

# Credit Overhangs

Central Bank of Turkey

Reinventing Bretton Woods Committee

Panel: Inflationary and Deflationary Tendencies in the Global Economy

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# The Aftermath of the Great Recession

- Recovery from the Great Recession proceeds far slower than anticipated and most forecasts were too optimistic.
- This is true even in countries with active monetary and fiscal policy response to the crisis, e.g. U.S.
- Considerable heterogeneity in economic performance, e.g. Germany v UK.
- Are recoveries from financial crises different?  
What's holding economies back?

# Value of macroeconomic history

- Importance of long-run empirical evidence
  - Financial crises are rare events
  - Dangers of myopic focus on 20 years of data
- The influential work of Reinhart and Rogoff looks at public debt and its effects on the economy
  - e.g. Reinhart/Rogoff (AER, 2009, 2010)
- Focus in our research is on *private sector credit*
  - Schularick/Taylor 2012 (AER, 2012);  
Jorda/Schularick/Taylor 2011 (IMFER, 2011)

# Credit, Crises and the Macroeconomy

- We assembled a new panel database of bank credit over 140 years.
- 14 *advanced* economies: yearly data from 1870 to 2008.
- Study role of leverage in close to 200 business cycles.

## Two key facts emerge

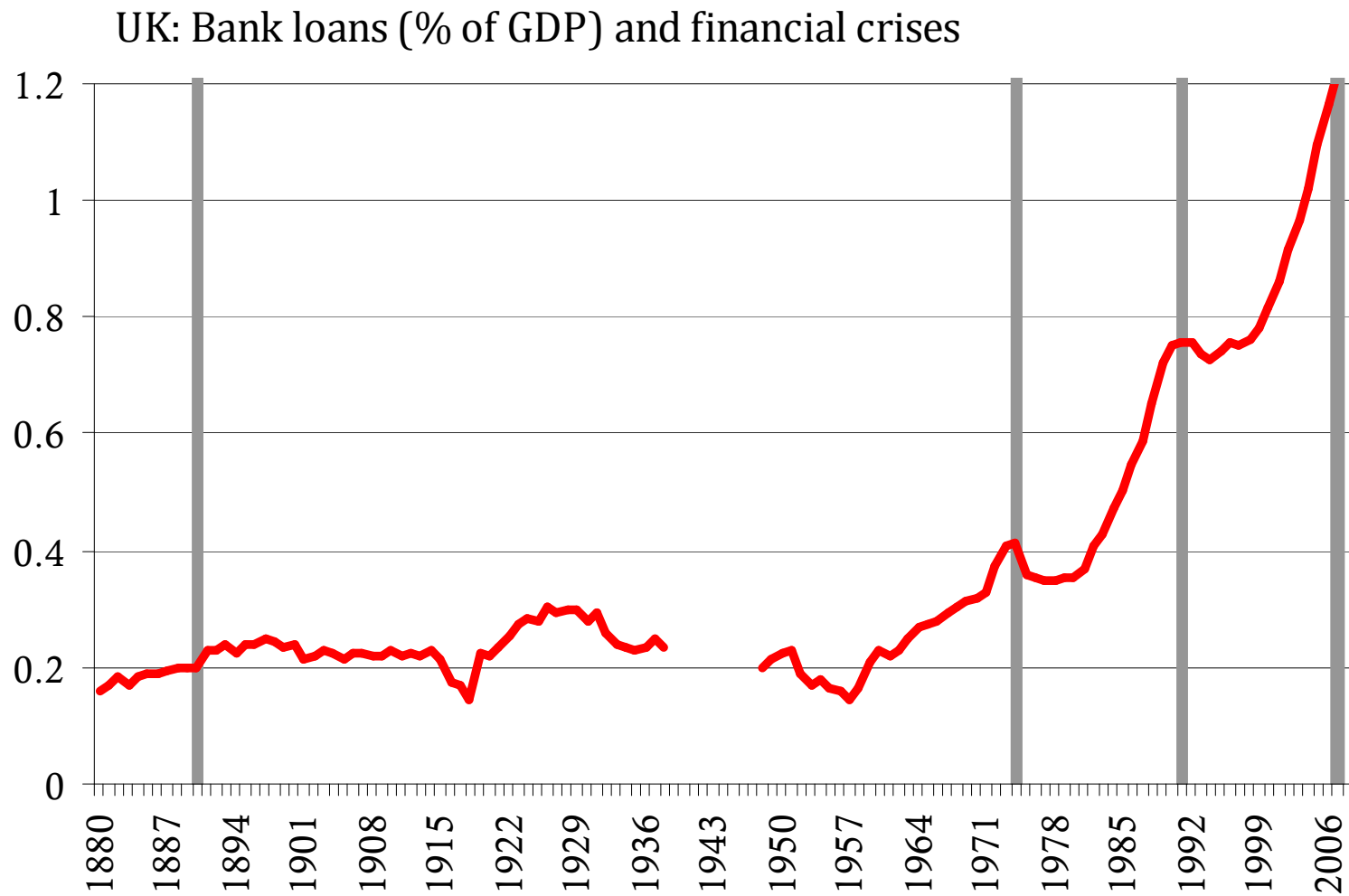
- Fact 1: Crises are credit booms gone bust.
- Fact 2: More credit intensive booms are followed by deeper recessions.

