Stories of the Twentieth Century for the Twenty-First

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Financial Crises: Post-floating vs. Post-millennium

Before 2007, financial crises seemed mainly to afflict developing countries. Not really true:

- "Big Five" systemic banking crises.(Finland, Japan, Norway, Spain, Sweden)
- ERM currency crisis (1992-93)
- 1982 LDC debt crisis was a "near miss" for money-center banks.
- LTCM crisis was a near miss too.

But effects generally less devastating than in developing world. Until 2007....

Crisis Frequency in Advanced Countries vs. EMEs (through 2006) – Why the Difference?

	Currency	Banking	Default	# countries
Advanced	43	5	0	22
Emerging	84	57	74	57
Total	127	62	74	79

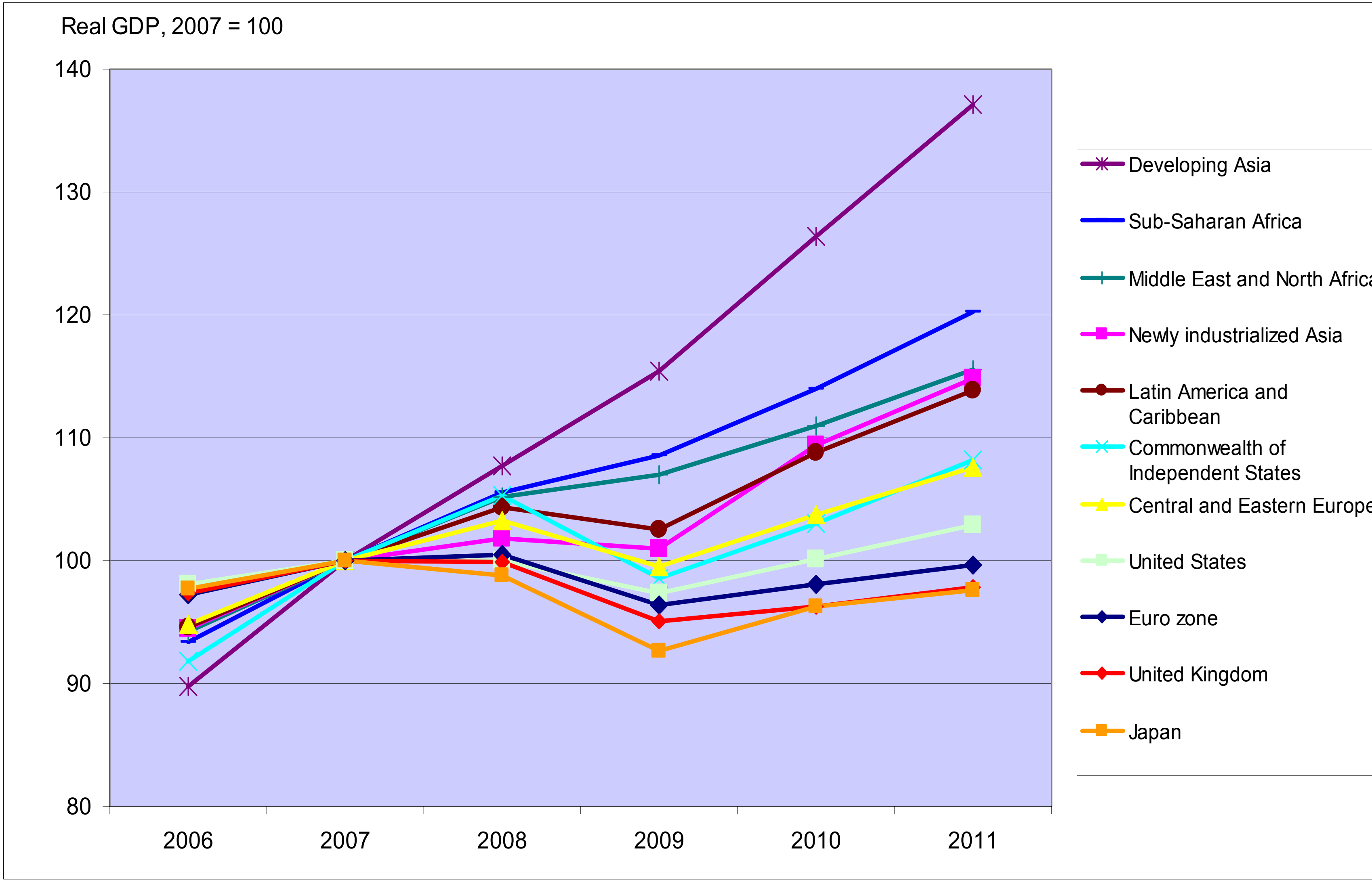
Structural Vulnerabilities of EMEs

- Political/economic instability (Acemoglu & al (2005), Kaminsky & al (2005), Rajan & Tokatlidis (2005))
- Undeveloped/unstable financial markets (Stulz (2005), Demirgüc-Kunt & Detragiache (2000), Honohan & Klingebiel (2003))
- Dollarization/original sin/currency mismatch (Eichengreen & al (2003), Nicolo & al (2005))
- Fear of floating (Calvo & Reinhart (2002), Hausman & al (2001))
- Sudden stops/debt intolerance (Calvo & Reinhart (2000), Forbes & Warnock (2011), Reinhart & al (2003))
- Other nonfinancial rigidities

The 2007-2009 Crisis: Several Surprises

- Came after a long period of seeming calm, in EMEs too.
- Originated in advanced financial markets, then spread.
- On average, EMEs were less affected, had faster recoveries.
- As a result of the crisis, some advanced countries now face government default fears.
- Unprecedented since interwar period (which also featured global imbalances, fixed exchange rates, unstable finance).

