

Maynard's Revenge: Keynesianism and the Crisis

Lance Taylor

New School for Social Research

Maynard's Macroeconomics I

- Fundamental uncertainty
- Prices of assets vs. prices of goods and services
- Output = Income so that
Investment = Saving
- Output Determination by effective demand, *not* aggregate supply, i. e. savings adjusts to equal investment via changes in income (“Say’s Law” not valid)

Maynard's Macroeconomics II

- Richard Goodwin: The level of demand is influenced by the income distribution.
- In fact there is a fairly clear distribution vs. demand cycle for the US economy but it became much less favorable for labor after 1980.

Maynard's Macroeconomics III

- Wynne Godley: Income = expenditure economy-wide *but* any sector can have income \neq spending so that it borrows from or lends to the rest of the economy.
- There are interesting trends and cycles in sectoral net lending or borrowing. After 1980 household net borrowing and net lending to the US from the rest of the world trended strongly upward.

Keynesian Ontology

- Fundamental uncertainty (*Not* probabilistic risk – you *cannot* put a complete probability distribution on future events, in part because you cannot conceive of them).
- Ecological examples: Easter Island, CFC and ozone hole
- Economics: Bernanke’s “great moderation” *circa* 2006. He did not (could not?) have had any inkling of the crisis to come.

Financial Consequences I

- Under fundamental uncertainty financial actors have to base decisions on *conventions* which may be stable for a time, but then can change rapidly.
- Maynard's metaphor: the "beauty contest" as a device for social magnification.
- Wittgenstein's idea that "knowledge" is based on social conventions follows similar lines. The difference is that Keynes's economic "expectations" can change rapidly, e.g. the crisis.

Financial Consequences II

- In the housing price bubble, expectations and valuation models got built around a convention of steadily rising prices. When they stopped rising the calculations fell apart.
- Equity and housing bubbles had diverse causes, but deregulation and emergence of “finance theory” were surely important.

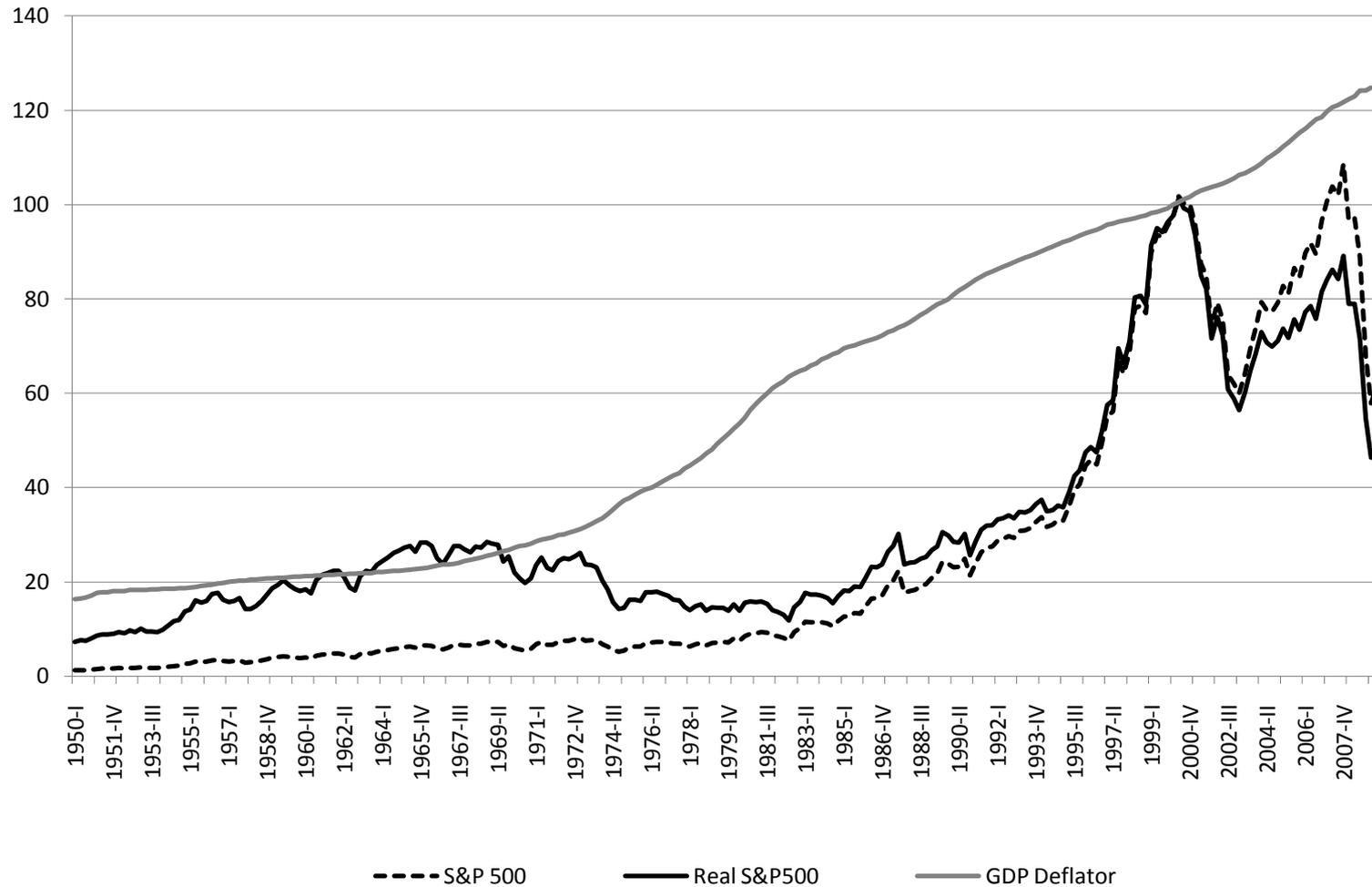
Prices of assets vs. prices of goods and services I

- A capitalist economy has *two* sets of prices: for assets and for goods and services. They do not necessarily move together.
- “Inflation” is always defined as the growth rate of an index of prices of goods and services.
- “Inflation targeting” is the principal obsession of central bankers – one reason why interest rates were held low after the mid-1990s while asset prices went into bubbles.

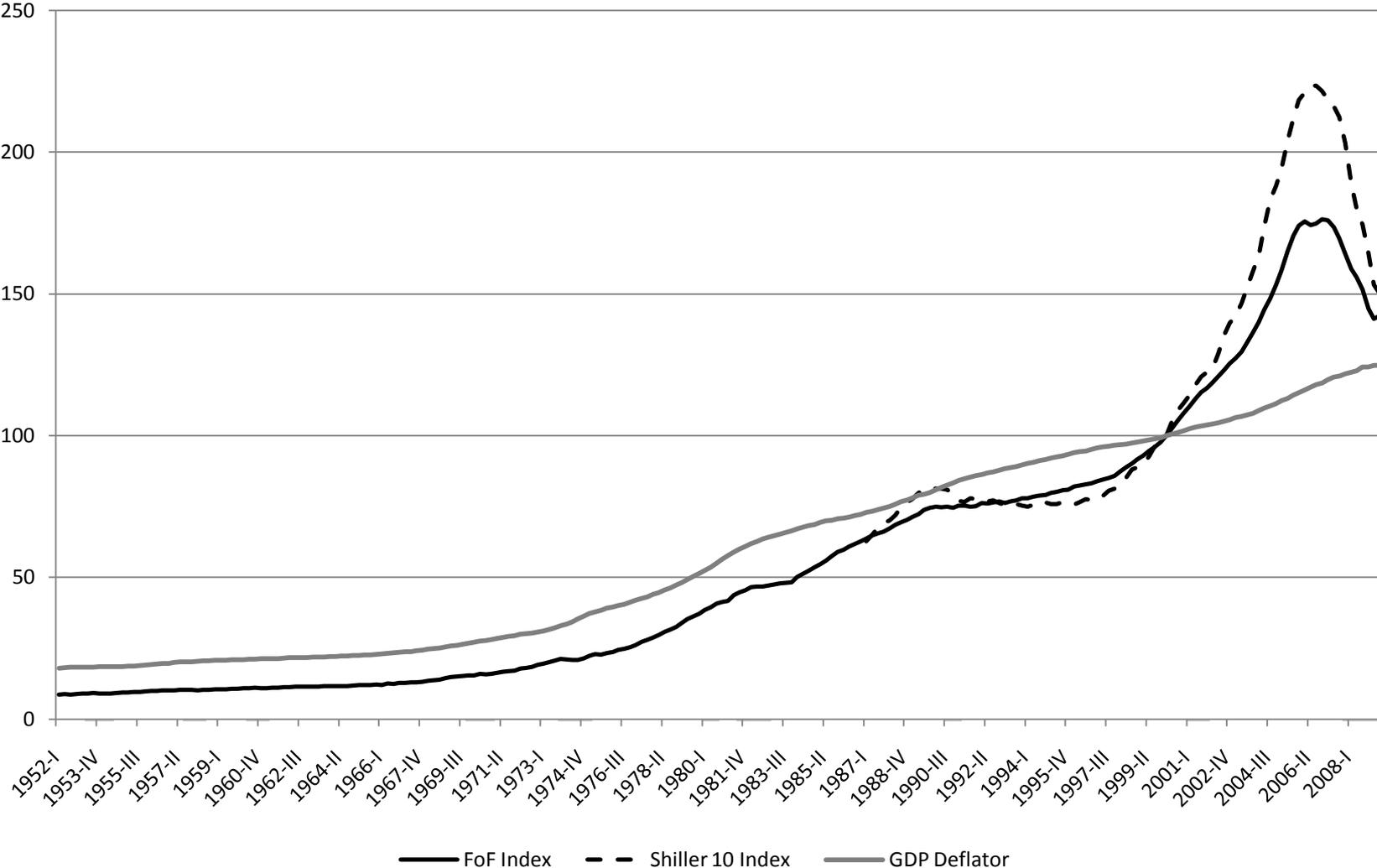
Prices of assets vs. prices of goods and services II

