



# *On Selecting and Analysing Financial Stability Indicators*

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# I. What should financial stability indicators (FSIs) measure?

➤ i.e. what affects financial health and stability?

A. domestic versus international factors

B. real versus financial sector factors

1. BANKING CRISIS: domestic - financial sector origin

asset quality, management soundness, profitability of financial institutions, liquidity, equity price and lending boom, etc.

2. RECESSION: domestic - real sector origin

economic growth, inflation, savings and investment rates, commodity prices, sectoral investment, etc.

### 3. BOP CRISIS: domestic - external financial origin

exchange rate overvaluation and risk, exchange rate regime, BOP (CA, trade balance, capital account), dependence on foreign capital: foreign portfolio and direct investment, foreign bank debt, etc.

### 4. INTERNATIONAL SYSTEMIC CRISIS: foreign - financial origin

like in BOP crises, but also: openness, real and financial integration and interdependence with other markets

- Interdependence of these four types of crises: origin could be any of the four crises, then leading to any or all of the other types of crises
- There is *no narrow set of FSIs* that is best for all countries and at all times:
  1. Susceptibility to *different type of crises or risks* requires special focus on specific groups of FSIs
  2. Weight given to each of the four categories should depend on *country-specific characteristics*; e.g. closed economies give more weight to domestic factors; open economies should give more importance to international FSIs
- It is desirable to develop a *core set of FSIs* that is available to policy-makers at all times to evaluate different risks and vulnerabilities

## II. Relevant concepts for FSIs

- “measures of financial

HEALTH



weakness



(crisis) event inevitable  
[1<sup>st</sup> generation models]

and

STABILITY”



vulnerability

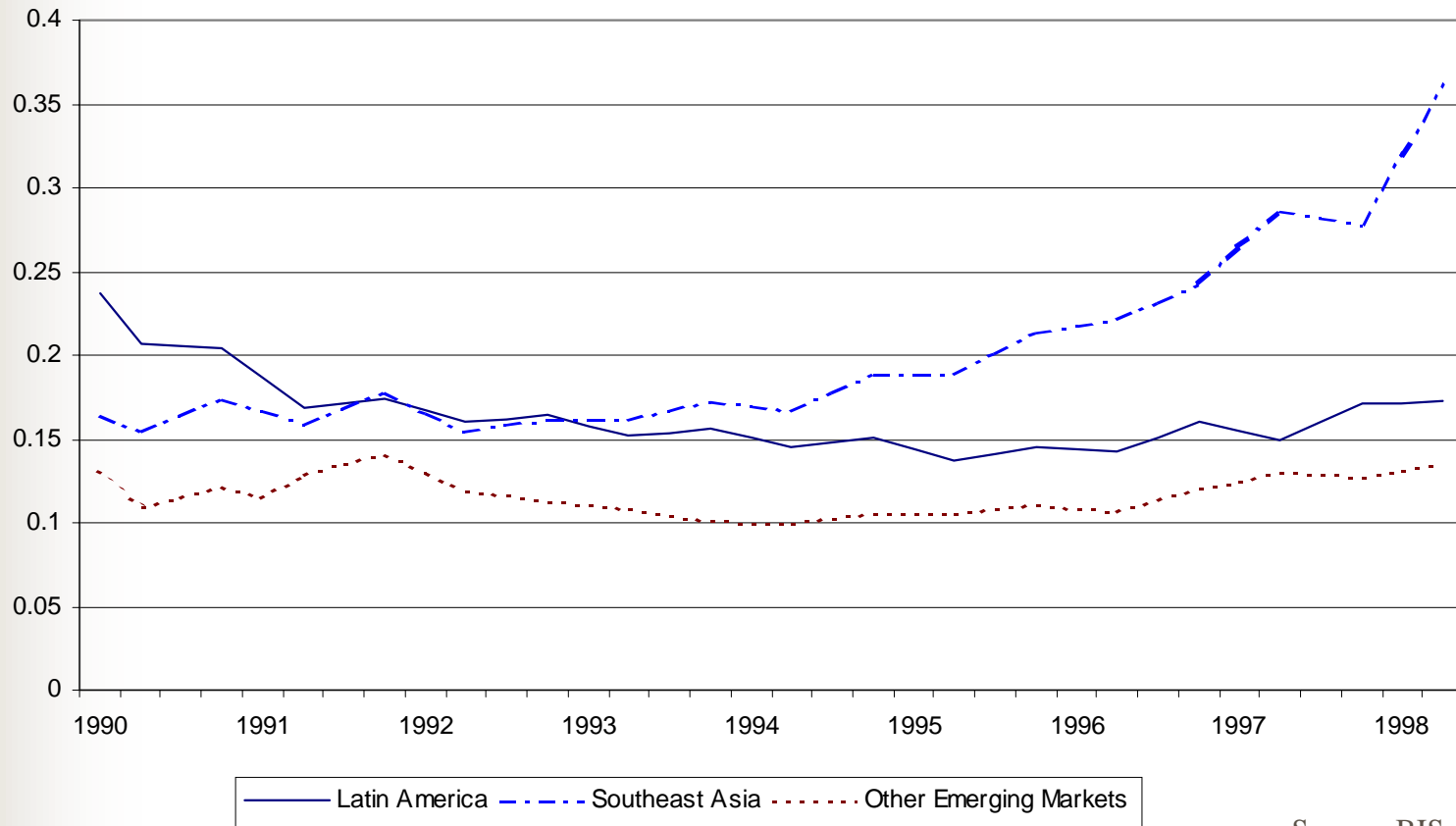


(crisis) event possible,  
but not inevitable  
[2<sup>nd</sup> generation models]

### III. How to interpret FSIs: When are FSIs signalling weakness or vulnerability ?

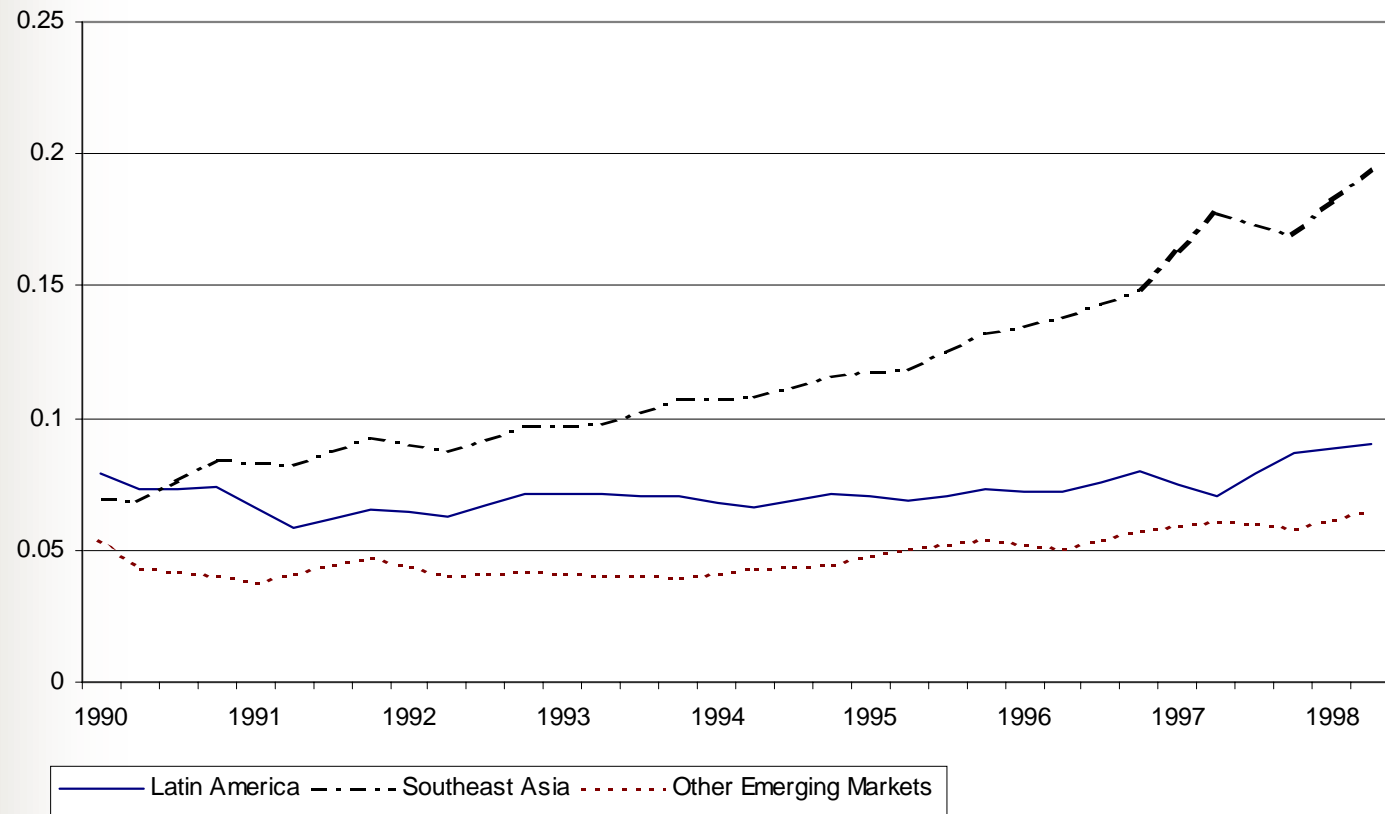
- There is no single or unanimous standard to evaluate FSIs, but a set of standards is more appropriate:
  1. Absolute standard: FSI passes a particular *objective threshold* (e.g. microprudential indicators)
  2. Relative standard I: FSI shows particular *pattern over time* (e.g. change of foreign debt over time)
  3. Relative standard II: FSI *comparison across relevant countries* (e.g. RER appreciation and current account)
  4. Relative standard III: FSI shows some particular behaviour in relation to some other *specific benchmark* (e.g. foreign exchange reserves ratio to imports)

