Crísis Financieras y Política Macroeconómica

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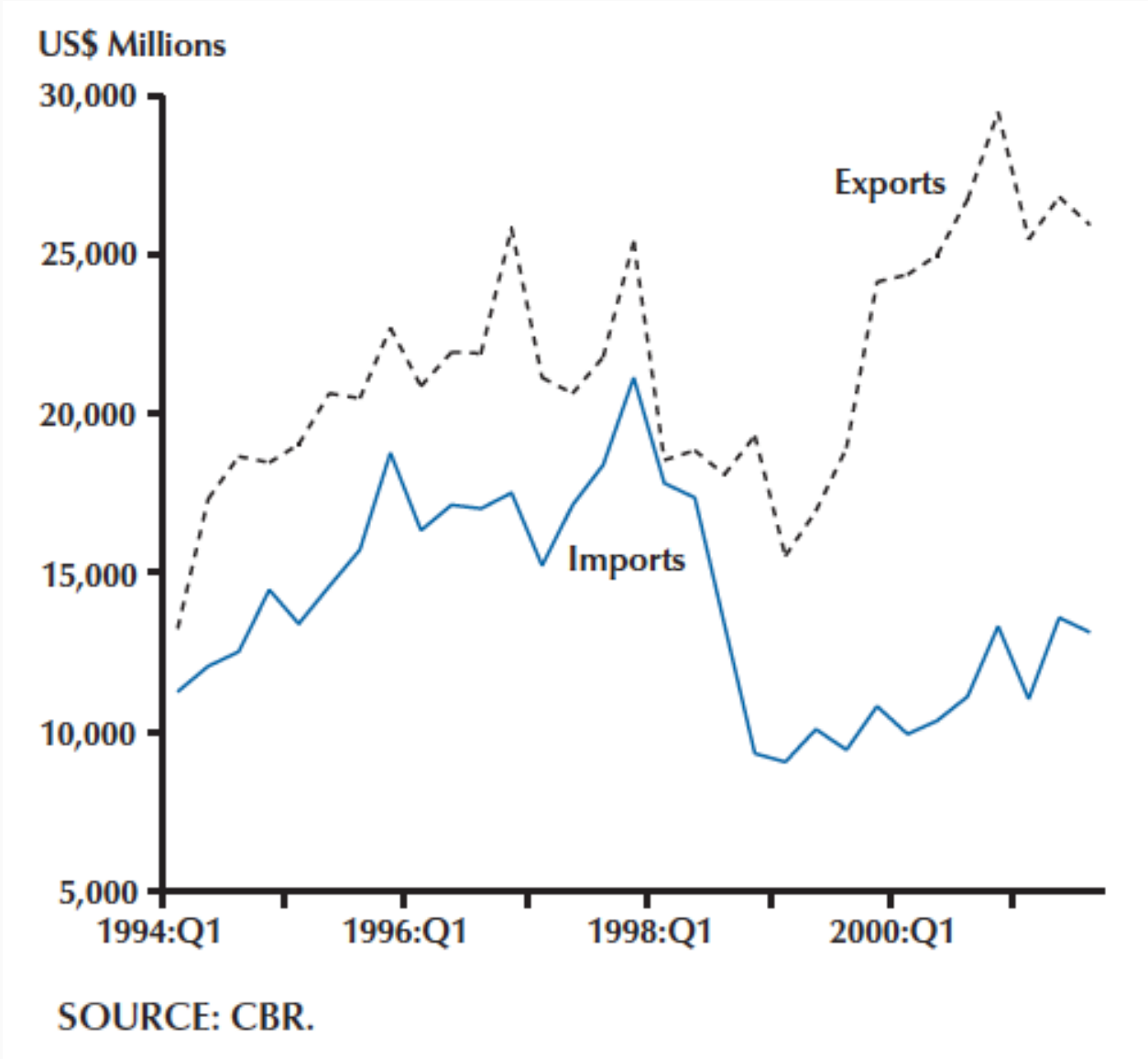
Case Study: Russia

Overview

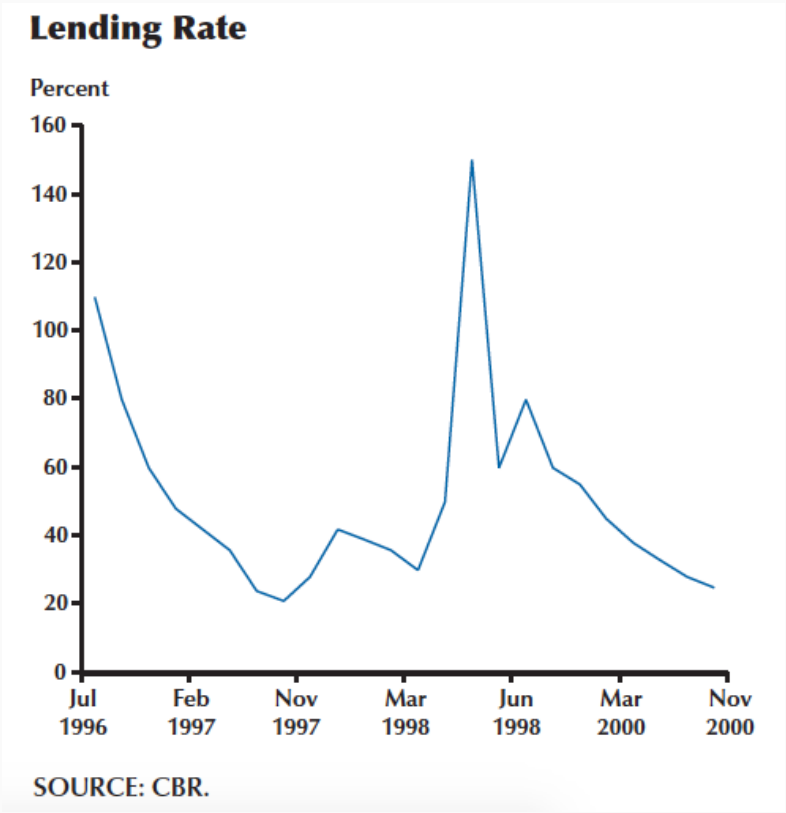
- Long period of economic reform with mixed results
- Political instability trigger change in investor sentiment
- Weak institutions and lack of social safety nets cause for political unrest
- Banking sector exposed through off-balance sheet liabilities
- Debt overhang and reliance on external assistance
- Contagion from Asian financial crisis
- External shock: decline in commodity prices (oil)

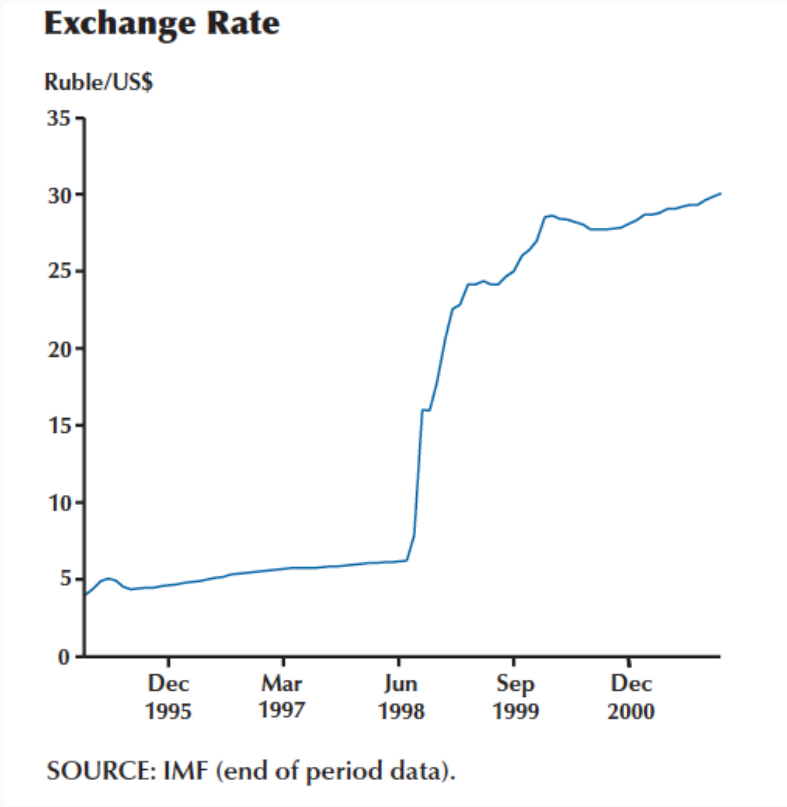
External adjustment



- Rapid contraction of imports and CA reves

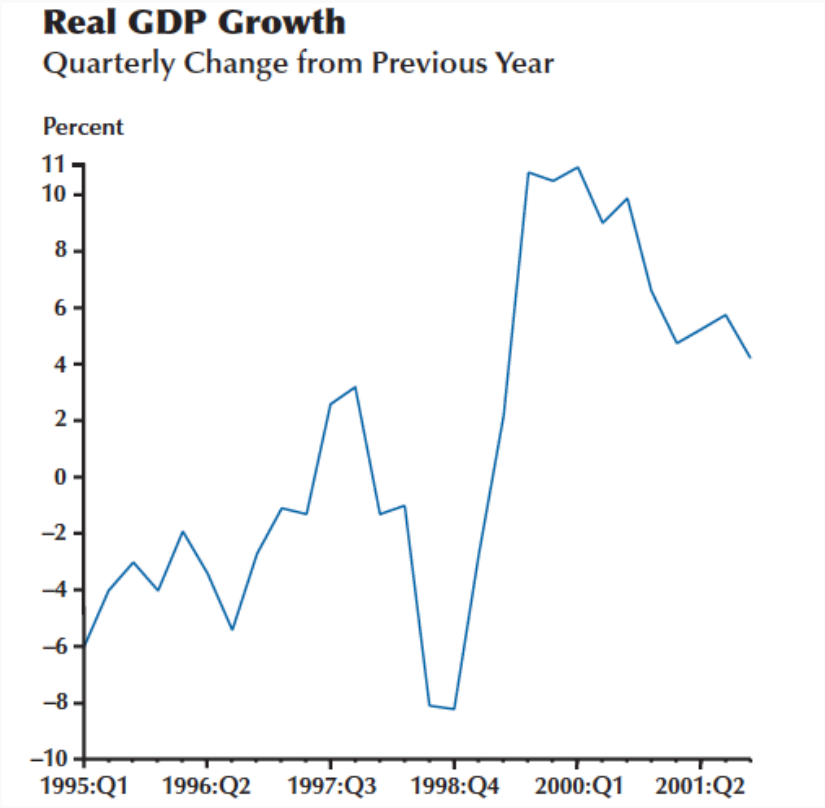
Currency defense





- Loss of confidence in government and increase in the cost of borrowing
- CBR increased lending rate to banks and burned through \$1 billion of Russia's foreign exchange reserves the ruble.