# Fact 1: Crises are Credit Booms Gone Bust

For crisis prediction:

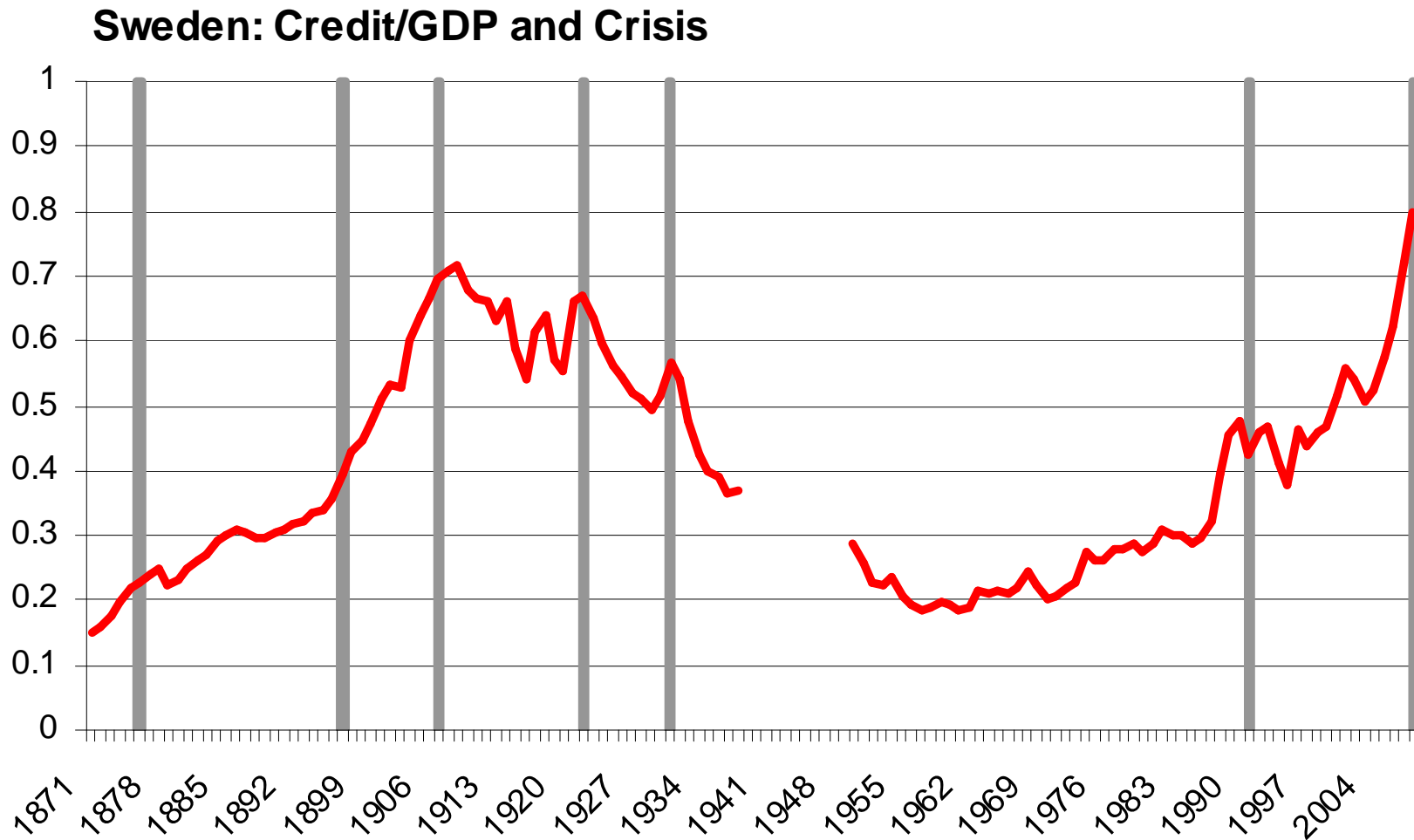
- An acceleration of credit growth is the best early warning signal for financial crises
  - True also in advanced economies
- The role of current account imbalances is much less clear
  - Jorda, Schularick, Taylor 2011; Schularick and Wachtel 2012
  - FoF: China financed the war in Iraq at low cost, Wall Street financed the housing bubble with foreign *private* savings
  - Need to look at gross flows, not net flows (cf. Obstfeld; Borio)