- Asset prices movements can be highly irregular – see next slides
- The equity price bubble breaks in late 1990s, housing bubble in mid-2000s
- The bubbles were driven by economic actors increasing debt to buy assets with rising prices – they built up *leverage* to harvest capital gains.

Indexes of nominal and real S&P 500 and GDP deflator rescaled (2000Q1=100)



Housing price indexes and GDP deflator (2000Q1 = 100)



Liquidity and leverage I

- For Keynes, *liquidity* meant money – a liability of banks and an asset of its holders.
- By social convention it is “always” accepted as a store of value and a medium for transactions.
- Economic actors fall back on liquidity in the form of “safe” *assets* because of fear.
- But for traders, liquidity became debt (*a liability*) incurred to buy assets with rising prices – a *very* old story. Not discussed by Keynes but by the Keynesian economists Hyman Minsky and Charles Kindleberger

Liquidity and leverage II

- Simplest balance sheet: $P_A A = D + E$
- Leverage: $L = P_A A / E$
- The return to an asset is the growth rate of its price, i.e. investors desire asset price inflation.
- Fluctuating growth of asset prices was built into nearly all the valuation models from finance theory used by traders.

Liquidity and leverage III

- But with stable debt, growth of P_A means that leverage *goes down* – an incentive to run up more debt to buy more assets.
- A decrease in P_A makes leverage go up – pretty soon creditors close in.
- To try to restore their positions traders started selling assets into a falling market and so drove prices down further – “deleveraging.”

Liquidity and leverage IV

- The convention that asset prices will keep rising fell apart.
- There was a flight to liquidity in the form of safe assets, e.g. money instead of debt, in a Keynesian “fallacy of composition.”
- The crisis was exacerbated because mortgages had been “securitized” into “derivatives” by banks and sold on to asset holders.

Liquidity and leverage V

- The derivatives were valued by using models that became useless. Derivative prices collapsed when housing prices fell.
- Consequent deleveraging was the financial side of the crisis.
- But there are financial crises all the time. Why did the latest one propagate to the real side of the economy?

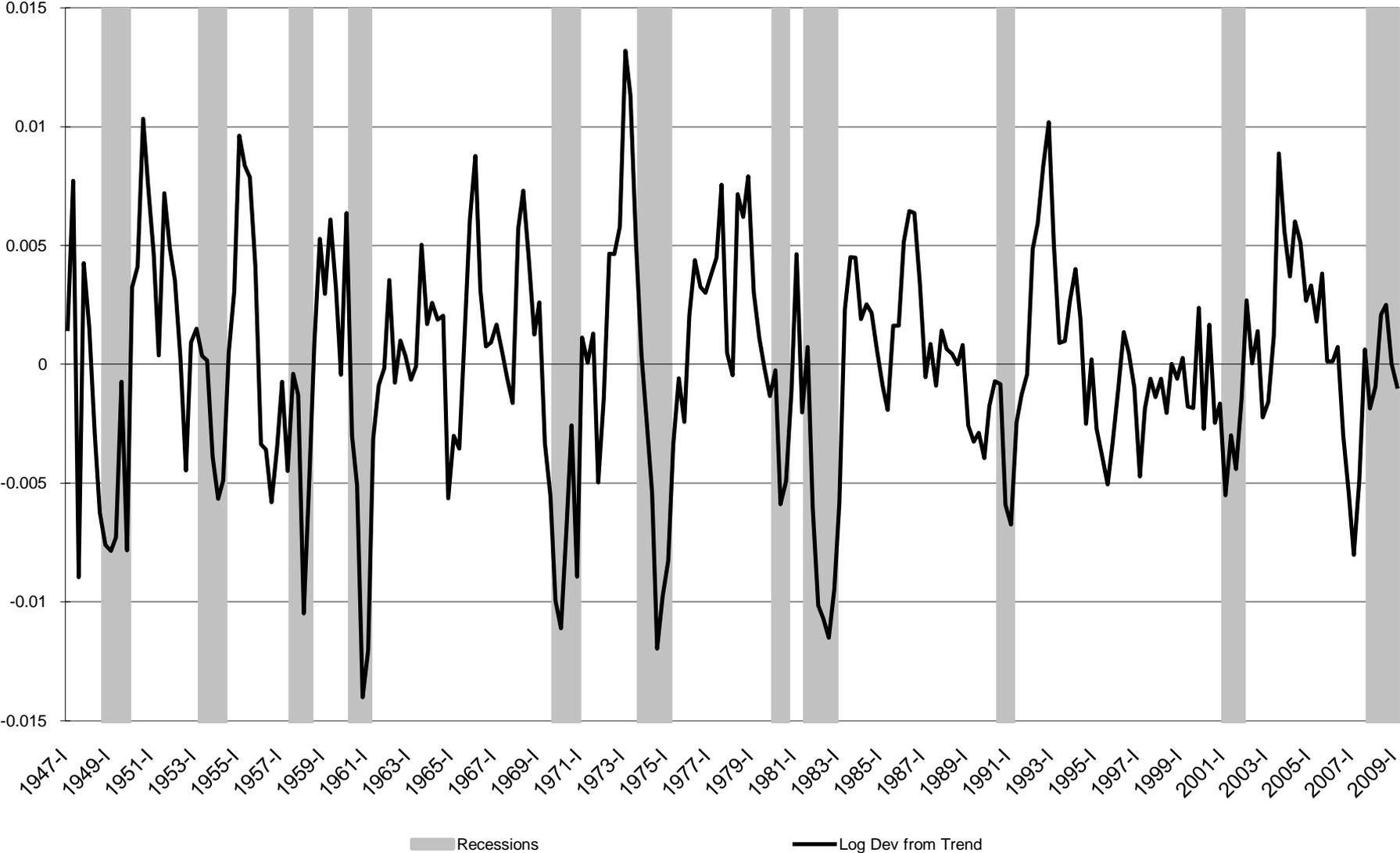
Effective demand

- Keynes's postulate: $X = \text{Output} = Y = \text{Income}$
- This “identity” is built into GDP accounting, as invented by Keynes around 1940
- Simplest example: $X = I + C$ and $Y = S + C$ so that $I = S$.
- $C = C(Y)$ or $S = S(Y)$ so that I *determines* Y and X – the principle of effective demand.
- In more complete accounting, exports and government purchases are “injections” of demand, imports and taxes are “leakages”

Distribution and demand I

- Consumption C is also likely to depend on income distribution.
- Easiest to work in macro with wage and profit shares of income. How are they determined?
- Begin with labor productivity =
Output/employment
- Productivity *rises* when output (“capacity utilization”) swings up at the end of recessions (shaded).