The collapse



- Emergency closure of stock market and a loss of 75% of value
- Annual yields on ruble denominated bonds were more than 200 percent
- Output contracted by 5%

Factors behind the crisis

- First generation story
  - Unsustainable fiscal deficit and currency peg
  - Pressure to inflate away debt
- Second generation: loss of confidence failed attempt to defend the peg
- Third generation: exposure of the banking sector and susceptibility to currency attack due to mounting pressure of interest rate payments
- Investor expectations
  - Fragile after crisis in East Asia
  - Negative signals from government
  - Loss of revenue due to external shocks

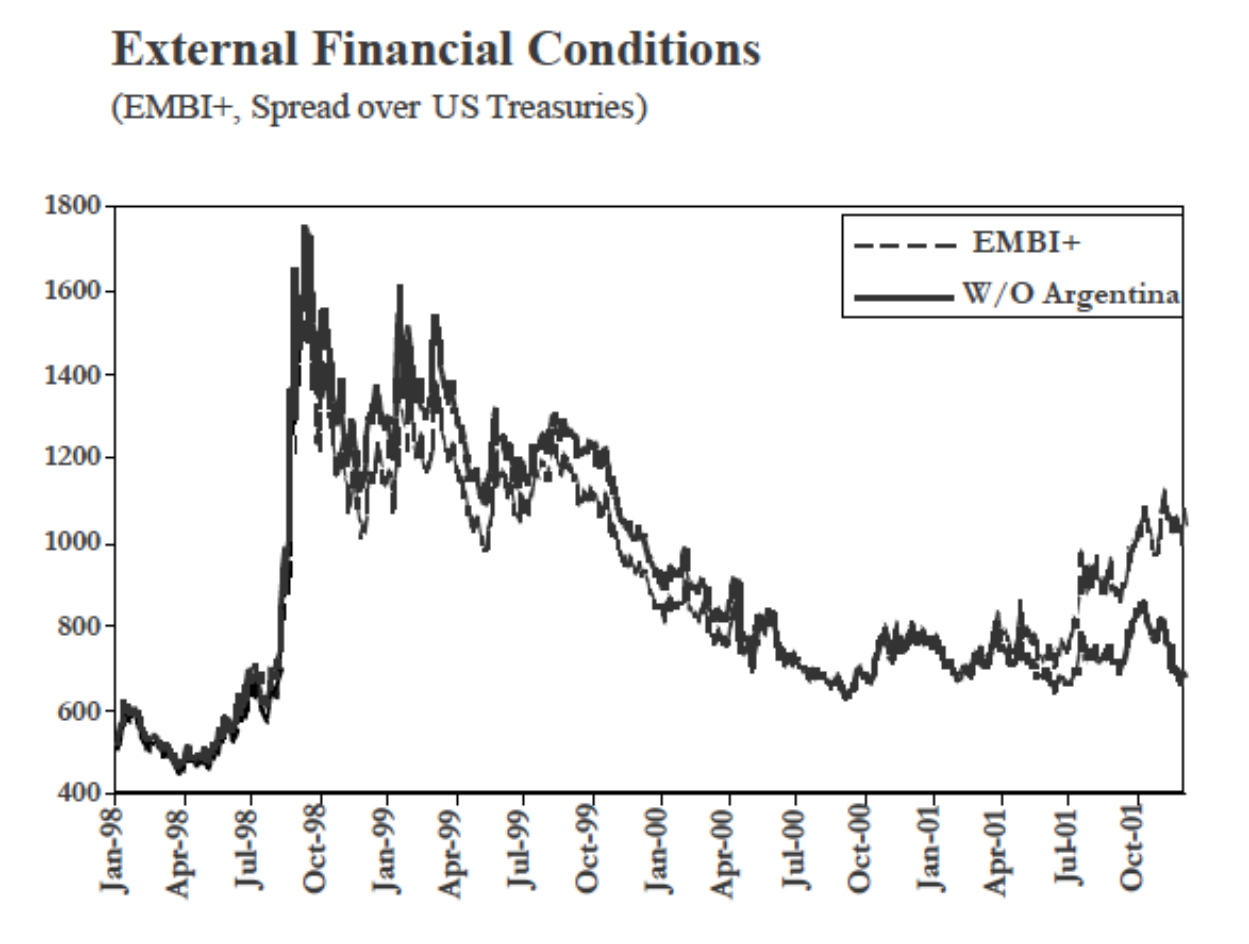
Case Study: Argentina

Overview

- Banking sector was dollarized *(de facto)*
- Currency overvaluation
- Expectations about exchange rate adjustment were misaligned due to potential costs
- Prolonged economic slowdown
- Large fiscal deficits and growing stock of debt
- Contagion after Russia: Mounting risk premium and loss of access to credit markets
- Fiscal policy severely constrained

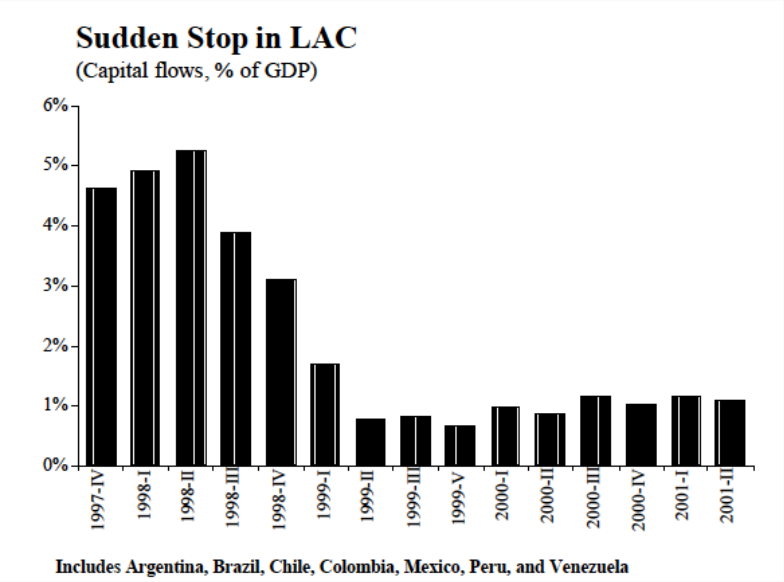
Result: Severe and prolonged sudden stop

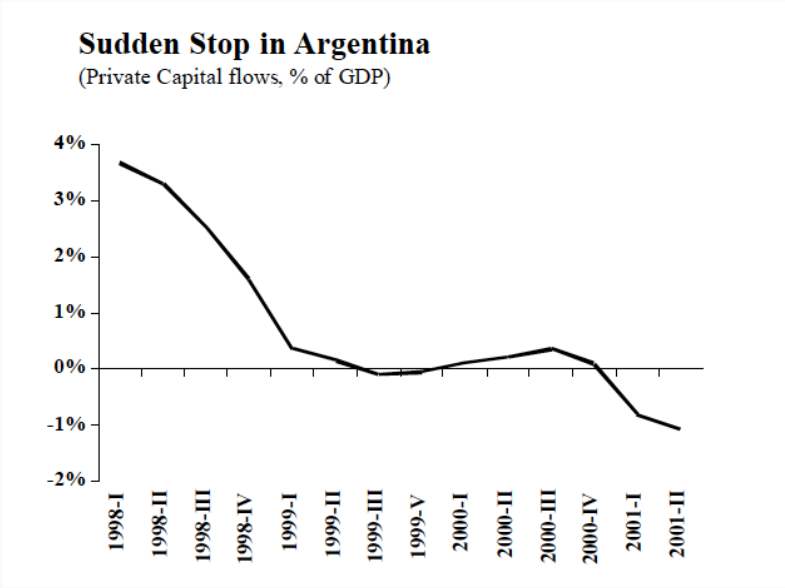
Capital markets post-Russia



- Higher cost of capital after 1998
- Sovereign spreads never returned to pre-1998 levels