# UK: Credit and Crisis



Source: Schularick and Taylor (2012)

# Sweden: Credit and Crisis



Source: Schularick and Taylor (2012)



# Baseline Model

Specification (Logit country effects)	(6) Baseline	(7) Replace loans with broad money	(8) Replace loans with narrow money
L.Dlog(loans/P)	-0.108 (2.05)	1.942 (2.94)	-0.890 (1.37)
L2.Dlog(loans/P)	7.215*** (1.99)	5.329** (2.52)	2.697 (1.68)
L3.Dlog(loans/P)	1.785 (1.83)	2.423 (2.63)	2.463 (1.77)
L4.Dlog(loans/P)	0.0517 (1.49)	-1.742 (2.51)	-2.244 (1.65)
L5.Dlog(loans/P)	1.073 (1.78)	4.275* (2.30)	1.210 (1.82)
Observations	1285	1361	1394
Groups	14	14	14
Avg. obs. per group	91.79	97.21	99.57
Sum of lag coefficients	10.02***	12.23***	3.235
se	3.235	3.544	3.129
Test for all lags = 0, $\chi^2$	17.22***	18.35***	5.705
p value	0.0041	0.0025	0.3360
Test for country effects = 0, $\chi^2$	7.789	9.333	8.627
p value	0.857	0.747	0.800
Pseudo $R^2$	0.0596	0.0481	0.0343