**Graph 5: Total External Debt / GDP Ratio  
Regional Comparisons**



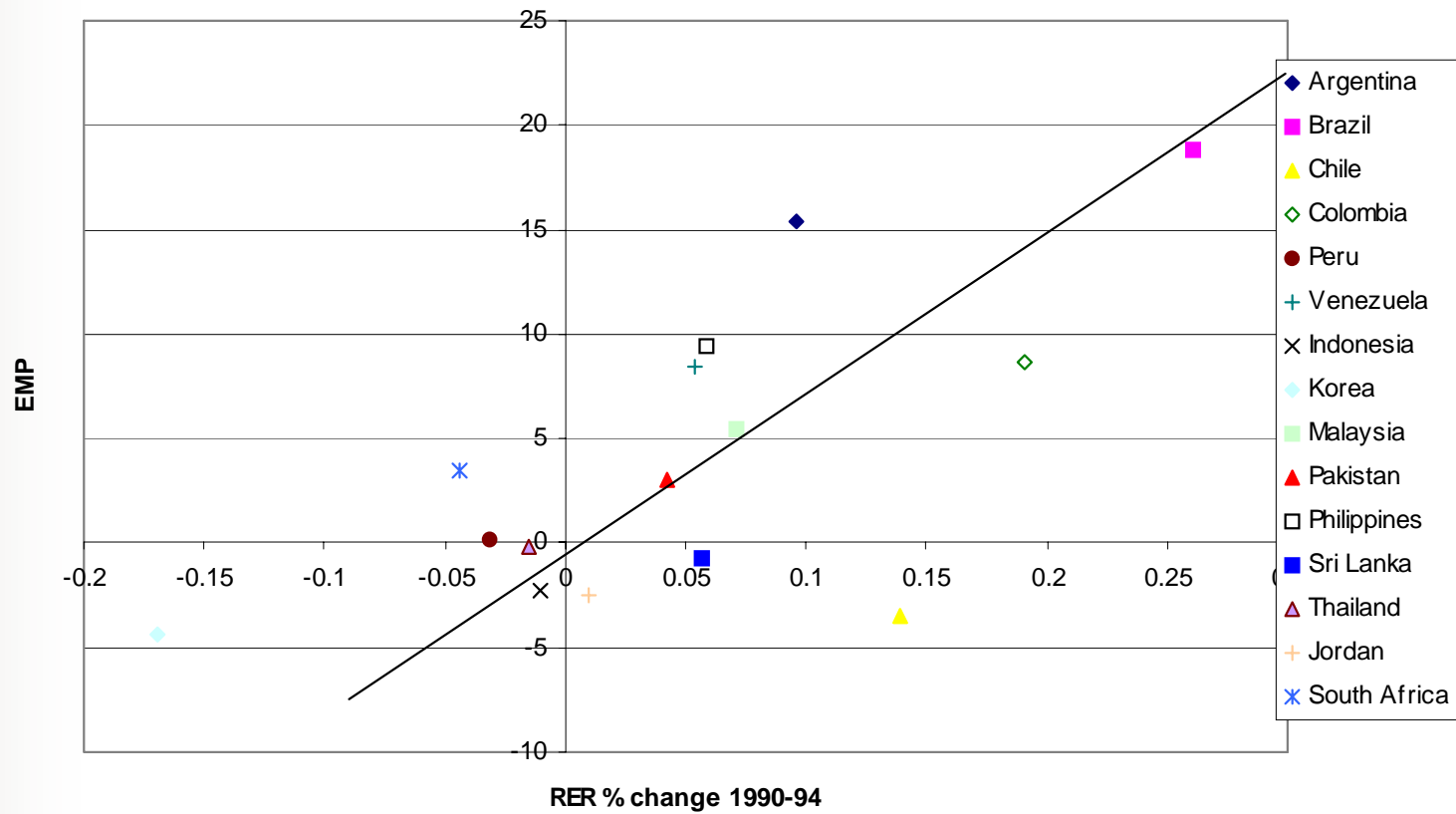
Source: BIS

**Graph 6: Short-Term Debt / GDP Ratio  
Regional Comparisons**



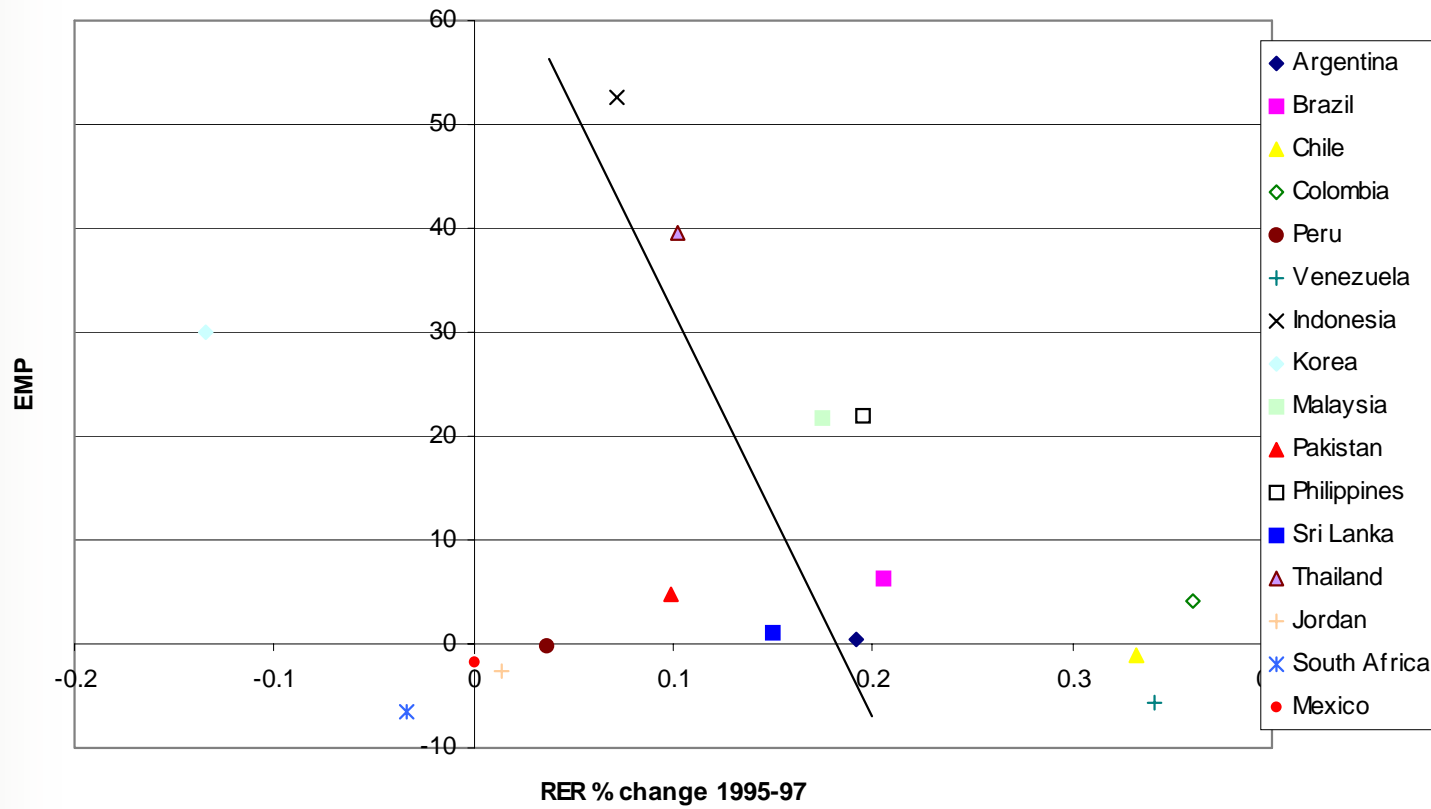
Source: BIS

**Graph 1a: Latin American Crisis 1994**  
**RER appreciation 1990-94**



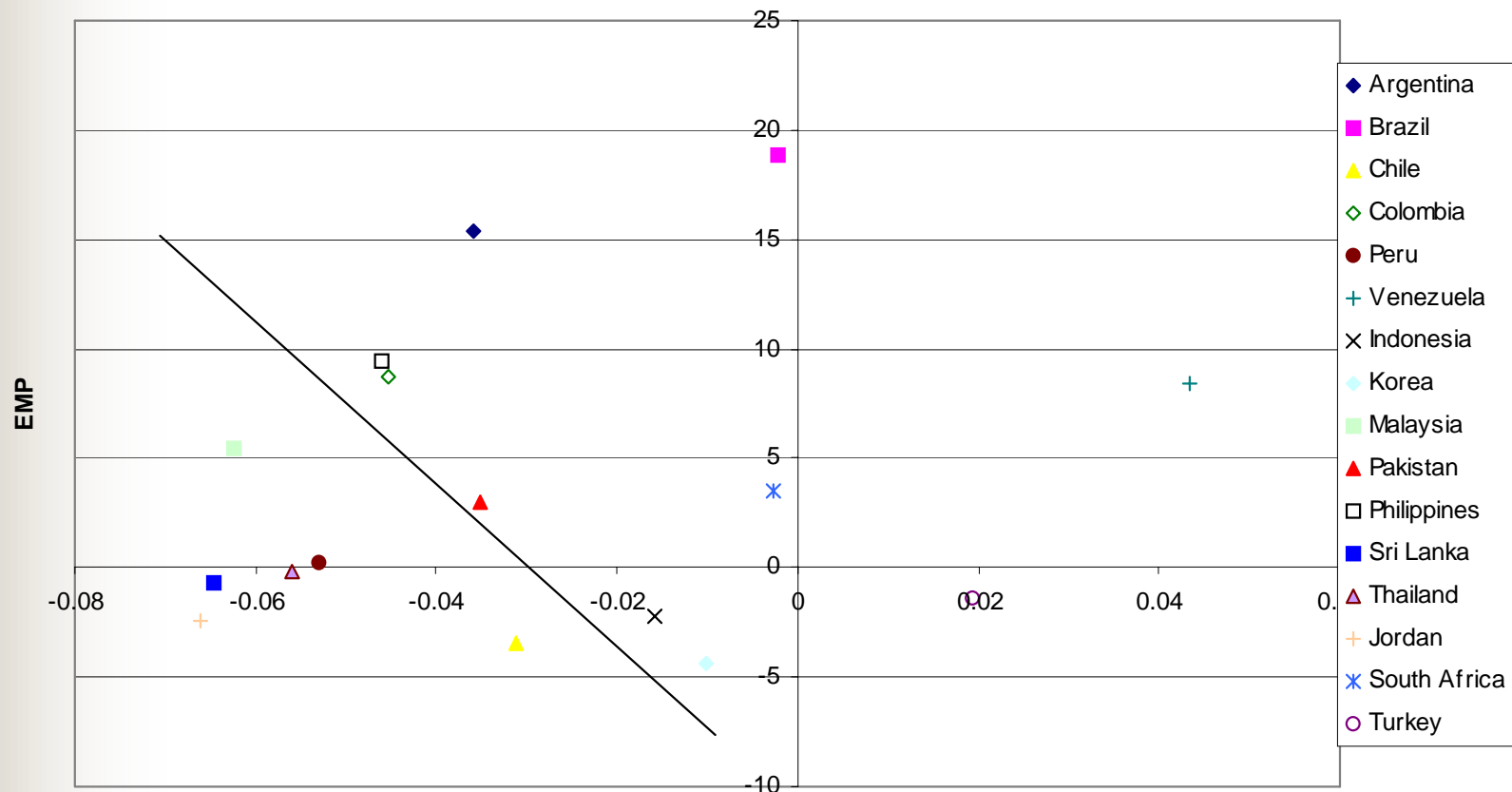
Source:IMF

