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RBI Autonomy and Monetary Policy since Liberalization

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Abstract:

The study is a single country study and employs time series regression technique autoregressive distributed lag (ARDL) bound test to study the relationship between inflation and RBI autonomy index. The study uses the time series monthly data on a sample of 273 observations and considers five successive Governors of the RBI for the period 1991-92 to 2012-13. It provides a historical perspective of the evolution of the RBI's independence since the economic reforms of 1991. The computed RBI independence index indicate that its independence has increased over the years. Yet, the results suggest that the increased degree of independence has not have much desired impact on the inflation rate in the country.

Keywords: Central Bank Autonomy, Monetary Policy, Macroeconomic Performance

Introduction

Public policy is used to describe a collection of laws, directives, or principles through which public problems are addressed. Public policy can target problems pertaining to economic, social, or political nature. In doing so, the government is expected to follow certain public-sector ethics and take into consideration the needs of all stakeholders into account. However, it has been believed by many economists that insulating some institutions such as the Central Bank of a country from the influence of that country's government decisions and pressure brings about desired change in the Central Bank's independence as well as policy performance. In case of India, former RBI Governors, Dr. D. Subbarao and Dr. Raghuram Rajan have suggested the need for greater degree of independence of the RBI as a prerequisite for implementing an effective monetary policy.

The possibility that insulating RBI from the influence of government decisions can bring about desired change in its policy performance has provided the impetus for our recent study. Against this setting, this paper studies this paper explores the level of independence of the Reserve Bank of India (RBI) by primarily focusing on the monetary policy independence that pertain to the key aspects for achieving and maintaining price stability.

Theories on Central Bank Autonomy

Three different theories have been put forward in support of central bank autonomy. They are the dynamic or time inconsistency theory, theory of political business cycle and the theory of public choice. Monetary policy makers may suffer from time inconsistency problem of inflation expectations when politicians promise lower inflation rate in the future. The theory of political business cycle states that business cycle is primarily due to the manipulation of policy tools by governments during election times which may have favourable consequences in the short-run but

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unfavorable consequences in the long-run. The public choice theory suggests a constitutional amendment for a pre-specified stipulation on central bank credit to government in order to reduce fiscal deficit. The pre-requisite for this is autonomy of the central bank.

Overview of RBI Autonomy and Monetary Policy in India

The institutional arrangement for financing the government deficit is of significance for an understanding of the conduct of monetary policy. Before liberalisation, the monetary policy was subservient to fiscal policy. Post liberalisation, it has been argued by many that the RBI gained substantial freedom to conduct monetary policy due to C. Rangarajan's initiation of ways and means' advance (WMA) and D. Subbarao emphasis for setting up a Monetary Policy Committee (MPC) for greater transparency and autonomy.

Table 1 presents the average monthly growth rate of the economic performance variables vis-à-vis the tenure of each successive Governors under study. The table indicates that inflation and RBI autonomy have differed in the tenures of the RBI governors under study. RBI independence index has shown a gradual improvement across the five successive regimes over the study period.

Table 1

Monthly average growth rate of macroeconomic variables Governor Tenure-wise

Tenure Period	Governor	WPI	CBI_RBI	IIP	CMR	BM
1991-93	S. Venkatiramanan	0.91	7.08	0.83	-3.17	1.27
1994-98	C. Rangarajan	0.70	7.58	0.48	-1.03	1.32
1999-03	Bimal Jalan	0.40	10.11	0.41	-0.44	1.25
2004-08	Y. V. Reddy	0.58	10.36	0.89	1.28	1.40
2008-13	D. Subbarao	0.53	10.86	0.30	-0.41	1.22

Source: RBI Handbook on Indian Economy, Various Issues

Note: 1. WPI=wholesale price index; CBI_RBI= central bank independence index for RBI; IIP=index of industrial production; CMR=weighted average of call money rate; BM=broad money.

