Managing International Capital Flows I

Course on Monetary and Exchange Rate Policy
Bangkok, Thailand
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Outline

I) Stylized Facts and Current Developments on Capital Flows

II) Driving Factors

III) Macro and Financial Stability Risks from Capital Flows

IV) Policy Responses to Capital Flows:

- Menu of Policies;
- Policy Framework;
- Capital Flow Management Policies in Asia;
- Case Studies;

V) Conclusions

I) Stylized Facts and Current Developments on Capital Flows

Capital Flows (1)

- Capital flows arise through the transfer of ownership of assets from one country to another;
- When analyzing capital flows, we care about who buys an asset and who sells it;
- A foreign investor (a non-resident) buys an emerging market asset, it is treated as capital inflow;
- Capital inflows are reported on a net basis;
- Foreign investors buy $10 billion of assets in country A and sells $2 billion of that country’s assets during the same period = (net) capital inflow of $8 billion

Capital Flows (2)

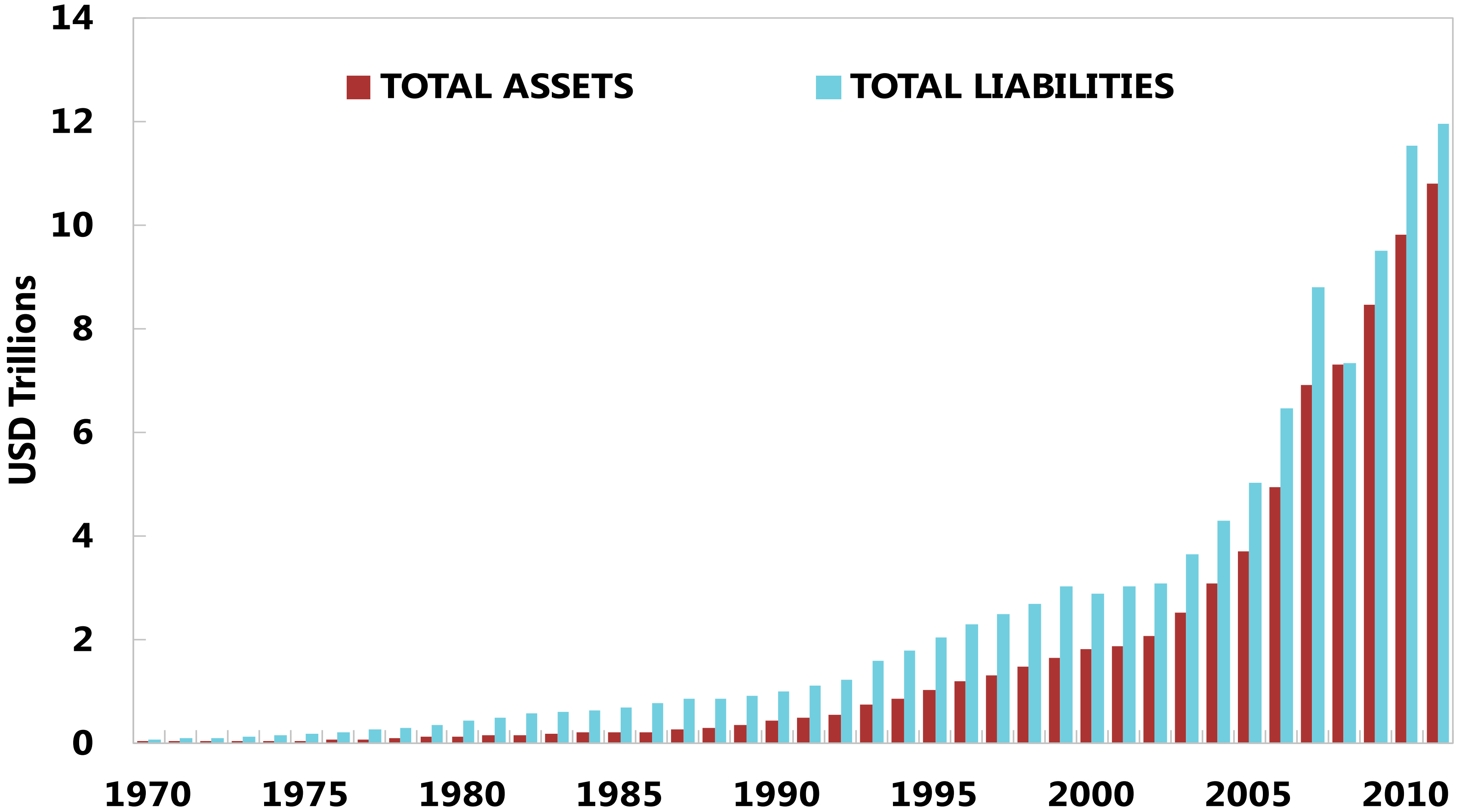
- Investor from EM (a resident) buys a foreign asset, this is a capital outflow;
- Net capital outflows can also be positive or negative.
- Net increase in the assets of EM residents (a capital outflow) come with a negative sign (BMP5);

Capital Flows (3)

Table
Emerging Asia: Capital Flows
$ billion

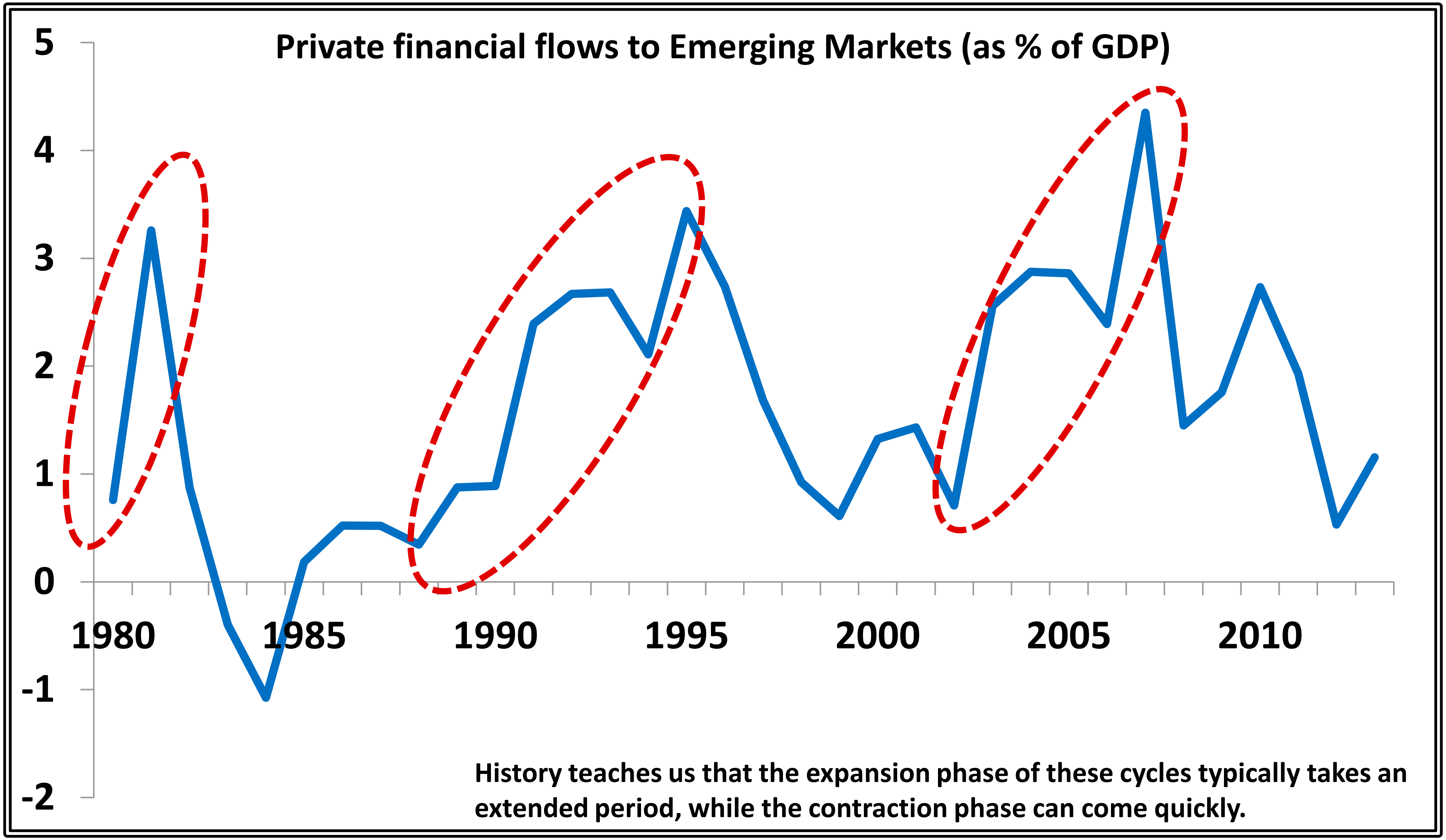
	2012	2013e	2014f
Foreign Capital Inflows			
Total Inflows, Net:	594	511	521
Private Inflows, Net	583	501	511
Equity Investment, Net	398	357	379
Direct Investment, Net	319	316	320
Portfolio Investment, Net	79	41	59
Private Creditors, Net	185	144	132
Commercial Banks, Net	73	52	58
Nonbanks, Net	113	92	75
Official Inflows, Net	10	10	10
International Financial Institutions	3	3	3
Bilateral Creditors	8	7	7
Resident Capital Outflows			
Total Outflows, Net	-623	-720	-752
Private Outflows, Net	-506	-428	-510
Equity Investment Abroad, Net	-159	-166	-200
Resident Lending/Other, Net	-347	-262	-310
Reserves (- = Increase)	-117	-293	-242
Memo:			
Net Errors and Omissions	-118	0	0
Current Account Balance	148	209	231

Financial Globalization in Emerging Markets



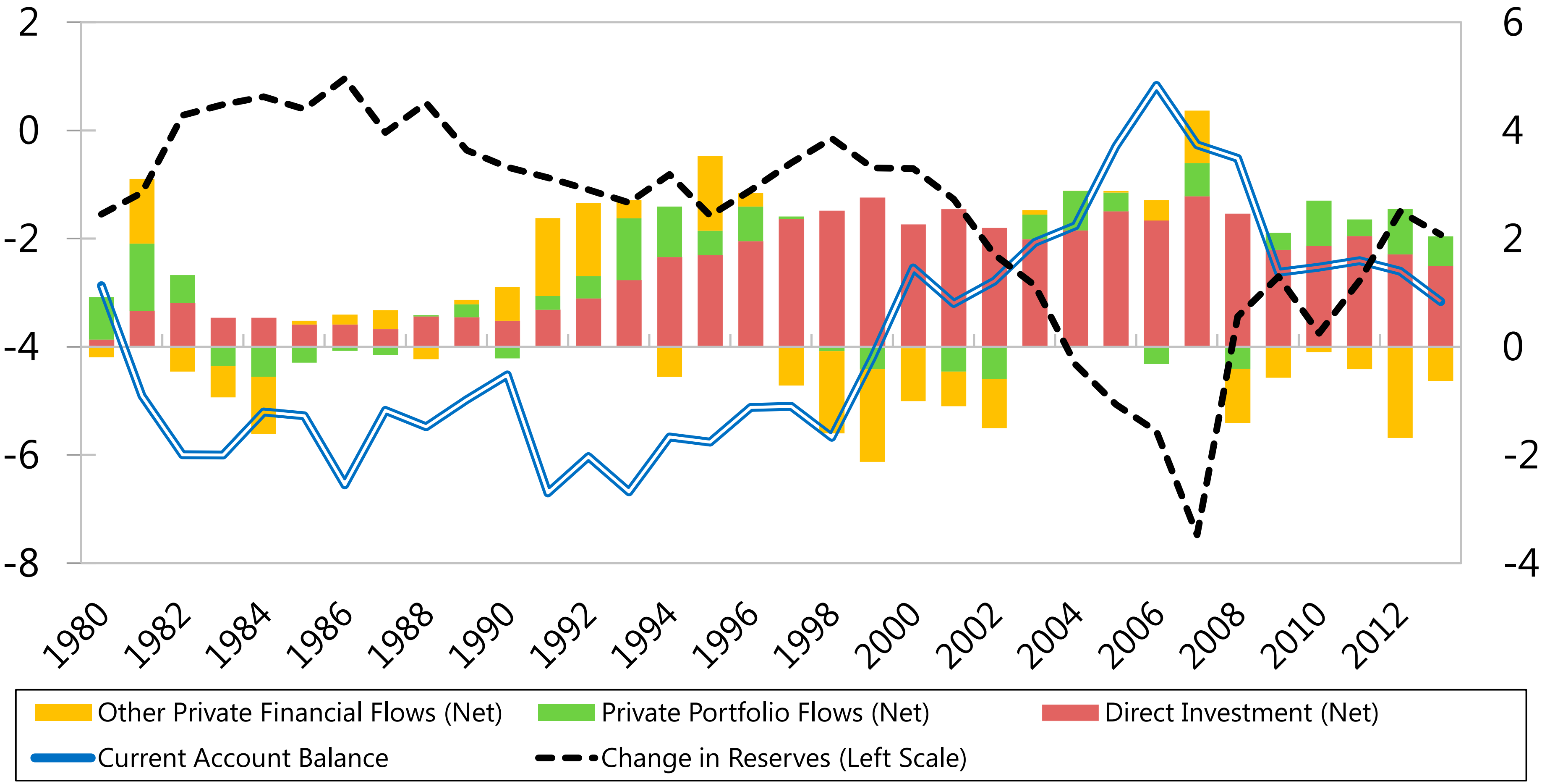
Source: Lane and Milesi-Ferretti (2007 and updates).