**Graph 1b: Asian Crisis 1997**  
**RER appreciation 1990-97**



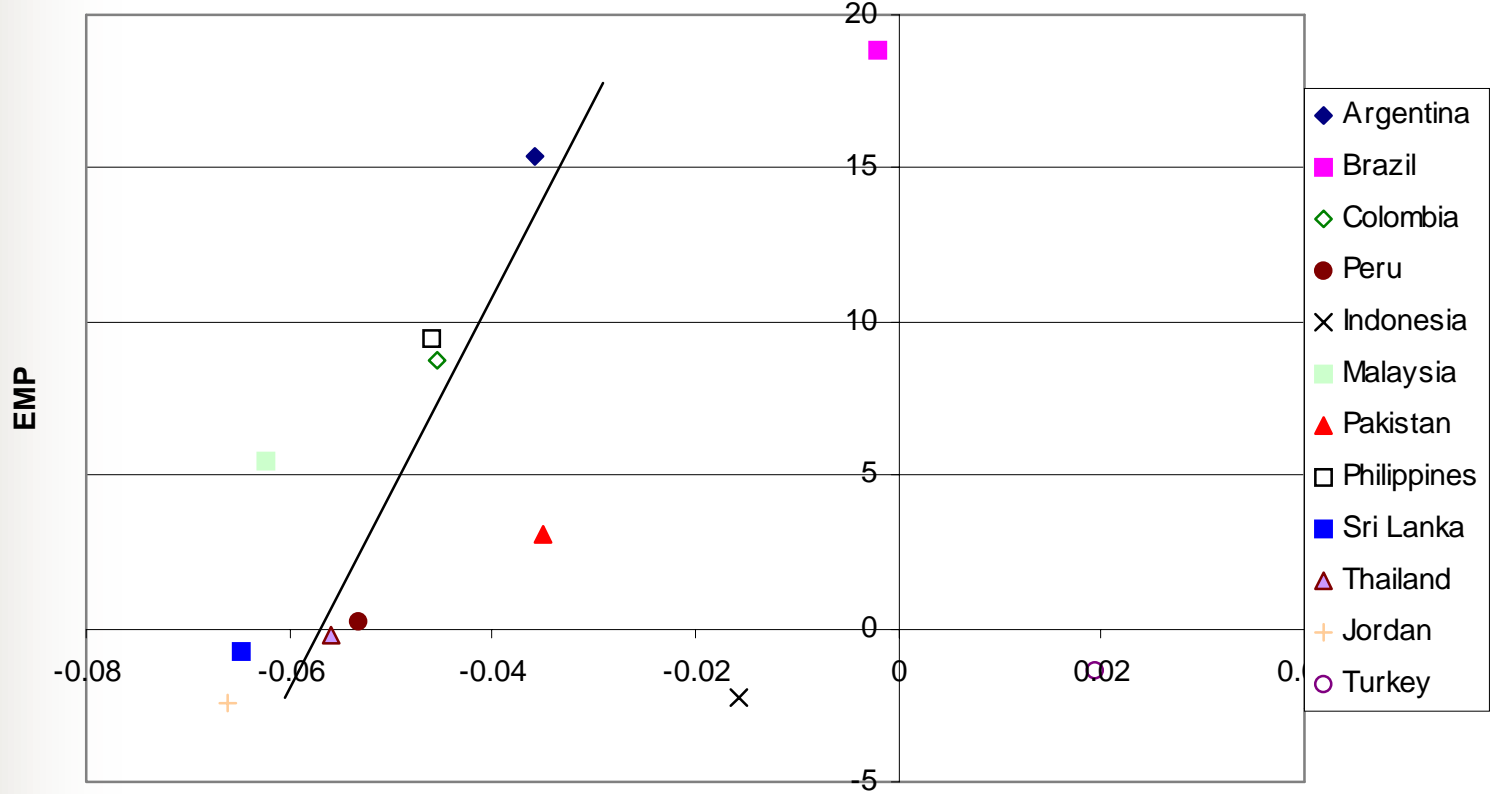
Source:IMF

**Graph 3a: Latin American Crisis 1994  
CA / GDP 1994**



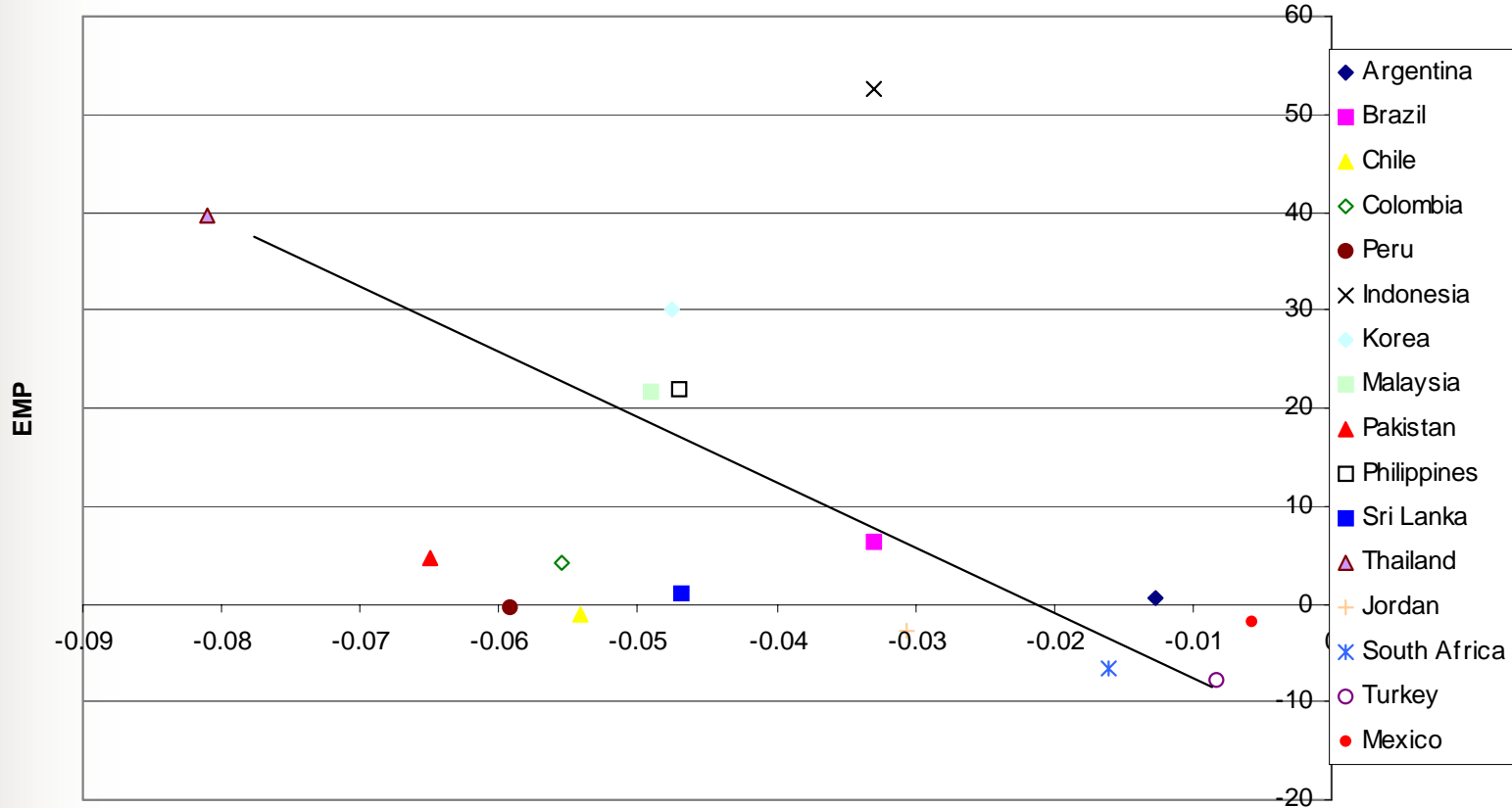
Source:IMF

**Graph 3c: Latin American Crisis 1994  
CA/ GDP 1994**



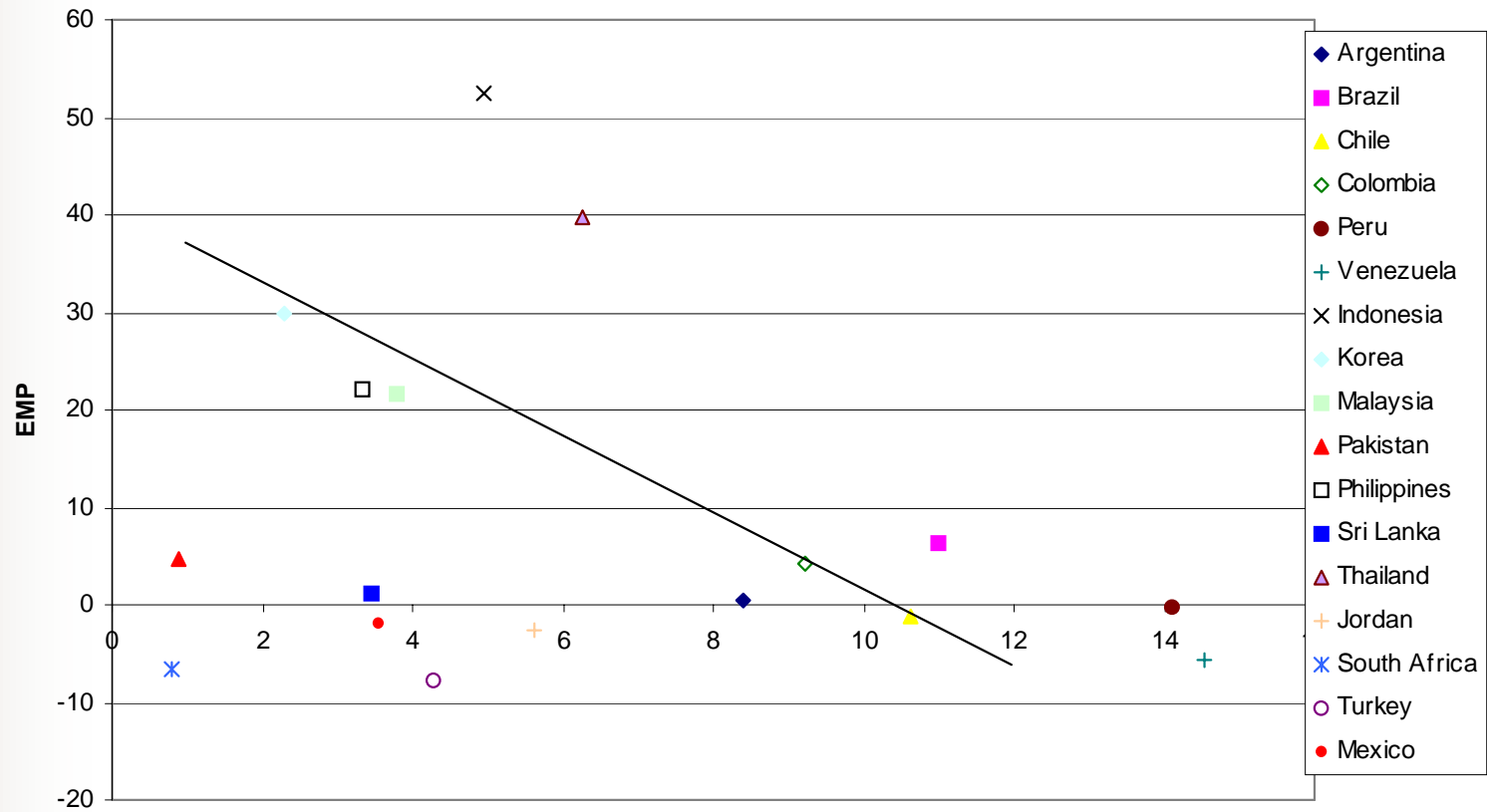
Source:IMF

**Graph 3b: Asian Crisis 1997  
CA / GDP 1996**



Source:IMF