Literature review

This section consists of a review of the empirical literature on the construction and measurement of the CBI index and effects of CBI on macroeconomic performance in general and inflation in particular.

Measuring Central Bank Independence

This section consists of the empirical literature on the construction and measurement of the CBI index. Bade and Parkin (1984) were the first to construct the CBI index. All the subsequent work (Alesina, 1989; Grilli, Masciandaro, and Tabellini-GMT (1991), Cukierman (1992), Alesina and Summers (1993), Loungani and Sheets (1995) and De Haan and Kooi (1997) departed from the Bade-Parkin approach of classifying and ranking central banks. These different measurements of CBI have generally focused primarily on legal independence, mostly in the industrialised countries[1]. The most widely employed index of central bank independence is that of Cukierman, Webb, and Neyapti (1991).

[1] Legal measures consist of attributes relating to a central bank's governor, policy formulation, policy objectives, ability of government to borrow from the central bank, etc.

Interrelationship between central bank independence (CBI) and performance of monetary policy

Theoretically, if the Central Bank has the autonomy to set the interest rate, it can support price stability, otherwise it can create unfavourable results. Cukierman et al (1992) states that the causality from central bank independence to lower inflation is not clear, and several studies have found conflicting results about the relationship. Alesina et al (1993), Grilli et al. (1991), Oatley (1997), Loungani and Sheets (1997), Lybek (1999) and Debelle and Fischer (1995) using regression analysis find that inflation performance is likely to be better if the central bank has monetary autonomy. Berger and Kibmer's (2013) results suggest that the more independent central bankers are, the more they refrain from monetary tightening to maintain low inflation. Hutchison and Pasricha (2015) stated that greater monetary autonomy has not delivered lower inflation rates in India.

Literature Review in the context of India

In India, there is absence of empirical study in measuring RBI's autonomy. Moreover, there is paucity of empirical studies investigating the relationship of RBI's autonomy with monetary policy performance. Goyal (2002, 2007) suggested that a democratically accountable governor in a developing democracy would anyway keep inflation low. Goyal (2010) revealed that monetary policy has differed in the tenures of various RBI governors and thus there have been variations in performance parameters like inflation and economic growth. Goyal's (2010) study indicated that the performance of monetary policy depends on the personalities of the Governors and to what degree they were able to insulate RBI from Government pressure. Chandavarkar's (2005) study stated that for RBI autonomy to be possible, the security of tenure for the governor should be specified.

Inclusion of Control Variables

Campillo and Miron (1997) find that more than CBI, other economic factors are significant determinants of macroeconomic performance variable such as inflation.

To make the investigation stronger, based on the empirical literature, we have considered some of the policy variables such as interest rate (Ravenna and Walsh, 2006 and Tillmann, 2008) and money supply (Kandil and Morsi, 2009 and Dizaji, 2011) and economic variables such as real output (Lim and Sek, 2014) as control variables in investigating the association between CBI and inflation.

Data variables and Methodology

The uses a sample size of 273 of time series monthly data on selected variables obtained from the Database on Indian Economy, RBI and considers five successive Governors of the RBI for the period 1991-92 to 2012-13. The study employs time series regression technique to study the relationship between selected macroeconomic variables, monetary policy variables and RBI's autonomy. The selection of variables for the present study is based on the existing theoretical propositions and the empirical evidences.

This study employs the autoregressive distributed lag (ARDL) bounds test, proposed by Pesaran, Shin and Smith (2001). This test is chosen because it can be used irrespective of whether the regressors in the model are purely I(0), purely I(1) or mutually cointegrated. However, the model cannot be estimated in the presence of I(2) series. In order to know the order

of integration for the variables before estimating the ARDL model, the Augmented Dickey – Fuller unit root test is performed.

