

Policy Responses to Capital Flows in Emerging Markets

**Bank Indonesia and IMF Joint Conference on
Coping with Asia's Large Capital Inflows in a Multi-Speed Global Economy
Bali, March 2011**

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International Monetary Fund**

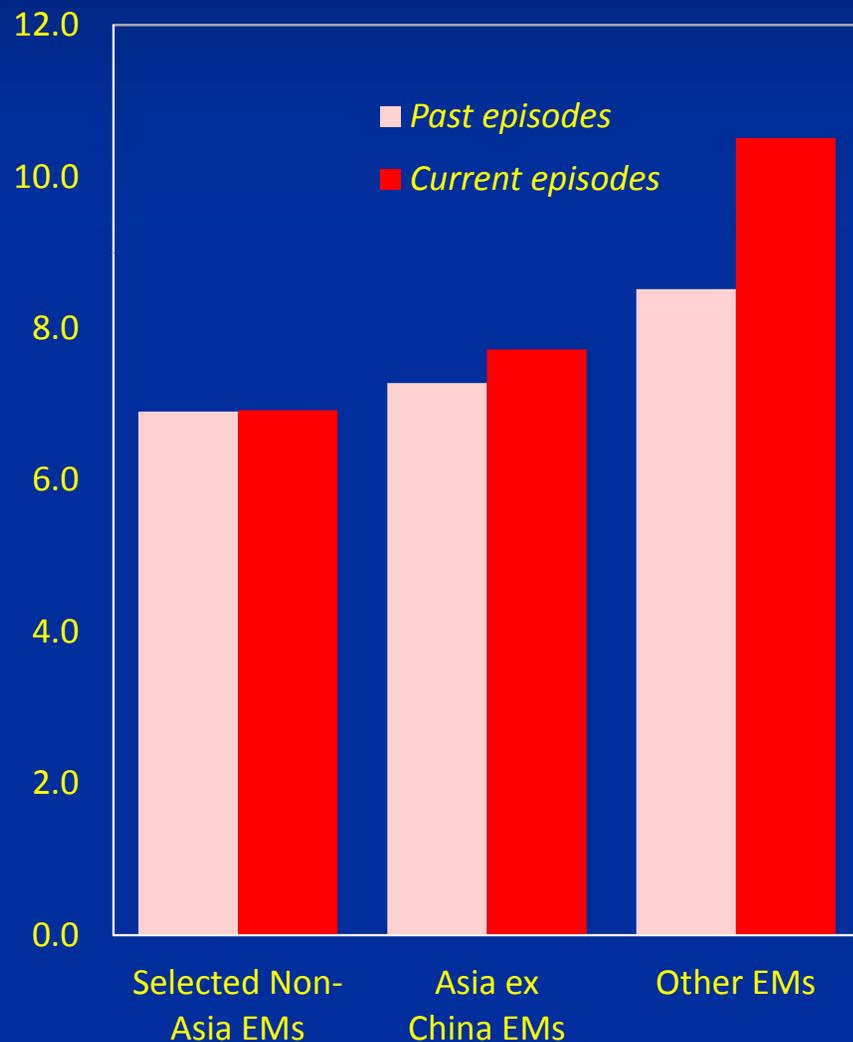
Policy Responses to Capital Flows in Emerging Markets

- **Impact of Capital Inflows**
- **Policy Responses in Asia**
- **Policy Responses in Other Emerging Markets**

Net Capital Flows to Emerging Markets Comparable to Previous Episodes

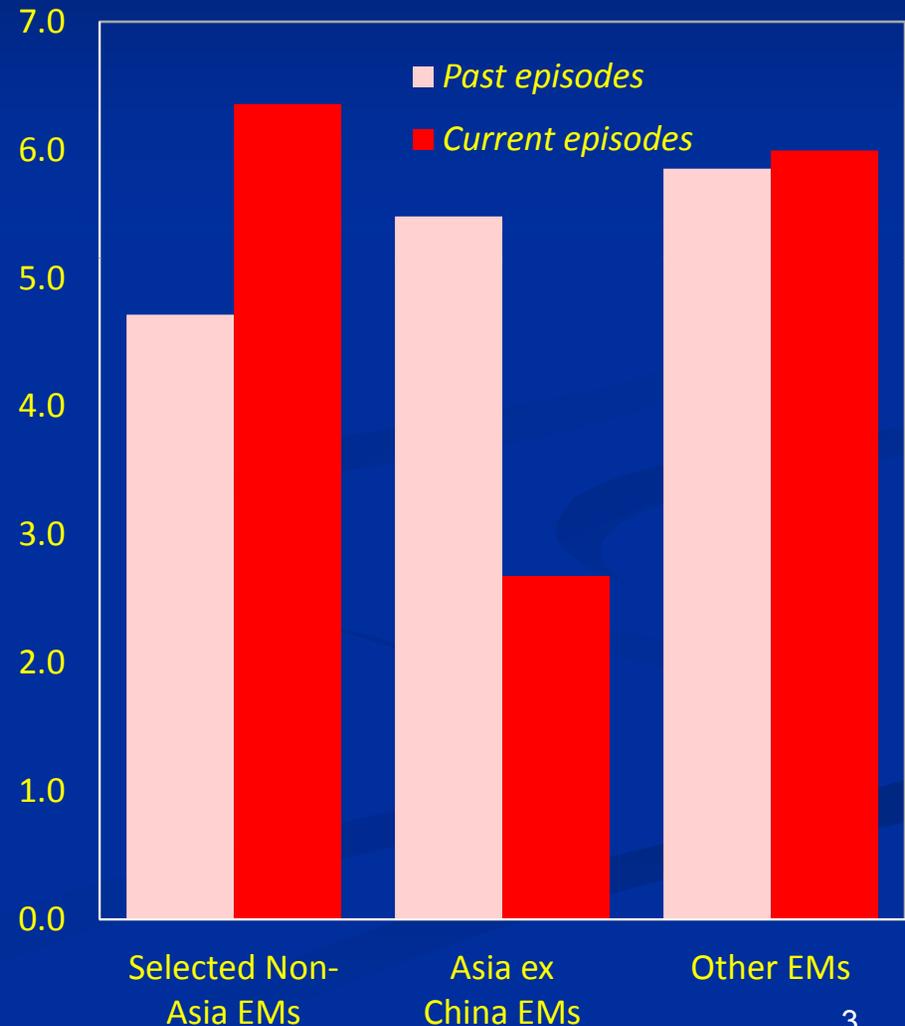
Gross Inflows

(In percent of GDP)



Net Inflows

(In percent of GDP)



