Capital Account Crises: Lessons for Crisis Prevention

High-Level Seminar on Crisis Prevention in Emerging Market Countries

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Themes of the Presentation

1. Towards a framework for understanding capital account crises:
   - Balance sheet vulnerabilities
   - Plus specific trigger
2. Implications for crisis prevention
3. Role of the IMF in crisis prevention

Recent Capital Account Crises

Uruguay 2002

Indonesia 1997

Argentina 1995

Korea 1997

Brazil 1999

Turkey 2000

Mexico 1994

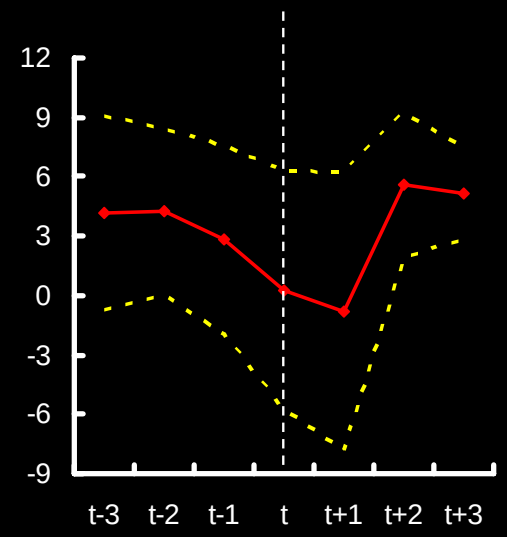
Thailand 1997

Argentina 2002

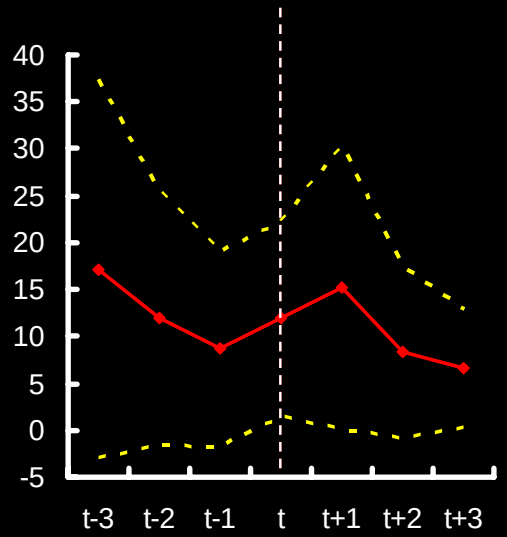
Russia 1998

Crises have common consequences ...

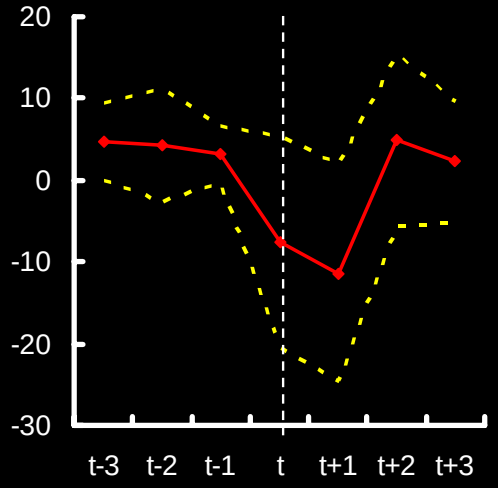
Real GDP growth
(In percent per year)



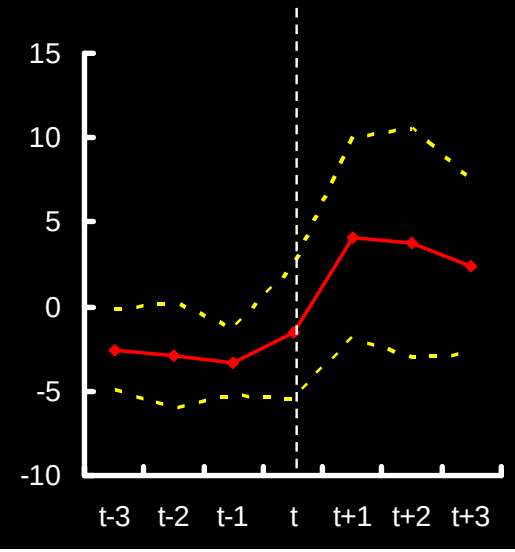
Inflation
(In percent per year)



Real Exchange Rate
(Percent change)



Current account balance
(In percent of GDP)



Crises have different sources...

