
Impact of Commercial Deposit in Banks with GDP in Context with Pradhan Mantri Jan Dhan Yojna

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Abstract

For Policymakers Financial inclusion is a buzzword the policymakers and governments for a long time. Attempts have been made by the policymakers and financial institutions to bring a large no of sections from the rural population to be a part of the banking system having realized that financial inclusion is the essence for sustainable economic growth & in order to develop a country like India. Inclusive growth becomes impossible without financial inclusion. Financial inclusion is also must for the economic development of the country. In order to reduce the degree of “financial untouchability” the new government has come up with a big bang action plan which is popularly known as “Pradhan Mantri Jan-Dhan Yojana”. It’s a mega financial inclusion plan for the objective to cover all the households in the country with various banking facilities along with inbuilt insurance coverage. The present paper is an attempt to highlight the impacts of total saving deposits with commercial banks on Indian GDP in Context with Pradhan Mantri Jan Dhan Yojna. The study is purely based on secondary data which covers 40 financial years (1975-76 to 2013-14).

Keywords: Financial inclusion, Pradhan Mantri Jan Dhan Yojna, cointegration;

Granger causality, GDP.

JEL Classification: C33, F21, F43, N25

1. Introduction

PMJDY is a National Mission on the Financial Inclusion which encompassing integrated view to bring about financial inclusion on comprehensive level to include all households of the country. The main objective of "Pradhan Mantri Jan-Dhan Yojana (PMJDY)" is to ensure the access to various financial services viz. Easy accessibility towards savings bank account, fulfilling the requirement of need based credit, with respect to available remittances facility, insurance and pension benefits to the excluded areas i.e. people being a part of weaker sections & lower income groups. The objective is to provide deep penetration at affordable cost which is possible only with the effective use of technology. This plan contemplate universal access to various banking facilities so that at least one basic banking account is made available for every household, to provide them financial literacy, easy access of credit, insurance & pension facility. Besides above, the beneficiaries can also obtain RuPay Debit card carrying inbuilt accident insurance covers of Rs1 lakh. The plan also envisages channelling all Government bodies (from Local Body

/state /Centre) to the beneficiaries accounts and then pushing the Direct Benefits Transfer (DBT) scheme introduced by the Union Government. The various technical issues like poor connectivity & on-line transactions are needed to address immediately. Mobile transactions operated through telecom operators and centres established by them such as Cash Out Points will also be made involved form achieving complete Financial Inclusion under this Scheme. Also an effort has been made to reach out to the youth to participate in this Mission Mode Programme.(Table 1)

2. The Literature Review

Deepti Sharma, Mamta Ranga(2014) indicated through their research that if impact of saving deposits with commercial banks remain constant, then there are other factors which are explaining GDP up to 20119.046 units.

Alex Ehimare (2012) investigated the role of banks in capital formation and economic growth and found that the commercial banks have significant role to play in capital formation in the Nigerian economy. This implies that commercial banks have the potential to increase the nation’s capital formation through their activities.

The commercial banks also have vital roles to play in the nation's economic growth. The results also show that commercial banks deposit liabilities only have immediate impact on capital formation and not on economic growth. However, the research findings support the notion that commercial banks are agents of both capital formation and economic growth of the country.

Shafaqat Mehmood (2012) in his research showcased the affect of 13 independent variables factors on Gross Domestic Product (GDP) in Pakistan and Bangladesh and concluded that in the Pakistan gross national expenses, exported goods , gross saving & final consumption expenditure are having a positive effect on GDP. Whereas other factors i.e external debts, total stock & services exports are having a adverse effect on Pakistan GDP. But in the case of Bangladesh, this study reveals that factor such as gross national expenditures, external debts stock total, goods imports & exports have favourable effect on the Bangladesh GDP whereas factors like final consumption expenditure has adverse effect on the GDP of Bangladesh.

Dr. Aurangzeb(2012) investigated the contributions of banking sector in economic growth of Pakistan. Regression results indicate that deposits, investments, advances, profitability and interest earnings have significant positive impact on economic growth of Pakistan. The study also confirms the bidirectional causal relationship of deposits, advances and profitability with economic growth.

Ritesh Kumar Singhal(2008) analyzed the effects of changes in Gross Domestic Product and the Rate of Interest offered by the banks on their deposits on the Gross Domestic Savings in India. The time-period is divided into pre-reform period from 1980-81 to 1990-91 and the post-reform period from 1991-92 to 2005-06. The regression analysis shows that in both the time periods Gross Domestic Savings has increased consistently irrespective of changes in the rate of interest. The analysis also shows that in the post-reform period, the Marginal propensity to save has increased even though the interest rates have softened. This model traces the relationship between three variables viz, Gross Domestic Product, Savings and the Rate of Interest.

