

A Study of Demand Deposits and Time Deposits in India from July 2021 to January 2023

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Abstract: In this paper we analyse the trend of demand deposits and time deposits in India from July 2021 to January 2023. We fit ARIMA (1,1) model to the Demand deposits and time deposits data (fortnightly data) obtained from the Reserve Bank of India Website.

Keywords: ARIMA, Time deposits, Demand Deposits

I. Introduction

In this paper we analyse the trend of demand deposits and time deposits in India, using fortnightly data (July 2021-January 2023) obtained from Reserve Bank of India Website. The significance of the sample period is that it covers a part of the pandemic period. We fit Autoregressive Integrated Moving Average (ARIMA) model to the demand deposit and time deposit series from July 2021 to January 2023.

II. Description of demand deposits and time deposits

Demand deposit is money deposited into a bank account that can be withdrawn on demand at any time, without advance notice. People use demand deposit funds to pay for their daily expenses. Banks pay low interest rate on funds in demand deposits account.

A time deposit is an interest bearing bank account which has a maturity date. The money in time deposit should be held for the whole term in order to get the interest in full. The longer the term, higher the interest rate received by the depositor. Certificate of deposits is an example of time deposit. Depositors cannot withdraw certificates of deposits without a penalty. Time deposits can be used as collateral for bank loans.

There are two common types of time deposits- fixed deposits and recurring deposits. Fixed Deposits require a lump sum amount to be deposited at the beginning of the term. Recurring deposits allow regular, smaller contributions to the account. Certificates of Deposits have shorter tenure and Fixed deposits have varying tenures. Minimum amount to be invested in fixed deposit is Rs. 1000.

III. Data

We use fortnightly data of time deposits and demand deposits from 2nd July, 2021 to 13th January, 2023 obtained from The Reserve Bank Of India Website (www.rbi.org.in)

IV. Empirical Modelling of Demand deposits and time deposits

In an autoregressive moving average (ARMA) model a variable is explained by its own lag and also by the past white noise terms. When a variable is not stationary in levels but stationary in first difference, we use autoregressive integrated moving average (ARIMA) model where the first difference of the variable is the dependent variable.

We have used unit root test to check for stationarity in demand deposits and time deposits. The null hypothesis of unit root test is the presence of unit root or non-stationarity. The results of unit root test show that demand deposits and time deposits are stationary in first difference.

V. Results

Table 1 Unit root test of Demand deposits

		5% critical value	10% critical value
ADF test statistic (level)	-3.116978	-3.520787	-3.191277
ADF test statistic (first difference)	-8.516134	-3.520787	-3.191277

Table 2 Unit root test of time deposits

		5% critical value	10% critical value
ADF test statistic (level)	-3.090811	-3.520787	-3.191277
ADF test statistic (first difference)	-8.321523	-3.520787	-3.191277

Table 3 Results of ARIMA Model**Dependent Variable: First difference of demand deposits****Method: least squares**

Variables	Coefficients	Prob
C	0.331569	0.0030
AR (1)	0.641417	0.0031
MA (1)	-0.961412	0.0022

R squared 0.551234**Table 4 Results of ARIMA Model****Dependent variable: First difference of time deposits****Method: least squares**

Variables	Coefficients	Prob
C	0.351219	0.0010
AR(1)	0.601594	0.0000
MA(1)	-0.931125	0.0016

R squared 0.581642**VI. Conclusion**

We find an overall increasing trend in both demand deposits and time deposits with decline in a few periods only (from July 2021 to January 2023). We fit an ARIMA (1,1) model to the demand deposits and time deposits series for the sample period.

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