

Evaluating the Impact of Pradhan Mantri Jan Dhan Yojana (PMJDY) on the Indian Economy: A Paired Sample Analysis Using Secondary Data

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ABSTRACT

The Prime Minister Jan Dhan Yojana (PMJDY) was launched in August 2014 a flagship of financial inclusion by Government Of India which aims to give access to banking facility to every citizen particularly in rural and underserved areas. The study aims to analyses the effectiveness of PMJDY by inferring before and after affect on different banking and economic variables using paired sample t test at 5% significance level using IBM-SPSS Software. Investment deposit ratio, GDP to broad money ratio and deposits in scheduled commercial banks in Uttar Pradesh and Lakshadweep is significantly different before and after PMJDY and ash deposit ratio, credit deposit ratio, bank reserve to demand deposit, narrow money/reserve money, broad money/reserve money, GDP/ narrow money did not show significant changes due to PMJDY. Achieving 100% financial inclusion still remains a challenge for the economy and government can several measures like mechanism to convert zero balance or inactive accounts into active one by engaging with beneficiaries, encourage the beneficiaries to use mobile banking and digital transaction especially in rural areas, encourage some small incentive like cash back or interest to keep the account active, simplify the process of issuing RuPay debit card , passbooks etc...regularly train the banking staff, financial literacy campaign or tie up with NGOs, self-help groups to spread awareness.

Keywords: - PMJDY, Cash Credit ratio, GDP, Reserve money, broad money. Narrow money, credit deposit ratio, investment deposit ratio, RuPay Debit Card

Introduction

Any kind of financial inclusion scheme aims to strengthen the available economic resources and build concept of savings amongst the citizen. According to world bank, financial inclusion

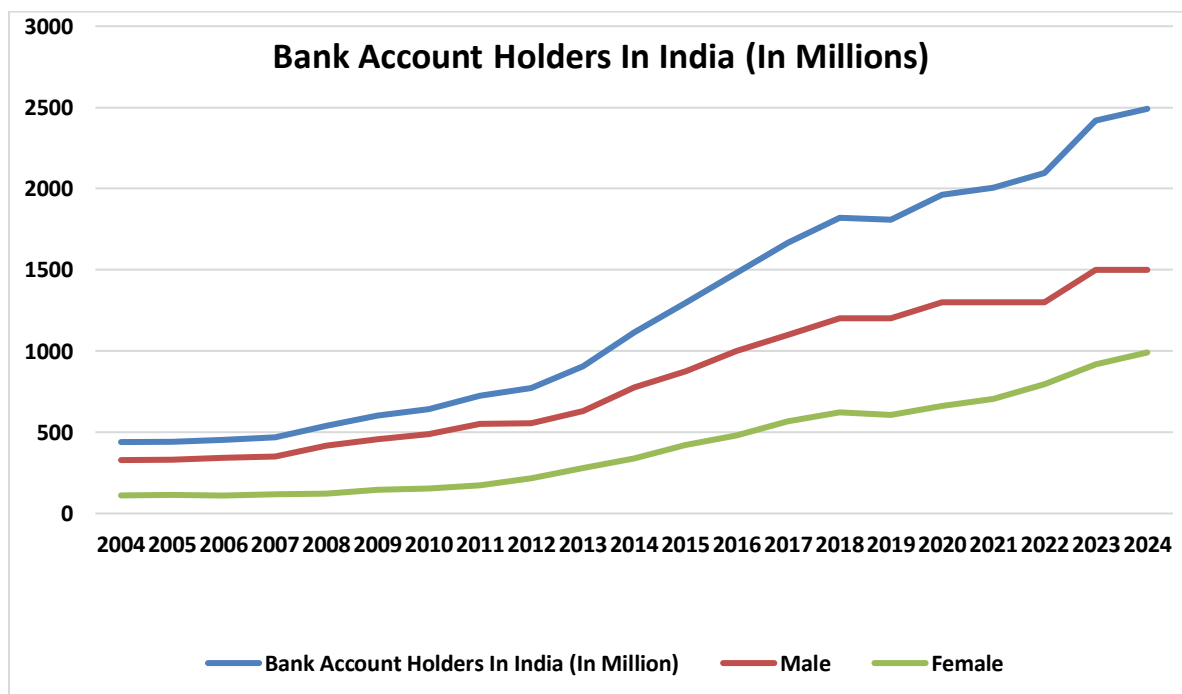
means individual and businesses to have access to useful and affordable financial products and services that meets their needs like transactions, payments, savings, credit and insurance delivered in a responsible and sustainable way (*Overview*, n.d.). As per Global Findex 2021 Survey, account ownership increased by 50% in the last 10 years spanning 2011 to 2021 which has reached 76% of the global adult population. In developing economies average rate account ownership increased by 8%, i.e. 63% to 71% during the year 2017 to 2021. It was also observed that mobile money is driving growth in account ownership, particularly in Sub-Saharan African countries where 33% of adults have a mobile money account. In developing economies there has been growth in account ownership. This geographic widespread of account ownership from the year 2011 till 2017, especially newly banked adults lived in China and India. The gender gap in account ownership across developing economies has fallen to 6% point from 9% point where it hovered for many years (World Bank Group, 2024). It was also observed that Covid 19 boosted the adoption of digital financial services like 40% of adults in developing economies excluding China who made digital merchant payment using cards, phones or internet and 1/3rd of adults in developing economies who paid a utility bill directly from an account, did so for the first time after the start of pandemic. Despite all these progresses, there continues to be a gap in the financial access for typically underserved adults especially amongst women, poor, the young and those outside the workforce continues to have lower account ownership rate on an average than men and adults who have higher income, older and in the workforce. Lack of money, distance to the nearest financial institutions and insufficient documents are some of the main cited reasons by unbanked adults for not having an account. In Sub Saharan African countries lack of mobile phones by 35% of unbanked adults is a common reason cited for not having a bank account. It has been claimed that India has accelerated progress on financial inclusion to such an extent that it has achieved in less than a decade what would otherwise have taken half a century. According to World Bank's Global Findex database, in 2011 only 35% above fifteen years of age in India had bank account. By 2014 this had increased to 53% and to 81% by 2017 (*Financial Inclusion and Digital Transformation in India | Understanding Indian Cities*, n.d.).