Net Private Capital Inflows to Emerging Markets



Source: IMF WEO Database, April 2013

Capital Flows, CAB, and International Reserves
(% of EM GDP)



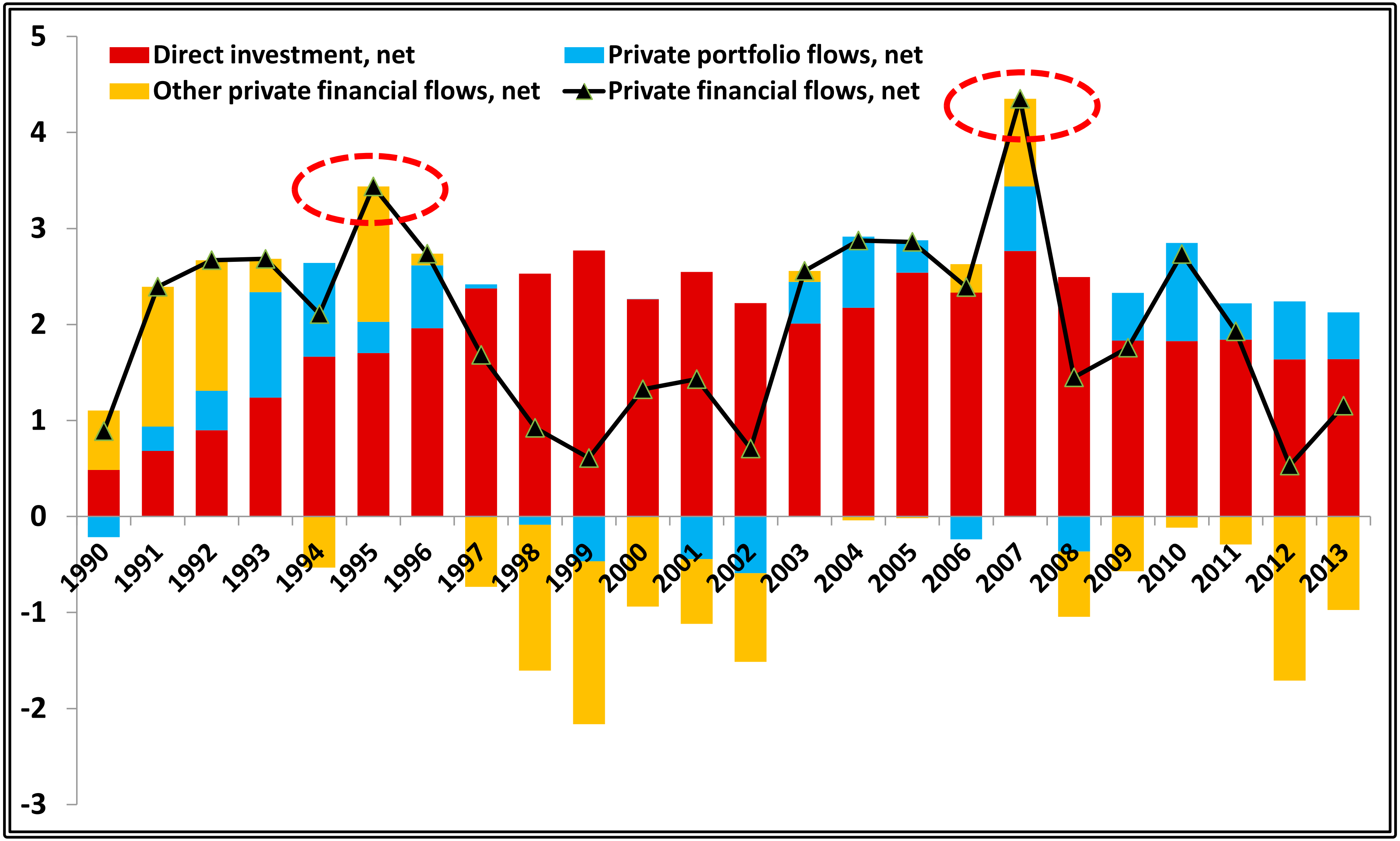
Differences between the two inflows episodes:

- Stronger current account position (especially in Asia)
- Acceleration in the accumulation of foreign reserves

Source: IMF WEO Database, Oct 2013

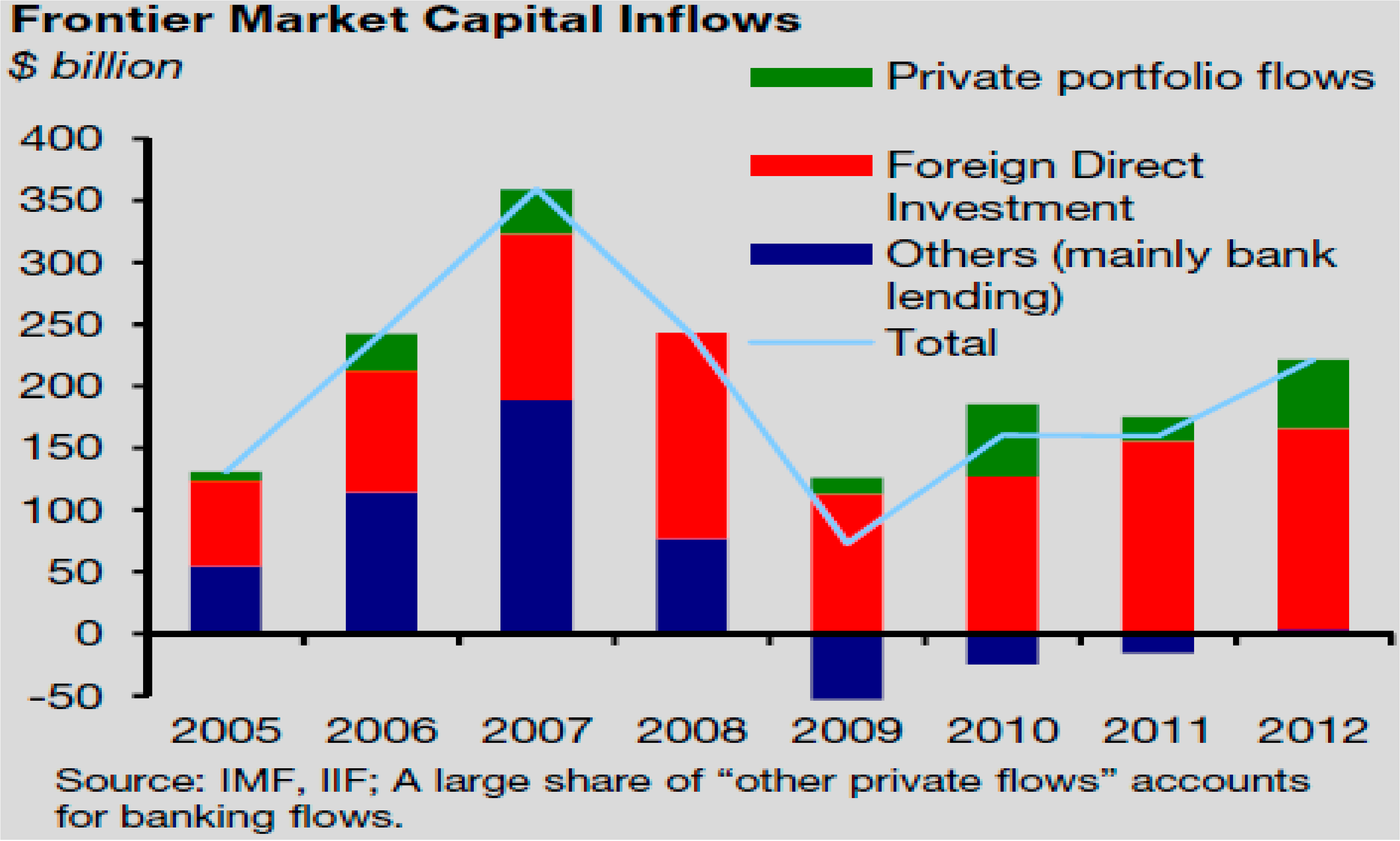
Capital flows to Emerging Markets

Net Inflows - All EM countries
(Percent of GDP)

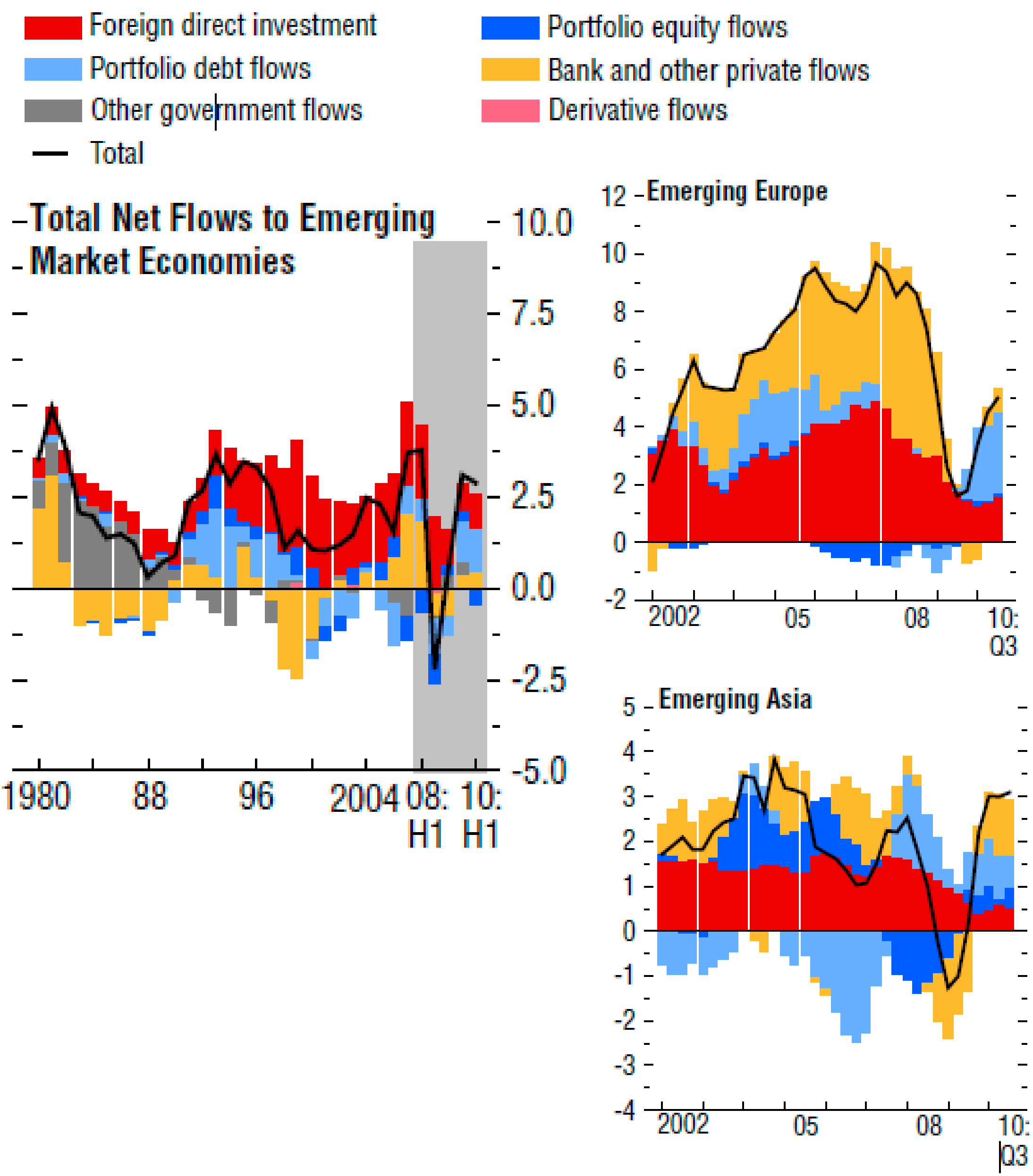


Source: IMF WEO Database, April 2013

Capital Flows to Frontier Markets



Recent Trends in Cross-Border Flows



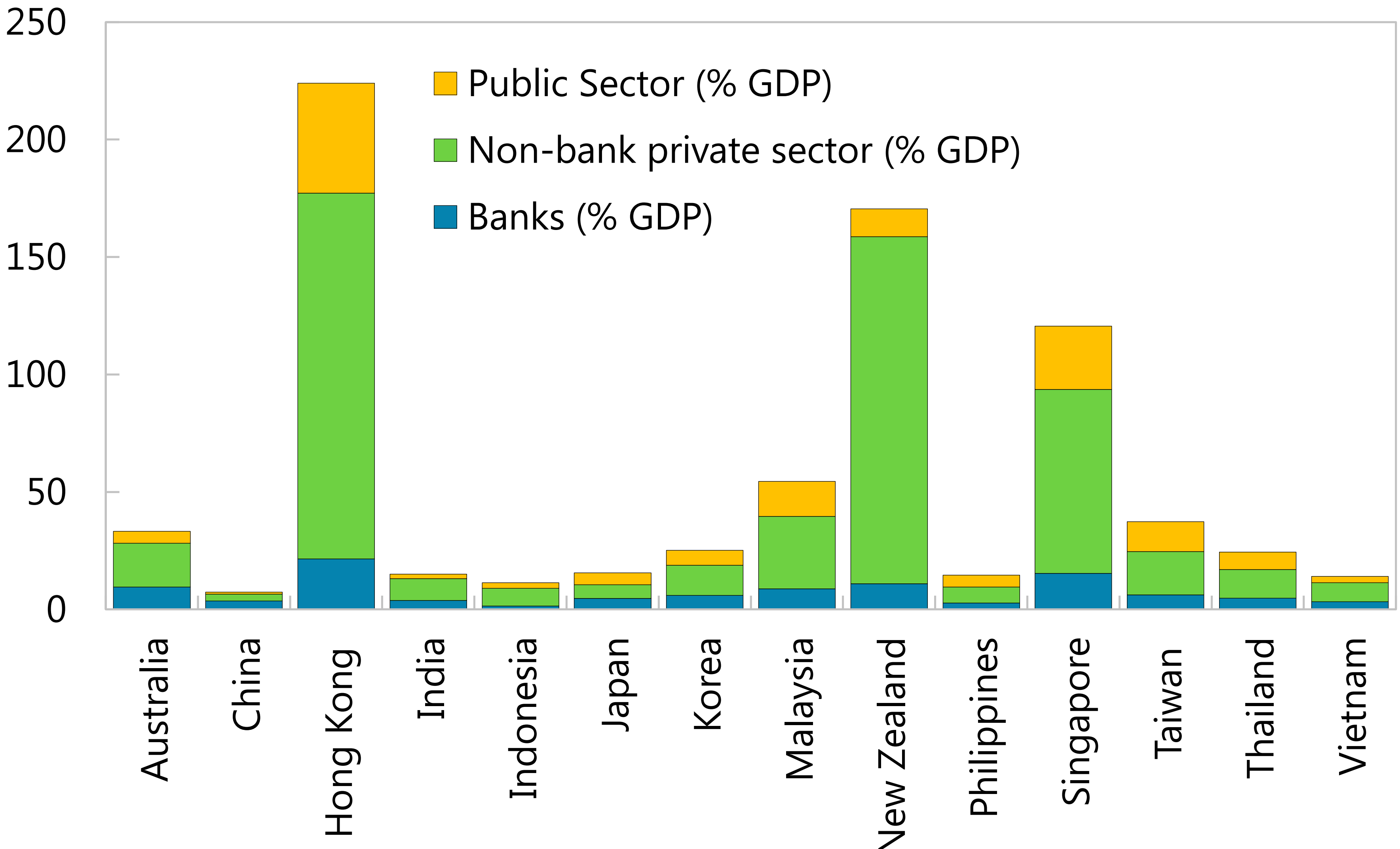
•After an unprecedented rise during the run-up to the financial crisis and a precipitous fall in its wake, international capital flows rebounded .