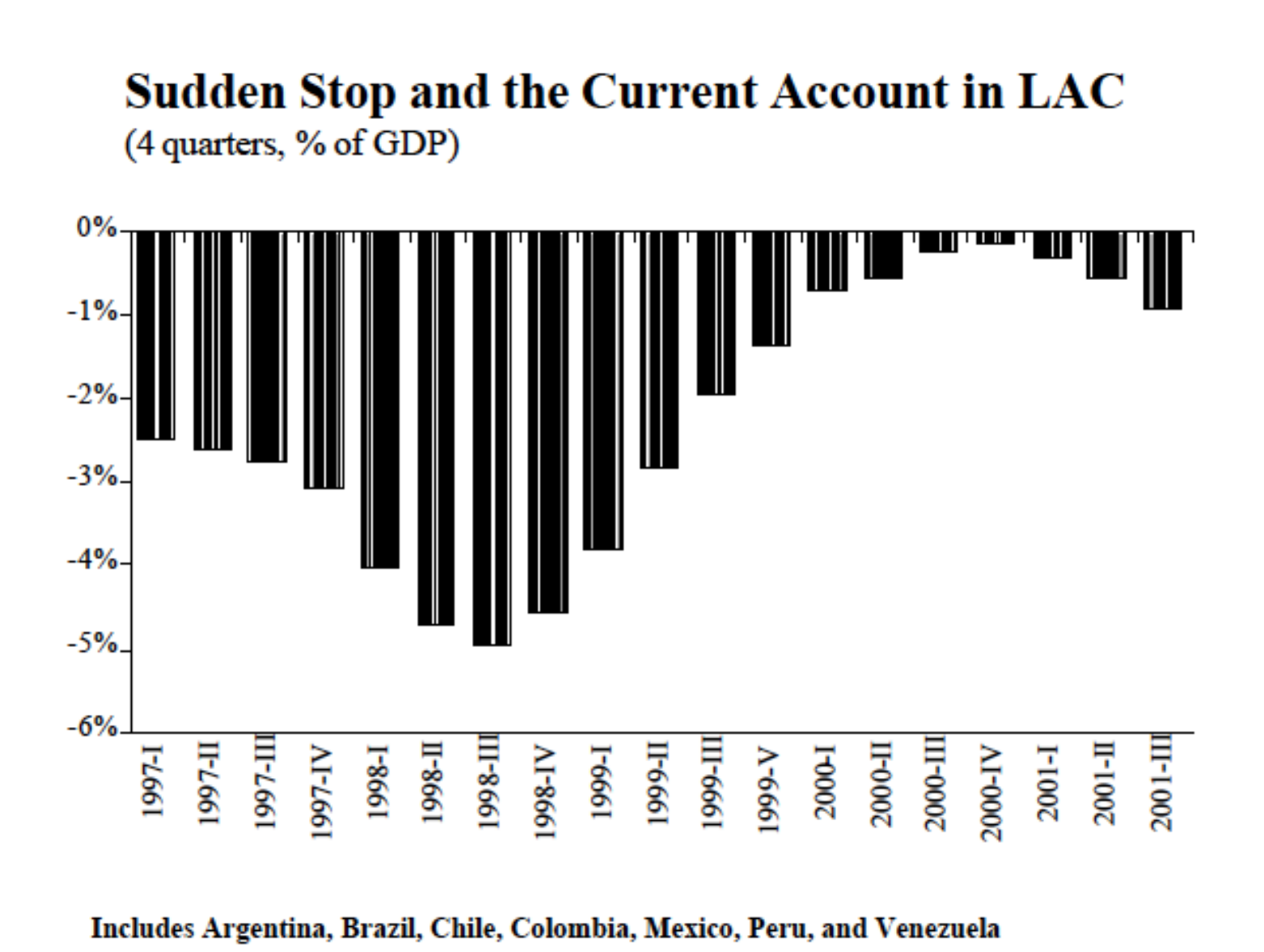
Capital flow reversal





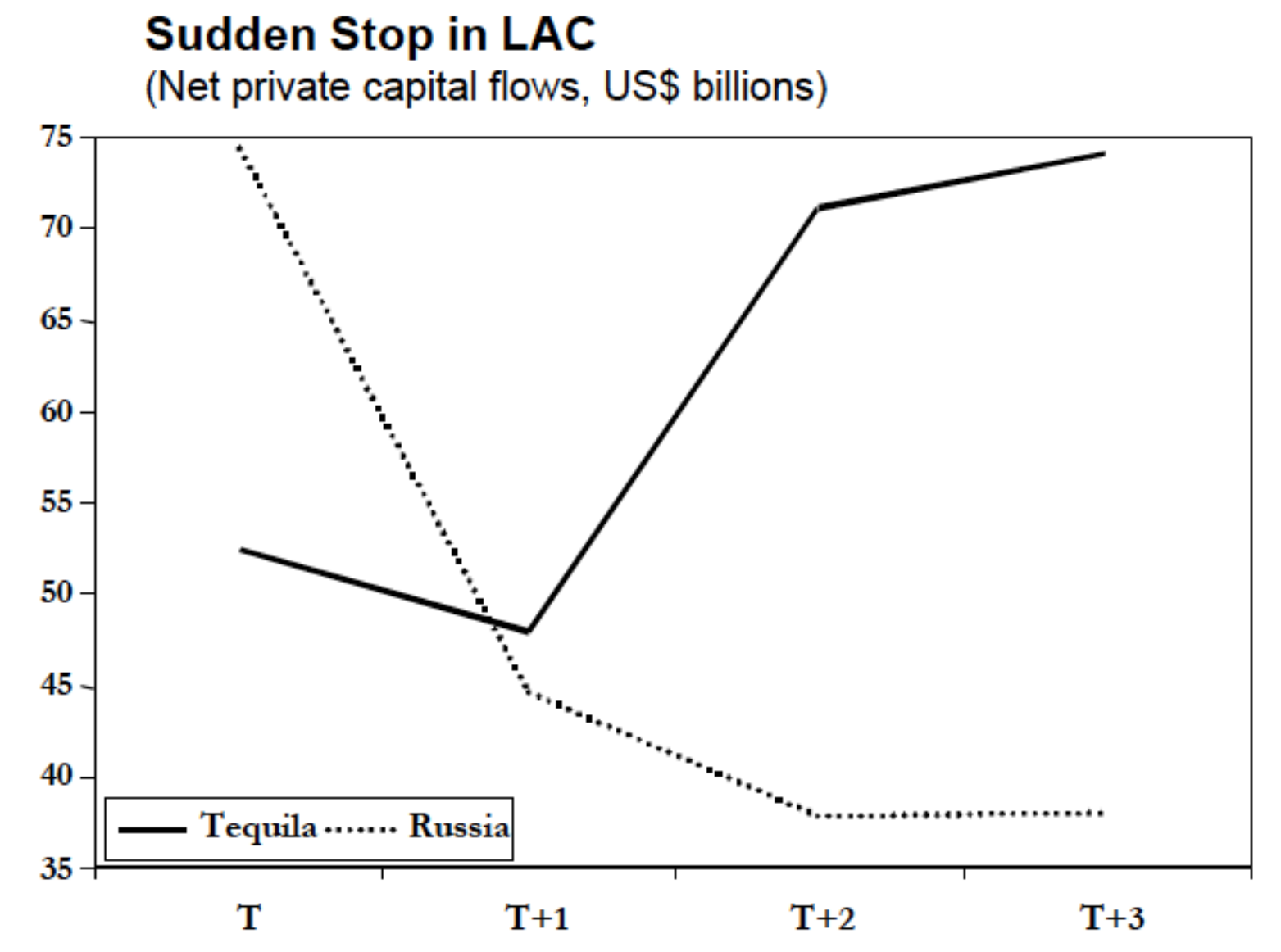
- LAC suffered from a reversal of capita flows after 1998
- Mainly a reduction in non-FDI flows

Adjustment through CA



- Large external component accounting for capital flow reversal

Different from Mexico 1994



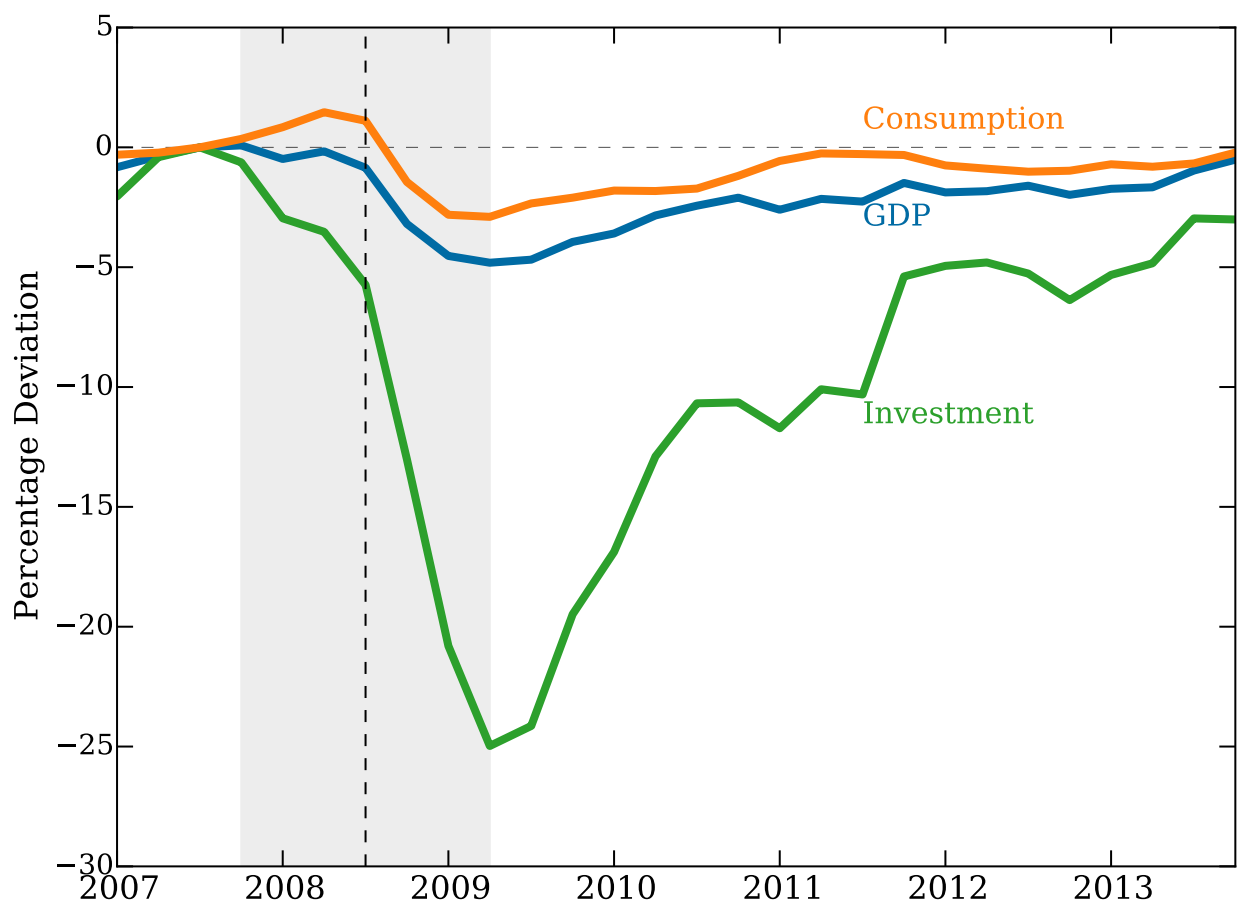
- Capital flows fully recovered a year after Mexican crisis

Lessons from Argentina

- Source of crisis was a deep macroeconomic imbalance (1st generation model)
- Expectations and contagion played exacerbated the demise of the Argentinean economy (2nd and 3rd generation models)
- A currency board is not a substitute for sound macroeconomic policies
- Loose fiscal policy ends in perverse debt dynamics
- Real exchange rate over valuation are costly and is exacerbated by liability dollarization
- Policies to suspend access to bank deposits exacerbated fears about macroeconomic management and delayed the recovery

The Great Financial Crisis

The U.S. Great Recession



- Contraction in I, C, Y was about $\times 4$ more severe than normal recessions

Questions

- Features prior to the collapse
- How different was the U.S. experience compared to other banking crisis?
- What was the key component of the transmission mechanism?

