Indian monetary policy: is something amiss?

(R. *Cristadoro* & G. Veronese)

New Delhi, 16 March 2012

ROAD MAP

1. RBI monetary policy & inflation (2008-2010)

1. How can we assess it?
    1. Loosing control of inflation expectations
    2. Taylor rules implied policy rates
    3. OIS term structure and policy moves
    4. OIS term structure and macro news

2. Can RBI improve its the monetary policy strategy?

RBI monetary policy: *evolution in a nutshell*

- **RBI operational procedures:**

administrative measures ➜ indirect controls
   (market instruments)

- **Strategy**: still multiple objectives / no ranking

"We strive for a balance among multiple objectives with the relative <u>weights assigned to each objective varying</u> <u>as dictated by the prevailing macroeconomic context,</u> we aim to achieve a <u>medium-term inflation target</u>" **(Governor Subbarao, 2010)**

RBI monetary policy: *our conclusions*
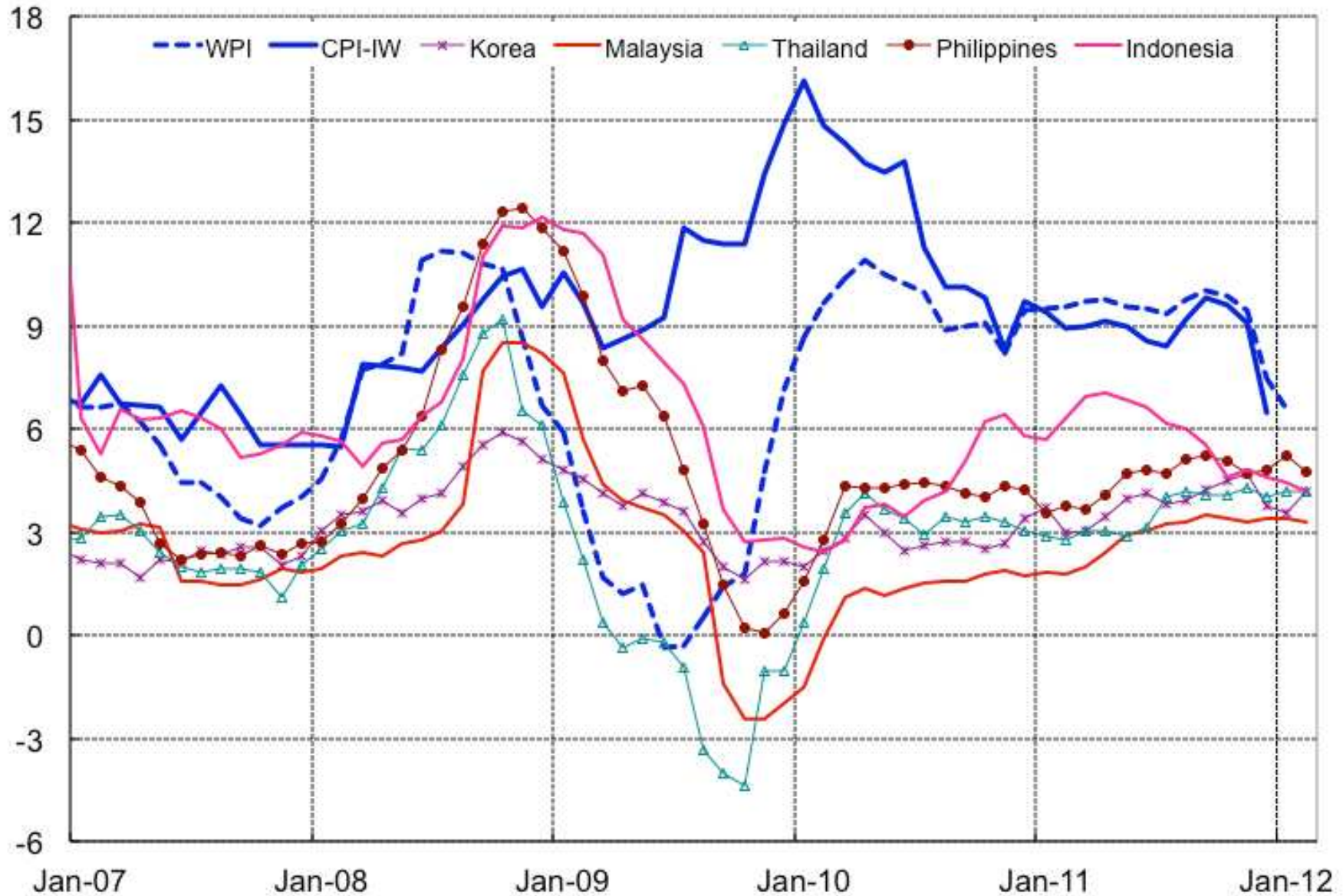
Lack of clear <u>commitment to price stability</u> and **fuzzy definition** of RBI <u>comfort level for inflation</u>:

1. Explain unhinging of inflation expectation seen over the last few years

2. Reduce transparency and accountability of RBI

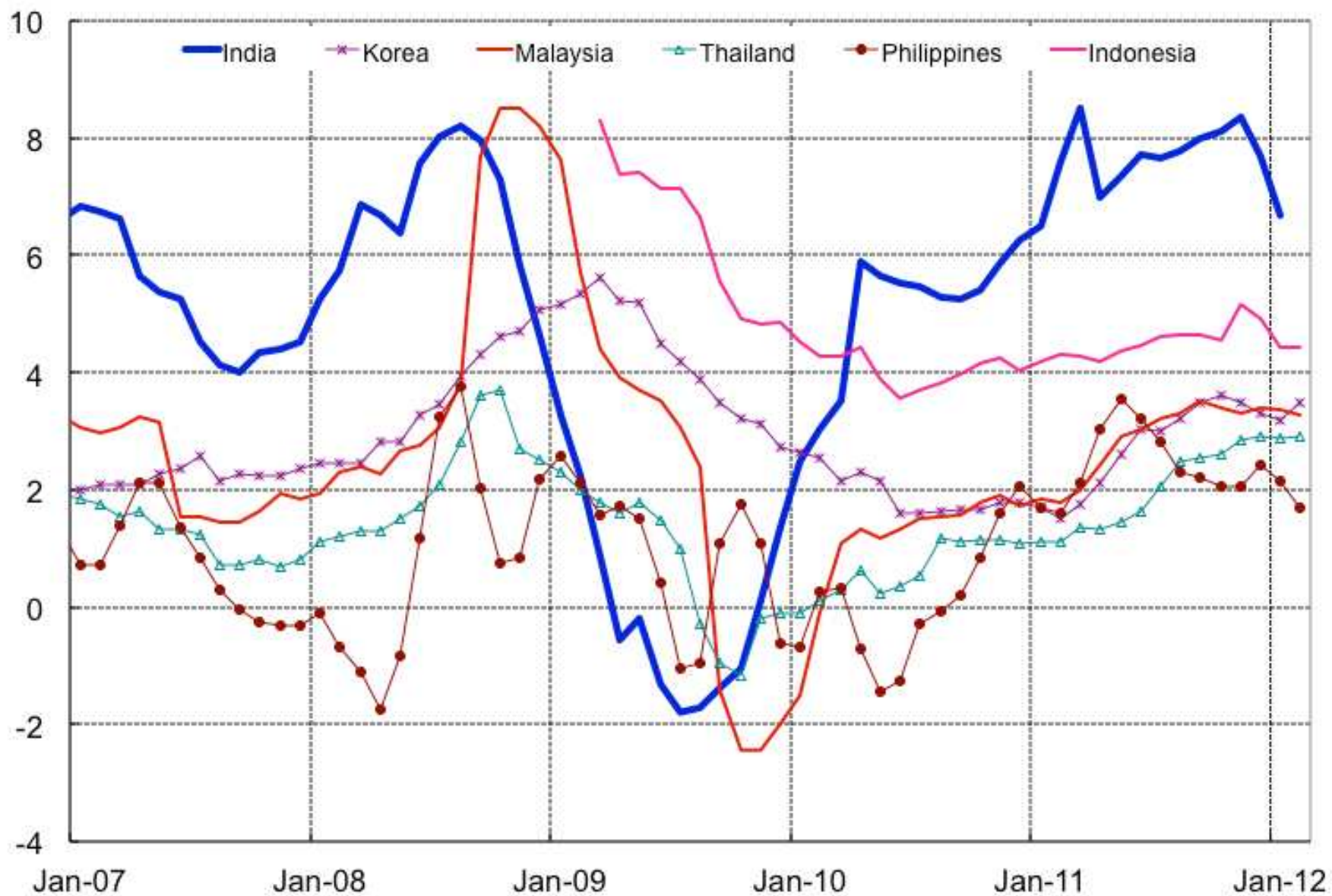3. Might even harm the attainment of the other objectives the RBI is purportedly pursuing.
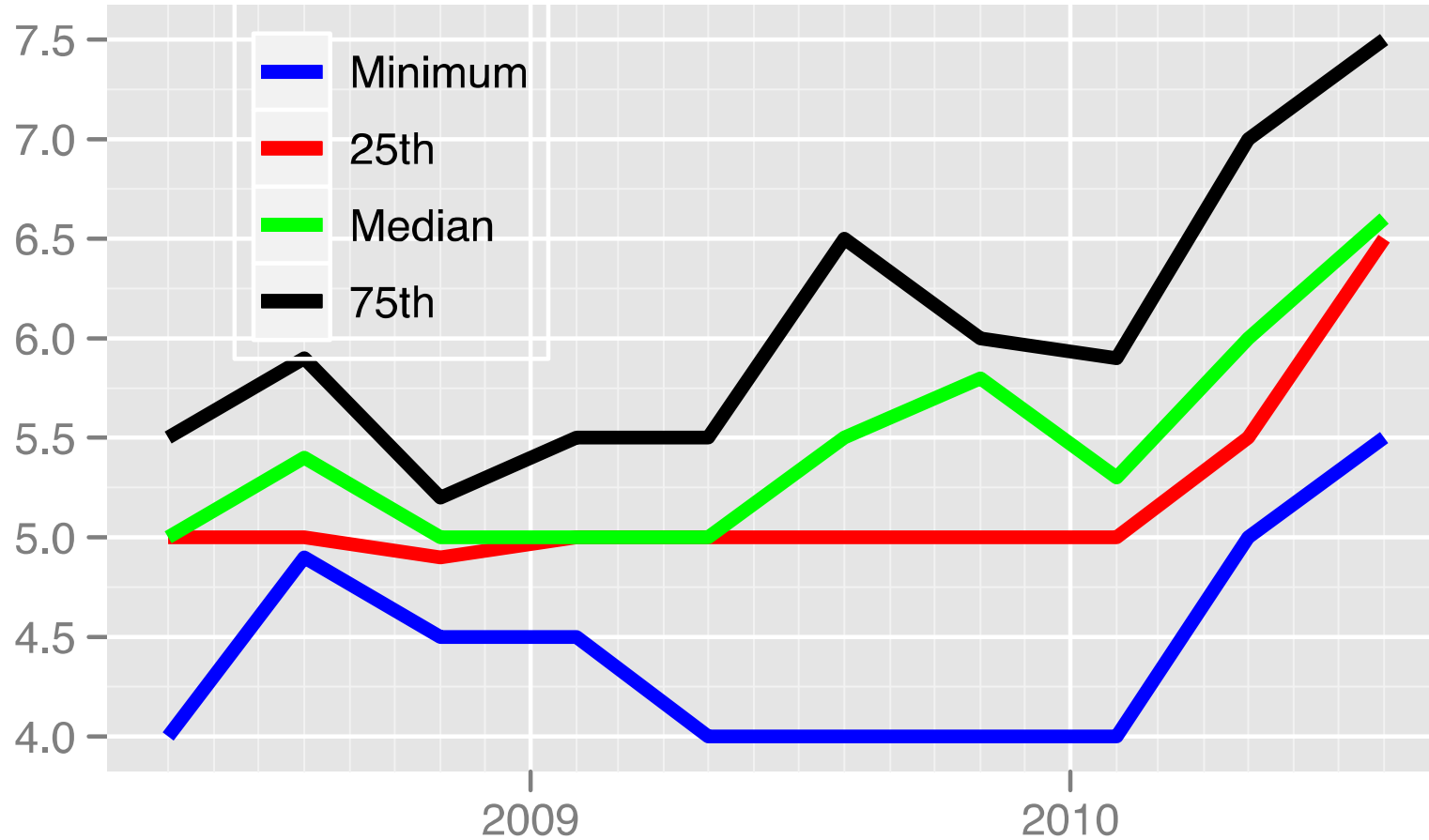
Section 1

