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ECONOMIC OUTLOOK DISCUSSION, LEVY ECONOMICS INSTITUTE, RHINECLIFF, NY

Growth Without Steroids

Jim Glassman

jglassman@jpmorgan.com

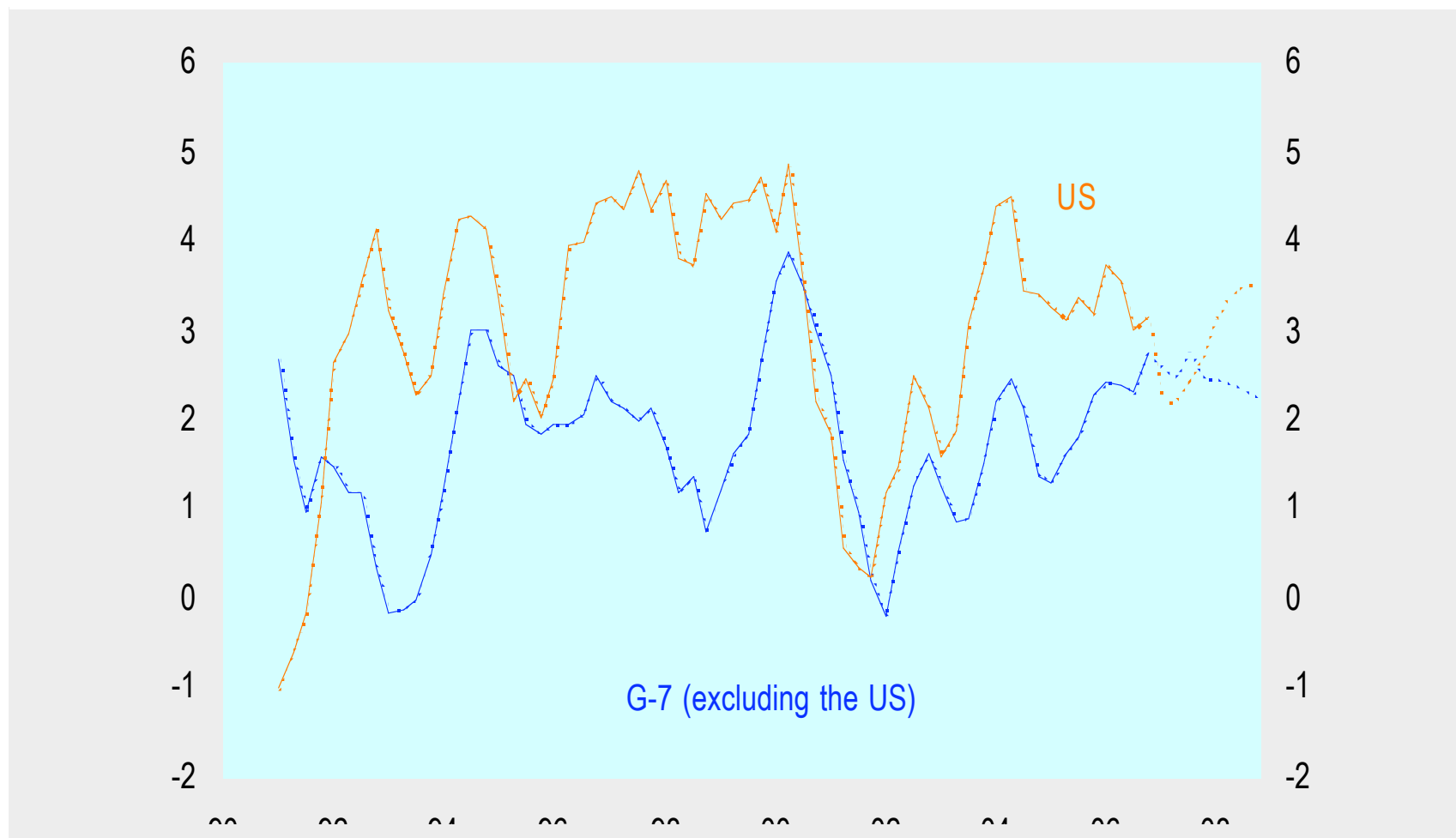
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About global imbalances ...

Sleeping giants ...

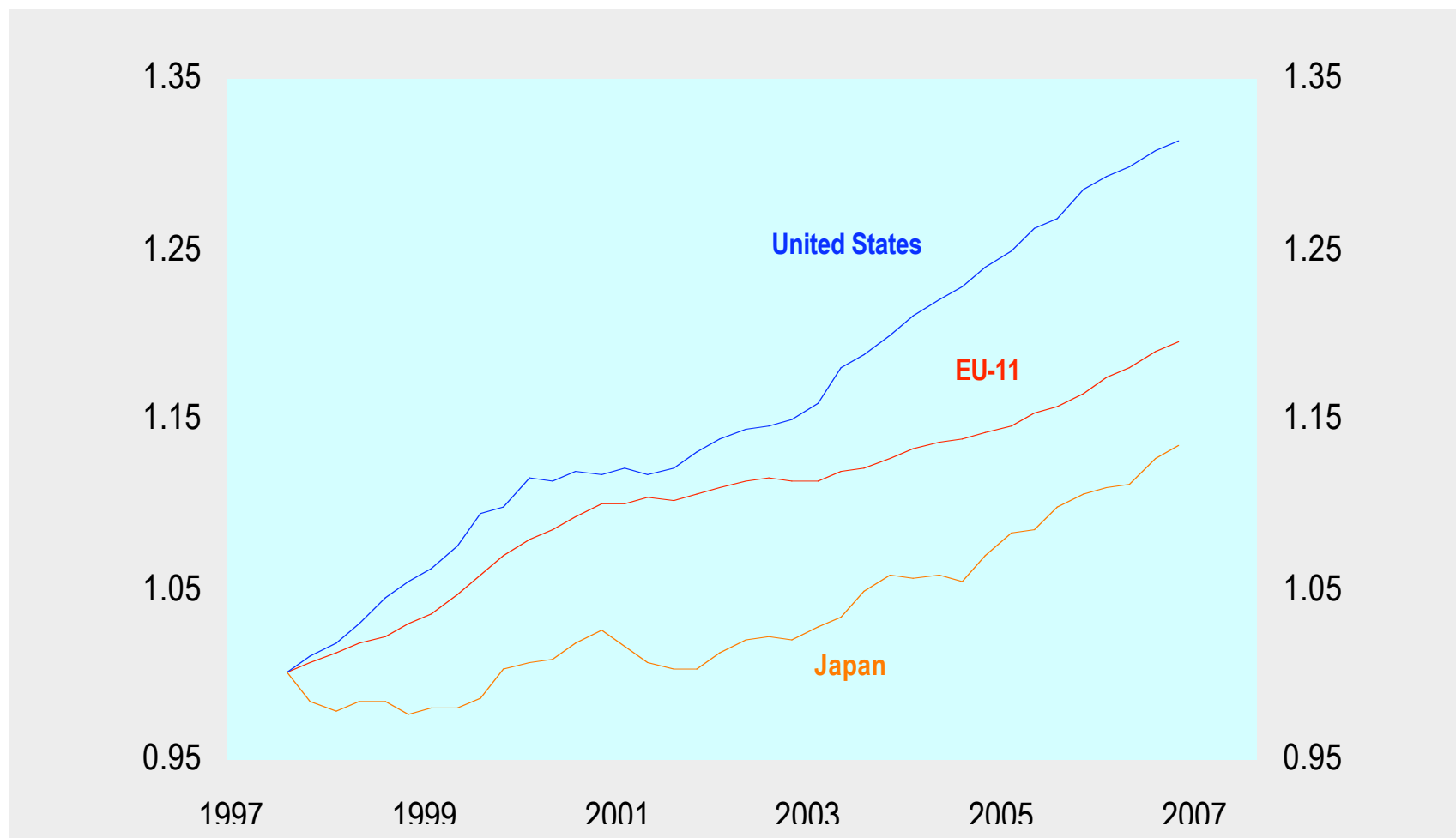
Real GDP (percent change from four quarters earlier)



Sources: US Department of Commerce; JPMorgan Chase & Co.

... it adds up over time

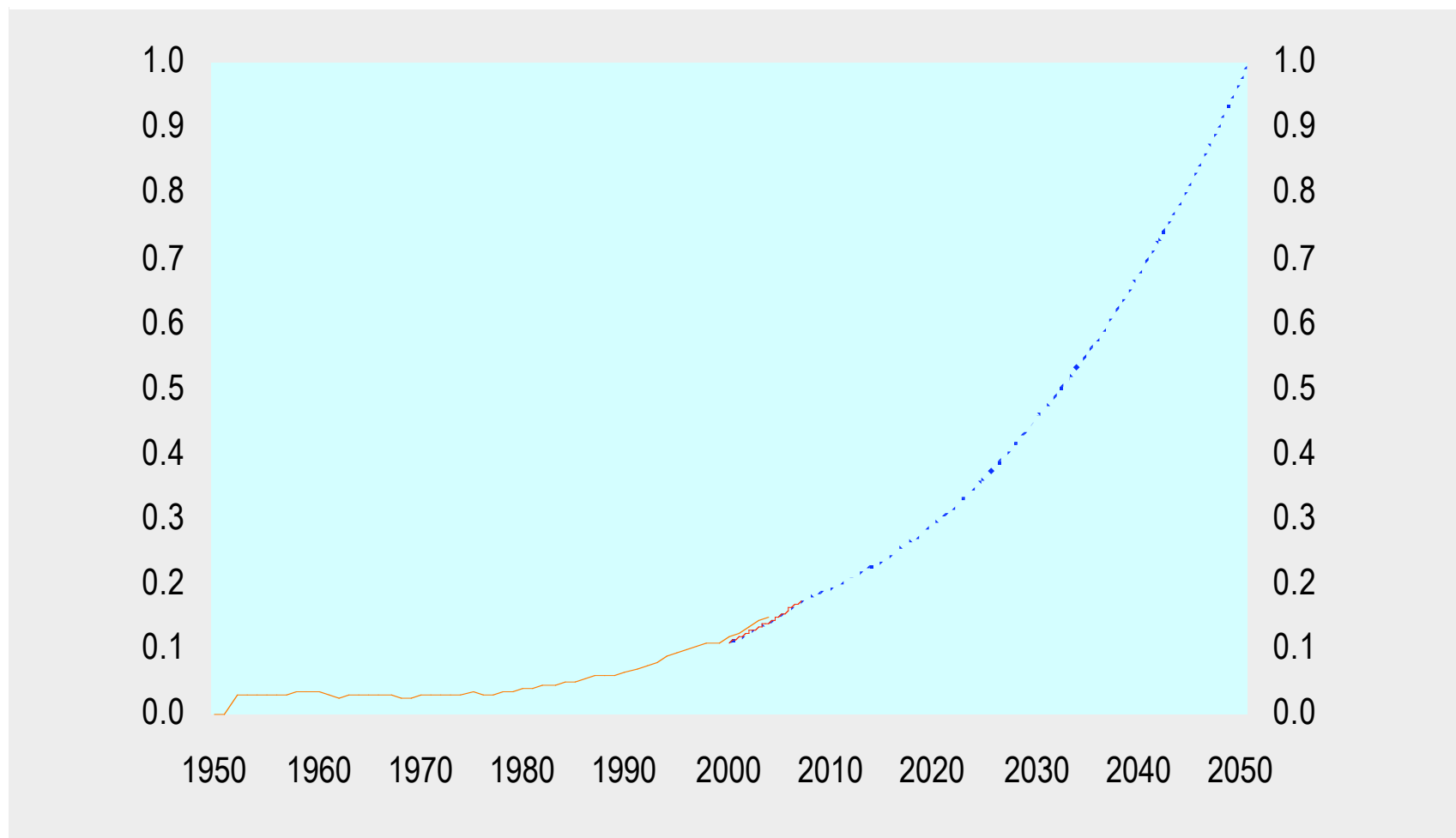
Real GDP (ratio to 1997 Q4 level, \$ terms)



Sources: US Department of Commerce; JPMorgan Chase & Co.

A planet awakening ... the world isn't flat

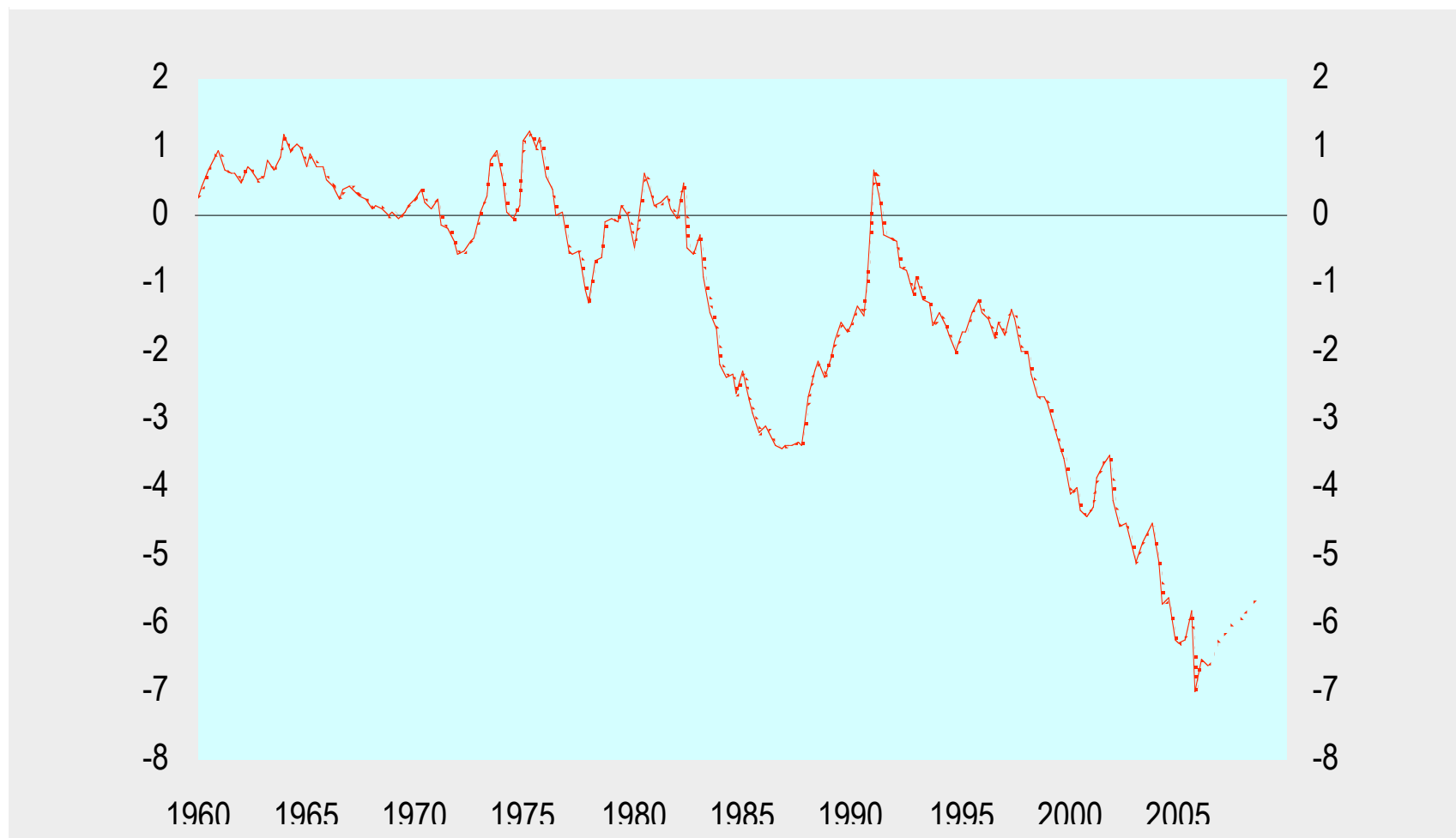
China's real per capita GDP (ratio to US)



Sources: Alan Heston, Robert Summers and Bettina Aten, Penn World Table Version 6.2, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, September 2006

That's what global imbalances were all about

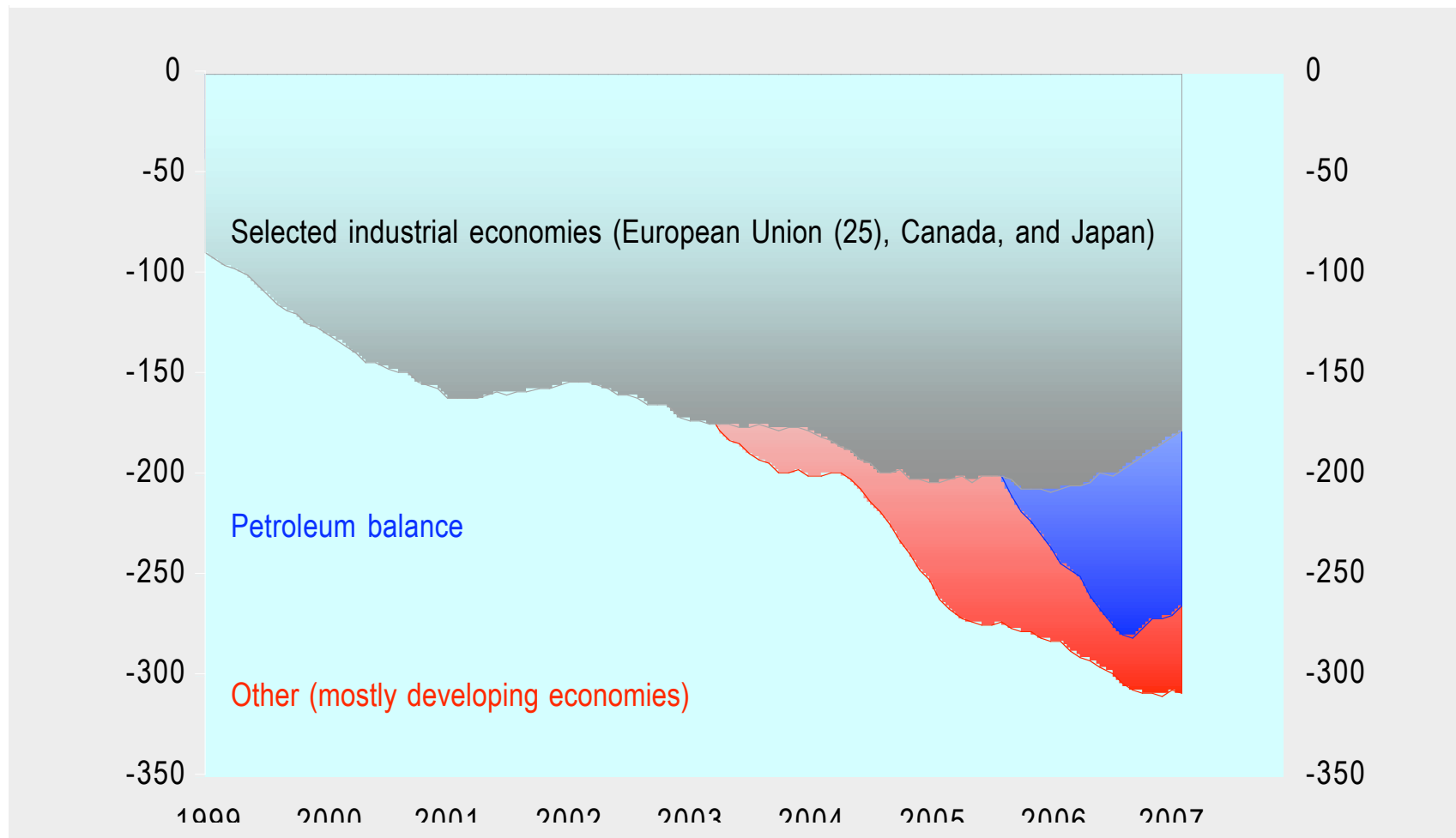
US current account balance (percent of nominal GDP)



Sources: NBER recession bars; US Department of Commerce

That's why they will be (are) unwinding, organically

US trade balance by region or category (\$ billions over the most recent 12 months)



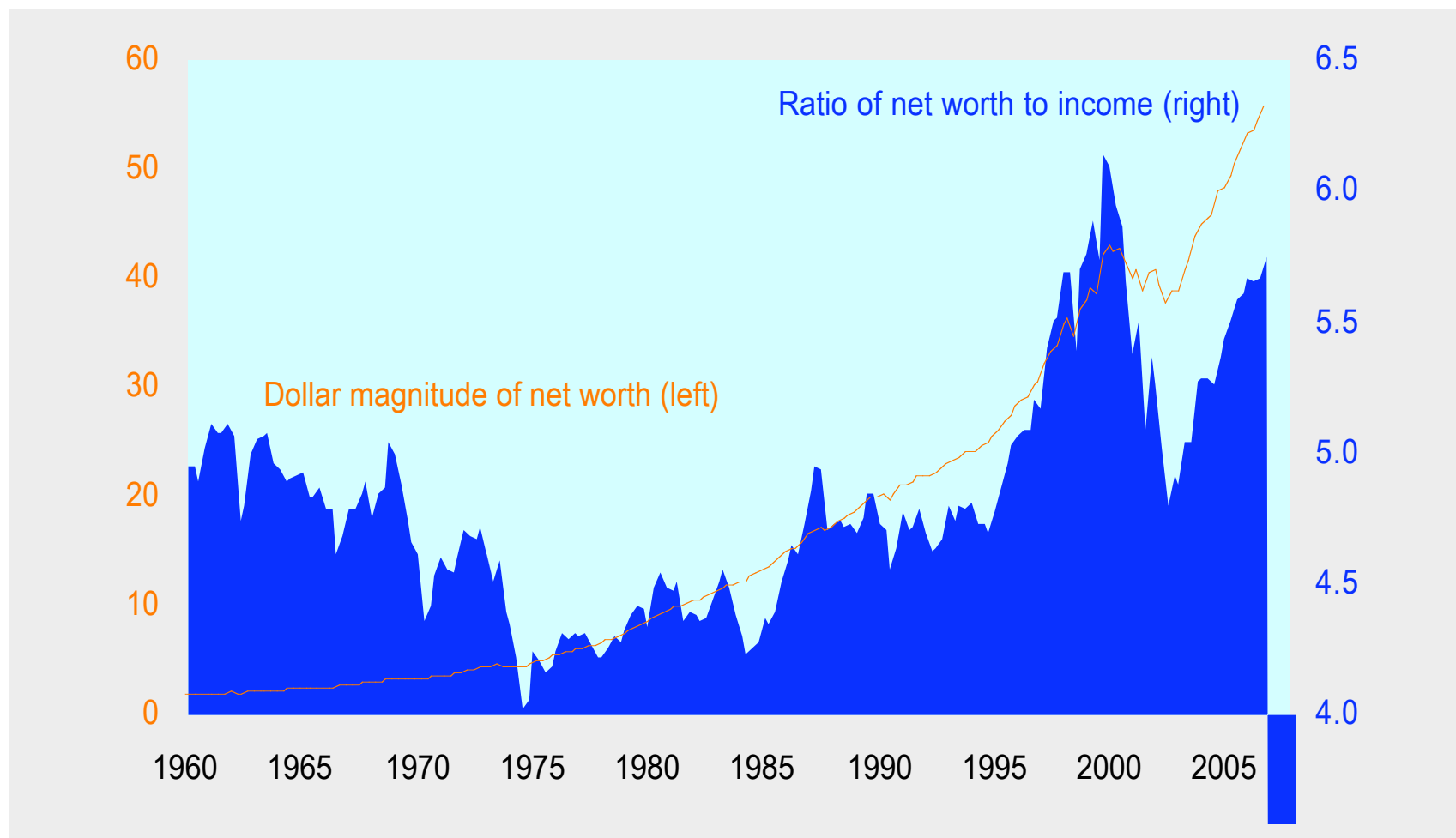
Source: US Department of Commerce

State of the economy: four trends say it all

#1 Rising and high household net worth

Household net worth (\$ trillions)