Deviation of actual labor productivity from its trend (log of quotient) for the US business sector.



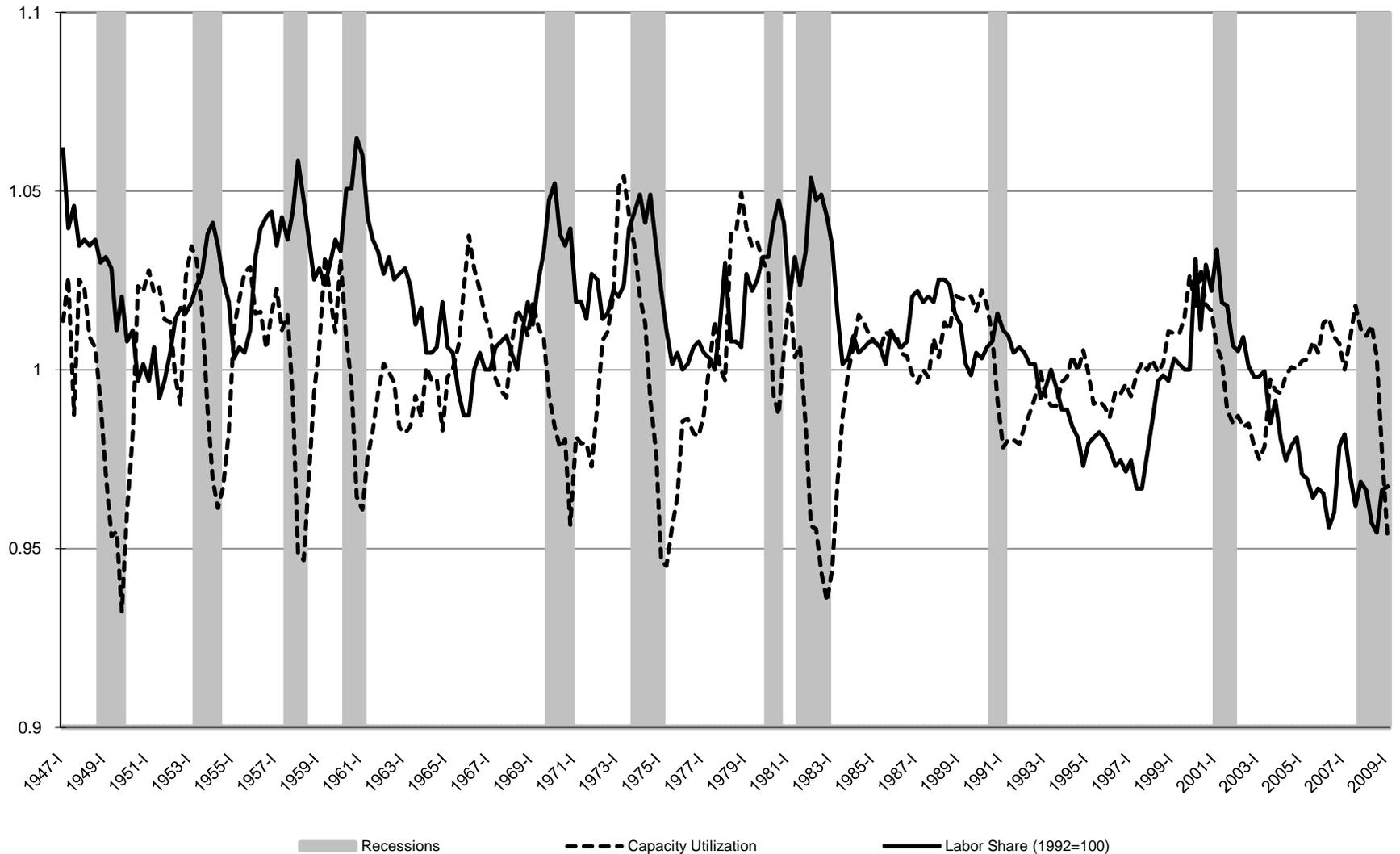
Distribution and demand II

- Wage share = Real wage/productivity.
- There are productivity and wage share vs. output cycles.
- Wage share falls coming out of recession, then rises toward the peak. The falling share leads rising capacity utilization (can be rationalized in a simple predator-prey model from mathematical ecology).

Distribution and demand III

- This distribution/demand cycle is an idea from Marx and the Keynesian economist Richard Goodwin
- However, the pattern changed after 1980 with much bigger falls and weaker recoveries in the wage share during the cyclical output upswing.
- This shift reflected a loss in labor's bargaining power and was part of the run up to the crisis.

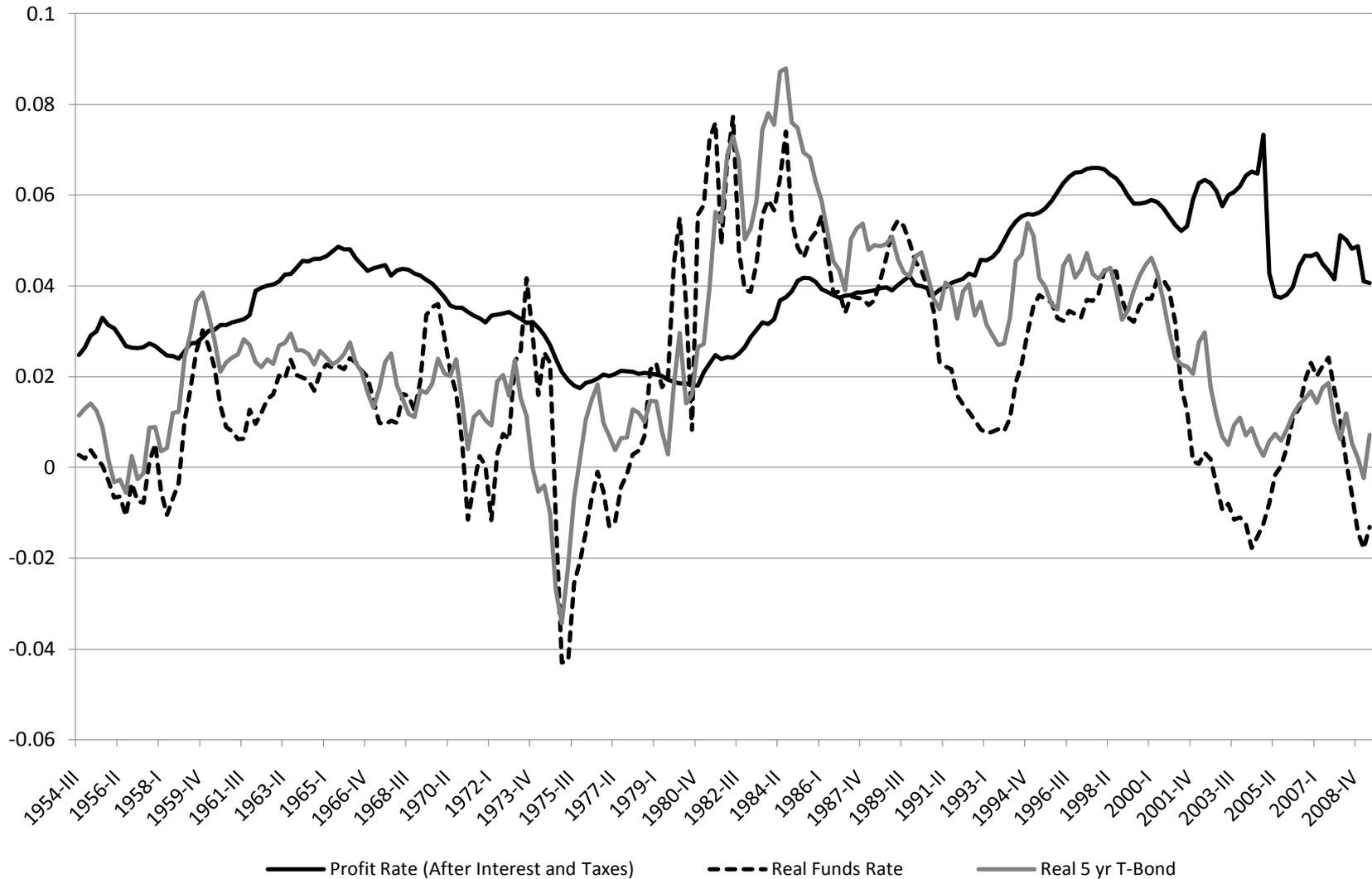
Time series for capacity utilization and labor share



Distribution and demand IV

- The other side of the falling labor share coin was a rising profit rate after 1980 (next slide).
- Also note the downward trend in the real interest rate – the “Greenspan put” justified by slow inflation.
- This helped support the equity and housing price bubbles noted above (an idea dear to Keynes’s friend and rival Friedrich von Hayek)
- But financial deregulation was a more fundamental cause! It was pushed hard by Greenspan and Obama’s current economic advisors.