The brewing of the crisis

- Run-up in US equity and housing prices
- *De-facto* liberalization of financial sector: shadow banking + sophisticated financial instruments
- Debt accumulation and buildup of leverage (households and firms)
- Run on liabilities of financial institutions
- Interconnections of balance sheets across sectors

Trigger: Decline in asset prices and tightening of financial conditions

Comparison: asset prices

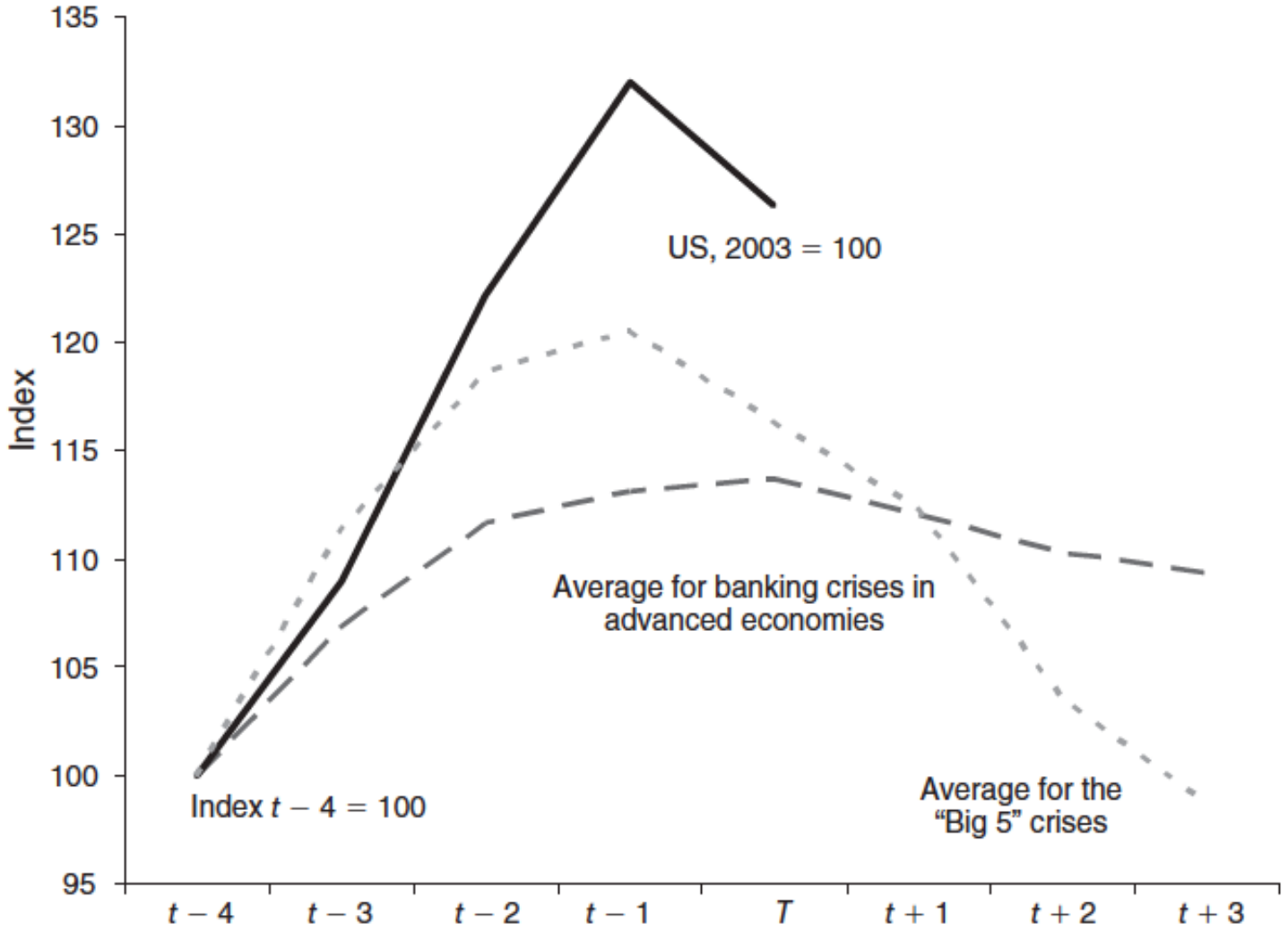


FIGURE 1. REAL HOUSING PRICES AND BANKING CRISES

Comparison: equity prices

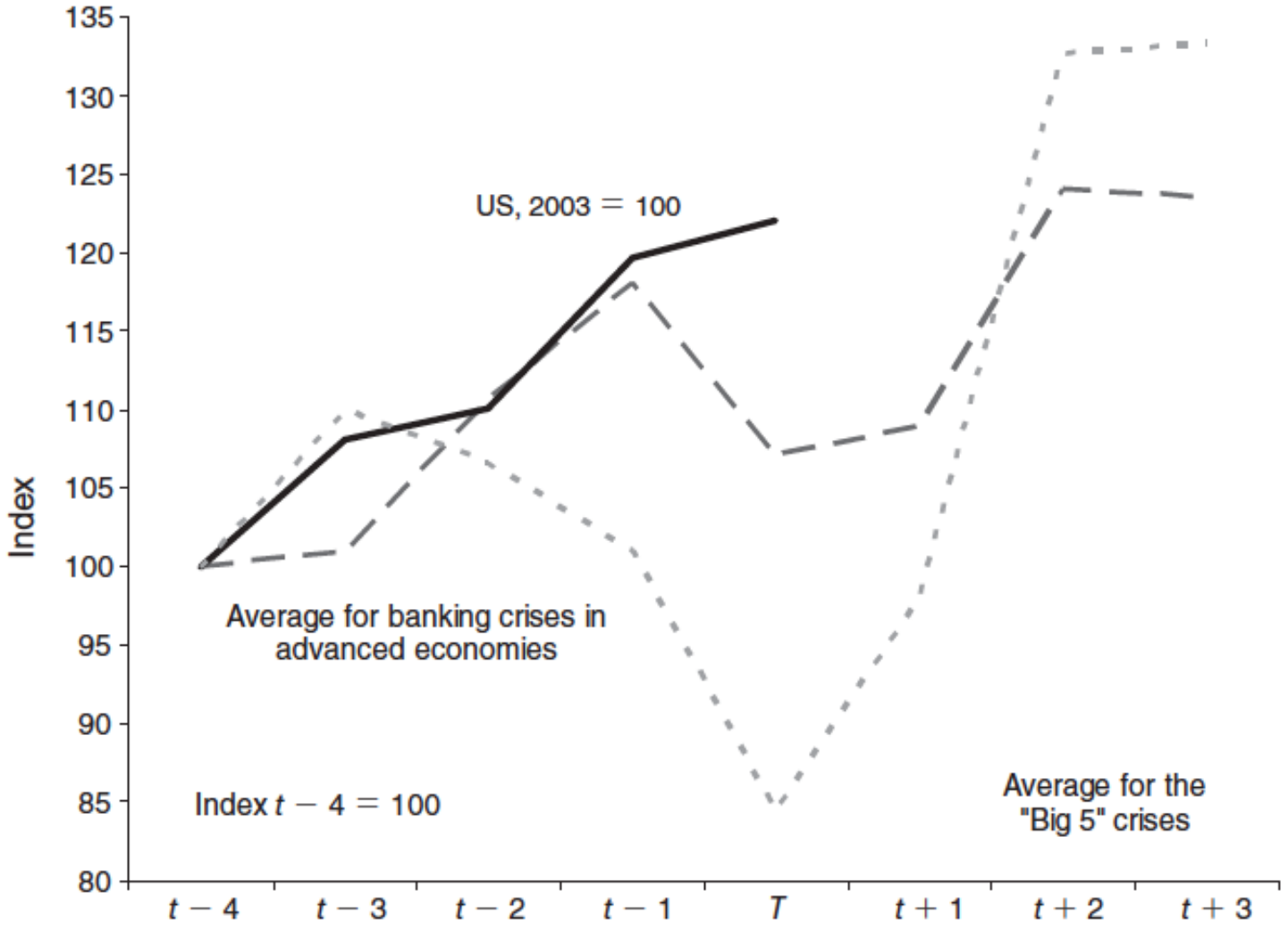


FIGURE 2. REAL EQUITY PRICES AND BANKING CRISES

Comparison: debt

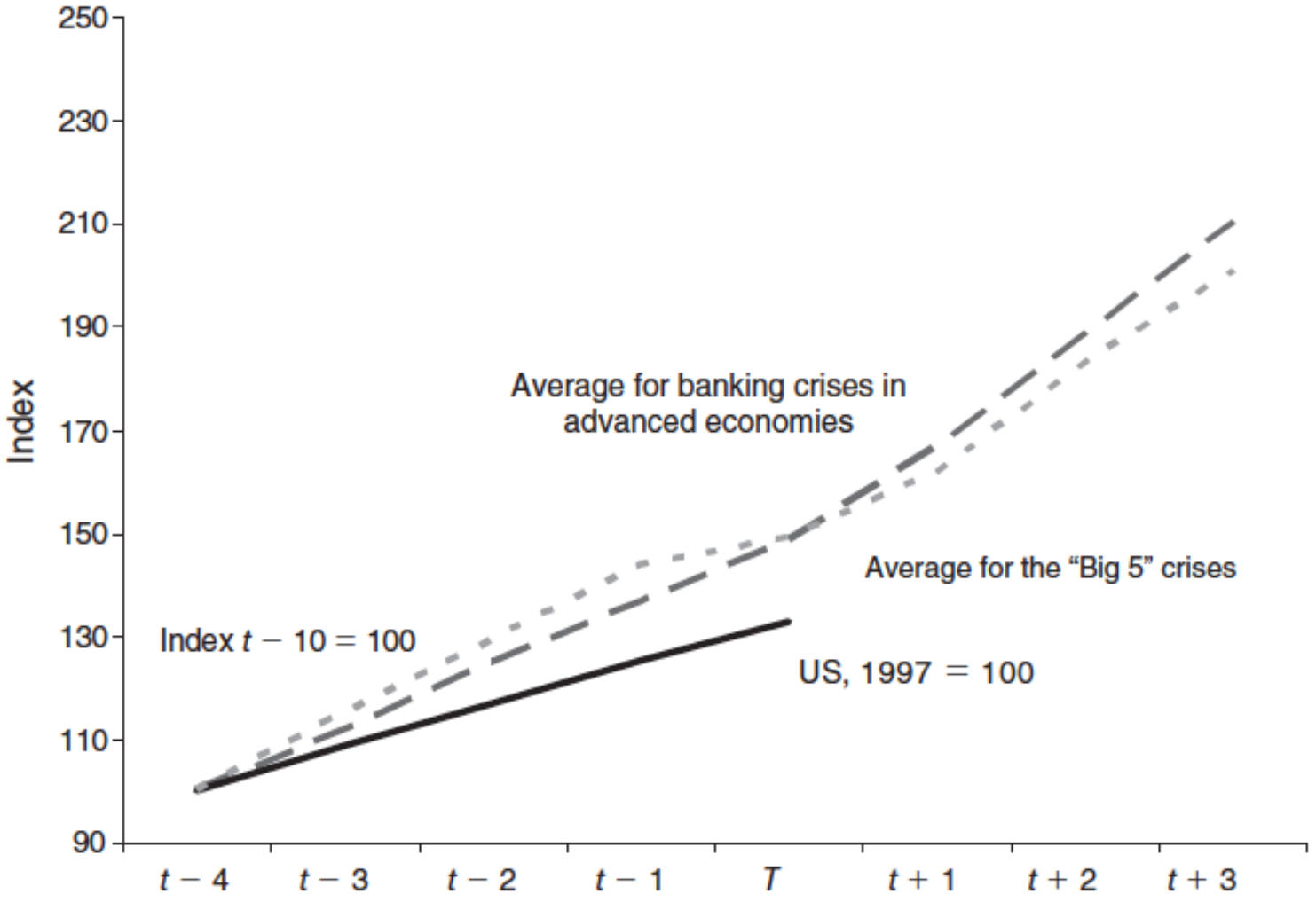
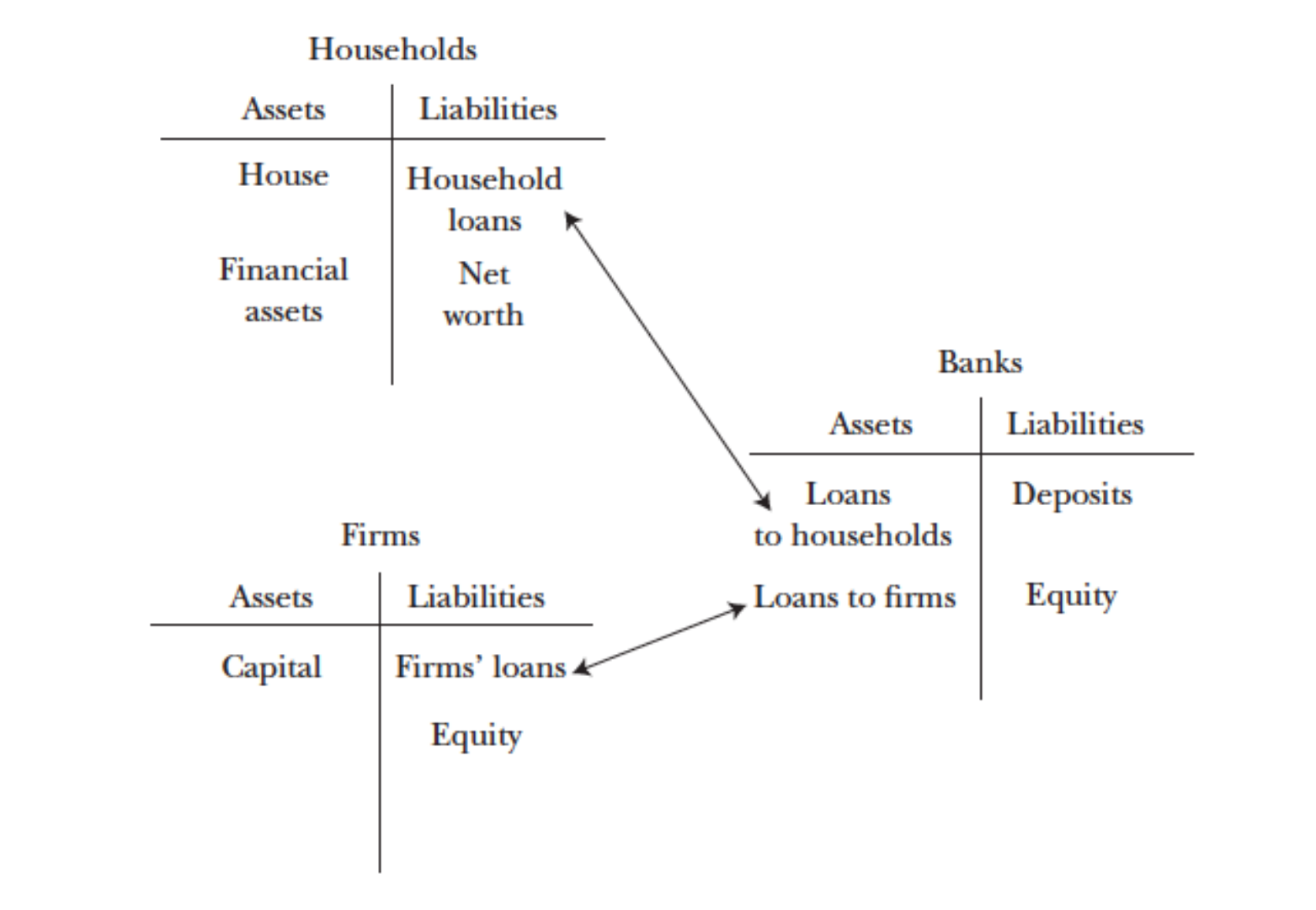