The Comparative Resilience of EMEs



Source: WEO April 2011 database; 2011 numbers are (ex post, overoptimistic) IMF projections.

Our Focus: Is This Time Different?

No and yes!

- 20th-century financial crises show build-up and response patterns that are quantitatively similar across advanced and EMEs.
- A main factor: increases in foreign and especially domestic leverage.
- For advanced economies, prologue to recent 21st-century crisis no different from the past.

Performance of EMEs

- EMEs (except perhaps emerging Europe) avoided credit booms.
- Entered crisis with stronger fundamentals–perhaps aided by earlier global boom:
  - High commodity prices.
  - Low real interest rates.
  - External surpluses; reserves.
  - Institutional and policy reforms.
  - Greater intra-EME trade; engine of China.
- "Undeveloped financial markets" may have been a blessing in this context.

Ireland

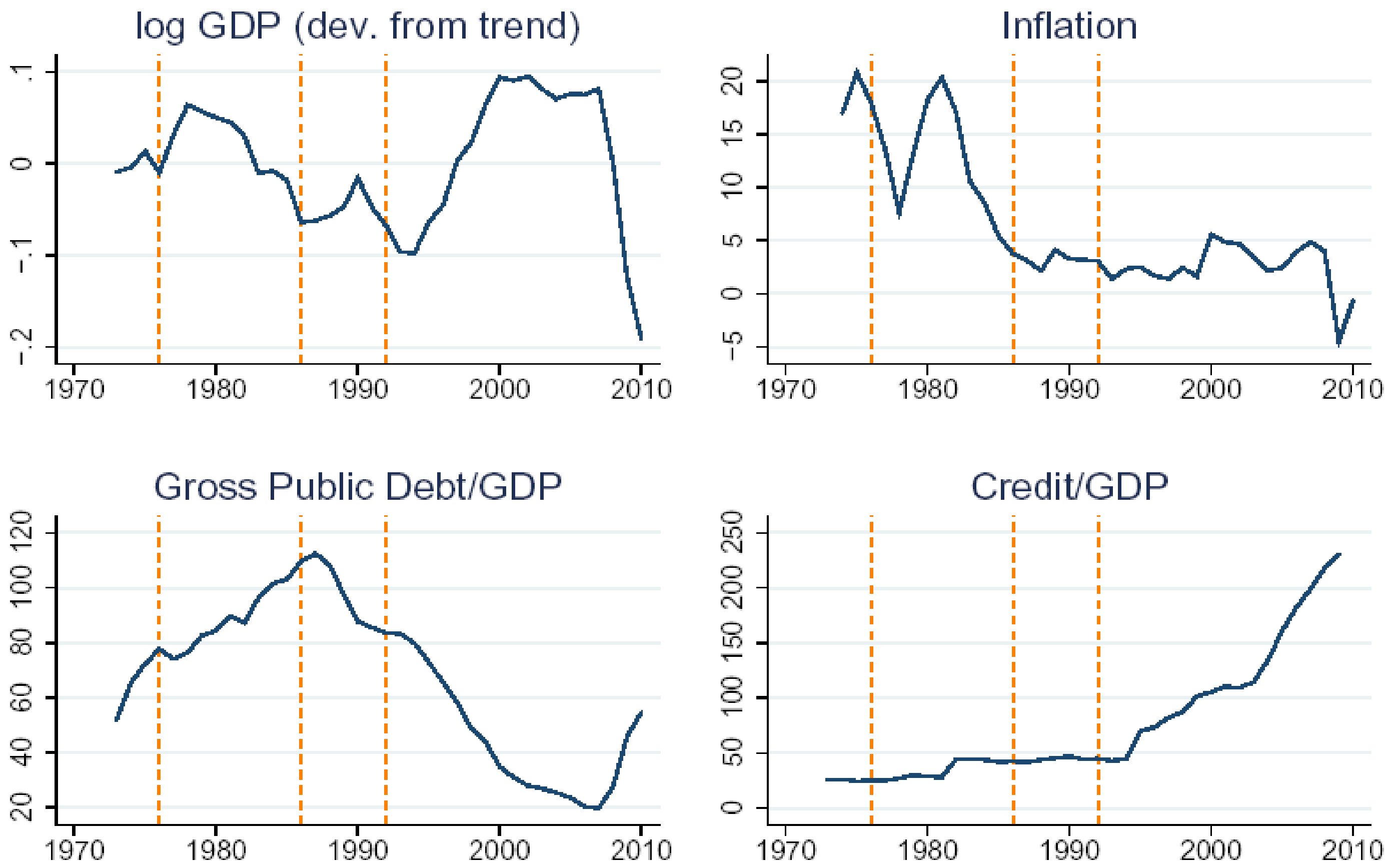


Figure: Macroeconomics Indicators

lines indicate different crisis: currency (- -), defaults (– –), banking (—),

Credit-boom Theme is a Familiar One

- Minsky, Kindleberger, Diaz-Alejandro, McKinnon
- Unheeded warnings in early 2000s from BIS (Borio and Lowe 2002, Borio and White 2004)
- More recent contributions (Schularick and Taylor 2009, Hume and Sentance 2009)
- A related literature empirically ties the depths of individual countries' recent slowdowns to economic preconditions …

Key Factors in this Literature

A few variables seem to stand out:

- Growth in credit.
- Short-term foreign debt.
- Current account surplus.
- Prior housing boom.
- Strenth of financial regulation.