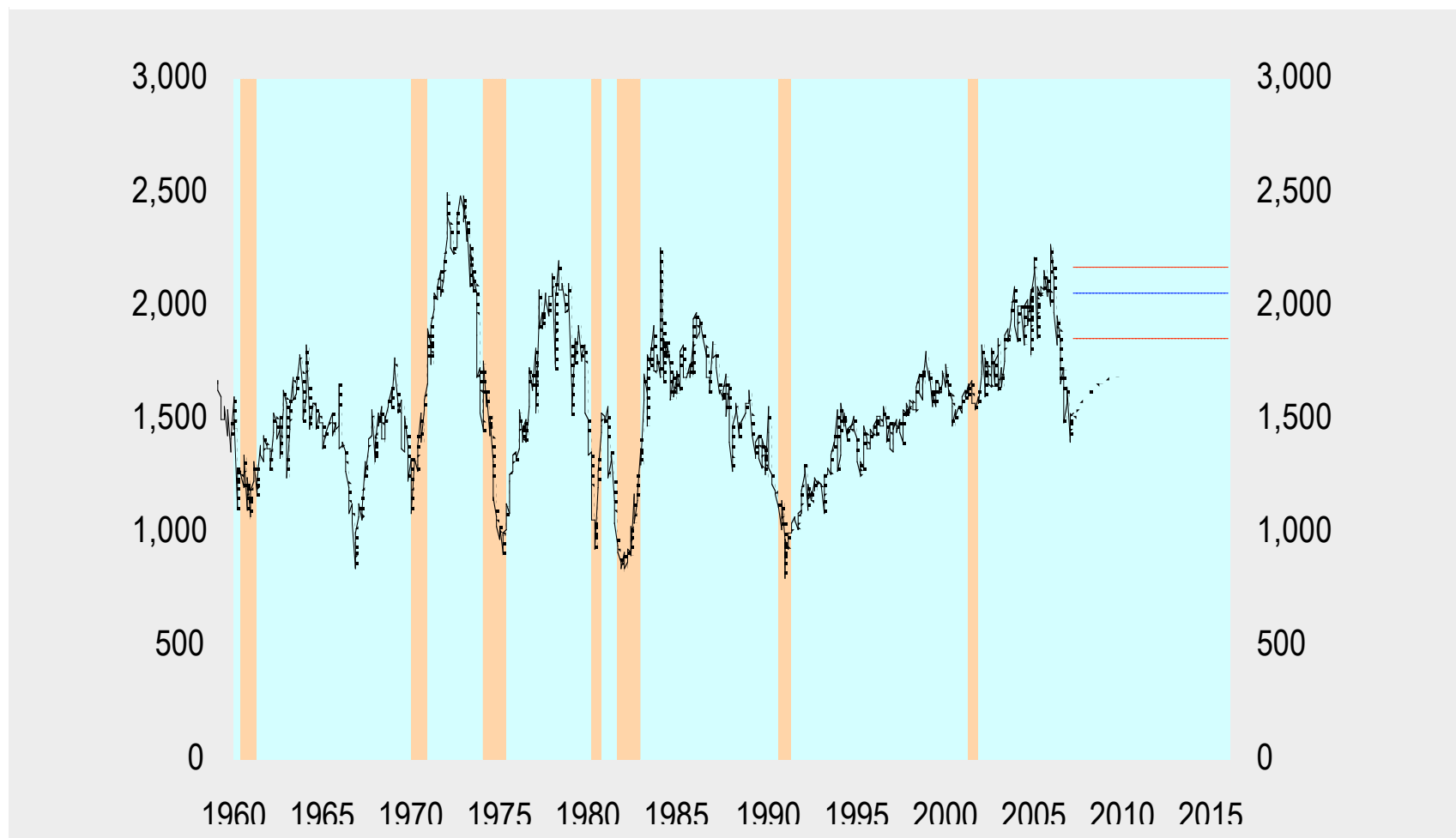
Household net worth (ratio to income)



Source: Federal Reserve Board

#2 Plunging new home building

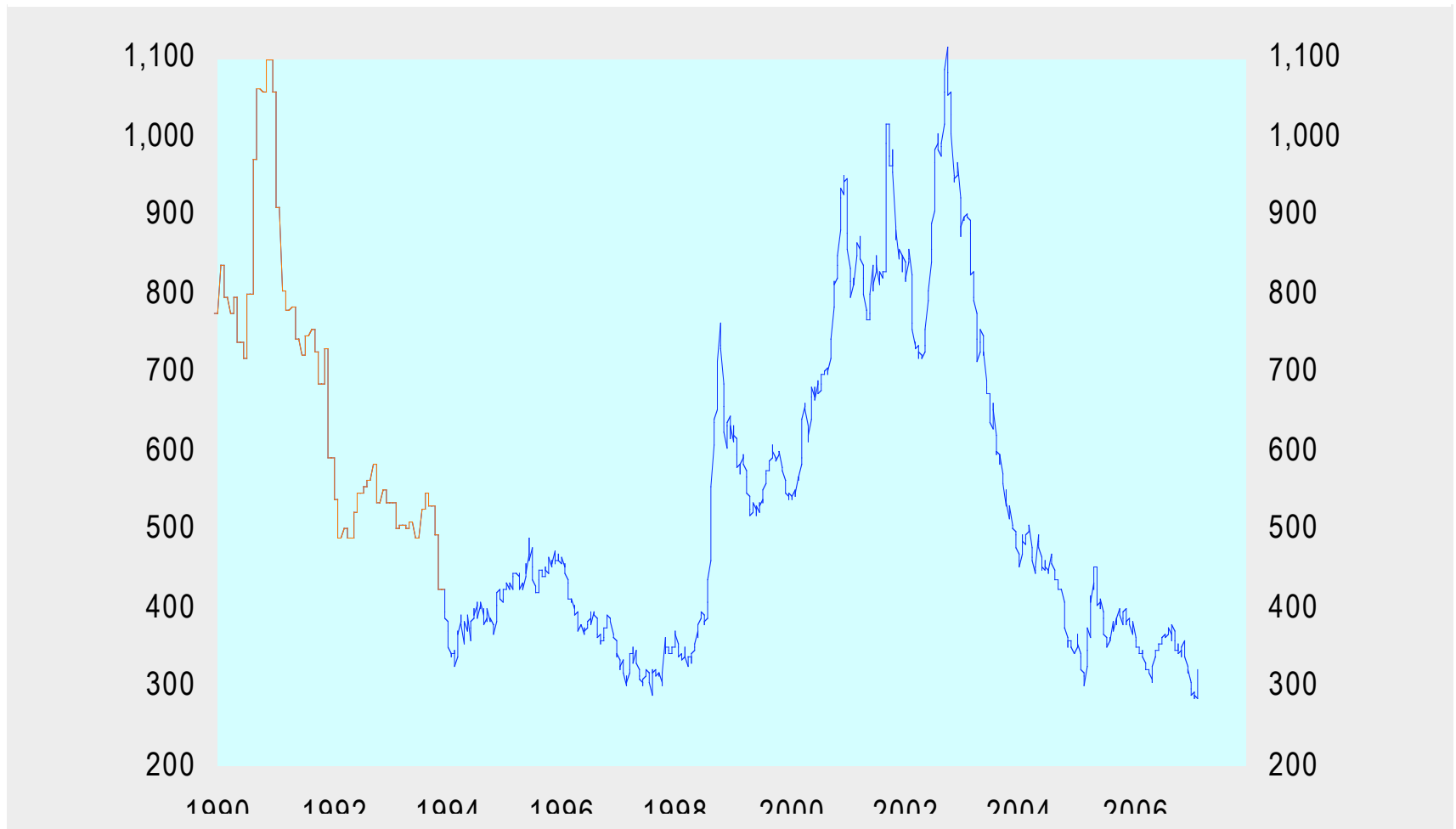
Total housing starts (thousands of units annualized)



Sources: NBER recession bars; Census Department; various housing agencies

#3 Tight credit spreads

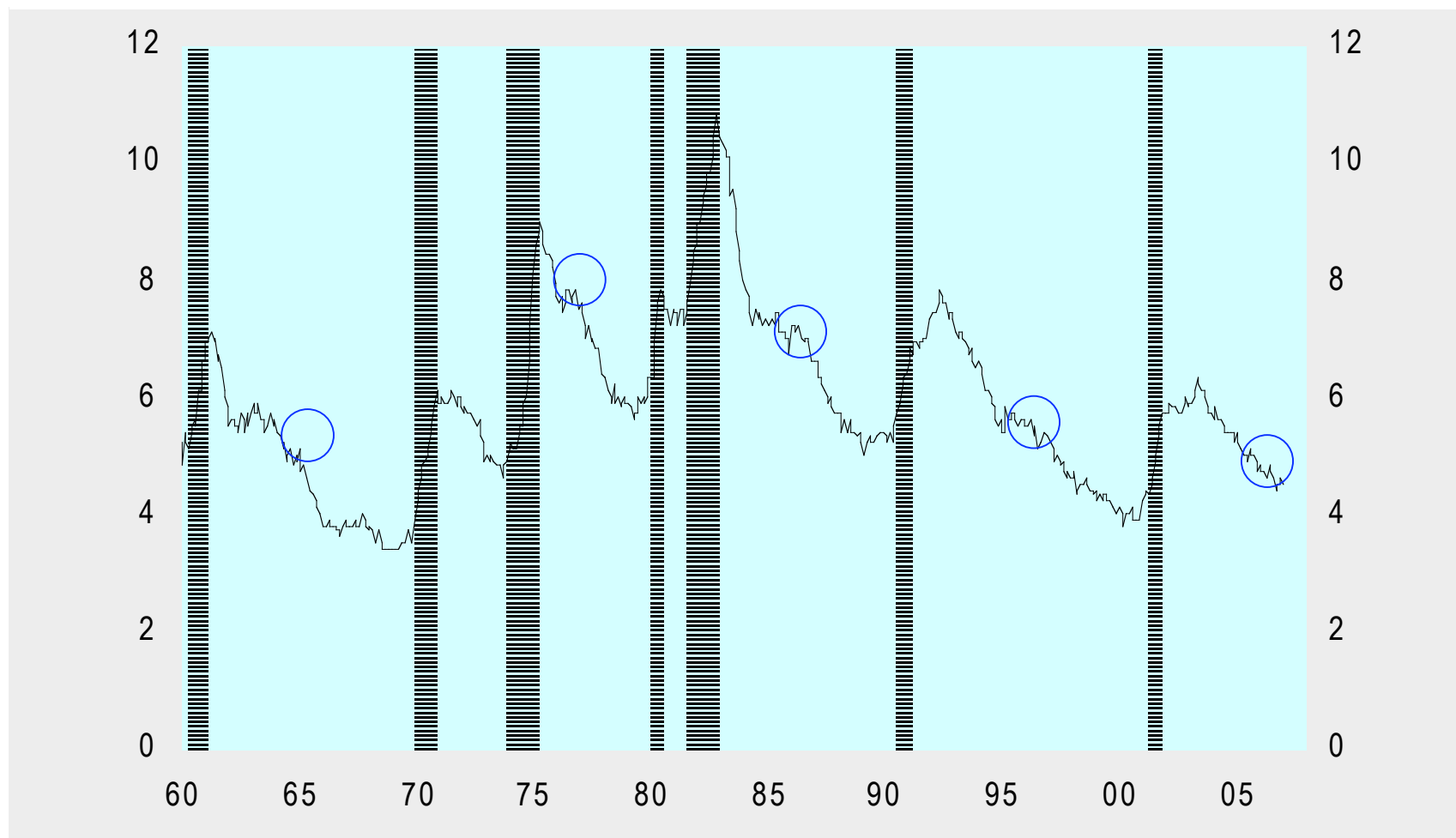
Non-investment grade debt yield less 10-year swap rate (basis points)



Sources: Ibbotson Associates, JPMorgan

#4 Low and falling unemployment

Unemployment rate (percent of the labor force)



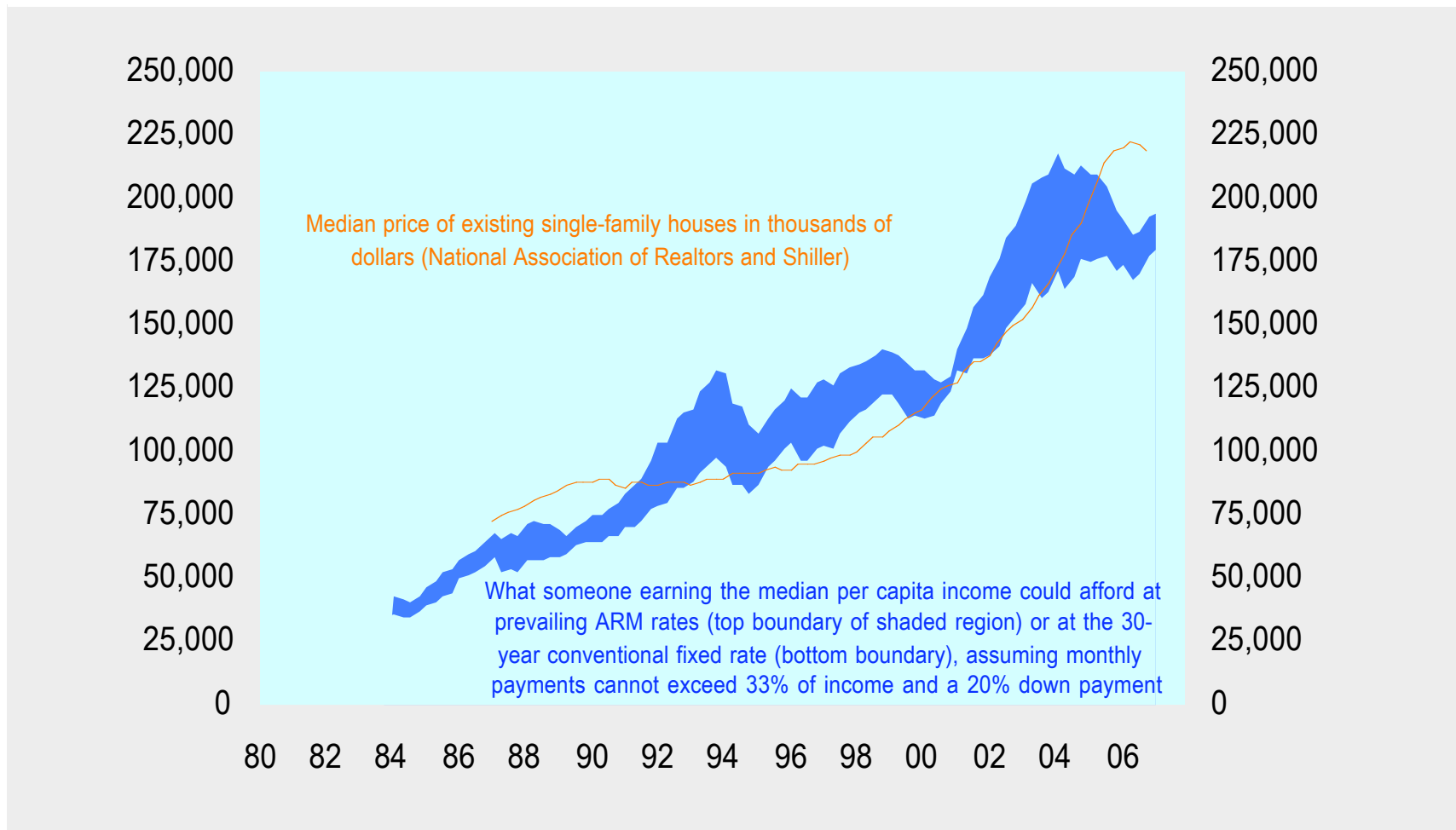
Note: Circles identify similar mid-course transitions.

Sources: NBER recession bars; US Department of Labor

Looking for bubbles in all the wrong places ...

Real estate may be expensive, but it's not bubble stuff ...

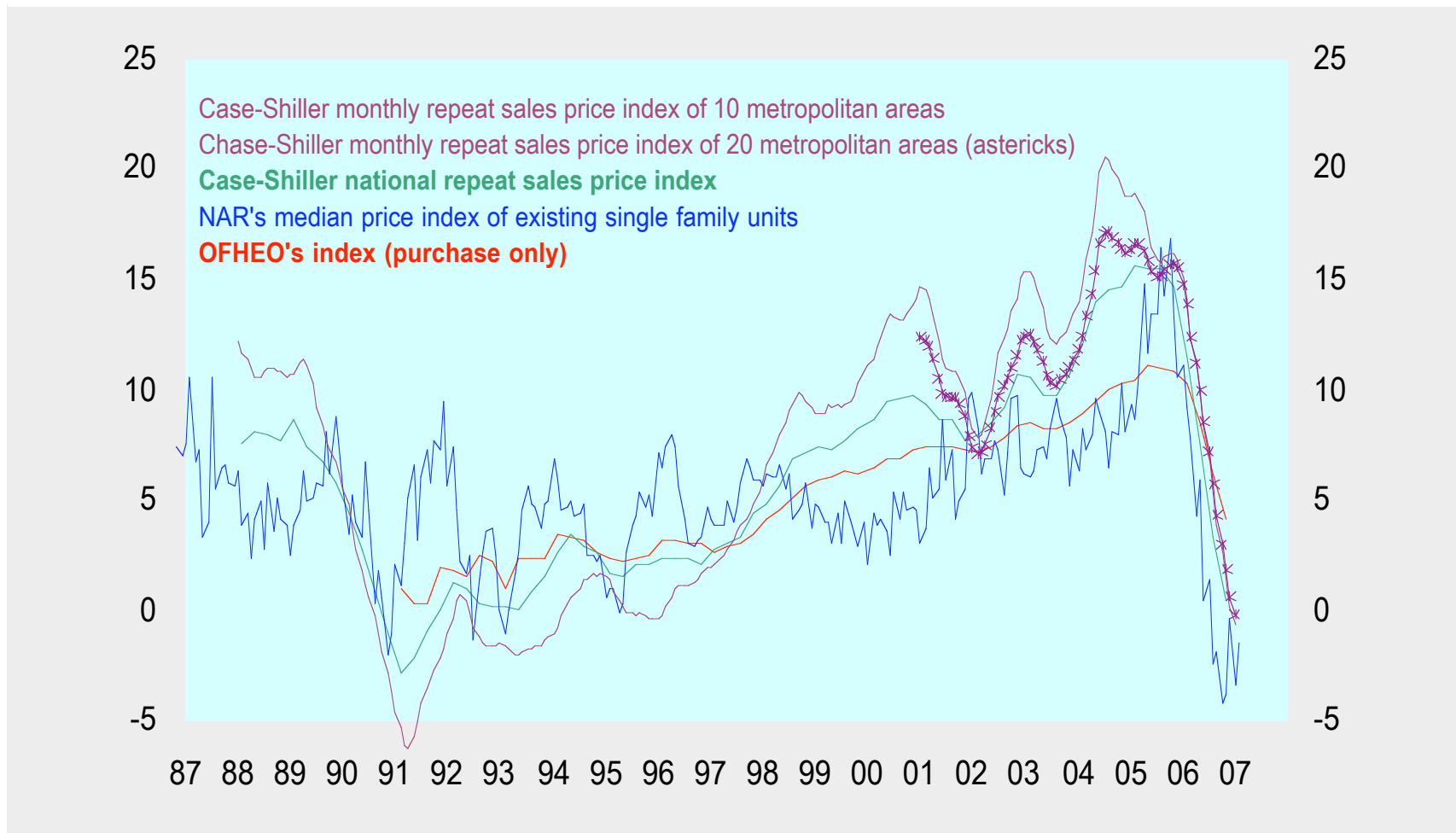
House prices and affordability (thousands of dollars)



Sources: National Association of Realtors; Office of Federal Housing Enterprise Oversight; JPMorgan Chase; US Department of Commerce

... and when things get expensive, they stop rising

Existing house prices (percent change from 12 months earlier)



Sources: Standard and Poor's; National Association of Realtors

Real estate is pricey, because it has many friends

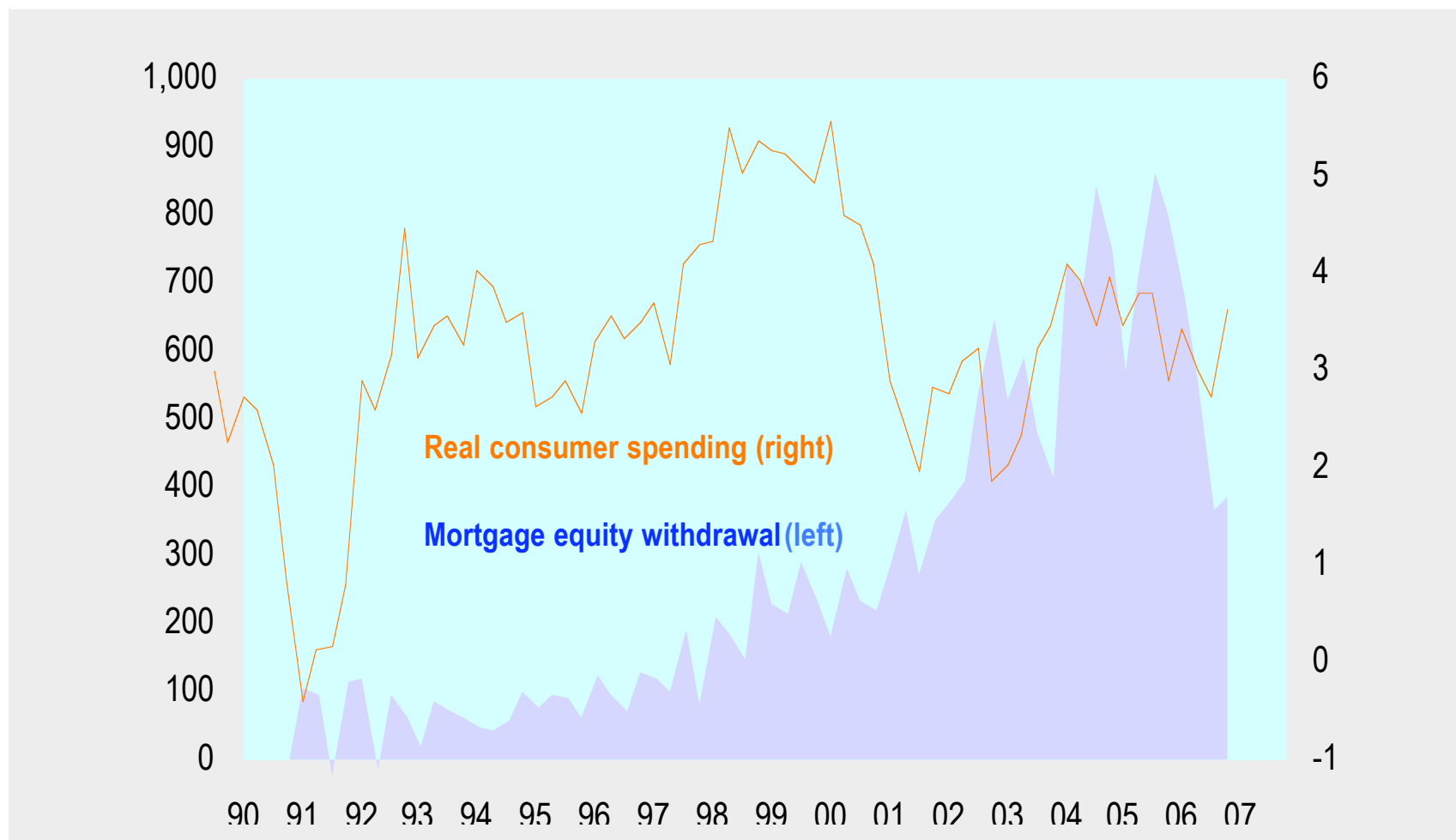
*the Great Disinflation gave us low rates, low credit costs
economic recovery despite 1929-magnitude threats
demographics (immigration, longevity, baby boomlet, ageing)
ageing housing stock
Big Easy's washout
9/11 inspires cocooning
subprime allows more Americans to dream
legislation (Tax Payers Relief Act of 1997)*

what isn't to blame ... the Fed's 1% countercyclical rate policy

The housing-ATM idea is overplayed

Net mortgage equity withdrawn (\$ billions ar)

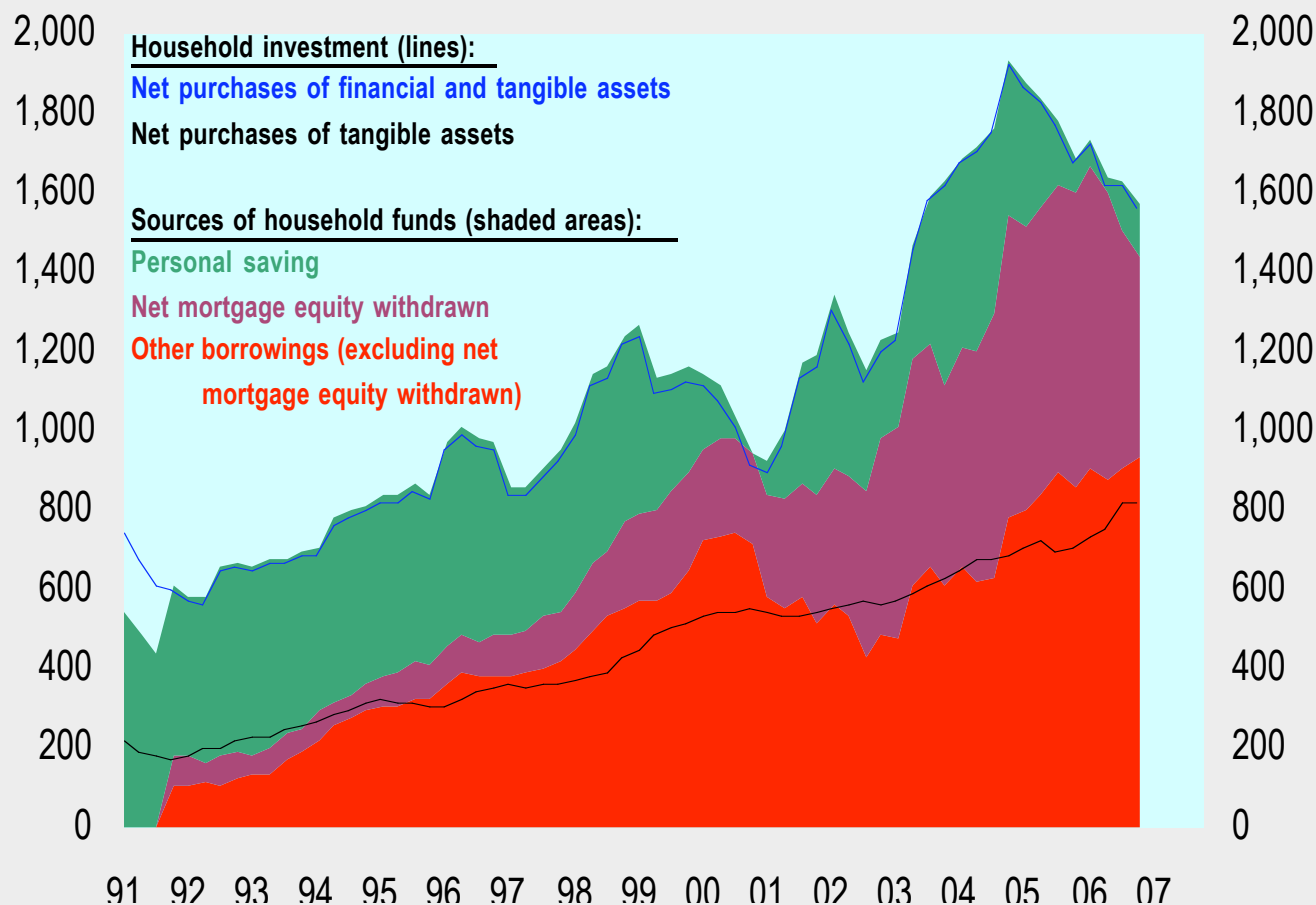
Real consumer spending (% yoy)



Sources: Federal Reserve Board; US Department of Commerce

Yes, we spend when wealth rises, but that's not all we do ...