OBJECTIVES OF THE STUDY

The present study was attempted to attain the following objective:

To study the impact of saving deposits with commercial banks on GDP in India.

HYPOTHESES OF THE STUDY

The null hypotheses are stated below:

H0: Increase in deposit with saving with commercial banks cannot lead to growth of GDP in India.

H1: Increase in deposit with saving with commercial banks can lead to growth of GDP in India

3. The Methodology of the Study, Data Source and Interpretation of the Results

In this study we employ the granger causality test for the estimation of the causality relation between saving deposits with commercial banks & GDP of India.

The study uses the annual (secondary) time series data covering the period 1975-2014. This period has been chosen because it is a significant duration to find out a relationship in long term. The data is collected from Handbook of Indian economy published by RBI, India. All results are performed by using E Views 7.0.

The data are then put in logarithmic forms denoted by \ln in each variable to avoid hetero scedasticity problem. The model involves the analysis of the relationship between saving deposit with commercial banks & GDP. Once it is observed that the variables analyzed have the same trend and the first differences are also stationery in that case we can proceed with the process of co integration.

The preliminary step will be to find the order of integration by using the unit root tests. When it happens that the variables have a unit root then to become stationary we will have to differentiate the data on the first difference.

Then the following stage will be using the Johansen and Juselius co integration test to find the number of co integration. If the co integration is found then there is a need to test for Granger causality.

Figure 1 : GDP & saving deposit with commercial Banks

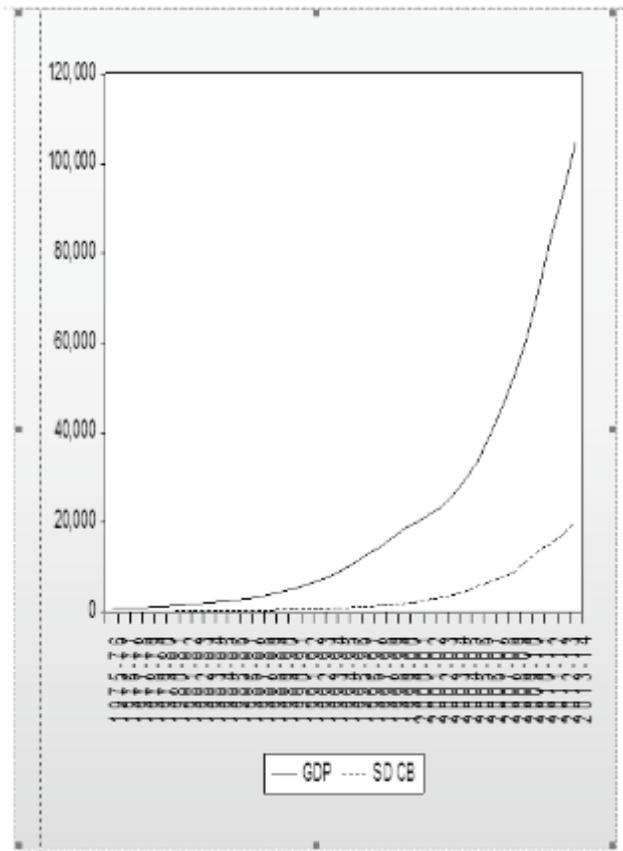


Figure 1. saving deposit with commercial bank & GDP trend of India from 1975 to 2014

Figure 1 above shows the direction of the two variables under investigation i.e. saving deposit with commercial bank & GDP trend of India from 1975 to 2014.

3.1 Augmented Dickey-Fuller (ADF) unit root tests

It is necessary to start with a unit root test to check whether a given series say X_t is stationary or not. The Dickey-Fuller and Augmented Dickey-Fuller unit root tests are popular in the literature.

Where k is the value which ensures ϵ_t be a white noise series D is the difference operator, α and γ are parameters. The above procedure is known as the ADF test. The DF test follows a special case of ADF test when summation part of the equation (1) is zero, that is when $k = 0$. The test statistics of DF and ADF are tested under the null hypothesis of non-stationary against the alternative of stationary.