Rose-Spiegel critique; diversity of experience; collinearity.

Our Empirical Approach

- In the spirit of ealier event-studies (Eichengreen et al 1995, Kaminsky & Reinhart 1999)
- Estimate conditional expectation of various macro & financial variables as a function of temporal distance from different types of crisis (treatment):
    - defaults (external and domestic) (Reinhart & Rogoff 2009)
    - systemic banking crisis (Laeven & Valencia 2010)
    - currency crisis (Frankel & Rose 1996, Bordo et al 2001)
    - 2008 global financial crisis
- Ask two main questions:
    - Is the 2007-09 crisis different from previous ones?
    - Are EME crises different from advanced economy crises?

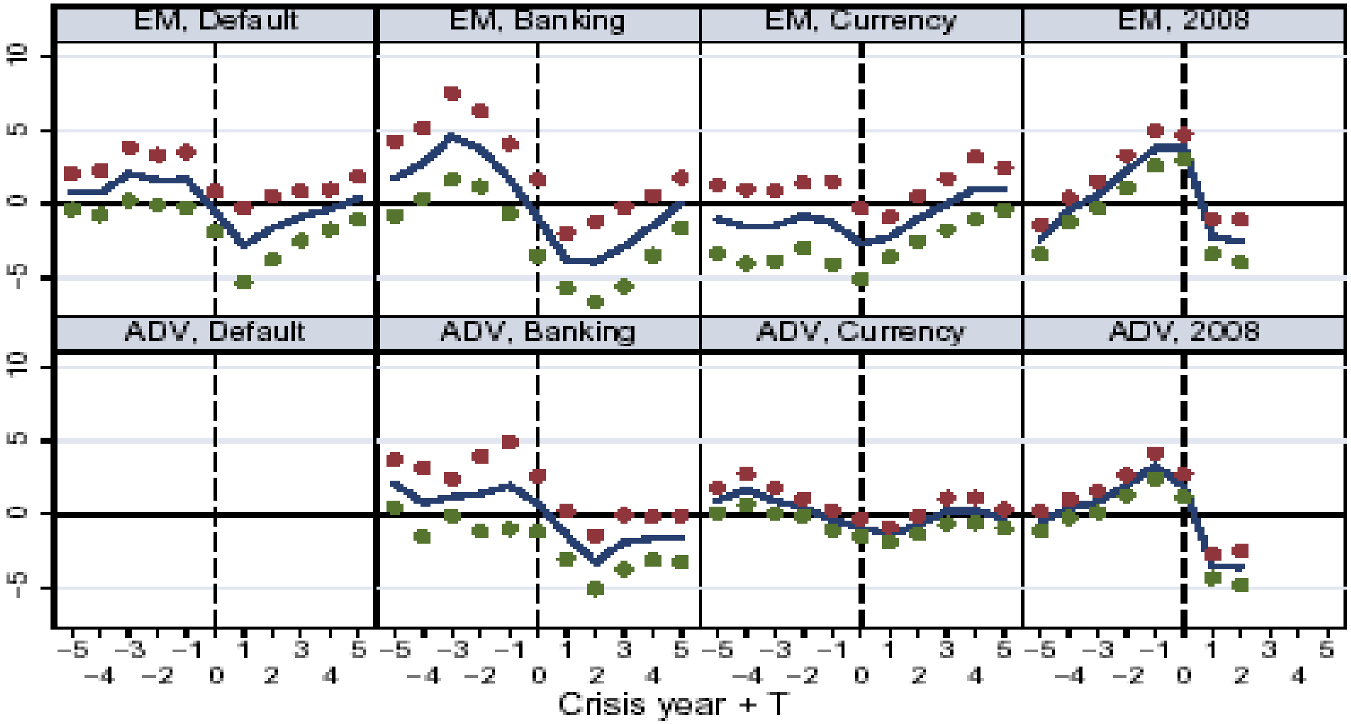
Our Empirical Approach

- Estimate panel fixed-effect model:

$$y_{it} = \alpha_i + \beta_{ds}\delta_{ds} + \beta_{bs}\delta_{bs} + \beta_{cs}\delta_{cs} + \beta_{gs}\delta_{gs} + \epsilon_{it}$$