Profit rate and real short- and medium-term interest rates



Net borrowing I

- For any individual or collective economic actor,
- “Net borrowing” = expenditure – income = investment – saving = injections – leakages.
- The sum of net borrowing flows across all actors must be zero so that investment = saving economy-wide as in Keynes’s national accounts.

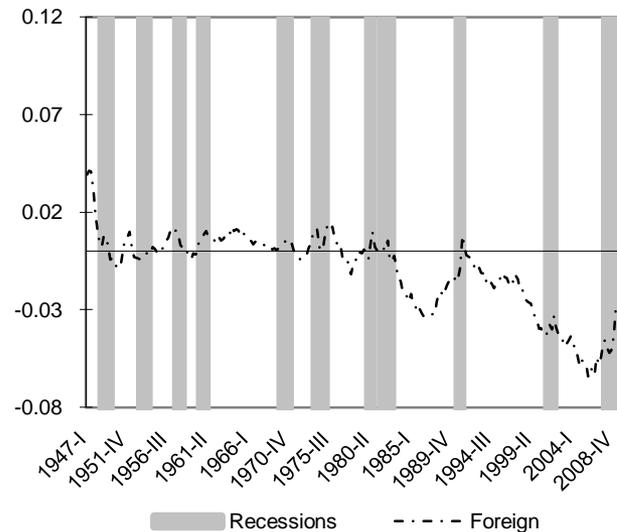
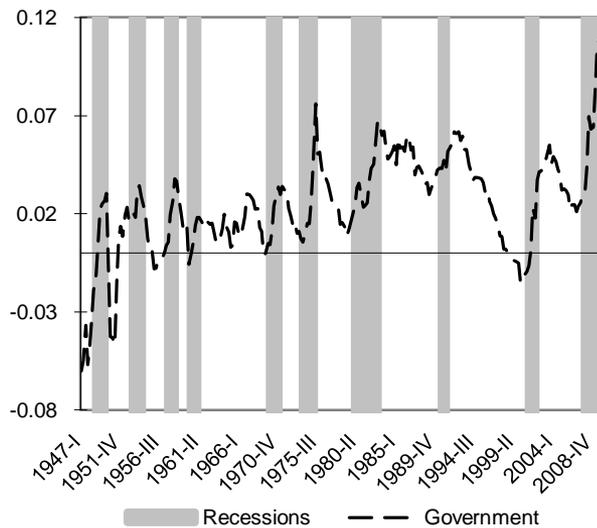
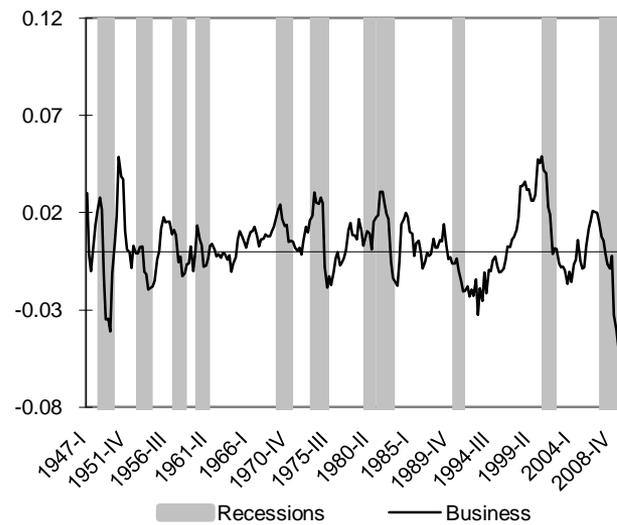
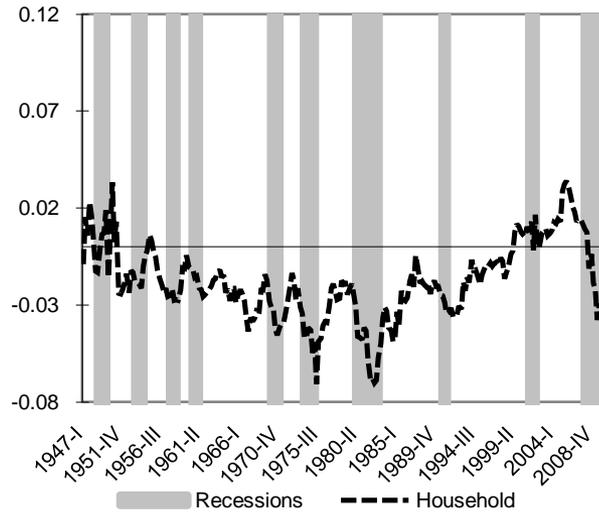
Net borrowing II

- Look at the data for US households, business, government, and net borrowing *from* the rest of the world (a negative value signifies net lending *to* the USA):
- Household net borrowing was generally *negative* until around 1980, financing positive borrowing by government and business.
- Then it trended strongly upward – consumption rose by around 10% of total income (the biggest component was spending on health care)