ARDL Model Specification

The autoregressive distributed lag model of order p and q, ARDL (p.q) is defined for a scalar variable y_t as :

$$y_t = \alpha_0 + \sum_{i=1}^{p} \beta_i y_{t-i} + \sum_{i=0}^{q} c'_i x_{t-i} + \varepsilon_t \qquad (2)$$

Where ε_t is a scalar zero mean error term and xt is a K-dimensional column vector process. α_0 is a constant. The coefficients β_i are scalars while c'_i are row vectors.

For cointegration testing and estimation, equation (2) can be written as follows

$$y_t = \alpha_0 + \gamma y_{t-1} + \sum_{i=1}^{n-1} \vartheta'_i x_{t-1} + \sum_{i=1}^{p-1} \beta_i \Delta y_{t-i} + \sum_{i=0}^{n-1} \phi'_i \Delta x_{t-i} + \varepsilon_t \qquad (3)$$

Where Δ is the first difference operator.

In order to examine the relationship of RBI autonomy with monetary policy performance, we estimate an ARDL model for inflation.

$$\Delta LOG\_WPI_t = \alpha_{1,0} + \sum_{i=1}^{4-1} \beta_{1,1i} \Delta LOG\_WPI_{t-i} + \sum_{i=1}^{4-1} \phi_{1,1i} \Delta CBI\_RBI_{t-i} + \sum_{i=1}^{4-1} \phi_{1,2i} \Delta LOG\_EXR_{t-i} + \sum_{i=1}^{4-1} \phi_{1,3i} \Delta LOG\_BM_{t-i} + \sum_{i=1}^{4-1} \phi_{1,4i} \Delta CMR_{t-i} + \sum_{j=1}^{8-1} \phi_{1,5i} \Delta LOG\_IIP_{t-i} + \gamma_1 LOG\_WPI_{t-1} + (\vartheta_{1,1} CBI_{RBI\,t-1} + \vartheta_{1,2} LOG_{EXR\,t-1} + \vartheta_{1,3} LOG_{BM\,t-1} + \vartheta_{1,4} CMR_{t-1} + \vartheta_{1,5} LOG_{IIP\,t-1}) + \varepsilon_{1,t}$$

(4)

where subscript t=1991m4, 1991m5,...2013m12 which refer to the consecutive months from April, 1991 to December, 2013.

WPI is the wholesale price index of a representative basket of wholesale goods and WPI changes is used as a central measure of inflation. The key variable in the model is the CBI_RBI or the Central Bank independence index of the RBI which has been constructed for each year for the period under study[2]. The details of the construction of the variable CBI_RBI is presented in section 1.1.6.2. The policy variables are the interest rate or the weighted monthly average of the call money rate (CMR) and broad money (BM). Call money rate is the rate at which short term funds are borrowed and lent in the money market. A tight liquidity condition leads to a rise in call money rate and vice versa. Broad money comprises of currency in circulation, demand deposits with banks and time deposits. EXR is the indices of real effective exchange rate (REER) of the Indian rupee. IIP is the index of industrial production. Due to the data unavailability for the variable Gross Domestic Product (GDP) monthly, this study uses the IIP as an alternative to incorporate the real output.

Equation 4 is modified and the equation below is estimated for determining the estimates of the coefficients of the independent variables of the model in the long-run.

$$LOG\_WPI_t = \alpha_{4,0} + \sum_{i=1}^{4-1} \gamma_4 LOG\_WPI_{t-1} + \sum_{i=0}^{4-1} (\vartheta_{4,1} CBI_{RBI\,t-1} + \vartheta_{4,2} LOG\_EXR_{t-1} + \vartheta_{4,3} LOG\_BM_{t-1} + \vartheta_{4,4} CMR_{t-1} + \vartheta_{4,5} LOG\_IIP_{t-1}) + \epsilon_{1,t}$$

(5)

[2] Since the yearly index remained the same for the months within the years, the monthly index could be obtained for the 271 observations.