Corporate sector	*Banking crisis*	*Public debt dynamics*
	Funding crisis	
	Mexico 1994 Russia 1998	
Thailand 1997 Korea 1997		Brazil 1999
Indonesia 1997	Argentina 1995 Uruguay 2002	Turkey 2000 Argentina 2002

Each crisis seems to require a new generation of models

First generation models: deficit financing and fixed exchange rate

But, European ERM crises of 1992/93

Second generation models: inconsistent policy stance and self-fulfilling shifts in investor sentiment→ multiple equilibria

But, Asian crises of 1997

Third generation models: FX exposure of private and corporate sectors

But, Argentine crisis of 2002

does not even conform to first generation

Understanding capital account crises...

- Requires a more general framework ...
- Crises are caused by balance sheet weaknesses in the economy:
  - Currency and maturity mismatches
  - Capital structure
  - Solvency
- *And* a specific crisis trigger:
  - Contagion, terms of trade shock, shift in market sentiment
  - Inconsistent macroeconomic policy stance
- Sources of weaknesses and triggers vary widely across crisis episodes

Crisis	Balance sheet vulnerability	Crisis trigger
Mexico (1994)	Government's short-term external (and FX-denominated) liabilities	U.S. monetary policy; political shocks (Chiapas; assassination)
Argentina (1995)	Banking system short-term external and peso and FX-denominated liabilities	Contagion from Mexico (1994) "Tequila" crisis
Thailand (1997)	Financial and non-financial corporate sector external liabilities; concentrated exposure of finance companies to real estate.	Terms of trade deterioration; asset price deflation.
Korea (1997)	Financial sector external liabilities (with substantial maturity mismatch) and concentrated exposure to chaebols; high corporate debt/equity ratio	Terms of trade deterioration; profitability of chaebols; contagion from Thailand's crisis
Indonesia (1997)	Corporate sector external liabilities; concentration of banking system assets in real estate lending; high corporate debt/equity ratio.	Contagion from Thailand's crisis; banking crisis

Crisis	Balance sheet vulnerability	Crisis trigger
Russia (1998)	Government's short-term external financing needs	Failure to implement budget deficit targets; terms of trade deterioration.
Brazil (1999)	Government's short-term external liabilities	Doubts about ability to implement budget cuts; current account deficit; contagion from Russian default.
Argentina (2002)	Public and private sector external and FX-denominated liabilities.	Inconsistency between currency board arrangement and fiscal policy; Russian default.
Uruguay (2002)	Banking system short-term external liabilities.	Argentine deposit freeze leading to mass withdrawals from Uruguayan banks
Turkey (2000)	Government short-term liabilities, banking system FX- and maturity mismatches	Current account deficit, real exchange rate appreciation, uncertainty about political will to undertake financial sector reforms

2. Implications for Crisis Prevention

- Minimize vulnerabilities of sectoral balance sheets
  - Government sector (including central bank)
  - Private financial sector
  - Private non-financial (households/corporations)
  - External Sector (rest of the world)
- Avoid "home-grown" crisis triggers (poor policies); insulate against external triggers (reduce contagion by differentiation through adherence to standards, data transparency, etc.).