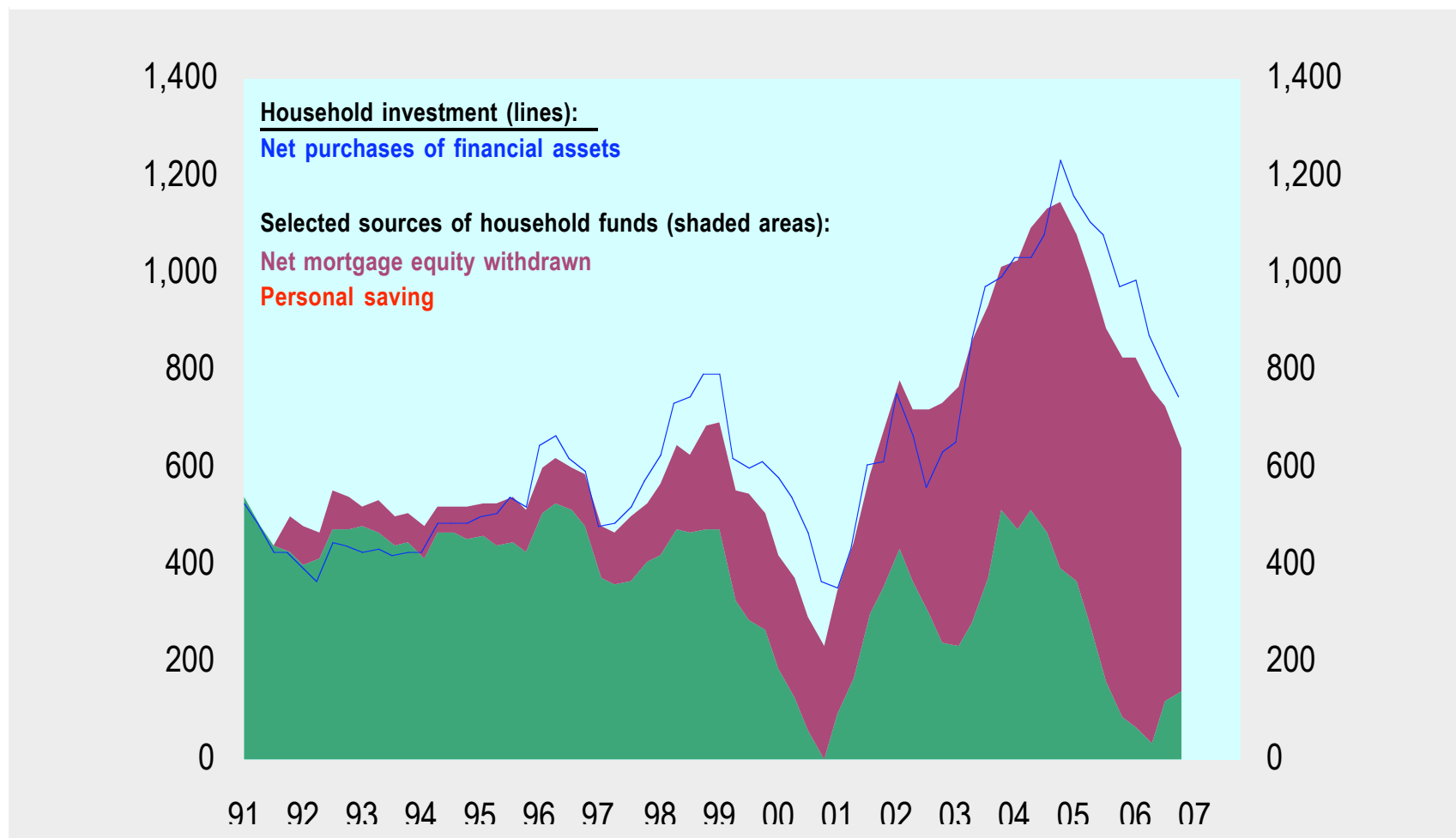
Sources and uses of household investment (\$ billions annualized)



Source: Federal Reserve Board

... we've also been diversifying out of real estate

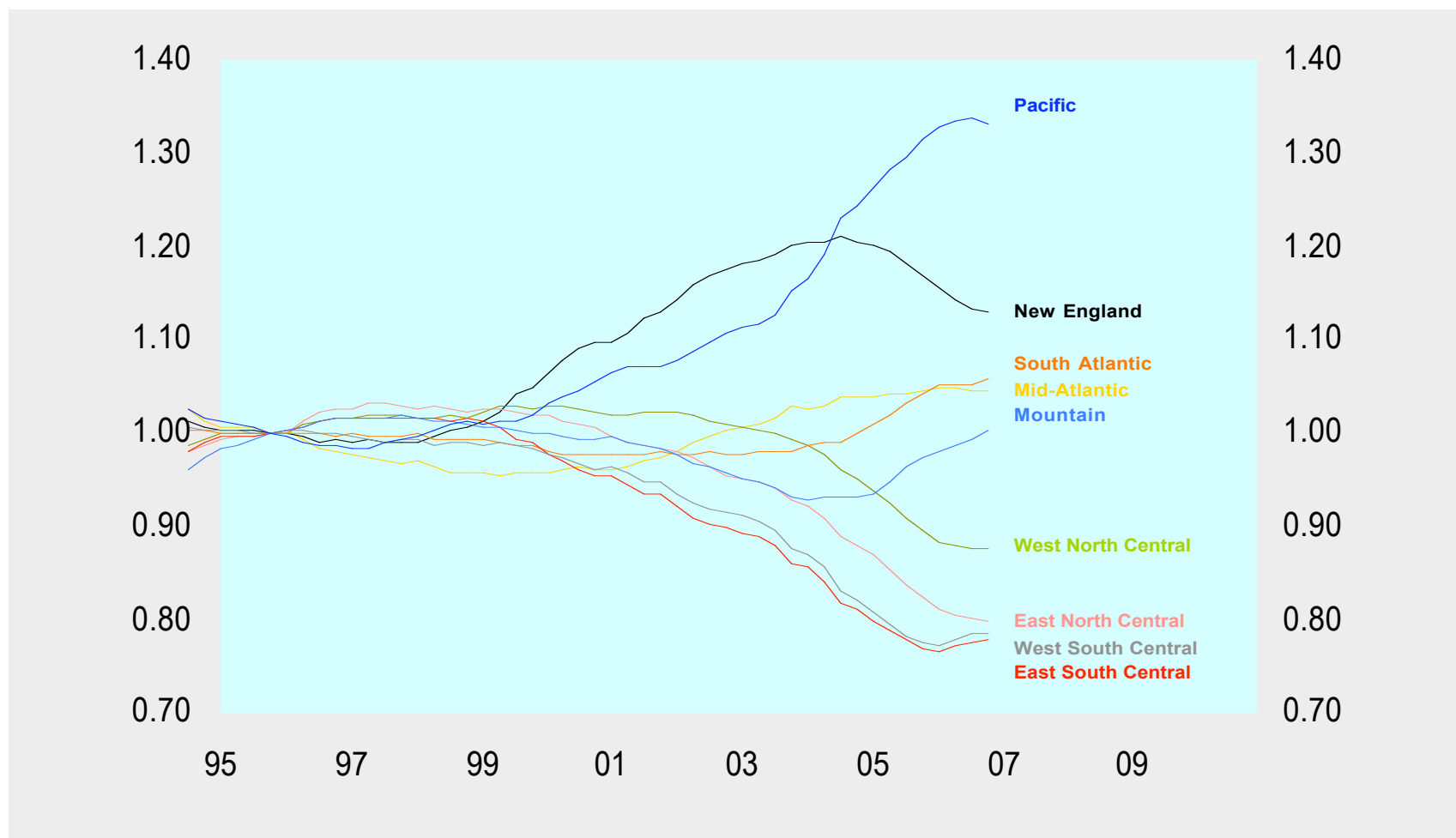
Selected household financial transactions (\$ billions annualized)



Source: Federal Reserve Board

In the resale market ... the West got the priciest ...

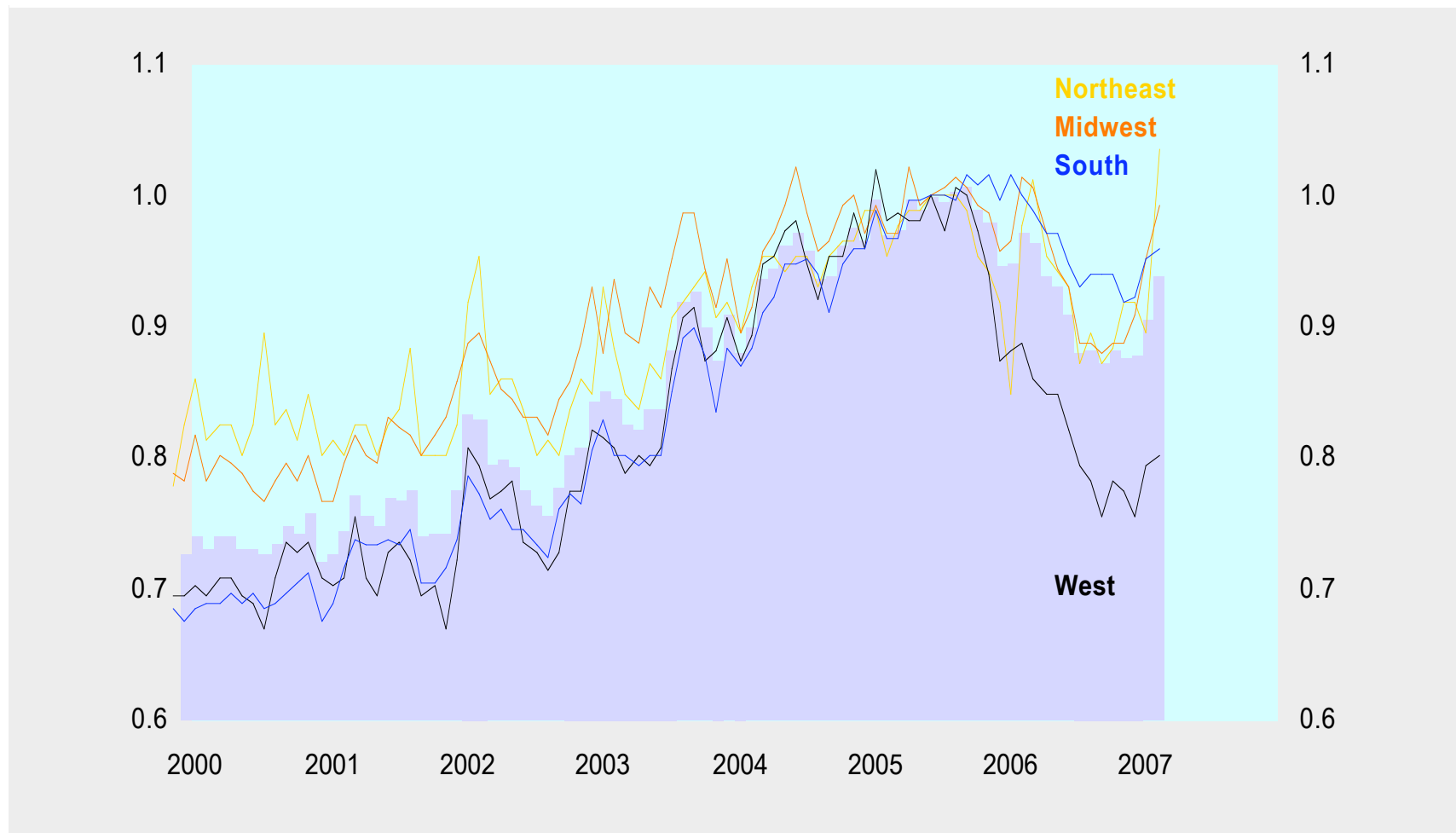
Relative house prices (ratio of regional to national index, 1995 Q4 = 1.0)



Source: OFHEO

... and that's why sales in the West are slowest

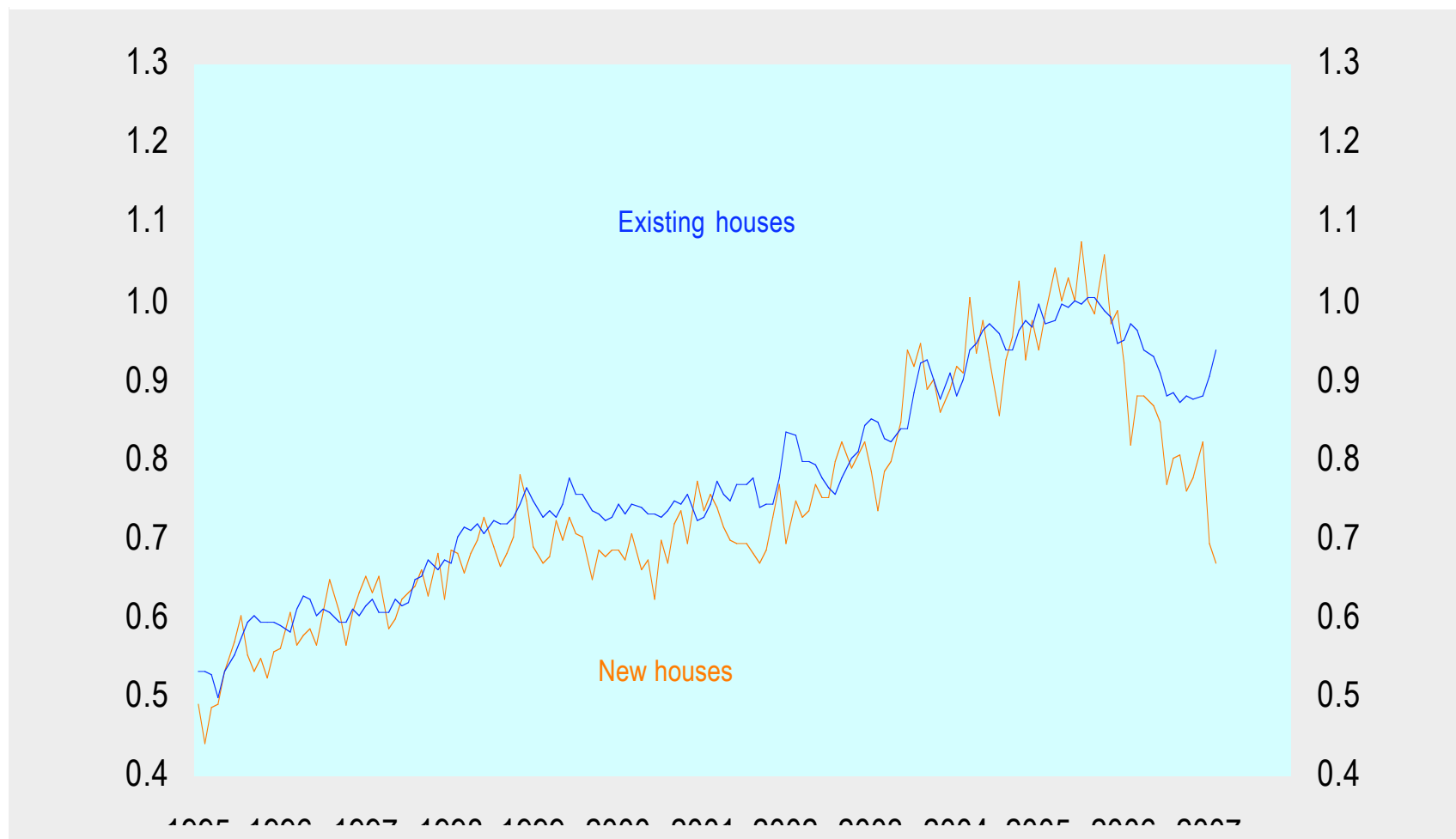
Sales of existing houses (June 2005 = 1.0)



Source: National Association of Realtors

Different story for new, where sales are off the most ...

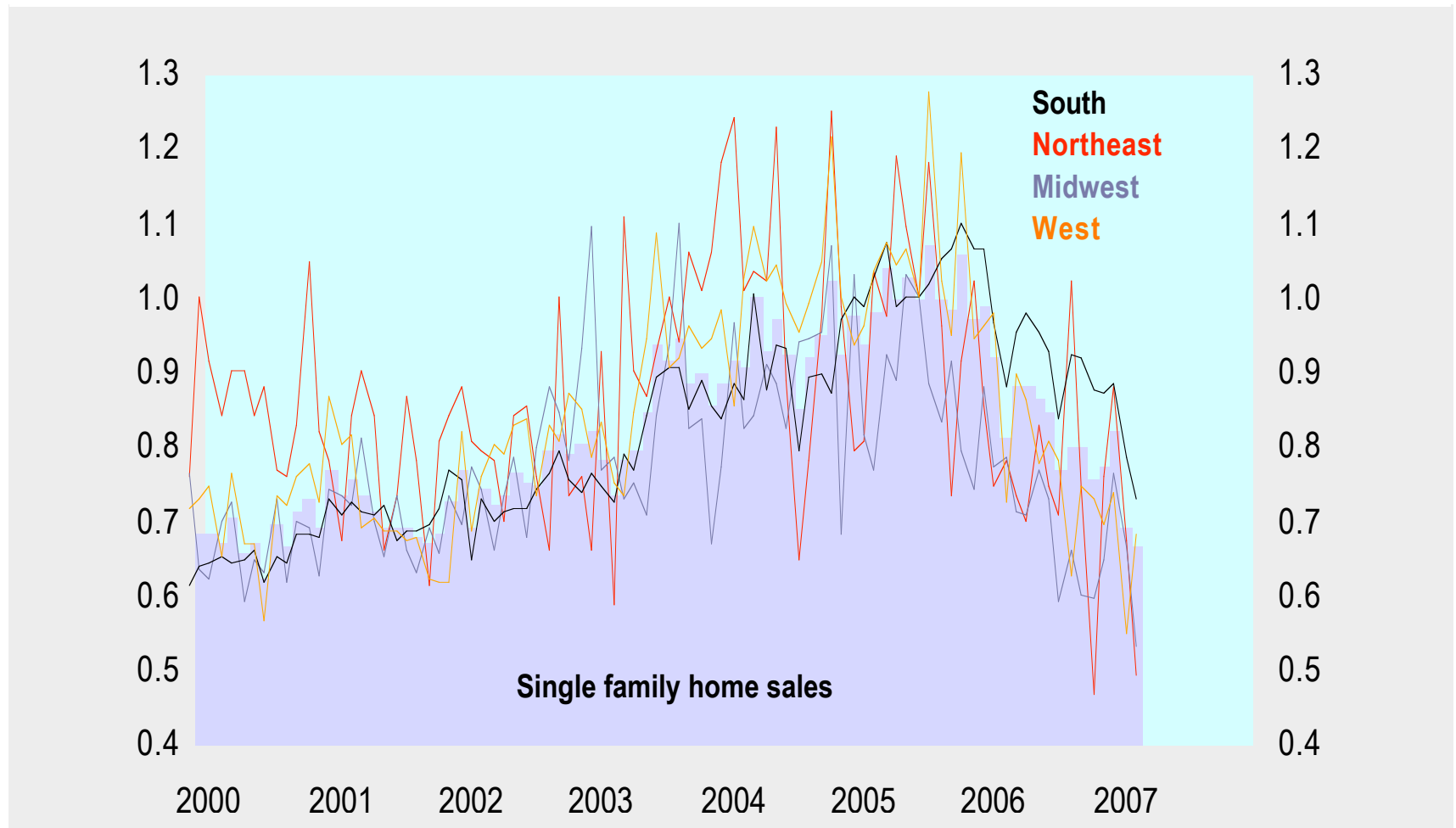
New and existing single family house sales (June 2005 = 1.0)



Sources: Census Department; National Association of Realtors

... all regions equally ...

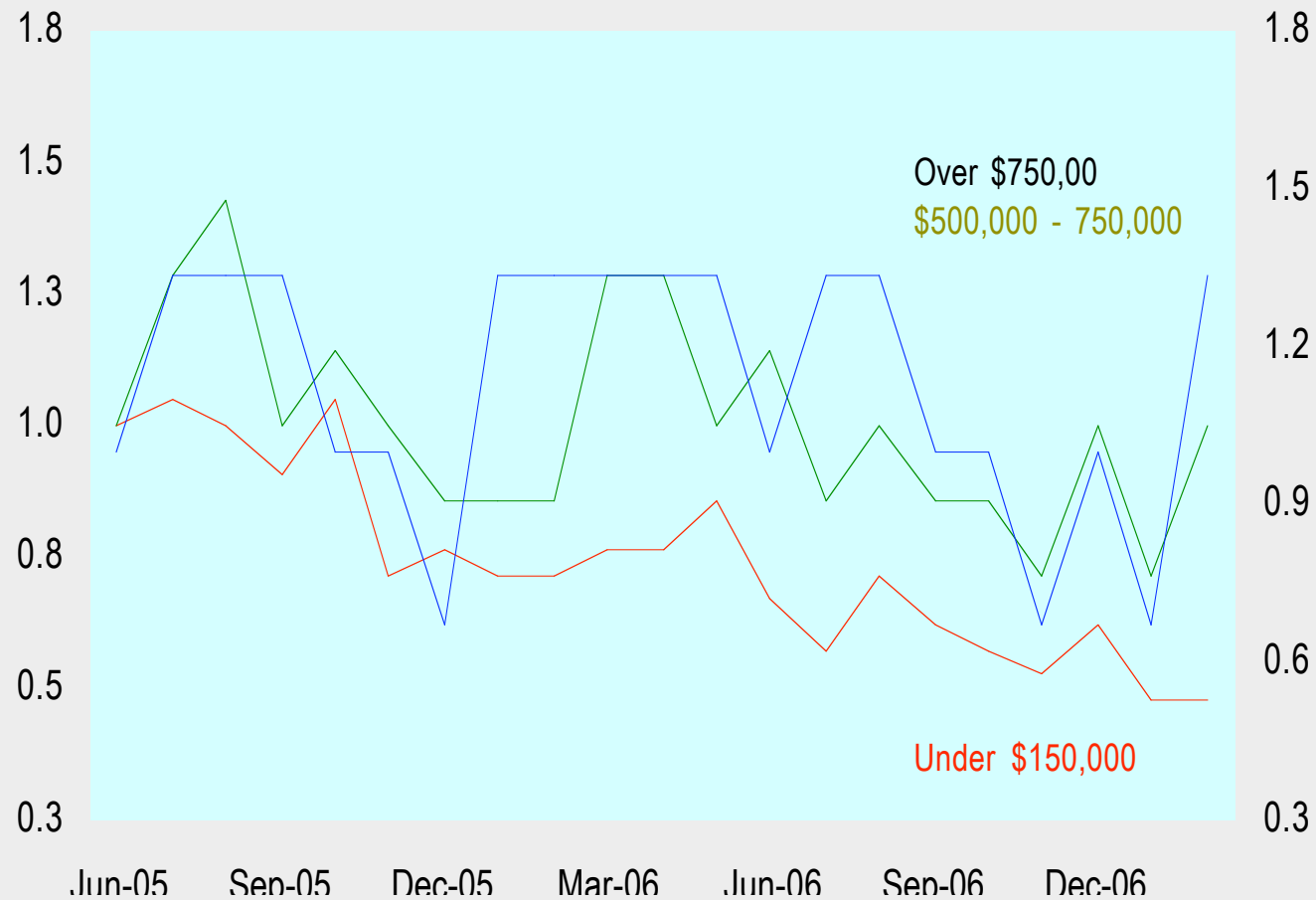
New single family house sales by region (June 2005 = 1.0)



Source: Census Department

... downstream more than upstream

Sales of new single family houses by price range (June 2005 = 1.0)