**Graph 4: Asian Crisis 1997  
Reserve / Import Ratio 6/97**



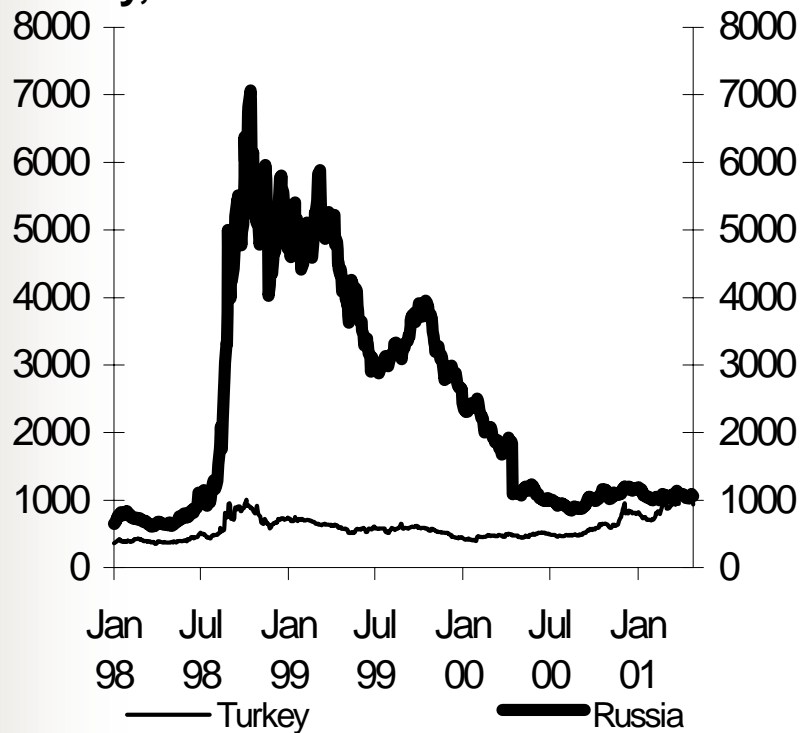
Source:IMF

## IV. Market-based and investor-based FSIs

- Increased speed and improved efficiency has raised volatility and uncertainty in financial markets
- financial stability is becoming more and more dependent on perceptions and expectations of financial market participants