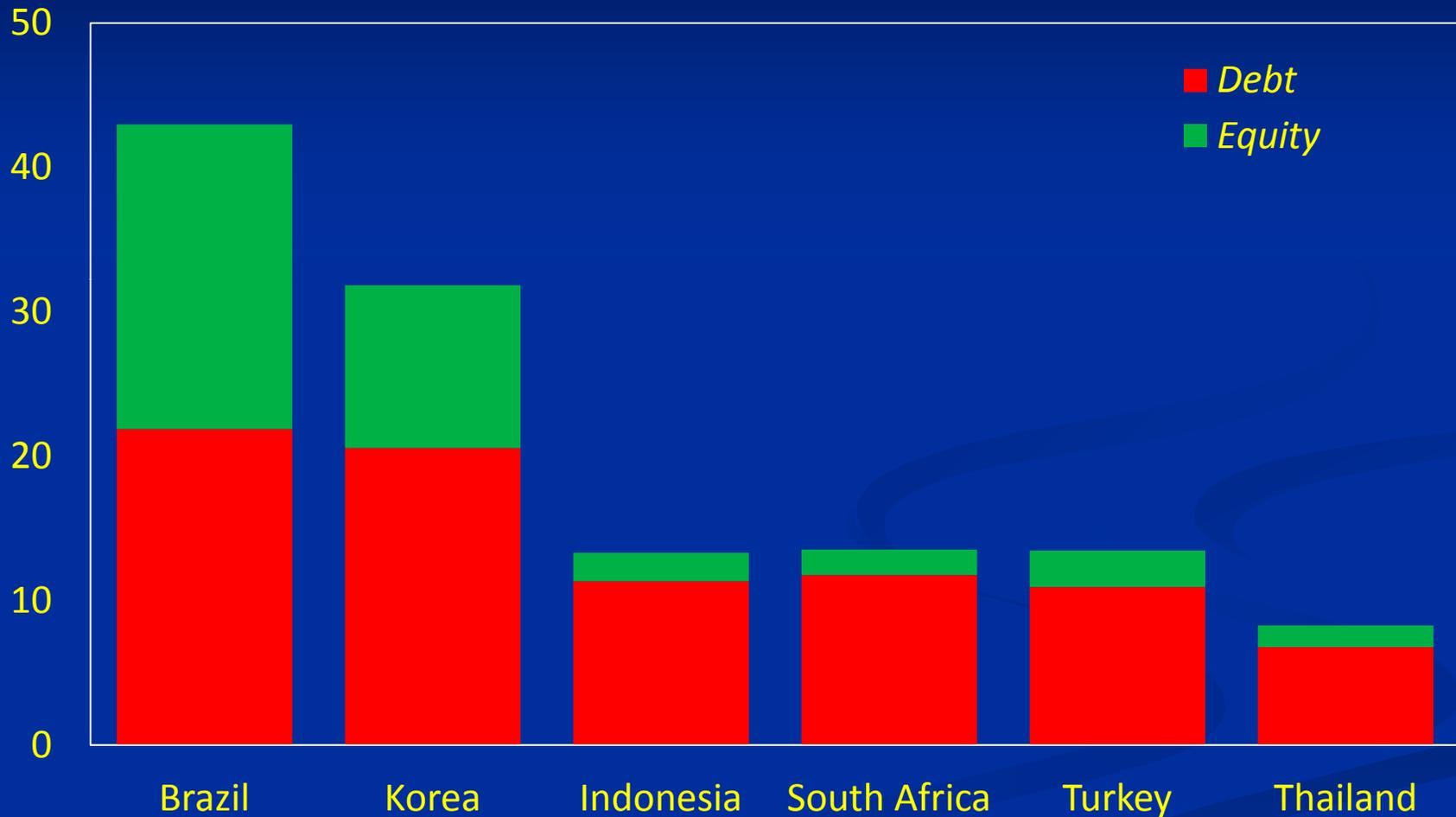
Macro Policy Responses Have Varied

	Currency Appreciation	Reserves	Monetary Policy	Fiscal Policy	Other Measures to Manage Capital Flows
	Percent change in the NEER from the trough since the crisis	Increase in percent of GDP from the trough since the crisis	Change in policy rates in the recent wave	Change in cyclically adjusted fiscal stance between 2009-10	
Brazil	38.4	6.0	↑	↔	Yes
Indonesia	19.4	7.4	↑	↔	Yes
Korea	17.5	10.7	↑	↔	Yes
Peru	5.6	9.0	↑	↔	Yes
South Africa	41.4	2.6	↓	↔	No
Thailand	9.3	22.3	↑	↔	Yes
Turkey	6.5	1.7	↓	↔	No

Flows to Debt Markets have Dominated in this Episode

Net Portfolio Flows, 2010:Q1-Q3

(In billions of U.S. dollars)