•The post-crisis rebound in net private capital flows is uneven across regions, with the pace of recovery faster for regions that were more resilient in the recent crisis (Asia, Latin America) than others.

•The recent recovery was led by portfolio debt flows, followed by bank and other private flows. In contrast with previous periods, the share of FDI was smaller.

Asia remains reliant on external financing

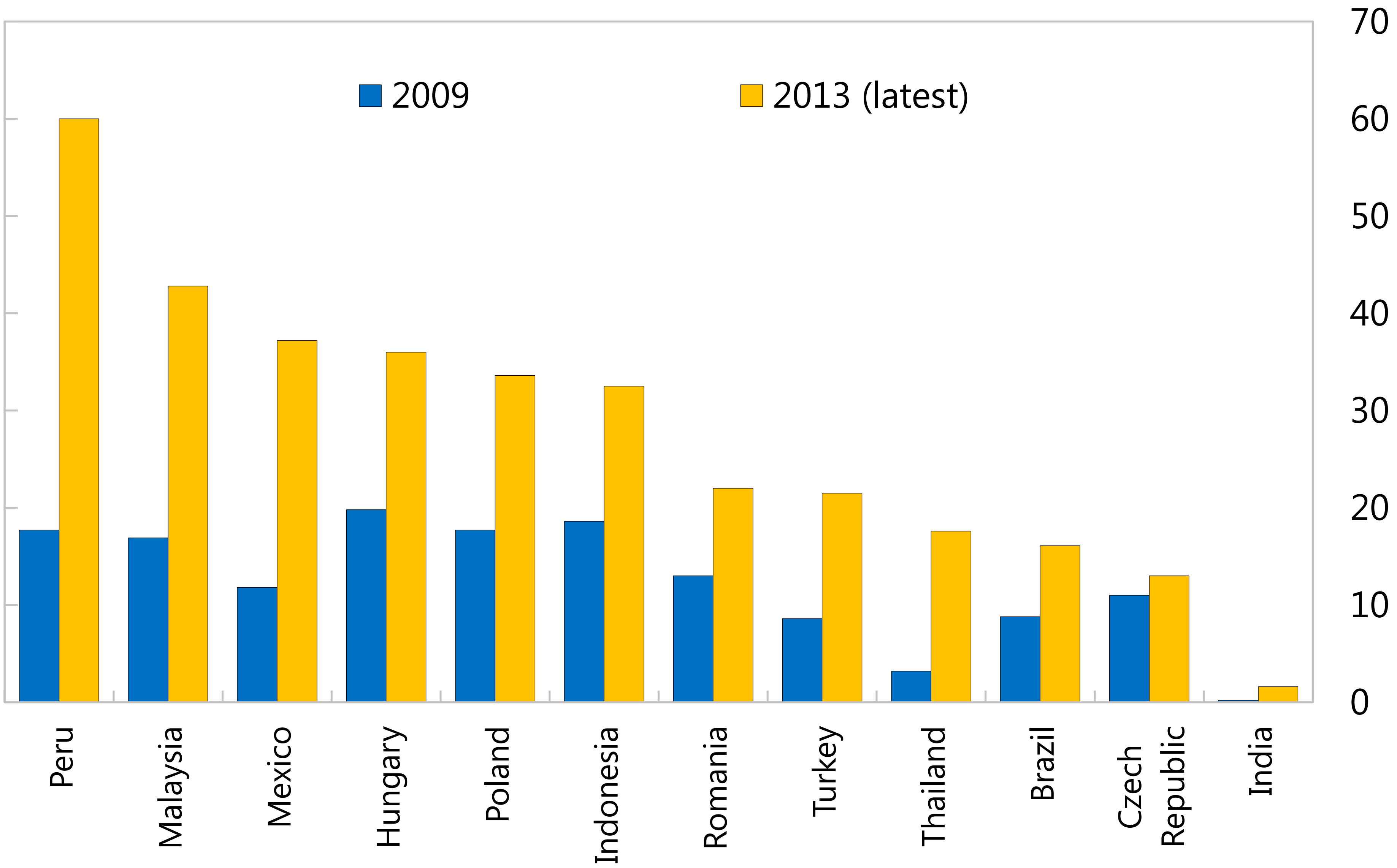
Consolidated Foreign Claims on BIS Reporting Banks on Asia
(In percent of GDP, end of 2013)



Sources: BIS Database, IMF WEO Database

Foreign Investor Participation in Local Government Bond Markets

(Share of Local Govt. Bonds held by foreigners; percent of total outstanding)



Sources: IMF GFSR, April 2014

II) Driving Factors

Driving factors

- ***Push* factors:** related to the economic cycle, monetary policy, structural changes and other developments in investor countries

  "push" capital from industrial countries to developing countries

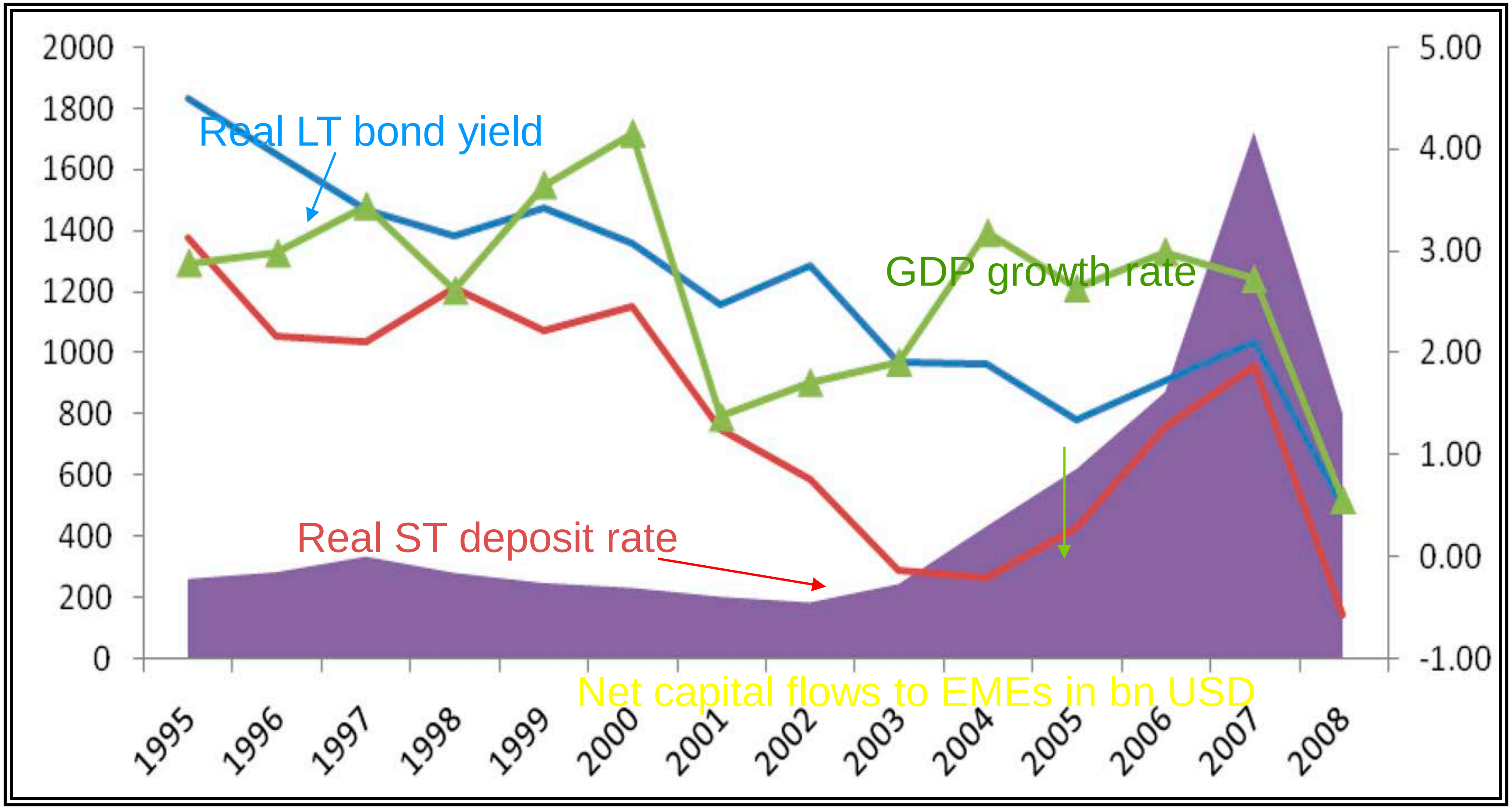
- ***Pull* factors:** related to reforms and better prospects in the recipient countries

  "pull" capital into developing countries from industrial countries

Drivers of Capital Flows

	CYCLICAL	STRUCTURAL
PUSH	-Low US interest rates -Low global risk aversion -Strained AE balance sheets	-International portfolio diversification -Low AE potential growth
PULL	-High commodity prices -High domestic interest rates -Low domestic inflation	-Improving EM balance sheets -High EM potential growth -Trade openness

Push Factors *(cont.)*

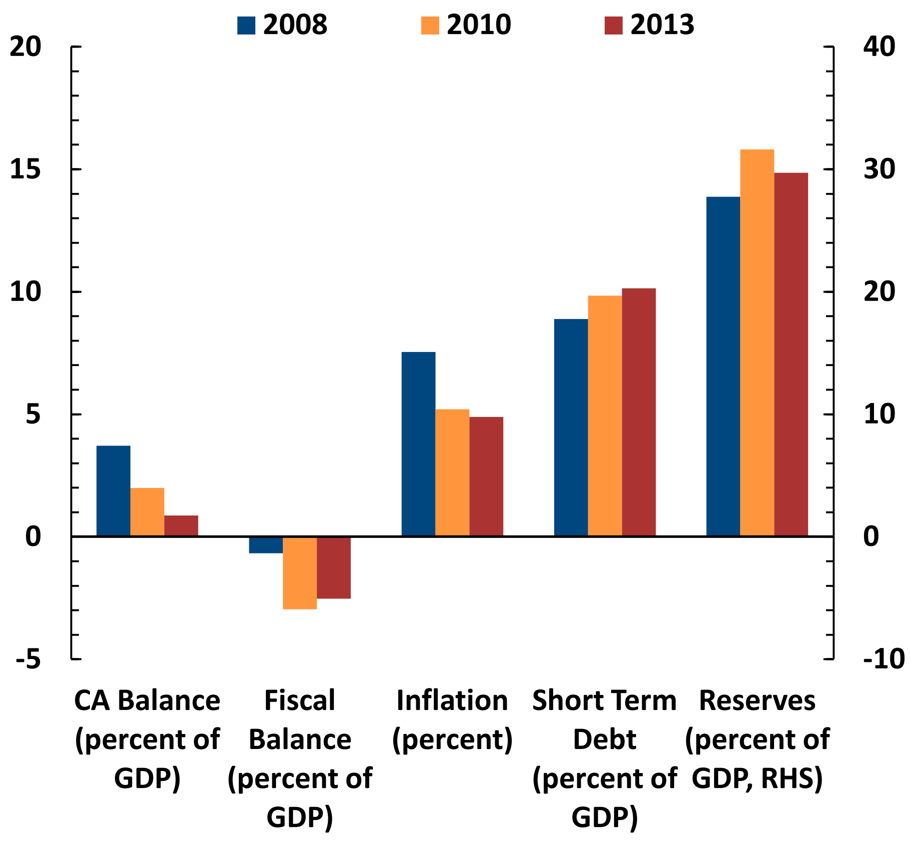


Drivers of Capital Flows

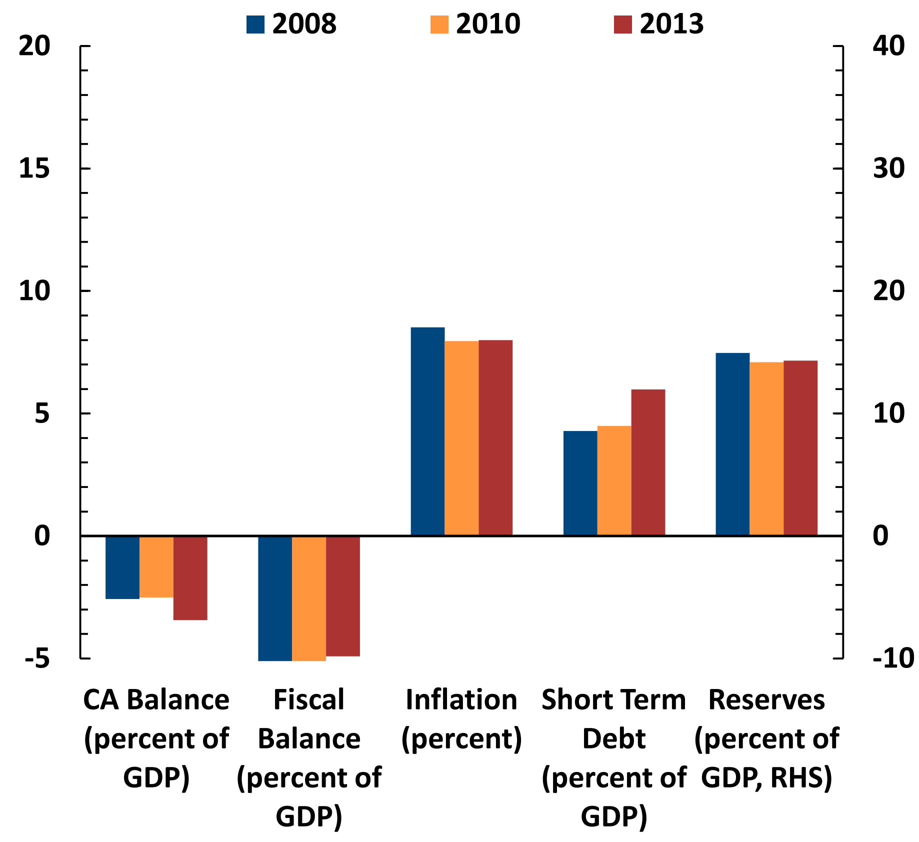
- Global push factors play a significant role in explaining the incidence of a surge but that the magnitude of a surge depends mainly on pull conditions
- Push factors: external conditions such as global liquidity, interest rates in advanced economies, and investors‘ perception of global economic risk that affect all EMEs; regional contagion effects spread through financial and trade linkages among countries.
- *Examples:* lower real U.S. interest rates and higher world real GDP growth rate; greater uncertainty in international markets;
- Pull factors: recipient country-specific characteristics that reflect opportunities and risks to investors; can be grouped into macroeconomic indicators; and structural variables;
- *Examples:* current account and other macro imbalance; trade and financial openness; exchange rate regime, financial market development.

EM Vulnerabilities: A major source of Capital Flow Differentiation by Investors

All EMs



Key EMs Under Pressure 1/



Sources: IMF, World Economic Outlook; IMF, International Financial Statistics; and staff calculations.
1/ Brazil, Indonesia, India, Turkey, and South Africa.