The results of augmented Dickey-Fuller (ADF) unit root

test the variables included in the model developed by Dickey and Fuller (1979) to check the level of significance among the independent variables. The results are presented in Table 1.(TABLE 1)(TABLE 2)

The augmented Dickey Fuller results in table 1 above depicts that the two variables which are Saving deposits with commercial banks (SDCB) and GDP (Gross Domestic Product) were not stationary at level but they became stationary after the first differences with constant, with constant & trend & none.

3.2 Johansen Co Integration Analysis Johansen-Juselius (JJ) Procedure:

Johansen (1988) outlined a method which was later expanded by Johansen and Juselius (1990), which allowed for the testing of more than one co-integrating vector in the data and for the calculation of maximum likelihood of these vectors. This procedure yields two test statistics of the number of statistically significant co-integrating vectors. One is λ -max, which compares the null hypothesis $H_0(r)$ with an alternative $H_1(r+1)$ where r is the co-integrating vector. The second test is the trace test which examines the same null of $H_0(r)$ versus a general alternative, $H_1(p)$ where p is the number of variables. In this framework, it is desirable to obtain at least one co-integrating vector, $r = 1$ to establish the model. If one gets $r = 2$, then one could in principle assume that the system is stable in more than one dimension.(Table 3)(Table 4)

In conducting this test number of number of lag determination is very important therefore by selecting the Akaike information criterion and Schwartz criterion an optimal number of lag 1 is obtained as shown in table 3 & after performing the co integration test at lag 1 as suggested by FPE, AIC, HQ we obtained 2 co integration vector from both trace statistics and eigenvalue statistics at 5 percent level as shown above in table no 4.

3.3 Analysis of Granger Causality test

Causality is a kind of statistical feedback concept which is widely used in the building of forecasting models. Historically, Granger (1969) and Sim (1972) were the ones who formalized the application of causality in economics. Granger causality test is a technique for determining whether one time series is significant in forecasting another (Granger, 1969). The standard Granger causality test (Granger, 1988) seeks to

determine whether past values of a variable helps to predict changes in another variable. The definition states that in the conditional distribution, lagged values of Y_t add no information to explanation of movements of X_t beyond that provided by lagged values of X_t itself (Green, 2003). We should take note of the fact that the Granger causality technique measures the information given by one variable in explaining the latest value of another variable. In addition, it also says that variable Y is Granger caused by variable X if variable X assists in predicting the value of variable Y . If this is the case, it means that the lagged values of variable X are statistically significant in explaining variable Y . The null hypothesis (H_0) that we test in this case is that the X variable does not Granger cause variable Y and variable Y does not Granger cause variable X . In summary, one variable (X_t) is said to granger cause another variable (Y_t) if the lagged values of X_t can predict Y_t and vice versa. In the table no 5 the results of the granger causality test are indicated as under (Table 5)

From the above table No 5, we can find that Granger causality test results shows that the no causal relationships exist between Saving deposits of commercial banks and GDP. On the basis of above it can be said that it is difficult to say that by the introduction of Pradhan Mantra Jan Dhan Yojna will significantly contribute towards the GDP on the basis of data included for the period of this study.

4. Conclusion and Policy Recommendations

Present study is being carried out using the annual data ranging from 1975 to 2014 in order to identify the causality relation between Saving deposit with commercial deposit & GDP of India. We first started with the test of stationarity of the three variables in question using augmented Dickey-Fuller (ADF) test and the results are confirming that the two variables which are Saving deposit with commercial deposit and GDP (Gross Domestic Product) were not stationary at level but they became stationary after the first differences.

The co integration test found two co integrated equations with the help of max-Eigen value & Trace statistics implying the existence of a long run deposits with commercial deposits of commercial banks & GDP. However the granger causality test results showed that

there is no relationship on the basis of causality was found from saving deposits with commercial to GDP.

The Present study was an effort to check with the help of historical data that if introduction of much hyped Jan Dhan Yojna can boost GDP for India and other developing countries on the factors in questions when it comes to policy making in the country. The research is also limited basing on the fact that the data for India is not so exhausted therefore interpretation should be done with care and further studies should focus on those limitation that might bring a more robust results for the case of India.

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Table 1: No. Of Accounts in various banks

S.No	Types of Banks	No Of Accounts			No Of Rupaya Debit Cards	Balance In Accounts	No Of Accounts With Zero Balance		
		(In Lacs)						(In Lacs)	(In Lacs)
		Rural	Urban	Total					
1	Public Sector Banks	533	451.47	984.48	912.32	817463	655.41		
2	Regional Rural Banks	184.89	32.98	217.87	149.68	159948.1	159.35		
3	Private Banks	32.26	20.12	52.38	45.93	72551.5	29.97		
	Total	750.15	504.57	1254.73	1107.93	1049963	844.73		

Source: <http://pmjdy.gov.in/account-statistics-country.aspx> accessed on 12-02-2015.