FIGURE 5. PUBLIC DEBT AND BANKING CRISES

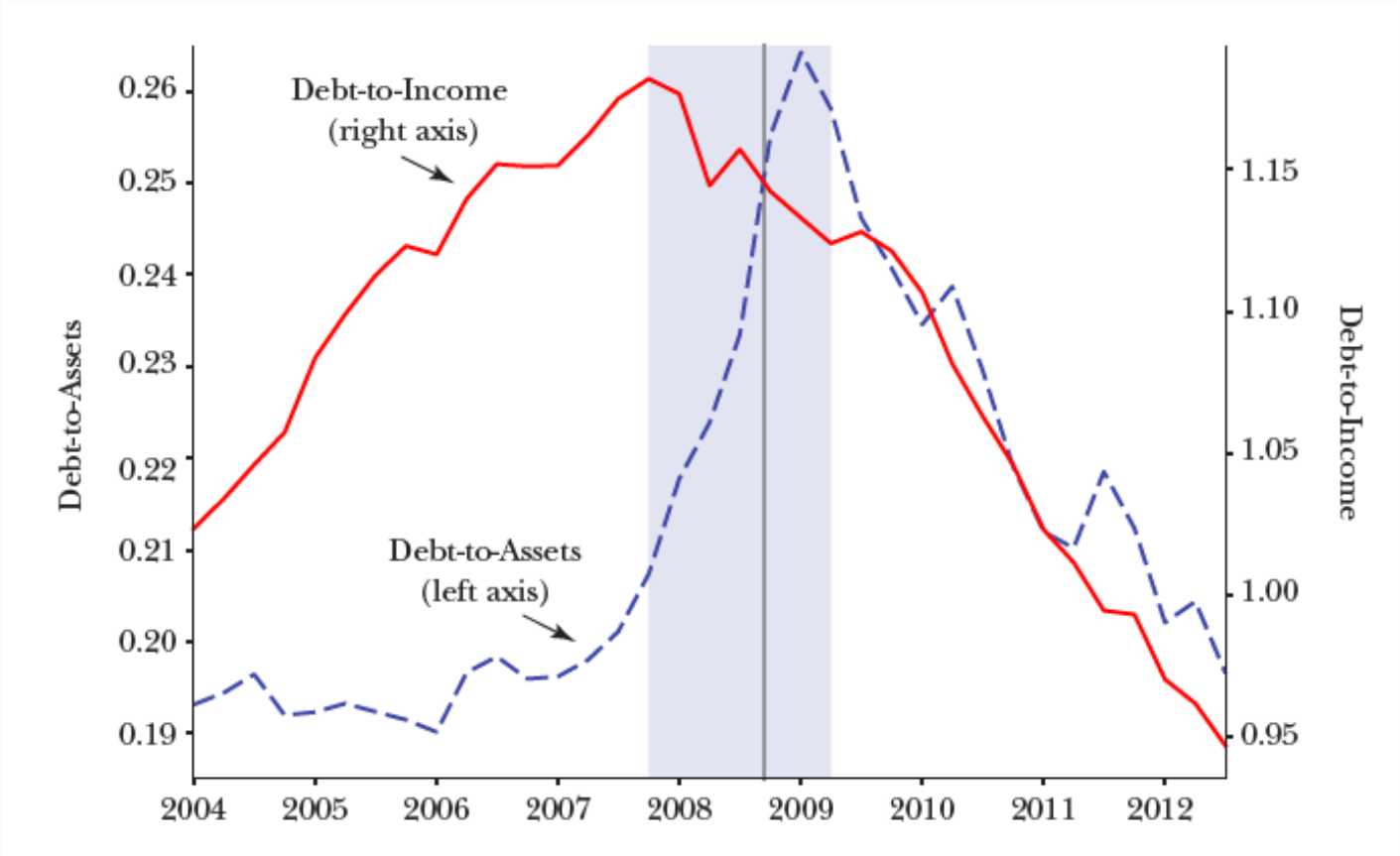
Understanding the mechanism

Sectoral balance sheets



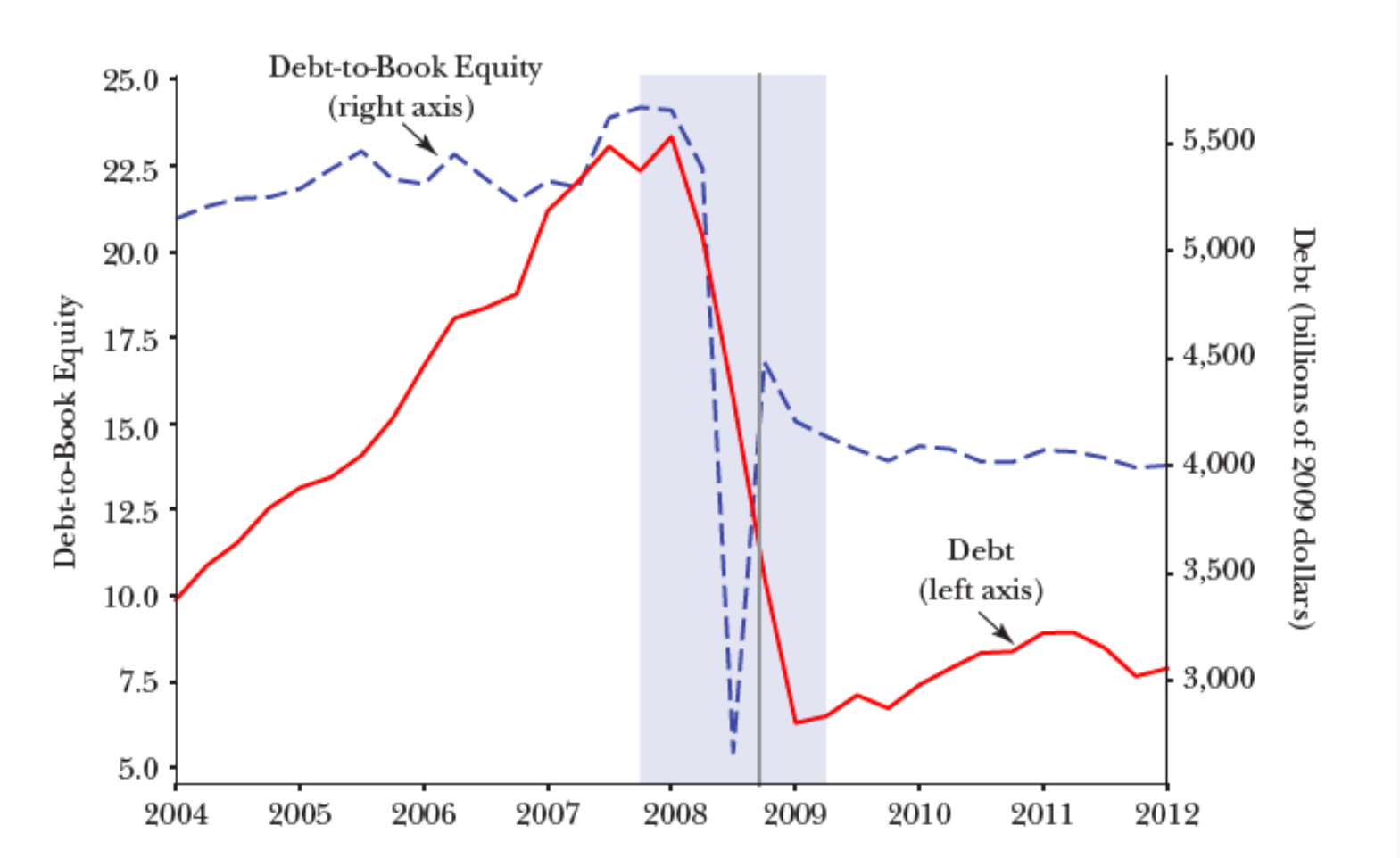
- Interconnected balance sheets: mortgage lending grew very rapidly during the 1990s