Financial Inclusion In India

In the year 1969, 14 Indian banks were nationalised with an aim of controlling few private players, expanding the banking network to rural India, providing credits for agriculture and small industries and to encourage entrepreneurship in the country and 14 more banks were nationalised in the year 1980 (*Bank Nationalisation at 50: A Reading List*, 2019). The concept of financial inclusion was introduced in the India in the year 2005 by Reserve Bank Of India (RBI) by introducing no frills account either with NIL or very minimum balances as well as charges that can make bank accounts accessible to vast population, simplification of 'know your customer' (KYC) account and ensuring reasonableness of bank charges (*IIBF*, n.d.). In 2008 after the

recommendation of Rangarajan Committee financial inclusion started attracting the attention of stakeholders when bank realised the significance of connecting more people for business growth. Reserve Bank Of India (RBI) advised all the public and private banks to submit three year financial inclusion plan to the board for approval starting from April 2010 which can include brick and mortar branches in rural India, number of unbanked villages with population below 2000 and above 2000, deployment of business correspondence, and use of kiosk/electronic modes for provision of financial services (India, n.d.). As a result of this, for the disposition of the credits Kisan Credit Card (KCC), General Credit Card (GCC) and other specific products were designed to cater financial excluded segment. In 2012 National Payment Corporation of India (NPCI) introduced RuPay Debit Card. Indian Domestic Debit Card to boost retail payments in India and this was the gamechanger in India (Tambe, 2024). There were other financial inclusion plan implemented by government like Swarnajayanthi Gram Swarozgar Yojana (SGSY) by National Rural livelihood Mission launched in the year 2010, Mahatma Gandhi National Rural Employee Guarantee Scheme (MGNREGS) launched in 2005, Atal Pension Yojana launched in the year 2025, Unique Identification Authority Of India (UIDAI) (Deshmukh & Dongre, 2022). Fig 1 below depicted the bank account holder in India (in Millions).

Fig 1. Bank Account Holders in India (In Millions)



Source: - (Waghmare, 2025)

In 2004, 439.7 million account holders were in India and in 2024 it rose to 2491.4 million, hence the growth rate is 467% (2051.7 million account holders) especially during 2014 when PMJDY was launched. Male members consistently remained majority till 2022, though their number was stagnant at 1300 million and from 2020-22 it increased to 1500 million by 2023. The female account holders had outgrown male growth rate almost 8 time especially post 2021, which shows a success in gender focused inclusion policies. As per the fig 1 there is a sharp increase from 908.1 million account holders in 2013 to 1115.1 million account holders in 2014.

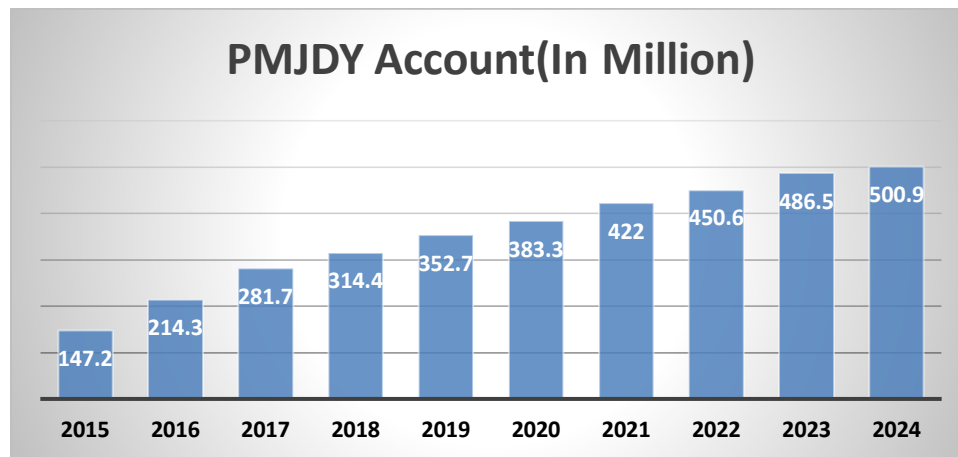
Prime Minister Jan Dhan Yojana (PMJDY)

Introduction of Prime Minister Jan Dhan Yojana (PMJDY) came as a national mission for financial inclusion with a purpose of accessing most financial services for citizens and accessible, which includes basic deposits and savings accounts, credit, remittance, pension, insurance and other benefits. The entire objective of the scheme was to enable the citizens to understand the financial operations and conducts without any difficulties. In August 2014, Prime Minister Jan Dhan Yojana scheme (PMJDY) was launched which is the largest financial inclusion in the world (*Pradhan Mantri Jan Dhan Yojana (PMJDY) — National Mission for Financial Inclusion — Completes a Decade of Successful Implementation*, n.d.). Under PMJDY the objective was to divide each district into Sub Service Area (SSA) to ensure banking services, provide each household with basics banking accounts and RuPay Debit Cards, spreading financial literacy to the village level, creating credit guarantee funds for covering defaults in overdraft account, providing microinsurance and designing pension schemes for the unorganized sector (*Pradhan Mantri Jan Dhan Yojana (PMJDY) — National Mission for Financial Inclusion — Completes a Decade of Successful Implementation*, n.d.).

Under PMJDY Scheme any citizen is eligible to open a regular bank account which do not require any minimum balance maintenance and account holder can use both bank branches and ATM's to withdraw or deposit cash. Under this scheme, any citizen can open a small account without presenting any legal document which is usually valid for 12 months and account holders also get a benefit of using RuPay Debit Card which is a global card payment network widely used across India. Credit card facility can also be availed if the accounts are operated effectively. PMJDY scheme people with RuPay Debit card also avail accidental insurance of Rs 100000 for the holders of non-premium cards, while those with the premium cards can avail upto Rs 200000. The scheme also facilitates the holder of RuPay Debit card life cover insurance upto Rs 30000. Under PMJDY there business correspondence agent or Bank Mitra who are mainly responsible for advisory services to the beneficiaries. Bank Mitra includes retail agents appointed by the bank and they connect with residents and guide them with banking solutions such as saving bank accounts, deposits, payments, withdrawals etc.... Under this scheme account holder can avail overdraft facility upto Rs 50000 only in one account per household, preferably lady of

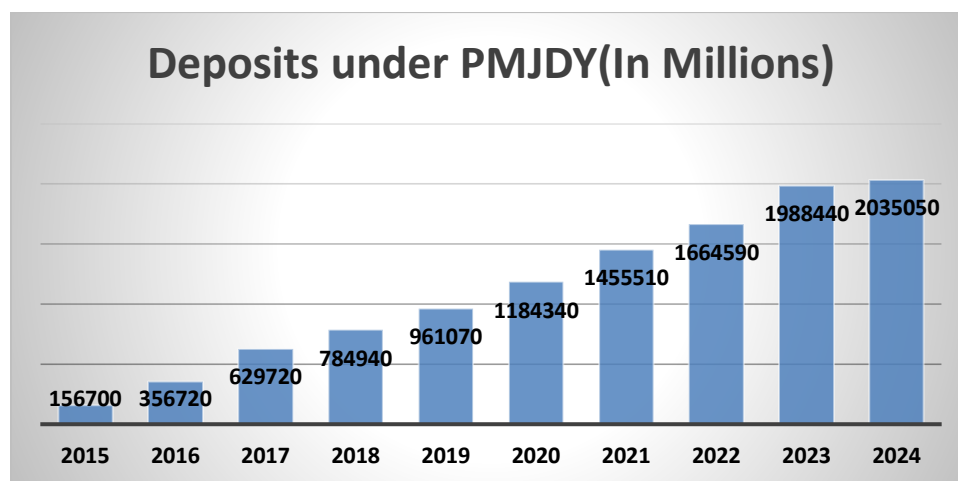
the households (*Pradhan Mantri Jan-Dhan Yojana (PMJDY)*| *National Portal of India*, n.d.-b). PMJDY account holders are also eligible for Direct Benefit Transfer (DBT), Pradhan Mantri Jeevan Jyoti Beema Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Atal Pension Yojana (APY), Micro Units Development & Refinance Agency Bank (MUDRA) schemes. Fig 2 below depicts the PMJDY account holders since its inception.