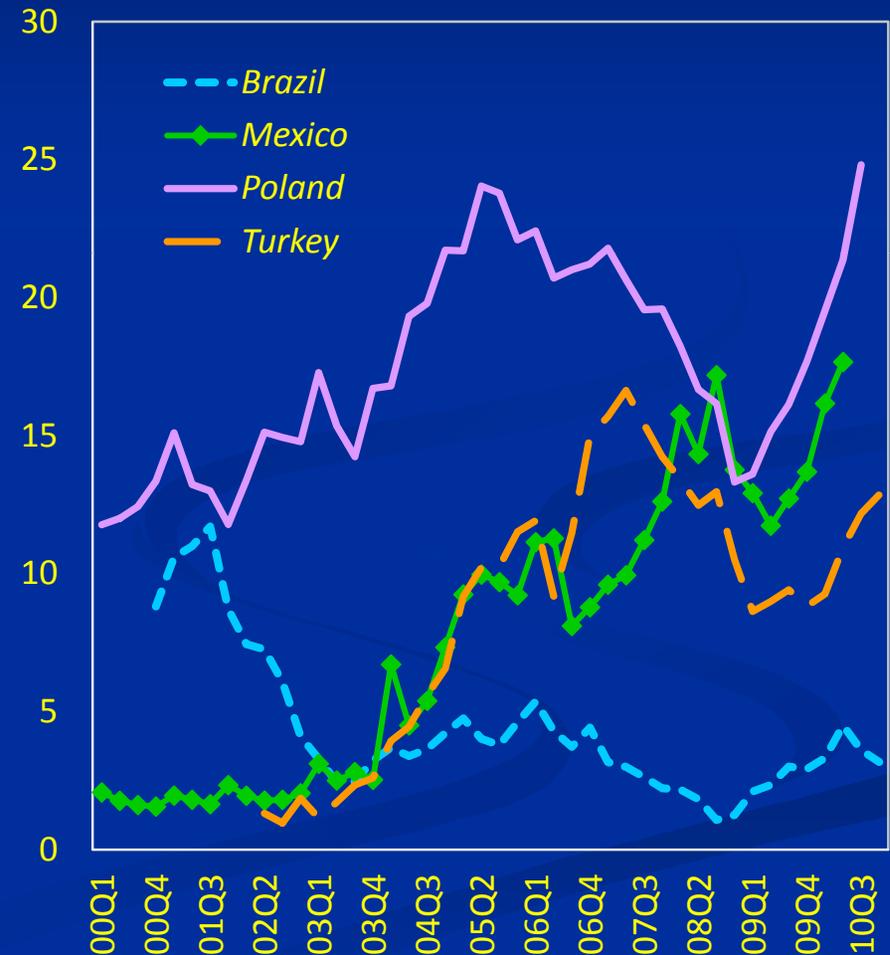
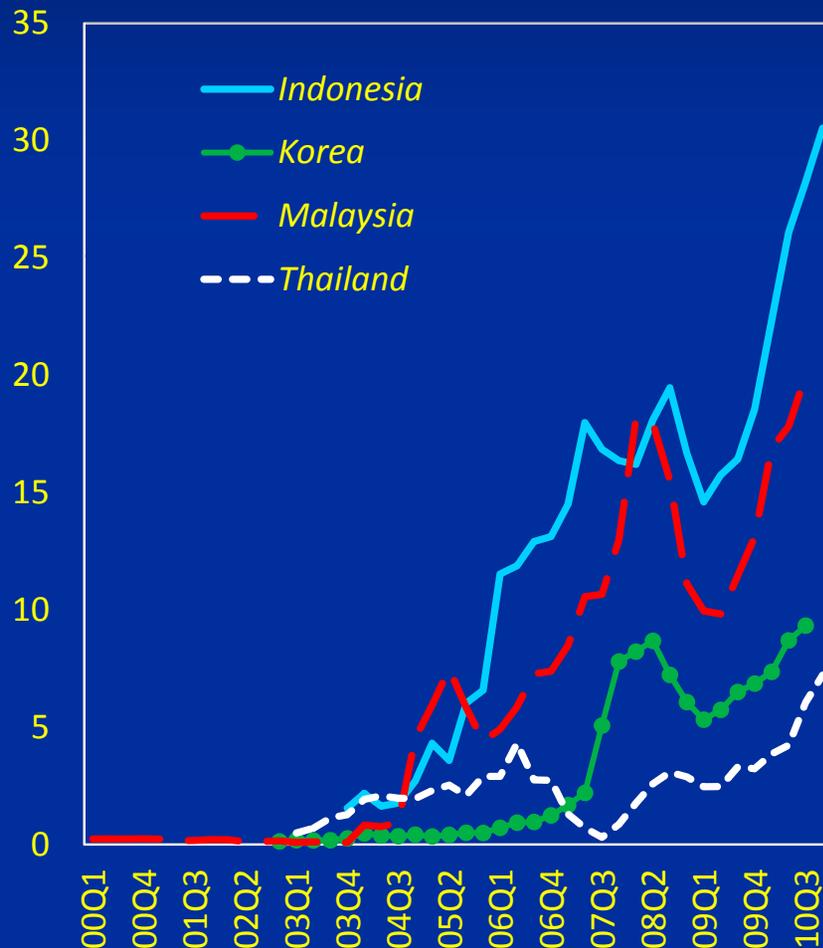


Source: IMF, *International Financial Statistics*.

Leading to a Substantial Rise in Foreign Ownership

Foreign Holdings of Local Government Bonds

(In percent outstanding)

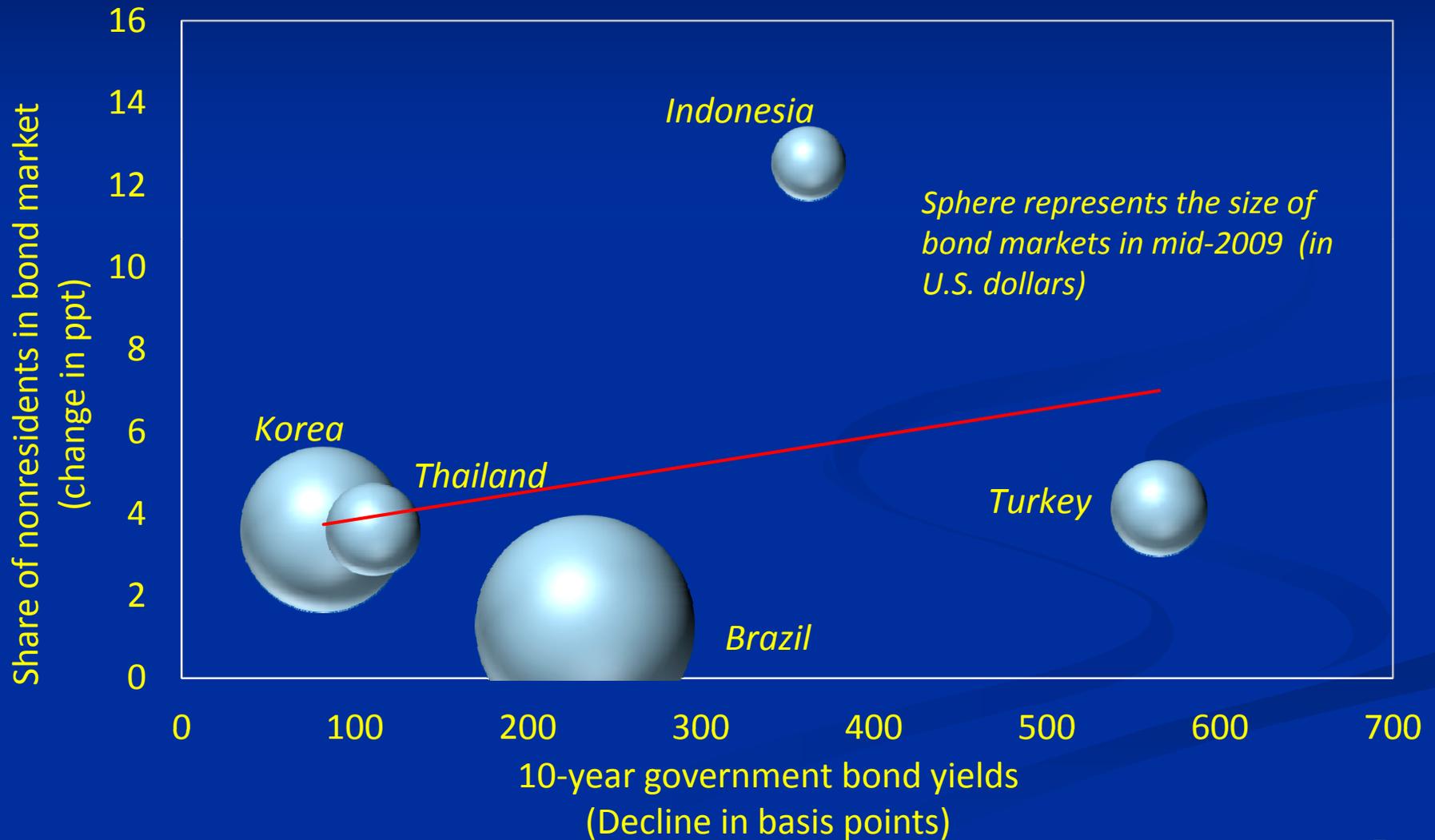


Sources: CEIC Data Co., Ltd.; Bloomberg L.P.; EMEA Databases; and country authorities.