- therefore: core set of FSIs should also reflect these developments and focus more on forward-looking indicators
- examples from monitoring FSIs: some financial indicators from emerging markets and developed markets

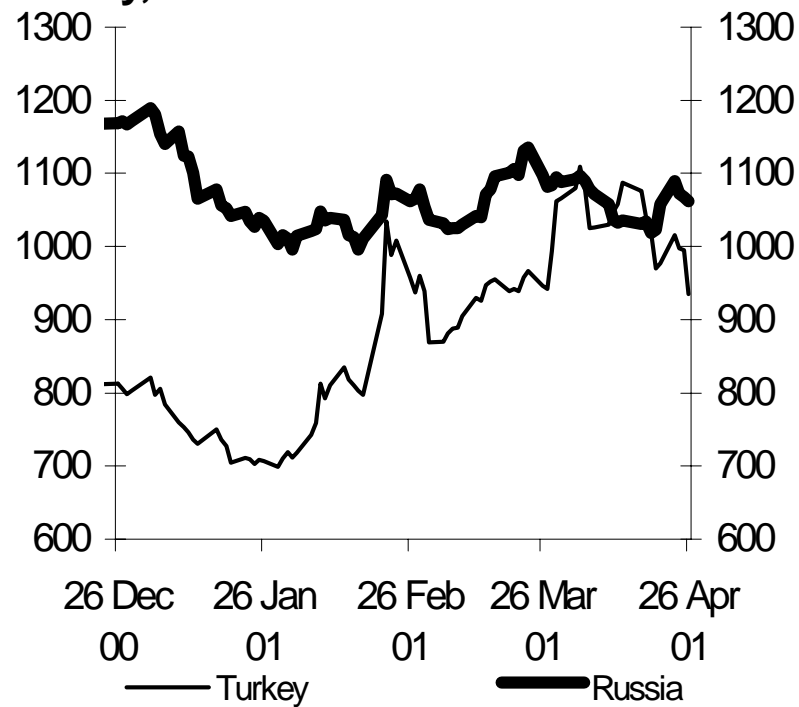
## EMBI Sovereign Spreads: Turkey and Russia

Turkey, Russia



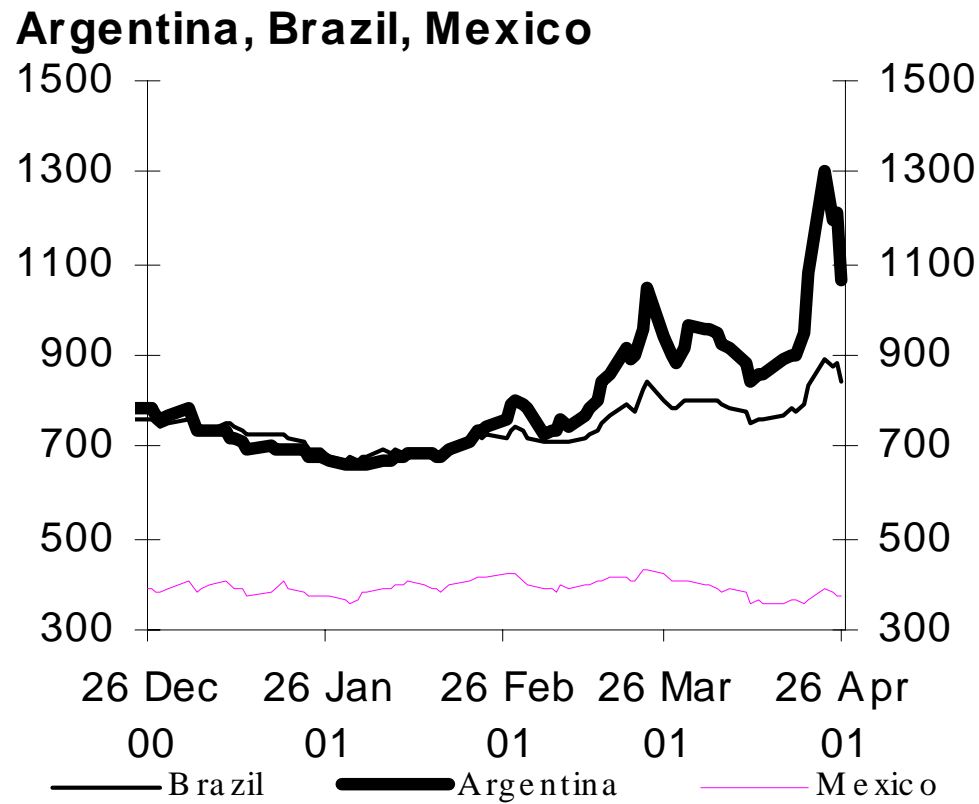
Source: JP Morgan.