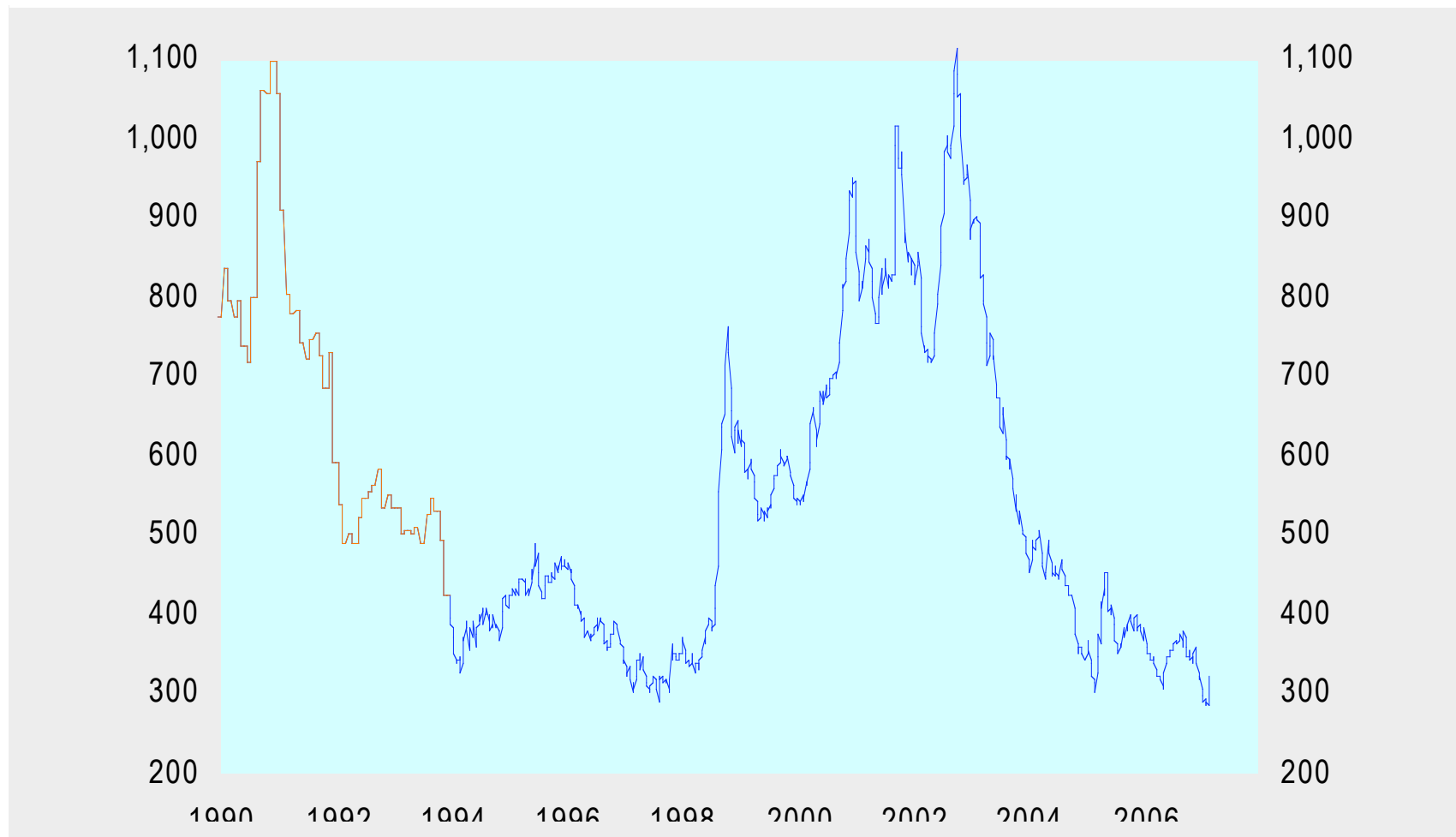


Sources: US Department of Commerce; Office of Federal Housing Enterprise Oversight

Credit mispricing ... a mile deep, but an inch wide

Again, little (no?) contagion

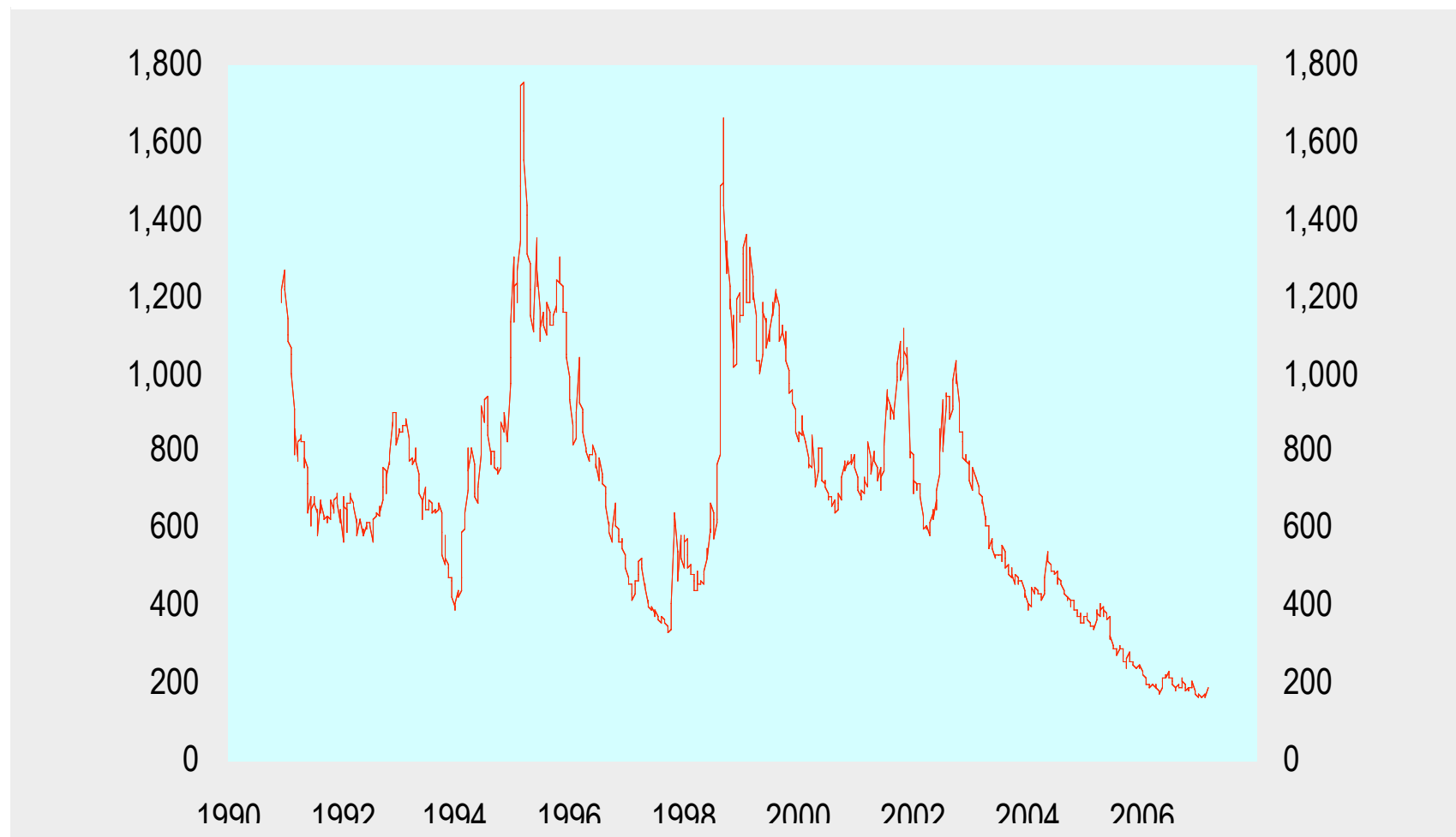
Non-investment grade debt yield less 10-year swap rate (basis points)



Sources: Ibbotson Associates, JPMorgan

Nor here ... emerging market spreads

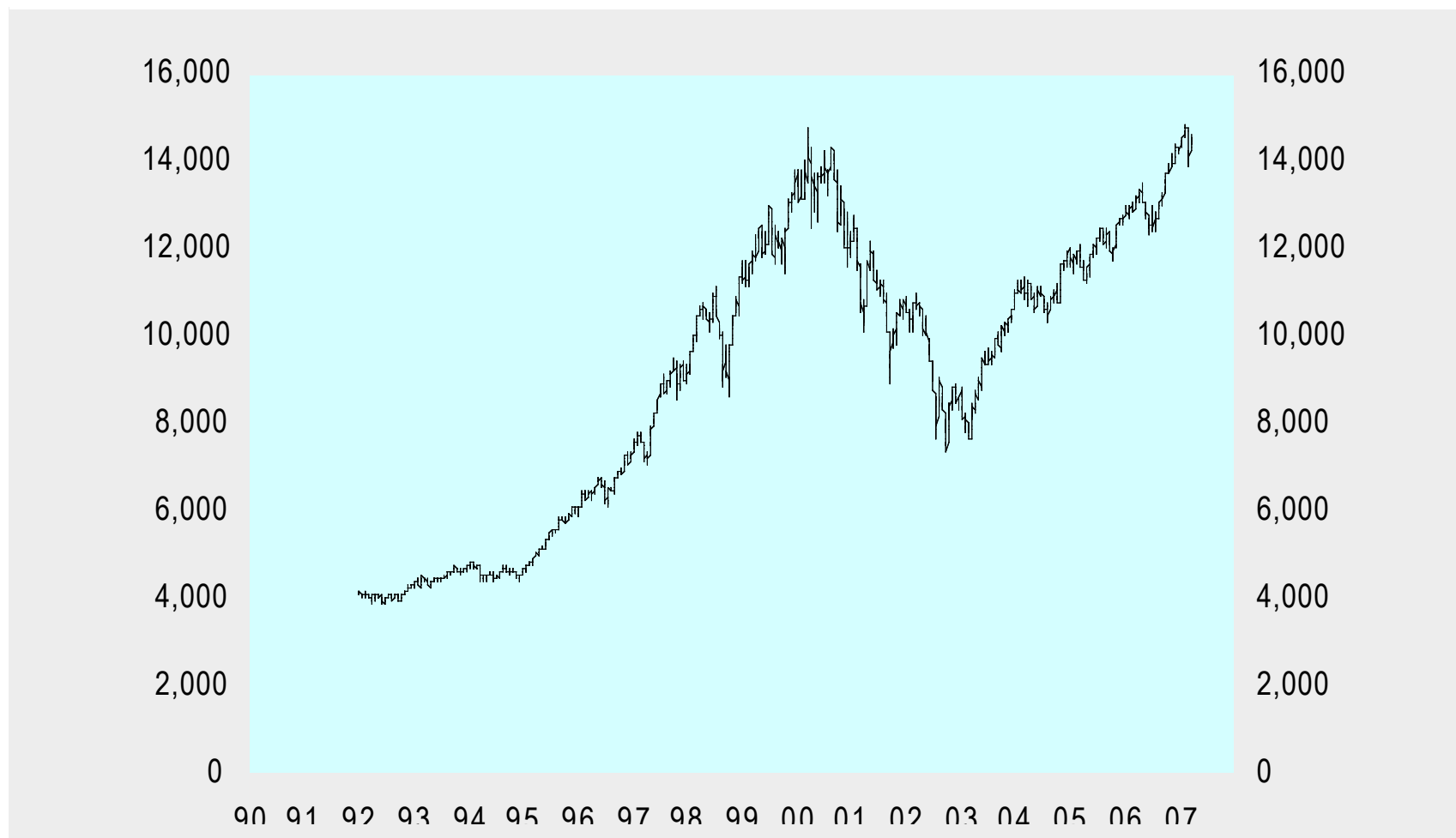
Emerging market debt yield less 10-year Treasury yield (basis points)



Source: JPMorgan Chase

Nor, where we discount eternity ... equities ...

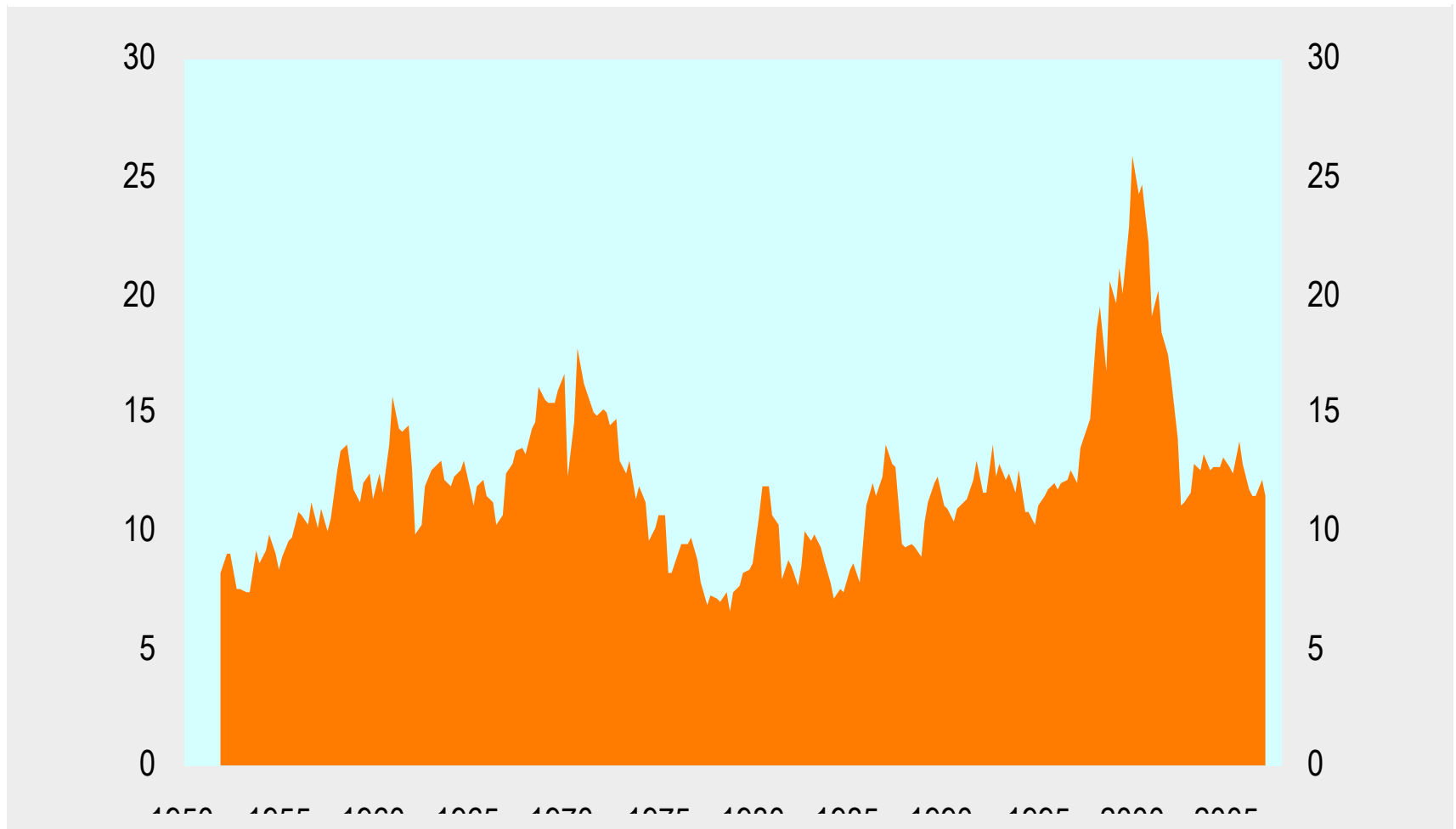
Market value of all publicly-traded equities (Wilshire 5000)



Source: Bloomberg Financial Services

... no bubble here

Stock market valuations (price-earnings ratio)

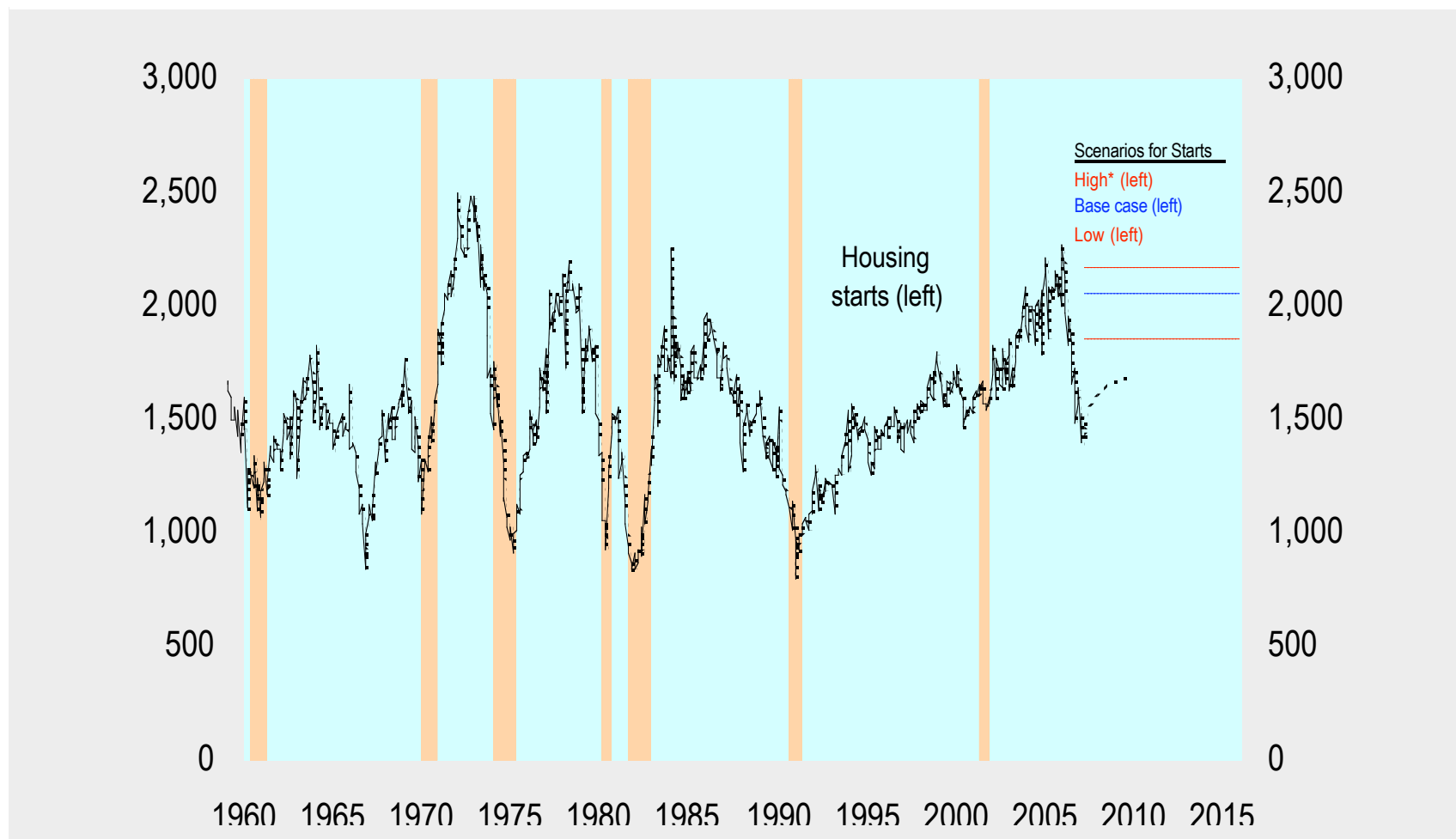


Sources: Federal Reserve Board, Bloomberg Financial Services, US Department of Commerce

Housing recessions $\neq$ national recessions

The link we remember has nothing to do with today

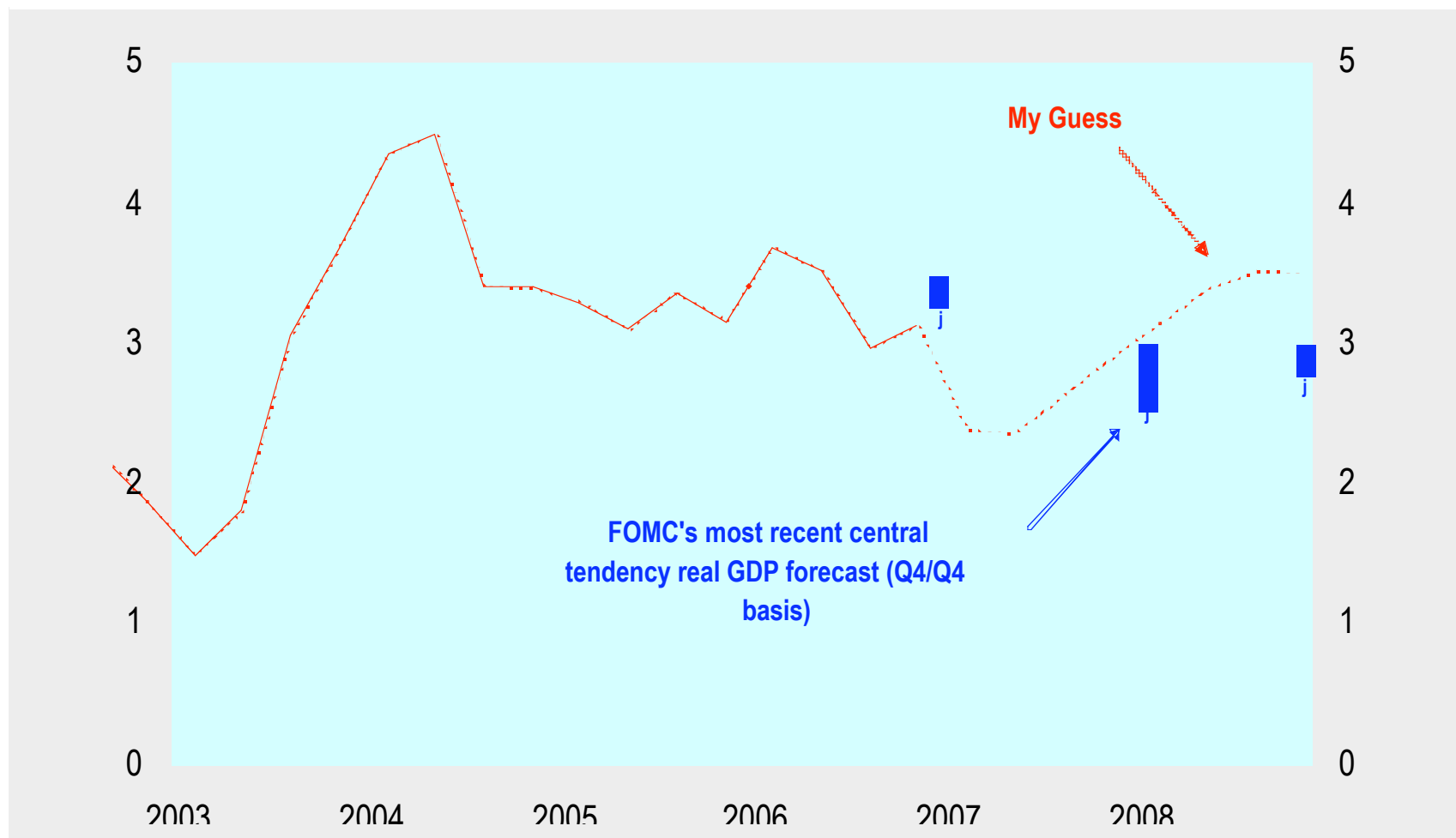
Total housing starts (thousands of units annualized)



Sources: NBER recession bars; Census Department

#1 Yes, the economy has slowed a little ...