Fig 2. PMJDY Account Holders



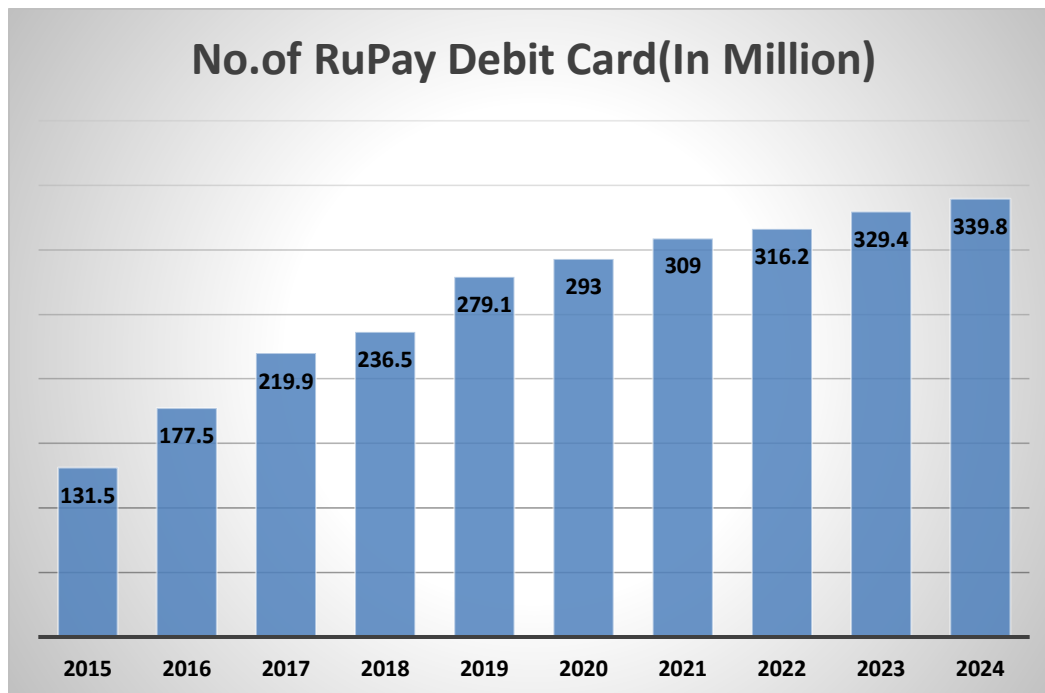
Source: - (*Pradhan Mantri Jan Dhan Yojana (PMJDY)* — *National Mission for Financial Inclusion — Completes a Decade of Successful Implementation*, n.d.-b)

Fig 3. Deposits under PMJDY (in millions)



Source: - (*Pradhan Mantri Jan Dhan Yojana (PMJDY)* — *National Mission for Financial Inclusion — Completes a Decade of Successful Implementation*, n.d.-b)

Fig 4. depicts the number of RuPay debit card holders in India since PMJDY scheme inception (In Millions)



Source: - Source: - (Pradhan Mantri Jan Dhan Yojana (PMJDY) — National Mission for Financial Inclusion — Completes a Decade of Successful Implementation, n.d.-b)

As per fig 2 in 2015 147.2 million accounts holder were there under the scheme which rose to 500.9 million by 2024 with an increase of 240% reflecting continuous expansion of financial inclusion PMJDY. As per fig 3 deposit under the scheme was Rs 156700 million which increased to 2035050 million by 2024 which indicates that not just account opening but also increased usage and saving behaviors amongst citizen. As per fig 4 the number of RuPay debit card holders grew by 158% from 2015 till 2024 which indicates the efforts towards digitalization and enabling cashless transaction amongst PMJDY beneficiaries. In the year 2016-17 witnessed the highest increase in the deposits under PMJDY by 76.5% possibly due to demonetization in late 2016.

Hence, PMJDY has shown significant progress in last decade, but any financial inclusion plan aims to enhance the banking services, credits, ATMs, to the citizen which impacts the other economic variables like money supply, GDP, gross savings etc..... (Hussain et al., 2024). This study aims to analyze the different banking and economic changes in the variables pre and post PMJDY scheme in India.

Literature Review

Review Of Literature – Indian Financial Inclusion

In India rural India had historically limited banking access, but PMJDY has narrowed down this gap especially after demonetization. A data comparing 2014 till 2017 shows that account ownership has reached almost 80%, but actual usage remains low like only 8.1% use formal credit card, 28.7% uses digital payments and 19.6% saves formally. Bridging these gaps is critical for reducing dependency on informal credit and fostering economic growth (Jain, 2021). A study also evaluated impact of credit access on rural households' per capita annual income (PCAHI) in eastern India (Uttar Pradesh, Bihar and Jharkhand) by employing endogenous switching regression model to address the selection bias. Findings indicates that access to credit significantly improves rural economic well being and is influenced by household's social economic and demographic factors. Non borrower households gain the most from the credit access, which highlights the potential for a credit to uplift underserved group. The study observed a heterogeneity in credit outcomes; hence it is recommended to tailor and introduce flexible credit policies instead of uniform policies. It has also been suggested that to introduce some regulatory reforms to expand credit access and support rural development through productivity enhancement scheme (Kumar et al., 2020).