The orders of the lag of the explanatory variables are selected based on AIC. The estimated residual series of the model is known as the error correction term (ECT). Next, the error correction model is estimated with one lagged ECT to obtain the short-run dynamic parameters. It is as follows:

$$\Delta LOG\_WPI_t = \alpha_{7,0} + \sum_{i=1}^{4-1} \beta_{7,1i} \Delta LOG\_WPI_{t-i} + \sum_{i=1}^{4-1} \phi_{7,1i} \Delta CBI\_RBI_{t-i} + \sum_{i=1}^{4-1} \phi_{7,2i} \Delta LOG\_EXR_{t-i} + \sum_{i=1}^{4-1} \phi_{7,3i} \Delta LOG\_BM_{t-i} + \sum_{i=1}^{4-1} \phi_{7,4i} \Delta CMR_{t-i} + \sum_{j=1}^{5-1} \phi_{7,5i} \Delta LOG\_IIP_{t-i} + \lambda_1 ECT_{1,t-1} + \epsilon_{4,t} \quad (6)$$

Where the ECT_{t-1} represents the error correction period that defines the effectiveness of the correction mechanism in stabilizing disequilibrium in the model. Thus, a negative significant coefficient of the ECT is required to ensure the existence of a co-integration and it represents the adjustment speed of any disequilibrium in the model. The higher the magnitude of the ECT_{t-1} term, the better will be the speed of adjustment.

The ARDL model can capture both short-run and long-run causality. The significant coefficient for the ECT_{t-1} can provide the long-run causality which can be observed from the t-statistics. The short-run causal effects are captured by the coefficients of the first differenced variables by using the Wald test to check whether there is Granger causality between the dependent variables and the explanatory variables.

Results and Discussions

2.1. Construction of CBI_RBI

Following Cukierman et al (1992), this study uses the sixteen criteria as shown in Table 1A in Appendix 1 for constructing an index for RBI autonomy and are coded on a scale of 0 to 1 (lowest and highest levels of independence, respectively) with four attributes each for Personal or Political Independence (PI) and Monetary Policy Independence (MPI) and eight attributes for Fiscal Independence (FI). These reflect the independence of the chief executive officer (CEO) of the central bank, its independence in policy formulation, its objective or mandate, and the stringency of limits on its lending to the public sector. The scores attached to the sub-categories are defined. The RBI belongs to either one of the sub-categories of each criterion. The score assigned to each criterion is aggregated to obtain the value of CBI_RBI. Higher the CBI_RBI value, higher is the RBI autonomy. Table 2 measures the RBI's autonomy for the period 1990-91 to 2012-13 based on the attributes showing that RBI's autonomy has increased in the recent years.

Descriptive statistics

The descriptive statistics such as mean, standard deviation, skewness and kurtosis are presented in Table 3. The value of the skewness and kurtosis shows that the distribution of all the series is asymmetric. The standard deviation of the variables shows that the money supply variables reserve money and broad money are relatively more volatile than the rest of the variables.

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Table 3

Sample descriptive statistics

Variables	Obs	Mean	S.D.	Skewness	Kurtosis
WPI	273	4.48	0.40	-0.09	2.17
EXR	273	4.61	0.05	0.72	3.87
CBI_RBI	273	2.19	0.20	-1.29	3.53
IIP	273	4.49	0.44	0.05	1.73
CMR	273	1.98	0.48	0.11	5.96
BM	273	14.29	1.03	0.02	1.81

Note: Obs= Observations; SD=Standard Deviation

Before estimating the co-integration relationship by ARDL bound test, we confirm the integration properties of the variables using the Augmented Dickey Fuller (ADF) unit root test to check for the stationarity of the data series. When the results are examined from Table 4, it is seen that interest rate is stationary at level and inflation, RBI autonomy index, economic growth are non-stationary at level and are integrated of order one.