III) Capital Inflows: Macro and Financial Stability Risks

Issues Relating to Capital Flows

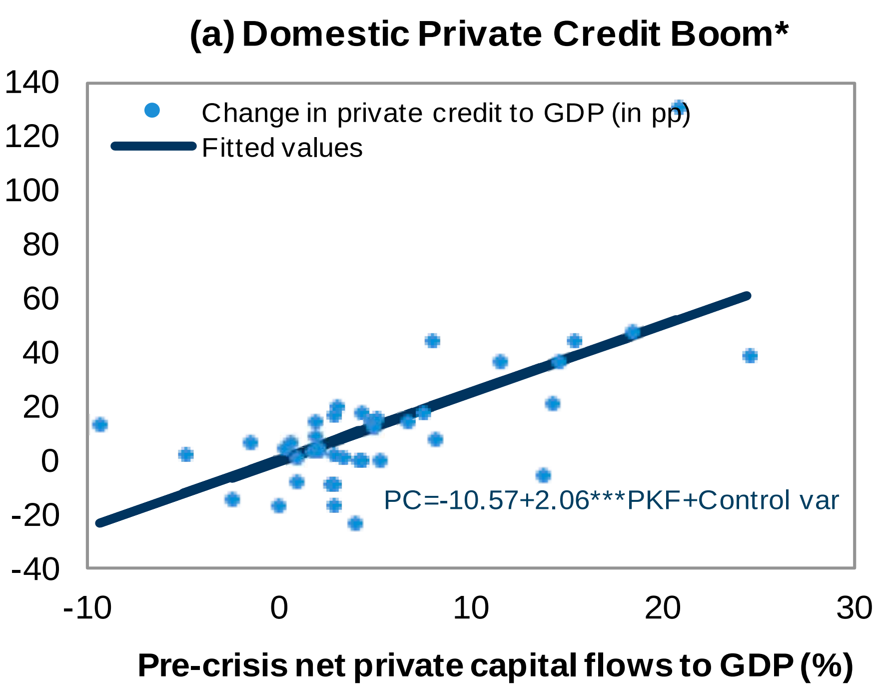
Capital flows are fundamentally beneficial to EMEs:

- Easing financing constraints for productive investments
- Allowing diversification of investment risk
- Promoting intertemporal trade
- Contributing to development of financial markets
- Institutional development - better governance of public & private sectors

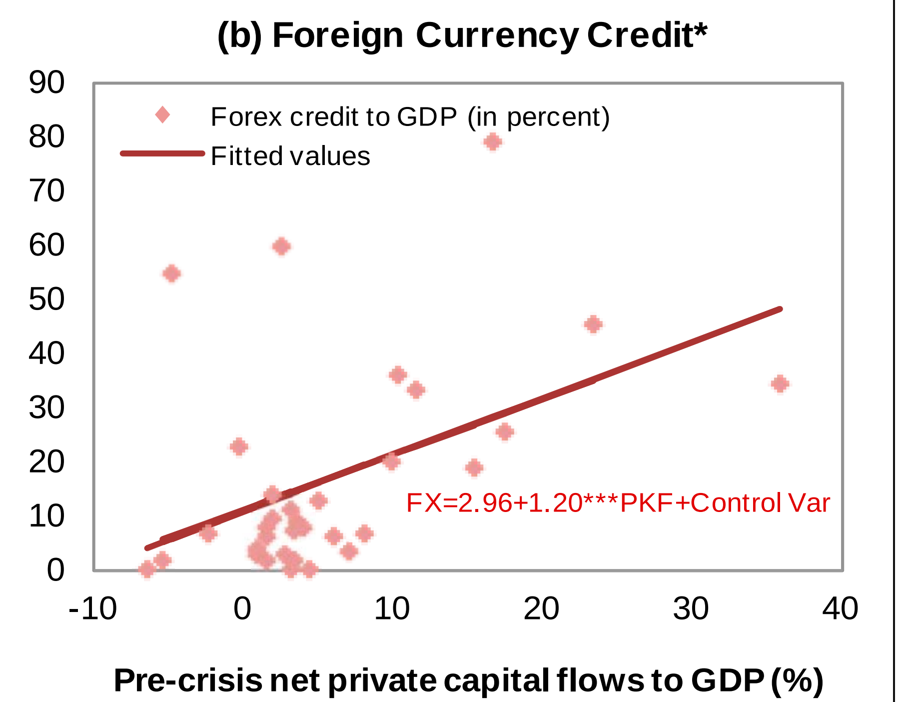
But sudden surges also raise concerns:

- Macroeconomic: exchange rate pressures, inflation, overheating , fiscal profligacy, over-borrowing;
- Financial stability: rapid asset price increases, financial fragilities (e.g. currency and maturity mismatches)

Empirical Evidence : Positive correlation between capital inflows and credit booms



Source: IMF staff estimates.
*PC=Change in domestic private credit to GDP over 2003-07 (in percentage points); PKF=Pre-crisis net private capital flows to GDP averaged over 2003-07; Control var includes the initial condition (private credit to GDP in 2003) and average real GDP per capita (in PPP) in 2003-07.



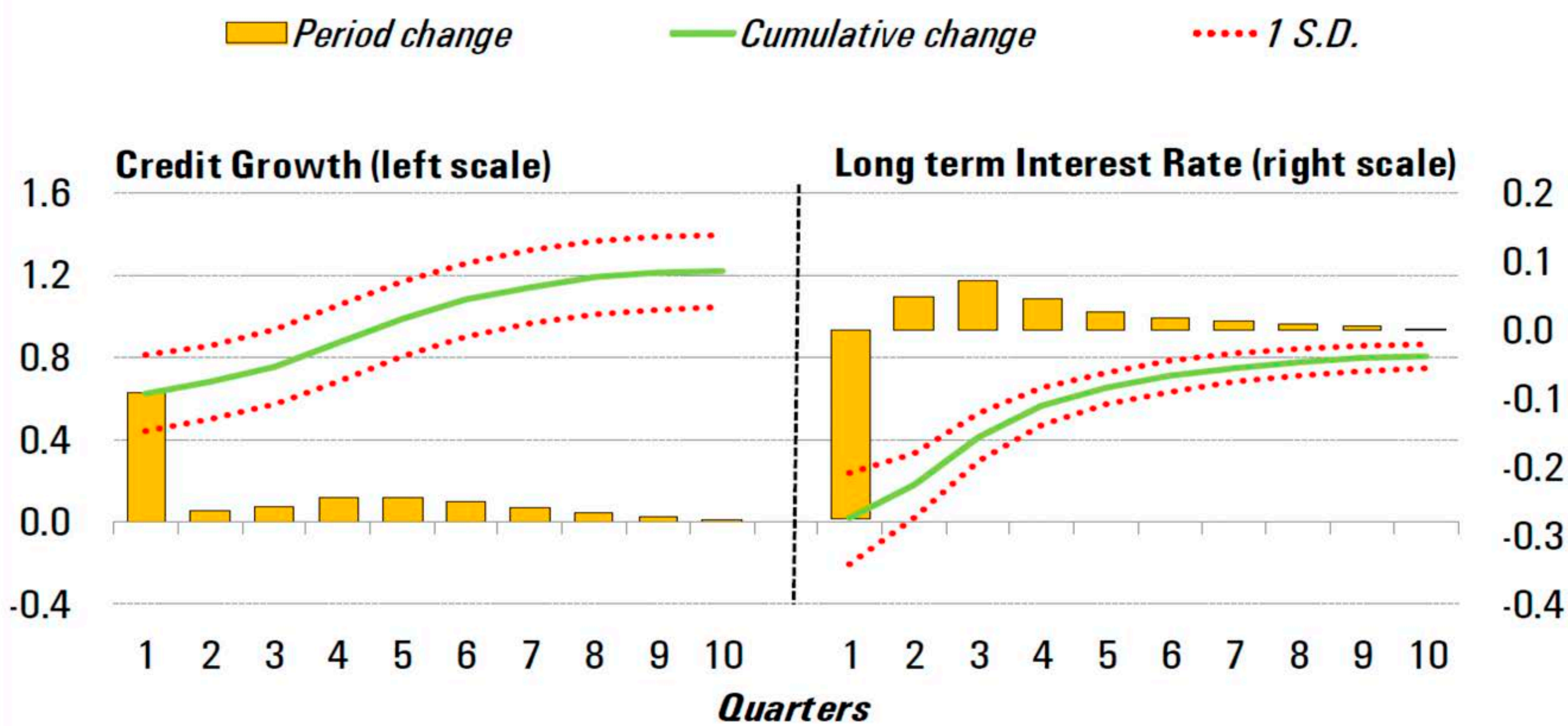
Source: IMF staff estimates.
*FX=Forex credit to GDP in 2007 (in percent); PKF=Pre-crisis net private capital flows to GDP (in percent) is the average over 2005-07; Control var includes private sector credit to GDP in 2003.

*Sample: 41 emerging market economies over 2003-07.

Source: Ostry et al. (2011)

Response of Credit Growth and Long-Term Interest Rate to Non-FDI Inflows

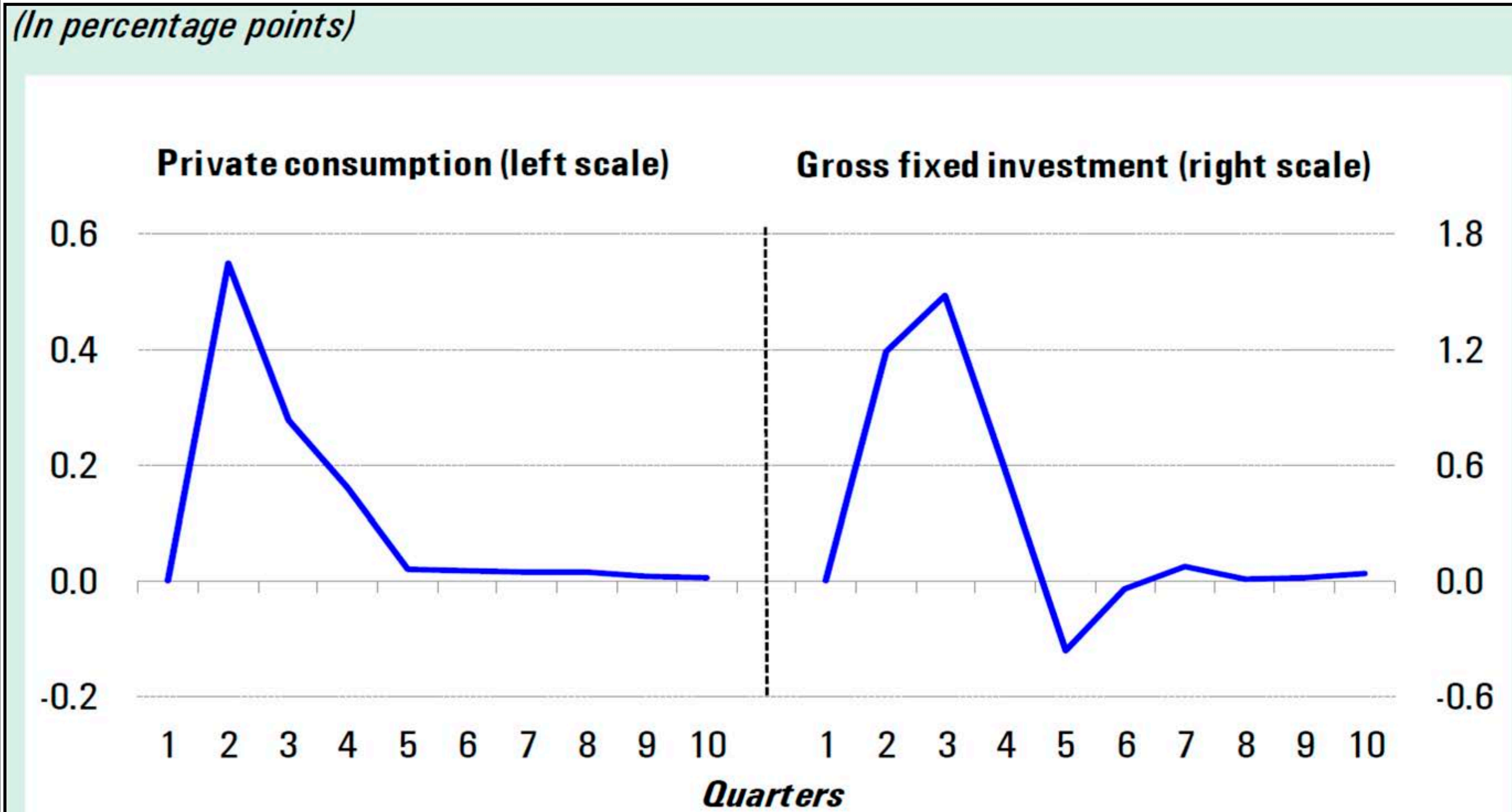
(In percentage points)



Source: IMF staff estimates.

[1] Includes the Philippines, Malaysia, Thailand, Indonesia, India, Korea, and Taiwan Province of China. Response of quarter-on-quarter annualized growth to 1 percentage point of GDP increase in net inflows of each type.