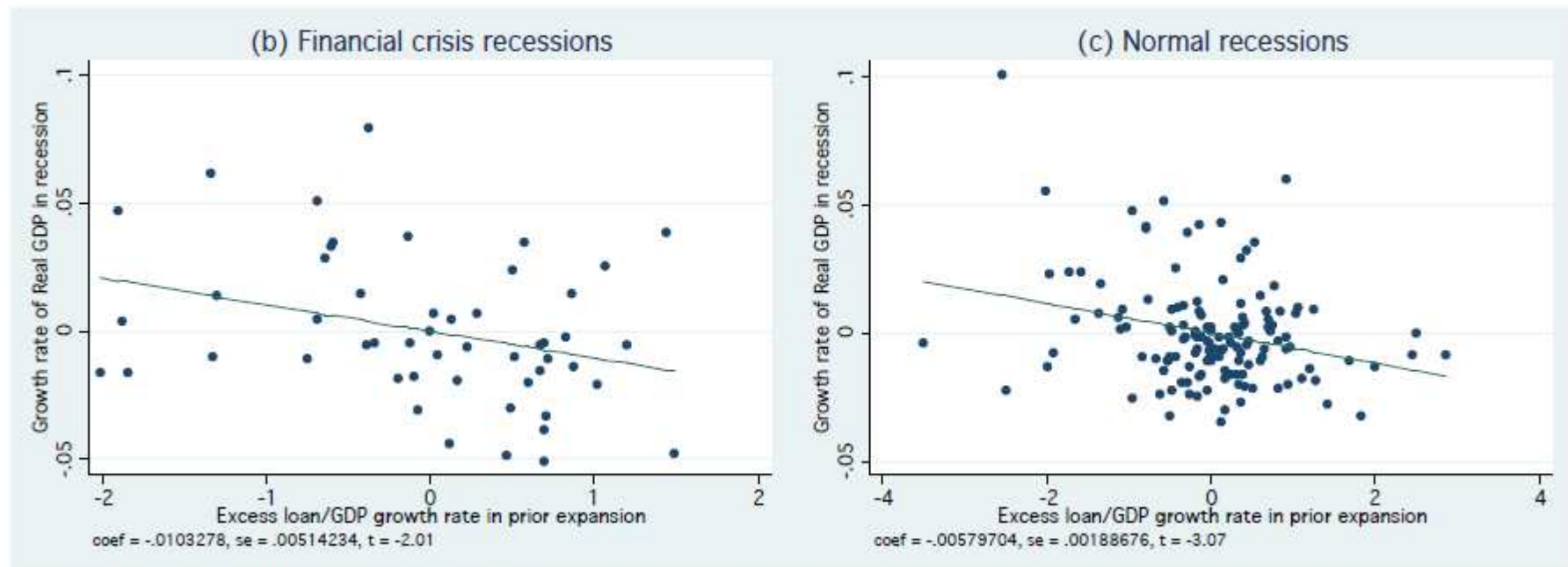
Source: Schularick and Taylor (2012)

## Fact 2: Credit Bites Back

- A close relationship exists between the build-up of leverage in the expansion and the severity of the subsequent recession.
- More credit intensive booms tend to be followed by deeper recessions.
- Debt overhang has effects on consumption and investment for many years.
- Inflation is not a threat for many years in debt overhang situations.

