

International Coordination and Precautionary Policies of Emerging Market Economies

J. Aizenman, USC and the NBER
Keynote

20th International Conference on Macroeconomic Analysis and
International Finance,
University of Crete, Rethymno
26 - 28 May 2016

Overview of research 2007 – 2016 with several co-authors:

- **Modern versions of Mundell's Trilemma before and after the GFC**

Menzie Chinn, Univ. of Wisconsin; Hiro Ito, PSC

- **Patterns of hoarding and using IR**

Jaewoo Lee, IMF; Nancy Marion, Dartmouth, Yothin Jinjarak, VUM

- **The euro crisis, FED tapering**

Mahir Binici, Bank of Turkey; Michael Hutchison UCSC

- **Central banks swap lines**

Gurnian Pasricha; Bank of Canada

This presentation highlights

1. The rare conditions leading to international cooperation, and the reasons why eliciting such cooperation may be crucial in preventing adverse tail shocks from spiraling into global depressions.
2. The obstacles preventing cooperation,
3. Policy implications:
 - *International cooperation is rare, and occurs mostly in exceptional circumstances.*
 - *Hence, EMs should invest more in precautionary strategies and in putting their house in order, in anticipation of trouble.*

The Global Financial Crisis (GFC) has renewed the debate on the benefits and limitations of international coordination of macro policies.

- The history of international cooperation during the GFC resembles a glass that is half full according to some, or mostly empty according to others.
- Remarkably, the U.S. Federal Reserve Bank (Fed) fostered international cooperation by an unprecedented expansion of swap lines from December 2007 onwards.
- Yet, in January 30, 2014, Raghuram Rajan, Governor of the Reserve Bank of India noted that “international monetary cooperation has broken down... The U.S. should worry about the effects of its policies on the rest of the world.”

- The complex history of limited global cooperation was evaluated by Eichengreen (2014), who concluded that successful cooperation occurs most likely when it centers on technical issues, when cooperation is institutionalized, when it is concerned with preserving an existing set of policies and behaviors, and when it occurs in the context of broad reciprocity among nations.

- Frankel (2015) provided a synopsis of the history of international economic cooperation starting from the Great Depression, analyzing episodes in which countries behaved cooperatively or non-cooperatively in international fiscal and monetary games.

Frankel concluded that perceptions of the signs of spillovers and directions of coordination vary widely, inhibiting cooperation.

1. Domestic political factions typically disagree with each other, as much as they disagree with other countries regarding objectives and the models explaining the economy, thus inhibiting international cooperation.
2. Complaints about foreigners' actions and calls for cooperation may obscure the need to settle disagreements domestically.

The lessons of the recent decades is that international cooperation is rare, and occurs mostly in exceptional circumstances.

Applying a cost benefit analysis, we explain the exceptional circumstances eliciting cooperation:

In “normal times” [**no bad tail events**], the gains from cooperation have the size of **Harberger’s** Triangles, probably about 0.5%-1% GDP points, politically not worth the possible income redistribution effects.

Clear bad tail events that may induce the immanent collapse of global financial markets and other markets, would induce massive losses, by killing the **entire Marshallian-Surpluses**, triggering financial contagion in domestic and global networks, inducing costs of double digit GDP points.

We illustrate these points in the context of the GFC.

The first year of the GFC illustrates that exceptional circumstances may lead to beneficial cooperation. The FED swap lines that were activated during the GFC is a prime example of bad tail events inducing global cooperation.

- The pre-crisis dynamics led to a huge dollar-funding gap with the potential of leading to the collapse of a large share of the global banking system and thereby wiping the surpluses associated with the liquidity and credit services of financial intermediation.

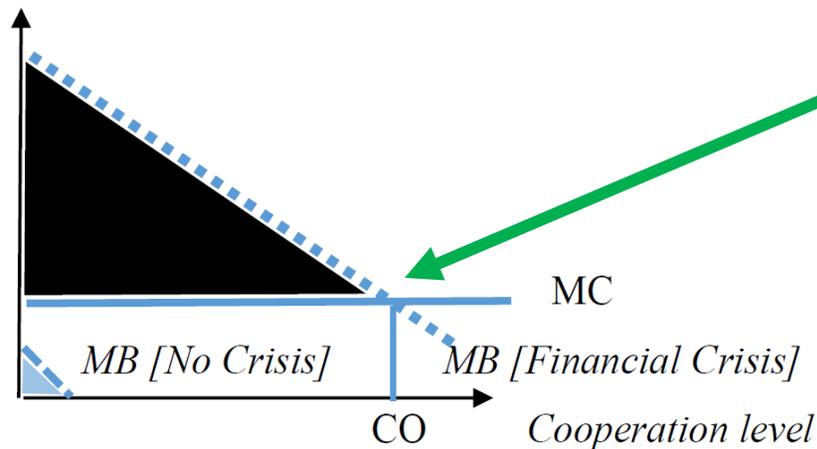
- **The magnitude of the dollar-funding gap in 2007 and 2008 was unprecedented.** According to *BIS WP 291, 2009* report:
“The estimate of their US dollar funding gap in mid-2007 in Europe would be \$2.0–2.2 trillion. **Were all liabilities to non-banks treated as short-term funding, the upper-bound estimate would be \$6.5 trillion...**”
- On 13 October 2008, the swap lines between the Federal Reserve and the Bank of England, the ECB and the Swiss National Bank became unlimited to accommodate *any* quantity of US dollar funding demanded.
- The swap lines provided these central banks with ammunition beyond their existing foreign exchange reserves, which in mid-2007 amounted to \$294 billion for the euro area, Switzerland and the UK combined, an order of magnitude smaller than our lower-bound estimate of the US dollar funding gap.

- In providing US dollars on a global scale, the Federal Reserve effectively engaged in *international lending of last resort*.
- The swap network can be understood as a mechanism by which the Federal Reserve extends loans, collateralised by foreign currencies, to other central banks, which in turn make these funds available through US dollar auctions in their respective jurisdictions.
- This made US dollar liquidity accessible to commercial banks around the world, including those that have no US subsidiaries or insufficient eligible collateral to borrow directly from the Federal Reserve System.

- The benefits of swap lines may be modeled using a version of the Diamond and DiGiulio (1983) paper in which the lender of last resort may prevent the first-order costs of a financial panic on the order of magnitude of those observed during the Great Depression, Aizenman and Pasricha (2010).