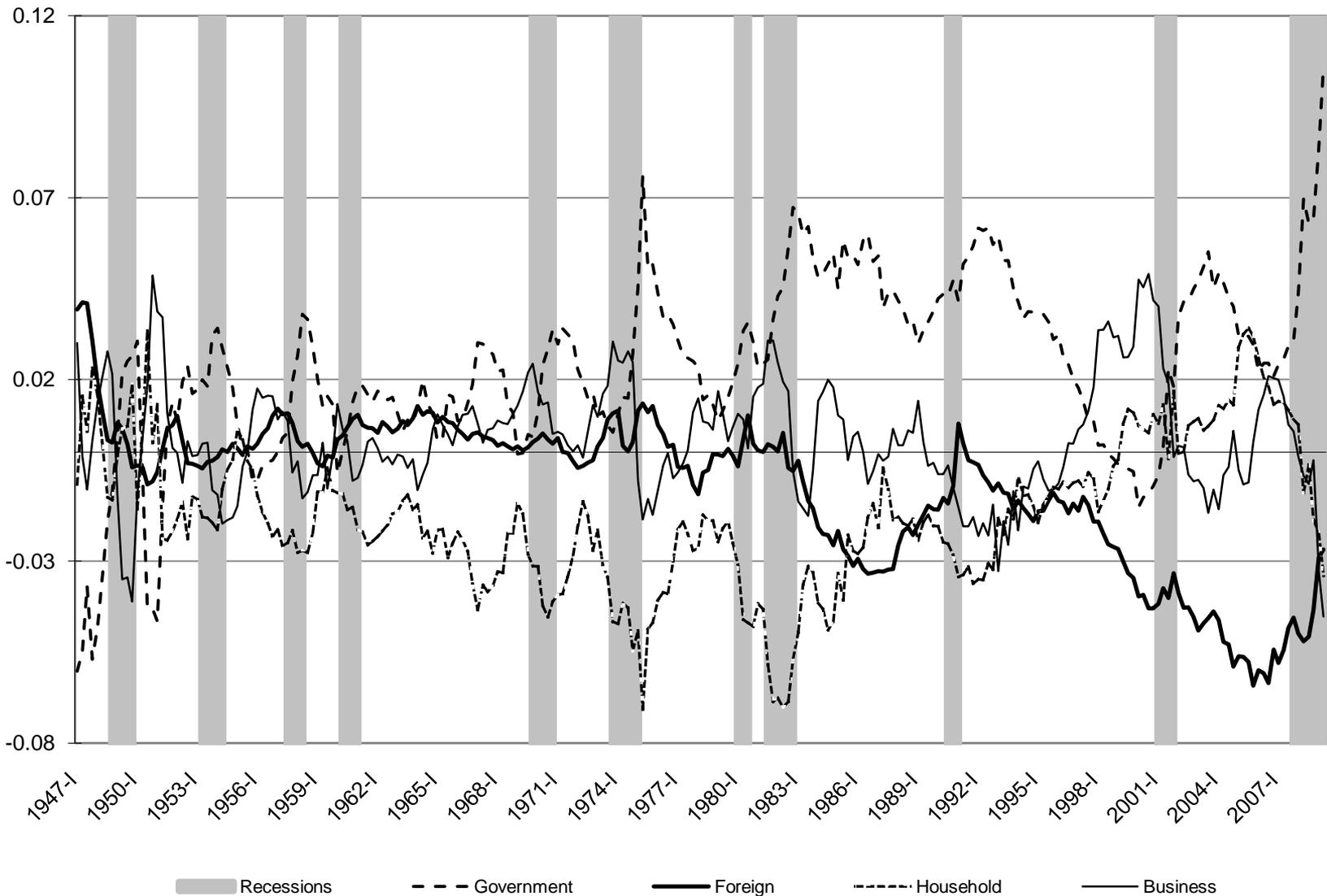
Net borrowing III

- The counterpart was *falling* net borrowing by the rest of the world, i.e. higher lending to the US to finance a rising external deficit.
- To a degree, this pattern reverses after the crisis.
- Also note that household borrowing tends to lead the business cycle, mostly due to rising investment in housing as the economy comes out of recession.
- Government net borrowing is *counter-cyclical*, most notably since 2007

Sectoral net borrowing flows normalized by GDP and NBER reference cycles.



Superimposed net borrowing flows normalized by GDP and NBER reference cycles.



Lead in to the crisis I

- Political economy historical background:
- 1918-1929: rising income inequality and liberal (European sense of the word) ideology, leading into the Great Crash based on a run-up in leverage during the stock market boom.
- 1929-1950: Great Depression, New Deal (heavy financial regulation!), WWII, and recovery.
- 1950-1970: Creation of welfare state, Keynesian consensus, “Golden Age” of economic performance worldwide.

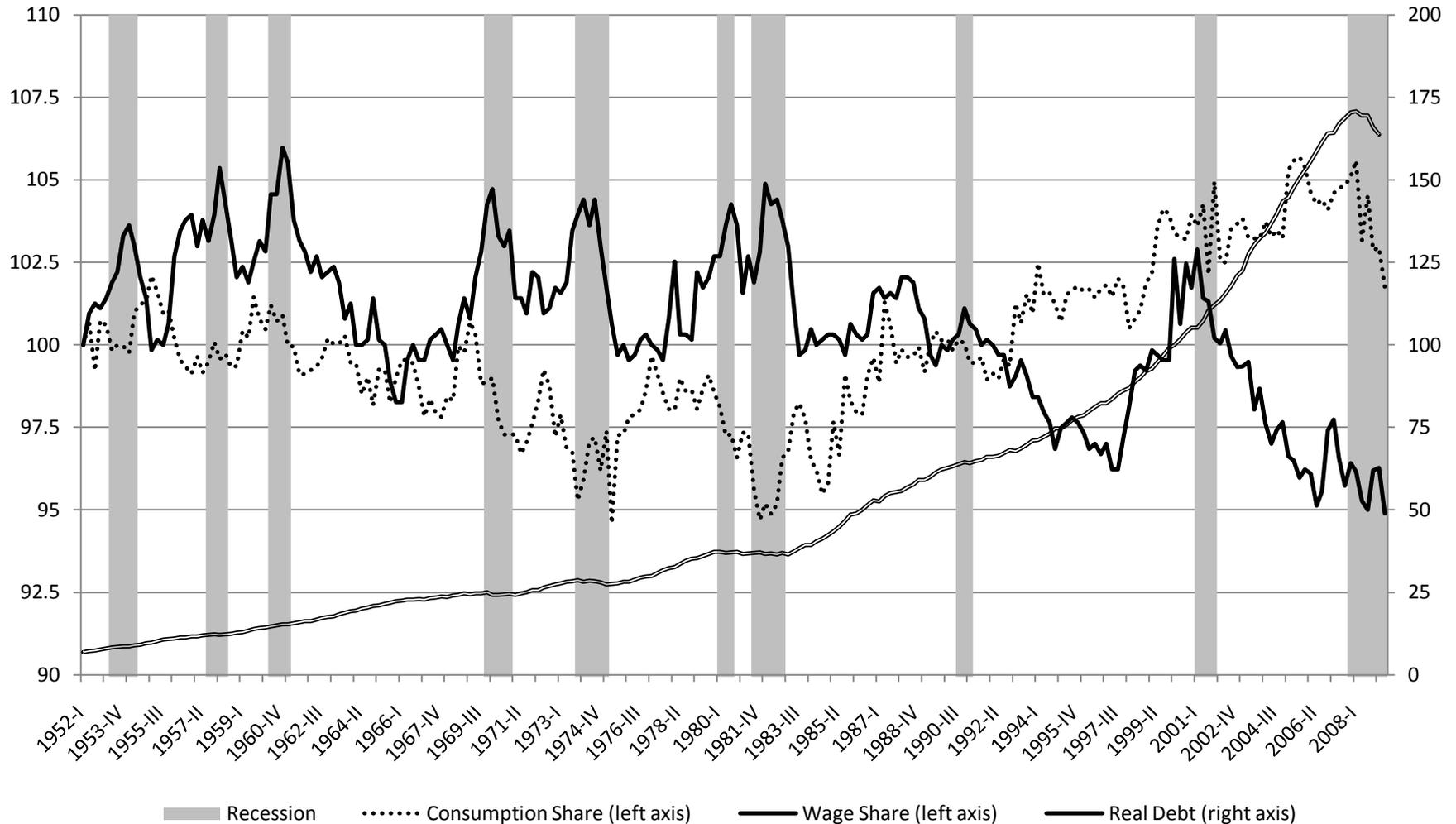
Lead in to the crisis II

- 1970-1980: Stagflation, oil shocks, loss of post WWII US international hegemony.
- 1980-2007: New liberal resurgence, financial deregulation, emergence of finance theory
- Rising inequality (top 1% of households have 22.5% of income in 1929, 9% in 1979, 22.5% again in 2006)

Lead in to the crisis III

- Next slide: along with income concentration there is the trend decrease in wage share noted above (though Goodwin cycle persists)
- A big increase in the consumption share of income
- A big increase in household real debt.
- In effect, most households displaced stable or falling real incomes into more debt to increase consumption!

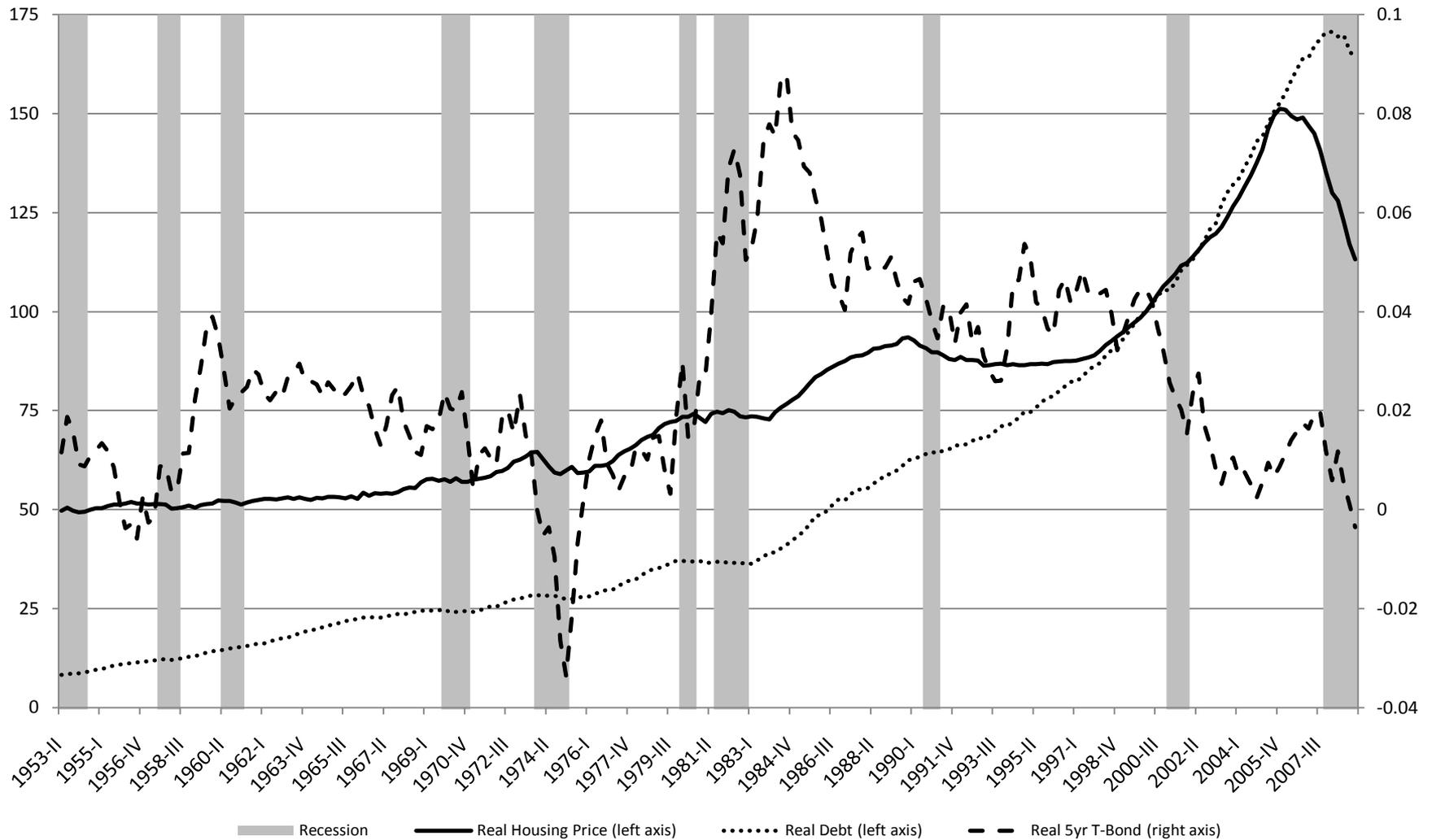
Wage share of value-added, consumption share of disposable income, and household debt to income ratio with NBER reference recessions