Balance Sheet Vulnerabilities

1. Balance sheet problems can propagate from sector to another, often to, or through, the banking sector
   - Corporate sector → banking system Asian crisis 1997
   - Public sector → banking system Russia, Turkey, Argentina
   - Banking system → public sector Uruguay 2002
2. If government's balance sheet sufficiently strong → can act as "circuit breaker" or if weak → Argentina (2002)
3. Maturity and currency mismatches hidden in indexed or floating rate instruments Brazil (1999)

Balance Sheet Vulnerabilities

4. Balance sheet mismatch can transform one type of risk into another without reducing the risk:
   - Fx to credit risk: Thailand 1997, Turkey 2000, Argentina 2002
5. Off-balance sheet items may alter the risk exposure Turkey 2000
6. Pegged exchange rates might encourage greater risk taking in the form of mismatched FX positions
   - Carry trade Thailand 1997, Turkey 2000
   - Domestic dollarization Argentina?
7. Availability of foreign exchange reserves may be crucial:
   - Provide confidence, lower likelihood of a "run" on country
   - cover short-term financing needs of the public sector
   - allow partial LOLR operations in dollarized economies
   - help close the private sector FX-exposure Brazil 1999

2. Implications for crisis prevention

Towards Crisis Prevention

Some FX- and maturity mismatches on domestic balance sheets may be unavoidable ...

And crisis triggers—especially external—are difficult to predict ...

Therefore, crisis prevention requires:

- Minimizing balance sheet vulnerabilities, including through
  - Financial sector surveillance
  - Transparency
  - Systematic debt sustainability analysis
- Pursuing sound macroeconomic policies ... And signaling markets
- Building up, or having available, foreign exchange reserves

FSAP SDDS ROSCs

Crisis Prevention Programs

IMF-supported programs and crisis prevention

- Do IMF-supported programs have a role to play in crisis prevention (as opposed to crisis resolution)?
- Channels:
  - Provide liquidity—reduce likelihood of a "run" on the country by atomistic creditors
  - Incentive for stronger policies
  - Enhance credibility of policies through conditionality
  - Signal markets, including by putting IMF resources on the line.
- Examine periods of heightened vulnerability—in panel of 27 emerging market countries over 1994-04, identify 32 high market pressure episodes. Of these 11 turned into capital account crises, and 21 avoided a crisis. Why?
- *For econometric details, see IMF-Supported Programs and Crisis Prevention (model classifies 87 percent of cases correctly)*

Data: Capital Account Crises Countries

		Beginning date of market pressures		End date of market pressures	
1	Argentina	2001	July	2002	May
2	Brazil	1998	August	1999	January
3	Bulgaria	1996	May	1996	May
4	Ecuador	2000	January	2000	January
5	Indonesia	1997	October	1998	January
6	Korea	1997	October	1997	December
7	Malaysia	1997	July	1998	January
8	Russia	1998	August	1998	September
9	Thailand	1997	July	1997	August
10	Turkey	2000	November	2001	March
11	Uruguay	2002	July	2002	July