Amongst women entrepreneurs who is running informal business in India it was found out using primary data that 47.7% of such women has bank account and factors influencing financial inclusions are younger and lesser experienced women entrepreneur are more likely to be financially included, higher education levels of women correlate positively with having bank account, access to resource capacity like machinery, equipment etc.... is significantly linked to financial inclusion and use information and communication technology (ICT) greatly influences financial inclusion as shown by logistic regression (Jima & Makoni, 2023). Even during Covid 19 times an initiative like Pradhan Mantri Garib Kalyan Yojana (PMGKY) helped the farmers withstanding the shock. Based on a phone survey from three northern Indian States, 95% of the farmers received the support atleast one component of PMGKY which includes Prime minister Kisan Samman Nidhi (PM-KISAN), Pradhan Mantri Ujjwala Yojana (PM-UY), PMJDY and Pradhan Mantri Garib Ann Vitran Yojana (PMAVY). Direct cash transfer schemes were more effective in reaching beneficiaries than in kind food distribution scheme. As per the survey, 89% of eligible beneficiaries received full amount under PM Kisan Scheme, 93% of eligible women received the benefit under PMJDY and fungibility of the transfers allowed farmers to flexibly use funds various faming needs. (Varshney et al., 2021). Using mixed methodology, a study also explored the effectiveness and reach of government welfare and development scheme amongst poor and socially disadvantaged groups in Telangana village, India. Using a household survey and focus group discussion...the study found that schemes like MGNREGA, Public Distribution

System (PDS), gas subsidy and midday meal program reaches most of the villagers, but many targeted schemes disproportionately benefit wealthier households due to flawed eligibility and asset-based criteria. Inverted U-shaped relationship was observed between household benefits and income/land ownership, with the poorest 20% often excluded due to lack of assets or infrastructure. Some of the key barriers identified were inadequate beneficiaries, complex procedures, lack of documentations and institutional inefficiencies. In the study it was observed that poorest lacked the access to subsidies like gas, due to infrastructural limitation and were excluded from loan waiver due to lack of collaterals. The study suggested the need for improved targeting, simplification of schemes, better governance, filed level capacity building and potentially a minimum income support system for rural poor households (Amarender Reddy et al., 2022).

In Maharashtra, India access to physical banking services along with the presence of Business Facilitators (BF) and Business Correspondence (BCs) improved the social well being of rural Self-Help Group (SHGs) based on the data of 425 SHGs. It was also found out that BFs and BCs act as a mediator between physical banking and social conditions, although their role in enhancing insurance access is limited (Survase & Gohil, 2024). It was also analysed that in India government efforts such as MGNREGA, Direct Benefit Transfer and PMJDY has largely benefited only certain social groups leaving low income population financially excluded using primary data from 6 states. It was observed that while PMJDY successfully expanded access by simplifying KYC norms, but many new accounts remain dormant due to inadequate income or savings (Bijoy, 2022). A relationship was established between financial inclusion, household debt and economic growth in India and it was found out that only 3 out of 96 financial inclusion indicators had a significant impact on economic growth. Household debt was found to be negatively affecting economic growth and study suggested that there is need to be more targeted and effective strategies to ensure that financial inclusion efforts contributes meaningfully to economic development (Sikarwar et al., 2020).

It was also suggested that various measures of financial inclusion have been implemented in India, but strengthening banking through post office, improving synergy between tech providers and banks and regulated interest rate is required. Branch density has significantly impacted financial inclusion while literacy is important but alone it cannot ensure inclusion without real investment opportunities (Paramasivan & Ganeshkumar, 2013). Relationship between Financial Inclusion (FI) and SDGs in India for the year 2017-19 from 16 states and one Union Territory was analysed and it was found out that FI positively contributes to achieving SDGs. However, when number of internet subscriber is high, the strength of this positive relationship weakens (Pushp et al., 2023). A multidimensional financial inclusion index was formed using the data between the year 2010 till 2012 and it was observed that India achieved high financial inclusion

on demand side like banking penetration, service usage etc... but remained low on supply side like access to savings, insurance and managing bank risks (Sethy, 2016). Overall, the number of beneficiaries under PMJDY has increased drastically, hence quantity of money in newly formed account has climbed by 63% in last four years and there has been significant increase in the number of persons using the banking services (Deshmukh & Dongre, 2022b).

Review Of Literature – Global Financial Inclusion

A study investigated the relationship between financial inclusion and economic growth across 41 Sub-Saharan-African countries from 2004 till 2019 using financial inclusion index and panel data analysis. As per the findings there is a significant positive relationship between financial inclusion and economic growth. Bidirectional causality exists for low and lower-middle-income countries while unidirectional causality, i.e. from financial inclusion to growth is observed in upper-middle-income countries. It has been recommended that targeted financial policies to integrate disadvantaged population especially rural dweller, so that they come under formal financial system by improving accessibility, reducing operational cost and by introducing some institutional reforms. It has also been recommended to enable business environment for low income countries, regulatory reforms lower -middle- income countries. The study emphasized the need for long term financial reforms, human capital enhancement through education and training (Adedokun et al., 2022). Interrelationship between financial inclusion, financial stability and economic growth for 26 Sub-Saharan African countries from 2000 to 2019 was analysed. Using panel data and composition index based on six financial inclusion indicators explored the short- and long-term linkage. The finding revealed a bidirectional causality between causality between financial inclusion and other two variable, i.e. financial stability and economic growth along with unidirectional joint causality amongst all three variables indicating strong complimentary. The authors suggested expanding financial services not only boosts economic performance but strengthen the financial system stability and their national development goals under the UN Sustainable Development Goals (SDG's) 2030 and African Union Agenda 2063 (Jima & Makoni, 2023). Also, in 29 Sub Saharan African countries for the year 2012 to 2020 financial inclusion positively contributes to the economic growth, with traditional finances having a stronger affect overall. In low income countries only digital finances boosts growth whereas in middle income countries, both types are effective. It was also observed that economic growth more strongly influences traditional finance than vice versa and access to financial services has greater impact on growth than usage (Chinoda & Mashamba, 2021).

In China research identified that if digital financial inclusion increases, its positive influence on regional growth becomes more pronounced using data from 31 province between the year 2003 till 2022 using advanced econometric models. It was also found out that digital finance empowers Small and Medium Enterprise (SME) and individual entrepreneur to adopt eco-

friendly technologies by easing access to funding supporting cleaner production (Becha et al., 2025). Impact of financial inclusion on regional inequality and competitiveness across Chinese provinces for the year 2011 to 2019 was analysed and it was found out that while digital financial inclusion can promote economic competitiveness, it also contributes to regional inequality due to digital divide. Hence enhancing digital competitiveness helps mitigate this inequality and certain level of digital development (“Inclusiveness and Competitiveness Performance of Digital Financial Inclusion: From the Perspective of Regional Inequity,” 2023). In Zimbabwe it was observed that inclusion influences economic growth, even amidst Zimbabwe economic difficulties using the data from 2011 till 2017, where financial services was represented by ICT and mobile networks and GDP representing economic growth. In Zimbabwe it was recommended to promote financial inclusion and market based financial sector development to support overall economic development (Maune et al., 2020). Infact for Nigerian economy also using the data from 1981 till 2022 it was confirmed that there is a short- and long-term relationship between financial inclusion and economic growth measured by GDP per capita. Indicators such as money supply and loan deposit ratios positively impact economic growth and other factors like credit to private sector, liquidity ratio and total saving ratio negatively affects it. The study advocates for increased financial support to undeserved population, technological innovation and improved literacy program to foster inclusive growth and sustainable development (Atta & Ibrahim, 2024).