TABLE 1 : ADF UNIT ROOT TESTING GDP_AT_FACTOR_COST

	AT LEVEL			AT FIRST DIFFERENCE		
	ADF TEST STATISTICS	CRITICAL VALUE		ADF TEST STATISTICS	CRITICAL VALUE	
CONSTANT	-4.203936	1% level	-3.62102	-8.29129	1% level	-3.62678
	0.0021	5% level	-2.94343	0.0000	5% level	-2.94584
	*,**,***	10% level	-2.61026	*,**,***	10% level	-2.61153
CONSTANT & TREND	-4.074648	1% level	-4.22682	-8.1805	1% level	-4.23497
	0.0145	5% level	-3.5366	0.0000	5% level	-3.54033
	*	10% level	-3.20032	*,**,***	10% level	-3.20245
NONE	0.079483	1% level	-2.62896	-8.41864	1% level	-2.63076
	0.7019	5% level	-1.95012	0.0000	5% level	-1.95039
		10% level	-1.61134	*,**,***	10% level	-1.6112

Note : *,**,*** indicates 1%, 5 % & 10 % level of significance respectively

TABLE 2: ADF UNIT ROOT TESTING SAVING_DEPOSIT_WITH_COMMERCIAL BANKS

	AT LEVEL			AT FIRST DIFFERENCE		
	ADF TEST STATISTICS	CRITICAL VALUE		ADF TEST STATISTICS	CRITICAL VALUE	
CONSTANT	-5.109944	1% level	-3.62102	8.29129	1% level	-3.62678
	0.0002	5% level	-2.94343	0.0000	5% level	-2.94584
	*,**,***	10% level	-2.61026	*,**,***	10% level	-2.61153
CONSTANT & TREND	-5.178642	1% level	-4.22682	8.1805	1% level	-4.23497
	0.0008	5% level	-3.5366	0.0000	5% level	-3.54033
	*,**,***	10% level	-3.20032	*,**,***	10% level	-3.20245
NONE	-0.899917	1% level	-2.62896	8.41864	1% level	-2.63076
	0.3192	5% level	-1.95012	0.0000	5% level	-1.95039
		10% level	-1.61134	*,**,***	10% level	-1.6112

Note : *,**,*** indicates 1%, 5 % & 10 % level of significance respectively

Table 3. Calculation of Optimum Lag length

Lag	LogL	LR sequential modified LR test statistic	FPE Final prediction error	AIC Akaike information criterion	SC Schwarz information criterion	HQ Hannan-Quinn information criterion
0	-168.273	NA	291.735	11.35155	11.44496*	11.38143
1	-161.689	11.85201*	245.8794*	11.17925*	11.45949	11.26890*
2	-159.804	3.140782	284.5227	11.32029	11.78736	11.46971
3	-156.428	5.177829	299.9431	11.36183	12.01572	11.57102
4	-151.103	7.454645	280.2945	11.27352	12.11423	11.54247
5	-149.885	1.542073	348.9284	11.45902	12.48657	11.78774
6	-146.545	3.785751	383.7084	11.503	12.71737	11.89148
7	-146.109	0.436086	524.2987	11.74059	13.14179	12.18885
8	-140.442	4.911569	521.871	11.62944	13.21747	12.13747

* indicates lag order selected by the criterion

Table 4. Johansen co integration tests

Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.450425	30.12767	15.49471	0.0002
At most 1 *	0.21201	8.577715	3.841466	0.0034

Here Trace test results indicating 2 co integrated equations at the 0.05 level

Whereas * denoting rejection of hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.450425	21.54995	14.2646	0.003
At most 1 *	0.21201	8.577715	3.841466	0.0034
Where Max-eigenvalue test indicating 2 co integrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Note : Both trace & max eigen Test indicates 2 co integrating eq(s) at 0.05 level.

Table 5: Pair wise Granger causality test

Null Hypothesis:	Obs	F-Statistic	Prob.	Decision
SAVING_DEPOSIT_WITH_COMM does not Granger Cause GDP_AT_FACTOR_COST	37	0.06694	0.7974	Accept H0
GDP_AT_FACTOR_COST does not Granger Cause SAVING_DEPOSIT_WITH_COMM		2.55612	0.1191	Accept H0