Larger Markets Better Able to Absorb Inflows

Change in Nonresident Bond Holdings and Long-Term Bond Yields

(Between June 2009 and November 2010)



The Impact of Foreign Ownership on Domestic Bond Yields—Empirical Estimates

Summary of Results 1/

Impact on Long-Term Bond Yields	Short/Monthly Model		Long/Quarterly Model	
	Coefficient	t-Statistic	Coefficient	t-Statistic
Policy rate	0.65 ***	5.53	0.74 ***	7.29
Inflation expectations	0.49 ***	2.94	-0.02	-0.11
Expected depreciation	-0.05 *	-1.82	-0.23 ***	-2.61
VIX 2/	0.04 **	2.24	0.02	1
Real activity 3/	0.08 ***	6.55	0.05 **	2.12
Fiscal balance	0.06 *	1.71
Foreign holdings of bonds	-0.04 **	-2.24	-0.05 **	-2.3
Constant	0.23	0.18	2.31 ***	3.12
Adj. R-squared		0.94		0.86
Sample		2006:M1-2010:M12		2000:Q1-2010:Q4
No. of observations		333		252

1/ The t-statistics are corrected for serial correlation and cross-sectional heteroskedasticity. Estimates are robust, qualitatively and quantitatively to different assumptions about the error terms. In both samples, the Hausman test strongly rejects a random effects specification and the country fixed effects are found significant. *** denotes significance at 1 percent, ** at 5 percent and * at 10 percent.

2/ The results are qualitatively the same when the VIX is replaced by long-term sovereign CDS spreads.

3/ Year-on-year growth of the 3-month moving average industrial production in the monthly model. Year-on-year growth of seasonally adjusted quarterly GDP in the quarterly model.

Summary of Results

- Flatter yield curves.
- One percentage point increase in foreign ownership reduces long bond yields by about 5 basis points.
- But monetary policy remains effective: 25 basis points increase in the policy rate increases long yields by 10 basis points.

Policy Responses to Capital Flows in Emerging Markets

- Impact of Capital Inflows
- Policy Responses in Asia (Korea, Indonesia, Thailand)
- Policy Responses in Other Emerging Markets (Brazil, Turkey, South Africa)

Korea: Implemented prudential measures in 2 Stages but a 3rd wave of measures is underway:

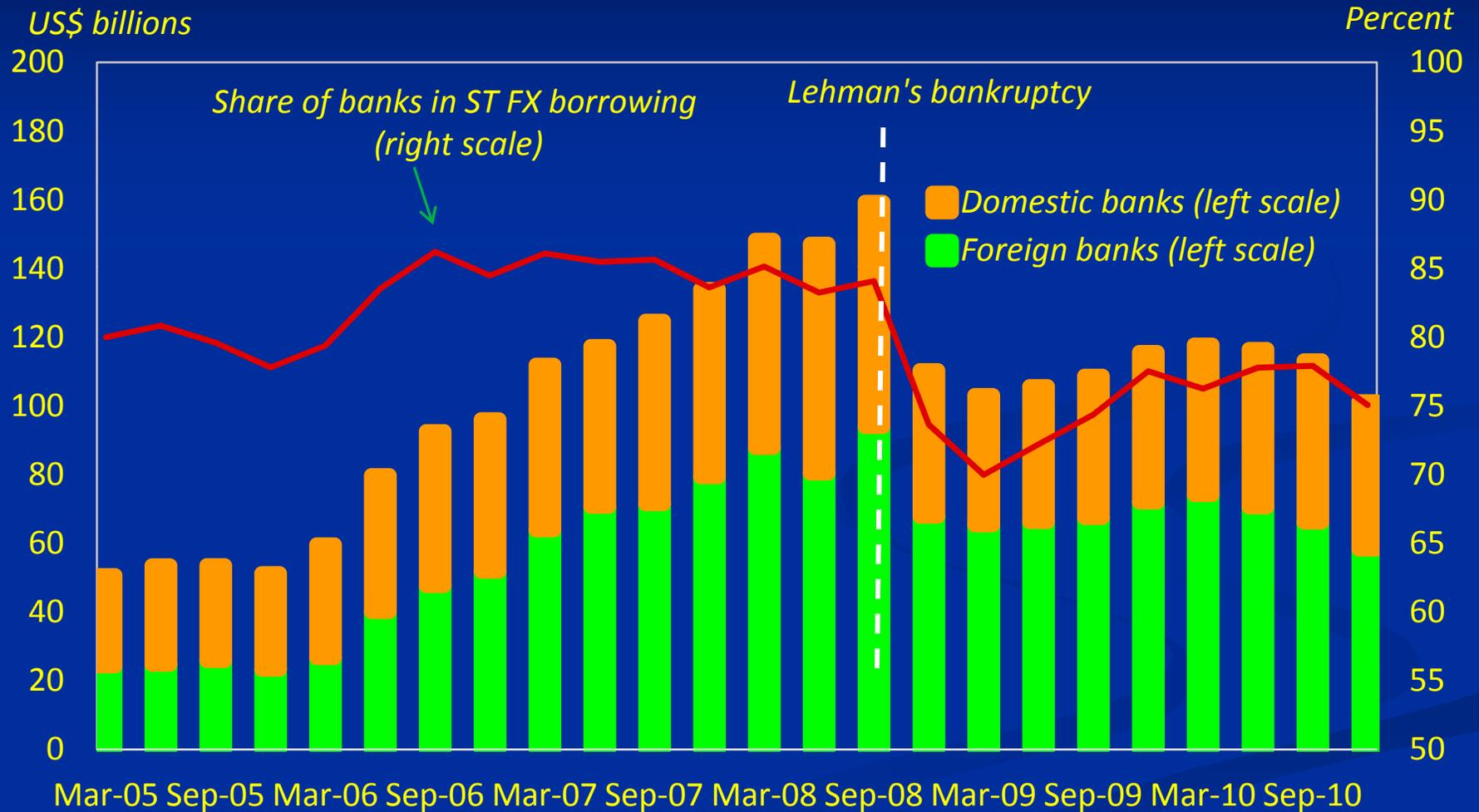
- November 2009 measures focused on strengthening funding of the banking sector.
- June 2010 measures targeted at reducing short term external debt generating inflows and strengthened November measures.
- Withholding tax on foreign holdings of Treasury and central bank securities reinstated in January 2011.
- The authorities announced plans in December 2010 to introduce a levy on banks' foreign borrowing from July 2011.

