Discussion of “Monetary Regime Switches in India: Policy or Structure” by M. Hutchison, R. Sengupta and N. Singh

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Motivation: Inflation targeting

- What does a central bank do? Sets interest rates looking at forecasts of inflation and output.
- What weight to attach to each? John Taylor proposed a simple formula with one weight on output and another on inflation.
- In the Indian debate, inflation targeting has been portrayed as output coefficient of 0 (which is wrong).
- Inflation targeting central banks typically have an inflation coefficient of 1.5 and an output coefficient of 0.5.
- Taylor principle: In a closed economy, monetary policy is destabilising if the inflation coef is below 1.
- Existing evidence on RBI: Inflation coefs of 0.1 to 0.3.
- "Multiple objectives framework"? "Conflicts of interest"? "Lack of framework"?
Main argument of the paper

- Maybe the overall inflation coef comes out to 0.1 to 0.3 because sometimes it’s 0 and sometimes it’s a sensible value.
- Maybe RBI is sometimes behaves like an inflation targeting central bank.
- As RBI says: there is no framework, the policy objectives vary through time.
- RBI sometimes gives a bigger weight to output gap (dove) and sometimes to inflation (hawk).
- A Markov switching model can estimate the probability of being in two states, hawk and dove, at each point in time.
A backward looking Taylor rule with interest rate smoothing, no target inflation rate, output gap, and with two states

\[ i_t = c + \alpha_{st} y_t + \beta_{st} \pi_t + \chi \Delta e_t + \delta i_{t-1} + \epsilon_t \]

where
- \( i_t \) is the nominal interest rate
- \( y_t \) is the output gap
- \( \pi_t \) is the inflation rate
- \( \Delta e_t \) is the first difference of the exchange rate
- and \( i_{t-1} \) is the lagged nominal interest rate
## Data used

<table>
<thead>
<tr>
<th>Data</th>
<th>WPI inflation, deviation of IIP from HP trend, call money rate, and the nominal exchange rate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Span</td>
<td>1987Q1 to 2008Q4</td>
</tr>
<tr>
<td>Method</td>
<td>OLS with correction for heteroscedasticity and autocorrelation</td>
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</table>
The results support a Markov Switching model

- Dove: 1999-2002 and 2007-08

- 72 percent of the time, RBI is a dove (inflation coef of 0)
- RBI does not react to exchange rate changes
- The trilemma is not a major concern.
Problem with the results

Results about hawk/dove periods contradict accounts of macroeconomic developments in the Hawkish period.
Probabilities of Hawk Regime Inflation
Interest rates and CRR

RBI hawkish?
Exchange rate not relevant

- This is not consistent with the strong evidence that RBI is a *de facto* pegger
- See literature on India and the exchange rate regime.
Trilemma I: Intervention

Trilemma not a concern?
Trilemma II: Incomplete sterilisation, high M3 growth

This was a period of low interest rates and easy liquidity. Despite attempts at sterilisation money supply growth was much faster in this period than in earlier periods.
Breaks of the exchange rate regime

The methodology of ZSP finds structural changes in the INR exchange rate regime. Most of this period was a tight peg to the USD.

<table>
<thead>
<tr>
<th>Period</th>
<th>$R^2$</th>
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<tbody>
<tr>
<td>1998-08-28 to 2004-03-19</td>
<td>0.97</td>
</tr>
<tr>
<td>2004-03-26 to 2007-03-16</td>
<td>0.86</td>
</tr>
<tr>
<td>2007-03-23 to 2009-12-25</td>
<td>0.62</td>
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</tbody>
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The period before each break was a period of acute stress for RBI, with a prime focus on implementing the pegged exchange rate. E.g. rumoured to have intervention of over a billion dollars per day before the exchange rate regime was abandoned.

Every lever - monetary policy, banking regulation, capital controls, debt management - was devoted to the one job of exchange rate pegging.

There were no degrees of freedom left to focus on inflation.
Key suggestions

1. Estimation method: Markov Switching SVAR (or VECM if there is cointegration)
2. Use lagged data in place of real time data to reflect information available at time $t$.
3. Sensitivity analysis to other measures of inflation: WPI minus food and oil and CPI
4. Robustness checks with different sample periods, other measures of output gap, other interest rates.


Thank You