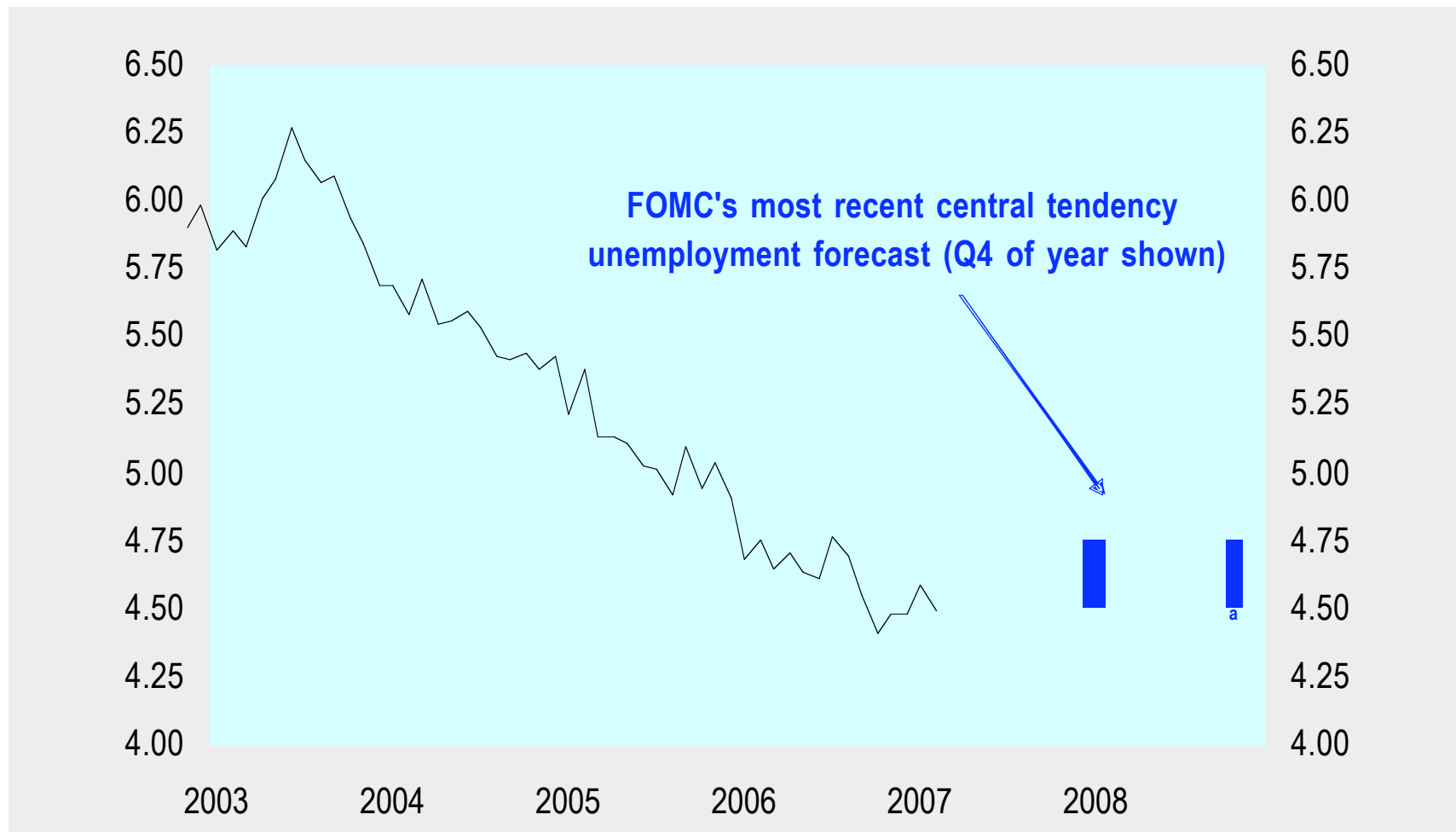
Real GDP (percent change from four quarters earlier)



Sources: US Department of Commerce, Federal Reserve Board

... but how bad could it be? ...

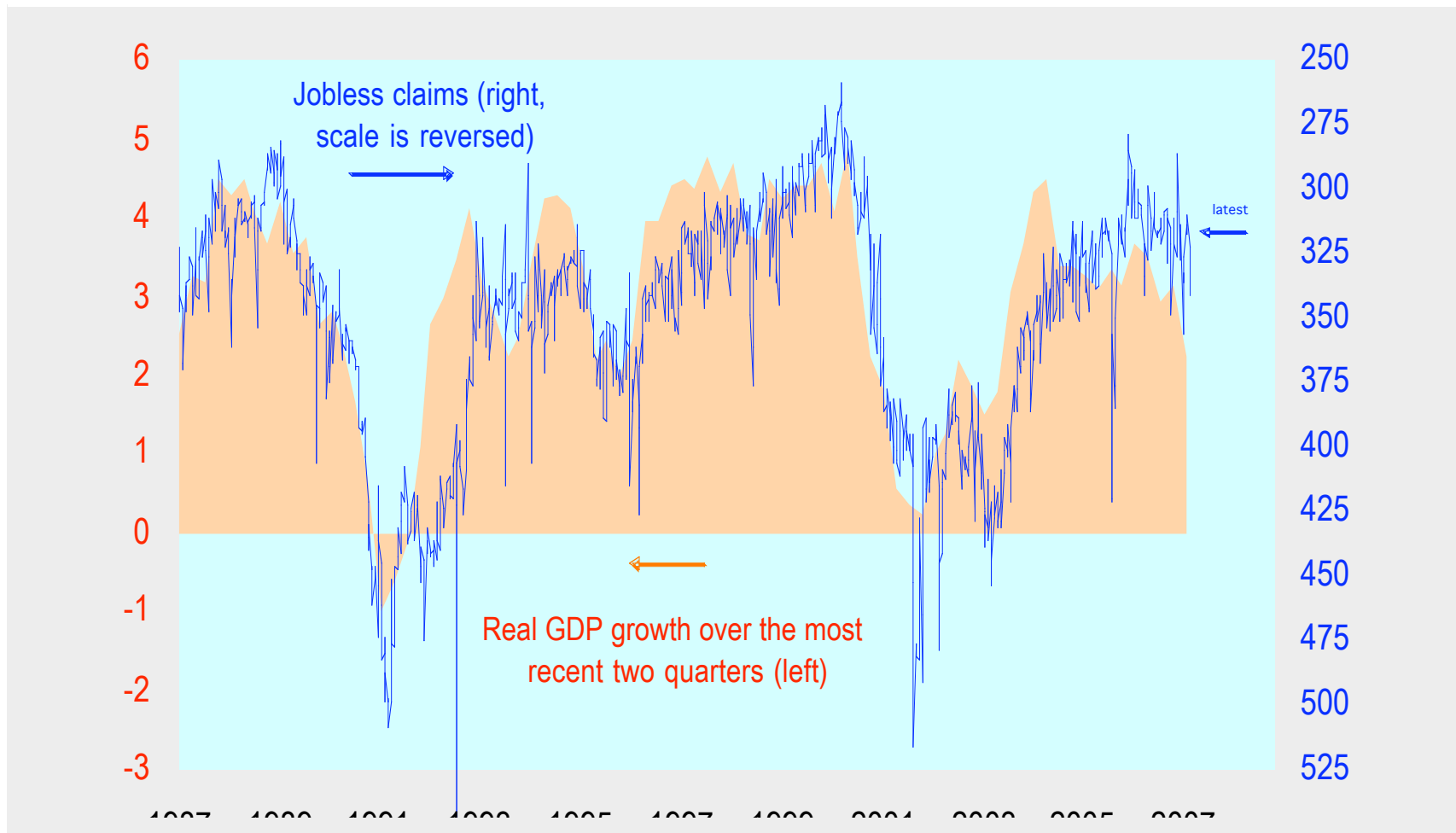
Unemployment rate (percent of the civilian labor force)



Sources: US Department of Labor, Federal Reserve Board

... again? ...

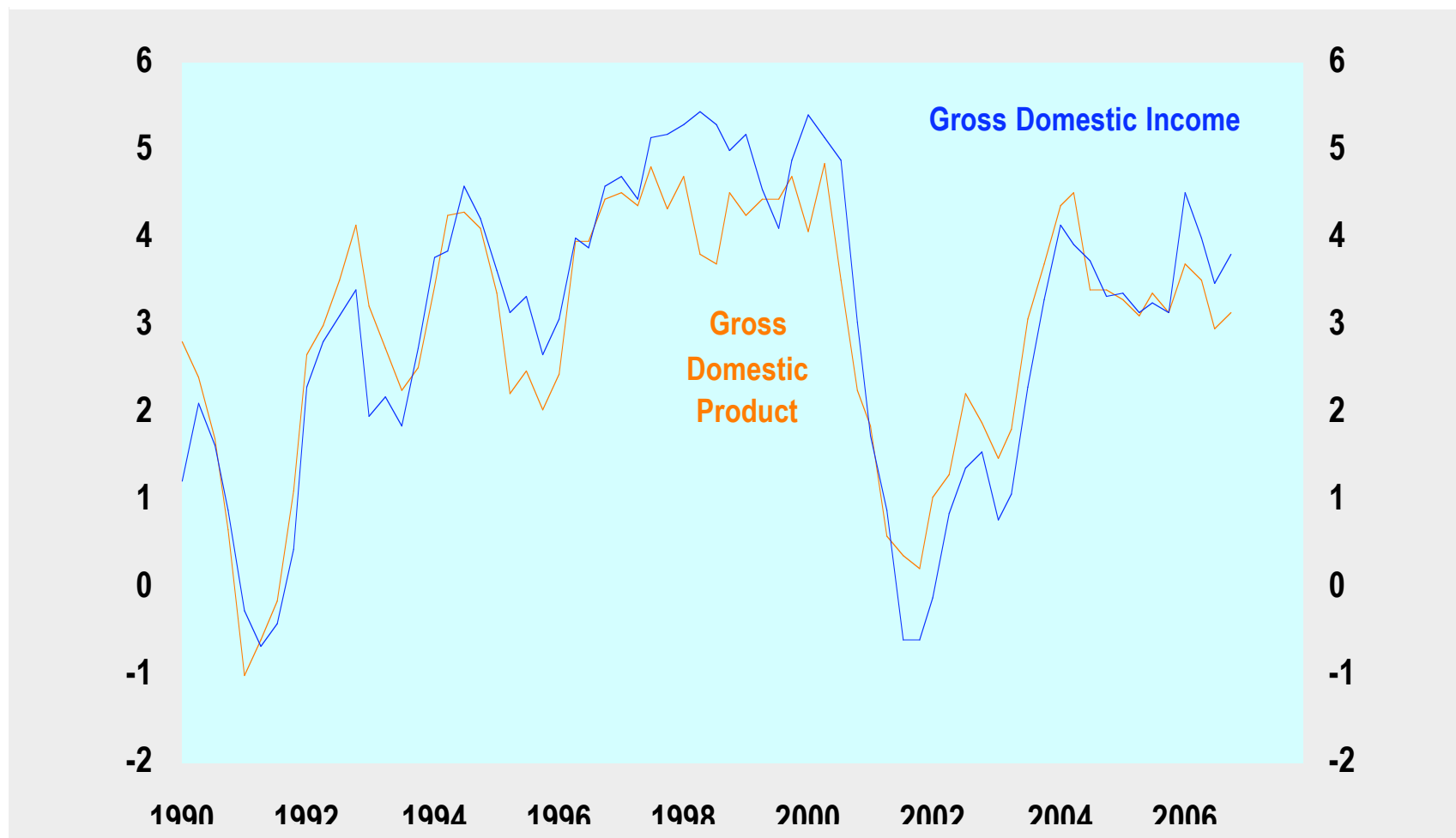
Real GDP (annual percent change from two quarters earlier) Claims (thousands weekly)



Sources: US Department of Labor; US Department of Commerce

... and I wonder if we know the whole story

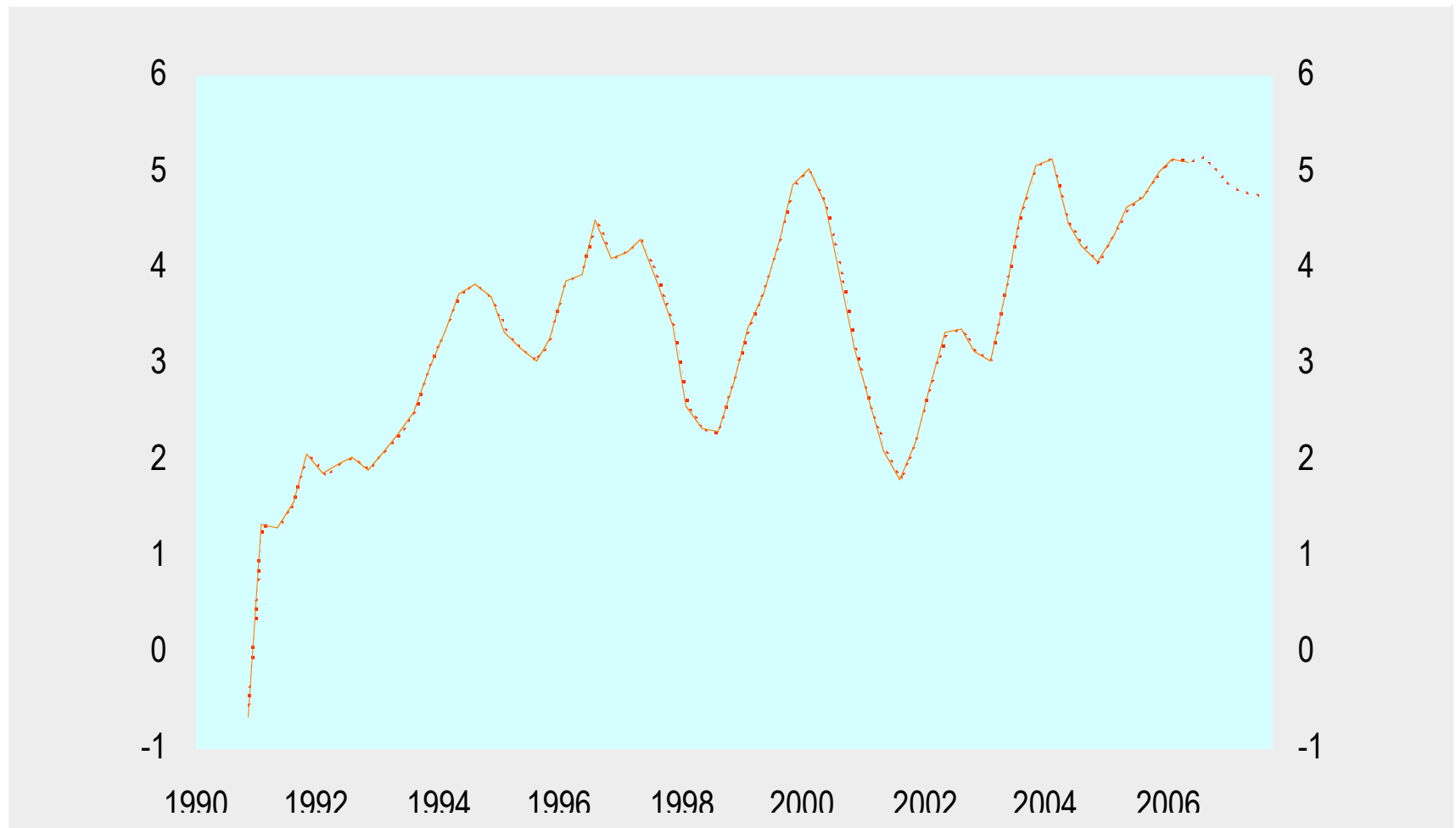
Real GDP and real GDI (percent change from four quarters earlier)



Source: US Department of Commerce

#2 Yonder ...

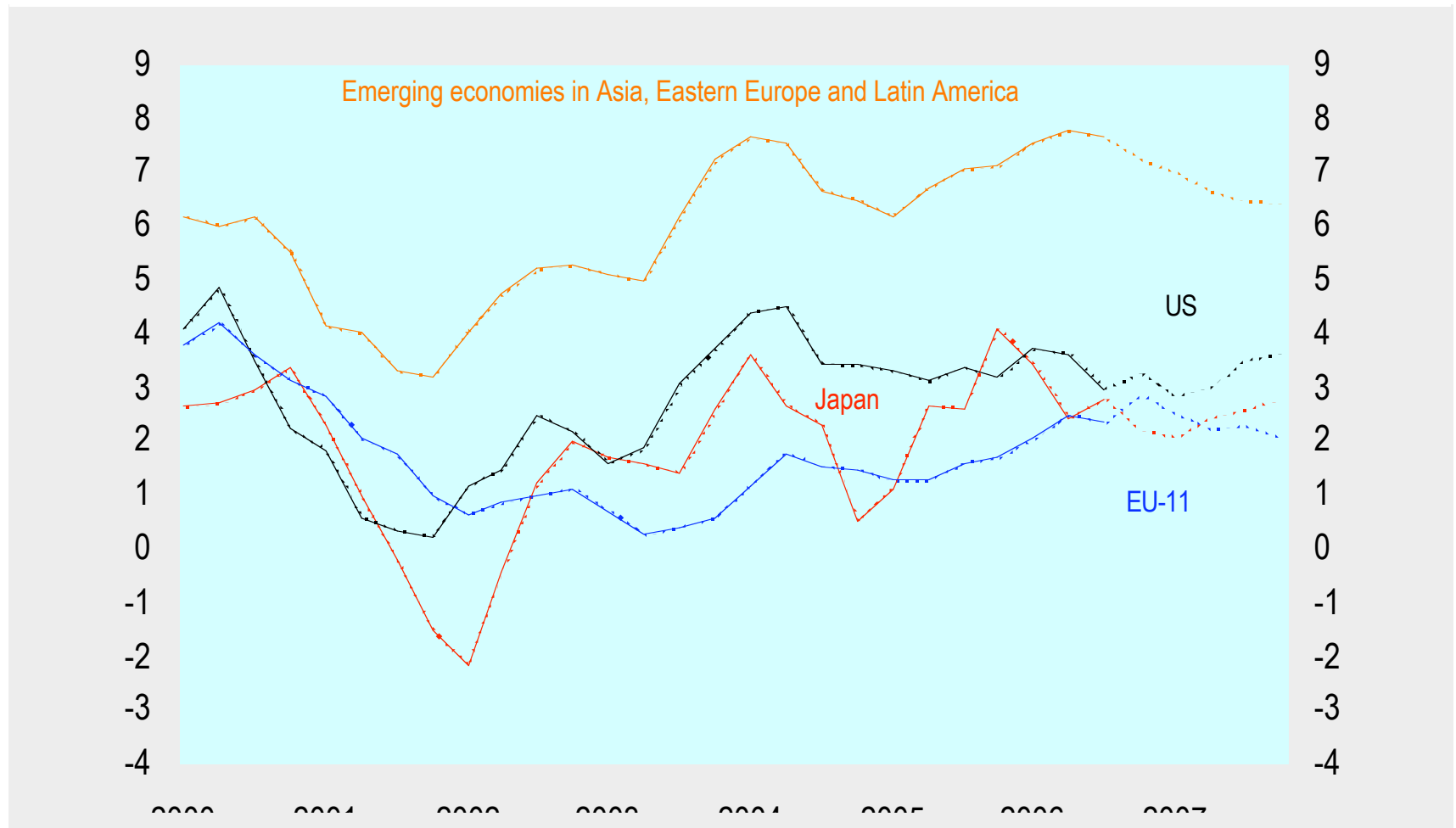
Global real GDP (percentage change from four quarters earlier)



Source: JPMorgan Chase

... Planet Earth is on the move

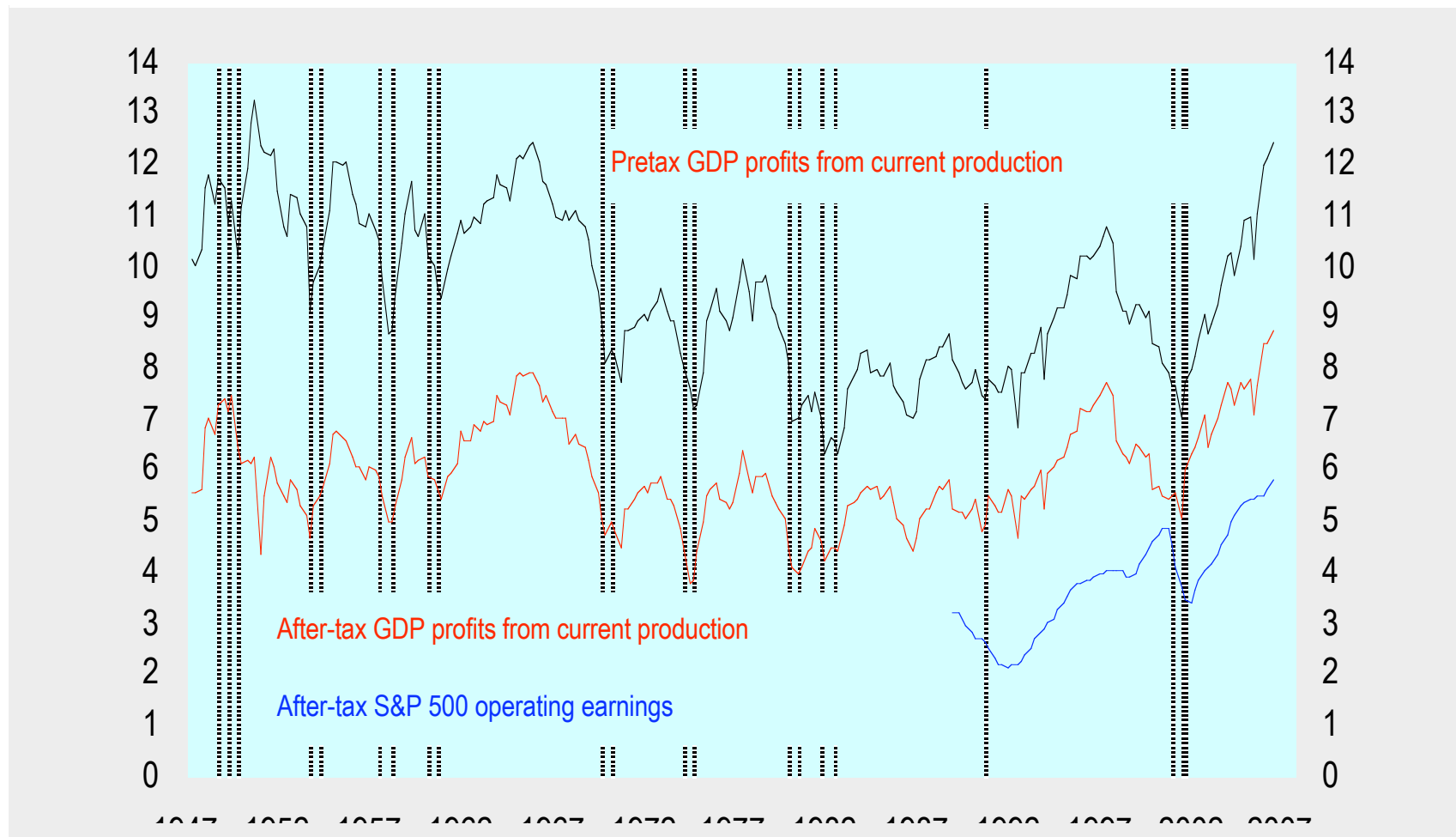
Real GDP in selected regions (percentage change from four quarters earlier)



Source: JPMorgan Chase

#3 Profits have never been better

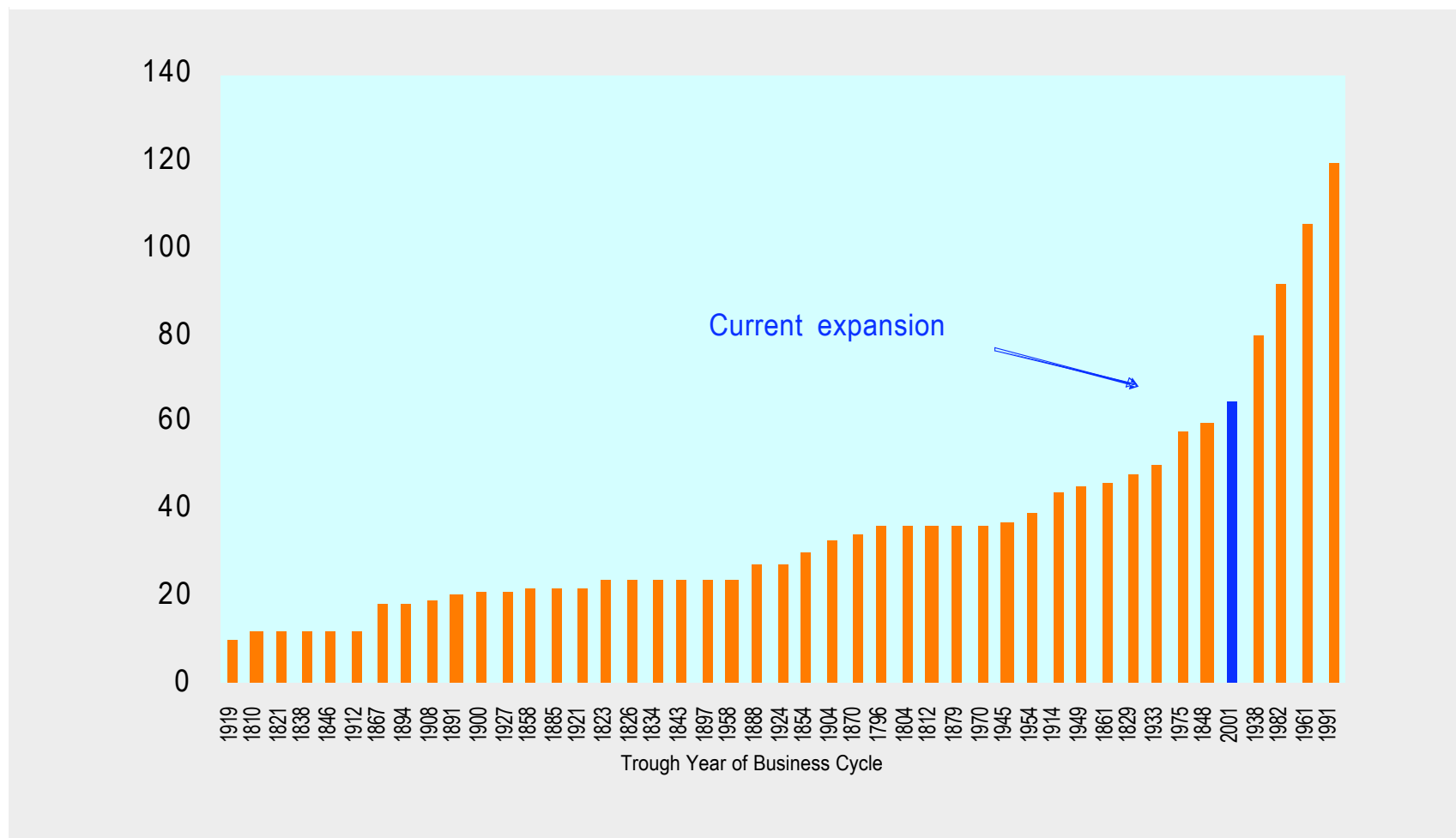
US corporate profits (percent of Gross Domestic Income)



Sources: NBER recession bars; US Department of Commerce; Standard and Poor's

#4 6+ years ... but expansions don't die of old age ...