INFLATION

Headline inflation
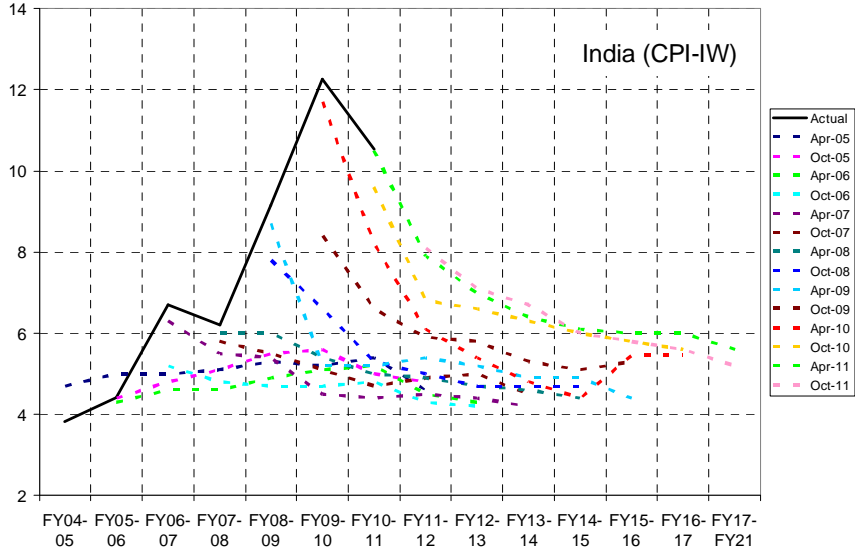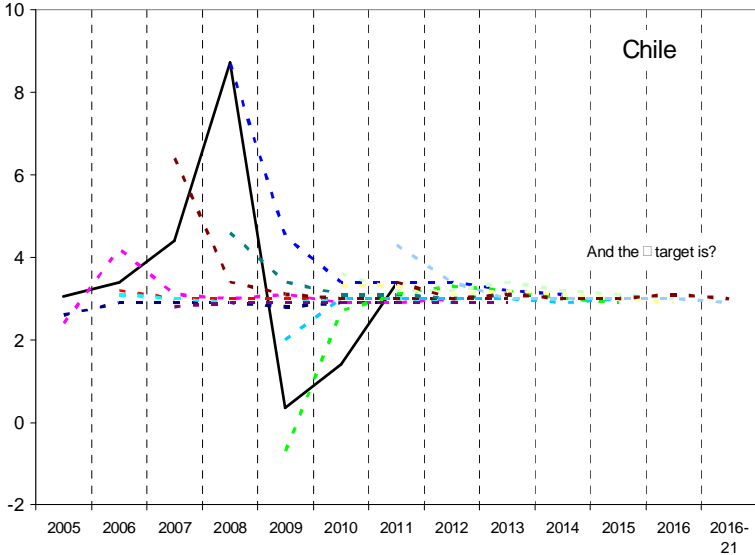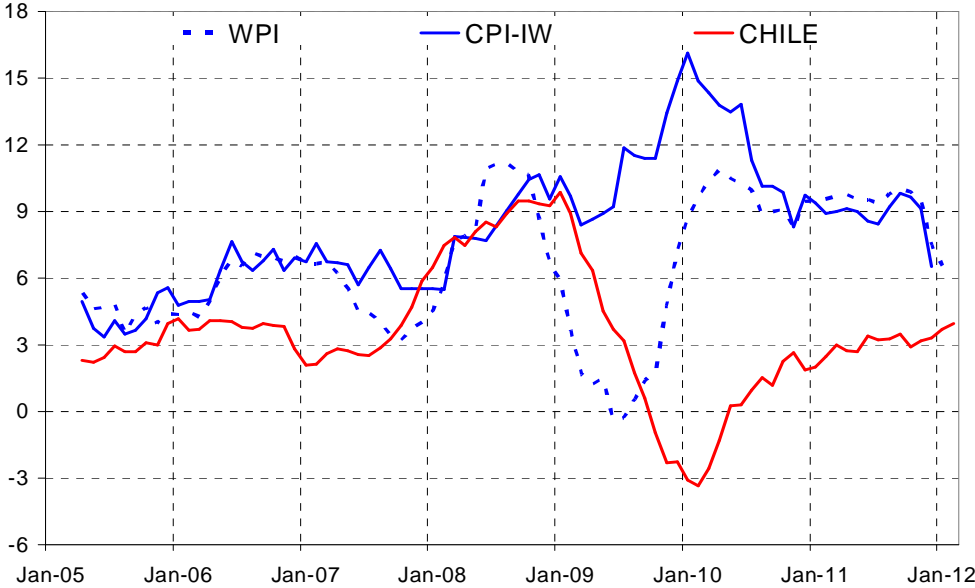
Core inflation

Section 2

EXPECTATIONS

Long run inflation expectation

10 years ahead inflation expectations from RBI Survey of

Professional Forecasters

Inflation CPI-> expectation: India & Chile

Reaction of expectation to inflationary shocks

Result of the estimation of the following equation on a panel of 15 emerging countries:

$$\left(\pi_{i,t+1}^{e,t+h+1} - \pi_{i,t}^{e,t+h}\right) = \alpha + \beta\,\Delta(\pi_{i,t+1})) + \gamma\,\Delta(\pi_{i,t+1})\,D_{India} + u_t$$

	years ahead						
	1	2	3	4	5	6	$7-11$
β	-0.579	-0.155	0.003	0.007	-0.006	0.002	0.024
	(-4.44)**	(-2.72)**	(0.13)	(0.30)**	(-0.31)	(0.15)	(1.08)
I_{India}	1.068	0.275	0.198	0.132	0.176	0.201	0.103
	(3.79)**	(0.124)**	(4.57)**	(2.02)*	(3.80)**	(4.97)**	(1.88)*
R^2	0.302	0.171	0.113	0.078	0.146	0.185	0.087
$N.obs$	44	44	44	44	44	44	44

Section 3

Policy rates & the Taylor rule

Delayed monetary policy response?