Household leverage



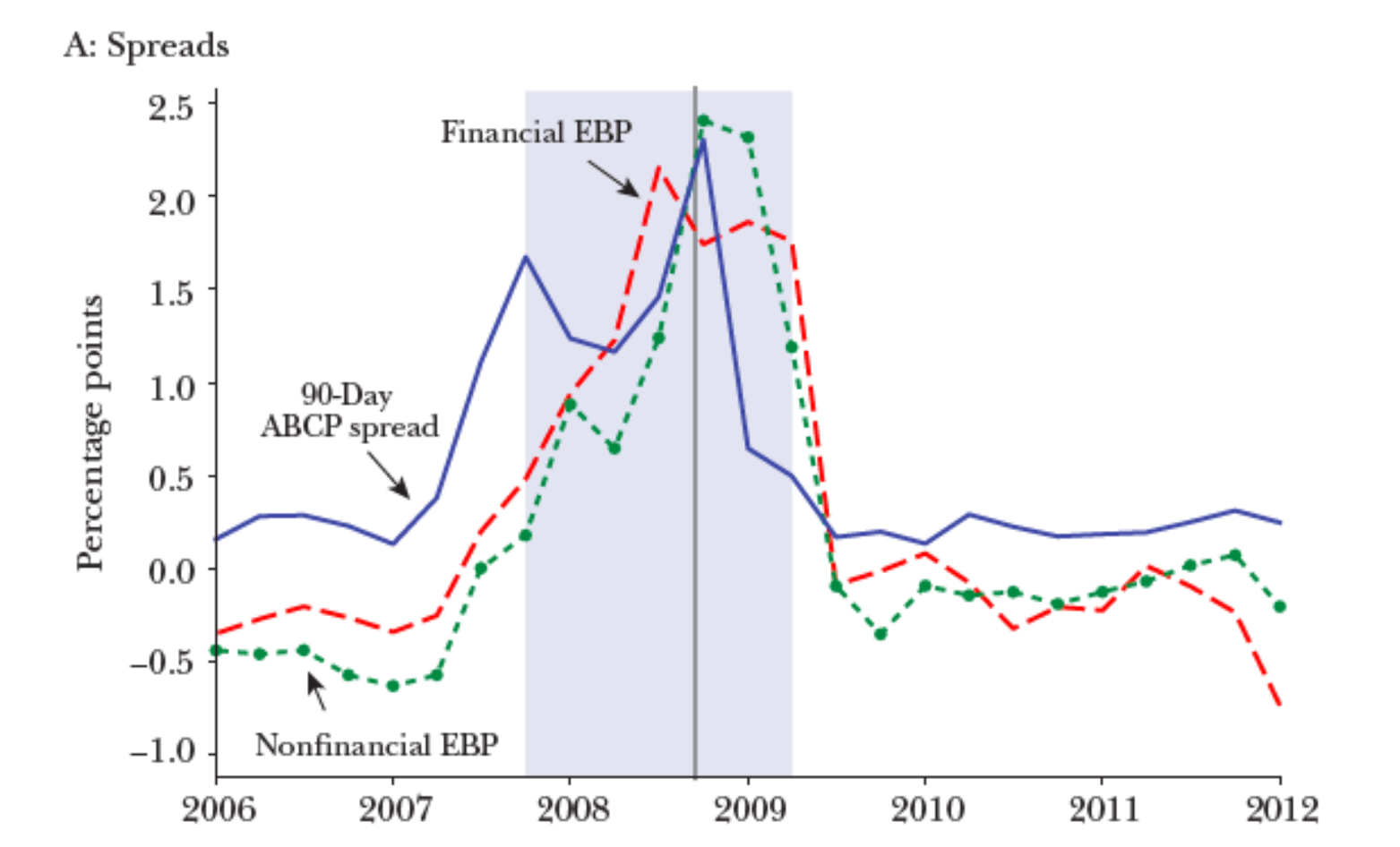
- $\uparrow$ house prices, residential construction, mortgage debt, optimism. $\downarrow R$,lending standards, regulation
- Deterioration of hh balance sheets + $P^h \downarrow$ = hh demand channel

Firms leverage



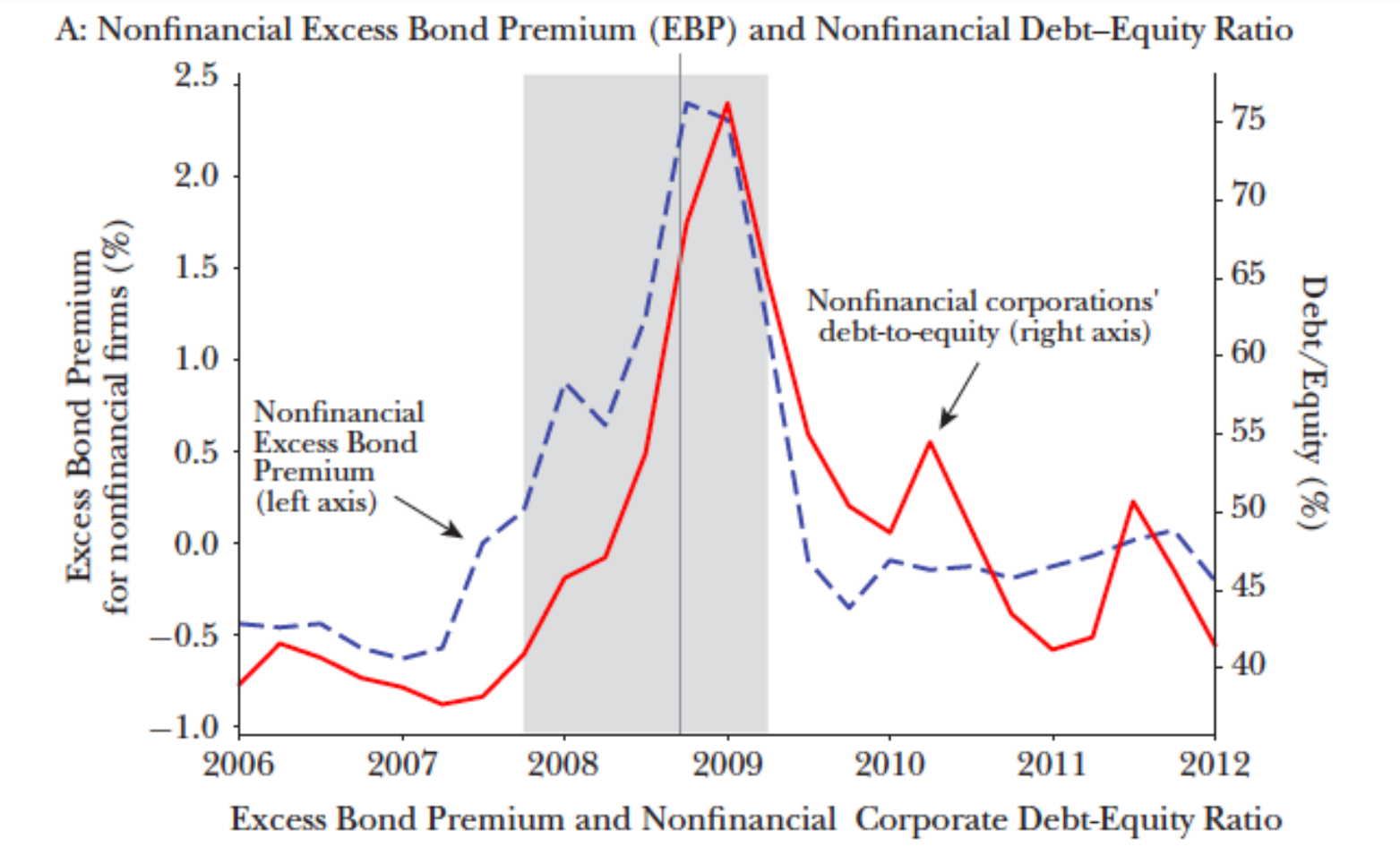
- hh demand channel affected banks balance sheets
- Quantity of mortgage debt was accompanied by a decline in the quality.

Credit spreads



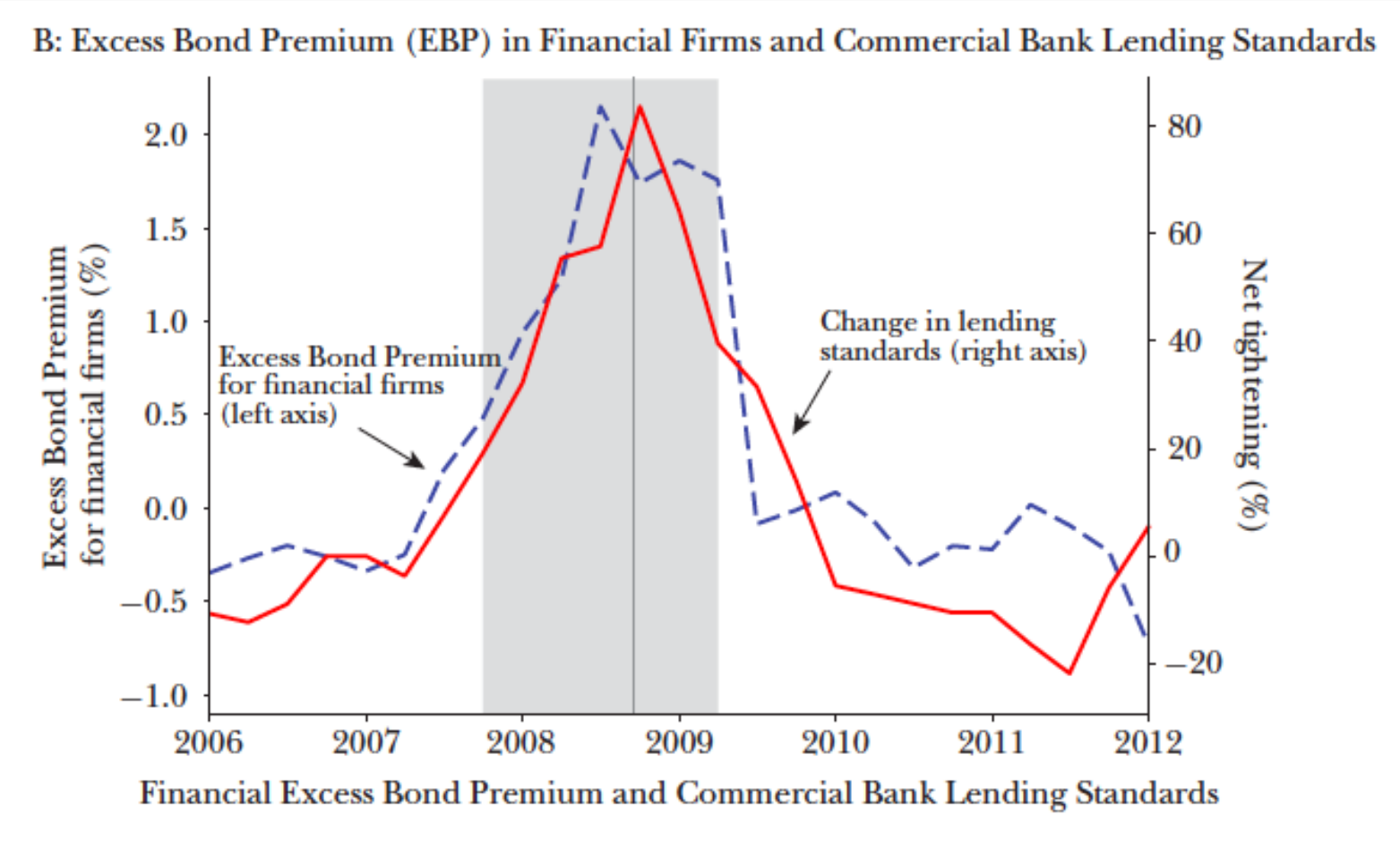
- $P^h \downarrow$ and $R \uparrow$ led to an uptick in mortgage defaults in 2007
- Cost of borrowing in (short-term) commercial paper market increased sharply
- Spill over to financial and non-financial credit markets