A cost benefit analysis of cooperation explains the need for exceptional circumstances to elicit cooperation

MB and MC of eliciting cooperation



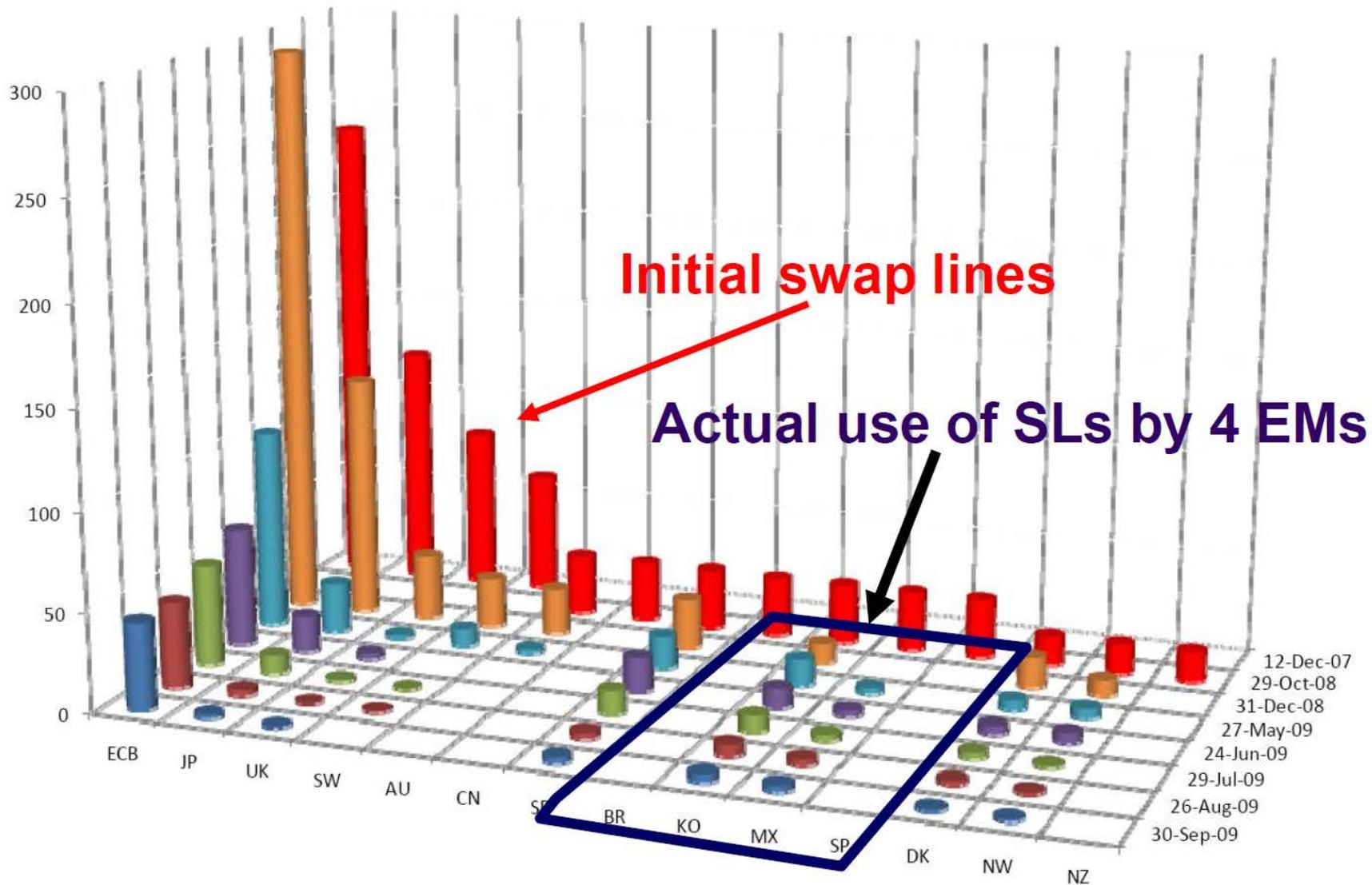
Optimal cooperation level following a bad tail event, inducing first order benefits

X axis measures the cooperation effort. **The MC curve:** the marginal cost of eliciting deeper cooperation. **The dotted MB [Financial Crisis]** curve traces the marginal benefit in the aftermath of a bad tail event.

The optimal cooperation level following bad tail event is CO, **inducing first-order benefits traced in the large shaded triangle.**

MB [No Crisis] = The MB in normal times is the broken curve, located below the MC curve, **too small to elicit cooperation – the loss from non-cooperation is of a second order size.**

What does it imply for Emerging Markets? The Fed only extended these swap lines to 4 EMs [BR, KO, MX, SP], up to 30 B. US \$.



- The selectivity of these swap lines reflected the imminent cost to U.S. financial institutions of possible defaults by Mexican and Korean counterparties (offering swap lines to Brazil and Singapore probably reduced the stigma effect).
- Exposure of U.S. banks to EMs was the most important selection criterion for the swap-lines provided by the Fed to the selected four EMs (Aizenman and Pasricha, 2010).
- This selectivity probably reflected the FED's concern that its future independence would be constrained by over-extending swap lines to emerging markets with a history of sovereign defaults.

Hence

- Don't expect cooperation at times of peril short of imminent positively correlated threats impacting most countries.
 - Key benefit of ex ante international cooperation - reducing the probability of tail events. This mission should be a top priority of IFIs.
- Not easy to do, as the counterfactual -- identifying all the tail events that were prevented is practically impossible.

Implications for EMs and their policies

1. It's up to EMs to build precautionary buffers ex ante [IR, SWF], and to regulate and reduce balance sheet exposure [Macro Pru].

Principle-Agent, moral hazard & political constraints matter - as a rule, don't presume access to swap lines of the type extended selectively to 4 EMs under the unique circumstances of the GFC.

2. EMs should strive towards deeper cooperation between their CB, SWF and Treasury - see Frankel's pioneering work on Chile.

3. Mundell's Trilemma morphed into quadrilemma, as financial stability has been added to the policy goals. The lesson of the 1990s has been that emerging markets converged to **the middle**

ground of Mundell's trilemma: controlled exchange rate flexibility and limited financial integration, retaining monetary independence, **buffered by sizable IR/GDP, a configuration that has facilitated better adjustment in turbulent times** [Aizenman, Chinn & Ito (2010, 2011, 2013)].