Korea: June 2010 Measures

- **Ceilings on FX derivatives positions of banks to reduce short-term external debt and leverage.**
 - The ceiling on domestic banks' FX derivatives contracts to be no more than 50 percent of their capital in the previous month.
 - For foreign bank branches, ceiling set at 250 percent of their capital in the previous month.
 - Banks limited to providing 100 percent of underlying transactions for forward contracts with exporters (previously 125 percent).
 - Limit use of foreign currency bank loans to reduce leverage of corporates.
- **Reducing FX asset/liability mismatch.**
 - Local banks' FX loans and held-to-maturity securities with more than or equal to one-year maturity must be covered by at least 100 percent (previously 90 percent) of FX borrowing with maturity more than one year.

Korea's Measures: How Effective?

Short-Term External Borrowing



Source: CEIC Data Company Ltd.

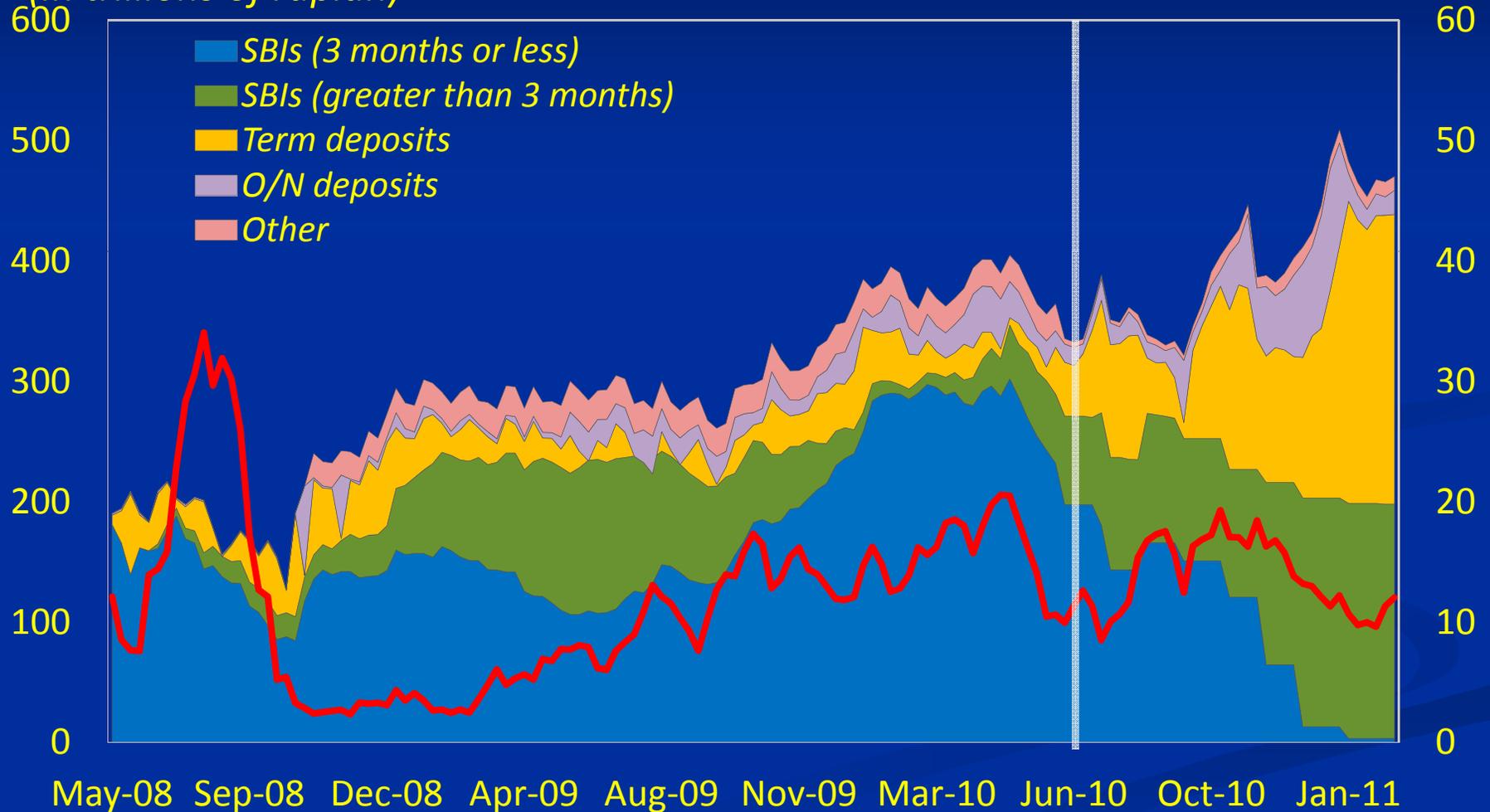
Indonesia: Managing Short-Term Volatility

- Concern about volatility of fixed-income flows into central bank paper
 - Short-term capital flows can disrupt Bank Indonesia's liquidity management
 - Introduced minimum 1-month holding period on SBIs (June 2010), lengthened SBI tenors from 1-3 months to 6-9 months, introduced short-term deposits available only to banks, increased RR (September 2010).
 - Dec 2010: BI to raise RR on FX deposits to 8% from 1% by June 2011.

Indonesia: Foreign Investors' Appetite Still High

Composition of Sterilization Instruments

(In trillions of rupiah)