Monetary Policy Rates

MAR-2010

Repo rate — Reverse-repo rate — CRR

WPI inflation

APR-2010
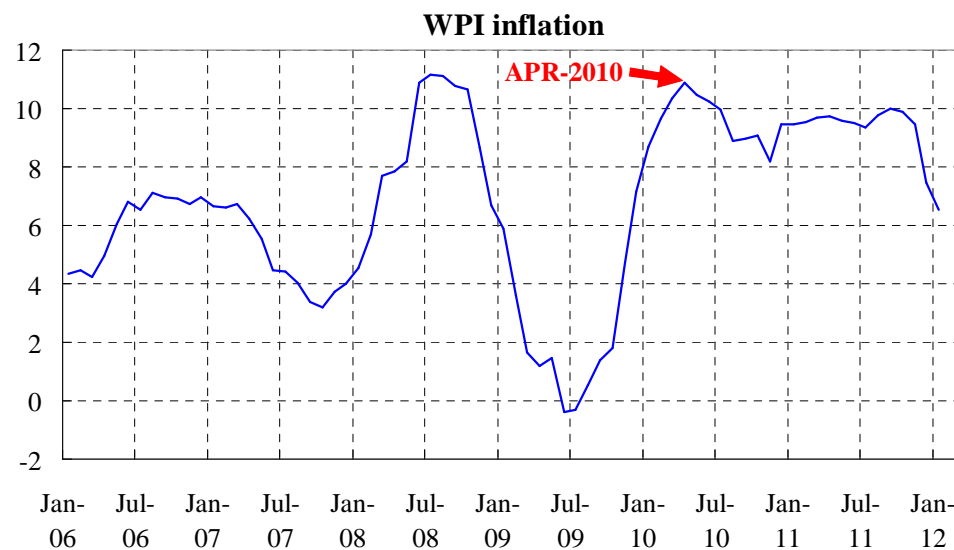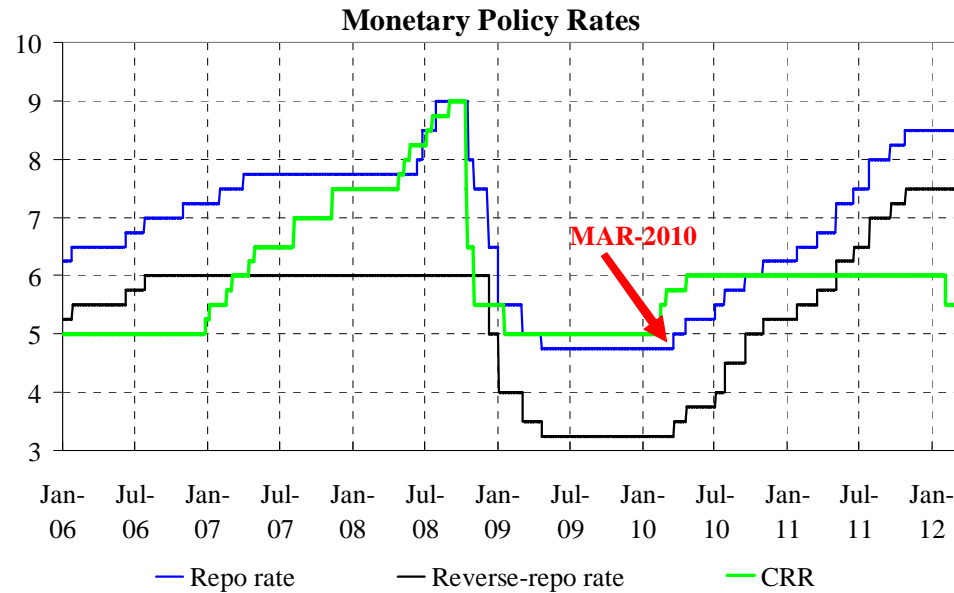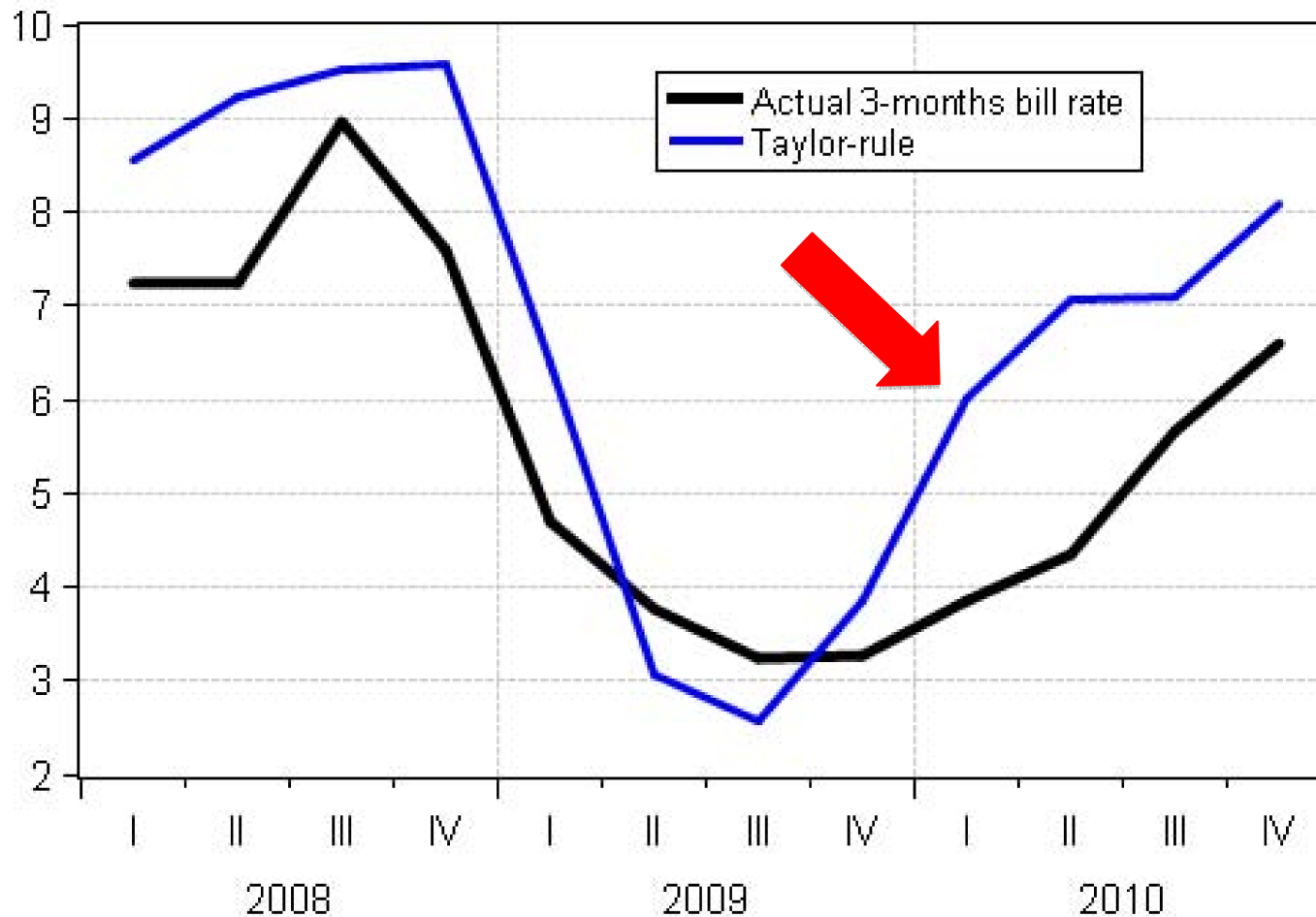
Real (ex post) interest rates
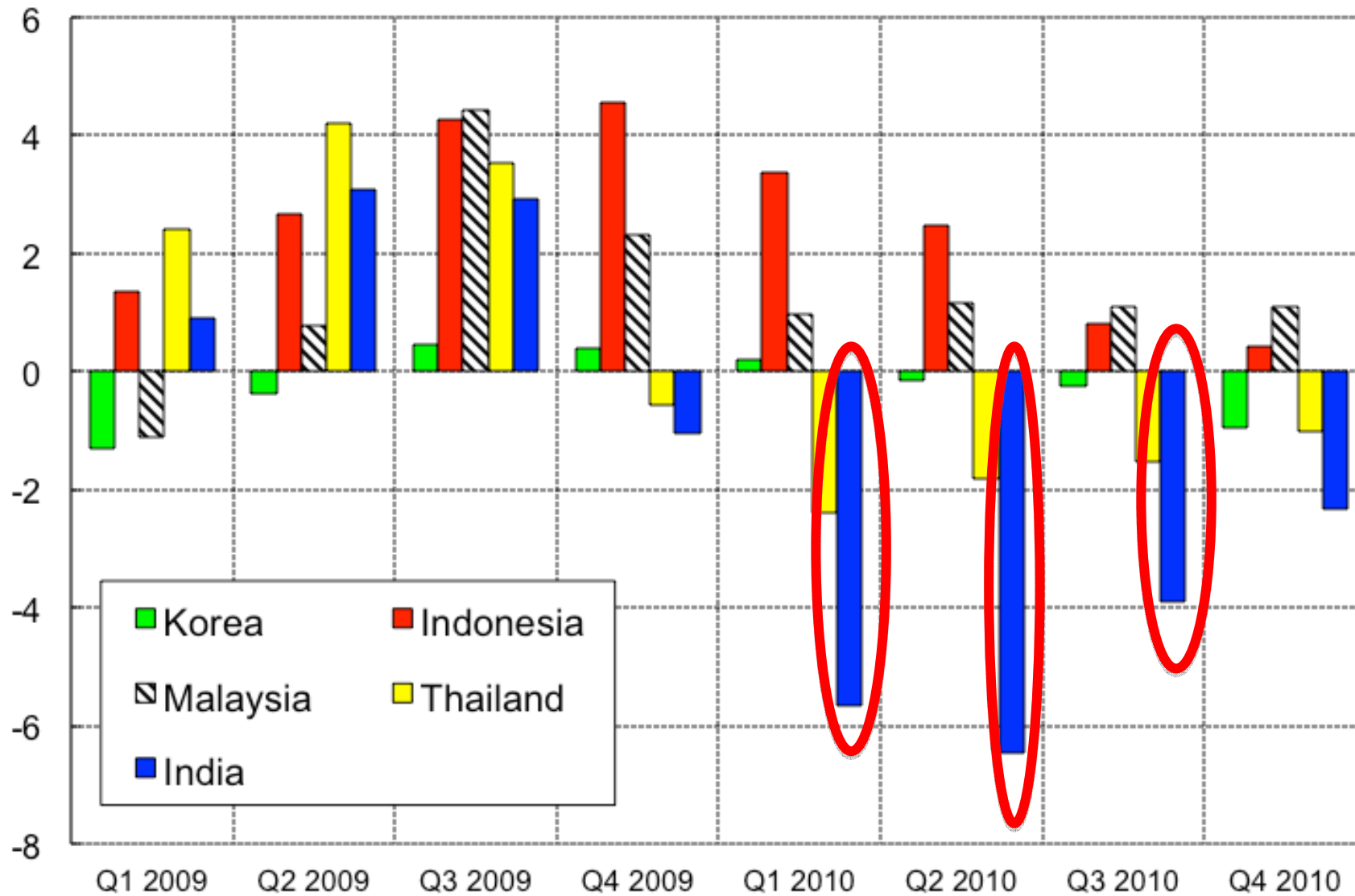
Actual and TR-calibrated interest rates