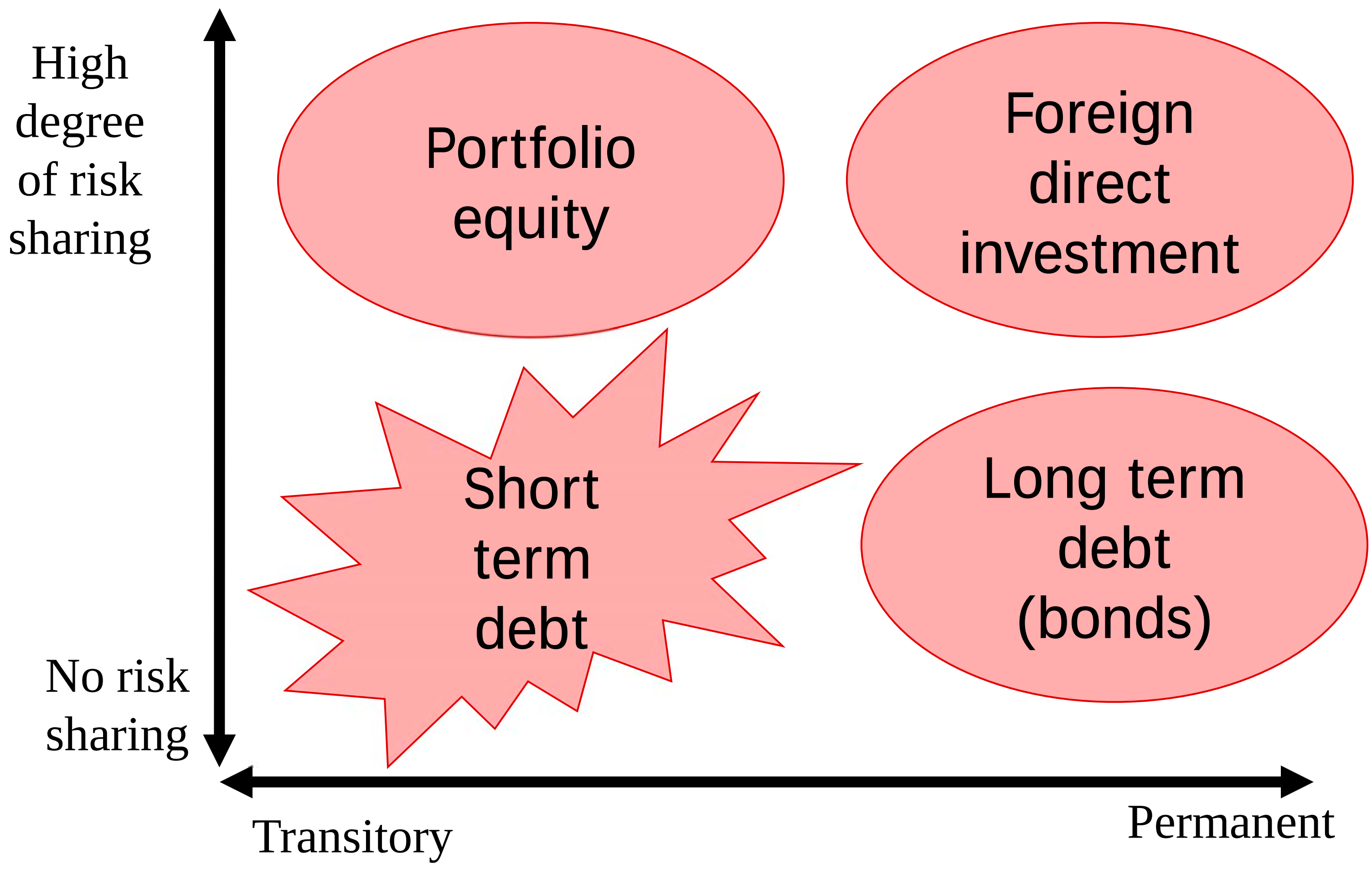
Response of Domestic Demand to Portfolio Equity Flows



Source: IMF staff estimates.

[1] Includes the Philippines, Malaysia, Thailand, Indonesia, India, Korea, and Taiwan Province of China. Response of quarter-on-quarter annualized growth to 1 percentage point of GDP increase in net inflows.

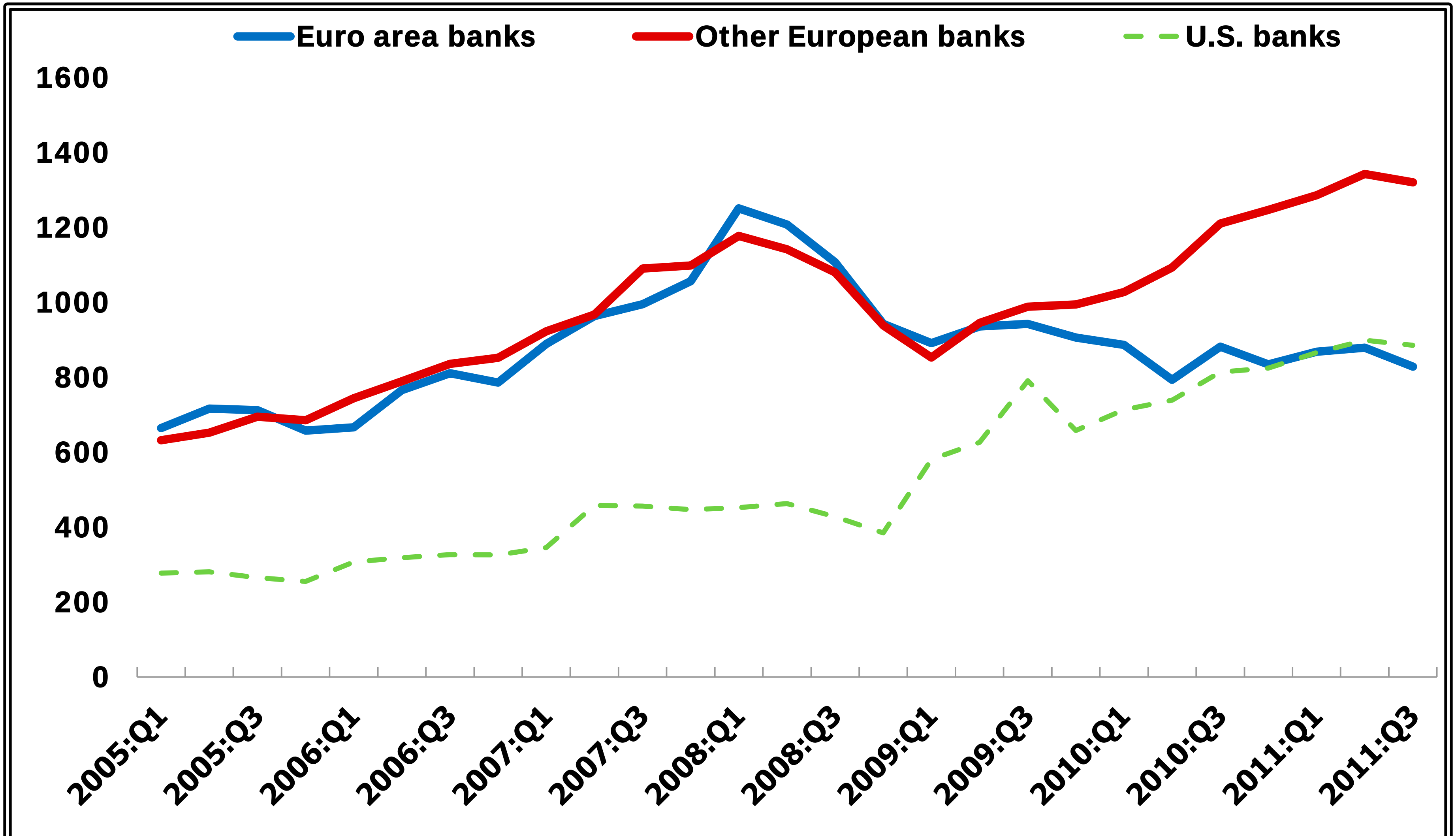
Some types of capital flows are riskier than others



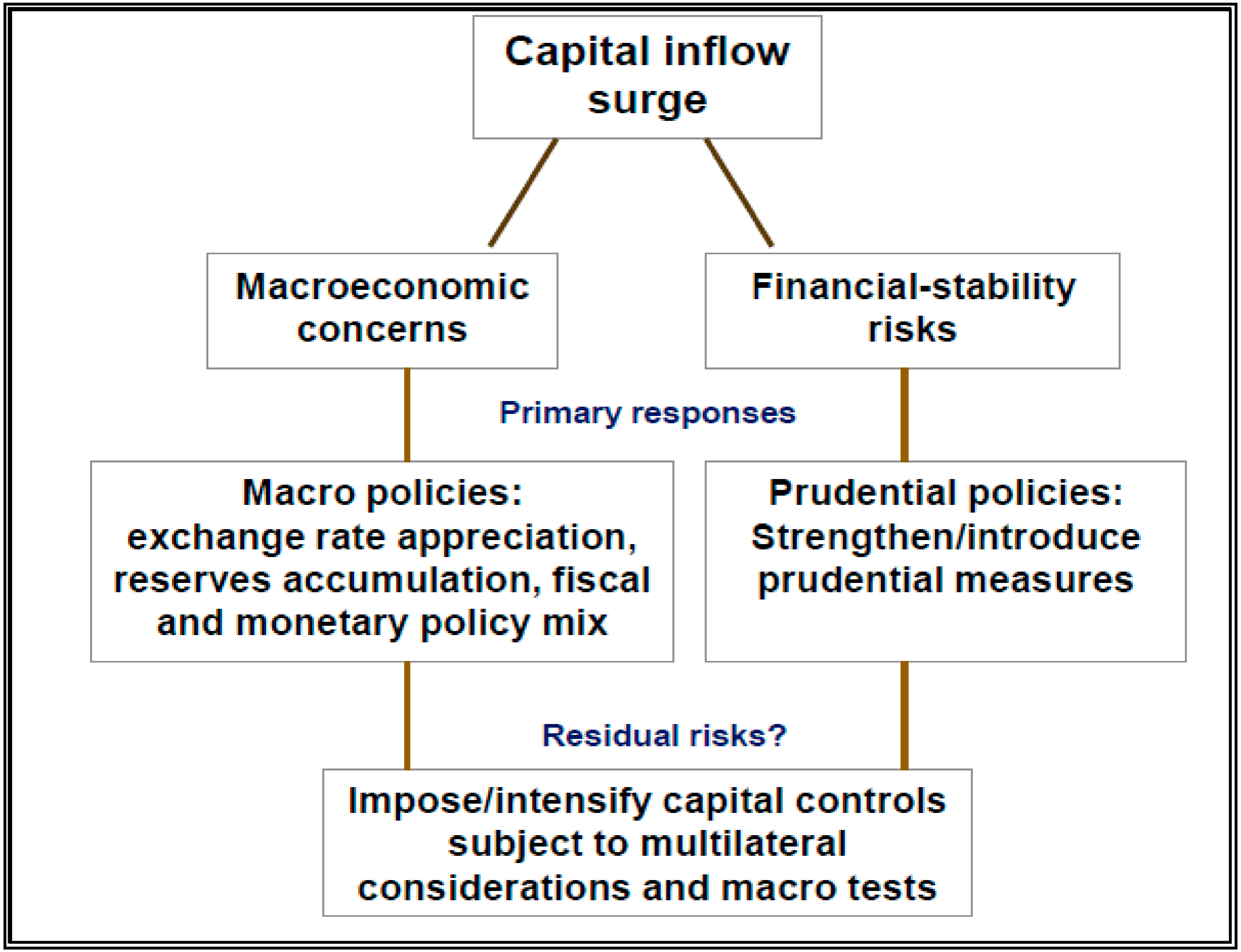
Capital Flows Following Lehman Crisis

Consolidated Foreign Claims on Asian Economies

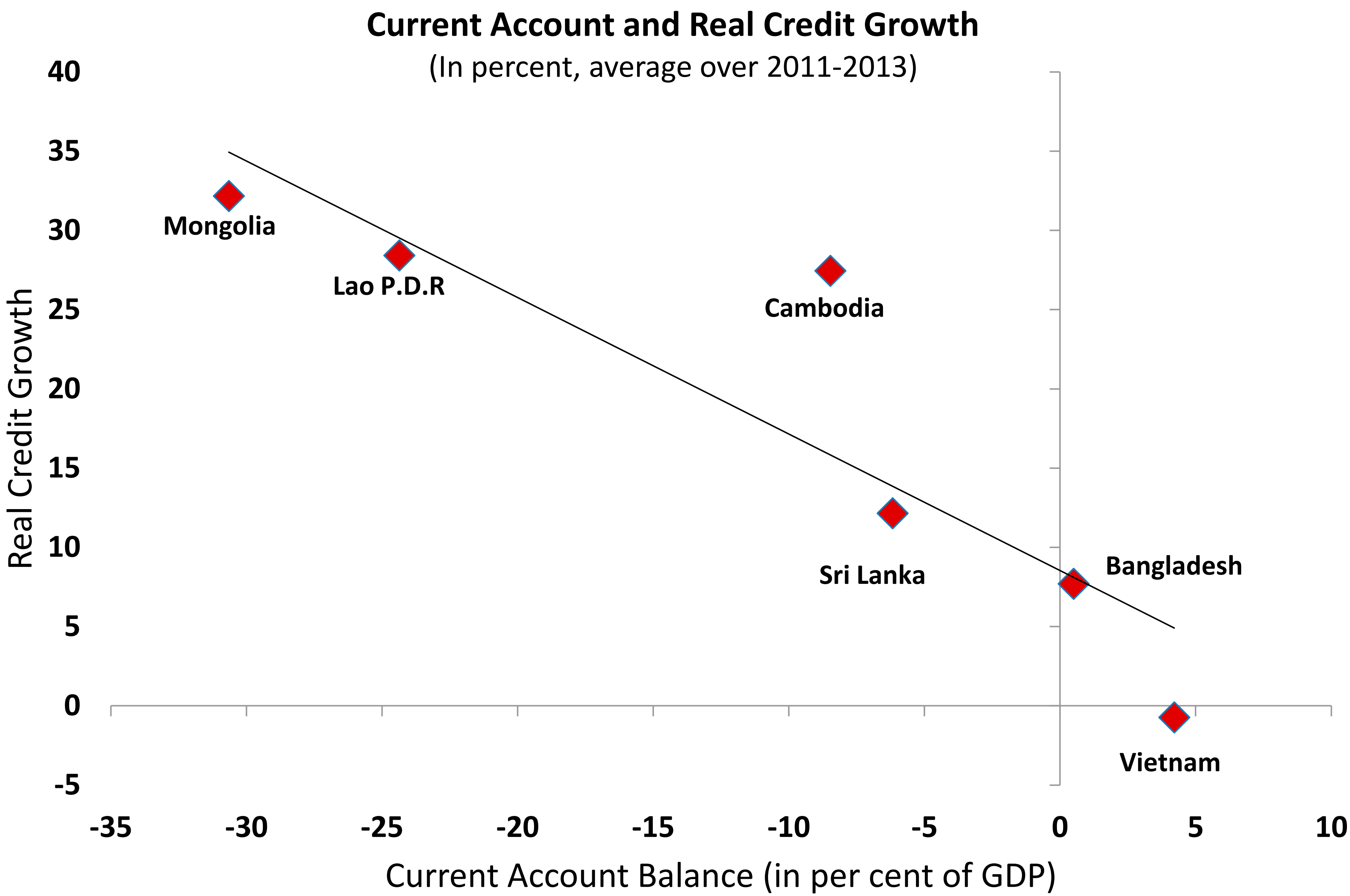
(In billions of U.S. dollars, on immediate borrower basis)