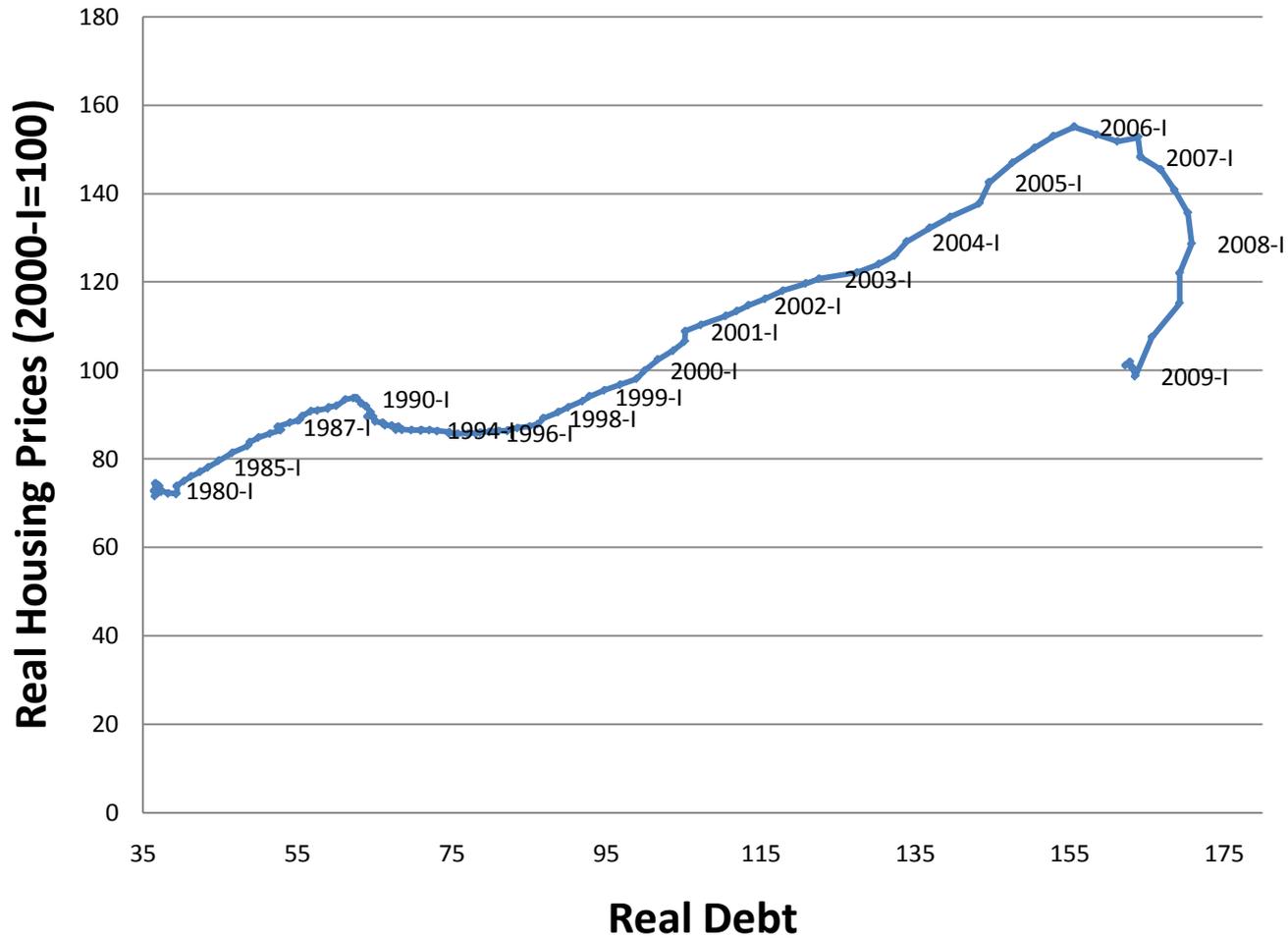
Lead in to the crisis IV

- The collateral for the debt was rising equity and (especially) housing prices.
- Household borrowing was eased by falling real interest rates. Note how it overshoot fall in housing prices (typical pattern in financial cycles).
- However, the ratio of debt to net worth was fairly stable, and ratio of expenditure to net worth actually fell on trend until the crisis.
- One could say that consumers were borrowing “rationally” (NINJA mortgages and all) believing that housing prices would just keep on rising.

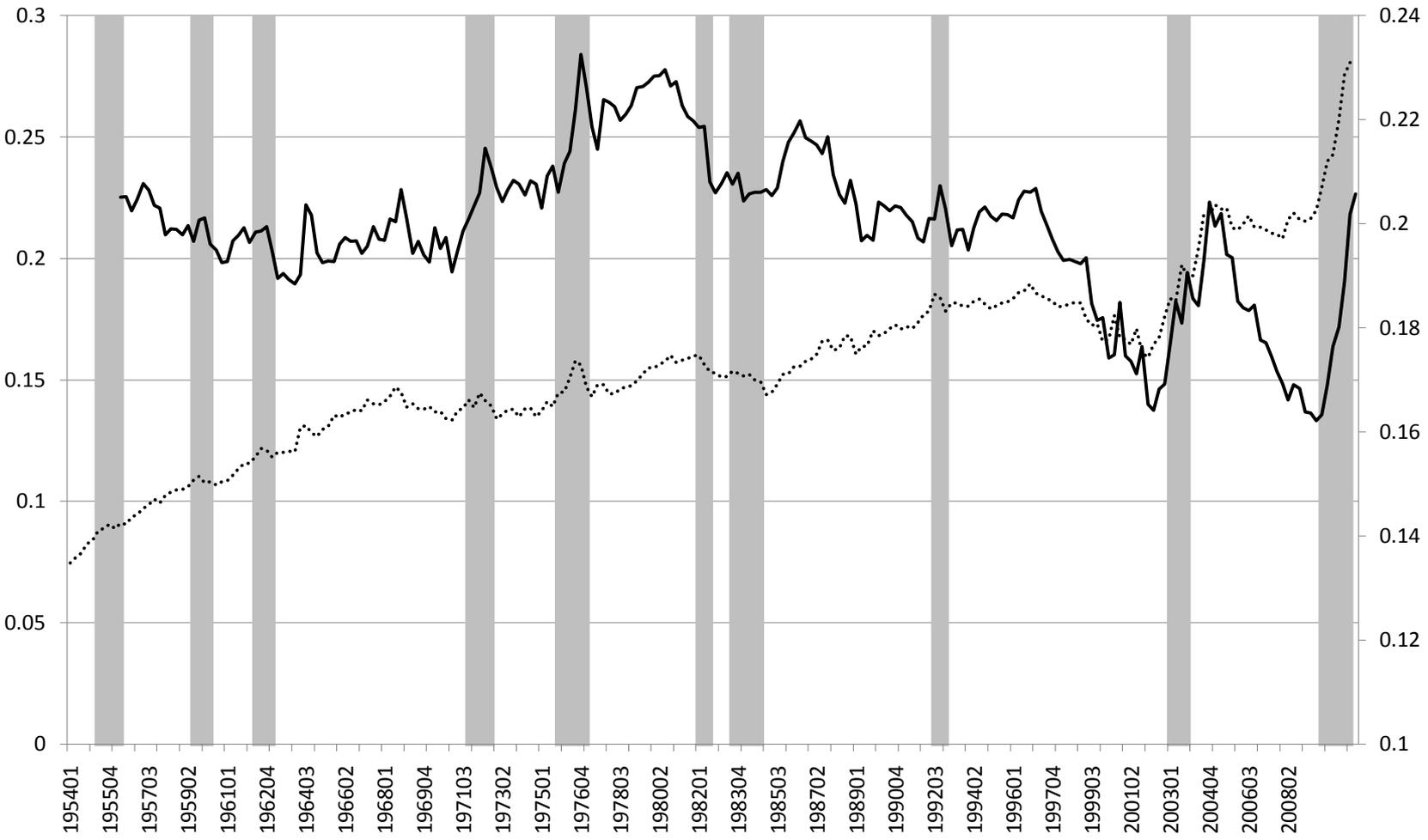
Real medium-term interest rate, housing prices, and real household debt with NBER reference recessions