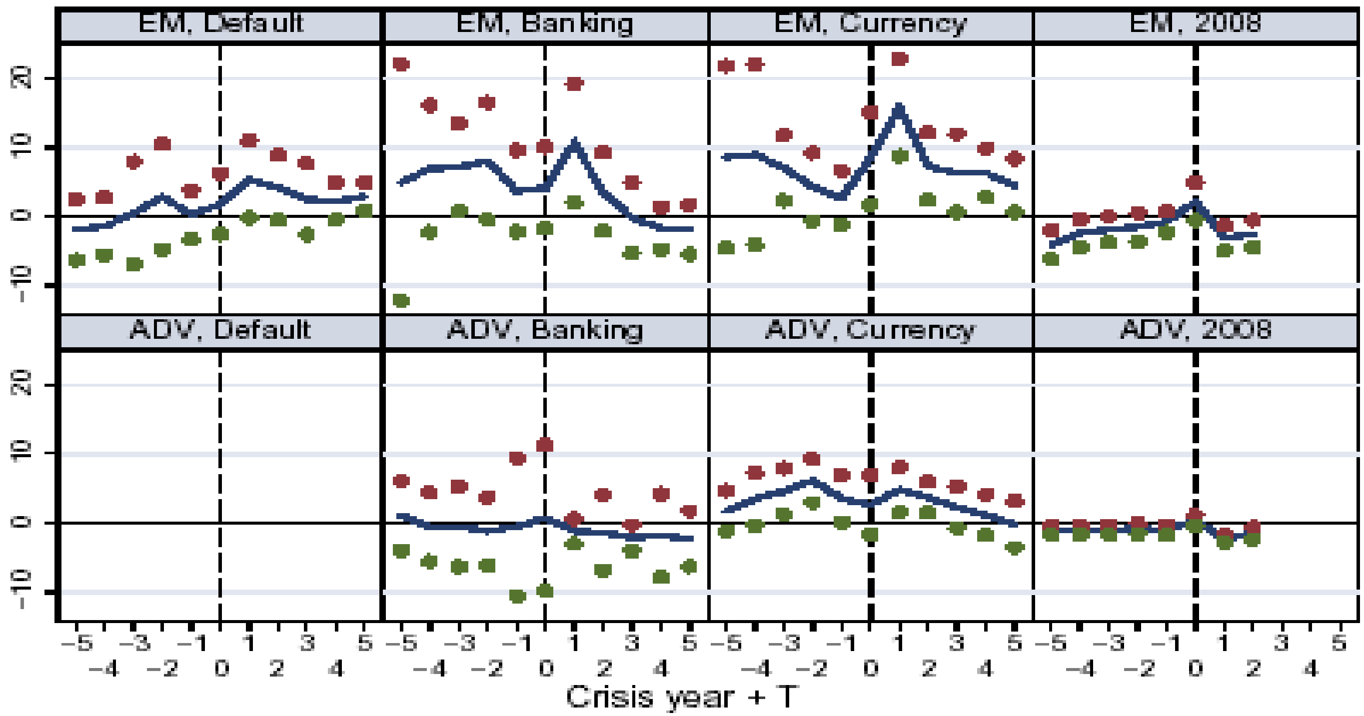
- $\delta_{js} = 1$ when country i is s periods away from crisis of type j
- Event window: 11 years, allowing for slow adjustment after financial crisis.
- Observe:
  - All treatments β_{js} relative to a common tranquil time baseline.
  - Additive approach handles simply multiple or repeat crises.
  - Estimate separately for advanced economies and EMEs, to allow for different dynamics.

Output Performance



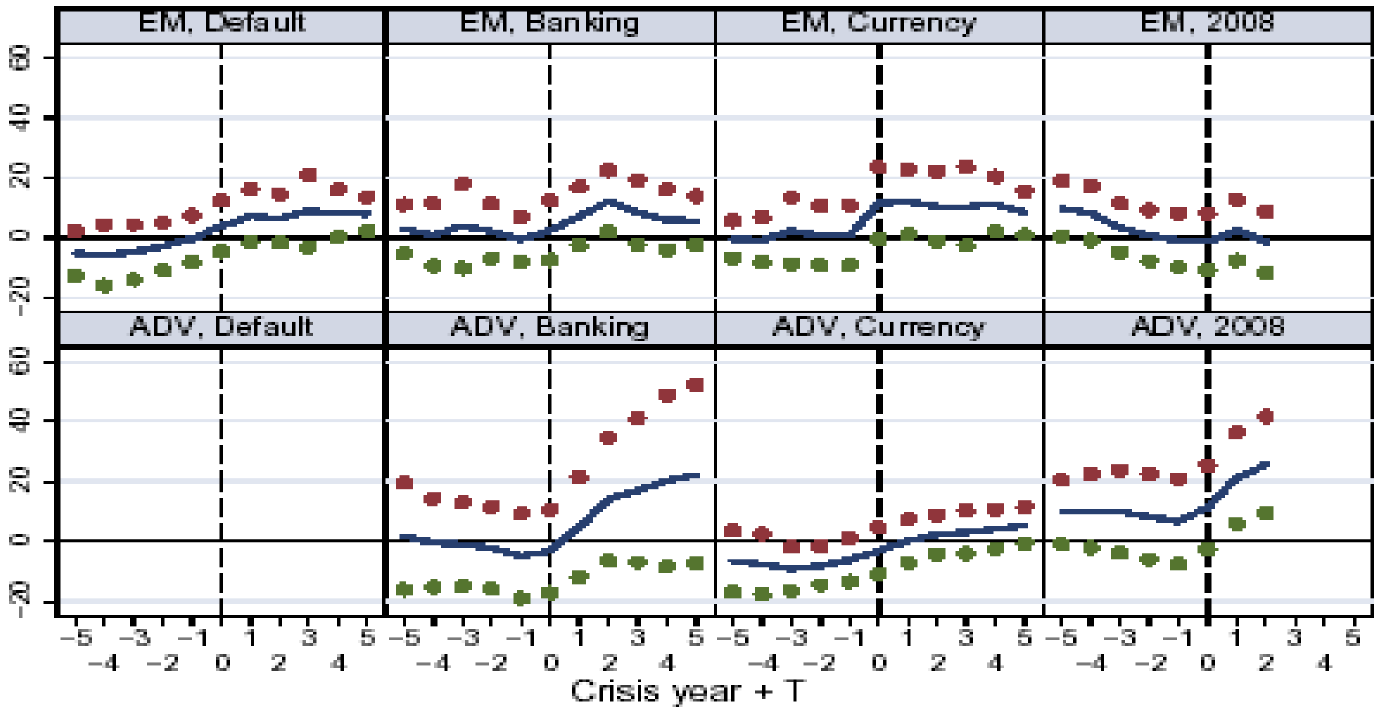
- elevated activity before banking and default crises, depressed before currency crises (EME)
- slower recovery from banking crises in advanced countries