Financial transmission



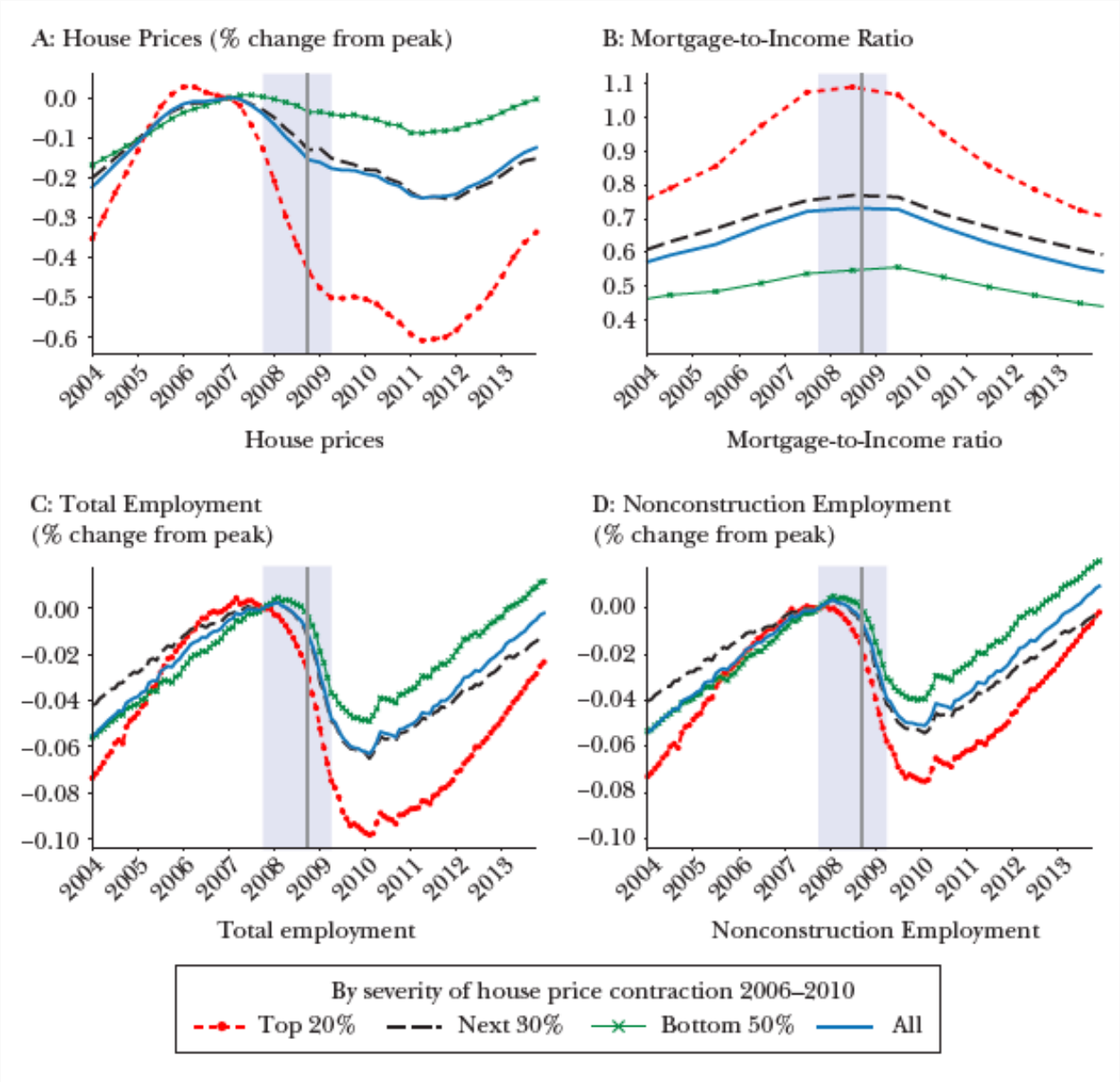
- Increased in borrowing costs translated into higher leverage ratios

Financial transmission



- Higher borrowing costs also lead to a contraction in credit

Macroeconomic transmission



Estimating the effects

$$\log E_{j,t+h} - \log E_{j,t} = \beta_{p,h}\mu_{j,t} + \beta_{p,h}\mathbb{I}_{\text{crisis}}\frac{M_j}{Y_j}\mu_{j,t} + \beta_{s,h}\varepsilon_t + \alpha_{j,h} + \nu_{j,t,h} +$$

- $E_{j,t}$: Employment in state j, in period t
- $\mu_{j,t}$: Shock to house prices in state j in period t
- M_j/Y_j: Mortgage-to-income ratio (hh leverage) in state-j
- ε_t: Shock the financial excess bond premium
- $\alpha_{j,h}$ Horizon specific fixed effects
- $\nu_{j,t,h}$ Error term

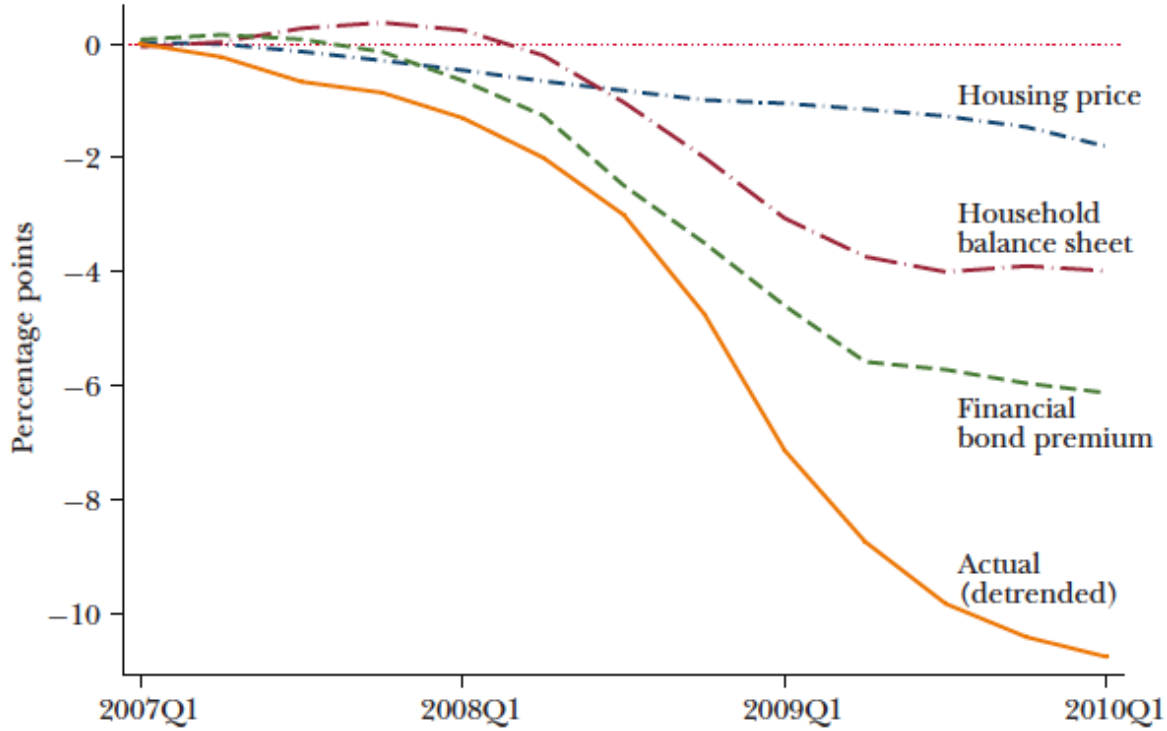
Estimate using local projections

Estimation results: 1992Q2-2015Q4

	Horizon									
	1	2	3	4	5	6	7	8	9	10
$\mu_{j,t}$	0.07	0.11	0.15	0.17	0.21	0.23	0.27	0.30	0.33	0.39
	(0.04)	(0.05)	(0.06)	(0.07)	(0.08)	(0.09)	(0.10)	(0.12)	(0.13)	(0.15)
$\frac{M_j}{Y_j}\mu_{j,t}$	–0.10	–0.08	0.03	0.18	0.38	0.55	0.68	0.72	0.72	0.70
	(0.09)	(0.14)	(0.18)	(0.21)	(0.24)	(0.25)	(0.27)	(0.29)	(0.29)	(0.31)
$\varepsilon_{j,t}$	–0.54	–1.14	–1.86	–2.46	–2.98	–3.48	–3.48	–3.61	–3.57	–3.62
	(0.07)	(0.01)	(0.12)	(0.14)	(0.15)	(0.17)	(0.18)	(0.19)	(0.19)	(0.19)
R^2	0.02	0.04	0.06	0.08	0.10	0.12	0.11	0.10	0.09	0.09

Note: Table 1 reports estimates of the effect of the three explanatory variables on employment growth across horizons that span 1 to 10 quarters. The estimation period is 1992Q2 to 2015Q4. The first row reports the estimated effect of a house price shock over the normal course of the business cycle. The second row reports the estimated effect of a house price shock interacted with the mortgage-to-income ratio during the crisis period. The third row reports the estimated effect of a shock to financial intermediation. (See text for details.) For all three explanatory variables, we also report the standard deviation of these estimates (in parentheses), along with the explanatory power of the regression, as measured by the R^2, at each horizon.