According to the data of 48 developing countries for the year 2004 till 2019 there is a complimentary relationship between financial inclusion and gender equality which drives economic growth. Gender parity enhances the impact of financial inclusion and vice versa, making both essential for inclusive and sustainable growth (Wani et al., 2024). Fintech especially mobile based digital payment and ecommerce for 108 developing countries revealed that it positively influences economic growth. Traditional financial inclusion indicators like ATMs and bank branch density often correlate negatively with economic growth. A strong synergy was observed when digital payments complements ATM density and enhances effectiveness of traditional banking (Azmeah & Al-Raei, 2024). In 20 African countries also between 2004 and 2018 it was observed that there is appositve long-term relationship between financial inclusion and economic growth, while in short term economic growth reduces financial inclusion. It was also observed that bank competition reduces financial inclusion in the long run, but boost it in the short run (Chinoda & Mashamba, 2021).

Relationship between financial stability, financial inclusion and inclusive growth amongst 40 African countries from 2004 to 2020 also revealed that financial inclusion significantly promotes inclusive growth, while financial stability on its own is less impactful. However, when financial stability works in tandem with financial inclusion, their synergy substantially boosts inclusive

growth (Iddrisu et al., 2023). Amongst South African Development Countries (SADC) also it was found out that financial inclusion significantly enhances bank stability, whereas greater banking efficiency surprisingly had a negative affect (Jeke, 2024). Even in countries like Bangladesh, Malaysia and Pakistan for the year 2004 to 2019 it was observed that financial inclusion significantly and positively influences economic growth. Factors like inflation, population growth and trade openness also contribute to growth and unidirectional relationship was also found out indicating that financial inclusion drives economic growth (Khan et al., 2024).

In South Asian Countries financial inclusion significantly contributes to human capital development in the long run by improving access to education and healthcare, reducing poverty and facilitating risk mitigation. It was also observed that financial inclusion has no long-term correlation with economic growth, but does show a positive short-term affect, especially in-service driven economies (Thatsarani et al., 2021). A multidimensional financial inclusion index was developed to access financial inclusion index levels across 12 Middle East and North African Countries (MENA) from 2004 to 2020 and the results showed that efforts towards financial inclusion in the region have been insufficient for driving economic growth (F, 2024). Amongst African countries data from 2001 to 2022 showed that income inequality and unemployment negatively impact economic growth, while financial inclusion and investment positively influence it. Additionally, financial technology significantly supports economic growth (Nambie et al., 2023). Using the data from Vietnam Household Living Standard Survey (VHLSS) for the year 2014, 2016 and 2016 a household level financial inclusion index was prepared. According to the index total household income is positively associated with financial inclusion, relative income is negatively associated with financial inclusion and it lowers the financial inclusion when a household earns less than the provincial age and distance to the nearest bank branch reduces financial inclusion (Nguyen et al., 2023).

Hence, numerous studies has been done to evaluate the effectiveness of financial inclusion schemes in India, Sub Saharan countries, African Countries ((Adedokun et al., 2022), (Atta & Ibrahim, 2024), (Bijoy, 2022)) etc...This paper aims to contribute in the literature by analysing the impact of PMJDY on different banking performance variables and economic variables.

Objectives of the study

1. Identify the significant variables impacting banking industry and economy as a whole
2. To analyse the changes in banking and macro-economic indicators before and after implementation of PMJDY

3. To assess the Indian States having maximum and least number of banking accounts post and pre implementation of PMJDY

Research Methodology

Any financial inclusion plan stimulates financial growth, economic growth and financial education amongst the citizen. As per the literature there are various banking performance variables which can get impacted due to financial inclusion scheme are: -

Cash Deposit Ratio: It is the proportion of deposits held by the public compared to the total deposits in the banking system. It helps to analyse the public's preference for holding cash versus maintaining deposits in the bank. Higher CDR can lead to smaller money multiplier as less of money deposited is available to be lent out (Goel & Kumar, 2016)

Credit Deposit Ratio: - Percentage of bank deposits that are lent out as loan and it's a way to analyse how effectively banks are using its funds for lending activity. Higher CDP indicates that banks are lending out larger portion of its deposits due to strong demand of credits or potential pressure on its resources. Lower Credit Deposit Ratio means banks are not fully utilizing its deposits (Goel & Kumar, 2016), (Nitsure, 2024).

Investment Deposit Ratio: - It's a proportion of bank deposits that are used for investment purpose, that is how much deposits of bank are channelized into investment. Higher ratio indicates profitability and investment can generate returns (Steven & Toni, 2020).

Some of the selected variables that can impact the economic growth are: -

Banking reserve: - Banks are required to hold some percentage of their deposits with central banks and it act as a buffer against liquidity risks and forms a part of monetary policy. Reserve bank changes the reserve requirements to control the money supply and interest rate which affects the economy.

Reserve Money: - Reserve money is also known as powered money and its is a monetary base of an economy. It includes all currency (notes, coins etc...), banks deposits with central banks, deposits of quasi government and other financial institutions including primary dealers, balances in the accounts of foreign banks and Government and account of international agencies like International Monetary Funds etc...It is the total liability of central bank (Naik, 2024).

Narrow and Broad Money: - Narrow money is the liquid form of money in circulation, such as cash and highly liquid bank deposits that can be used immediately. It includes currency in circulation, demand deposits with bank and other deposits with RBI and banks. Broad money means total amount of money in circulation including cash and bank deposits that are easily

accessible it includes narrow money, time deposits with bank and other deposits with RBI and Banks (Suoyai et al., 2018).