Inflation



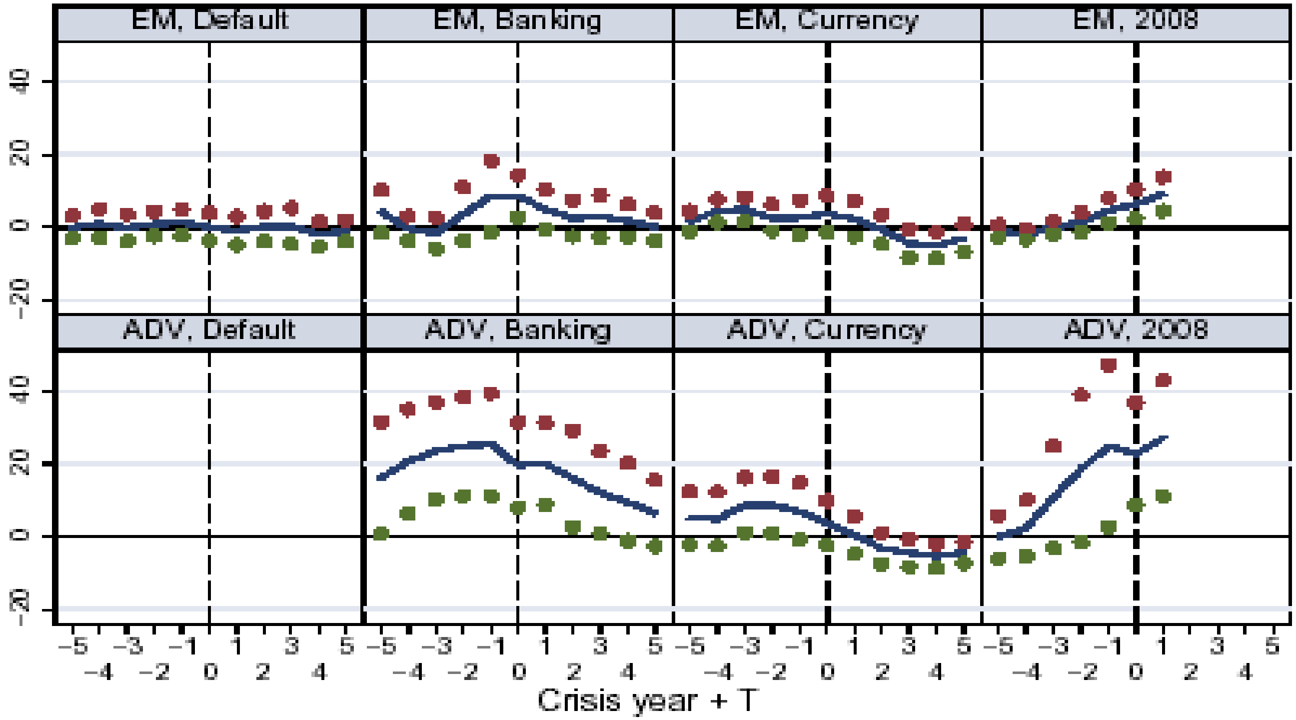
- median regression (to deal with high and hyper inflation)
- elevated for all earlier EME crises, but dramatically lower now (although rising again)