Real US housing price index vs. real consumer debt



Household debt and expenditure relative to net worth



Recession
 Household Debt / Net Worth (Left Axis)
 Household Expenditure / Net Worth (Right Axis)

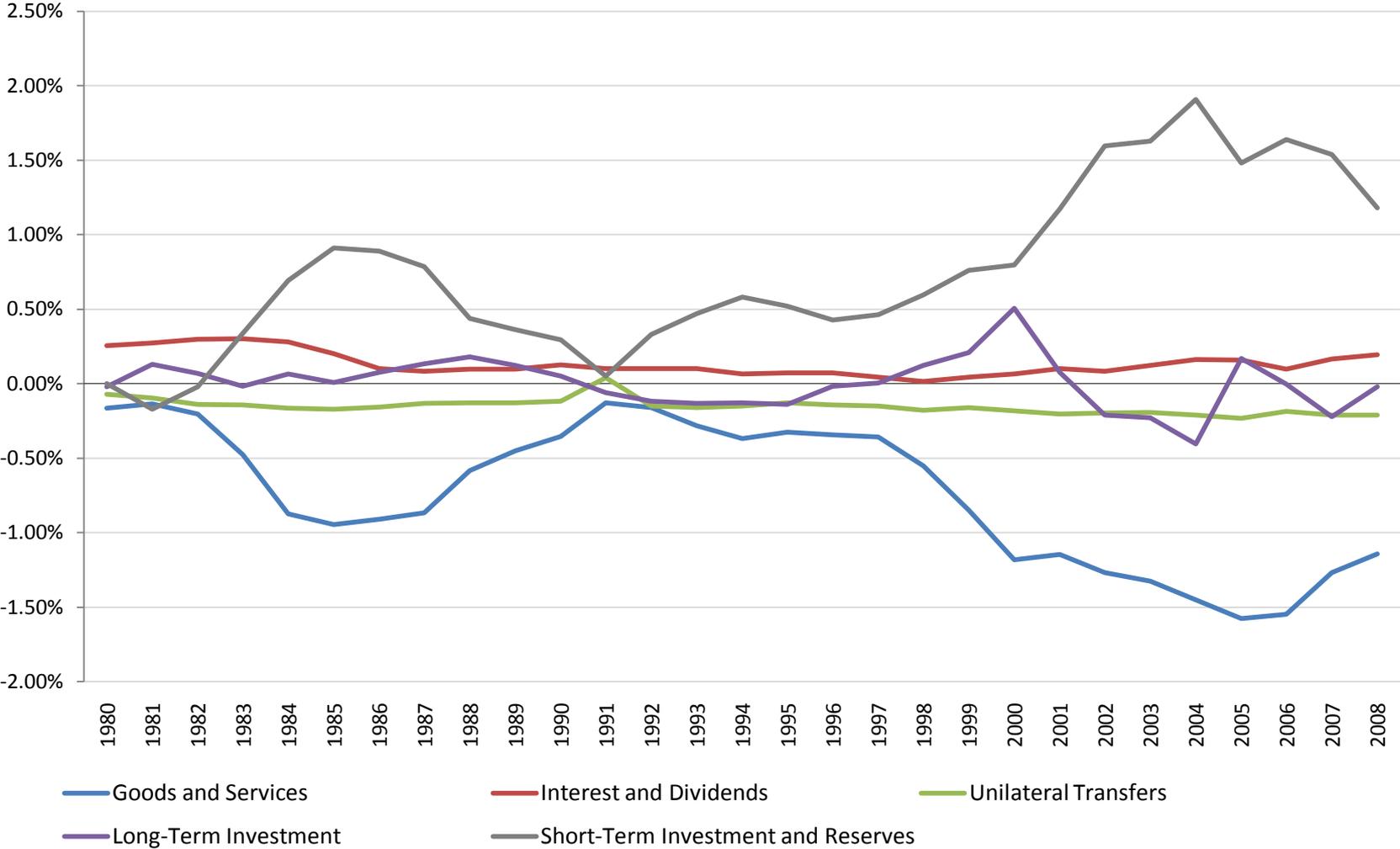
Lead in to the crisis V

- Finally, after WWII the US had strong external surplus on trade and rising surplus on “factor income”
- The trade surplus disappeared around 1980, with Japan, Germany, China, and OPEC running surpluses instead.
- Global economic flows became highly unbalanced -- the external complement to internal imbalances

Lead in to the crisis VI

- Data on flows in the balance of payments are available post-1980. They are scaled to world GDP in the next slide.
- Look at downward trend in net borrowing, especially after early 1990s when the US exported military services for the Gulf War.
- It is offset by “net” short-term capital inflows (flows in minus flows out).
- US maintains net (though declining) long-term foreign investment and gets interest and dividend income from abroad.