Greater exchange rate flexibility provides a margin of safety, mitigating the moral hazard game between the private sector (ignoring exchange rate risk) and the CB (which is expected to bail out systemic balance sheet exposure).

- Exchange rate flexibility and leaning against the wind by accumulating IR at times of higher current account surpluses [due

to ToT improvements, and hot money inflows] mitigate REER volatility, and tend to stabilize GDP growth.

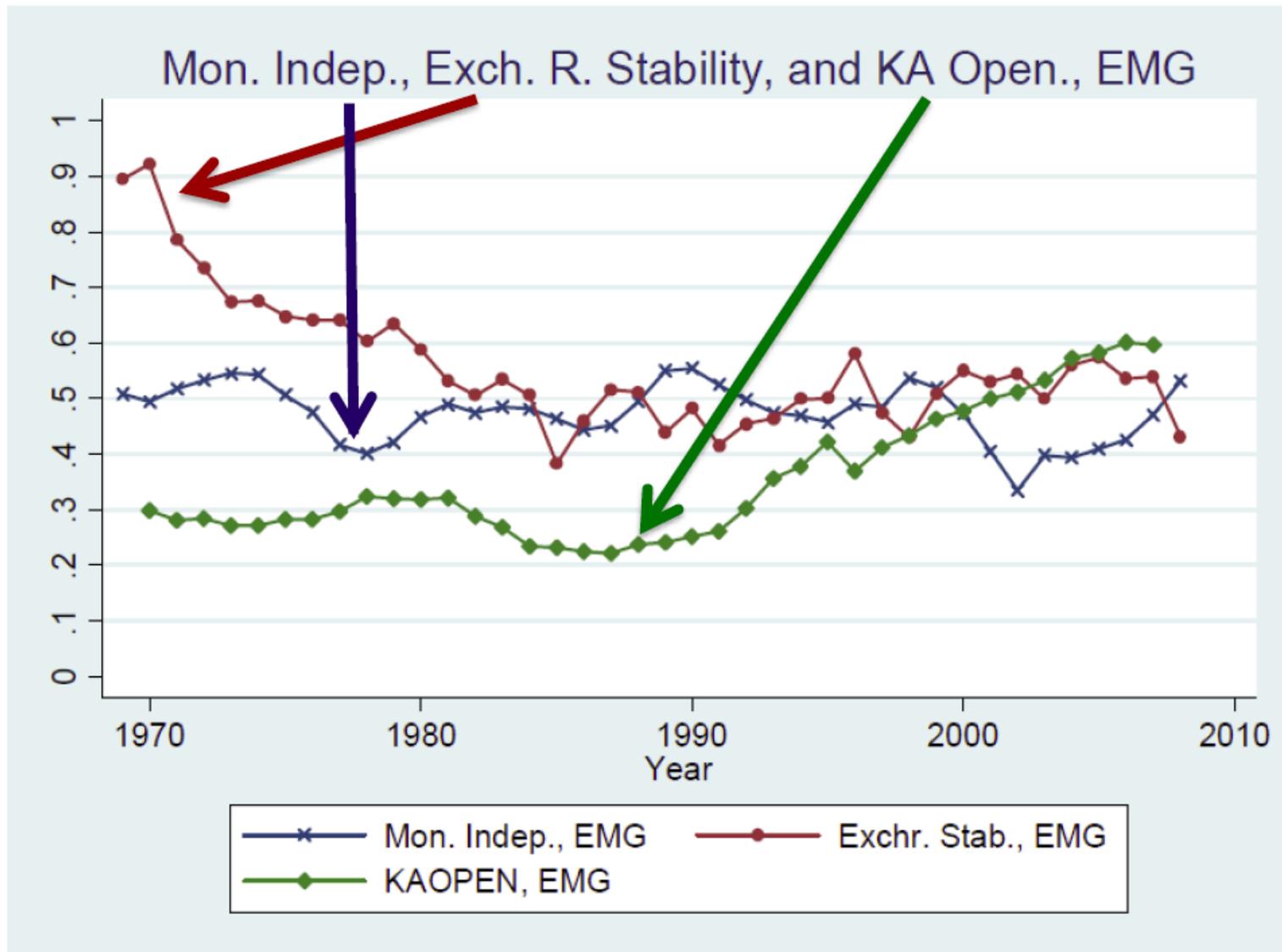
- The comparative resilience of emerging markets after 2000 is a tribute to the corrective measures they took after their own crises during the 1990s, facilitating a smoother adjustment of EMs during and after the GFC.