Public Debt



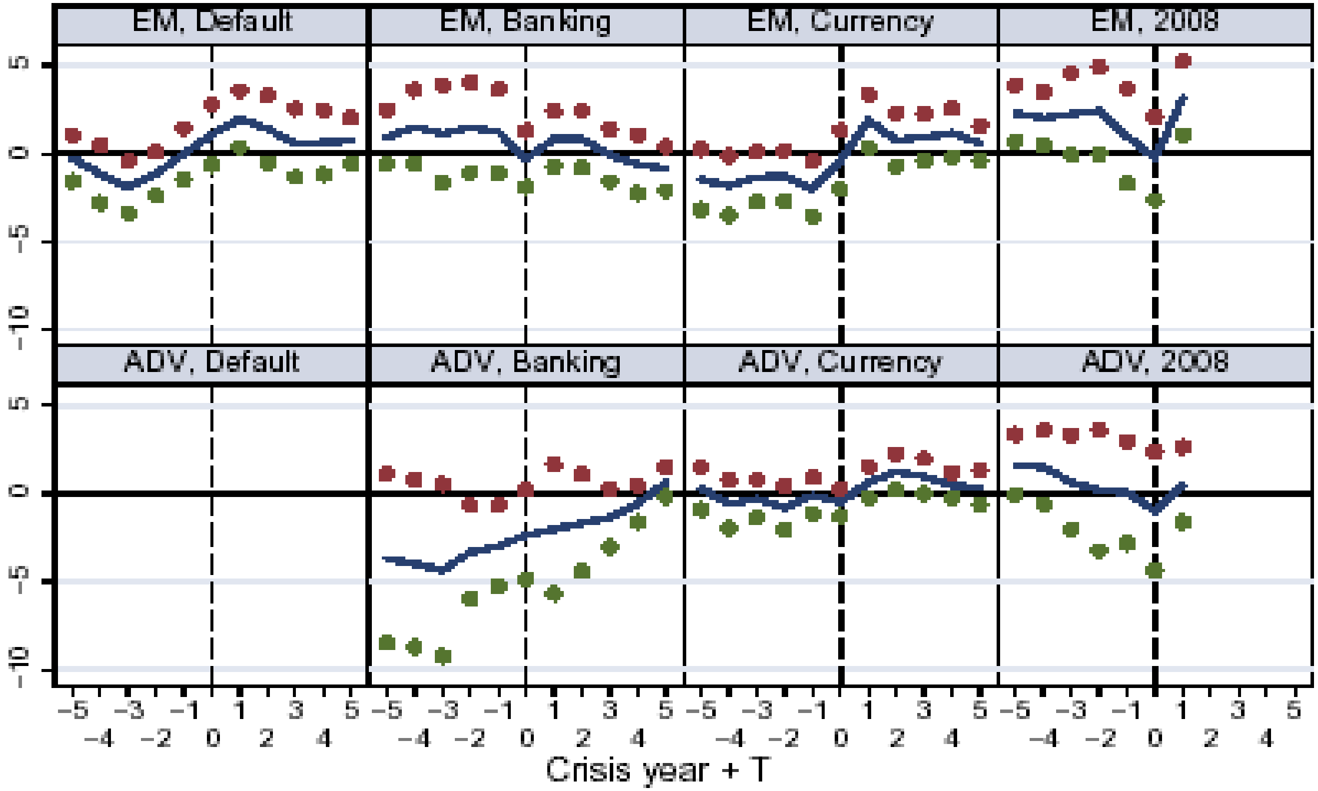
- fiscal position worsens after all crises, especially for advanced economy banking crises
- many channels: bailout costs, automatic stabilizers and (for EMEs) foreign currency denominated debt
- significant fiscal consolidation in EMEs before the 2008 crisis. The opposite appears to be true for advanced economies.

Domestic Leverage



- past banking crises preceded by credit booms (25% of GDP for advanced)
- global crisis also preceded by large credit boom for advanced countries (22%), but increase in EMEs almost entirely in Eastern European countries (related to the process of European integration?)

Current Account



- CA deficits prior to currency crises consistent with higher inflation, loss of external competitiveness and depressed output

Real Exchange Rate

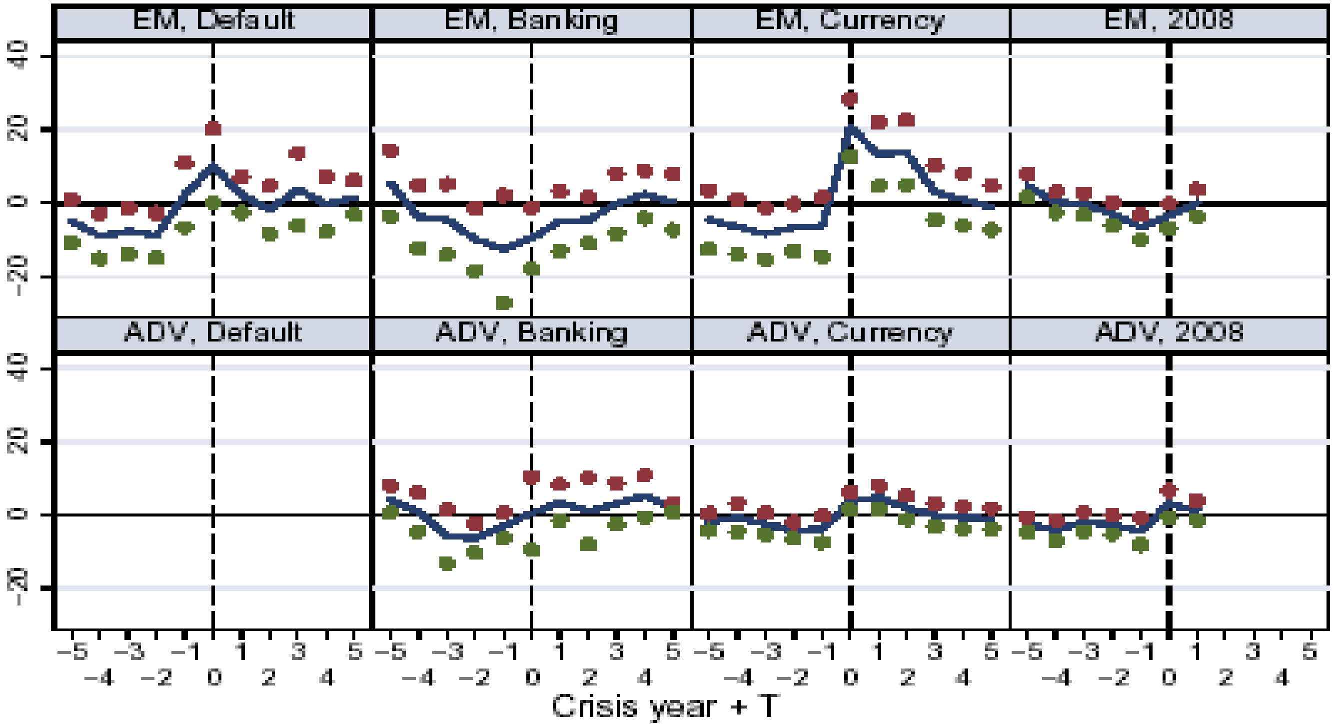


Figure: Real Exchange Rate (% log deviation from trend percent)

- Against a ‘canonical’ central currency
- EME currency crisis associated with large depreciations of the RER.