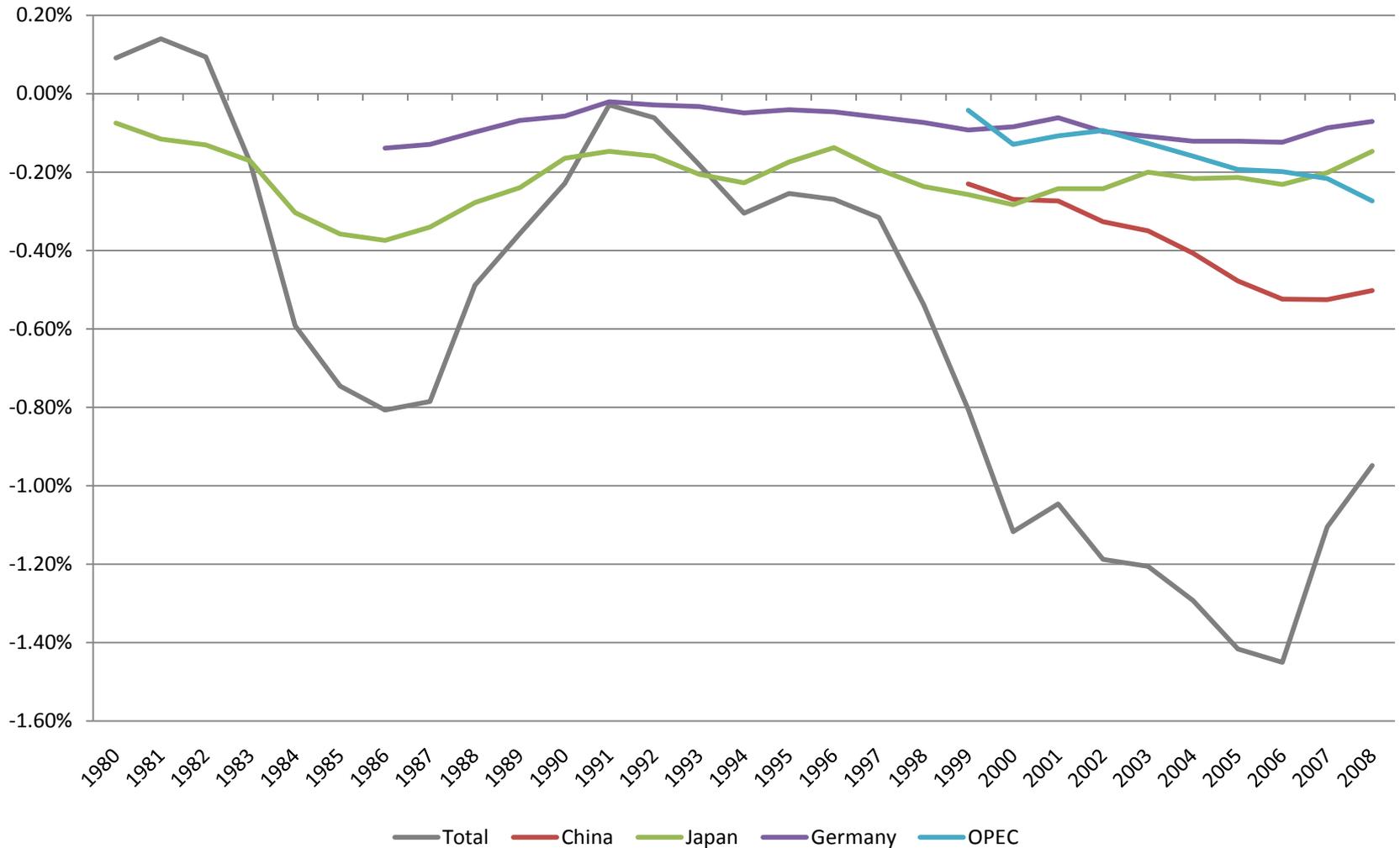
US net international flows as % of world GDP (1980-2008)



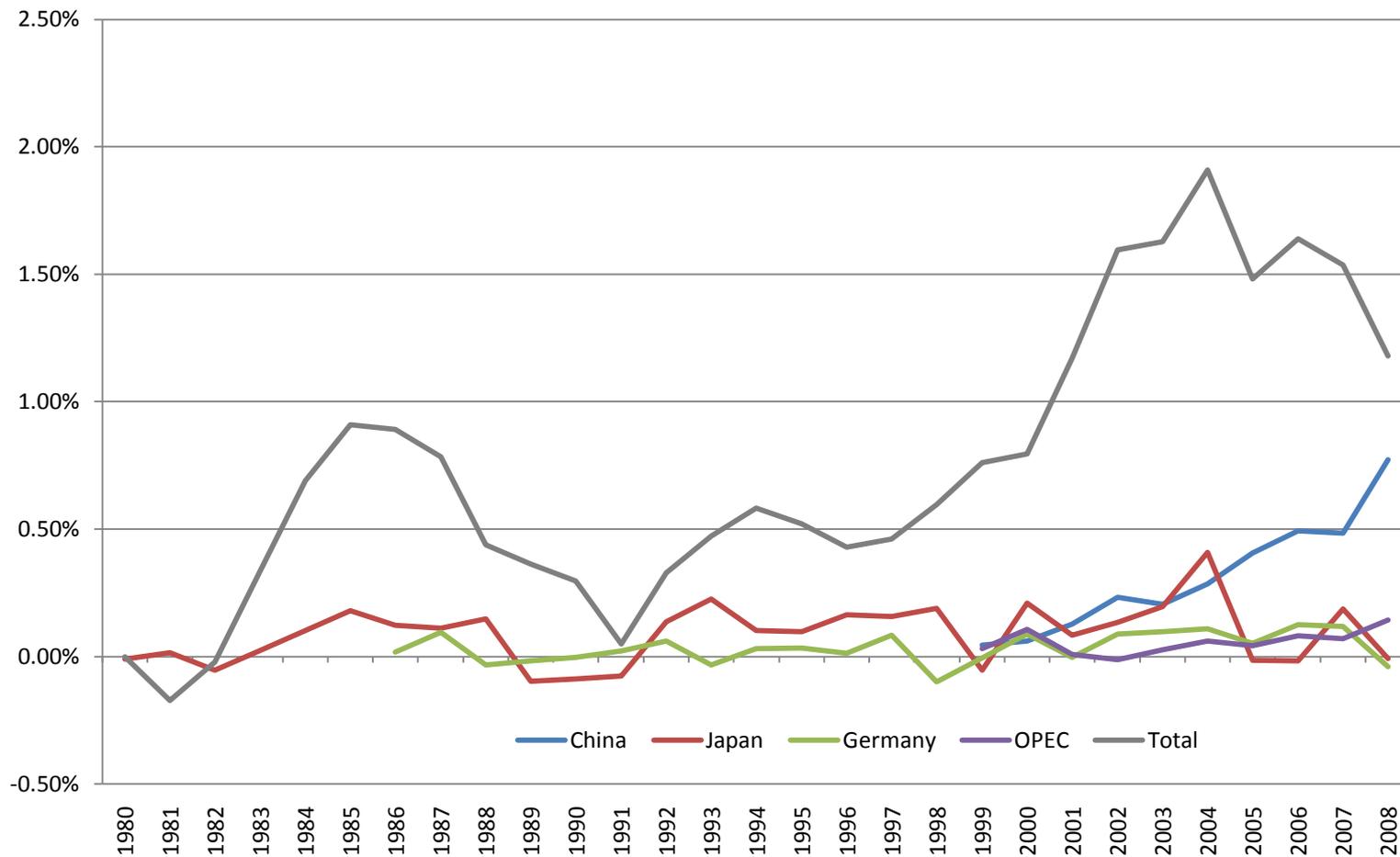
Lead in to the crisis VII

- Bilateral current account deficits with Japan, Germany, China, and OPEC accounted for much of the US overall deficit. Japan was important in the 1980s, China and OPEC in the 2000s.
- China also emerged as the major provider of short-term capital after the mid-2000s).

US total and bilateral current account balances as % of world GDP (1980-2008)



US total and bilateral balances of short-term capital and reserves as % of world GDP (including errors and omissions, 1980-2008)



Complexity of the crisis I

- So we get nine interacting sets of events:
- 1. Major shift in political economy after 1980
- 2. Real interest rate and wage share trend down after 1980 across cycles; profit rate and household borrowing trend up. Such trends cannot continue forever
- 3. Ratio of household debt to income doubles.

Complexity of the crisis II

- 4. Equity price boom from early 1980s to late 1990s, thereafter negative real equity returns. Housing price boom peaks in mid-2000s
- 5. Asset price bubbles allowed households to maintain consumption even with rising inequality.
- 6. The “twin” to rising household borrowing comprised foreign trade surpluses. Ben Bernanke argued that they resulted from a global “savings glut” in a well-functioning market; others see policy accommodation between the US and China in support of an overvalued renminbi.

Complexity of the crisis III

- 7. Falling real interest rates supported bubbles.
- 8. “Light touch” regulation was probably more important as a cause (US vs. Canada). It was rationalized by the emergence of high tech finance theory.
- 9. Keynesian macroeconomics was supplanted by Say’s Law in the eyes of the economics profession; finance theory flourished.

Complexity of the crisis IV

- Factors 7 through 9 supported the financial mania, panic, and crash – nothing new in historical terms.
- Shifts in household behavior (points 3 and 5) aided by asset price bubbles (point 4) were main transmission channel to the real economy.
- With the financial crisis, aggregate demand collapsed along with household net borrowing. Major recession – Say's Law was *not* enforced

Complexity of the crisis V

- Global trade and financial flows adjusted to be consistent with crisis in the US
- The changing political economy environment made the whole process possible.

- Even Maynard Keynes could not have foreseen the whole chain of events, but the only way to understand it is in his intellectual terms – that is the source of his “revenge.”

If you want to see more....

- Lance Taylor, *Maynard's Revenge: The Collapse of Free-Market Macroeconomics*, Harvard University Press, 2010