Macro and Financial Stability Risks

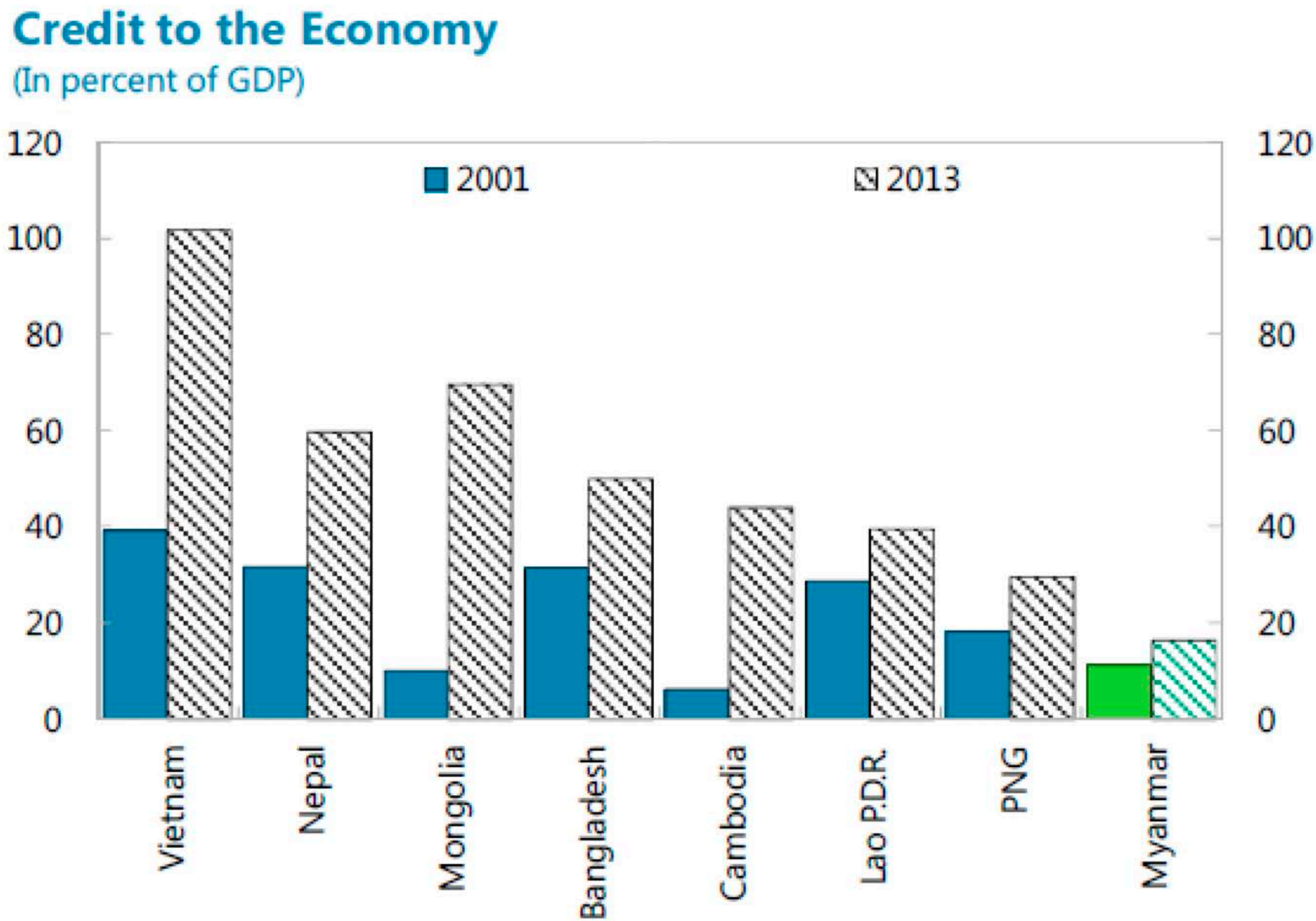


Current Account Imbalances in Frontier Economies

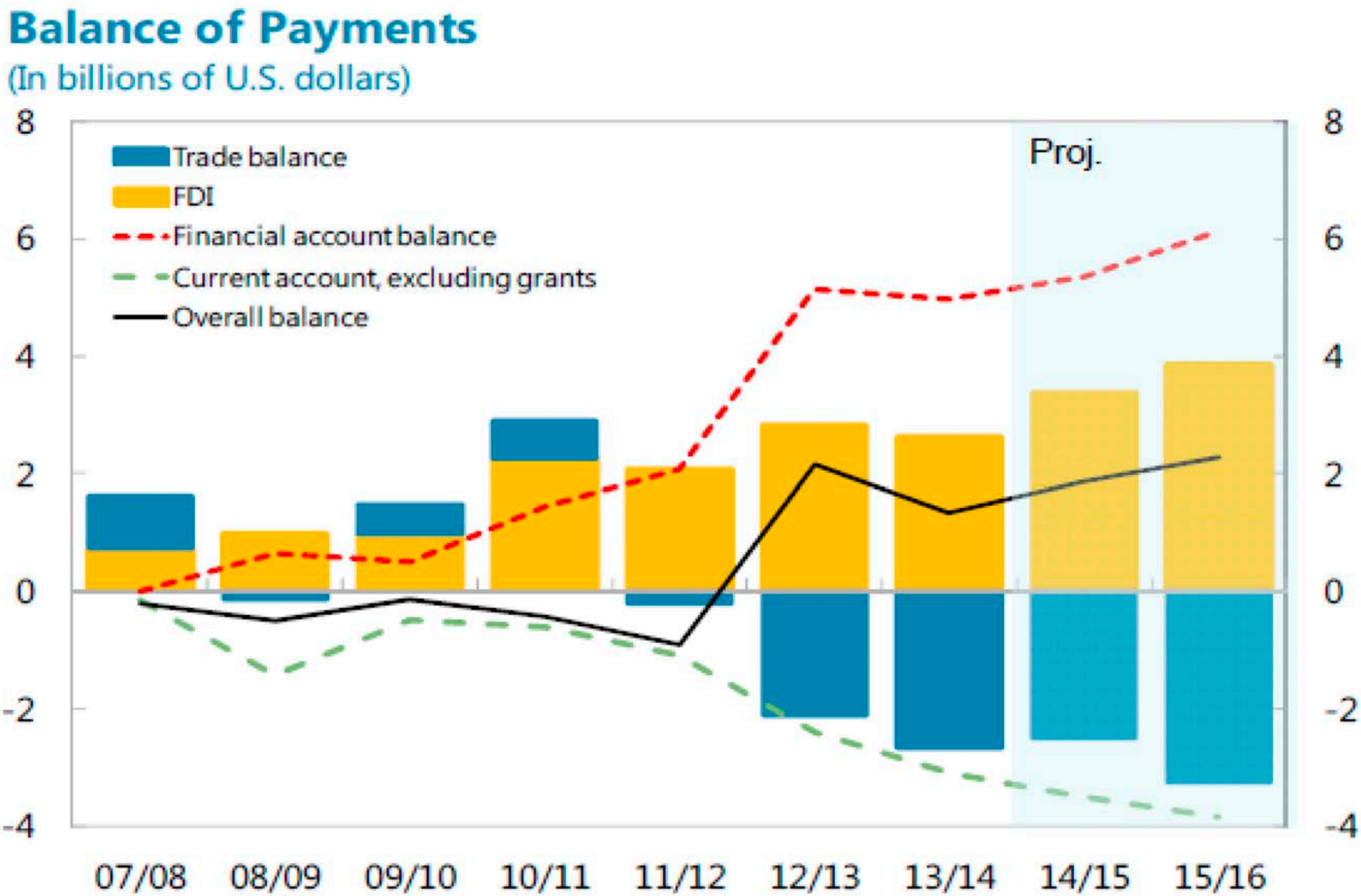


Source: IMF Asia REO, April 2014

Credit to the Frontier Economies

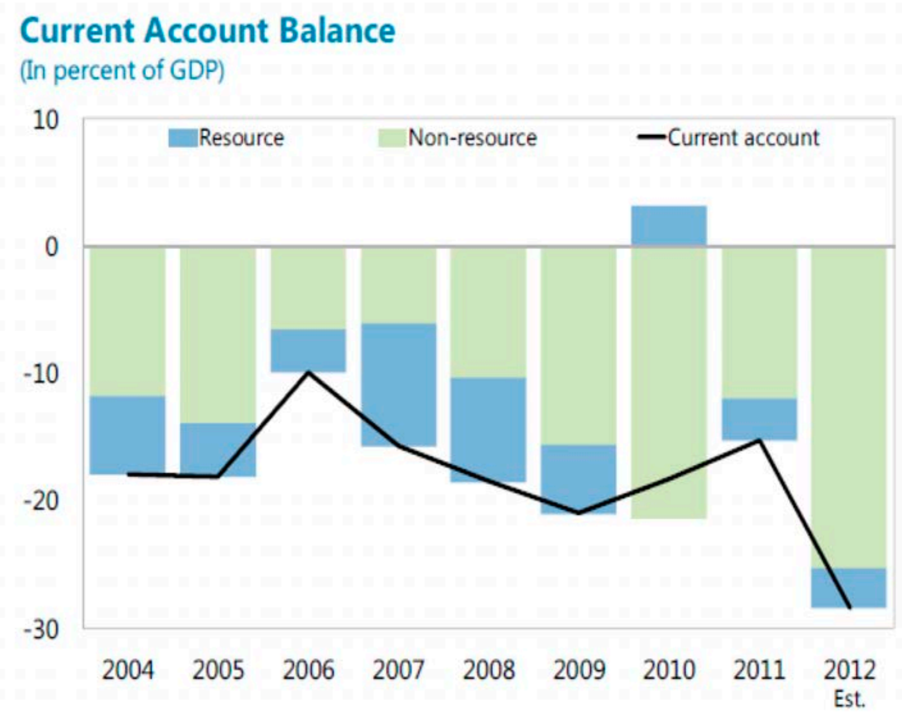


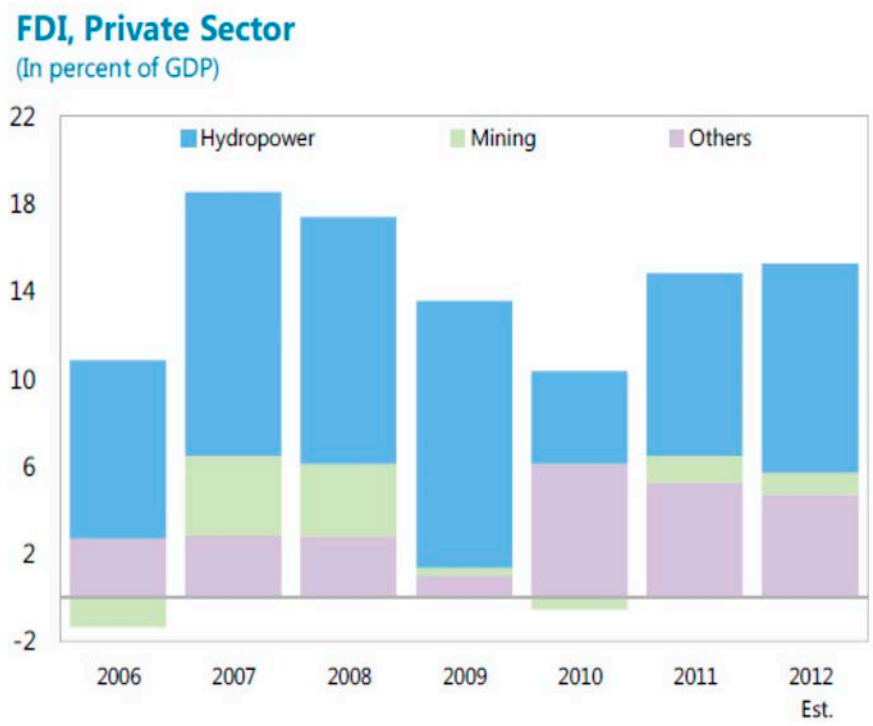
Balance of Payments: Case of Myanmar



Sources: IMF Article IV Staff Report, 2014.

Balance of Payments: Case of Lao PDR





Sources: IMF Article IV Staff Report, 2014.

IV) Policy Responses To Capital Flows:

- Menu of Policies

- Policy Framework to Implement Policies

- Capital Flow Management Policies in Asia

- Case Studies

Menu of Policies (1)

- Exchange rate policy
- Foreign exchange market intervention
- Monetary policy
- Fiscal policy
- Structural policies
- Regulatory measures
- Macro prudential policies
- Capital Flow Management Measures (e.g. capital controls)

Menu of Policies (2)

- Macroeconomic policy measures
  - Sterilized FX market intervention
  - Exchange rate flexibility
  - Monetary policy
  - Fiscal policy
- Macro prudential policy measures to stabilize/support domestic financial markets
- Capital flow management (CFM) measures to manage short-term capital flows
- Structural measures to develop and deepen financial markets and to strengthen the supply side of the economy

Exchange Rate Adjustment

Allow greater nominal flexibility; not necessarily abandon a peg; generally widen bands of fluctuation, or allow band to crawl.

Advantages:

- allows monetary policy to be directed at sustaining price stability
- real appreciation through ER rather than inflation
- uncertainty may discourage short-term flows
- reduces sterilization cost

Disadvantages:

- competitiveness of exports may suffer
- volatility in the exchange rate may hurt tradable sector especially if hedging products are not available

Forex Market Intervention and Sterilization: Through Sales of Non-Monetary Assets

- **Advantages:**
  - avoids exchange rate overshooting
  - limits monetary expansion without increasing reserve requirements on banking system
- **Disadvantages:**
  - currency mismatch on the central bank or government accounts
  - quasi-fiscal costs of sterilization operations (interest rate spreads)
  - the absorption of liquidity may lead to rising domestic interest rates and attract additional capital inflows

Forex Market Intervention and Sterilization: Through Increased Reserve Requirements

- **Advantages**:
  - contains the expansion of money supply without imposing quasi-fiscal costs on central bank
  - builds cushion of bank reserves during the boom that can be released during the downturn
- **Disadvantages**:
  - tax on financial intermediaries subject to reserve requirements
  - promotes disintermediation
  - stimulates capital inflows because firms faced with higher loan rates may attempt to borrow from abroad

Monetary Policy

- Limited ability to deal with excessive capital flows

Fiscal Policy

- May reduce appreciation of the RER by mitigating inflationary pressure;
- Lower CA deficit;
- May provide scope for a greater countercyclical response to cushion economic activity when the inflows stop;
- But, inflexible instrument in the short-run;
- May require changes in laws or new legislation;
- Required political will may not exist.

$\Rightarrow$ *Alternative: Longer-term fiscal rules?*

Structural Policies
Trade Liberalization

- May lead to an increase in net imports and reduce the net inflow of foreign exchange
- Likely to increase the attractiveness of FDI and portfolio investments, thereby inducing more capital inflows.