$$i_t = c + 0.75i_{t-1} + (1 - 0.75)(1.5\pi_t + 0.5\,ygap_t)$$

Taylor rules and RBI monetary policy

- **Literature:** *(Singh, 2010; IMF, 2010; Banerjee & Bhattacharya, 2008; Cavoli & Rajan 2008)*: Mixed evidence, but overall interest rate are not very responsive to inflation.

- **Our results**: only after 2008 reaction to π is significant, but still very small.

"...a Taylor type rule also suggests the REPO rate should be at 8%, even with a higher inflation objective of 6% by the RBI" **(Goldman Sachs, 2011)**

OIS & monetary policy moves

Term structure and policy moves

A model by Ellingsen – Soderstrom, 2001 provides a way to 'read' changes in TS after policy moves:

1. CB and private agents with *asymmetric info*

2. Agents form *expectations* and then see move

3. If they think CB observes a *shock they ignore* ➔ parallel shift of TS

4. If they think CB has *changed its reaction function* ➔ tilt in the TS

We estimate TS on daily OIS: most liquid segment of interest rate swap mkt in India and …

A 25bps move...
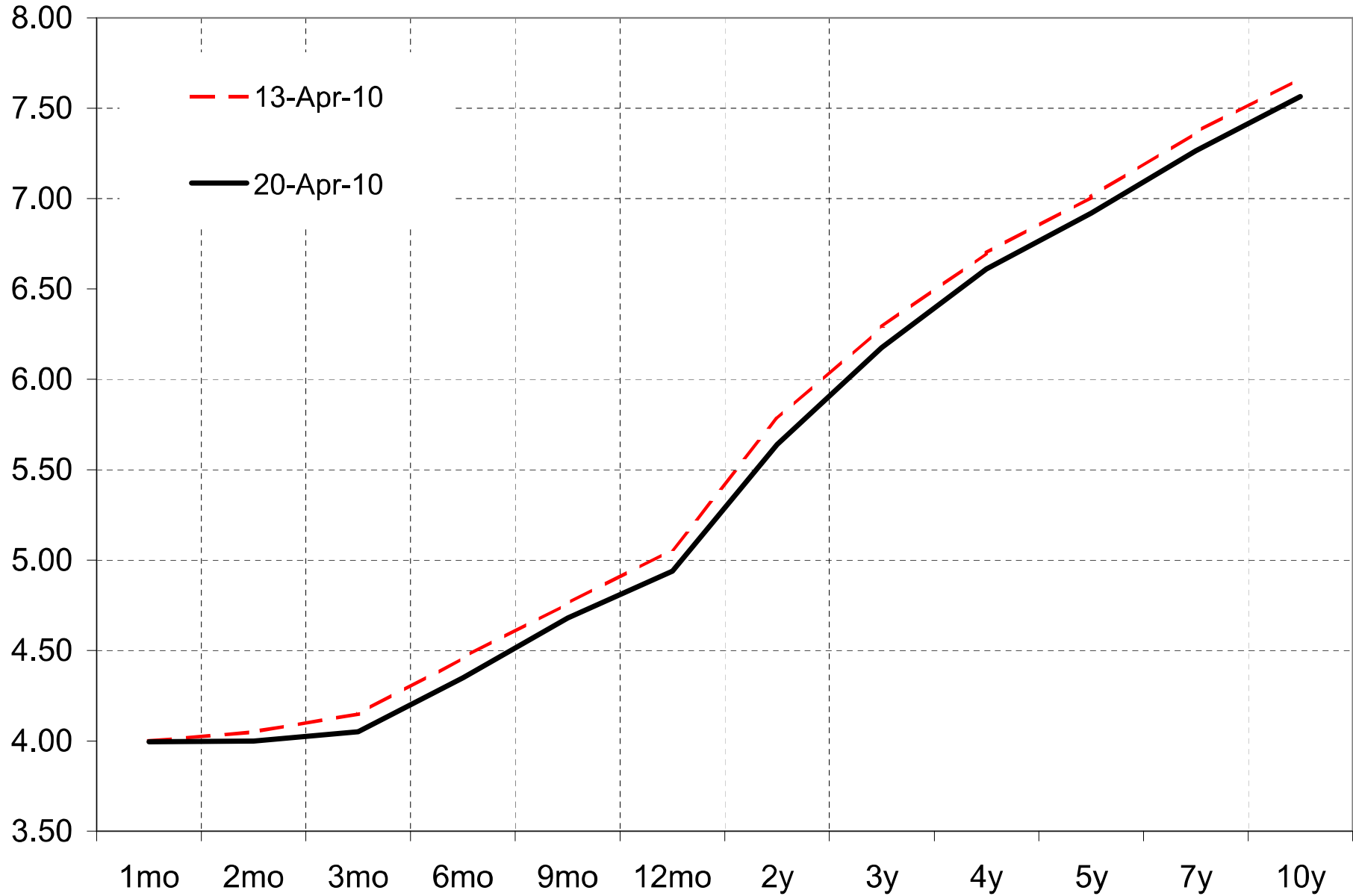
A 50bps move...