Data: Control Group Countries

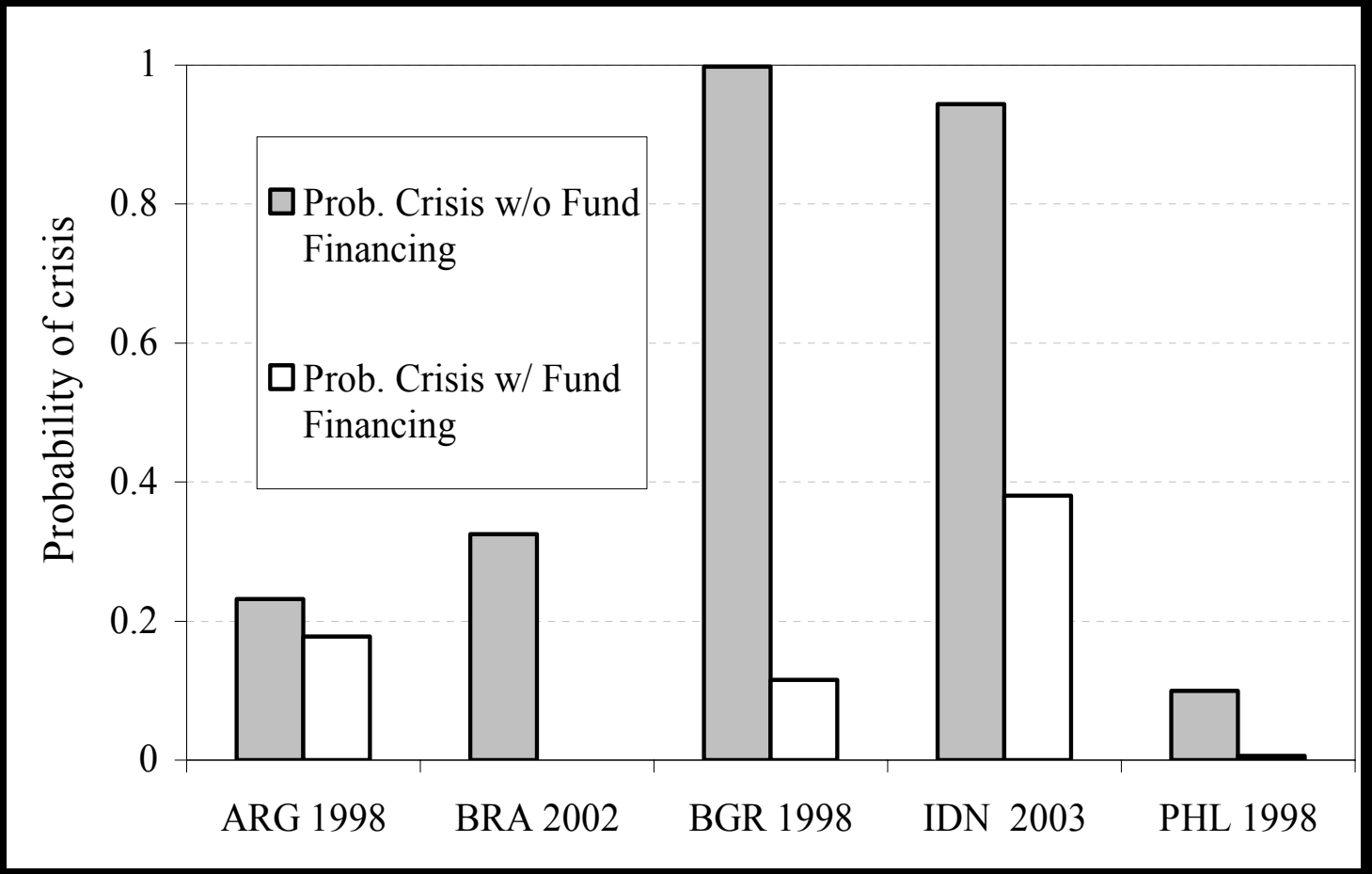
		Beginning date of market pressures		End date of market pressures	
1	Argentina	1998	August	1998	August
2	Brazil	2002	July	2002	July
3	Bulgaria	1998	August	1998	August
4	Chile	1999	June	1999	June
5	Chile	2002	June	2002	June
6	Colombia	1998	April	1998	September
7	Colombia	2002	July	2002	August
8	Hungary	2003	June	2003	June
9	Indonesia	2004	January	2004	January
10	Mexico	1994	December	1995	March
11	Mexico	1998	August	1998	August
12	Peru	1998	August	1998	December
13	Philippines	1997	August	1998	August
14	Poland	1998	August	1998	August
15	South Africa	1996	April	1996	April
16	South Africa	1998	July	1998	July
17	South Africa	2001	December	2001	December
18	Turkey	1998	August	1998	August
19	Venezuela	1994	June	1994	June
20	Venezuela	1998	August	1998	August
21	Venezuela	2003	January	2003	January

Key Estimation Results

- Balance sheet vulnerabilities (debt/GDP, short-term debt/reserves), pegged exchange rate regimes, exchange rate overvaluation, political instability—all significantly associated with higher crisis probability
- Stronger monetary and fiscal policies are significantly associated with lower crisis probability
- IMF disbursements (or accumulated drawing rights under precautionary) are significant in crisis prevention
  - There is an important liquidity effect as it is disbursements (or availability under precautionary arrangements) of IMF resources that matters, rather than just an on-track program or possible future drawings.
  - Benefits go beyond liquidity effects, since IMF financing variable is significant even controlling for the country's foreign exchange reserves. This must reflect stronger policies under programs and the signal to markets (which also depends on the IMF putting its "money on the line")

Estimated probability of crisis (*conditional on market pressure event*) with and without IMF financing