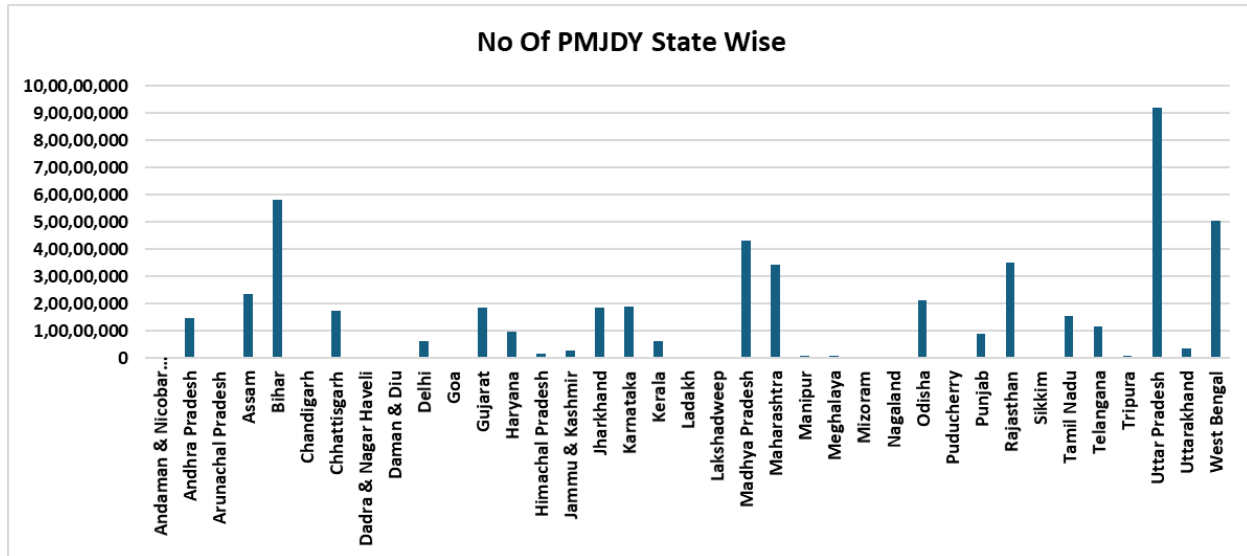
For the current research data for all these variables has been collected through RBI website for last 20 years. The descriptive statistics for each of the variables has been depicted in Table 1 below:

Table 1: - Descriptive Statistics Of Variables

Variable	Mean	Median	Std Deviation
Cash Deposit Ratio	6.60	6.13	1.19
Credit Deposit Ratio	73.03	73.9	5.75
Investment Deposit Ratio	35.9	34.76	4.72
Bank Reserve/Demand Deposit	0.47	0.45	0.07
Narrow Money/Reserve Money	1.28	1.29	0.05
Broad Money/Reserve Money	5.3	5.28	0.47
GDP/Broad Money	1.28	1.26	0.09
GDP/ Narrow Money	5.29	5.2	0.45

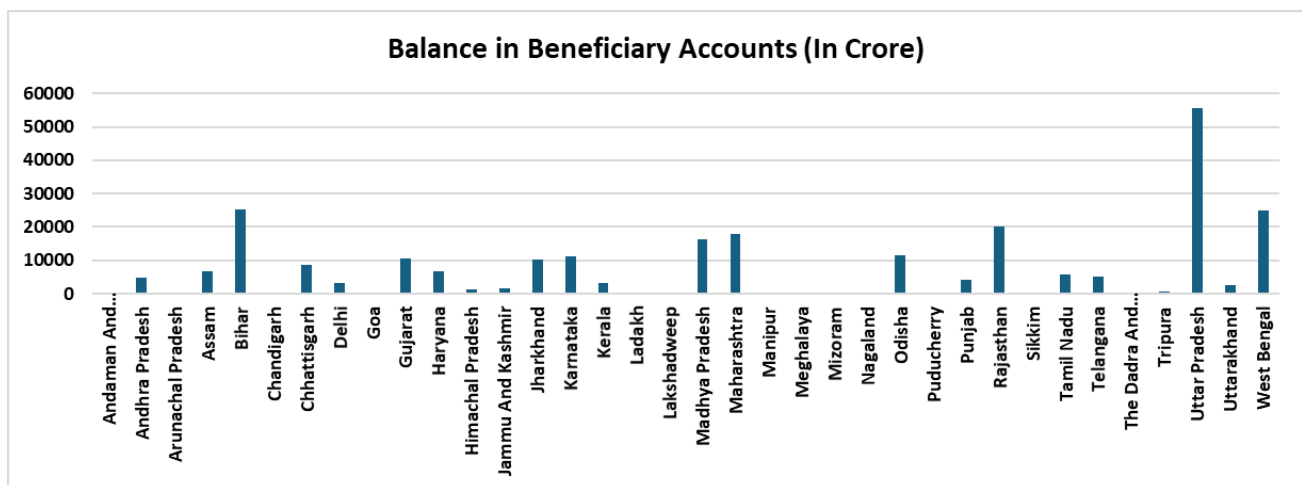
As per table 1 cash deposit ratio indicates consistent behaviour across the sample period and credit deposit ratio also looks quite moderate with some standard deviation and investment deposit ratio also investment deposit ratio indicates significant portion of deposits is safe and generating returns. Standard deviation of credit deposit ratio and investment deposit ratio is relatively high. Bank reserve to demand deposit ratio is highly consistent which is influence by regulatory reserve requirements. Narrow money is 1.28 times the reserve money which indicates money multiplier effect and this ratio remains steady over time and broad money is 5.3 times the reserve money indicating strong money creation process through banking system. For every unit of broad money 1.28 is GDP unit and it reflects the efficiency of usage of money in generating economic out and growth and it was also observed that GDP is about 5.29 times the narrow money with stable ratio throughout the time period. As per the data on RBI website the number of PMJDY account as on March 2025 has been depicted in fig 5 below: -

Fig 5: - No of PMJDY Account State Wise As on March 2025



Source: - (DBIE, n.d.)

Fig 6: - Balance in Beneficiary Account As on March 2025 (In Crores)

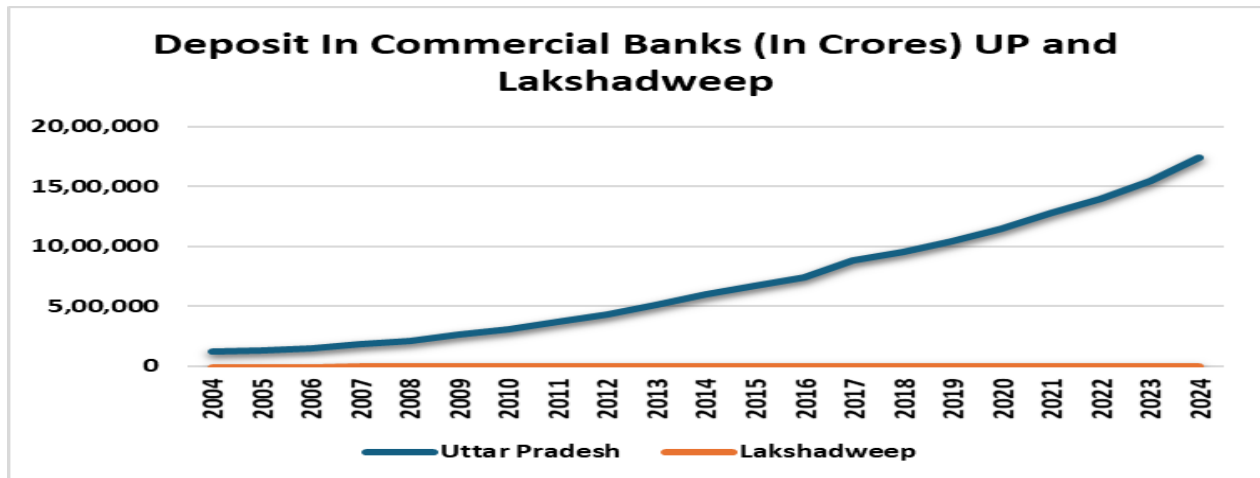


Source: - (Ministry of Finance, Government of India, 2025)