Section 5

OIS & macroeconomic news

Term structure and macro news - 1

A credible monetary policy should result in stable inflation expectations
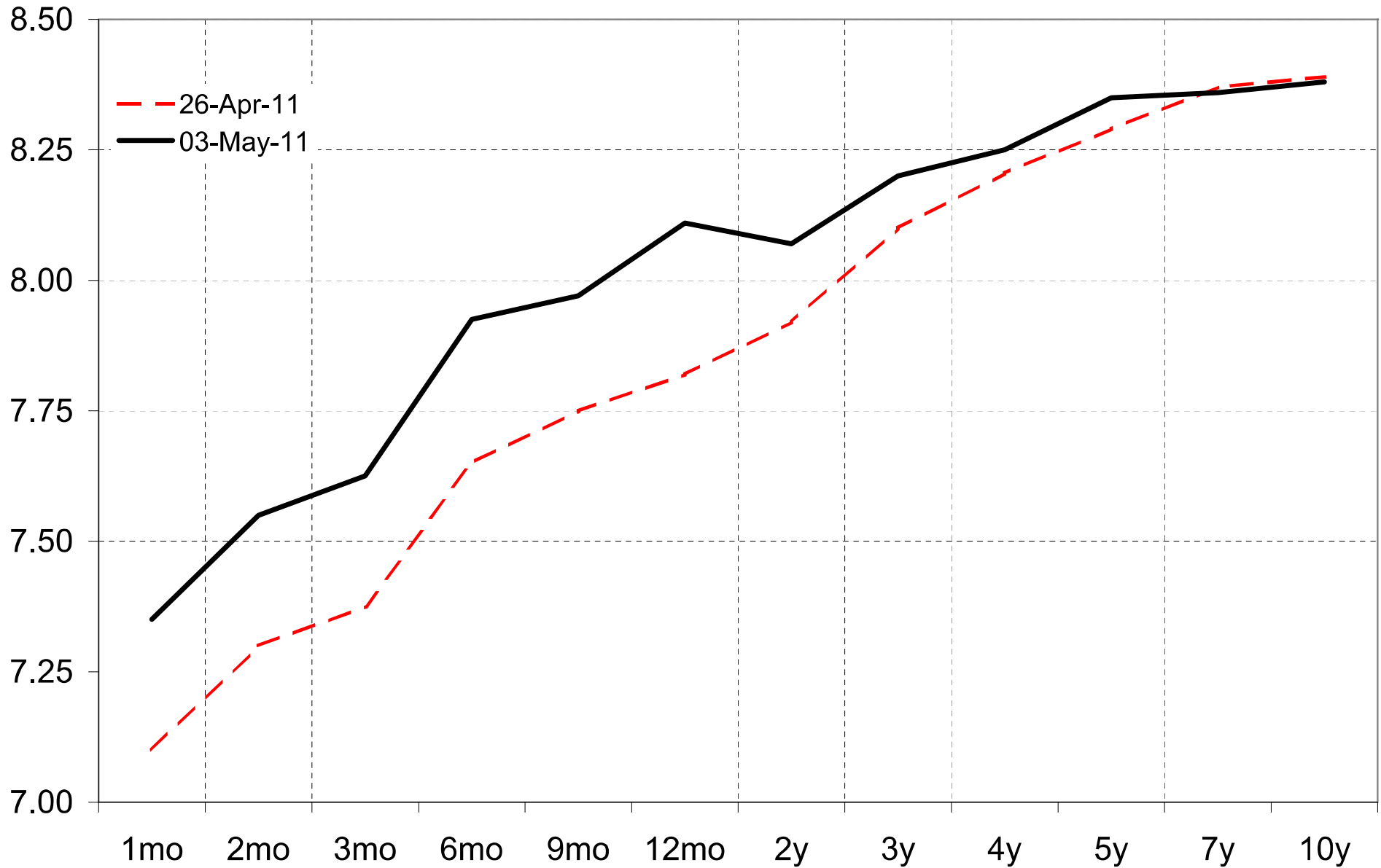
... hence inflation premia should not change in response to macro surprises (and policy moves)

We estimate "inflation premia" in India (lacking TIPS) on OIS as the *h*-periods ahead 1-year forward rate:

$$f_t^{(h)} = \frac{\left(1 + i_t^{(h+1)}\right)^{(h+1)}}{\left(1 + i_t^{(h)}\right)^h} - 1$$

Term structure and macro news - 2

We regress the changes in the inflation premia on macro and policy surprises (Oct2004-May2011)

$$\Delta f_t^{(h)} = c + \alpha IP_t^S + \beta WPI_t^S + \gamma MP_t^S + \varepsilon_t$$

where real (IP) and inflation (WPI) surprises are given by *actual – median forecast* (Bloomberg)

and policy (MP) surprises are the one-day change in the OIS rate of 1-month maturity on the day of the policy move.

Term structure and macro news - 3

OIS forwards daily changes on day of macro news

	1 to 2 month	3 to 6 months	6 to 12 months	1 to 2 years	2 to 3 years
IP surprise	**2.698**	-0.447	0.308	0.631	**1.426**
z-stat	(1.894)	(-0.316)	(0.216)	(0.68)	(2.324)
WPI surprise	0.927	**5.113**	**3.488**	**4.535**	**2.546**
z-stat	(0.292)	(4.135)	(2.839)	(2.606)	(2.378)
MP surprise	**1.079**	0.357	**0.869**	**0.621**	**0.650**
z-stat	(2.087)	(0.487)	(3.965)	(3.305)	(4.049)
	3 to 4 years	4 to 5 years	5 to 7 years	7 to 10 years	
IP surprise	0.727	0.671	0.831	1.029	**1.890**
z-stat	(0.91)	(0.787)	(0.537)	(1.29)	(1.915)
WPI surprise	**3.722**	0.876	1.175	2.667	1.697
z-stat	(2.054)	(0.349)	(0.401)	(0.574)	(0.95)
MP surprise	**0.440**	**0.574**	**0.656**	**0.662**	**0.351**
z-stat	(2.21)	(2.913)	(3.799)	(3.103)	(2.516)

Section 6

Conclusions

RBI policy and the lessons from the crisis

CRITIQUE: narrow definition of what MP should do, especially problematic in the aftermath of the financial crisis... In fact one can claim that the "eclectic" approach of the RBI has been vindicated.

*"...is ...the mandate of central banks set to expand from the single objective of price stability to multiple objectives of price stability, financial stability and sovereign debt sustainability? Can central banks simultaneously support these three objectives? That in essence is the **new trilemma**"*
(Governor Subbarao, 2012)

RBI policy and the lessons from the crisis

REPLY - 1: <u>we believe inflation should still be the main concern of MP</u> ... and we are not alone
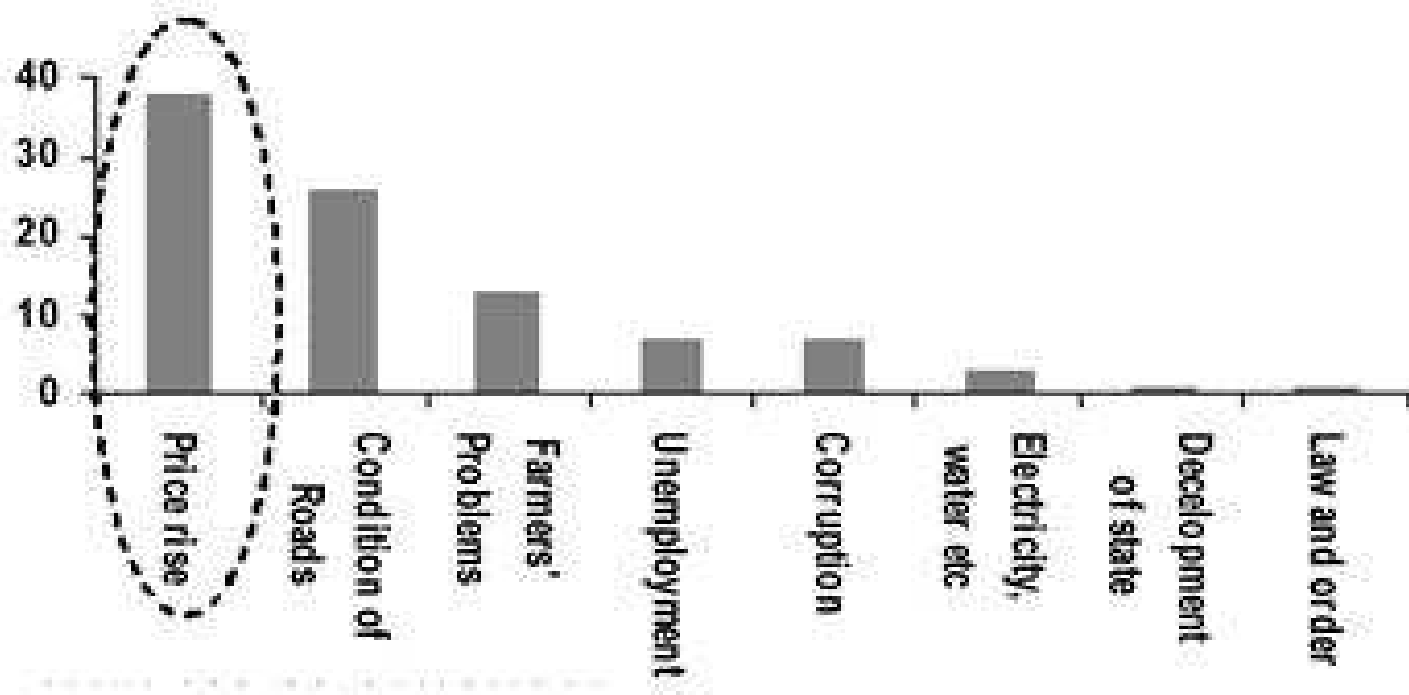
*"**inflation targeting** was highly instrumental in bringing down inflation worldwide, **especially in emerging countries**... [It] comprises elements that ... should remain in consensus among all the central banks in the world, namely, the **<u>commitment to</u>** a <u>quantitative definition of</u> <u>...price stability</u>; to <u>adopting a forward-looking policy</u>; to <u>presenting your views</u>, your strategy, your actions <u>in a transparent way</u>; and to <u>communicating those to the markets</u> and to the public in general."*
(O. Issing, 2011)