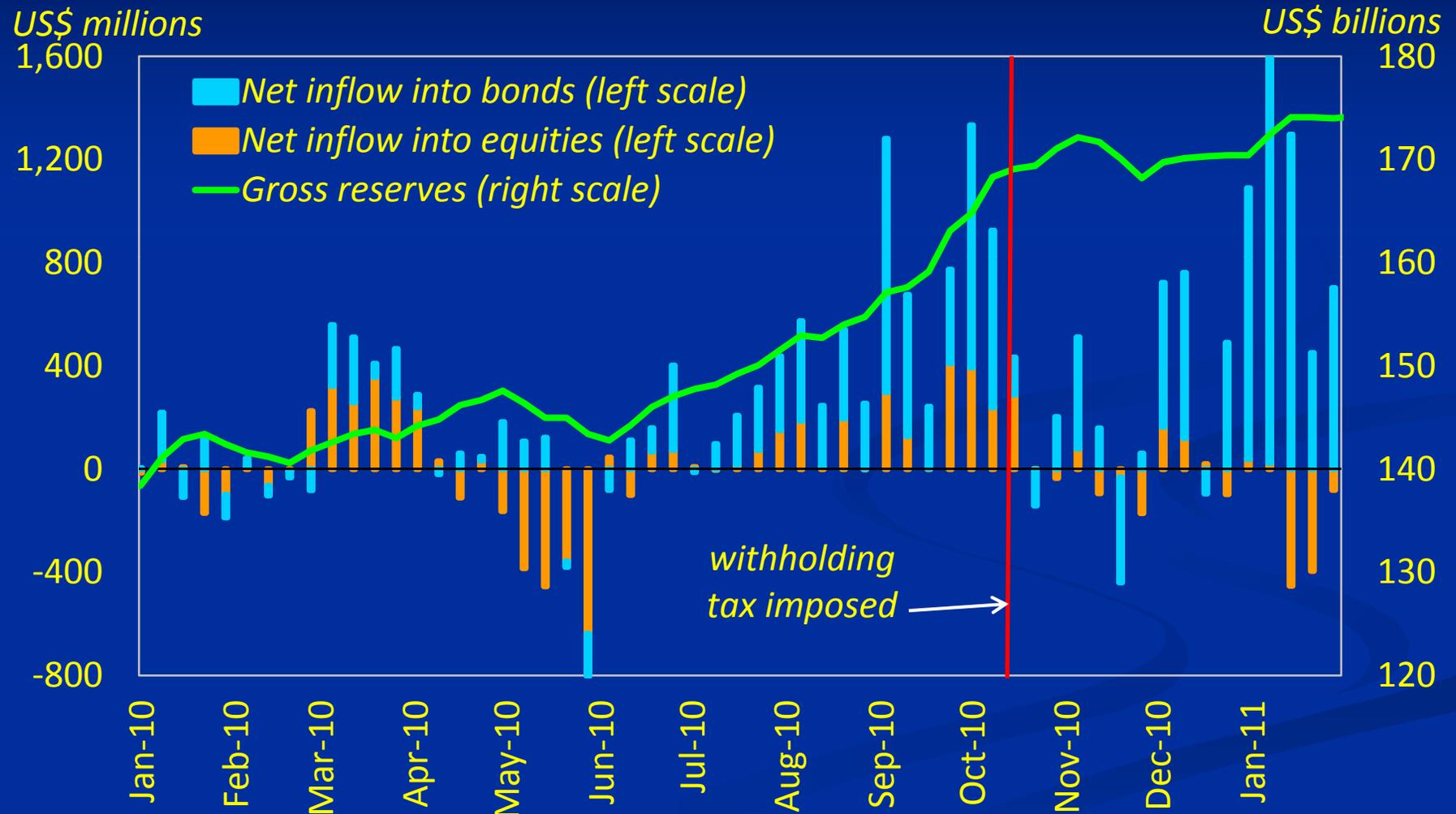
Sources: Bank Indonesia; and authors' calculations.

Thailand: Recent Measures

- February/September: Liberalized outflows
 - Mainly as a signal; existing limits were not binding
- October: Removed foreign investors' withholding tax exemption
 - Exemption was granted in 2005
 - Reinstating the 15 percent tax equalized treatment of resident and nonresident individual investors, as well as the treatment of gains from state and corporate bonds. Domestic institutional investors continue to pay 1 percent.

Thailand: Foreign Flows to Bond Market Resumed

Weekly Foreign Portfolio Inflows and Reserves



Sources: Thai Bond Market Association; and Bloomberg L.P.

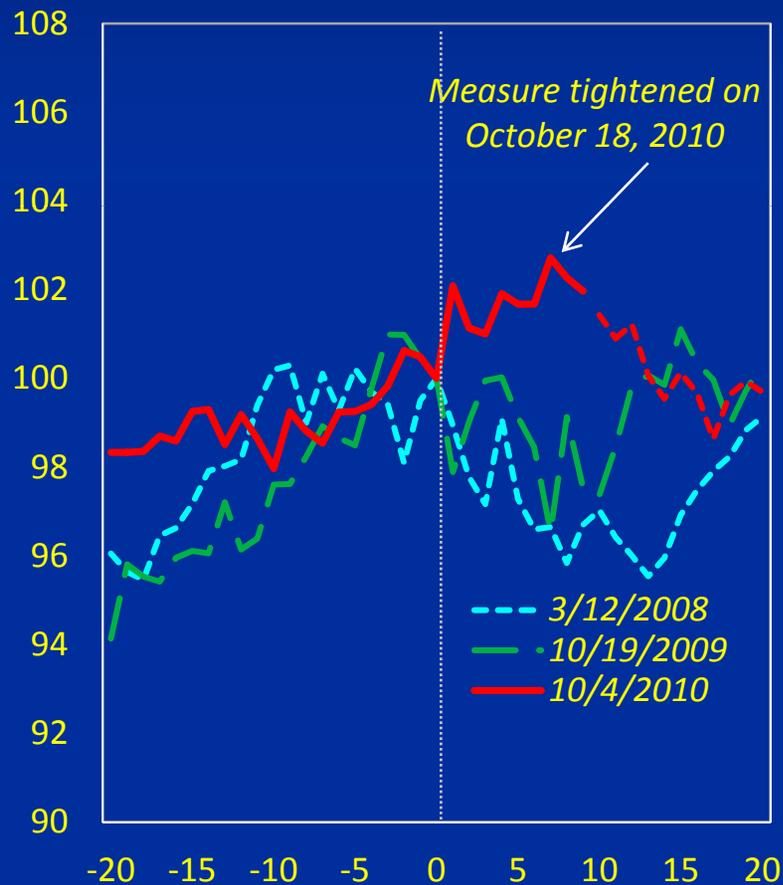
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Brazil: Extensive Measures to Manage Capital Flows