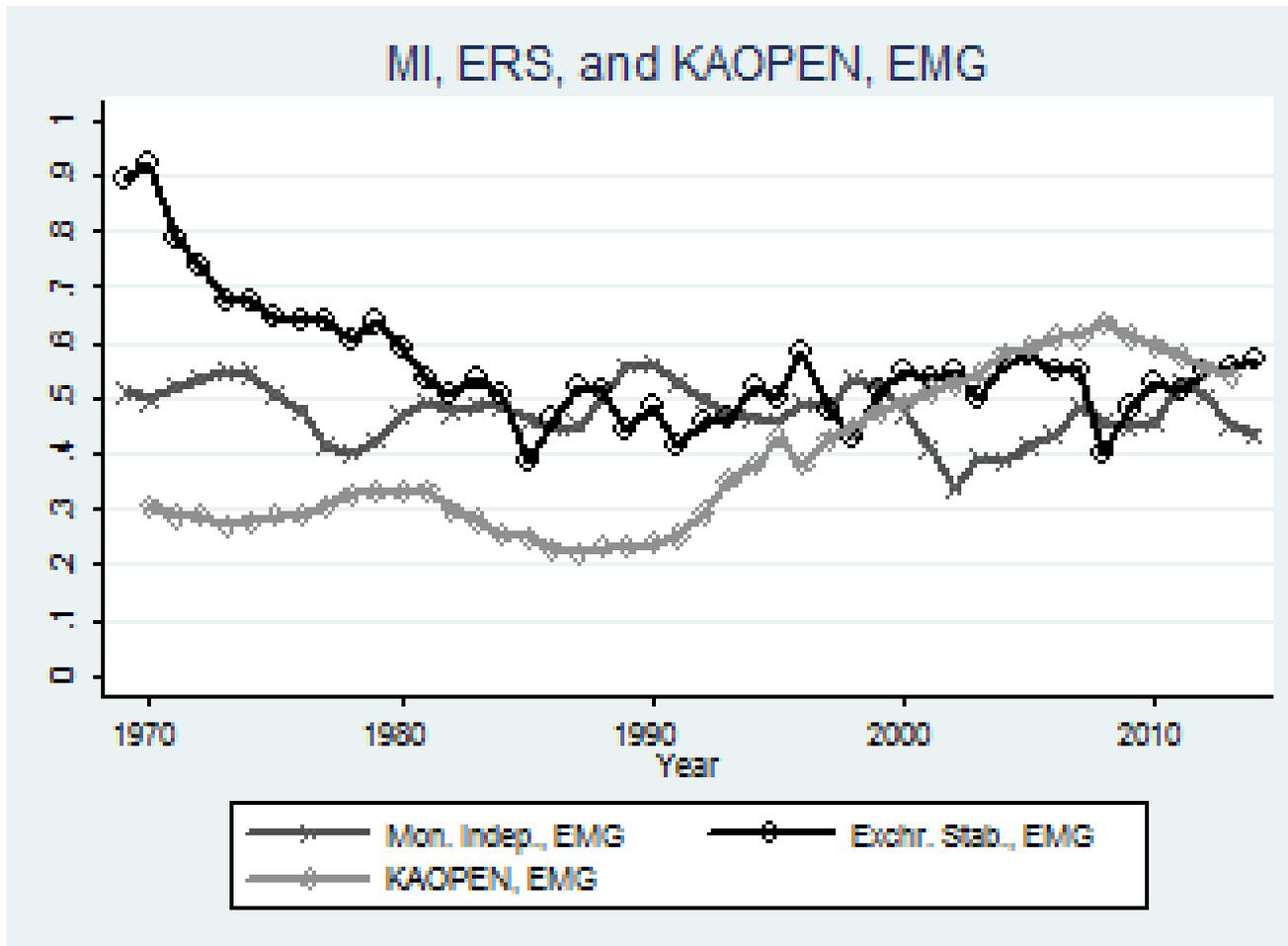
Mundell's open economy Trilemma

EMs Trilemma configurations

1970- 2010 Convergence to the middle ground

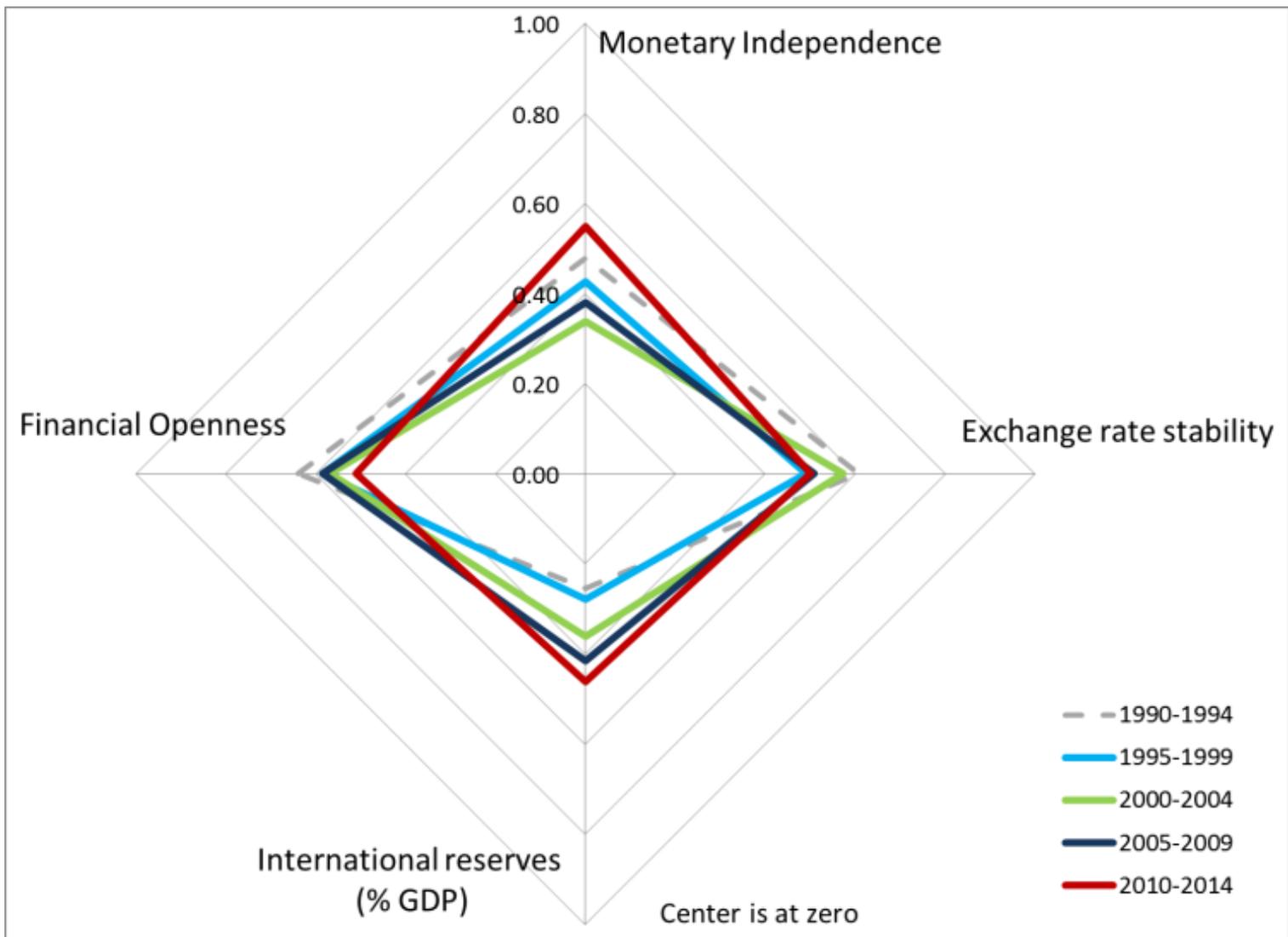


Source: Aizenman, Chinn and Ito (2010)