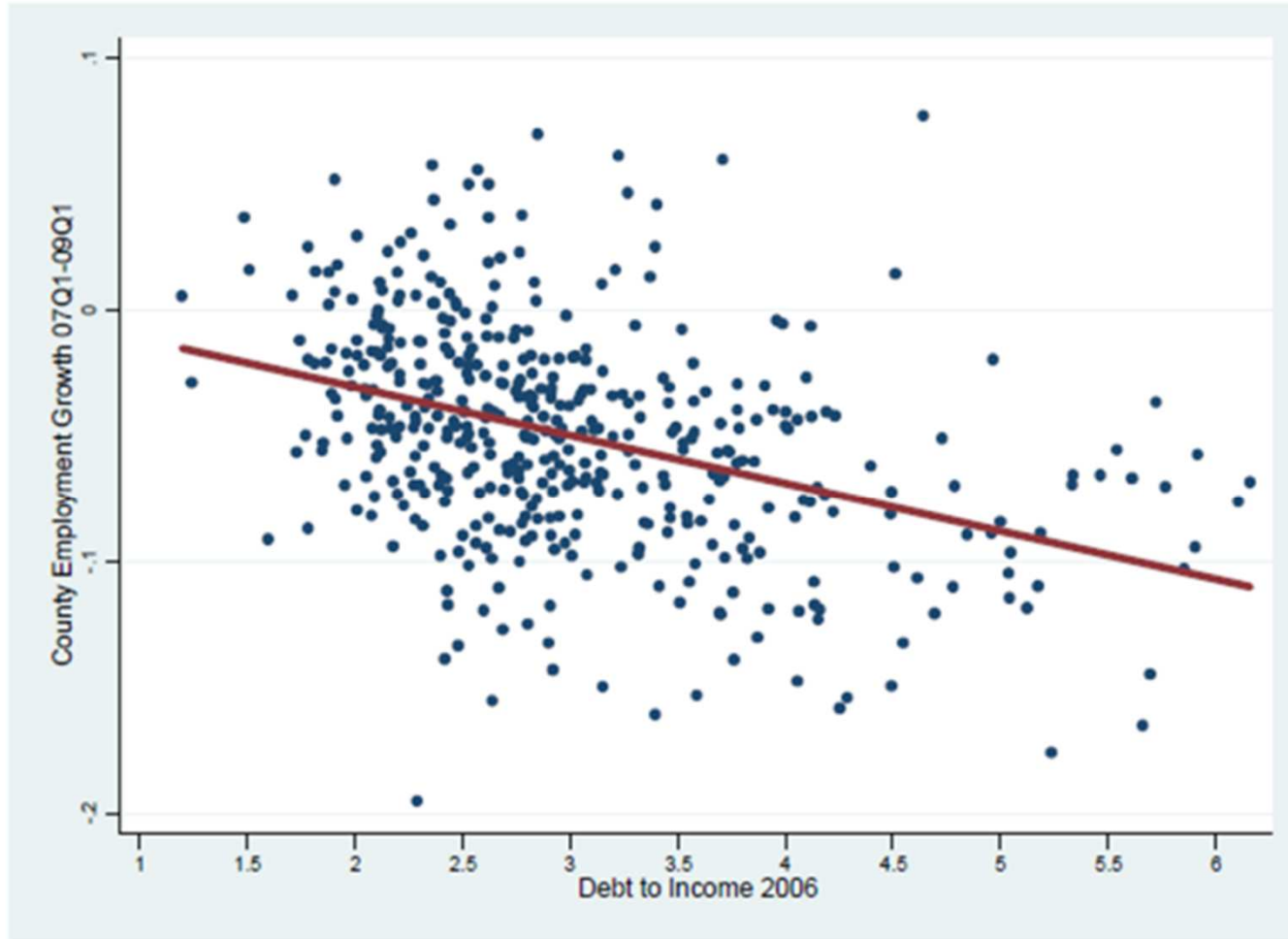
# After the Party

**Figure 10** “Excess” Credit Growth in Expansion and the Intensity of Recession



Source: Jordà, Schularick, and Taylor (2011).