Dollar Exchange Rate after IOF Measures

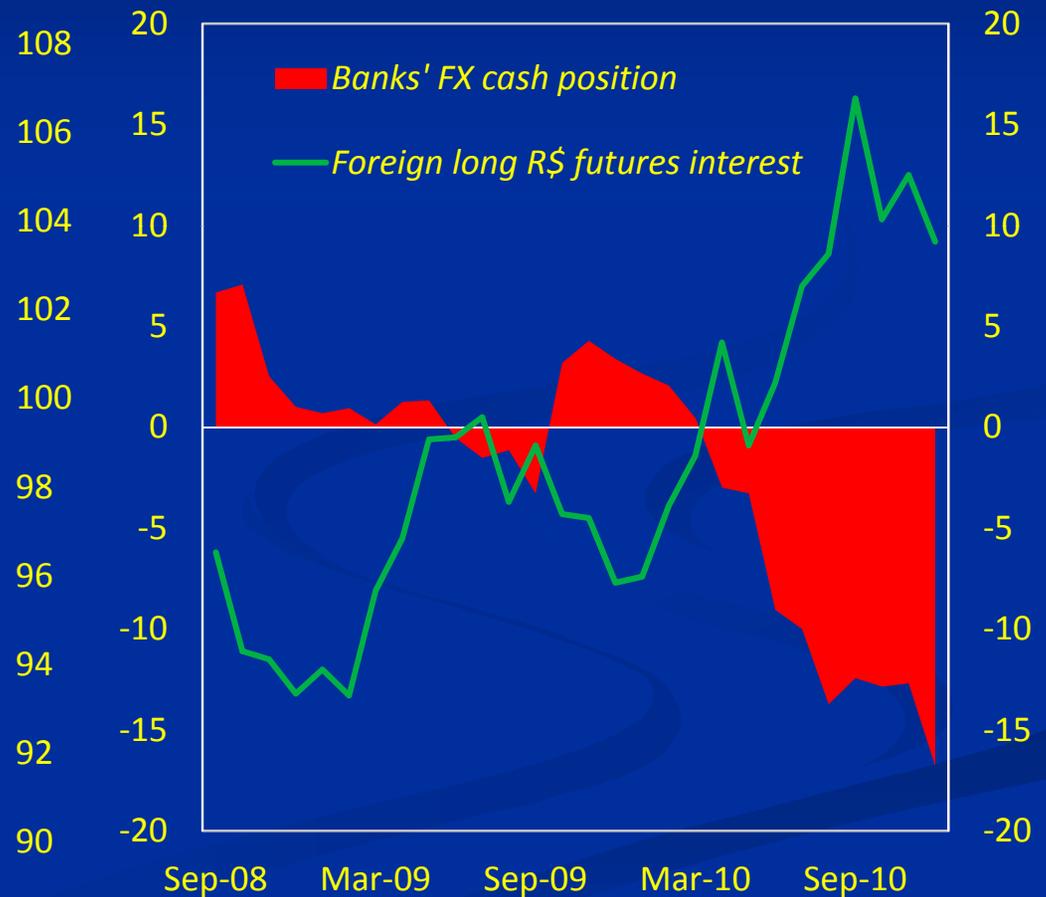
(Day of measure = 100, increase denotes appreciation)



Sources: Bloomberg L.P.; and Fund staff

Foreign Long Real Interest and Banks' FX Cash Position

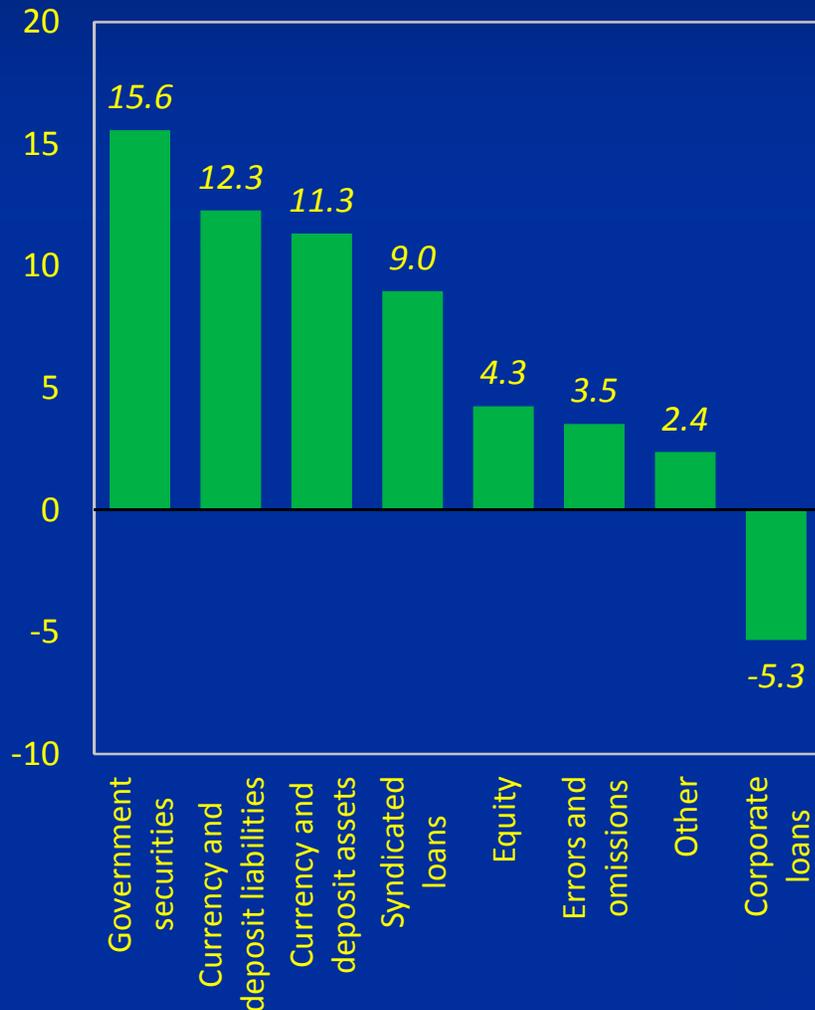
(In billions of U.S. dollars)



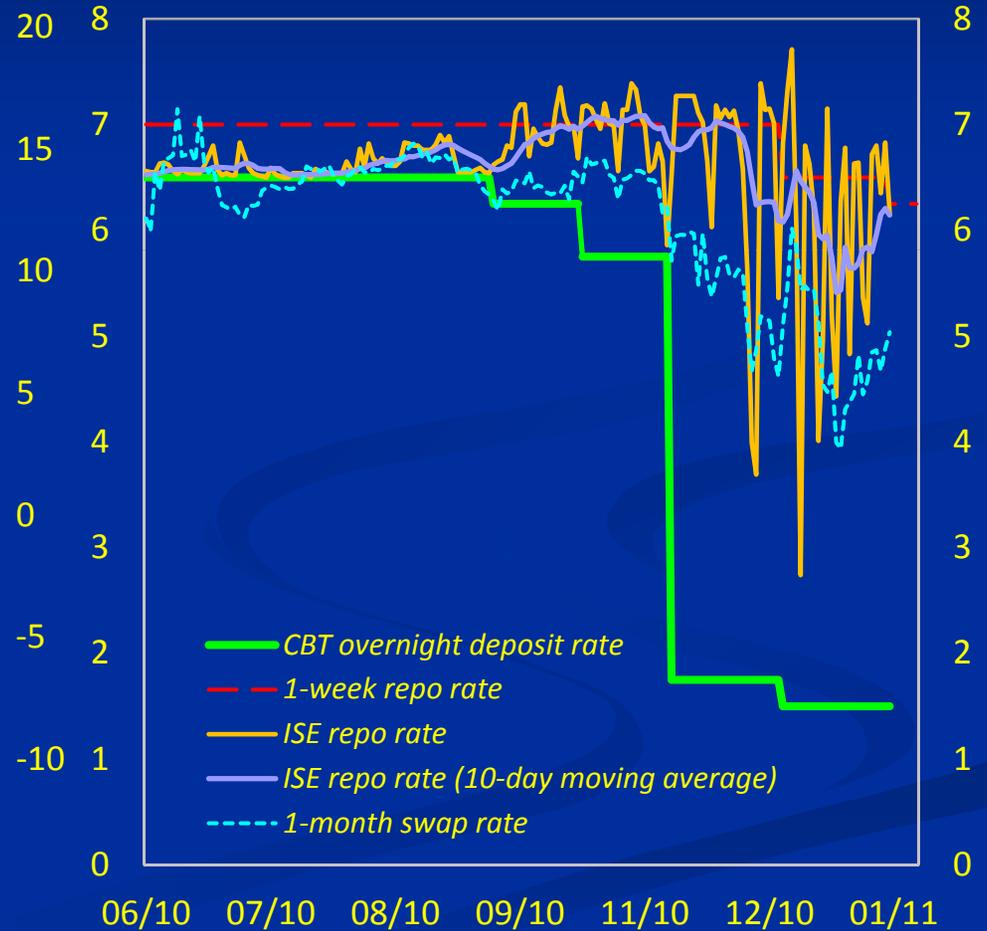
Sources: Central Bank of Brazil; and JP Morgan.