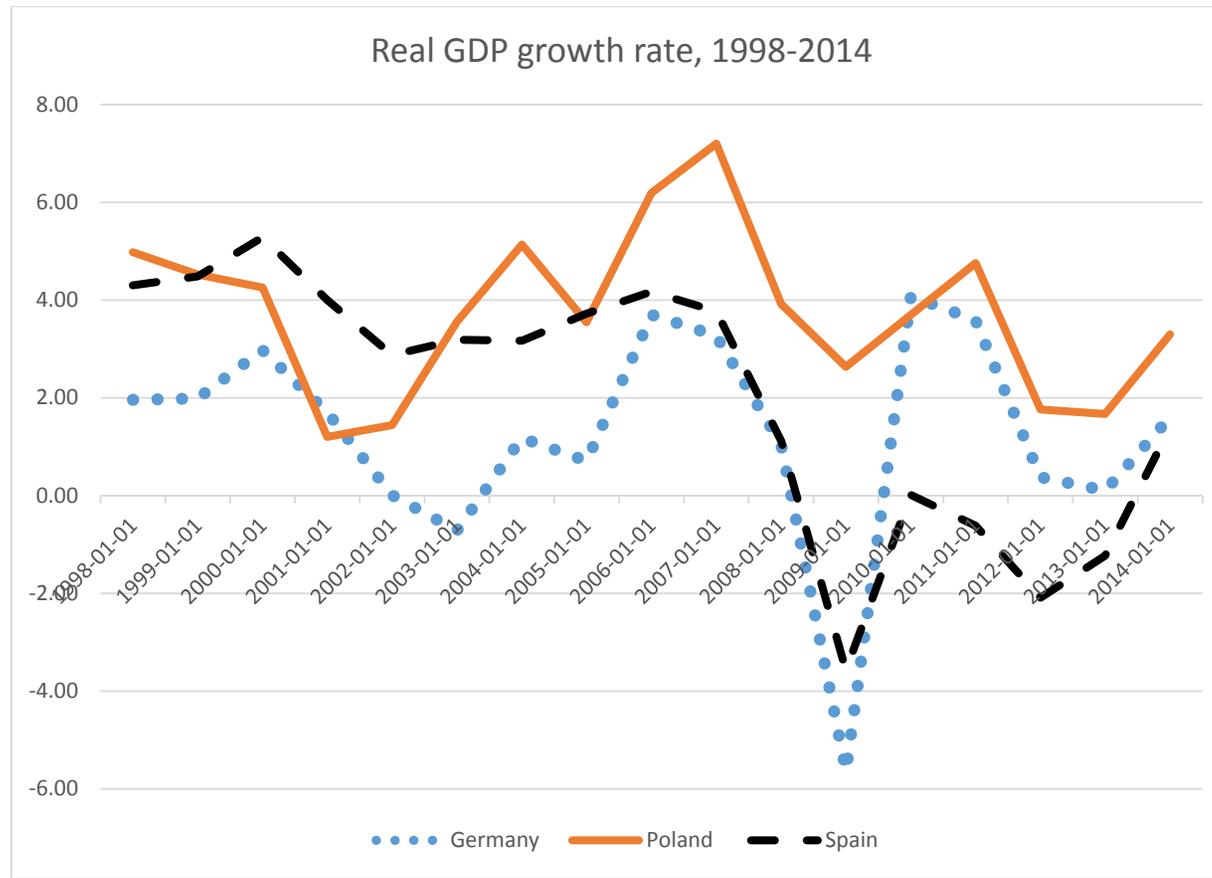
Emerging Markets Trilemma Configuration, 1970-2014;

<http://voxeu.org/article/empirical-evidence-monetary-policy-trilemma-1970> <http://voxeu.org/article/dilemma-financial-trilemma>
http://web.pdx.edu/~ito/trilemma_indexes.htm



Emerging markets' changing quadrilemma configurations in the 1970s, 1980s, 1990s, 2000s, and 2011 to 2014.

Trilemma illustration in the context of the Eurozone crisis



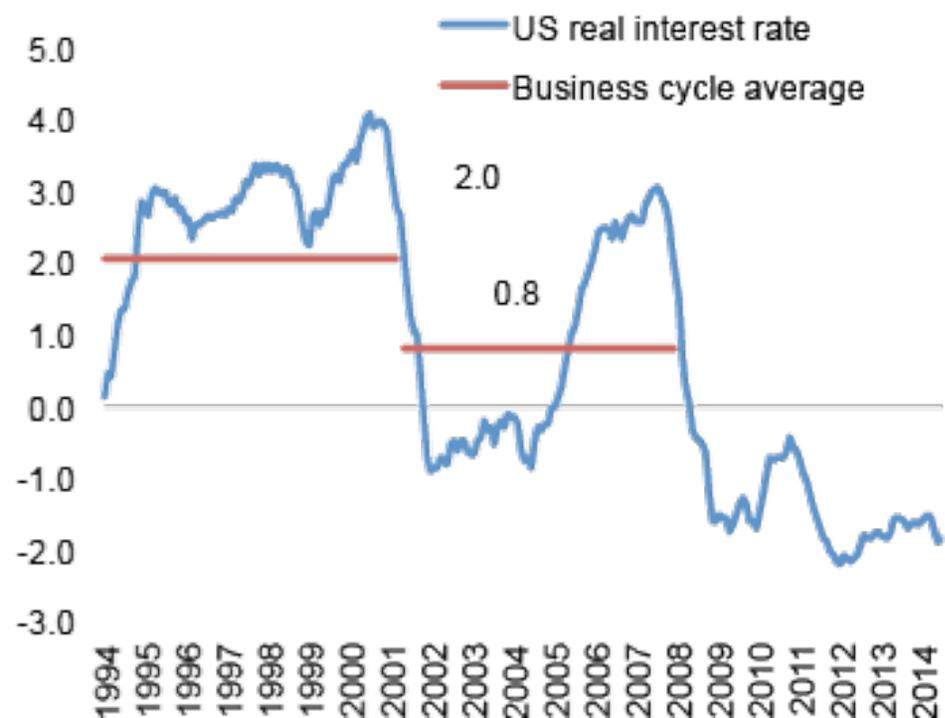
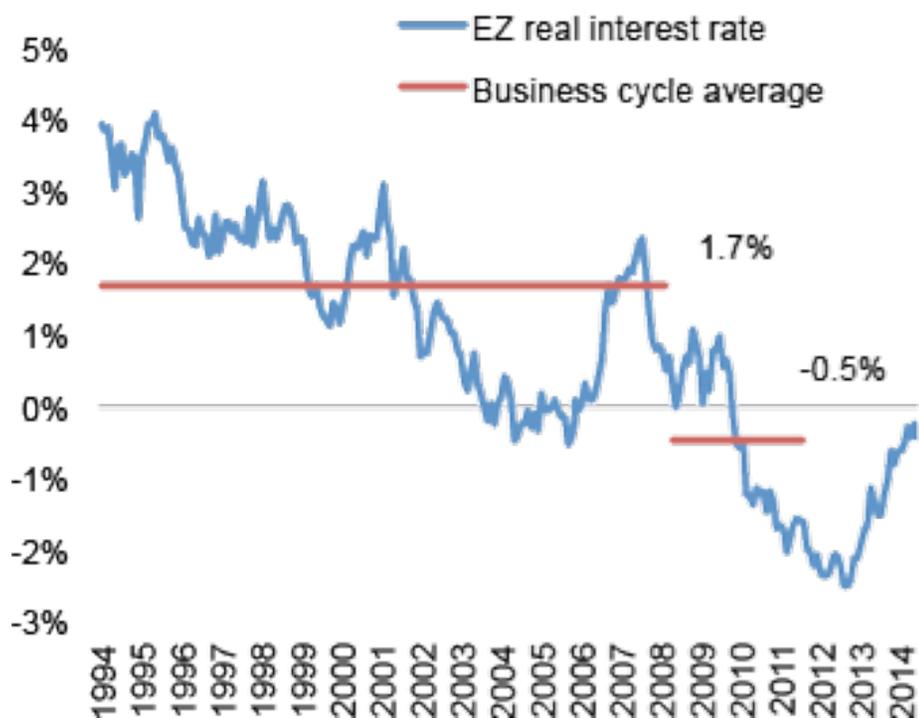
Real GDP Growth rates (%), 1998-2013, Poland, Spain, Germany