Deepening and broadening of capital markets

- can reduce the attractiveness of external borrowing but requires time
- foreigners may become participants in local bond markets, resulting in continued inflows

Liberalization of Capital Outflows

- Reduces the volume of net capital inflows for a given level of inflows
- Liberalization of equity flows is beneficial for growth (Henry, 2007)
- However, it could invite even more capital inflows since such action might bolster investor confidence that funds could be easily repatriated when needed
- As the deregulation of capital flows is often hard to reverse, hasty liberalization without appropriate sequencing could put macroeconomic and financial stability at risk

Regulatory Measures

Increase the robustness of banks and other intermediaries

- Shift to risk accounting principles; supporting accounting standards and reporting requirements; comprehensive surveillance
- Appropriate lending criteria and loan classification; provisioning requirements; capital adequacy

- Example: Malaysia 2007
  - From a rules-based to a principles-based approach
    - Eliminate FX exposure limits
    - Set aside capital to cover market risk exposures; stress testing
  - Consolidated supervision framework

Regulatory Measures *(cont.)*

Strict regulatory limits on banks' open foreign currency positions

- can prevent banks from funding themselves abroad, but may push banks to lend in foreign currency, shifting the open position to non-banks
- could be coupled with restrictions on lending in foreign currency or higher reserve requirements on forex lending
- may lead to disintermediation, i.e. growth of non-bank financial intermediaries to evade regulations
- won't help curbing non-bank inflows (stock market, government bond market)

A Conceptual Policy Framework

- Prudential and structural measures to strengthen capacity to absorb capital flows always encouraged;
- Beyond this, appropriate macroeconomic policies should be put in place;
- Capital flow management measures (CFMs), including taxes, certain prudential measures, and capital controls, are part of policy toolkit;
- CFMs could help address macro and financial stability risks related to inflows under certain circumstances;
- Policy responses depend on country circumstances.

A Conceptual Policy Framework (cont'd)

- Allow exchange rate to appreciate when it is undervalued;
- Accumulate reserves to adequate prudential levels;
- Rebalance monetary/fiscal policy mix:
  - *Lower policy rates consistent with inflation objectives and when overheating not a concern*
  - *Tighten fiscal policy if pro-cyclical*

Framework for Policy Responses

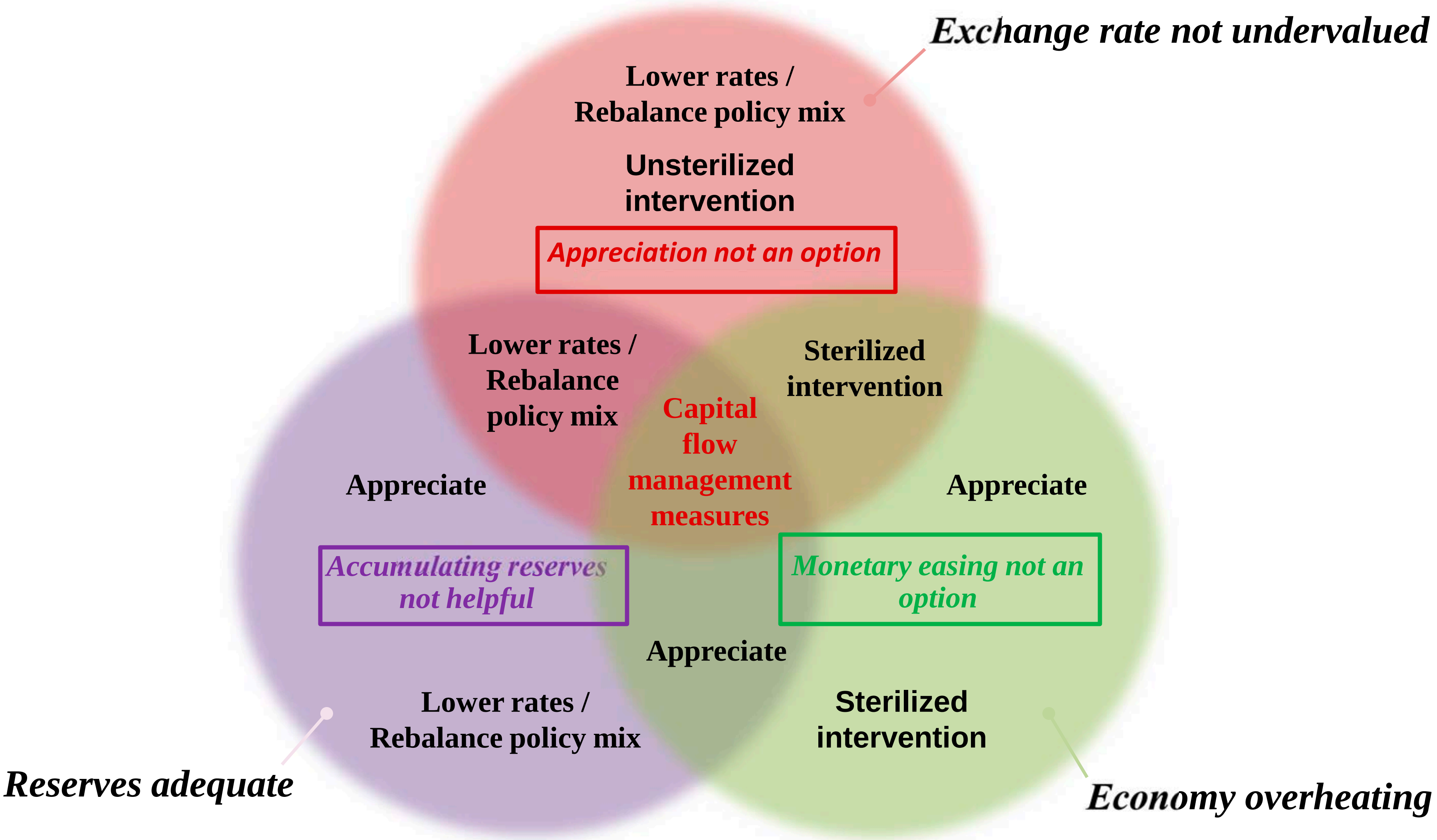
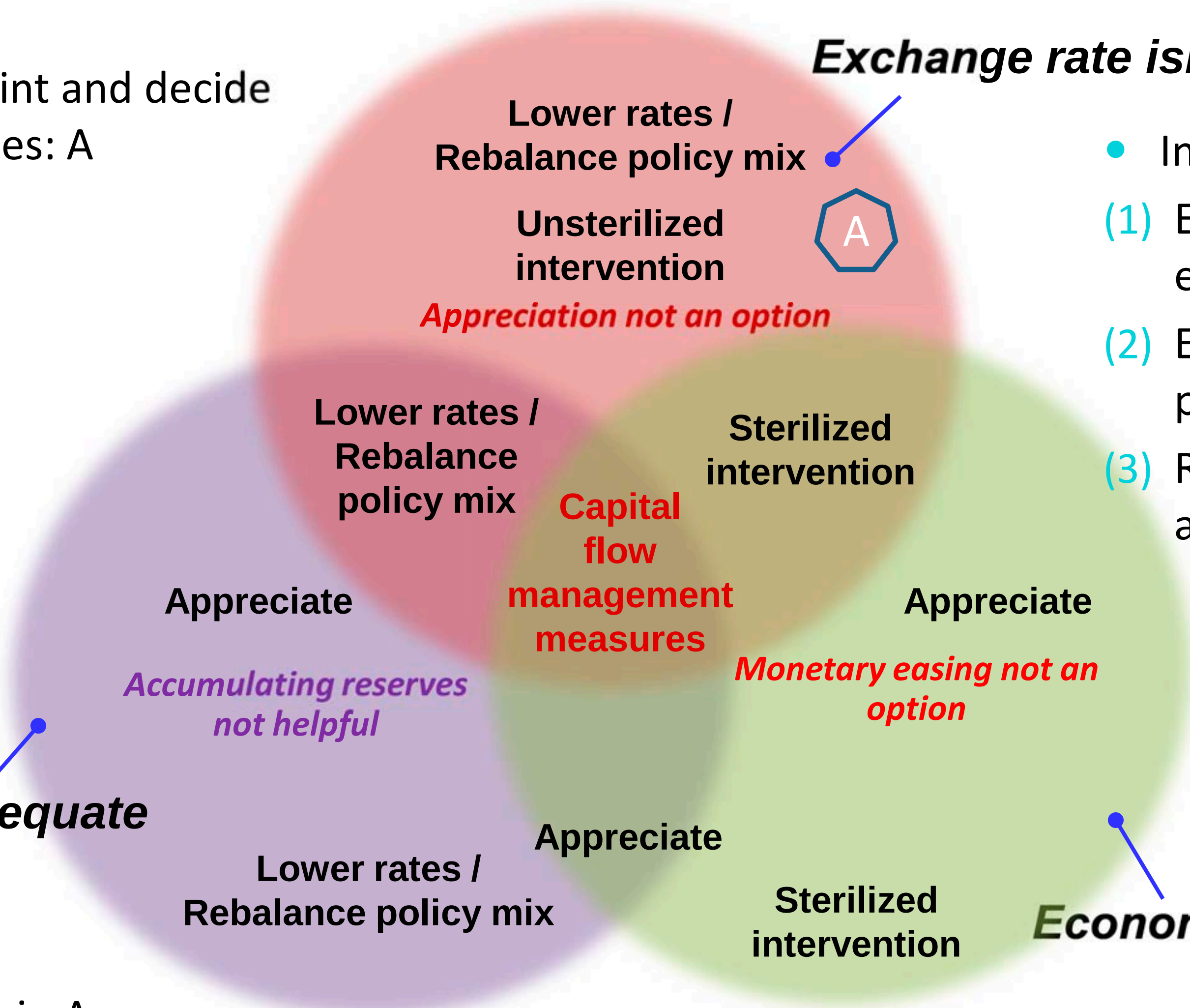


Illustration of Macro-Policy Responses

- Select a point and decide on responses: A



- In A:

(1) ER is at/above equilibrium

(2) Economy is below potential

(3) Reserves are below adequate

- Response in A:

(1) Lower (monetary policy) interest rate/tighten fiscal stance

(2) Intervene directly in the FX-market – accumulate reserves do not (fully) sterilize

CFMs appropriate under certain circumstances

- Appropriate macro conditions are in place
  - *Exchange rate is not undervalued*
  - *Reserves are more than adequate*
  - *Overheating/inflation concerns preclude monetary easing*
  - *Fiscal policy is not pro-cyclical*

- CFMs could complement fiscal tightening plans that are already in place, given lags in macroeconomic impact

- CFMs are no substitutes for right macroeconomic policies

Some Considerations in Design and Implementation of CFMs

- Non-residency-based CFMs generally preferable;
- Intensity should match specific macroeconomic or financial stability concerns in question;
- Withdrawn when risks recede;
- Maximize efficiency and minimize costs/distortions;
- Depend on country-specific circumstances (e.g. administrative and regulatory capacity);

Characteristics of CFMs and Other Measures

Use any time

Prudential and other structural measures

Enhance capacity of economy to absorb inflows and resilience of FIs
Not designed to influence BOP
Tend to be of permanent nature
Do not discriminate by residency
Generally, but not always, do not discriminate by currency
e.g. LTVs, CARs, limits on FX mortgages, limits on open FX positions

Second line of defense

(i) Other CFMS

Restrict by design transactions that impact BOP
Do not discriminate by residency
Prudential measures discriminating by currency
e.g. Limits on FX borrowings, asymmetric limits on open FX positions, differential reserve requirements

Capital flow management measures

CFMs

Other options deployed or infeasible

(ii) Residency-based CFMs

Discriminates by design on basis of residency
e.g. Taxes on nonresident flows; URR on nonresident flows; Outright bans/limits

Examples of CFMs and Other Measures

LTV ratios
Reserve requirements for local currency deposits
Levy on interest from consumer loans
Limits on banks' net open FX positions
Limits on ratio of banks' FX loans and securities to FX borrowing
Capital requirements for specific loans
Capital requirements for FX loans

Reserve requirements on banks' short dollar positions
Limits on banks' FX derivative positions

Reserve requirements on FX deposits
Minimum holding period on investments in central bank bills
Levy on banks' non-deposit foreign liabilities
Withholding tax on public sector bonds

Fee on nonresidents' purchases of central bank paper
Reserve requirements on nonresident deposits
Tax on equity and bond inflows