Duration of economic cycles (months from trough to peak of cycle)

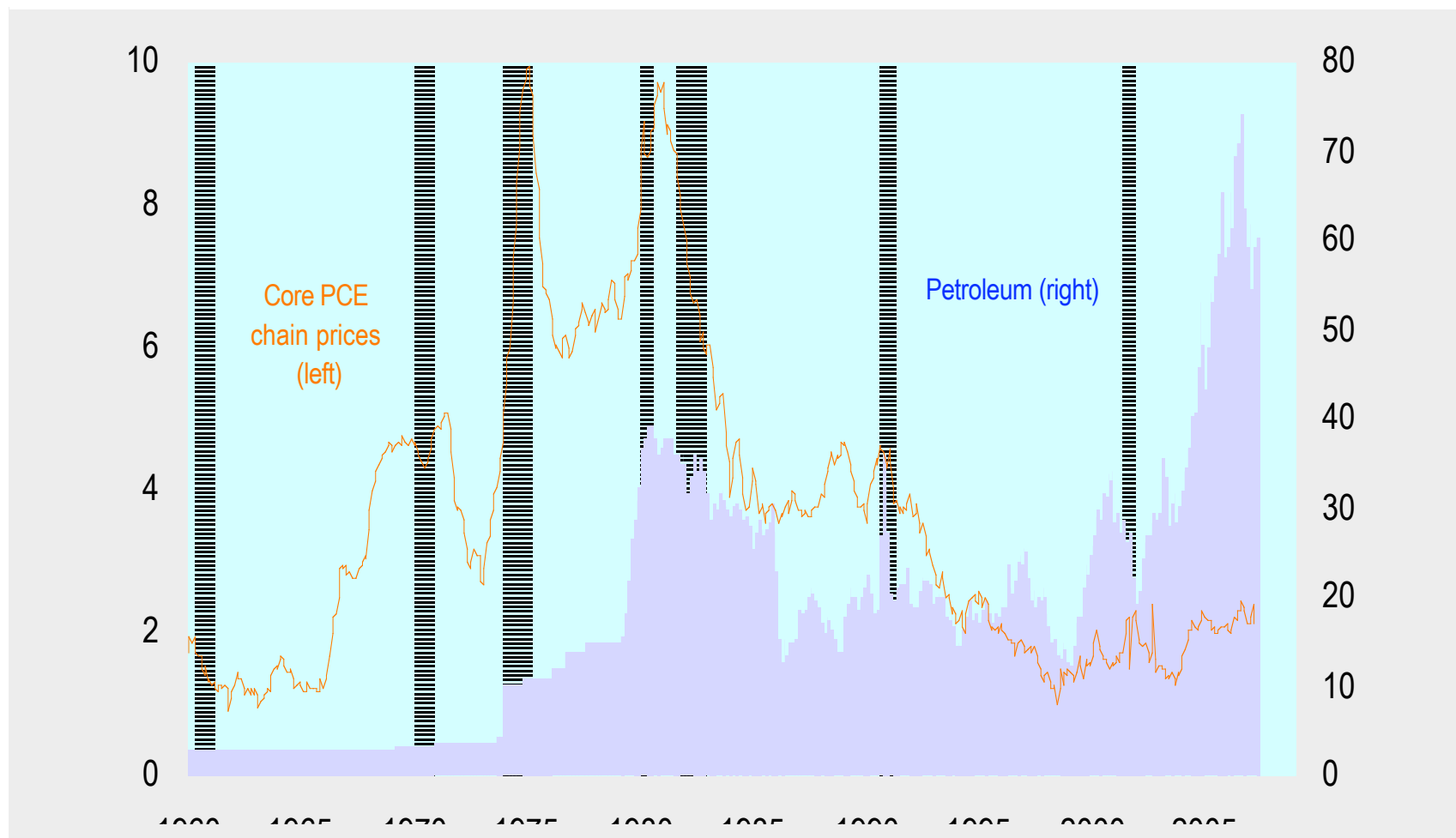


Sources: NBER, Joseph Davis, "An Improved Annual Chronology of US Business Cycles Since the 1790s", NBER Working Paper Number 11157.

... they end when inflation's out of control ...

Core chain PCE prices (percent change from 12 months earlier)

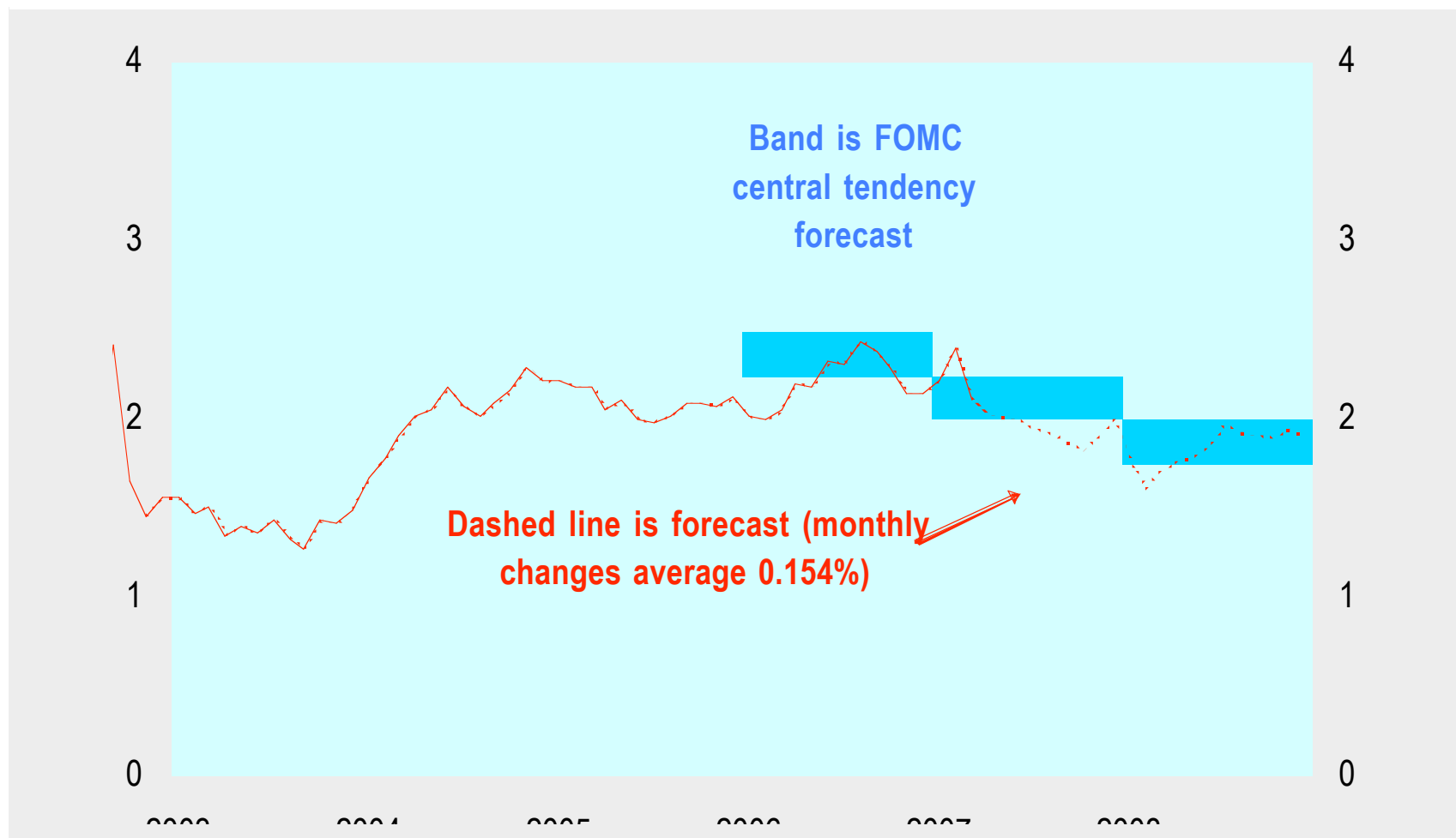
Oil (\$ per barrel)



Sources: NBER recession bars; US Department of Commerce; Bloomberg

... and 2.4% isn't a deal breaker ...

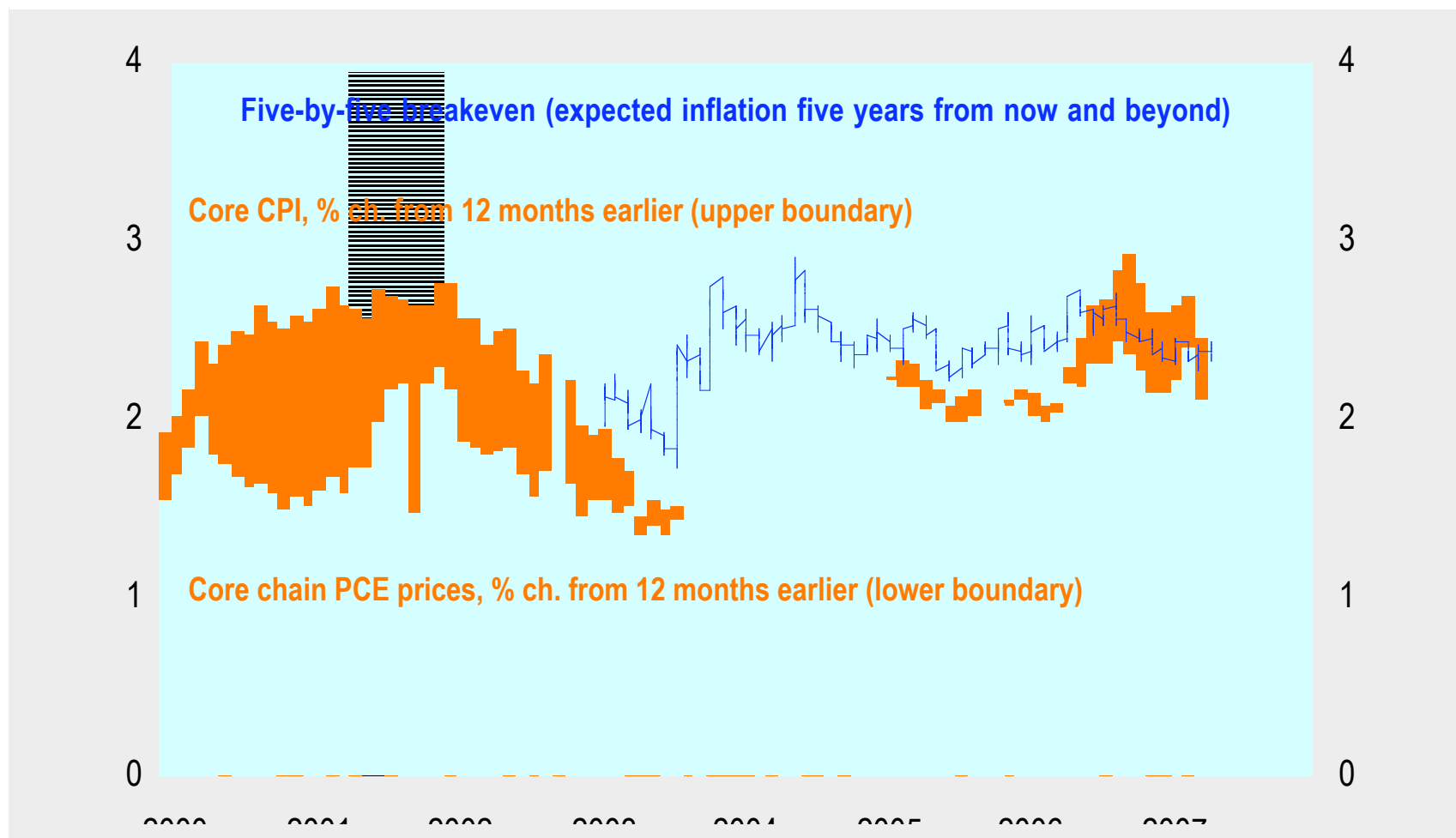
Chain core PCE prices (percent change from 12 months earlier)



Sources: US Department of Commerce; Federal Reserve Board

Investors apparently agree

Core inflation and inflation expectations (percent)

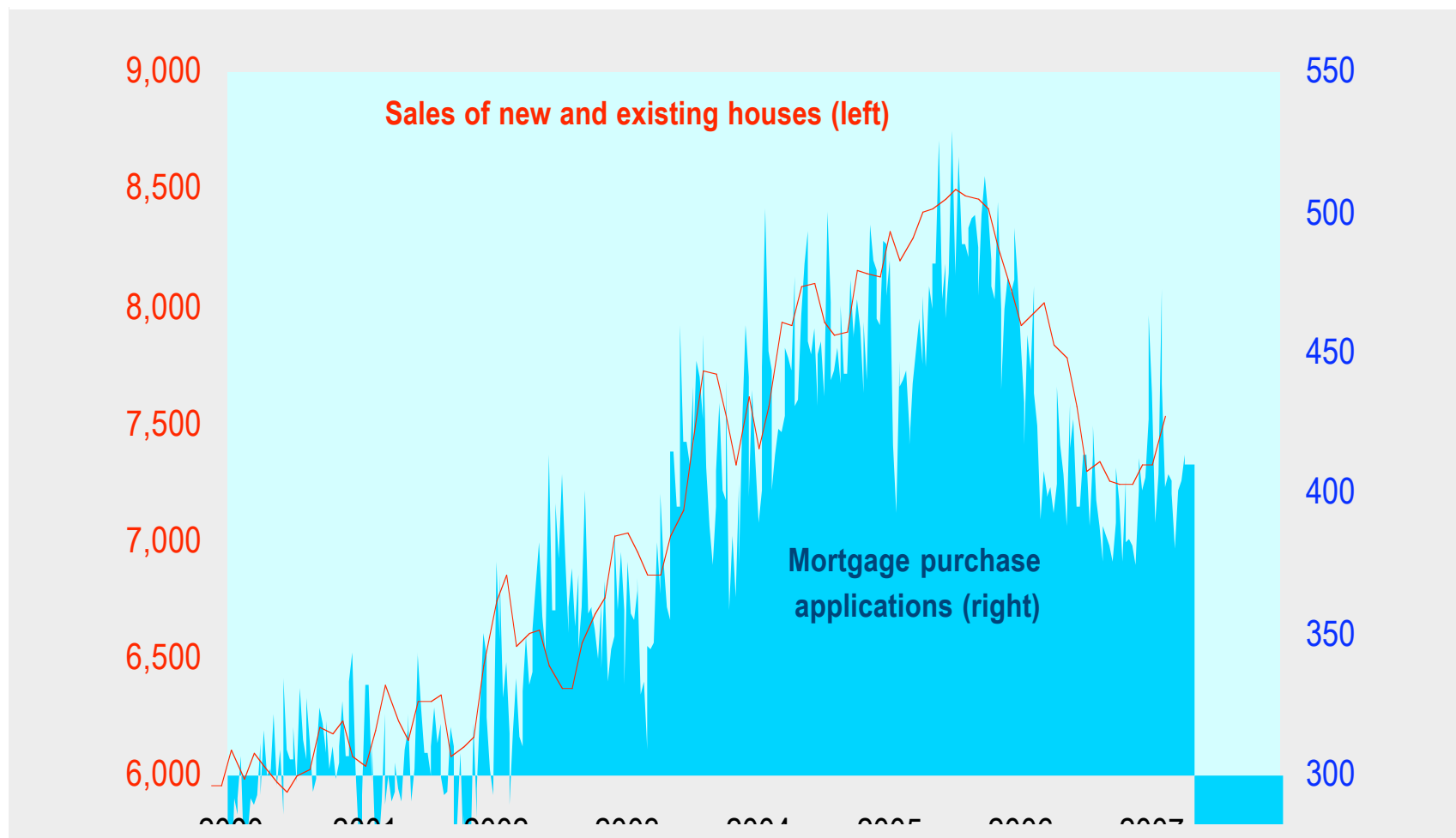


Sources: NBER recession bar; US Departments of Labor and Commerce; Bloomberg

P.S. the weakest link is where the Fed has the most leverage

House sales (thousands)

Mortgage applications (1990 = 100)



Sources: Mortgage Bankers Association; National Association of Realtors; Census Department

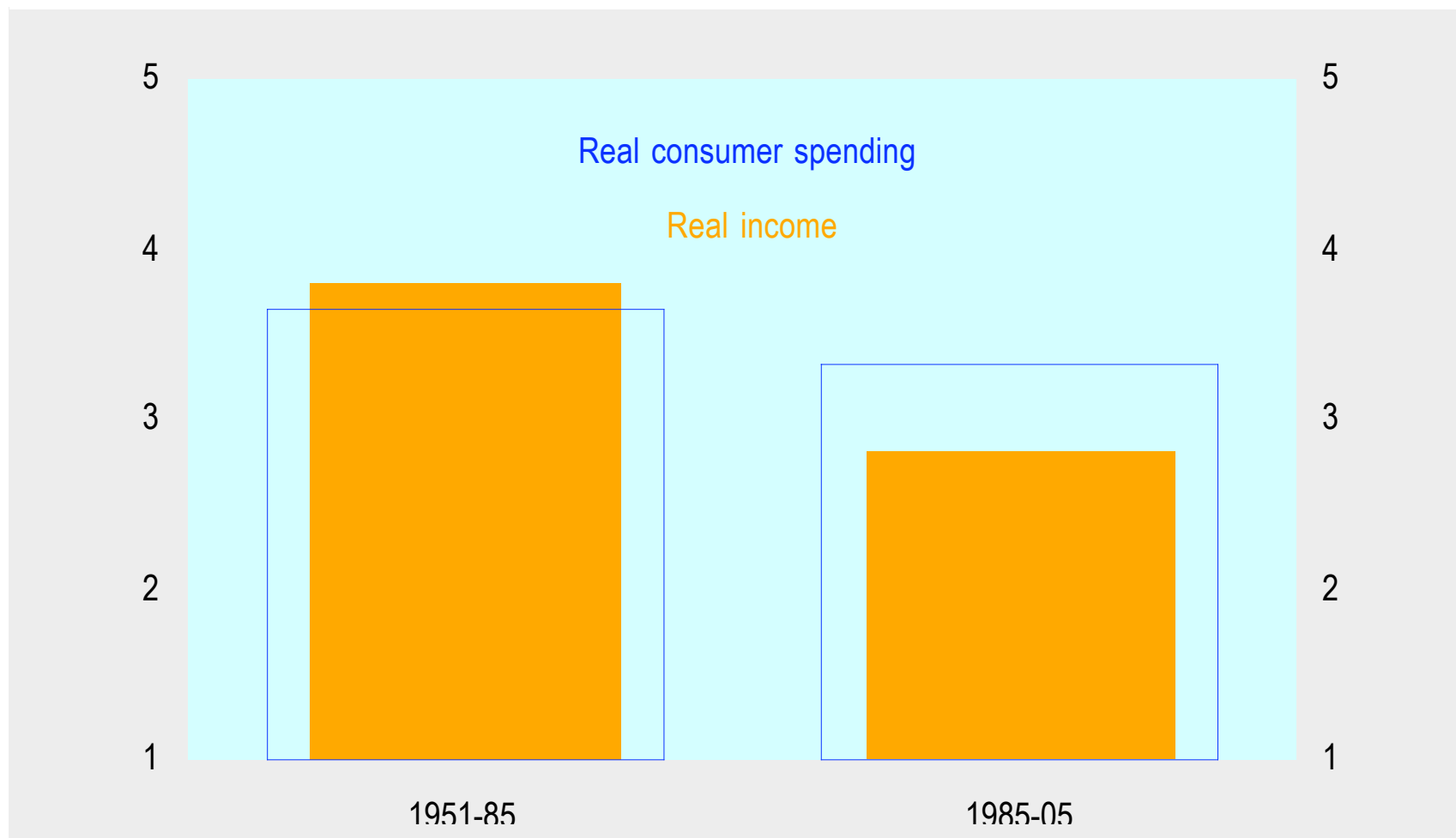
Conclusion ... growth without steroids

Looking back ... an unprecedented period

- The Great Disinflation
- Three decades of economic and financial liberalization
- Lights turning on where half the world lives

The consumer we've known has benefited enormously ...

Real consumer spending and income (annualized percentage growth over period shown)

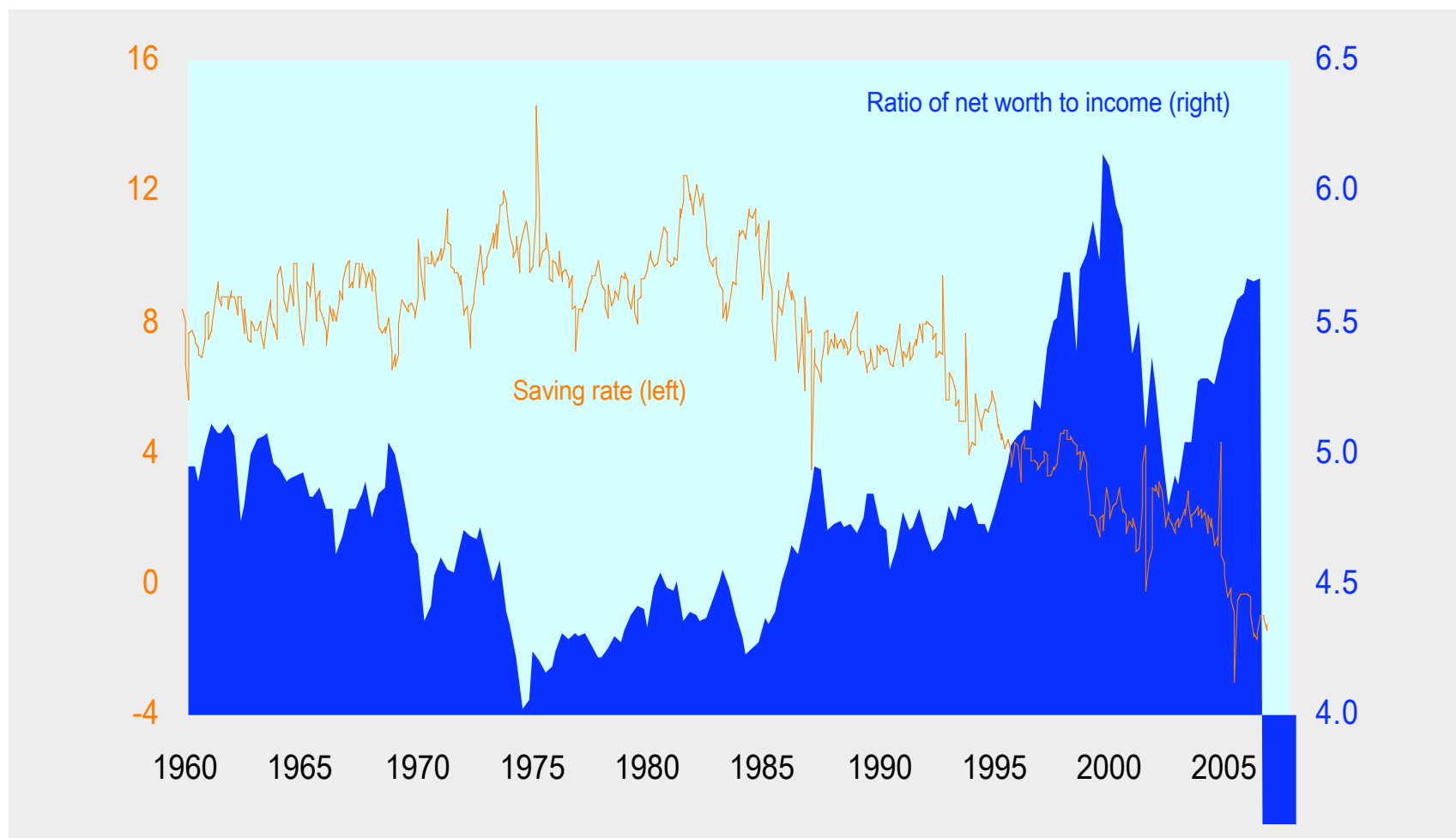


Source: US Department of Commerce

... rising savings allowed us to lower saving ...