As per the state data Uttar Pradesh state has highest number of PMJDY (98103081 PMJDY accounts) account and Lakshadweep has lowest (1131 PMJDY account) and balance in beneficiary account as on March 2025 also depicts that lowest balance is in Lakshadweep and maximum is in Uttar Pradesh State (Fig 6). This study will also analyse the deposits and credits

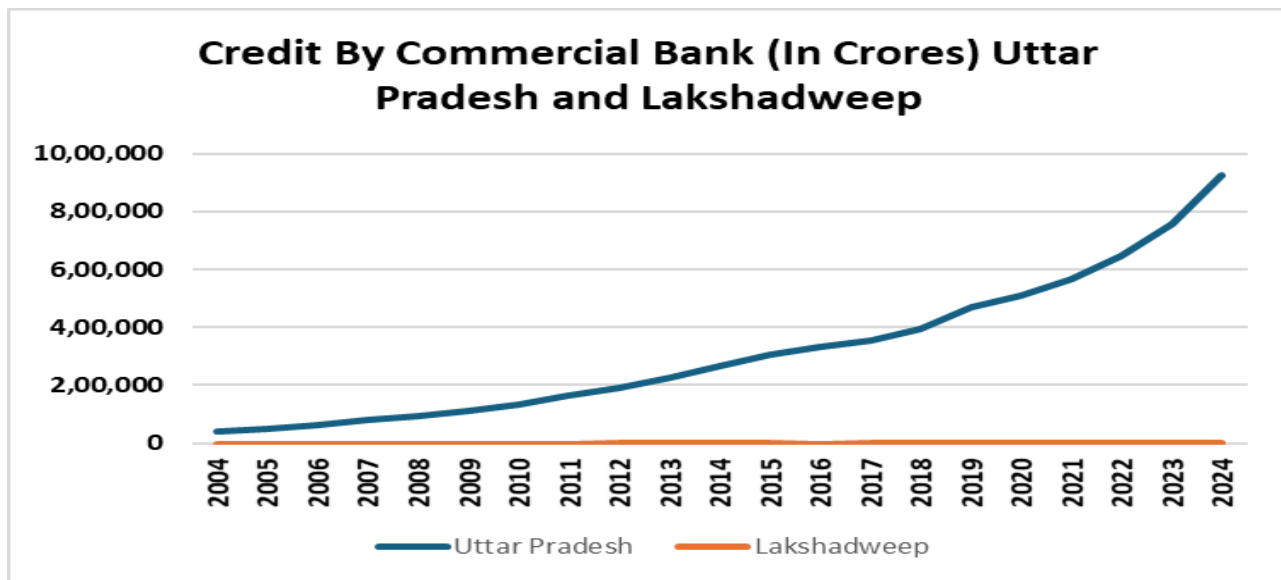
in commercial banks over a period of time from 2004 to 2024 in Uttar Pradesh and Lakshadweep and analyse the difference post and pre PMJDY scheme.

Fig 7. Deposits in Schedule Commercial Banks (In Crores) Uttar Pradesh and Lakshadweep



Source: - (DBIE, n.d.)

Fig 8. Credit by Schedule Commercial Bank (In Crores) Uttar Pradesh and Lakshadweep



Source: - (DBIE, n.d.)

As per fig 7 the absolute growth in deposits in scheduled commercial banks over the past 20 years in Uttar Pradesh is quite massive (Rs 1626107 Crores) than Lakshadweep (Rs 1432 Crores) maybe due to its size and population. For Uttar Pradesh deposits increased from 1.19 lakhs crores to Rs 5.97 lakh crores from 2004 to 2014 and from 2015 till 2024 it grew from Rs 6.7 lakhs Crores to Rs 17.45 lakhs Crores. In Lakshadweep the deposits showed a moderate expansion, i.e. in the year 2004 deposits were 100 crores and increased to Rs 700 crores till 2014 and by 2024 it was 1532 crores. As per fig 8 Credits by scheduled commercial banks in Uttar Pradesh was Rs 39600 crores in 2001 it increased to Rs 2.6 lakhs crores by 2014 and it was 9.24 lakhs crores by 2024. For Lakshadweep no credit was reported in the year 2004 till 2011 and it was stagnant at 100 crores for the year 2012-15 and it was Rs 168 crores in the year 2024 (Malligar & Bankapur, 2016) . The descriptive statistics of deposits and credits for Uttar Pradesh (UP) and Lakshadweep has been depicted in table 2

Table 2. Descriptive Statistics of Credits and Deposit (In Crores) For UP and Lakshadweep by Scheduled Commercial Banks

Deposits/Credit	State	Mean	Median	Std Deviation
Deposits	Uttar Pradesh	6,99,874	5,97,700	503594
	Lakshadweep	723	700	443.73
Credit	Uttar Pradesh	3,17,749	2,66,600	2,43,218
	Lakshadweep	62	90	56.32

Source: - Author Analysis

Data Analysis

The current study aims to identify and analyse the before and after impact of PMJDY on different banking and economic variables as discussed above. For the study the data has been collected from the RBI website or PMJDY website for the year 2004 till 2024 (DBIE, n.d.), (Ministry of Finance, Government of India, 2025). To infer the impact of PMJDY on different variables following hypothesis were formed (table 3) and tested at 5% significance level using paired sample T test using IBM SPSS software. Time period before PMJDY has been considered from the year 2004 till 2014 and after PMJDY is 2015 till 2024 (Malligar & Bankapur, 2016).

Table 3 Hypothesis

S.No	Hypothesis	P Value	Interpretation
1	Ho: There is no significant difference in the cash deposit ratio before and after PMJDY Ha: There is a significant difference in the cash deposit ratio before and after PMJDY	0.07	Fail to reject null
2	Ho: There is no significant difference in the credit deposit ratio before and after PMJDY Ha: There is a significant difference in the credit deposit ratio before and after PMJDY	0.50	Fail to reject null
3	Ho: There is no significant difference in the investment deposit ratio before and after PMJDY Ha: There is a significant difference in the investment deposit ratio before and after PMJDY	0.04	Reject Null Hypothesis
4	Ho: There is no significant difference in bank reserve/demand deposit before and after PMJDY Ha: There is a significant difference in bank reserve/demand deposit before and after PMJDY	0.35	Fail to reject null
5	Ho: There is no significant difference in narrow money/reserve money before and after PMJDY Ha: There is a significant difference in narrow money/reserve money before and after PMJDY	0.84	Fail To reject null
6	Ho: There is no significant in broad money/reserve money before and after PMJDY Ha: There is a significant difference in bank broad money/reserve money before and after PMJDY	0.07	Fail to reject null
7	Ho: There is no significant difference in GDP/broad money before and after PMJDY	0.01	Reject null