Turkey, Russia



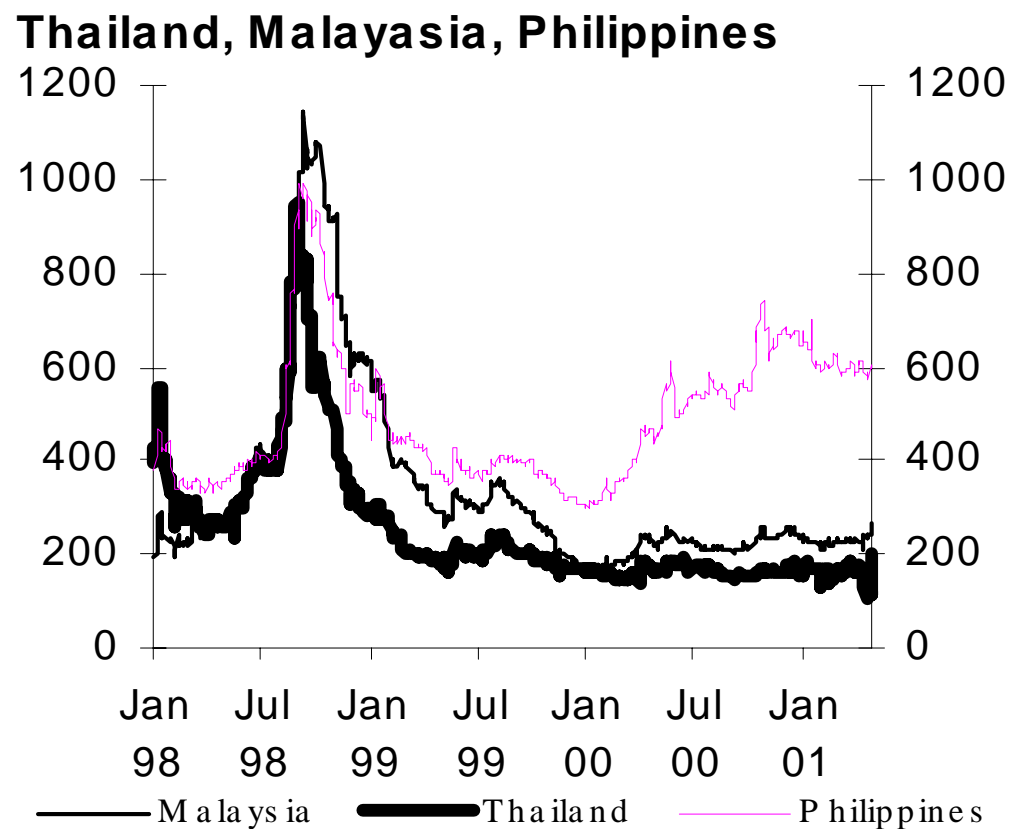
Source: JP Morgan.

## EMBI Sovereign Spreads: Argentina, Brazil, Mexico



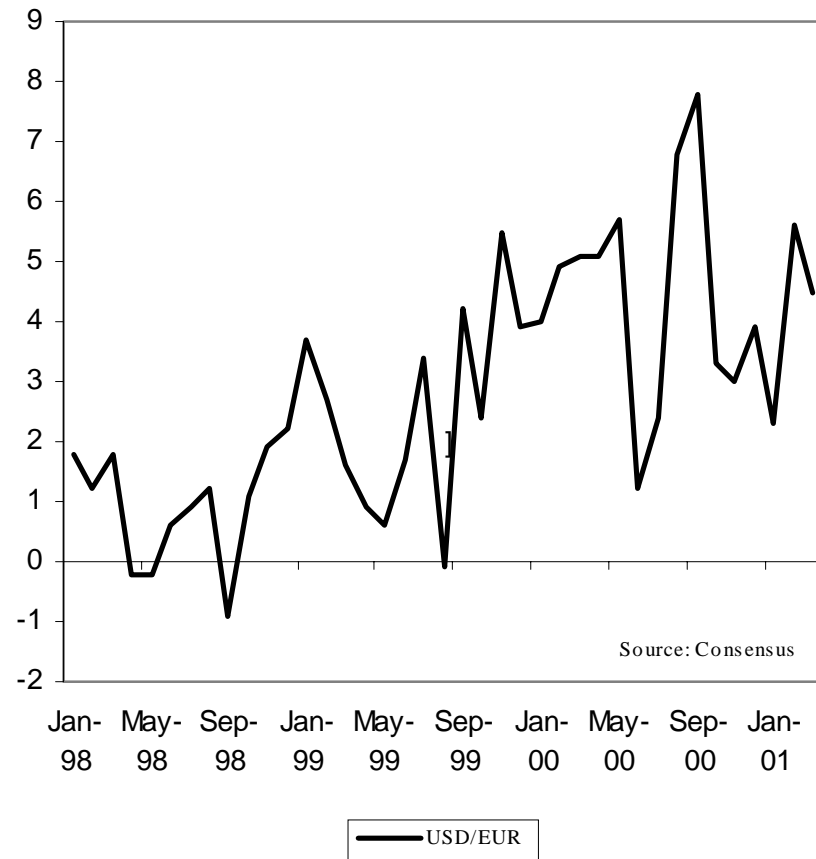
Source: JP Morgan.

# EMBI Sovereign Spreads: Thailand, Malaysia, Philippines



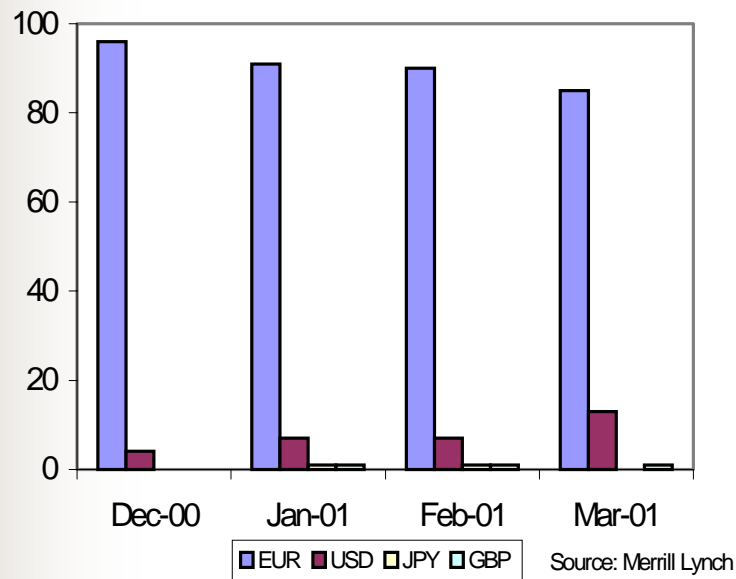
Source: JP Morgan.