Turkey: Some Macro Measures

**Composition of Capital Flows,
January-November 2010**
(In billions of U.S. dollars)



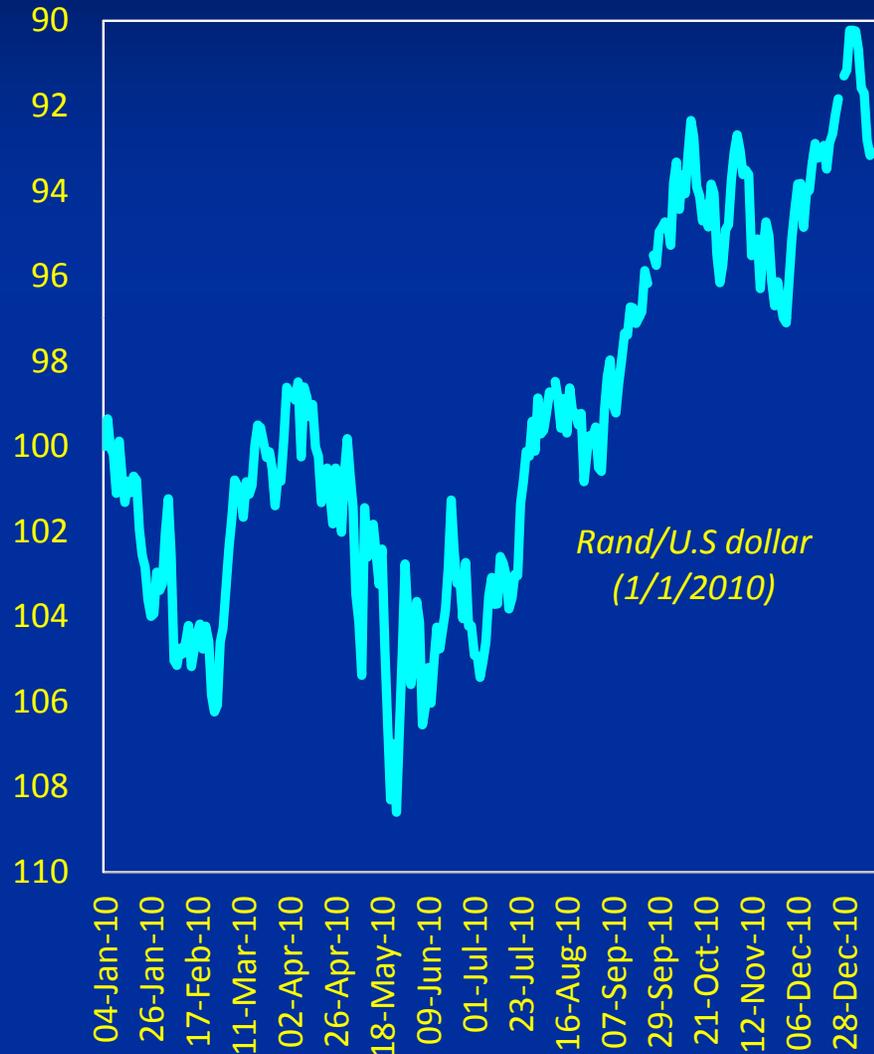
Interest Rates
(In percent)



Source: Bloomberg L.P.; and Haver Analytics.

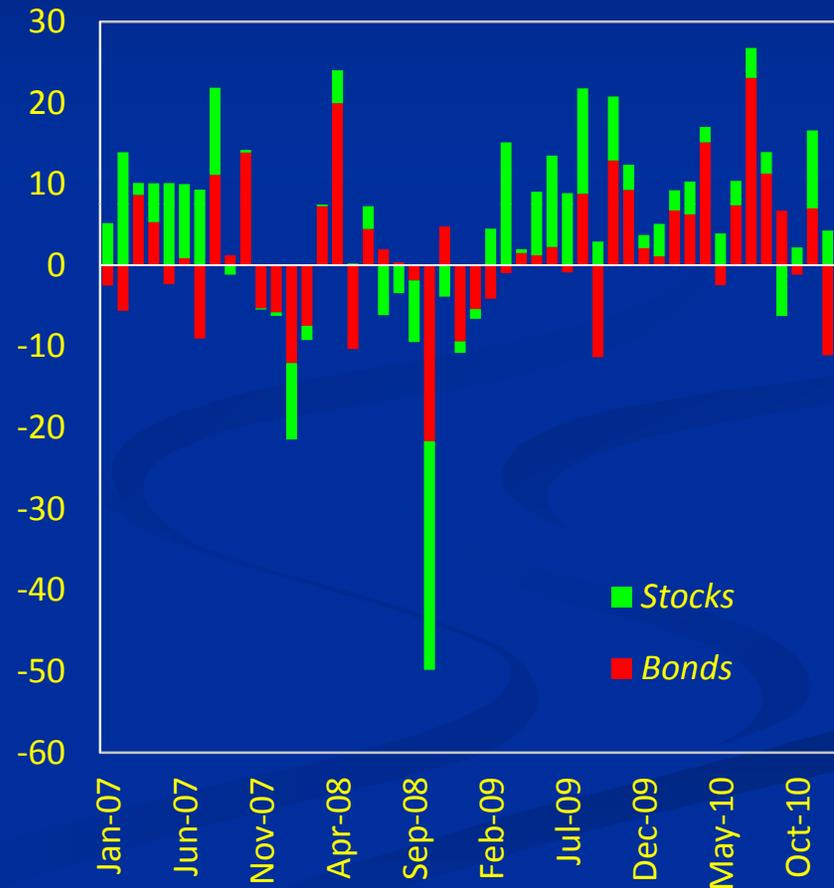
South Africa: Macro Response

South African Rand



Nonresident Net Purchases of Share and Bonds

(In billions of rand)



Source: South African Reserve Bank.

THANK YOU