RBI policy and the lessons from the crisis

REPLY - 2: … and in our concern with inflation we are not alone

Uttar Pradesh *election exit polls survey* (JPMorgan)

Inflation the most important election issue !

RBI policy and the lessons from the crisis

REPLY - 3: … IT countries do not seem in general to be more "constrained" in their policies than others. Actually, credibility allows at times for bolder moves, with little consequences on expectations…

"The monetary policy of IT countries appears to be more suited to dealing with the crisis…IT countries lowered nominal policy rates by more"
(de Carvalho Filho, 2010)

"result shows that the Bank of England's inflation target has not compelled it to behave more like an "inflation nutter" when faced with large deviations of inflation from its target"
**(Kuttner and Posen, 2012)**

Conclusion

1. RBI has been quite successful in many respects, but current strategy is still not sufficient to anchor inflation expectations.

2. Even if one rightly criticises a too restrictive view of MP, loosing control of expectations will not help in achieving other targets.

3. Having a clear-cut mandate, a transparent communication strategy and accountability helps:

   a. In granting more space of manoeuvre

   b. In better isolating CB from political pressures

   c. In collaborating with other authorities without confusion of roles to achieve **price** (CB) **financial** (Surpervision) and **fiscal** (Government) stability

THANKS

Compare OIS TS on same scale
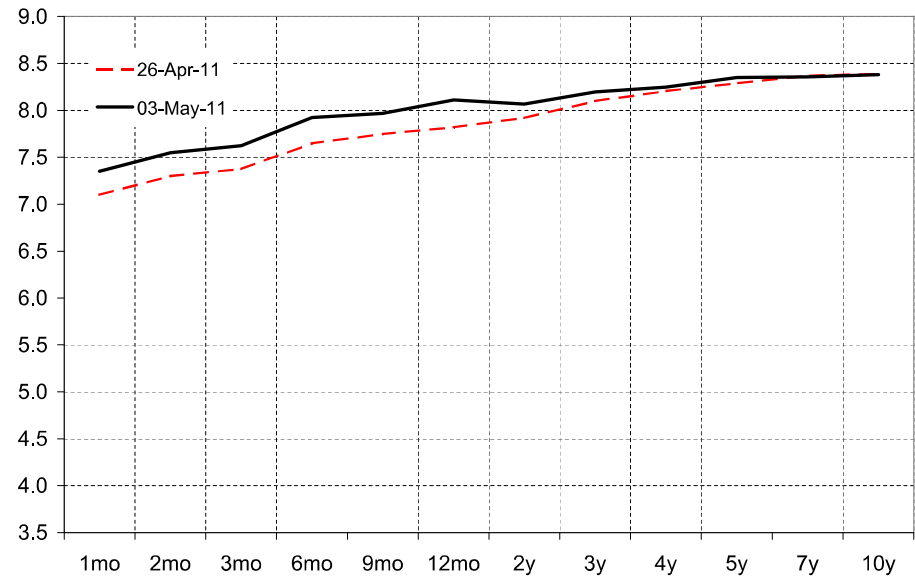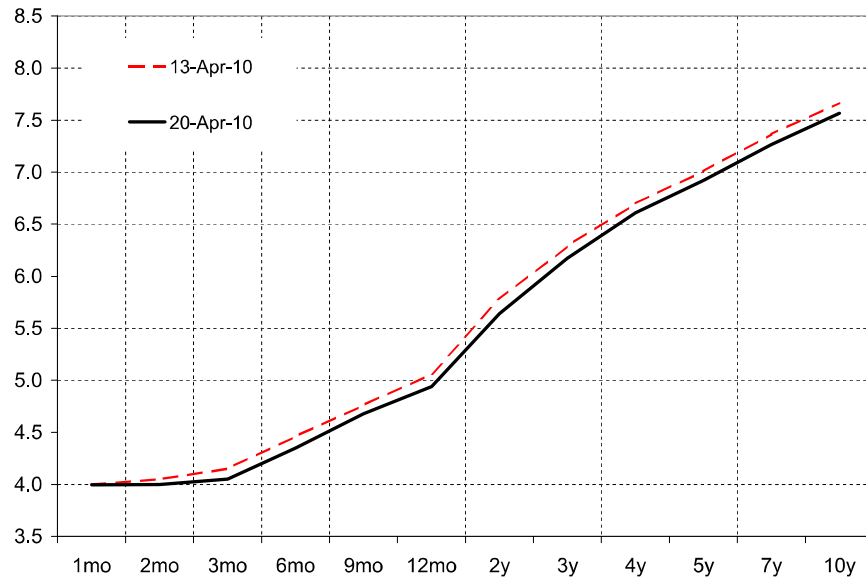
Schema **presentazione** *paper*