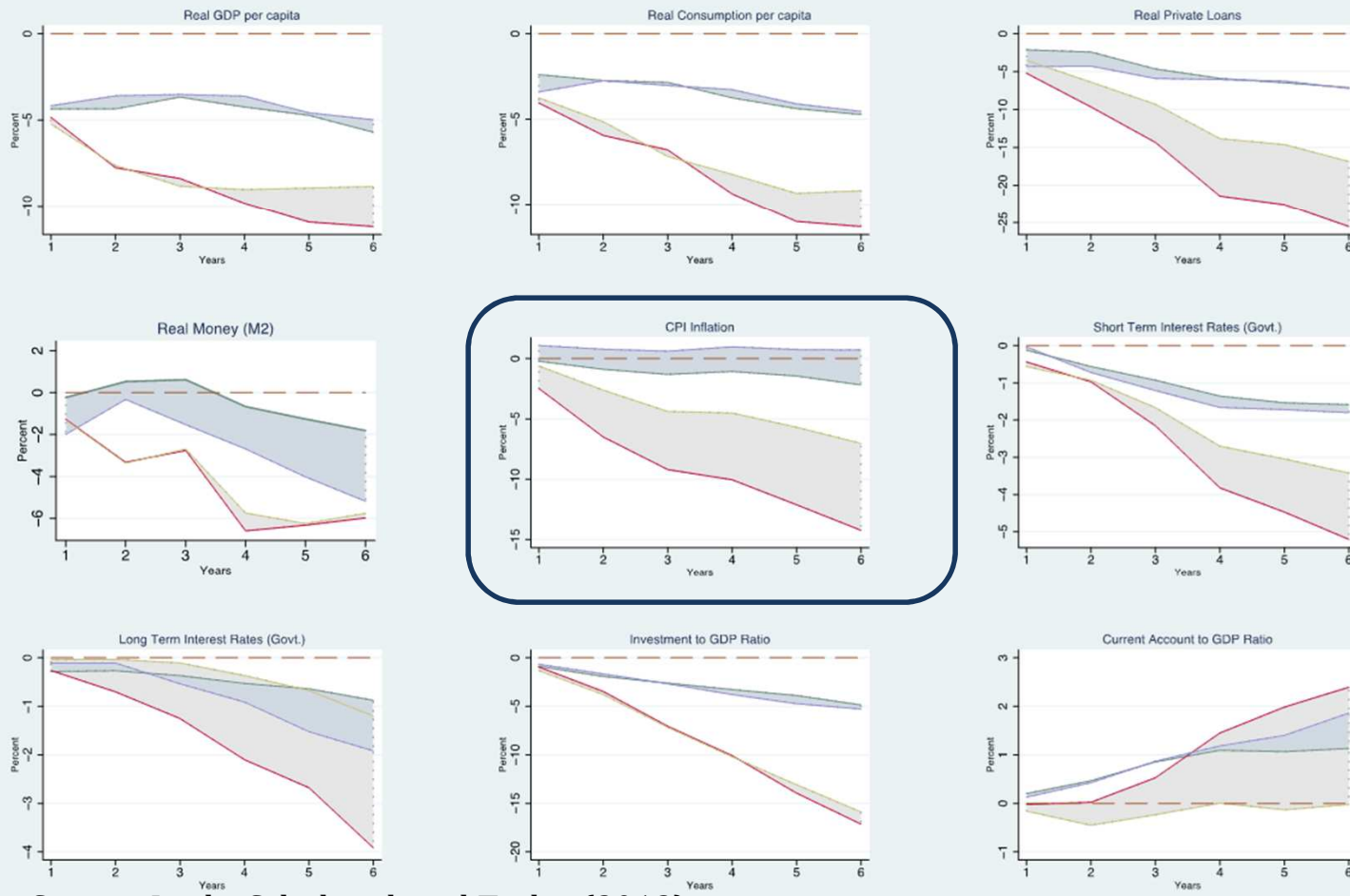
# Debt overhang: Household leverage and employment losses in US counties



Source: Mian/Sufi 2011

# Inflation is a phantom menace

## Cumulative Effects of Normal vs. Financial Recessions: FULL SAMPLE Excess Leverage at the Mean and one S.D. from the Mean