Data Source: FRED **The GDP/capital growth rate decline during the GFC [2006 to 2008] was about 4% in Poland, half of the decline experienced by Germany and Spain.**

Poland's public debt/GDP increased mildly from 45% in 2007 to 57% in 2013, while that of Spain almost tripled during that period, rising from 37% to 94%. The Zloty/Euro rate depreciated by 44% during the GFC, thus mitigating the recessionary impact of the crisis. Beata Szydlo, the new Polish Premier elected in 2015, described the euro as a bad idea that would make Poland a "second Greece." [FT, 12/5/2015]. Time will tell if the national populism of the new Polish regime will terminate Polish economic success... The U.K.'s expansionary monetary policy induced the depreciation of the British pound by a third of its value, thus facilitating a faster recovery.

- Rey (2013) questioned the usefulness of exchange rate flexibility. She argued that Mundell's trilemma morphed into a dilemma between capital controls versus monetary independence, notwithstanding the exchange rate policy.
- Chances are, however, that the futility of a flexible exchange rate may be exaggerated. An economy that pursues greater exchange rate stability and financial openness faces a stronger link with the center economies. Managed ER flexibility seems to mitigate the exposure to external shocks [Aizenman, Chinn & Ito, 2015, 2016].
- The bottom line: Mundell's Trilemma does not argue that countries can insulate themselves from global shocks propagated by large countries. Instead, the Trilemma is about trade-offs and mitigations. **The fact that most central banks operate today with policy interest rates close to zero, at times of zero or negative real interest rates impose new constraints on Mundell's Trilemma.**

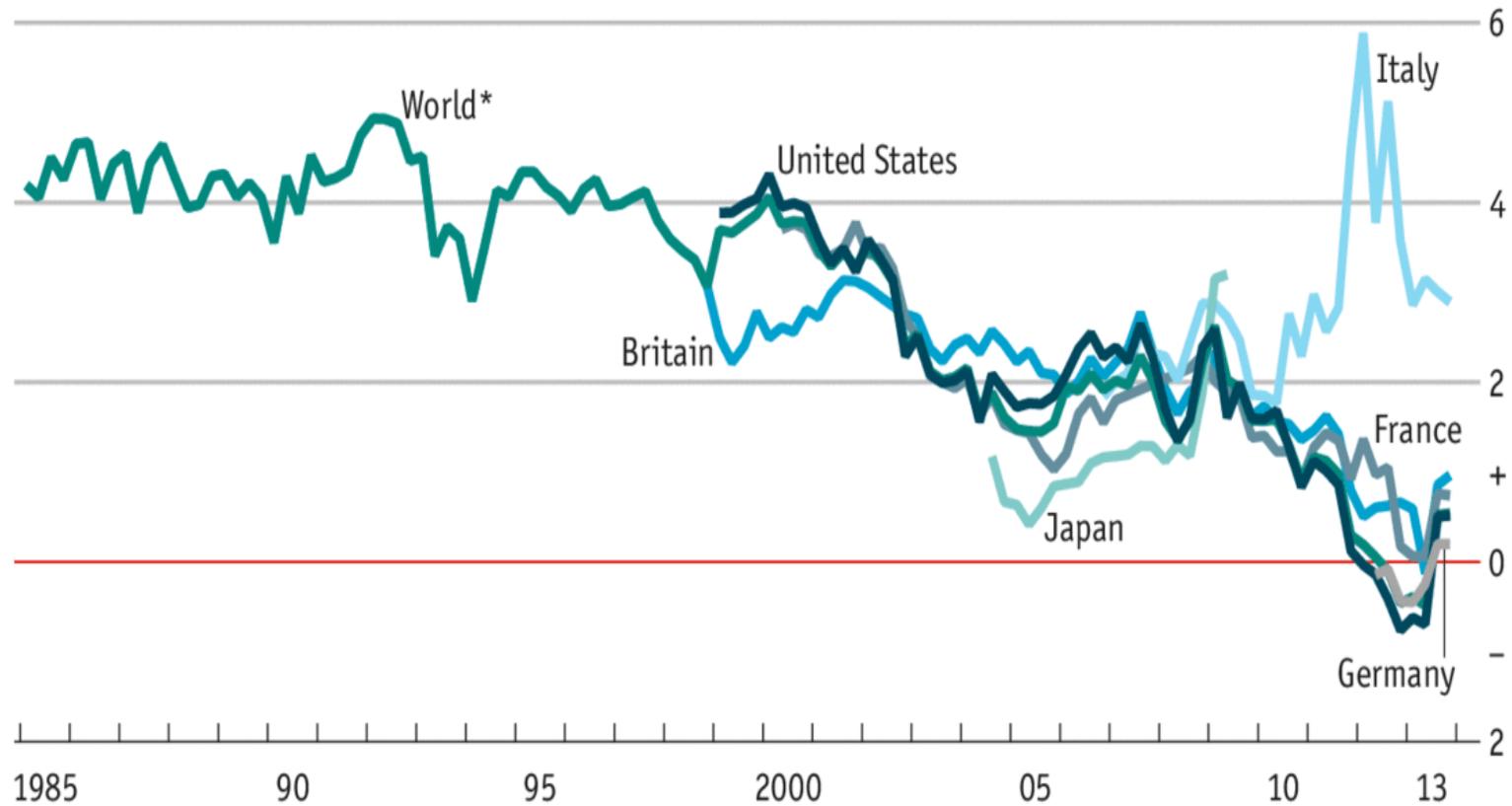
- Trends in real interest rates, US and EZ



Sources: Eurostat and FRED online database. EONIA and Fed Funds minus core inflation.