## Survey data: Consensus forecast on USD/EUR

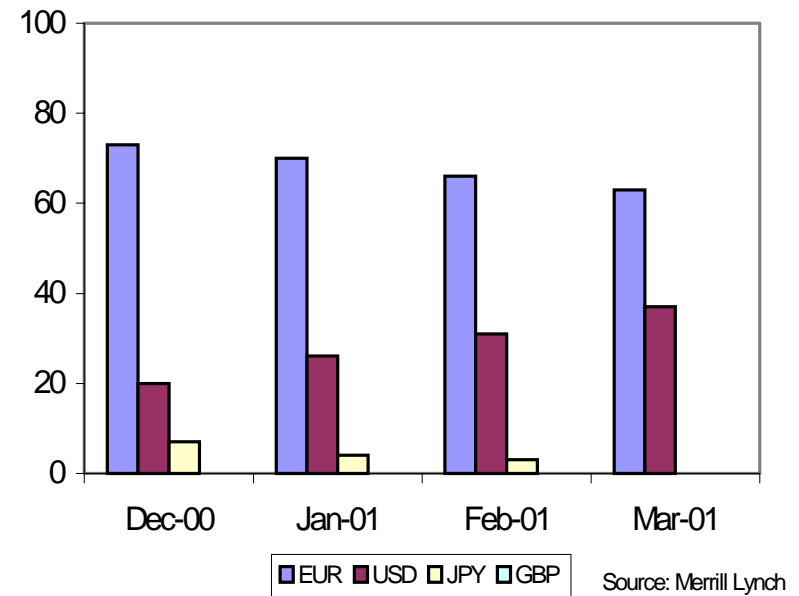


# Fund managers' favourite currencies

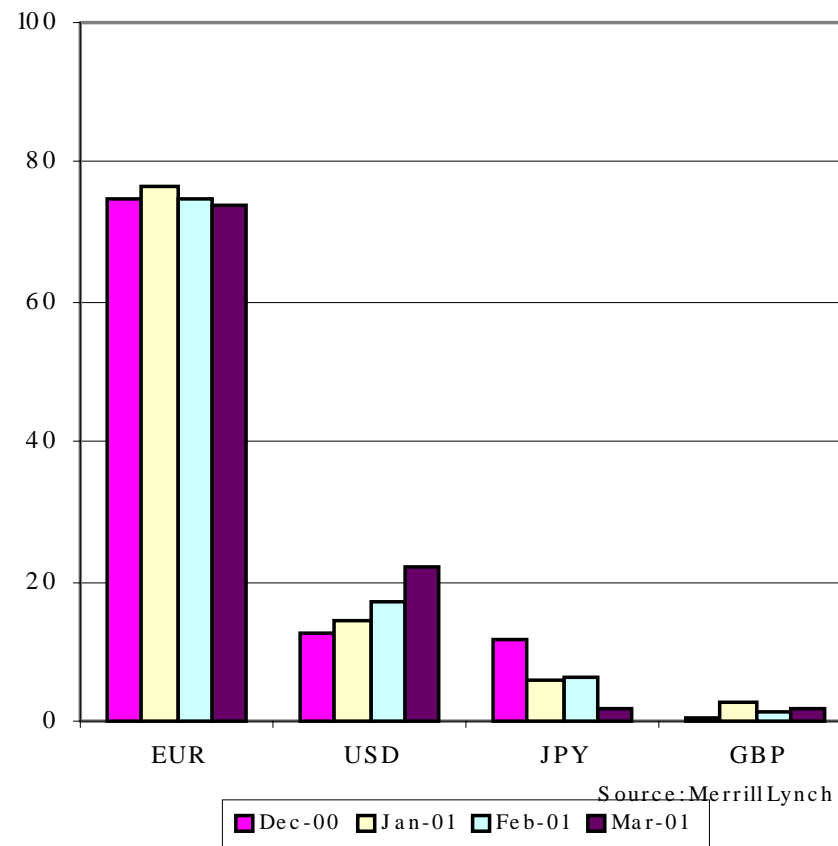
Euro area fund managers' favourite currencies for next 12 months



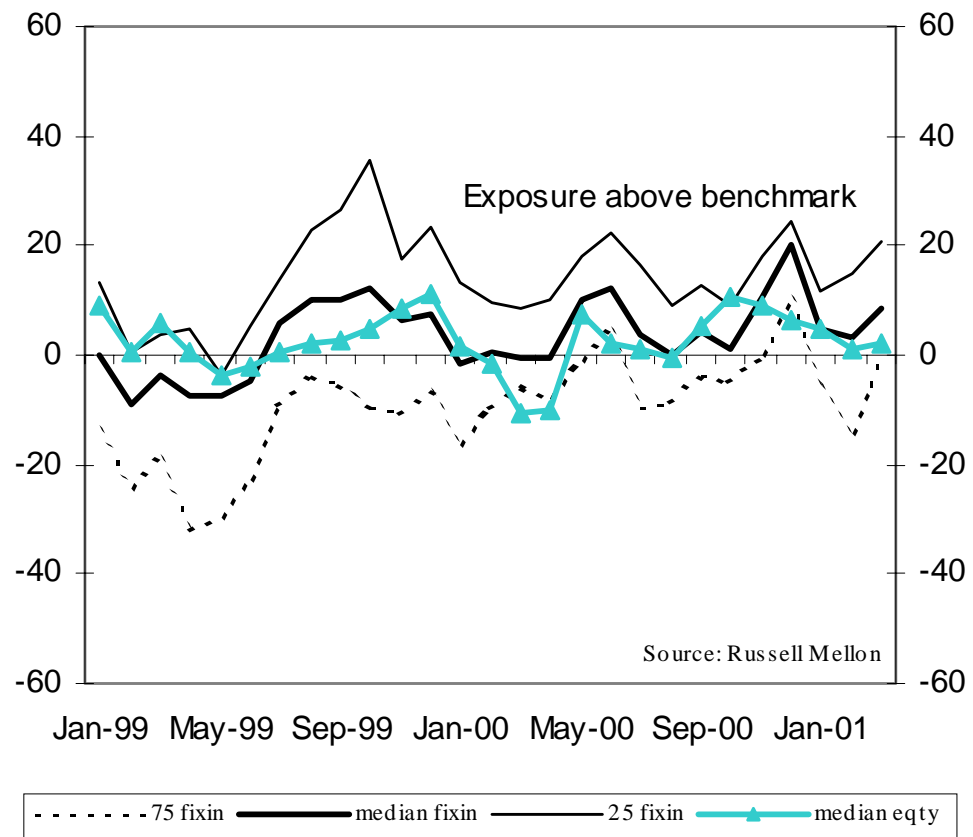
US fund managers' favourite currencies for next 12 months



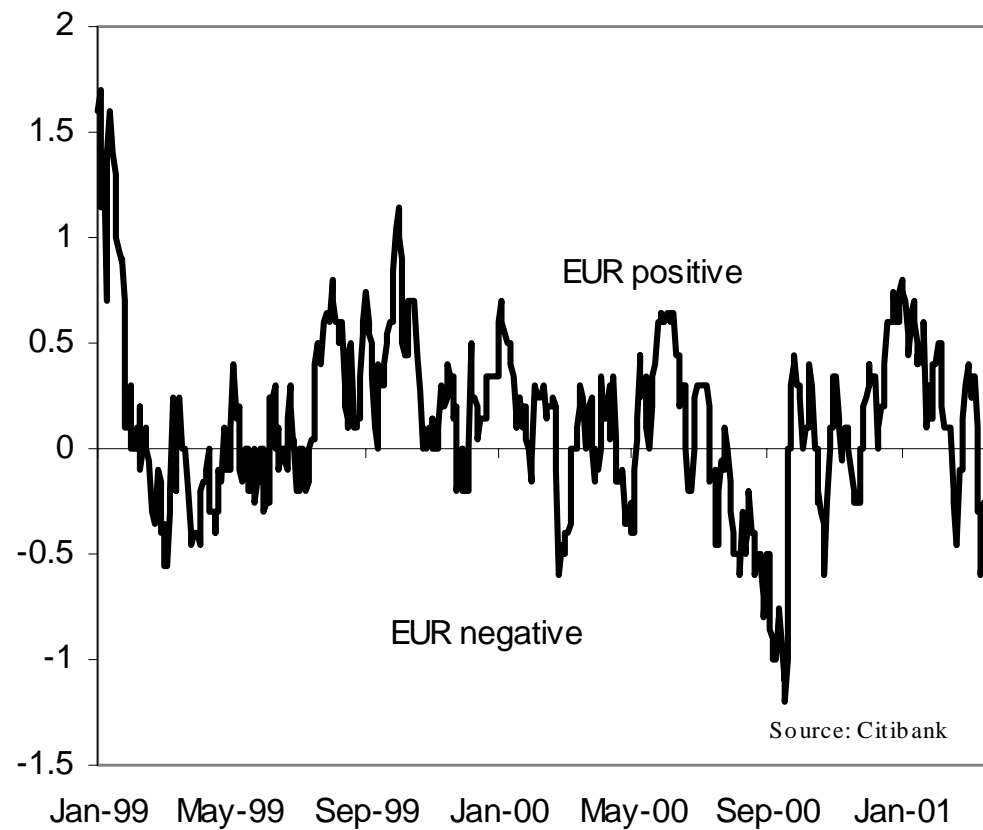
## Global fund managers' favourite currencies