Saving rate (% of disposable income)

Net worth (ratio to disposable income)

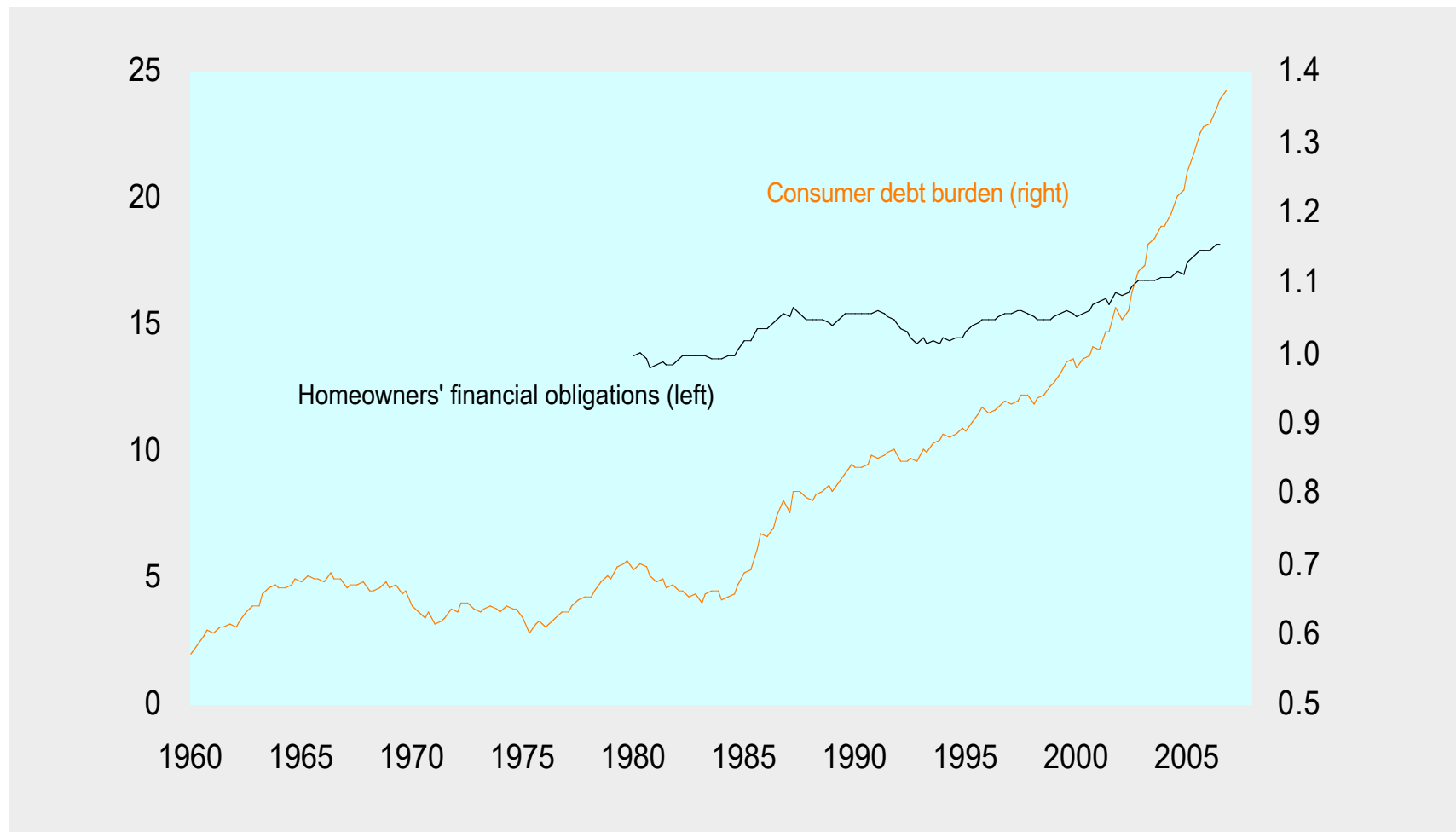


Sources: US Department of Commerce; Federal Reserve Board

... and leverage up

Household financial obligations (% of income)

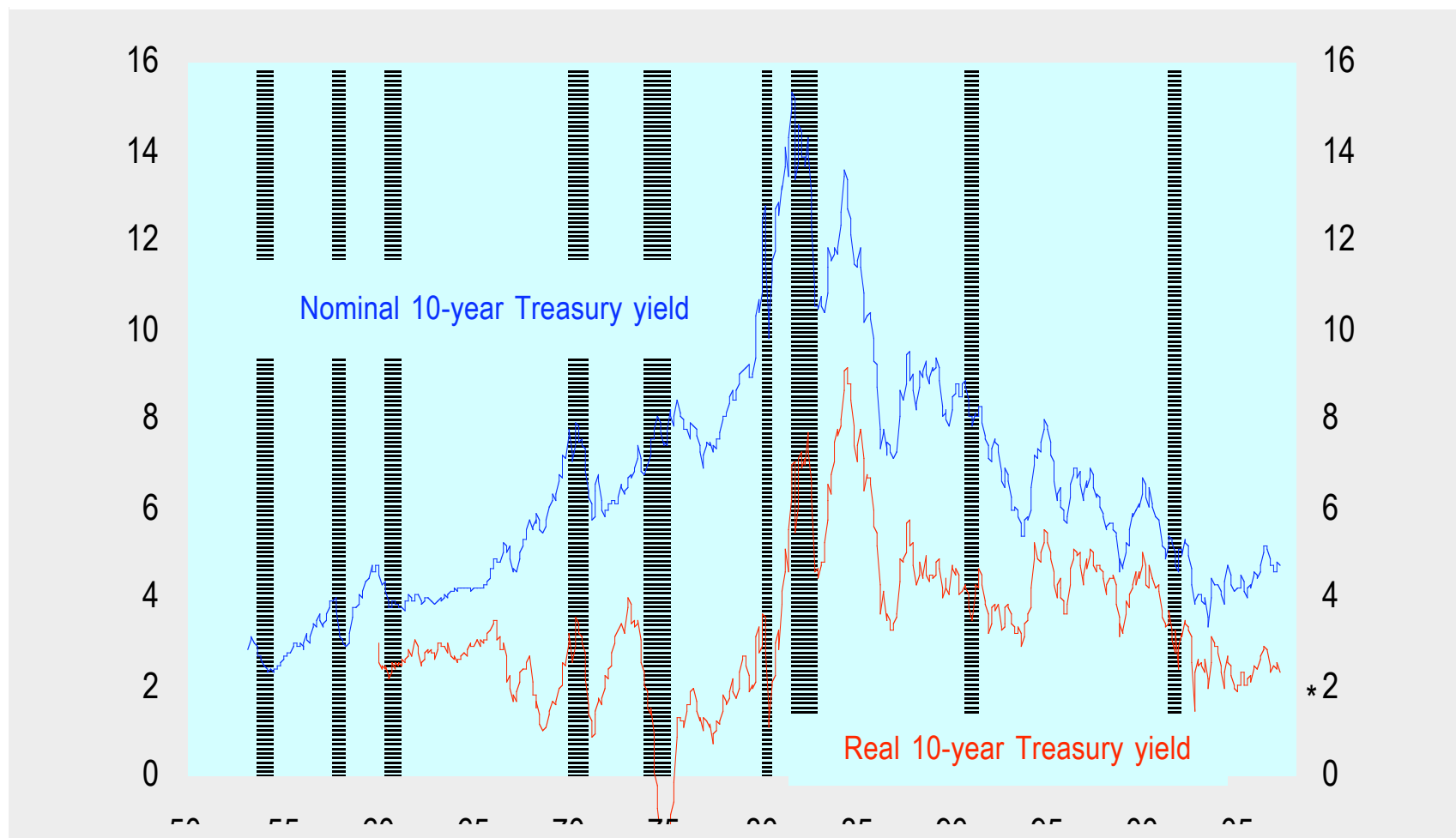
Debt (ratio to income)



Source: Federal Reserve Board

Ahead, it's back to our father's economy, with lower rates

Nominal and real 10-year Treasury yields (percent)



Sources: NBER recession bars; US Department of Commerce

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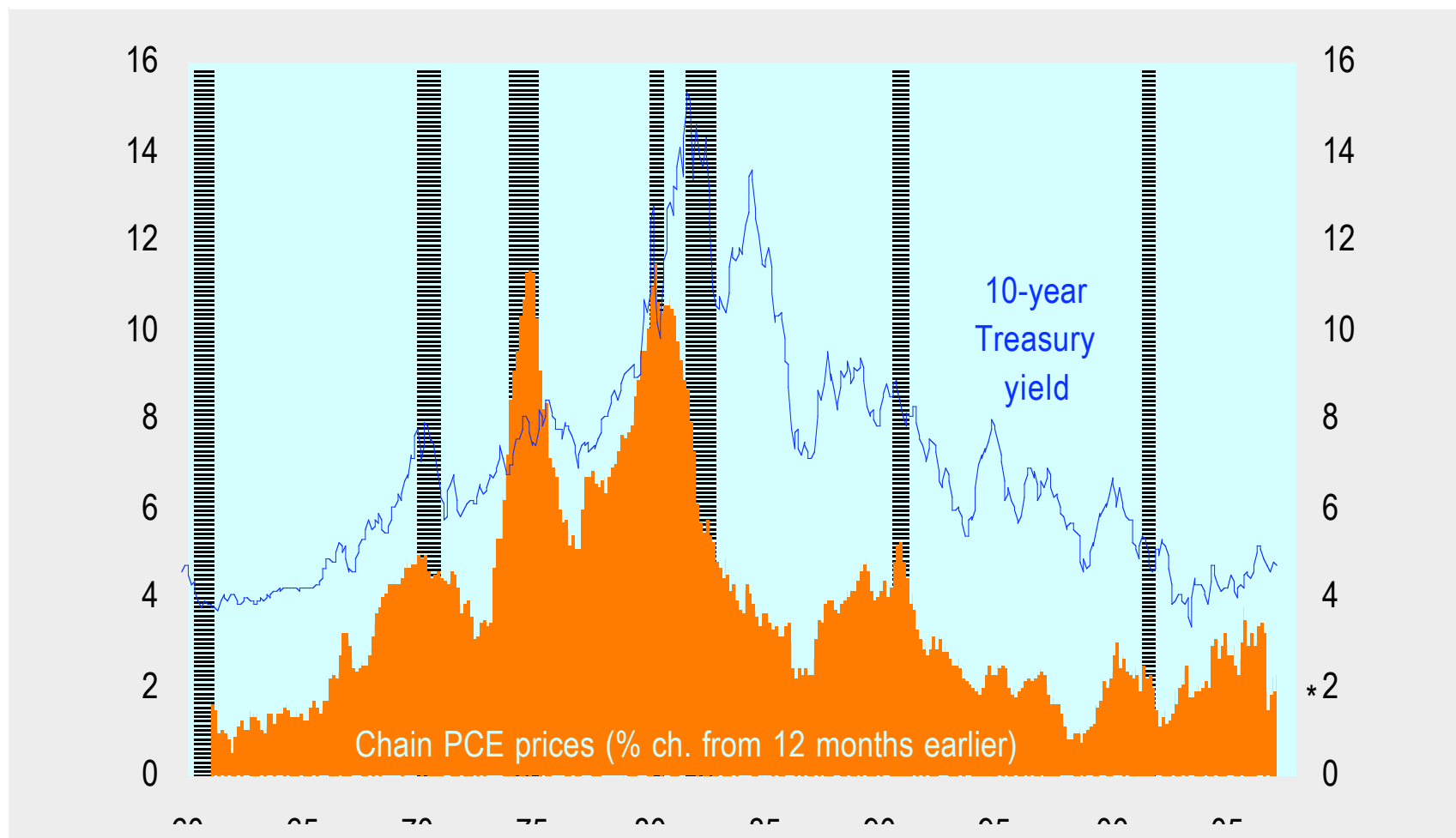
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The Great Disinflation brought rates down, wealth up

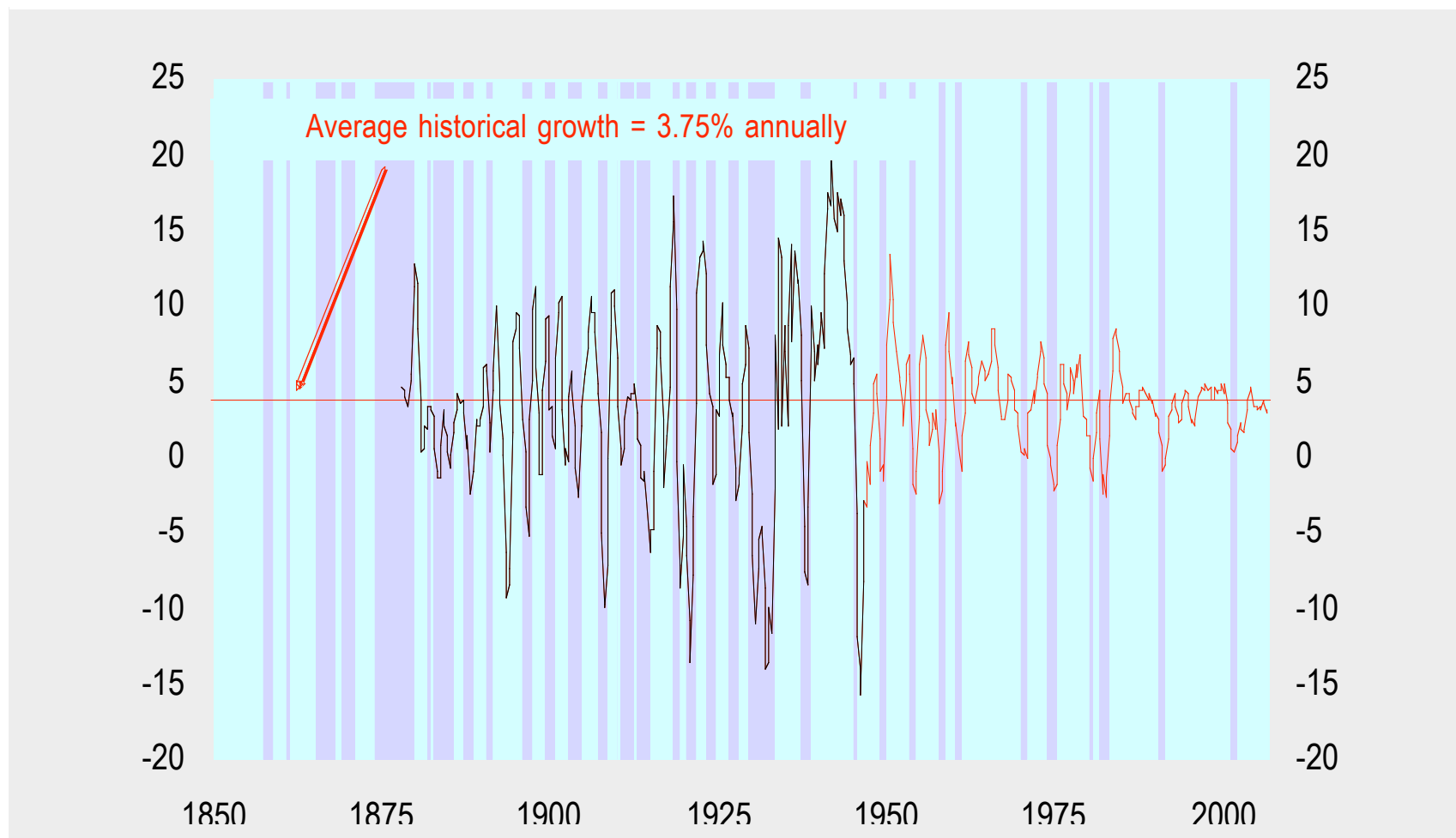
Inflation and interest rates (percent)



Sources: NBER recession bars; Federal Reserve Board; US Department of Commerce

Liberalization ... here's the proof of the pudding

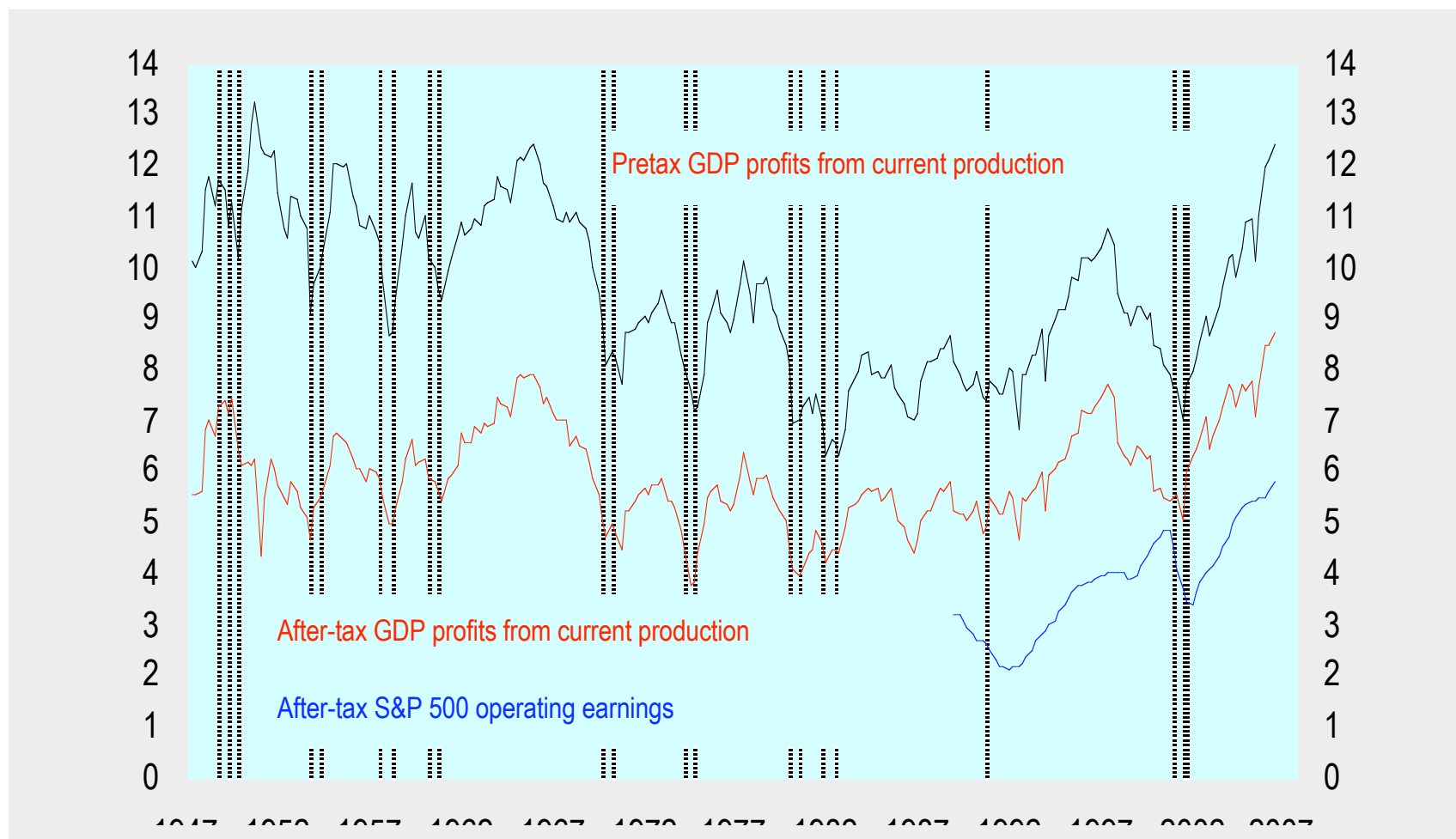
Real GDP (percentage change from four quarters earlier)



Sources: NBER recession bars; US Department of Commerce; Ray Fair, Yale University

Profits show it ...

US corporate profits (percent of Gross Domestic Income)

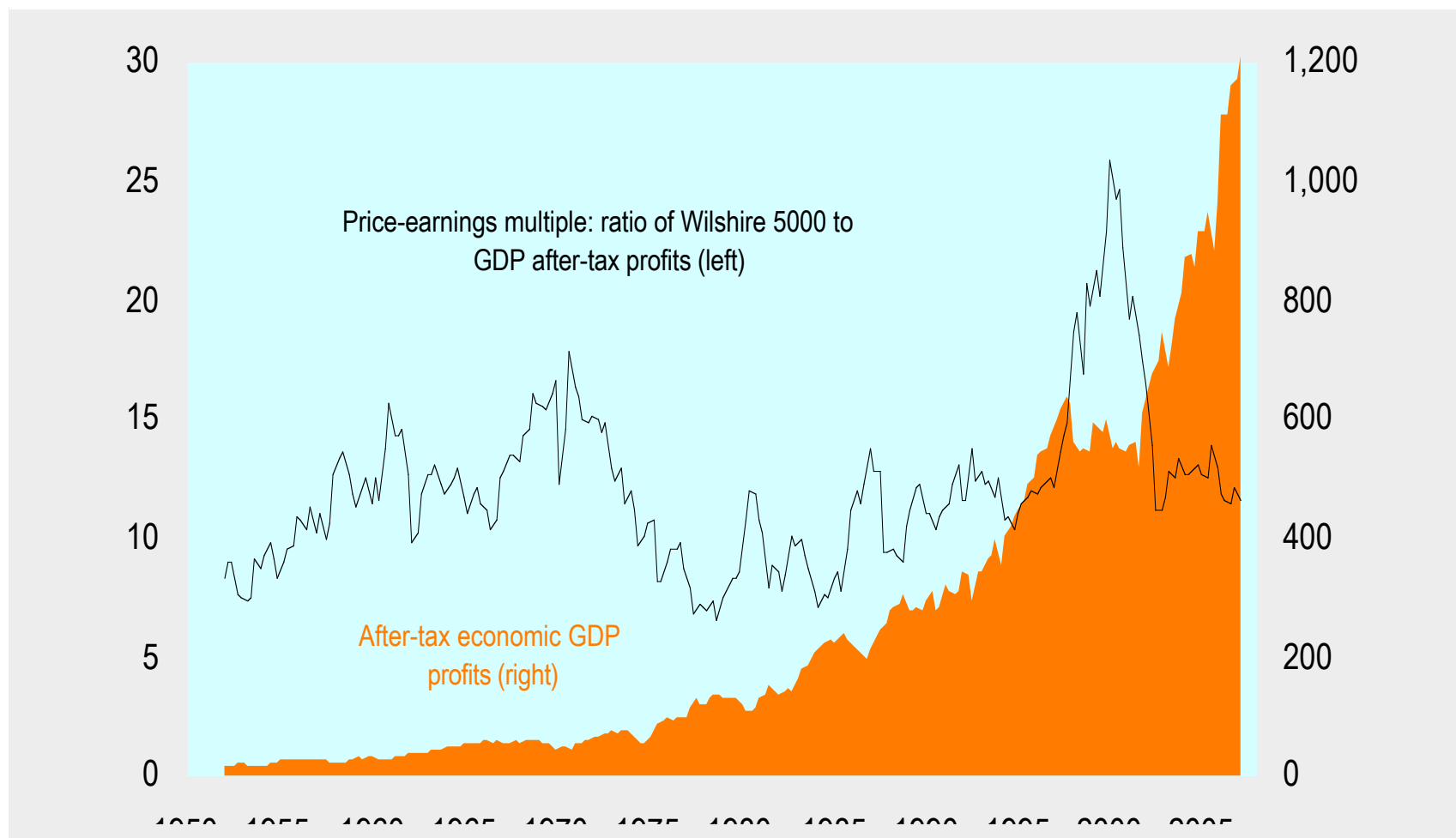


Sources: NBER; US Department of Commerce; Standard and Poor's

... we don't call it a bubble any more, because it wasn't

Stock market value (price-earnings ratio)

After-tax corporate profits (\$ billions)

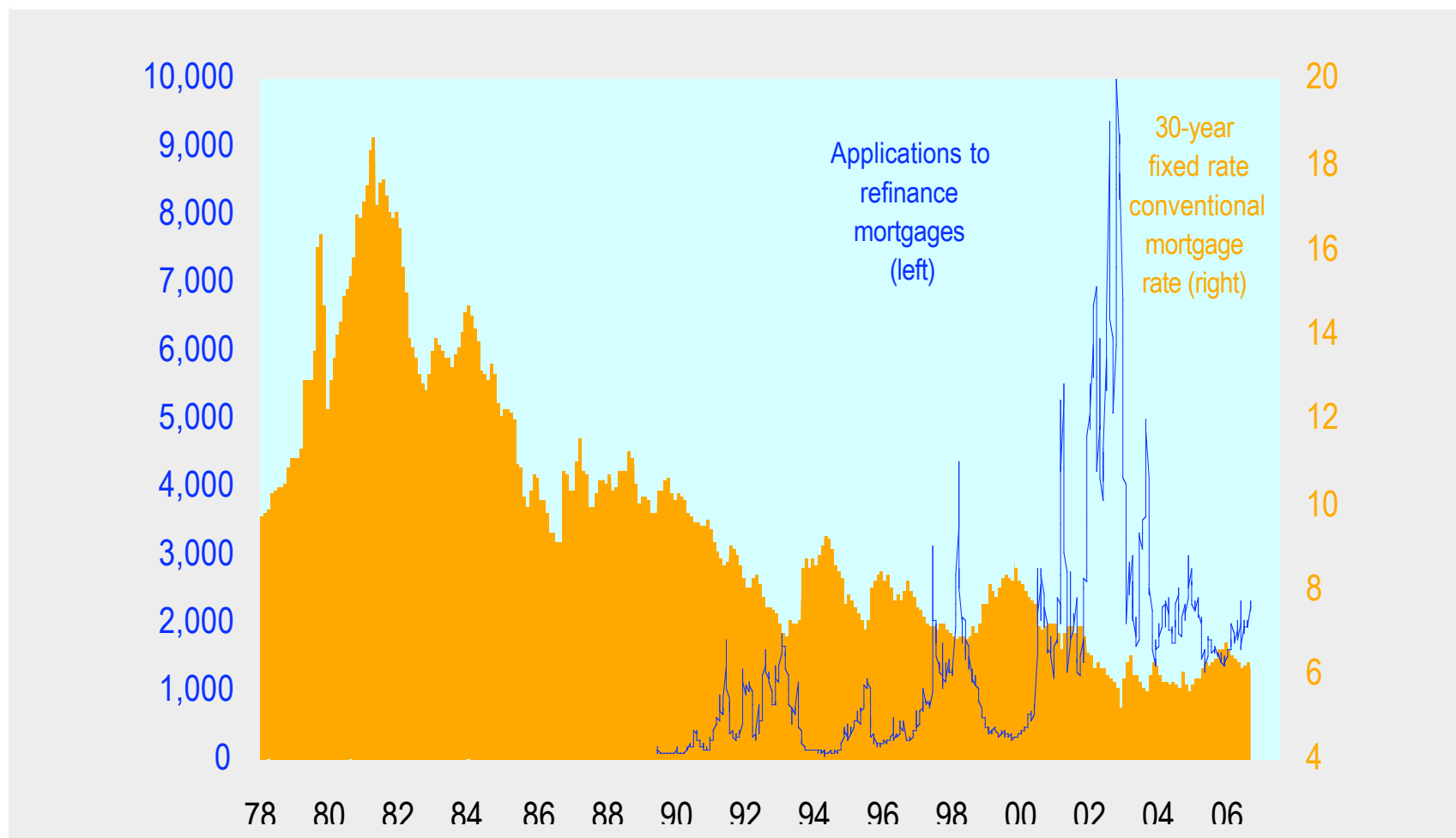


Sources: Federal Reserve Board; Bloomberg Financial Services; US Department of Commerce

Low rates have allowed us to refinance ...