Ten-year real government-bond yields

%



Source: "Measuring the 'world' real interest rate", by M. King and D. Low, Feb 2014

*Excludes Italy

Economist.com/graphicdetail

4. Quality of institutions matters: Countries that constrain balance sheet exposure keep benefiting from exchange rate flexibility. Capital controls may reduce exchange market pressures, but the size of this impact is highly dependent on the institutional quality. Aizenman & Binici, 2015. **LATAM** countries have experienced the collapse of their TOT, yet most of them retained so far their resilience, and ER flexibility seems to help.

5. Flexible exchange rate is not a panacea: among n flexible ER currencies, at most only $n - 1$ are independent. Size matters even with flexible ER, the financial size of the US exceeds its global GDP share.

6. A key role for IFIs and key CBs [FED, ECB, PBC] in facilitating deeper ex-ante international cooperation aimed at reducing the probability of tail events. Hard to do, but the expected global gains are huge.

Overview of possible obstacles to economic growth.

1. Status quo bias may be the rule, domestically and internationally

*If it ain't **clearly broken from your perspective**, don't fix it...* 

2. Even if cooperation brings large Pareto Improvements, it's rare. Why? **Income distribution concerns** may trigger war of attrition among stakeholders, each aiming at minimizing their burden of adjustment, delaying cooperation.

Examples:

- Korea's adjustment of its current account in 1997-9 was 13%! -
 - Feasible in Korea, not in Greece, Argentina and other EMs where income inequality and polarization limit cooperation.
- Rentiers oppose policies inducing lower interest rates, etc.

- **Status Quo Bias:** may explain CBs' unwillingness to increase inflation targeting from 2% to 4% at times of global peril [Blanchard's suggestion].

3. **Short-termism** of a typical democratic system does not help.

Principle-Agent, moral hazard & political constraints matter:

- US FED's swap lines are a good example of cooperation inducing first order effects. The provision of these swap lines to only 4 EMs probably reflected the FED's concerns that even a minor default on such swap lines would be used to reduce the FED's independence.
- China does not face such constraints, happily supplying swap lines to 'risky EMs' with a history of defaults.

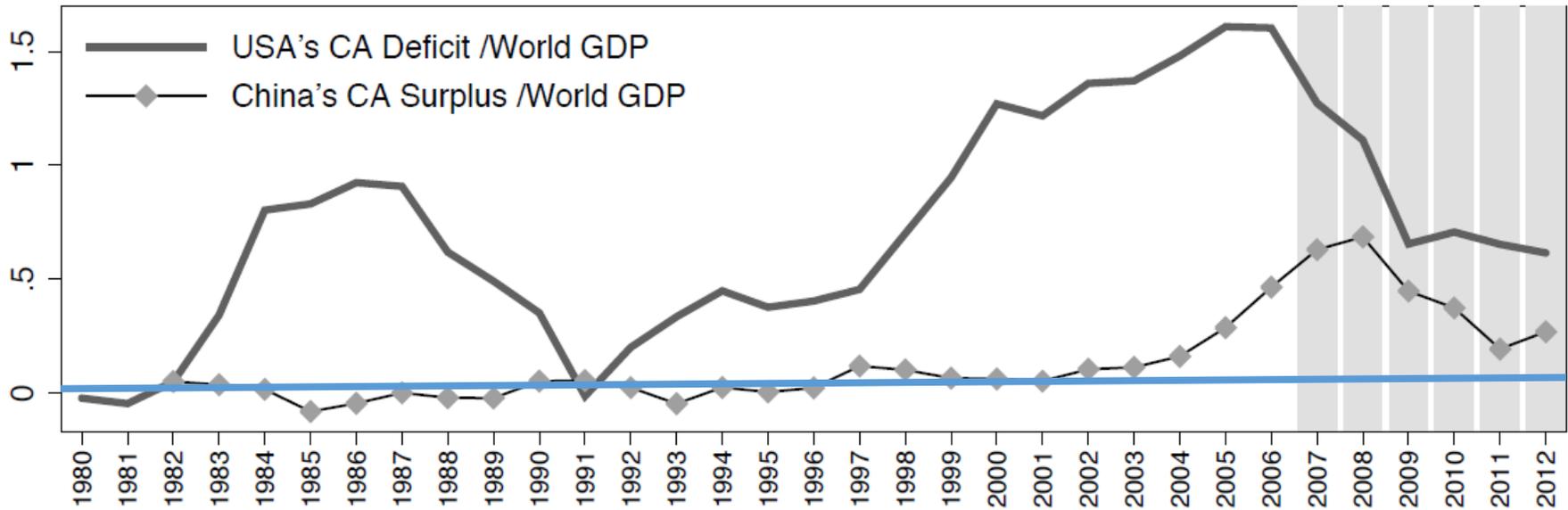
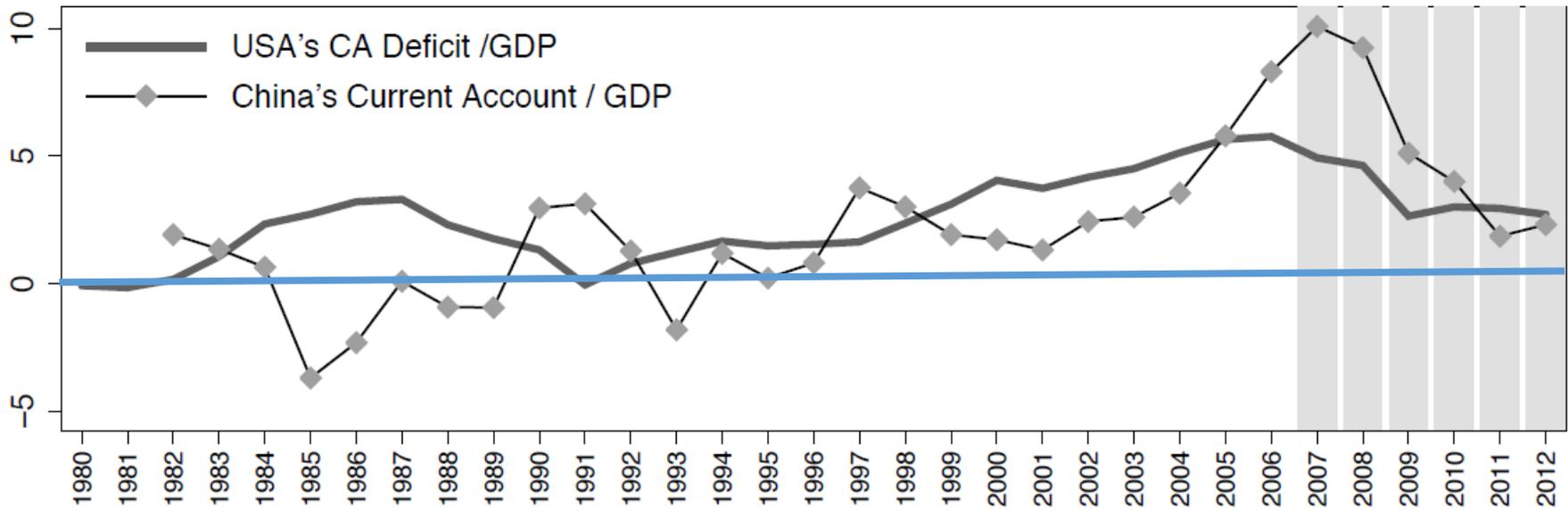
4. **Logical Cost benefit analysis may clash with value judgments, inhibiting cooperation. Value judgments reflect history, culture, and may be also self-serving. Example:**