Table 4

ADF Unit Root Test for Stationarity

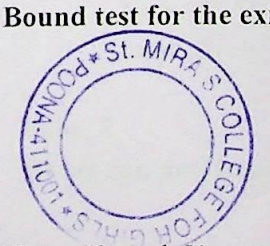
Variables	I(0)	I(1)	Outcome
WPI	-3.21	-13.22***	I(1)
EXR	-4.38***	-8.12***	I(0)
CMR	-4.85***	-11.50***	I(0)
CBI_RBI	-2.10	-16.61***	I(1)
IIP	-1.95	-3.40*	I(1)
BM	-2.22	-3.40*	I(1)

Notes: *** and * denotes 1% and 10% significance levels respectively and are based on MacKinnon approximate p-values

The results obtained from the bound test for co-integration relationship in Model 1 is presented in Table 5. As the calculated value of the F-statistics for each of the model 10.14 is greater than the 1 per cent critical value of the upper bound for Model 1 and Model 2 and greater than the 10 per cent critical value of the upper bound for Model 3, there is evidence for the existence of co-integration or the presence of long-run relationship in the model.

Table 5

Bound test for the existence of co-integration relationship



Test Statistic	Model
F-statistic	10.14***
	K=5
I0	3.06
I1	4.15

Note: I0 and I1 are the lower bound and upper bound respectively. K is the number of independent variables. *** and * denotes 1 per cent and 10 per cent significance level respectively

The estimated ARDL model analyzing the short-run and long-run relationships for the model is reported in Table 6 and Table 7, respectively. In selecting an appropriate lag length (p), the Akaike's Information Criterion (AIC) was selected as the basis for determining the lag orders for the regressor and the model which minimizes AIC was chosen for the dependent variable inflation rate. Table 8 presents the short-run causal effects and the long-run effects. The F-statistic for the joint significance of the lagged variables indicate the short run effects and the t statistic of the lagged error correction term (ECT_{t-1}) for the model imply long-run causality from the macroeconomic variables to inflation rate. The short run and long run relationship between RBI autonomy and inflation is weak, the relationships being insignificant in both Table 6 and Table 7. Moreover, the Granger causality test results show that RBI autonomy does not contribute to inflation in the short run as well as in the long run. This is supported by Hutchison and Pasricha (2015) who found that greater monetary autonomy has not delivered lower inflation rates in India. This may imply the presence of time inconsistency problem wherein the policymaker not insulated from the government is more concerned to exploit the short-run trade-off between employment and inflation. The result may also imply that the macroeconomic performance is more due to some exogenous factors or the economy cannot meaningfully draw inference about a new governor preference which may be due to the presence of a homogenous pool to which the governor belong as put forward by Kutner and Posen (2007).

In Table 8, the lagged error correction terms carry the expected negative sign which is highly significant for the model implying long-run causality from the macroeconomic variables to inflation. The long-run relationship of the macroeconomic variables with inflation is weak. Results in Table 6 and Table 7 show that inflation is positively related to its past value and results in Table 8 show that inflation is Granger caused by its past value. In case of the control variables, exchange rate and economic growth Granger cause inflation with a negative sign.

Table 6

Panel A: Short-run relationship

Variable	Model (LOG_WPI) ARDL(2,2,0,0,0,3)
ΔLOG_WPI	
ΔLOG_WPI_{t-1}	0.243***
	(4.207)
ΔLOG_EXR	0.030
	(1.424)
ΔLOG_EXR_{t-1}	-0.072
	(-3.395)***
ΔCBI_RBI	-0.001
	(-0.259)
ΔCBI_RBI_{t-1}	
ΔCBI_RBI_{t-2}	
ΔCBI_RBI_{t-3}	

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ΔCMR	-0.0001
	(-1.154)
ΔCMR_{t-1}	
ΔCMR_{t-2}	
ΔLOG_BM	0.029
	(0.718)
ΔLOG_IIP	-0.044
	(-5.105)***
ΔLOG_IIP_{t-1}	0.004
	(0.392)
ΔLOG_IIP_{t-2}	-0.027
	(-3.099)***

Note: *, ** and ***. denote 1 per cent, 5 per cent and 10 per cent significance level, respectively.