Mortgage refinancing applications (1990 = 100)

30-year commitment rate (percent)

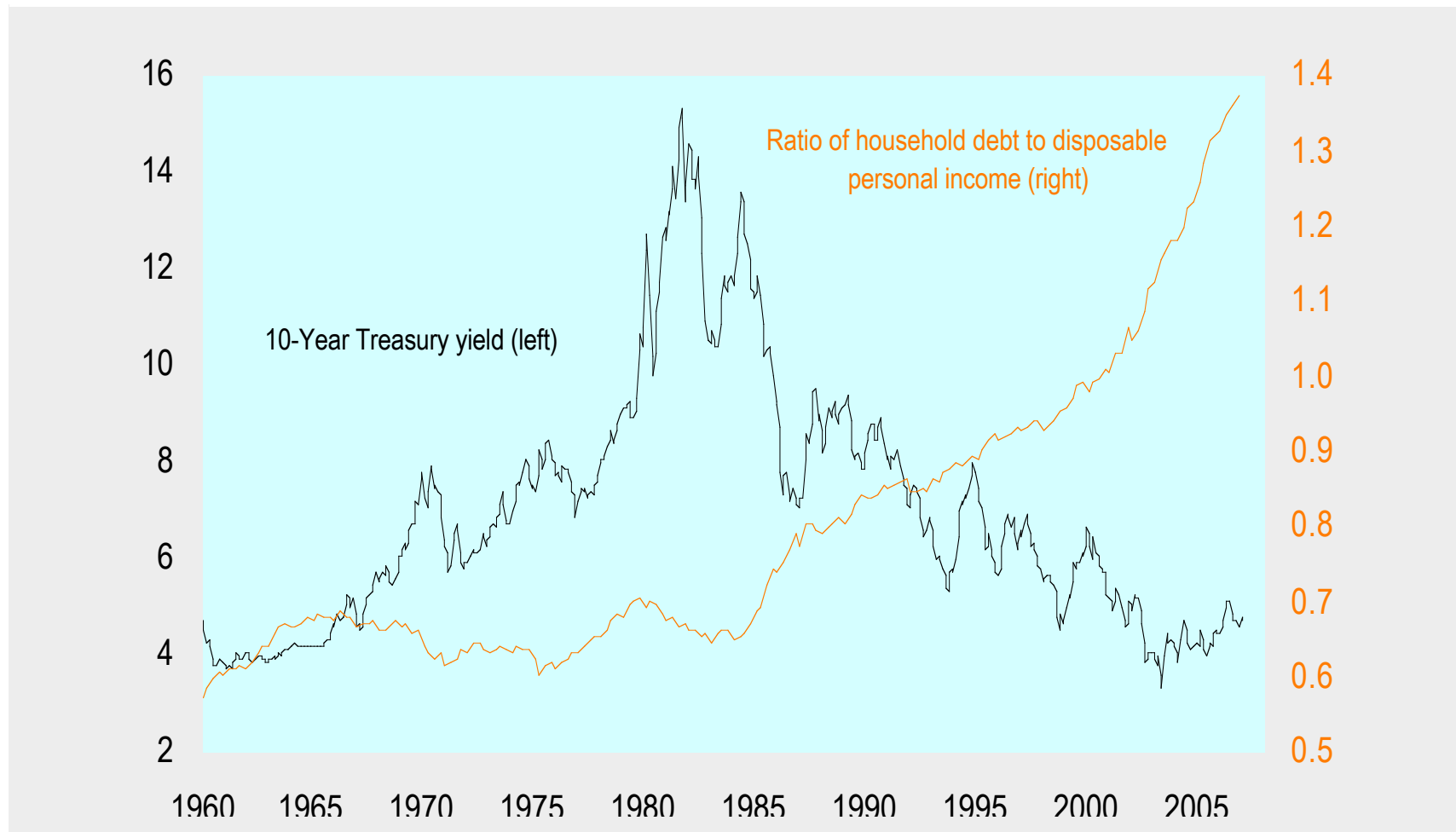


Sources: Federal Home Loan Mortgage Corporation; Mortgage Bankers Association

... and leverage up ...

10-year Treasury yield (percent)

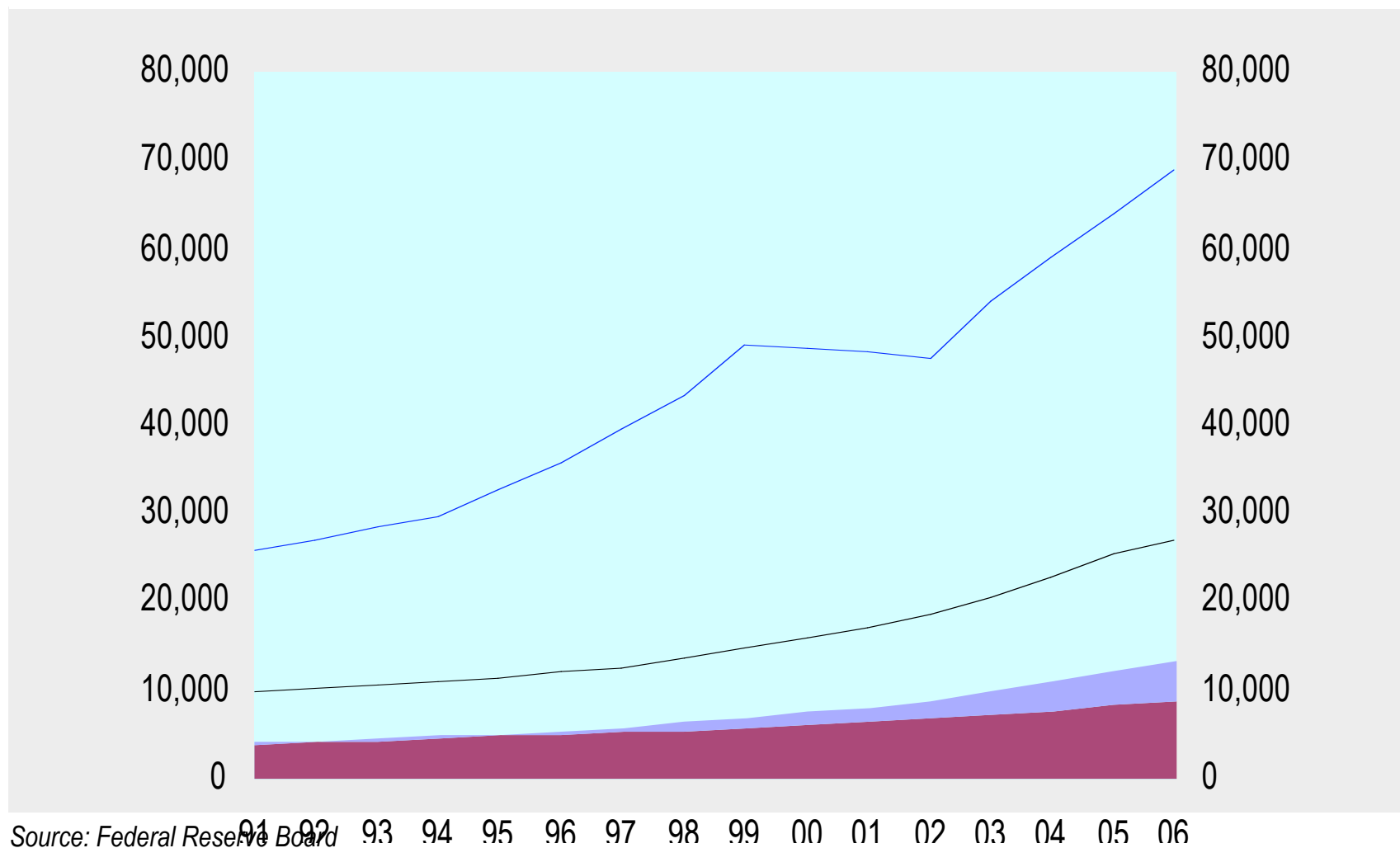
Debt (ratio to personal disposable income)



Sources: Federal Reserve Board; US Department of Commerce

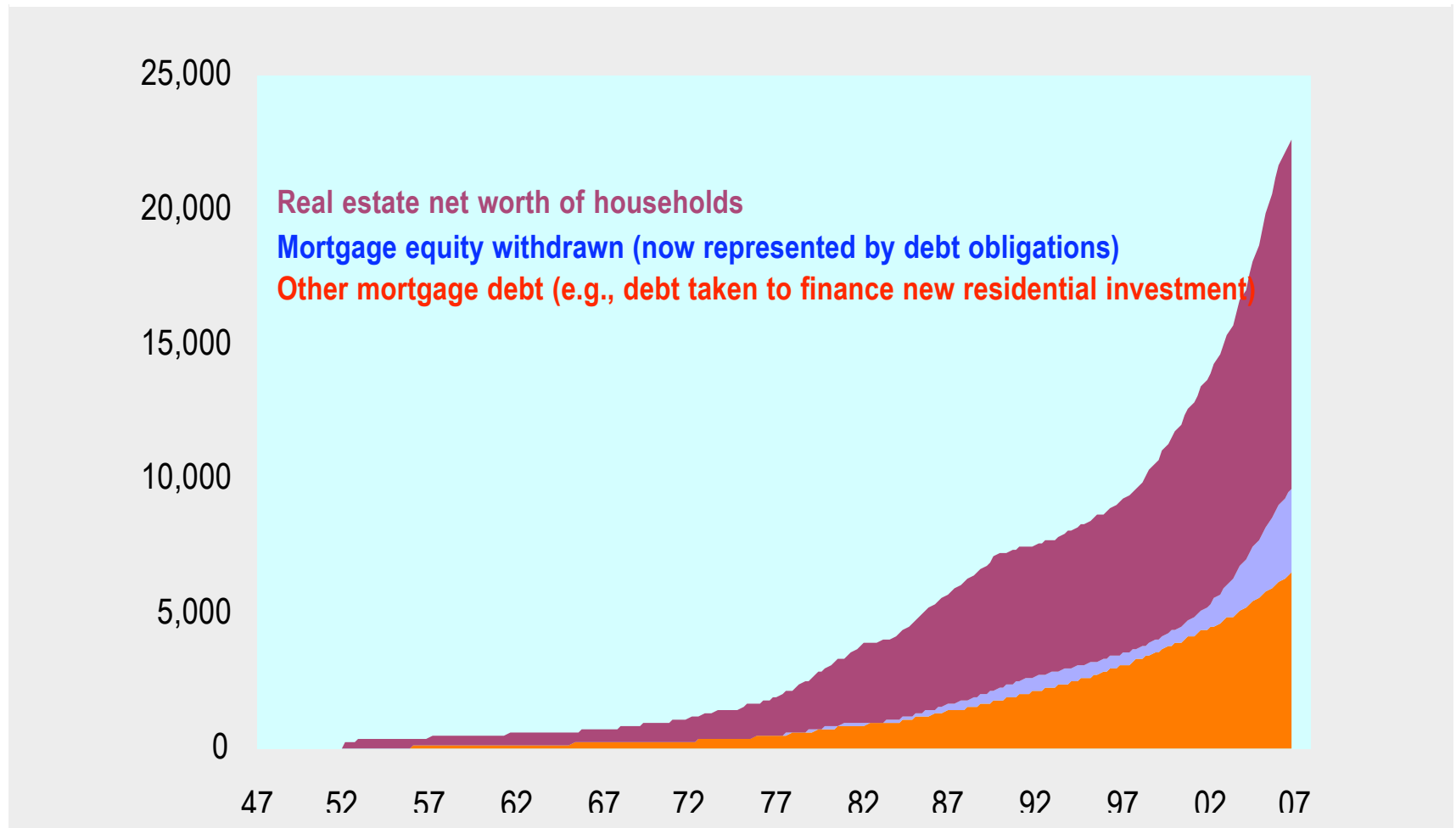
... keeping it all in perspective, the whole balance sheet

Household assets and liabilities (\$ billions)



... the real estate piece ...

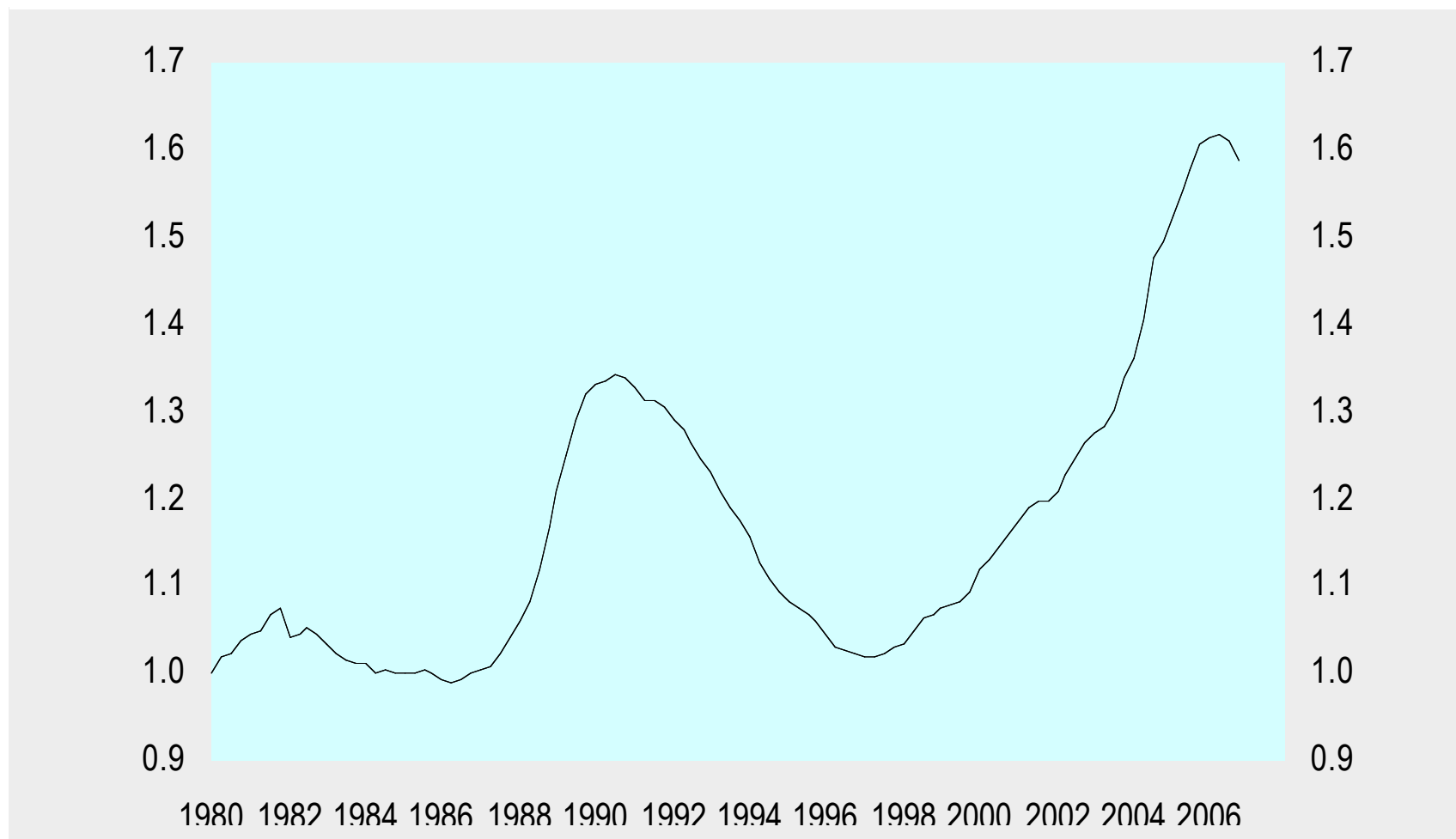
Household portfolios of real estate and mortgage debt (\$ billions)



Source: Federal Reserve Board

California has seen this movie before ...

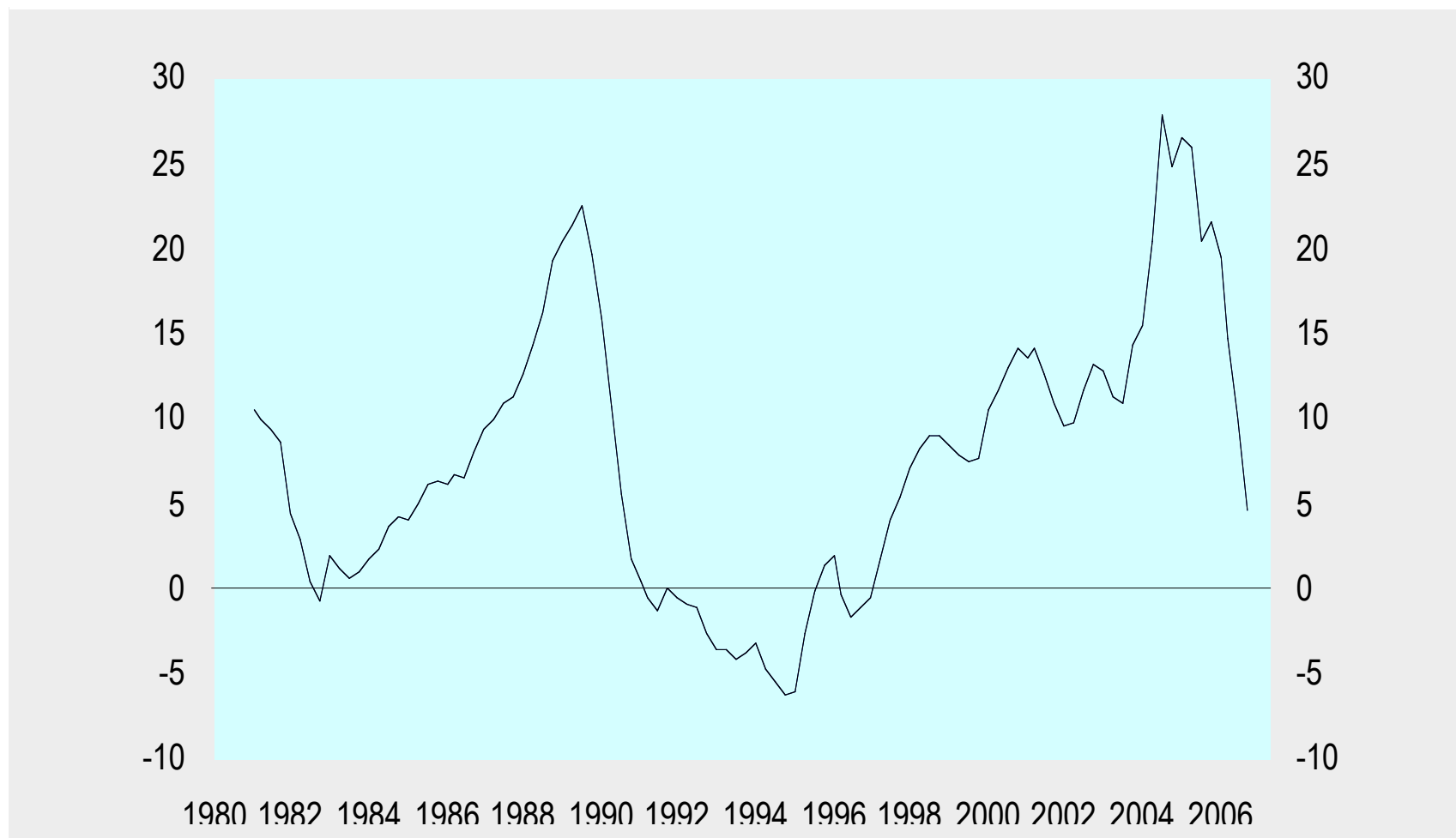
Ratio of existing house prices in California to the national level (1980 = 1.0)



Source: Office of Federal Housing Enterprise Oversight

... in the early 1990s

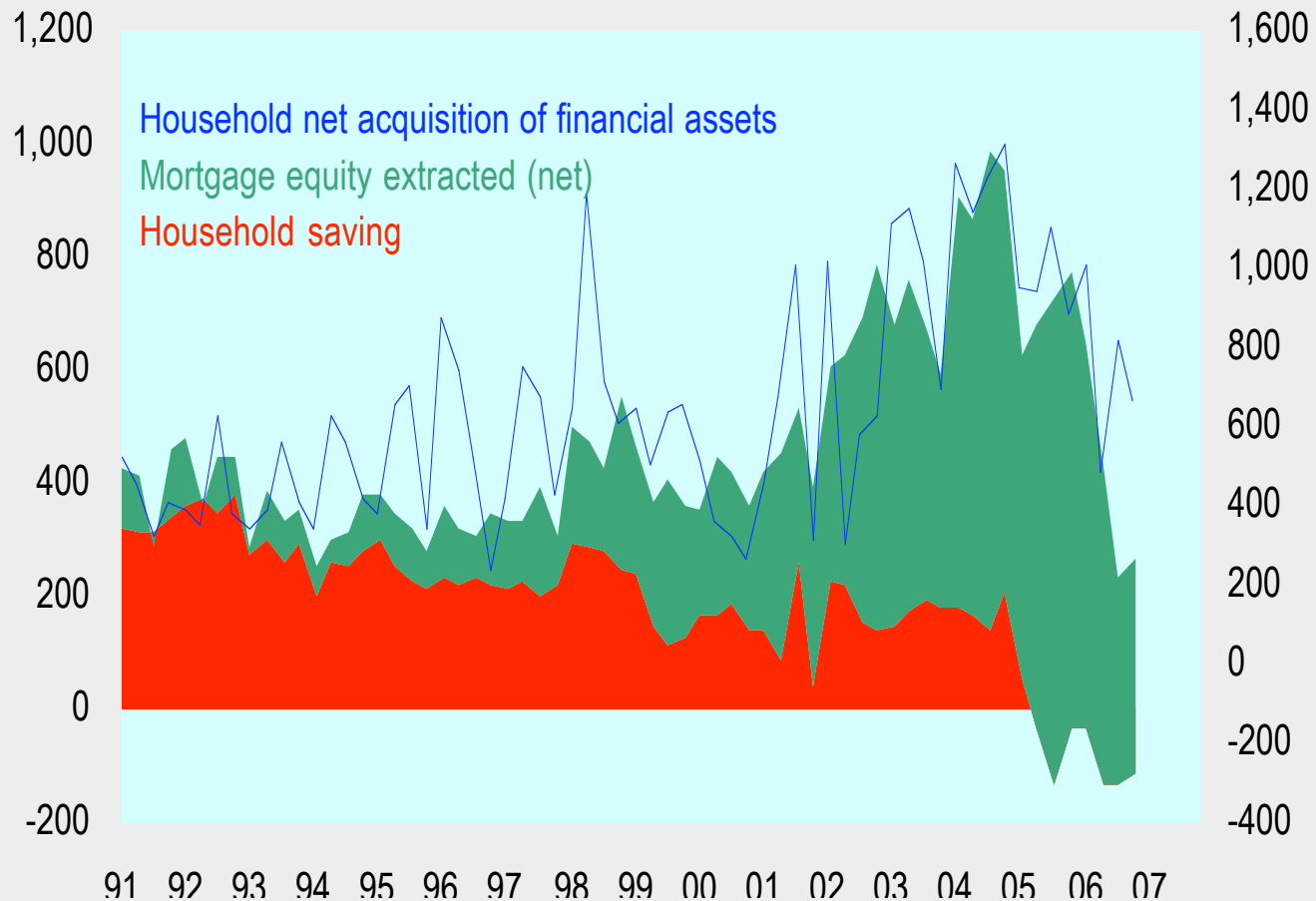
Existing house prices in California (percent change from four quarters earlier)



Source: Office of Federal Housing Enterprise Oversight

... we've also been diversifying out of real estate

Selected household financial transactions (\$ billions annualized)



Source: Federal Reserve Board