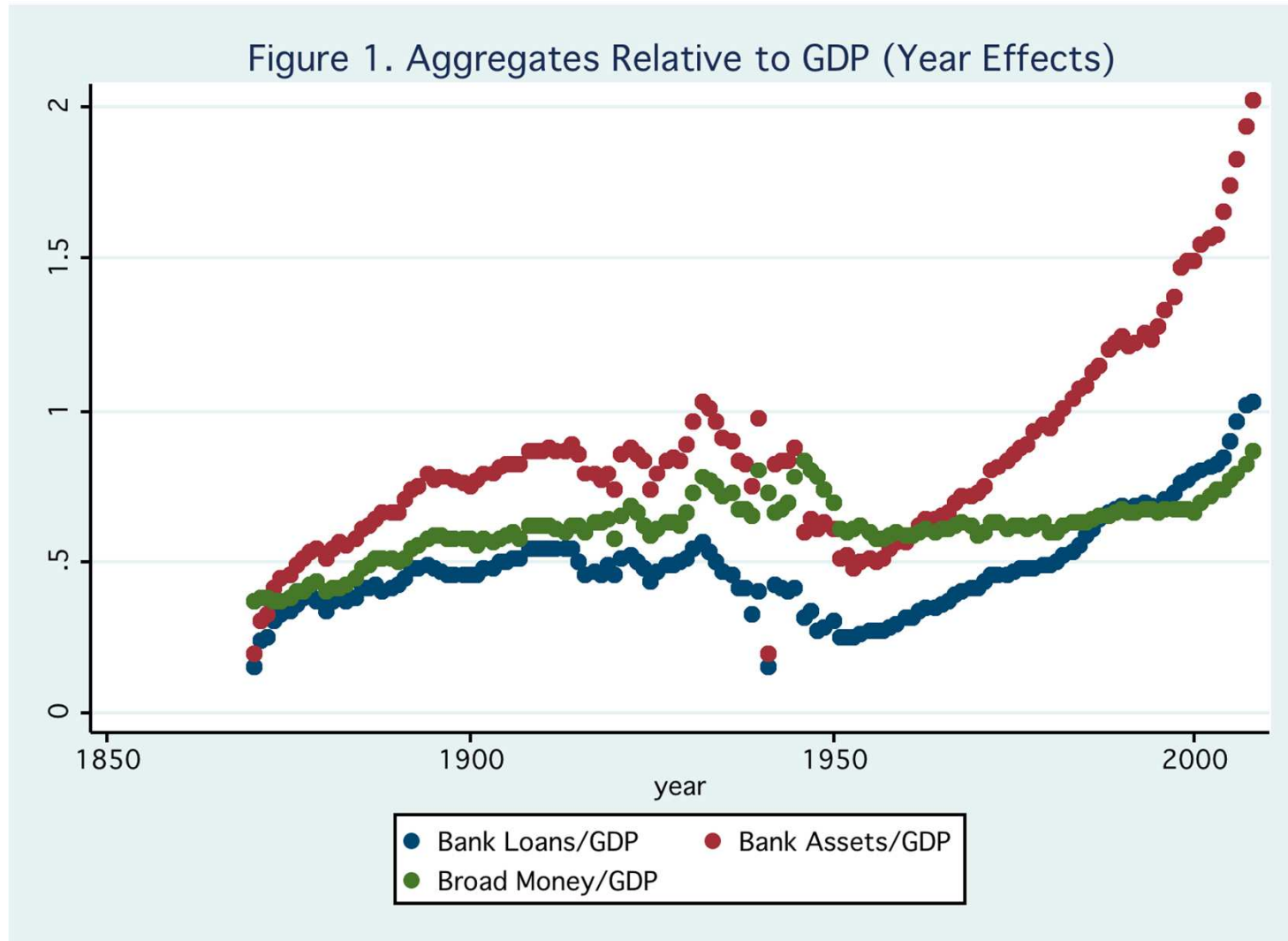


Source: Jorda, Schularick and Taylor (2012)