	Ha: There is a significant difference in GDP/broad money before and after PMJDY		
8	Ho: There is no significant difference in GDP/narrow money before and after PMJDY Ha: There is a significant difference in GDP/narrow money before and after PMJDY	0.18	Fail to reject null
9	Ho: There is no significant difference in deposit in the scheduled commercial banks before and after PMJDY in UP State Ho: There is a significant difference deposit in the scheduled commercial banks before and after PMJDY in UP State	0.00	Reject null
10	Ho: There is no significant difference in deposit in the scheduled commercial banks before and after PMJDY in Lakshadweep State Ho: There is a significant difference deposit in the scheduled commercial banks before and after PMJDY in Lakshadweep State	0.00	Reject Null

Credit by Scheduled commercial banks in UP and Lakshadweep has not been tested due to lack of data for Lakshadweep. In table 3 amongst all the ten-hypothesis tested 3 were significant at 5% significance level that is investment deposit ratio, GDP to broad money ratio and deposits in scheduled commercial banks in Uttar Pradesh and Lakshadweep, whereas cash deposit ratio, credit deposit ratio, bank reserve to demand deposit, narrow money/reserve money, broad money/reserve money, GDP/ narrow money did not show significant changes due to PMJDY. Overall PMJDY significantly improved deposits in the commercial scheduled banks in UP and Lakshadweep and only two selected macroeconomic variables like GDP to broad money and investment deposit ratio, but broader monetary aggregates remains limited. Some study has indicated that there is lack in the effectiveness of PMJDY due to poor staff awareness and support, administrative delay, delay in processing. The PMJDY success does not lie in account

opening by the beneficiaries but also to remain active and avail the benefits under PMJDY ((Walia & Kaur, 2020), (Shettar, 2016)).

Conclusion and Recommendation

PMJDY has made a remarkable progress in the last decade enabling million unbanked citizens to avail banking services which can lead to economic growth. The scheme has successfully increased account penetration especially in rural and semi urban areas. But despite all the financial inclusion effort by bank, PMJDY still lacks operational challenges, inactive accounts, lack of financial literacy etc...Achieving 100% financial inclusion still remains a challenge for the economy and government can several measures like mechanism to convert zero balance or inactive accounts into active one by engaging with beneficiaries, encourage the beneficiaries to use mobile banking and digital transaction especially in rural areas, encourage some small incentive like cash back or interest to keep the account active, simplify the process of issuing RuPay debit card , passbooks etc...regularly train the banking staff, financial literacy campaign or tie up with NGOs, self help groups to spread awareness.

This study is limited to only analyse the before and after affect of PMJDY on different banking and economic variables. This study can be further to analyse effectiveness of different financial inclusion schemes, country wise comparison can also be taken and impact of PMJDY on different macro-economic variables can be estimated on a time series basis.

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Annexure

Hypothesis 1(Cash Deposit Ratio)

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BeforePMJDY	7.1290	10	1.27887	.40442
AfterPMJDY	6.1740	10	.95683	.30257

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 BeforePMJDY & AfterPMJDY	10	.138	.703

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 BeforePMJDY - AfterPMJDY	.95500	1.48736	.47034	-.10899	2.01899	2.030	9	.073

Hypothesis 2 (Credit Deposit Ratio)

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BeforePMJDY	68.3420	10	22.39812	7.08291
AfterPMJDY	73.7950	10	3.28049	1.03738

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 BeforePMJDY & AfterPMJDY	10	-.616	.058

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 BeforePMJDY - AfterPMJDY	-5.45300	24.55505	7.76499	-23.01862	12.11262	-7.02	9	.505

Hypothesis 3 (Investment Deposit Ratio)

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BeforePMJDY	38.5020	10	5.88611	1.86135
AfterPMJDY	33.8300	10	.75122	.23756

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 BeforePMJDY & AfterPMJDY	10	-.445	.198

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 BeforePMJDY - AfterPMJDY	4.67200	6.25655	1.97849	.19633	9.14767	2.361	9	.043

Hypothesis 4 (Reserve/Demand Deposit)

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BeforePMJDY	.4970	10	.08001	.02530
AfterPMJDY	3.7390	10	10.43949	3.30126

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 BeforePMJDY & AfterPMJDY	10	.099	.785

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 BeforePMJDY - AfterPMJDY	-3.24200	10.43183	3.29883	-10.70448	4.22048	-983	9	.351

Hypothesis 5 (Narrow Money/ Reserve Money)

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BeforePMJDY	1.2922	9	.07446	.02482
AfterPMJDY	1.2978	9	.02949	.00983

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 BeforePMJDY & AfterPMJDY	9	-.060	.878

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 BeforePMJDY - AfterPMJDY	-.00556	.08172	.02724	-.06837	.05726	-.204	8	.843

Hypothesis 6

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BeforePMJDY	4.9189	9	.25915	.08638
AfterPMJDY	5.6133	9	.38955	.12985

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 BeforePMJDY & AfterPMJDY	9	-.549	.126

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 BeforePMJDY - AfterPMJDY	-.69444	.57428	.19143	-1.13588	-.25301	-3.628	8	.007

Hypothesis 7

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BeforePMJDY	1.3400	9	.10724	.03575
AfterPMJDY	1.2433	9	.05979	.01993

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 BeforePMJDY & AfterPMJDY	9	.497	.173

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 BeforePMJDY - AfterPMJDY	.09667	.09327	.03109	.02497	.16836	3.109	8	.014

Hypothesis 8

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BeforePMJDY	5.0878	9	.26352	.08784
AfterPMJDY	5.3933	9	.56187	.18729

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 BeforePMJDY & AfterPMJDY	9	-.038	.922

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 BeforePMJDY - AfterPMJDY	-.30556	.62970	.20990	-.78959	.17848	-1.456	8	.184

Hypothesis 9

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BeforePMJDY	269330.0000	10	133957.3568	42361.03569
AfterPMJDY	1140636.100	10	350206.8020	110745.1146

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 BeforePMJDY & AfterPMJDY	10	.993	.000

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 BeforePMJDY - AfterPMJDY	-871306.1000	217867.0615	68895.61415	-1027158.807	-715453.3930	-12.647	9	.000

Hypothesis 10

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BeforePMJDY	311.1111	9	196.49710	65.49903
AfterPMJDY	1120.6667	9	270.77020	90.25673

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 BeforePMJDY & AfterPMJDY	9	.938	.000

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 BeforePMJDY - AfterPMJDY	-809.55556	110.20108	36.73369	-894.26360	-724.84751	-22.039	8	.000