Employment decomposition



Note: Figure 7 displays the cumulative contribution of each of three shocks (housing price, household balance sheet, and financial bond premium shocks) to aggregate employment over the period 2007Q1 to 2010Q1 along with the realized path of aggregate employment (measured as a deviation from a linear trend).

- Significant role for household demand channel and financial channel (credit supply)

Summary

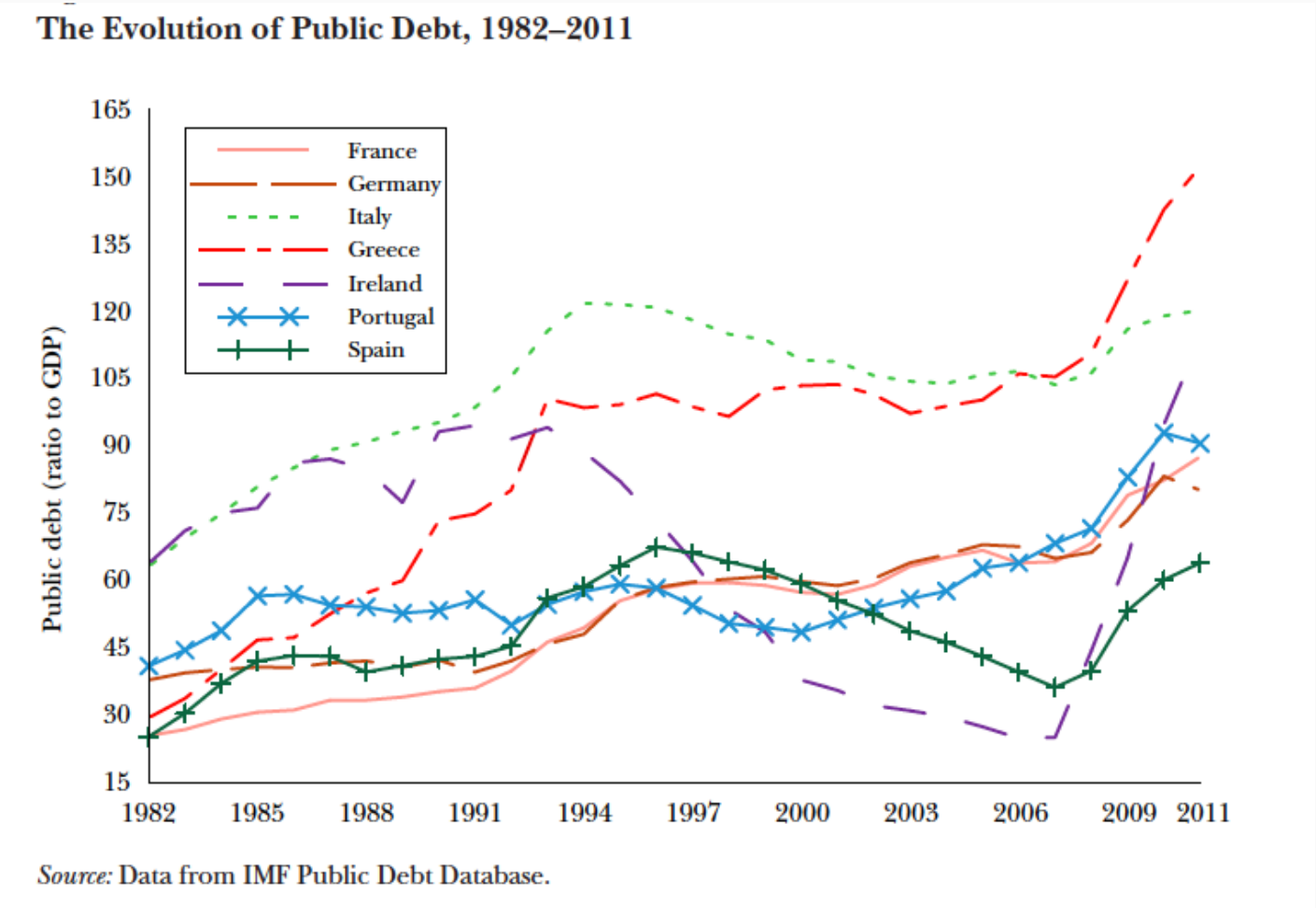
- Similarities of U.S. financial crisis to many other episodes in EM:
  - Financial deregulation fueled a rapid expansion of credit and in particular mortgage origination
  - Optimism and inflated asset prices fueled credit boom
  - Increase in leverage of households, firms and financial institutions
  - When house prices fell credit costs increased and access to credit tightened
- Policy in response in the U.S. limited by Zero Lower Bound constraint on nominal rates
- Fiscal policy was counter-cyclical at first but became pro-cyclical in mid-2011

Case study: The European Debt Crisis

Overview

- Similar to U.S. crisis with large financial imbalances following a credit boom
- Credit boom was caused in part by additional macro and financial stability brought by common currency
- Currency union did not address issues of decentralized fiscal policies and financial supervisions
- Origin of imbalances:
  - Declining long-term interest rates
  - Dynamics of global financial system 2003-2007

Public debt accumulation



- Significant run-up of public debt

Financial imbalances

Private Credit Dynamics

	Loans to private sector from domestic banks and other credit institutions (percent of GDP)		
	1998	*2002*	*2007*
Greece	31.8	56.5	84.4
Ireland	81.2	104.4	184.3
Portugal	92.1	136.5	159.8
Spain	80.8	100.1	168.5
Italy	55.7	77.3	96.5
Germany	112.2	116.7	105.1
France	81.0	85.6	99.3

Source: World Bank Financial Database.

- Coupled with substantial credit growth to the private sector

External imbalances

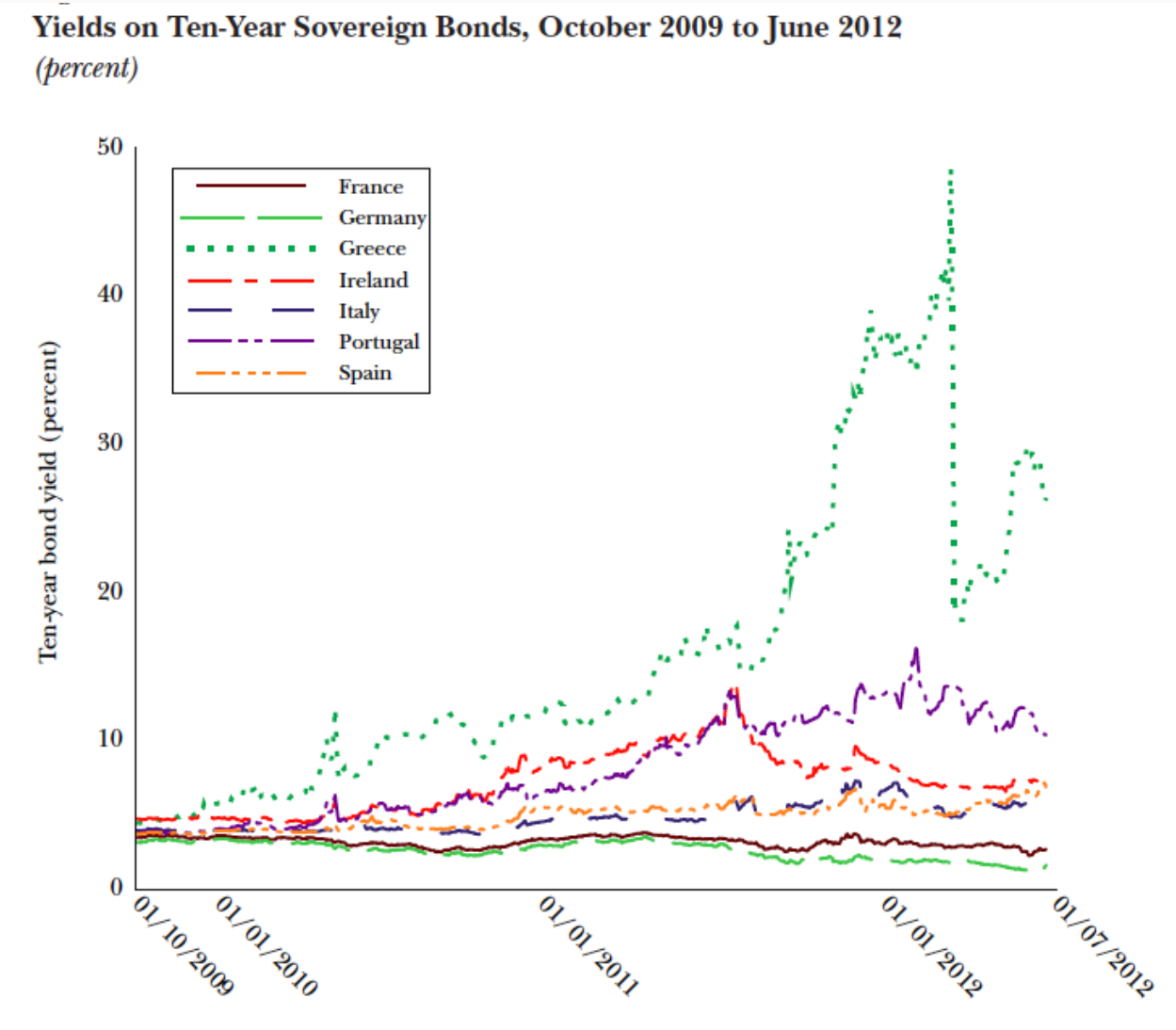
Current Account Balances
(percent of GDP)

	1993–1997	*1998–2002*	*2003–2007*	*2008–2011*
Greece	–2.0	–5.9	–9.1	–11.1
Ireland	3.4	–0.2	–2.6	–1.6
Italy	2.1	0.2	–1.8	–2.9
Portugal	–2.4	–9.0	–9.2	–10.5
Spain	–0.6	–3.1	–7.0	–5.8
France	1.1	2.0	–0.2	–1.9
Germany	–0.9	–0.3	5.1	5.7

Source: International Monetary Fund's World Economic Outlook database.

- Widening CA deficits

Cost of borrowing



- Widening in the cost of borrowing in sovereign debt markets

From financial shocks to crisis

- Following U.S. 2008 financial shock concerns about spill over to other AE were limited
- ECB provided stimulus by lowering interest rate and providing liquidity
- Nevertheless capital flows reverted with asymmetric effects on EA countries(e.g Ireland)
- Government bonds remained desirable and were used as collateral for short-term funding
- Revision to Greece fiscal deficit in 2009 undermined investors confidence about overall fiscal sustainability in EA
- Pervasive debt dynamics forced a fiscal consolidation in peripheral countries, deepening the recession
- Sovereign debt market volatility associated with: self-fulfilling speculative attack on government debt