Foreign Exchange Reserves

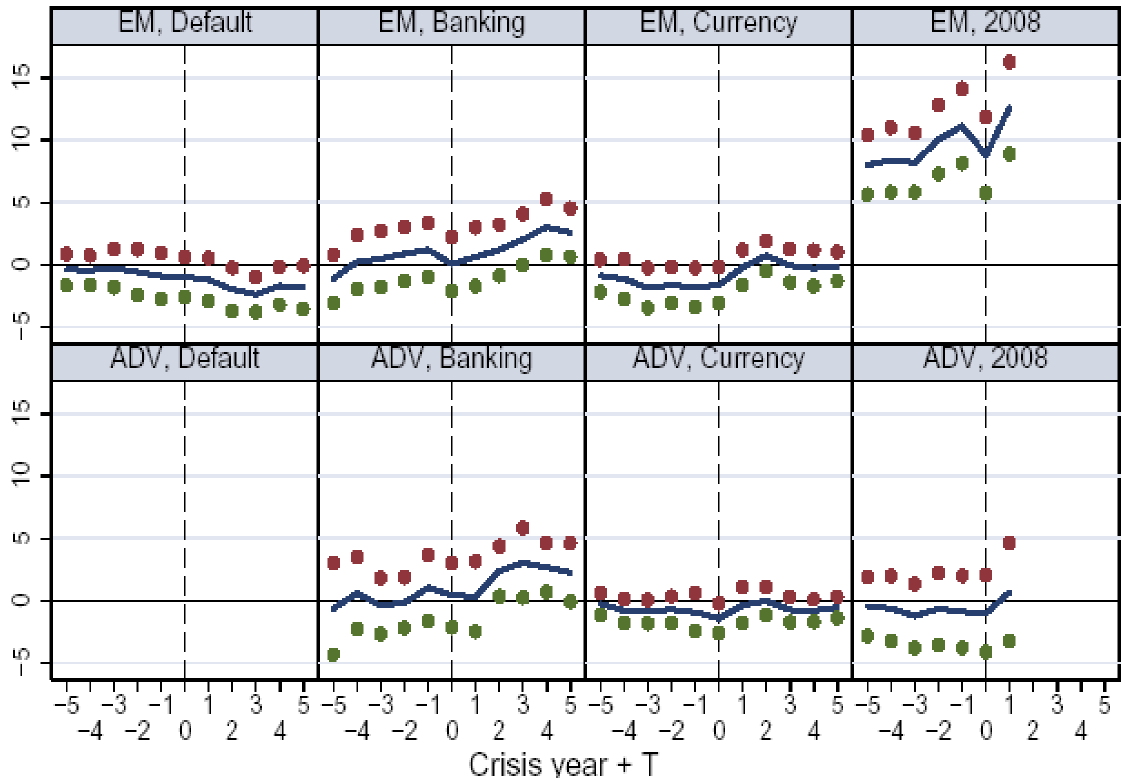


Figure: Foreign Reserves (percent of GDP)

- Striking difference between 2008 and earlier crisis.

Short-Term External Debt

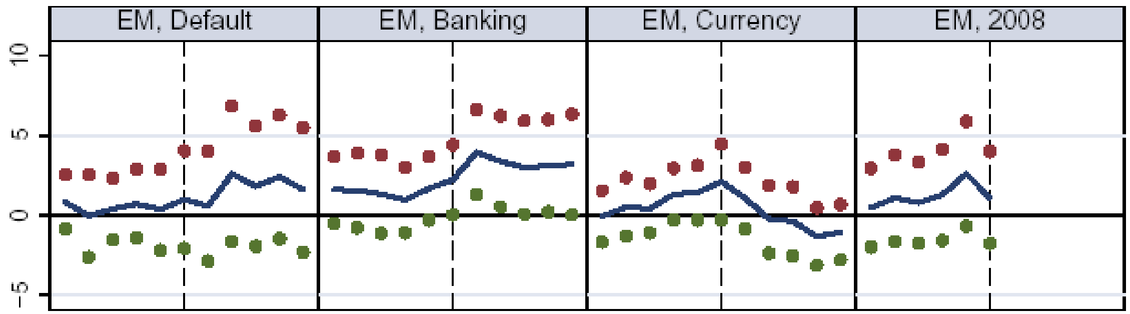
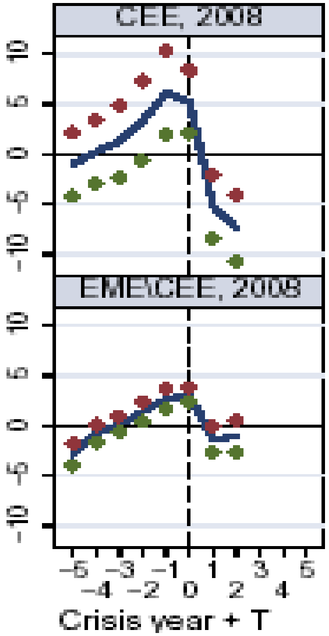