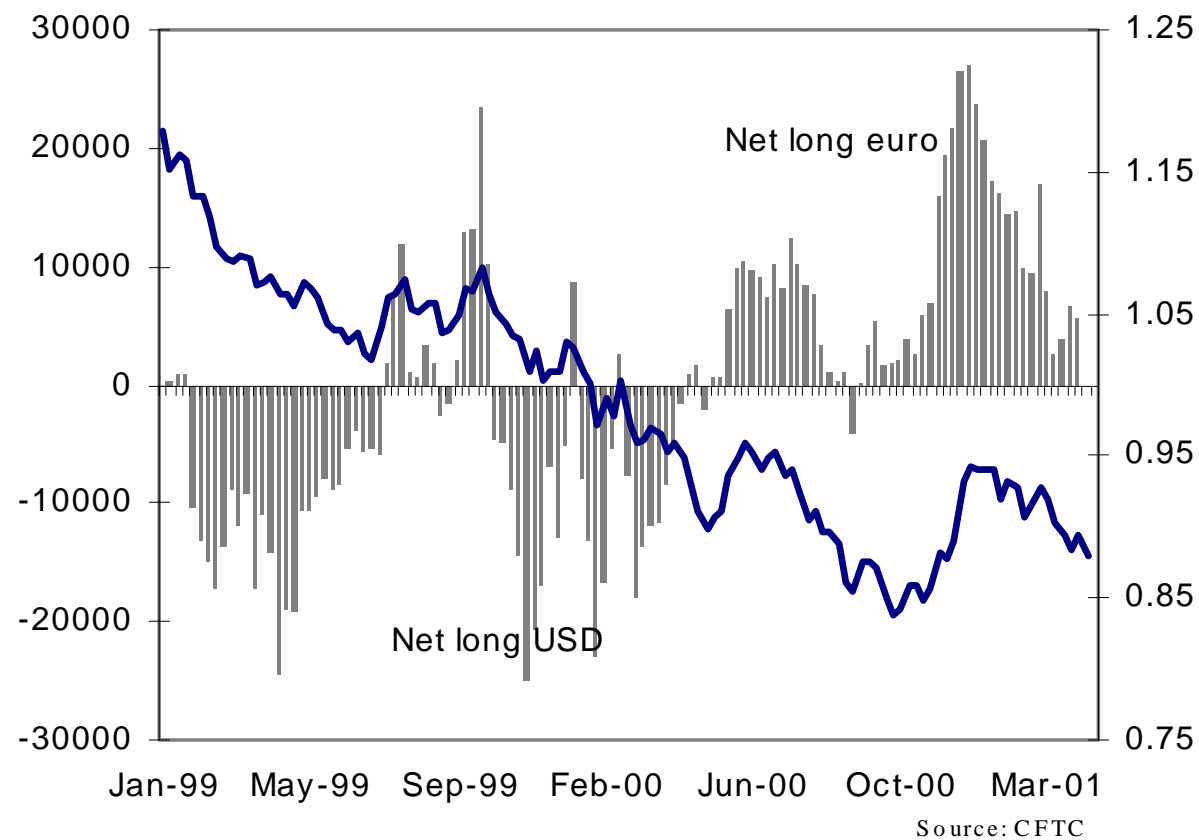
## EUR currency investor exposure



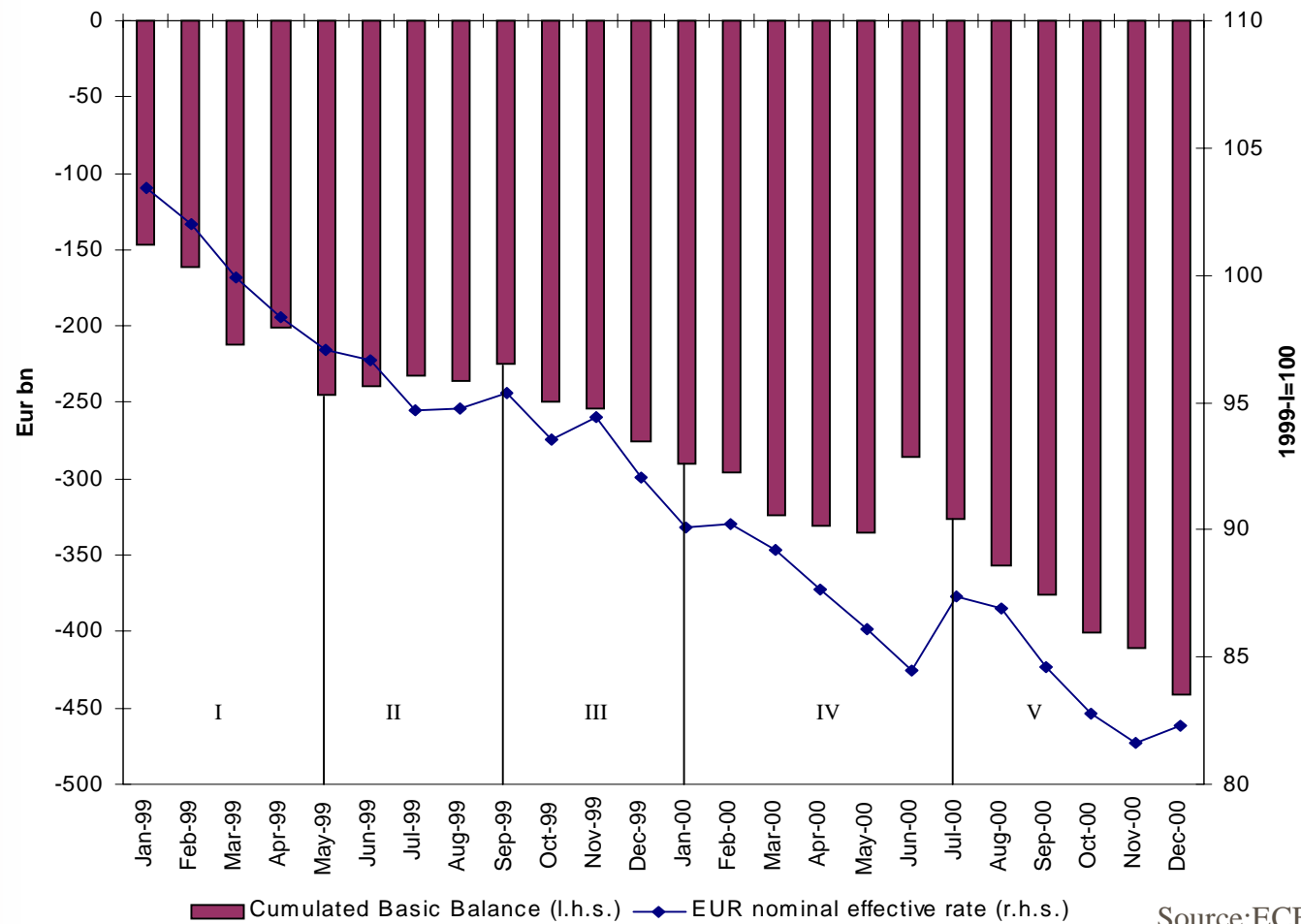
## Risk reversals on USD/EUR



## Net speculative long positions on USD/EUR



# Linking financial flows and exchange rates: USD/EUR and cumulated Basic Balance



Source:ECB

## V. How to aggregate information from FSIs: the need for an “Early Warning System”

- FSIs are useful for policy-makers only if *meaningful “signals”* can be extracted from their behaviour in a *timely manner* to guide policy
- How to *aggregate information* and signals from FSIs is controversial but of key importance to develop a framework
  1. what are the relevant FSIs: depends on country-specific characteristics
  2. when do the chosen FSIs indicate “weaknesses” or “vulnerability”: utilise the mentioned four standards
  3. how to weight and aggregate FSIs against each other: depends on FSI’s relative importance
  4. what are relevant policy actions given the specific signal
- “Early Warning System” examples: Kaminsky, Lizondo, Reinhart (1997), Goldstein, Kaminsky, Reinhart (2000)

## VI. Conclusions

- Although it is desirable to develop a *core set of FSIs*, there is *no narrow set of FSIs* that is best for all countries and at all times
- Distinction between “*weakness*” and “*vulnerability*” of FSIs is crucial but difficult to make in practice: some vulnerability may be unavoidable in the process of liberalisation
- question: how to reform and liberalise without exposing the economy to “excessive” risks; answer has to be subjective and based on country’s priorities
- There is no single or unanimous standard to evaluate FSIs, but a set of *standards for evaluation* is more appropriate
- core set of FSIs should focus more on *forward-looking* indicators and provide policy-makers with “Early Warning System” to allow for better anticipation