Table 7
Long-run Relationship

Independent Variables	Model 1 (LOG_WPI) ARDL(2,2,0,0,0,3,)
CBI_RBI	-0.002
	(-0.083)
LOG_EXR	-0.693
	(-1.274)
CMR	-0.007
	(-1.191)
LOG_BM	0.185
	(1.031)
LOG_IIP	0.337
	(0.881)
LOG_WPI	
C	-3.365
	(-1.389)

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Note: *, ** and *** denote 1 per cent, 5 per cent and 10 per cent significance level, respectively.

Table 8
Short run and Long run Causality

	Dependent Variable
Independent Variable	ΔLOG_WPI_t

$\sum_{j=1}^{p} \Delta LOG\_WPI_{t-j}$	15.32***
$\sum_{j=1}^{p} \Delta LOG\_EXR_{t-j}$	7.04***
$\sum_{j=1}^{p} \Delta CBI\_RBI_{t-j}$	0.109
$\sum_{j=1}^{p} \Delta CMR_{t-j}$	2.009
$\sum_{j=1}^{p} \Delta LOG\_BM_{t-j}$	0.617
$\sum_{j=1}^{p} \Delta LOG\_IIP_{t-j}$	15.946***
ECT_{t-1}	-0.024 (-5.892)***

Note: Figures are all the F-statistic values of the Wald test. The ECT_{t-1} is obtained from the estimation of the ARDL Model. The selected lag length for the ARDL model is (2,2,0,0,0,3,0). Figures in parentheses is the t-statistic for the coefficient of the ECT_{t-1}. *, ** and *** denote 1 per cent, 5 per cent and 10 per cent significance level, respectively.

The F-statistic results in Table 9 show that the model passes the diagnostic tests for serial autocorrelation. Finally, we have examined the stability of the long-run parameters together with the short-run movements for the equations. For test, we relied on cumulative sum (CUSUM) test. The CUSUM plots in Figure 1 from a recursive estimation of the model indicates stability in the coefficients over the sample period.

Table 9

Results of Serial Correlation LM Test

Test Statistic	Model 1 (LOG_WPI)
F-Statistic	0.588 (0.556)

Note: Test is based on Breusch-Godfrey serial correlation test. Figures in parenthesis is the probability value.

Conclusion

Using time-series monthly data of macroeconomic variables for the tenure of five successive RBI Governors for the period 1991-2012, this study attempts to find out whether the RBI Governors exercise a certain degree of autonomy. RBI autonomy index has been constructed based on the criteria of Cukierman et al (2001). The results indicate that some Governors exercised more autonomy as compared to the others. This paper also investigates whether RBI autonomy affects the performance of the monetary policy. The autoregressive

distributed lag (ARDL) bound test has been estimated to examine the presence of long-run relationship of macroeconomic performance variable inflation with RBI autonomy as well as a few control variables. The short-run and long-run causal effects of RBI autonomy on the variable have also been captured. The results find insignificant negative association between RBI autonomy and inflation.

RBI governors in the past had managed to have some degree of autonomy even while keeping the government on their side. The government's say on inflation and interest rate is very much expected in an economy like India, where it may have to emphasize more on output and employment which have crucial impact on the lives of the people. To keep inflation low, RBI must increase its autonomy substantially, by insulating itself from the government more now than in the past.

The study is not without limitations and as such there is scope for further research. The most obvious limitation of this study is that it considers only a limited set of data by excluding data on fiscal and budgetary situation due to its insufficient availability. Another limitation is not considering the possibility of the presence of a two-way causality between inflation and the degree of RBI independence. The presence of a two-way causality between inflation and the degree of RBI independence can be investigated to find whether the degree of RBI autonomy is influenced by high inflation in a transition economy like India or RBI autonomy affects inflation rate.