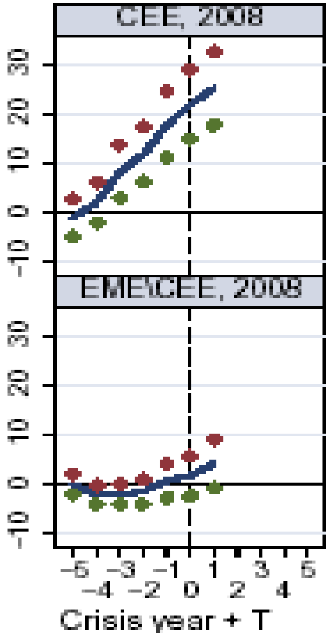
Figure: Short-Term External Debt(percent of GDP)

- Only for EMEs (World Bank data)
- Increase in ST debt after banking crisis and defaults.
- Why? Valuation effects, improvements in fundamentals or shortening of maturities

Central European Economies vs Other Emerging - I



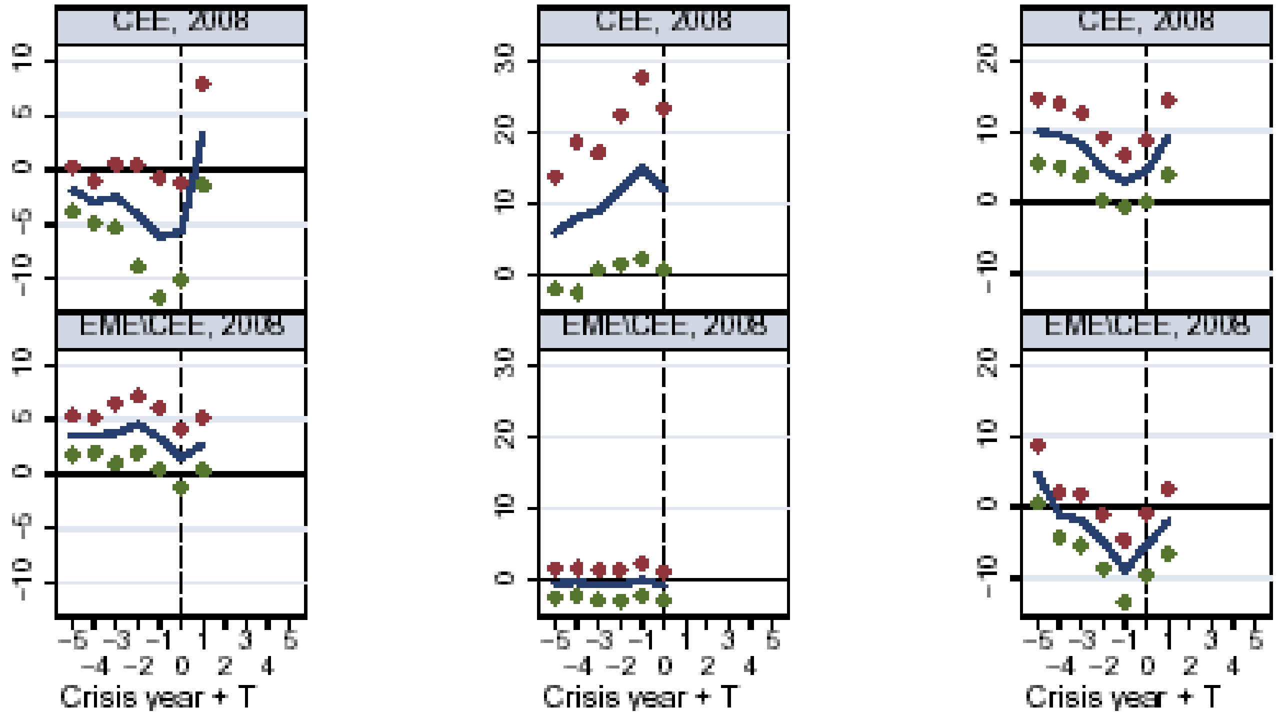
(a) Output Gap



(b) Domestic Credit

(a): % dev. from trend; (b): % of GDP

Central European Economies vs Other Emerging - II



(a) Current Account (b) Short-Term Debt (c) Real Exchange Rate

Figure: CEE vs other Emerging Market Economies

(a) and (b): % of GDP; (c): % dev. from trend

Which Variables Help in Prediction?

- Samuelson's stock market predicted 10 of the last 5 recessions.

- How sure can we be that, for example, a domestic credit boom will be followed by a crisis of some sort?

- To answer, we estimate panel logit regressions giving the probability of a subsequent crisis, over a 1-3 year horizon, as a function of trend deviations in fundamentals. (Sample is 1973 to 2010 – so includes recent crisis.)

- Key variables are *domestic credit*, *real exchange rate* (not for AE banking crises), *reserves*. (But higher reserves may lower crisis probability *or* be caused by same.)

- Large effects of credit and real appreciation on probabilities.

Performance of EMEs and Advanced Economies

EMEs improved performance along some key dimensions of prior vulnerabilities

- price stability
- sound fiscal position
- avoidance of credit-fueled boom (except Eastern Europe)
- reduced dependence on external debt financing
- balance sheet consolidation happened despite low world real interest rates

By contrast, advanced economies experienced

- deteriorating fiscal position
- increased internal and external leverage

Unlike the 1930s, when the decoupling of Latin American countries was at the expense of macroeconomic orthodoxy, the current resilience reflects beneficial institutional and economic reforms. Role of financial development?

Will recent capital inflows undermine EME financial stability?