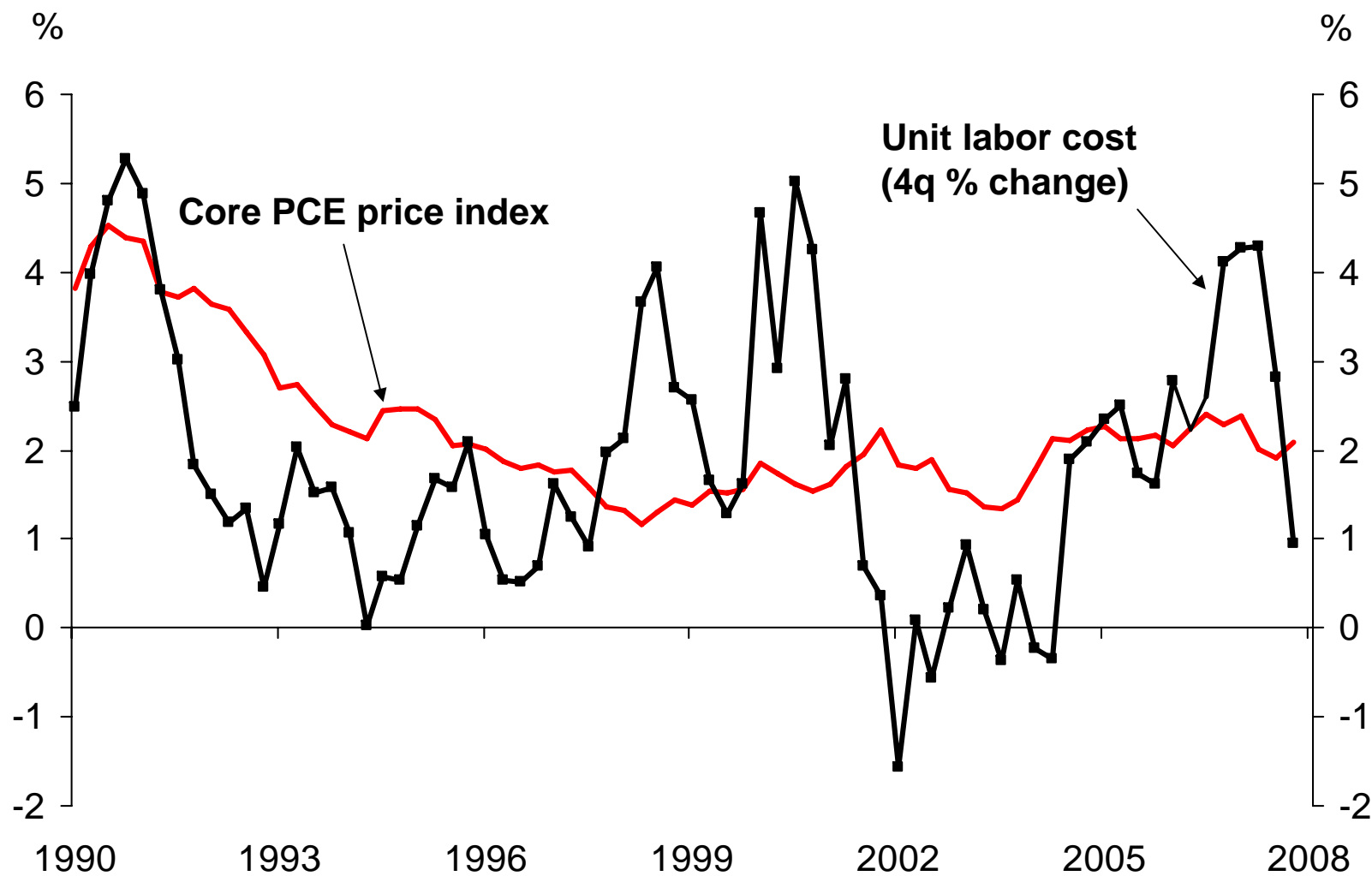


Labor market easing



Source: BLS,CBO,DB Global Markets Research

Unit labor cost inflation receding



Source: BLS, DB Global Markets Research

Conclusions

- US economy likely in mild recession.
- Housing overhang should begin to drop significantly in next several quarters.
- This should limit further drop in home prices, and along with monetary and fiscal stimulus, help keep recession mild.
- Risks to this view are weighted more to the downside than the upside, given ongoing credit crunch.
- Inflation risks still present, but receding as growth slows and labor market softens.
- Fed likely to cut rates moderately further.
- Expect a relatively sluggish recovery through 2009.



Peter Hooper

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Peter Hooper oversees a team of economists that analyze and forecast developments in the US economy and financial markets. Dr. Hooper joined Deutsche Bank Securities in the fall of 1999 as Chief US Economist, and was appointed Chief Economist in 2006. Dr. Hooper frequently comments on US economic and financial developments in the news media.

Prior to joining the firm, Dr. Hooper enjoyed a distinguished 26-year career at the Federal Reserve Board in Washington, D.C. He held numerous positions at the Fed, including as an economist on the FOMC and as Deputy Director of the Division of International Finance. In doing so, he developed an informed view of the Fed's policy making process.

Dr. Hooper earned a BA in Economics (cum laude) from Princeton University and an MA and Ph.D. in Economics from University of Michigan. He has published numerous books, journal articles, and reviews on economics and policy analysis.

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