- Germany has a bias toward high saving, and low inflation. In German, *debt* = '*Schuld*' = *fault, sin...* Germany opposes debt forgiveness; expects creditors to be fully paid back, ignoring the cost of debt-overhang, and the fact that euro zone's "overborrowing" was funded by "over-lending." **Outcome: Euro zone's recessionary biases.**

Conclusions:

The default assumption should be that international cooperation is rare, and occurs mostly in exceptional circumstances. Hence, EMs should invest more in precautionary strategies and in putting their house in order, in anticipation of trouble.

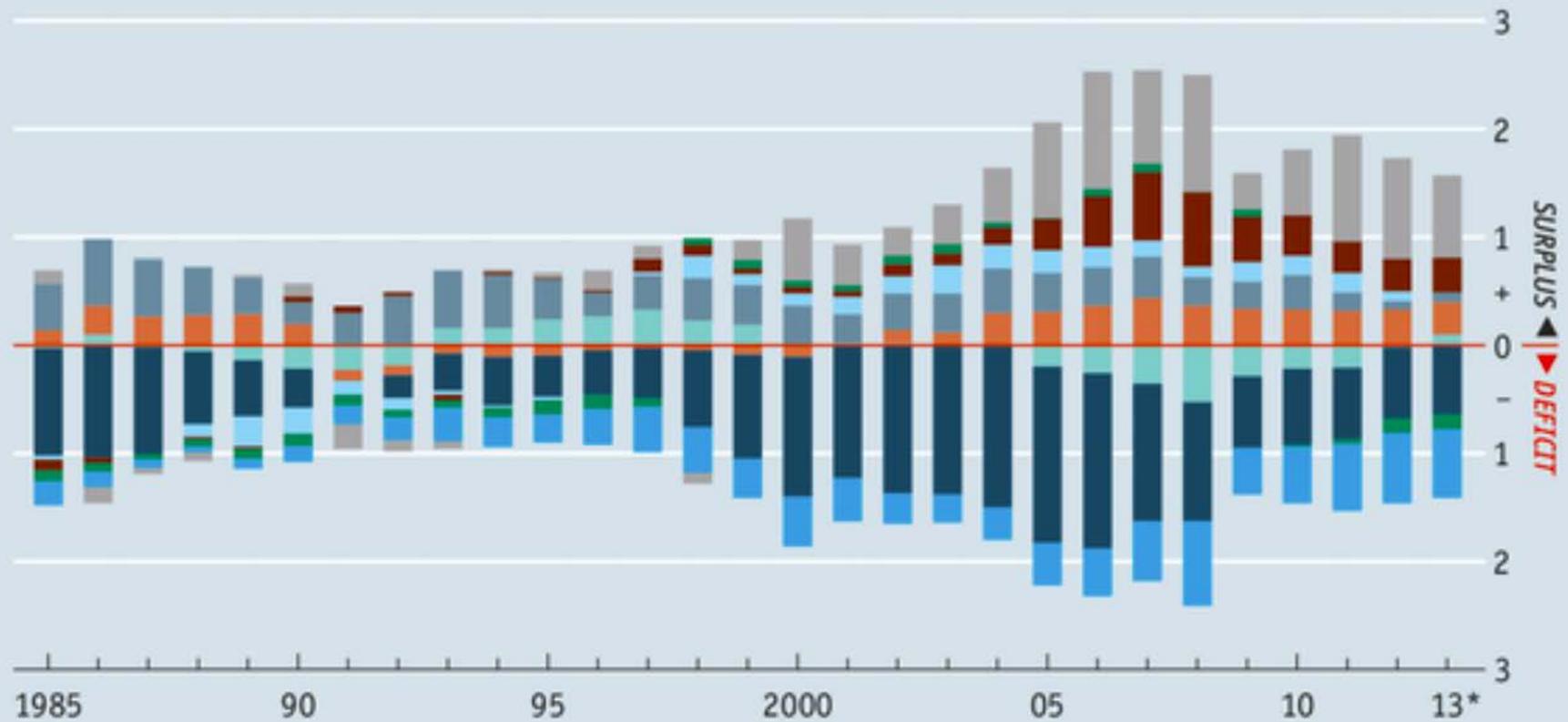




Current-account imbalances

As % of world GDP

- Oil exporters
 - China
 - Japan
- Germany
 - Euro area (excl. Germany)
 - United States
- Rich countries (excl. Euro area, Japan, US, Norway)
 - Developing Asia
 - Emerging markets (excl. Asia)



Sources: IMF; *The Economist*

* Forecast