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Table 2: RBI's Independence Index and Different Attributes

		Personnel Independence						Monetary Policy Independence					Fiscal Independence								Overall Independence
Year	Governor	A1	A2	A3	A4	A5	PI	B1	B2	B3	C	MPI	D1	D2	D3	D4	D5	D6	D7	D8	FI	CBI of RBI
1990-91	S. Venkatiramanan	0	0	1	1	0	1.33	1	0	0	0	1.6	0	0.3	1	0	1	0	1	0	4.15	7.08
1991-92	S. Venkatiramanan	0	0	1	1	0	1.33	1	0	0	0	1.6	0	0.3	1	0	1	0	1	0	4.15	7.08
1992-93	C. Rangarajan	1	0	1	1	0	1.83	1	0	0	0	1.6	0	0.3	1	0	1	0	1	0	4.15	7.58
1993-94	C. Rangarajan	1	0	1	1	0	1.83	1	0	0	0	1.6	0	0.3	1	0	1	0	1	0	4.15	7.58
1994-95	C. Rangarajan	1	0	1	1	0	1.83	1	0	0	0	1.6	0	0.3	1	0	1	0	1	0	4.15	7.58
1995-96	C. Rangarajan	1	0	1	1	0	1.83	1	0	0	0	1.6	0	0.3	1	0	1	0	1	0	4.15	7.58
1996-97	C. Rangarajan	1	0	1	1	0	1.83	1	0	0	0	1.6	0	0.3	1	0	1	0	1	0	4.15	7.58
1997-98	Bimal Jalan	1	0	1	1	0	2.08	1	0	0	0	1.6	1	0.7	1	0	1	1	1	0	6.43	10.11
1998-99	Bimal Jalan	1	0	1	1	0	2.08	1	0	0	0	1.6	1	0.7	1	0	1	1	1	0	6.43	10.11
1999-00	Bimal Jalan	1	0	1	1	0	2.08	1	0	0	0	1.6	1	0.7	1	0	1	1	1	0	6.43	10.11
2000-01	Bimal Jalan	1	0	1	1	0	2.08	1	0	0	0	1.6	1	0.7	1	0	1	1	1	0	6.43	10.11
2001-02	Bimal Jalan	1	0	1	1	0	2.08	1	0	0	0	1.6	1	0.7	1	0	1	1	1	0	6.43	10.11
2002-03	Bimal Jalan	1	0	1	1	0	2.08	1	0	0	0	1.6	1	0.7	1	0	1	1	1	0	6.43	10.11
2003-04	Y. V. Reddy	1	0	1	1	0	1.83	1	0	0	0	1.6	1	0.7	1	0	1	1	1	0	6.43	9.86
2004-05	Y. V. Reddy	1	0	1	1	0	1.83	1	0	0	0	1.6	1	0.7	1	0	1	1	1	0	6.43	9.86
2005-06	Y. V. Reddy	1	0	1	1	0	1.83	1	0	0	0	1.6	1	0.7	1	0	1	1	1	0	6.42	9.86
2006-07	Y. V. Reddy	1	0	1	1	0	1.83	1	0	0	0	1.6	1	0.7	1	0	1	1	1	1	7.43	10.86
2007-08	Y. V. Reddy	1	0	1	1	0	1.83	1	0	0	0	1.6	1	0.7	1	0	1	1	1	1	7.43	10.86
2008-09	D. Subbarao	1	0	1	1	0	1.83	1	0	0	0	1.6	1	0.7	1	0	1	1	1	1	7.43	10.86
2009-10	D. Subbarao	1	0	1	1	0	1.83	1	0	0	0	1.6	1	0.7	1	0	1	1	1	1	7.43	10.86
2010-11	D. Subbarao	1	0	1	1	0	1.83	1	0	0	0	1.6	1	0.7	1	0	1	1	1	1	7.43	10.86
2011-12	D. Subbarao	1	0	1	1	0	1.83	1	0	0	0	1.6	1	0.7	1	0	1	1	1	1	7.43	10.86

Note: Amitav Ghosh was the RBI Governor for 20 days from 15 January 1985 to 4 February 1985.

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