# Key lessons for policy makers

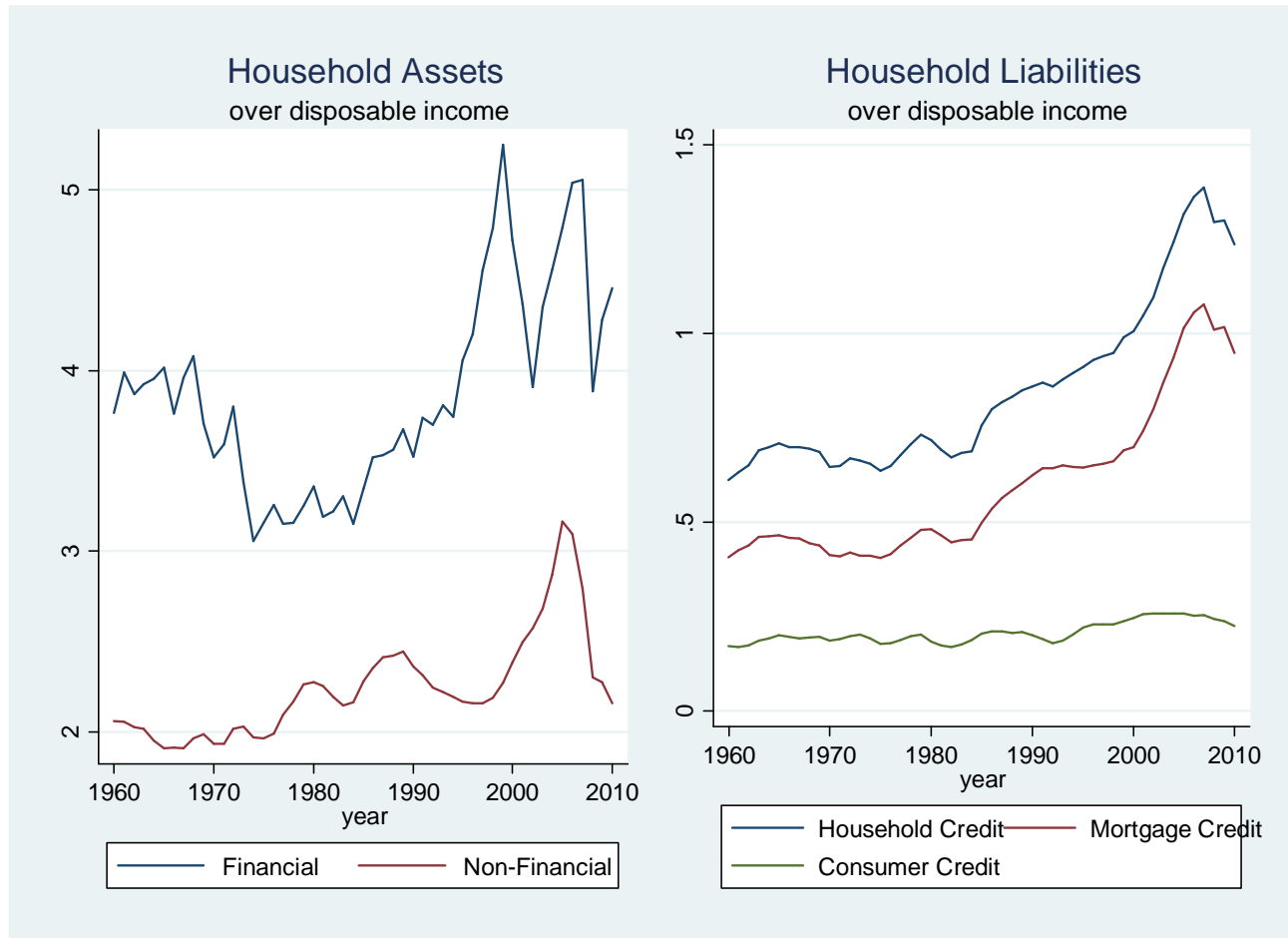
- *Lesson 1:* Credit growth contains valuable information about the economy that a pure inflation targeting Central Bank would miss.
- *Lesson 2:* After a big credit boom expect a more painful recession and mark down growth; treat inflation is a phantom menace for many years.
  - Keep in mind: the recent credit boom was of truly historic proportions...

# The Great Leveraging



Source: Schularick/Taylor (2012)

# Household debt overhang



Source: Schularick and Wachtel (2012)



Thank you for your attention!