Use any time

Prudential and other structural measures

Second line of defense

(i) Other CFMs

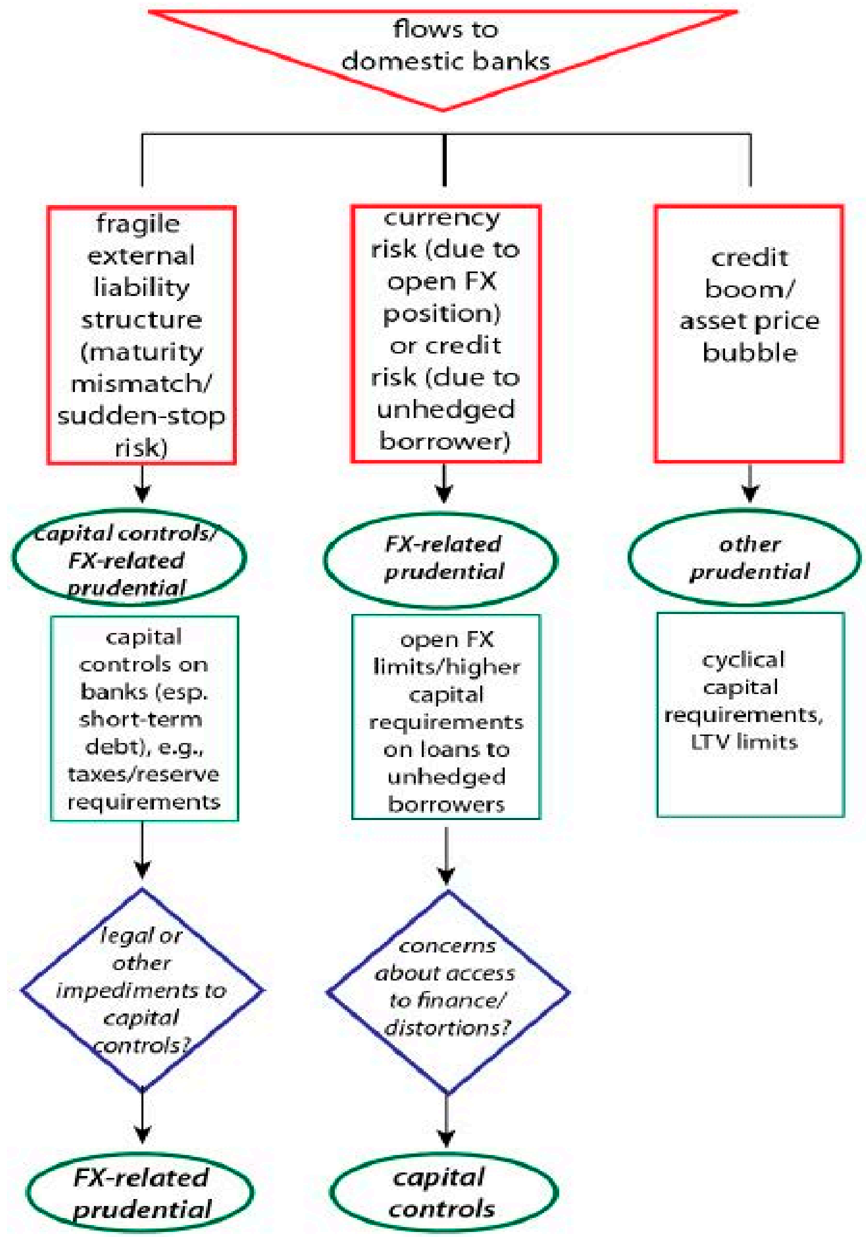
Other options deployed or infeasible

(ii) Residency-based CFM

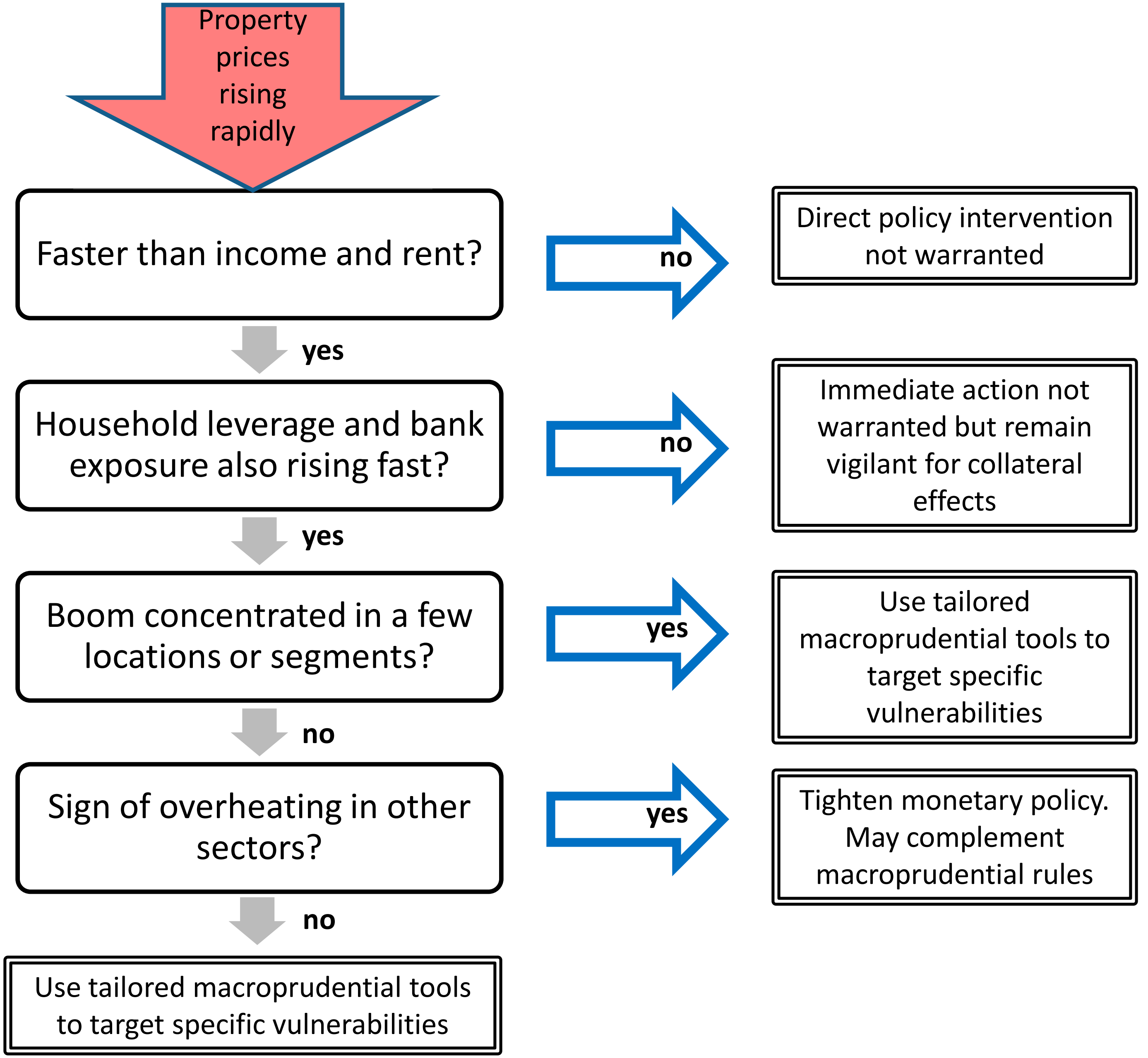
Policy Response to Capital Flows in the Banking Sector

Mitigating Risks to the Banking Sector

- Banks incur an excessively risky external liability structure;
- Bank assets are excessively risky;
- Bank lending is amplifying broader macroeconomic risks;



Policy Response: Real Estate Booms



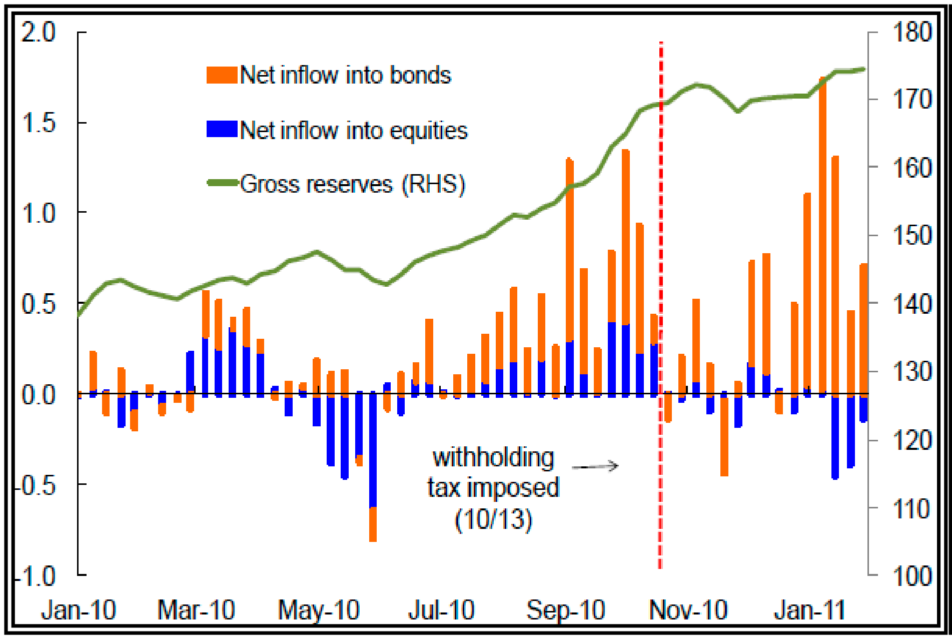
Case Study(1): Thailand (2008-11)

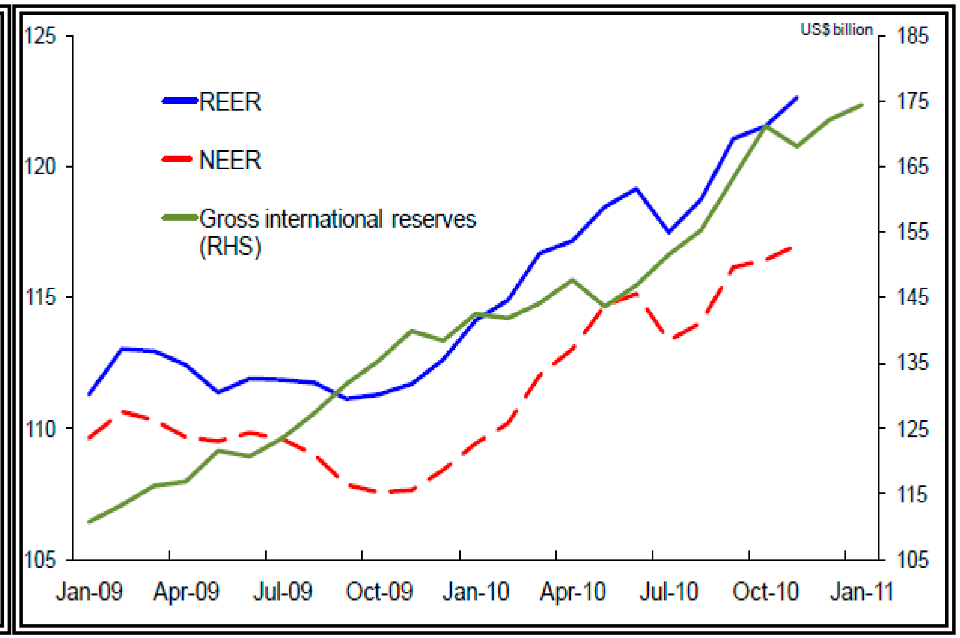
- Thailand has been the recipient of large portfolio flows, both on equities and bonds;
- Even the removal of withholding tax had only a temporary impact on inflows;
- Both push and pull factors were at play;
- These inflows were countered by sterilized intervention (high correlation between flows and reserves);
- Both stock and bond market indices rose sharply but property prices were still soft;
- Capital inflows may have weakened the link between policy rate and the longer-term rates.

Case Study (1): Thailand

- Inflows into the equity and bond market were significant
- Thai Baht appreciated both in nominal and in real effective terms;
- Gross reserves rose due to intervention;

U.S. $ billion





Case Study(1): Thailand

- Thailand responded with a mix of macroeconomic and prudential policies;
- On the macro side: significant appreciation of the exchange rate, sterilized intervention, measures to further relax capital outflows,, raised the ceiling for outward FDI, lending abroad and foreign currency holdings of Thai investors abroad;
- On the macro-prudential side: LTV regulation were imposed with higher risk weights on loans with LTV > 90 percent, removed the withholding tax exemption for non-residents.

Table 1.2. Capital Flow Management Measures in Asian Economies

Policy tool	Recent examples
Limits to direct and indirect FX exposure	**Korea** (June 2010): Capped FX forward positions of banks relative to their equity capital. Reduce corporate FX hedging limit from 125 percent to 100 percent of export receipts.
Increase restrictions on external borrowing	**India** (December 2009): Re-instated interest rate cap on eligible external commercial borrowing that was eliminated during the crisis.
Minimum holding period on central bank bills	**Indonesia** (June 2010): One month holding period on central bank bills (SBIs) instated for both domestic and foreign investors.
Limited foreign access to central bank instruments	**Indonesia** (June 2010–present): Phased out one- and three-month SBIs in favor of nine- and 12-month SBIs, and expanded supply of nontradable term deposits up to six months tenor, which are only available to banks operating in Indonesia.
Other restrictions on foreign access	**Taiwan Province of China** (November 2009): Financial Supervisory Commission (FSC) barred access to time deposit accounts for foreign investors. **Taiwan Province of China** (November 2010) FSC extended existing investment of nonresident inbound remittances in domestic securities to 30 percent, to include government securities of remaining maturity greater than one year.
Measures to encourage outbound investment by residents	**Malaysia** (October 2010): Announced that the overseas investment limit of the Employee Provident Fund would be raised from 7 percent to 20 percent. **Philippines** (November 2010): Increased ceilings on residents' purchase of FX and foreign assets from authorized agent banks. Prepayment of private sector FX loans allowed. **Thailand** (February, September 2010): Raised ceilings on residents' outward direct investment, lending abroad, and foreign currency holdings.
Reserve requirements on foreign currency and nonresident accounts	**Taiwan Province of China** (January 2011): Raised reserve requirement on local currency accounts held by nonresidents to 90 percent on balances exceeding the outstanding balance on December 30, 2010. Balances below end-2010 levels subject to 25 percent reserve requirement. Require reserves for such accounts are no longer remunerated. **Indonesia** (March 2011): Raised reserve requirement on foreign currency accounts from 1 percent to 5 percent. A further increase to 8 percent is scheduled for June 2011.
Withholding tax on foreign holdings of government bonds	**Thailand** (October 2010): Reimposed a 15 percent withholding tax (withdrawn in 2005) on nonresidents' interest earnings and capital gains on new purchases of government bonds. **Korea** (January 2011): Reintroduced a 14 percent withholding tax on foreign holdings of government bonds and central bank securities.

Source: National authorities.

Selected Asia: Use of Macroprudential and Capital Flow Management Measures, 2010–13

			Total measures[1]	Percent share
Macroprudential Measures			47	57
	Credit measures	LTV	13	16
		Other	15	18
	Capital measures		6	7
	Liquidity measures		3	4
	Noncredit real estate measures		9	11
	Other		1	1
Capital Flow measures			35	43
	Limits on FX exposure and borrowing		11	13
	Restriction on foreign access		7	9
	Taxation on NR holdings		2	2
	Other inflow measures		3	4
	Liberalization of inflows		6	7
	Liberalization of outflows		6	7

Sources: IMF (2012); country authorities; IMF country teams.

[1] Measures are defined as changes to existing regulations or new regulations, and can include multiple measures per country during observation period. Based on a sample including Australia, Bangladesh, China, Hong Kong SAR, India, Indonesia, Japan Korea, Malaysia, New Zealand, Philippines, Singapore, Sri Lanka, Taiwan Province of China, Thailand, and Vietnam.

V) Conclusions

Evolving Capital Flows to EM

- Gross capital flows to EM have quintupled since early 2000 and portfolio flows have dominated
- AE economy investors seeking portfolio investments in EM – search for yield;
- Investors directly seeking exposure to LCY debt markets;
- Growing interest from global retail investor (US and European mutual funds, Japanese investment trusts, UCITs in Europe);
- Local investor base is also broadening;
- Since the GFC, bond flows have risen more sharply while cross-border banking flows have shrunk;
- FDI remains the largest portion of capital flows to EM;
- Nature of portfolio investments in EM has evolved, markets have deepened and become more integrated;

Evolving Capital Flows to EM

- In EM, the share of bond funds, which are more sensitive to global factors, are rising;
- Financial deepening does help mitigate the impact of global financial shocks on domestic asset prices;
- Having a larger local investor base is more stabilizing in limiting the effect of global shocks; their countercyclical nature;
- Capital market development also helps in reducing the impact of global shocks;
- There is reduced market making ability of some of the global players in EM due to new regulation and change in business model – they have cut their inventories;

Capital Flows and Policy Implications for Asia

- Combination of cyclical and structural factors suggest that capital flows to EM are likely to be sustained over the long term;
- Relative strength and better growth prospects for EM Asia has attracted increasing private capital inflows;
- More open and integrated to global economy means more volatility and risks;
- Policy dilemma: substantial capital flows to EM Asia assets as per capita GDP rises;
- EM policymakers often manage the exchange rate to avoid excessive appreciation;
- Low rates may actually encourage flows into local currency bonds;
- Maintaining currency stability is a double edged sword (appreciation can lead to more flows that can lead to rising inflation);
- Improving the absorptive capacity by further developing capital markets should be a priority.