1. Intro: cut short on MP strategy and implementation (2pts)

2. Evidence of impact of price shock on Indian π and π^e

    1. Graph of headline and core

    2. Graph of comparison of π^e

3. Evidence on MP effectiveness (unhinging of π^e)

    1. Regression on expectations (use also *Kuttner-Posen?*)

    2. Policy reaction (r, calibrated and estimated TR)

    3. OIS term structure changes after policy moves

    4. OIS reaction to macronews

4. Interpretation and discussion
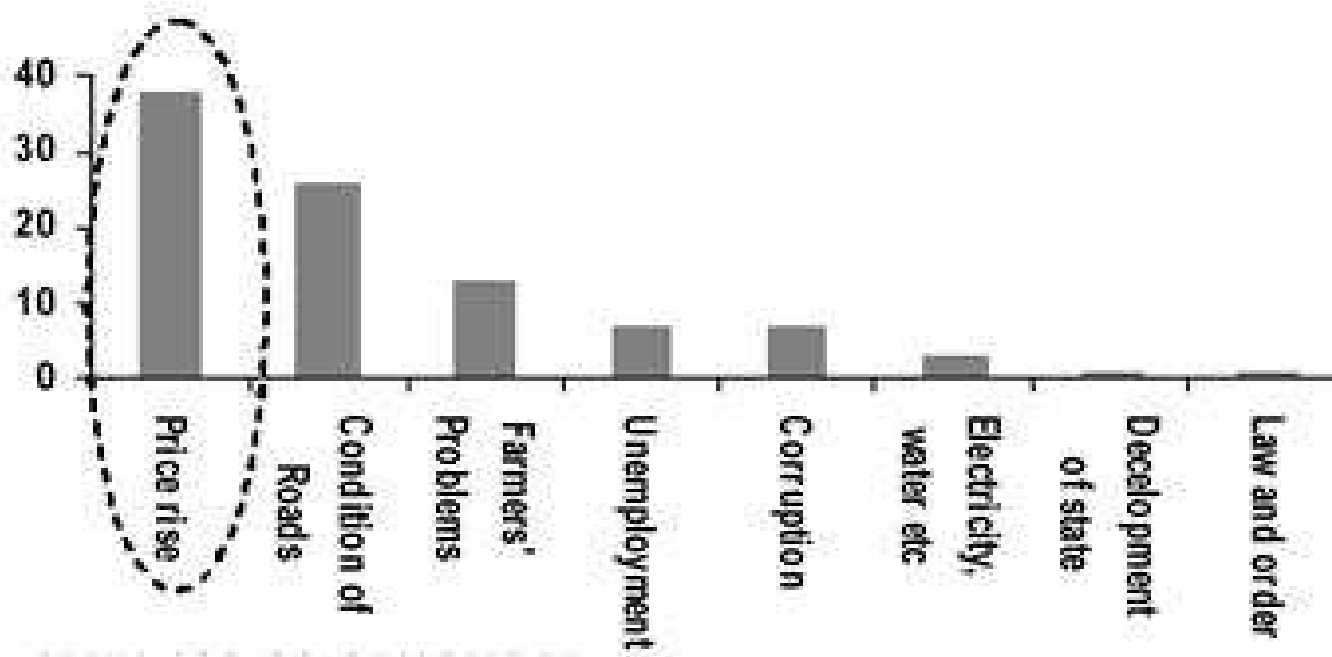
Median Inflation Forecasts, United Kingdom
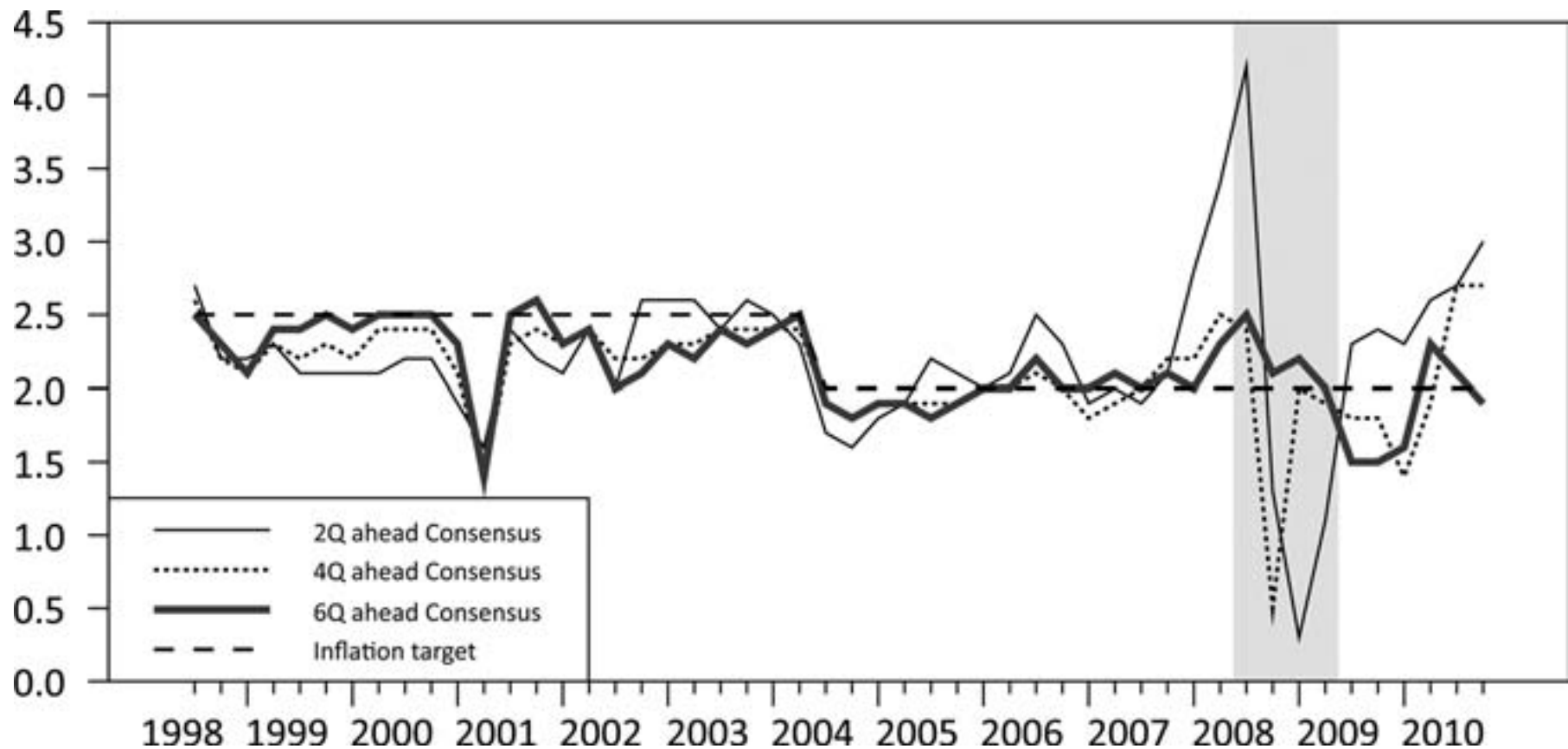
Notes: The forecast data come from Consensus Economics. The shaded area corresponds to the 2008:Q3 to 2009:Q2 financial crisis period.

United Kingdom

	Forecast Horizon, Quarters					
	1	**2**	**3**	**4**	**5**	**6**
Forecast Mean, RPIX Period	2.27	2.27	2.17	2.28	2.30	2.32
Forecast Mean, CPI Period	2.31	2.25	2.12	2.01	1.98	1.95
Forecast Standard Deviation	0.43	0.36	0.29	0.26	0.23	0.23
Standard Deviation of Change	0.23	0.21	0.19	0.18	0.16	0.13

Notes: The statistics are for the four-quarter change in the RPIX pre-2004 or the CPI inflation rate post-2004, at the horizon indicated in each column. Data are from Consensus Economics.

Uttar Pradesh election exit polls survey (from JPMorgan)

Inflation the most important election issue !

Monetary Policy Rates

Repo rate — Reverse-repo rate — CRR