Countries that averted a crisis



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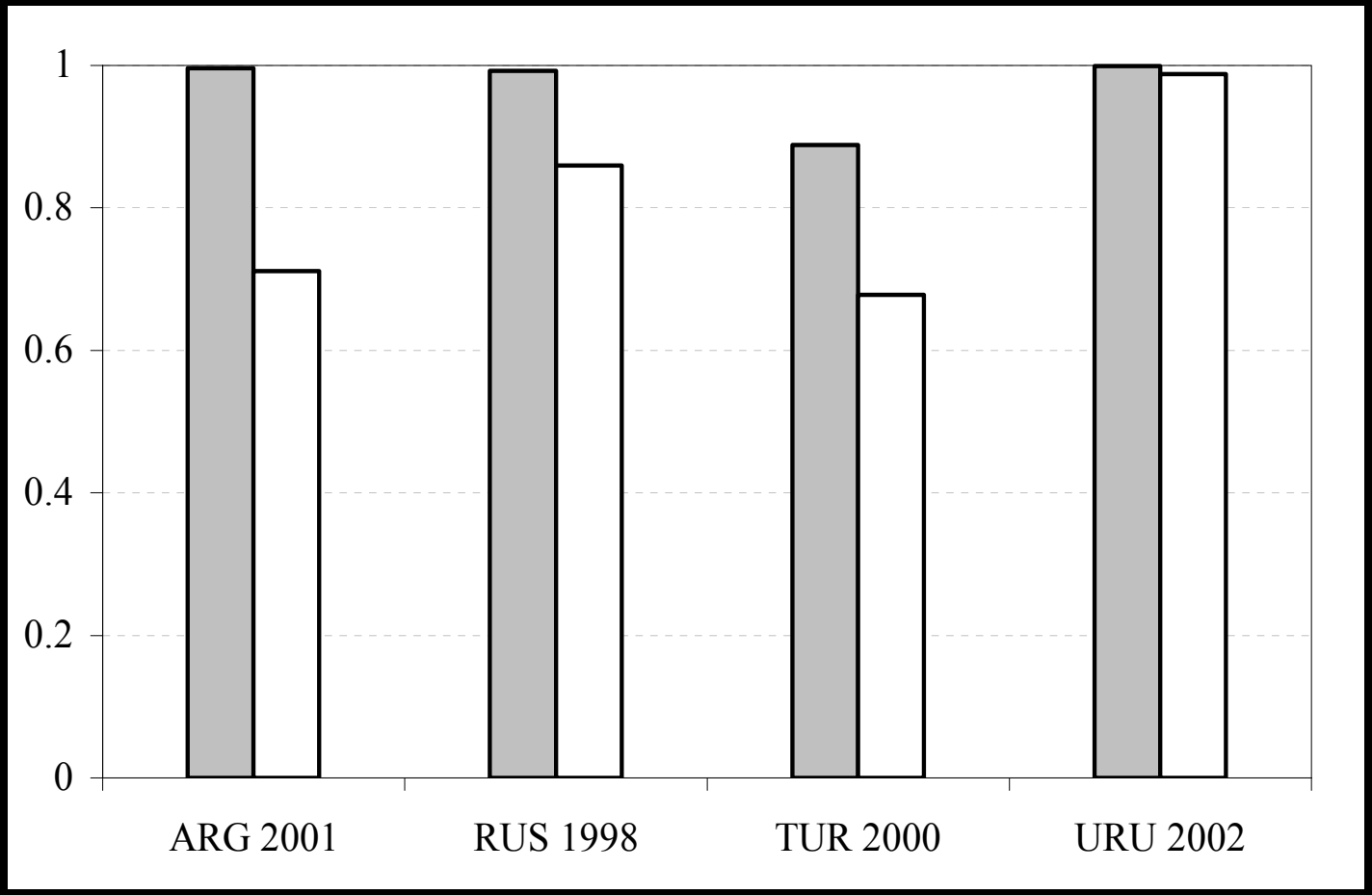
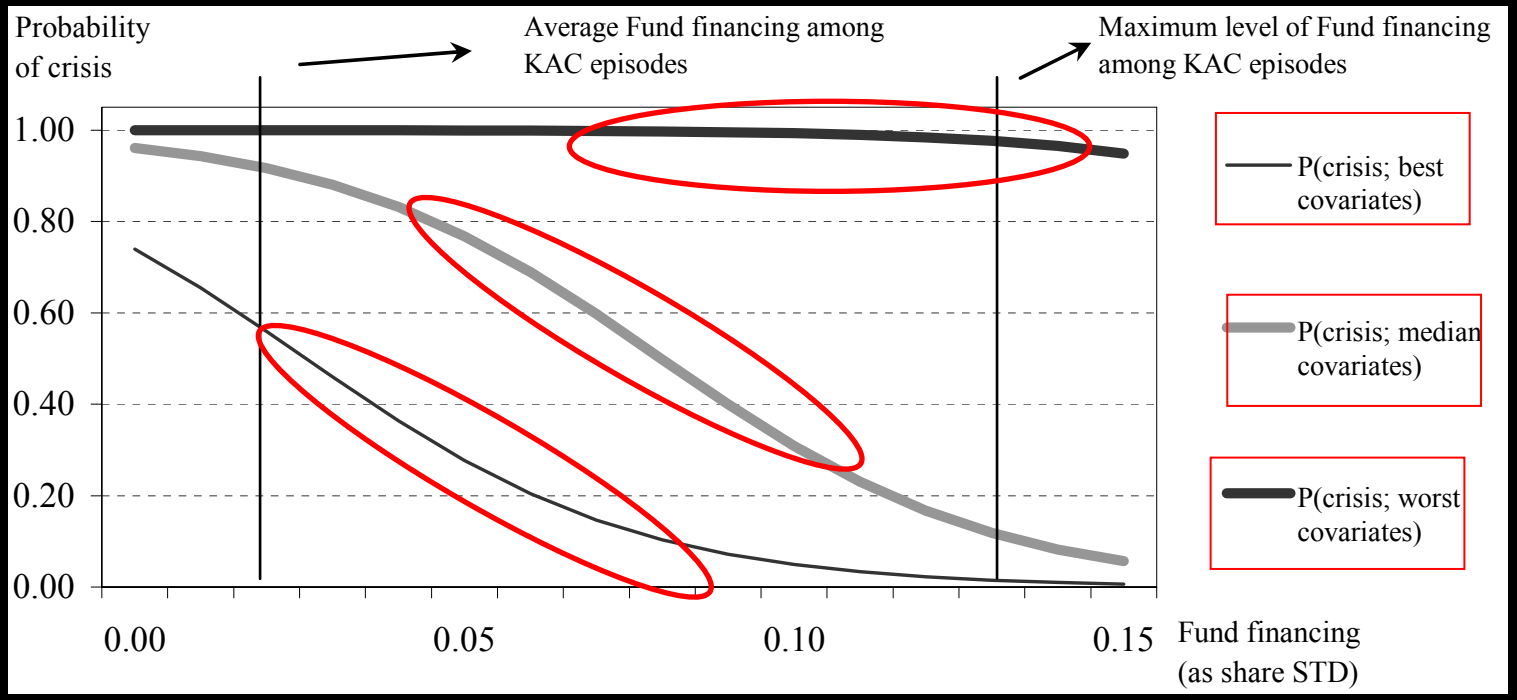


Money matters... but it is not just money

Marginal Impact of IMF Financing, Given Country Fundamentals



Conclusions

- Most capital account crises are caused by foreign currency and maturity mismatches on private or public sector balance sheets coupled with a specific (domestic or external) trigger.
- Crisis prevention requires minimizing balance sheet vulnerabilities and avoiding crisis triggers (good macro policies, insulation from contagion by differentiating through adherence to standards, data transparency).
- The IMF can contribute to crisis prevention through surveillance, technical assistance, and programs—by providing liquidity, inducing stronger policies, enhancing credibility and discipline, and signaling markets.
- Money matters...but policies matter as well—and if policies are poor and existing balance sheet vulnerabilities are large, then the marginal impact of IMF resources on crisis prevention is also low