SAVINGS TRENDS IN INDIA: EXPLORING THE ROLE OF MICROFINANCE, COMMERCIAL BANKS, AND CREDIT UNIONS

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DOI: 10.5958/2278-4853.2024.00008.X

ABSTRACT

The study is mainly focused on Indian savings habits during 2011 to 2022. Data is collected from the number of savings account held by commercial banks, credit union co-operatives and microfinance institutions. The study is used descriptive research methodology in which data is based on secondary form. Data is analysed with the help of ANOVA and Correlation technique. The results showed that subtle patterns in the Indian savings environment, paying particular attention to the consistency of cooperative and credit union deposits, which may point to a long-term preference. The study also examined how commercial banks and microfinance organisations help draw in and keep savers. Branch density dynamics are included in the research, which clarifies how accessible savings accounts are at various financial institutions. Considering the effect of various financial institutions and their impact on financial inclusion, this research provides insightful information about how savings habits are changing in India.

KEYWORDS: *Credit Unions, Financial Inclusion, Microfinance Institutions, Savings Trends.*

INTRODUCTION

A common goal across countries is to enhance national output to raise living standards and welfare generally. This is known as economic growth. Governments all over the globe employ various measures, such as encouraging saving and encouraging borrowing and investment to increase national output, to reduce poverty and raise national income levels. In this particular economic paradigm, saving plays a critical role in the link between investment and increase in aggregate wealth. It is a commonly held concept that increasing overall savings makes increasing capital and inventory investments possible, promoting economic development. Furthermore, empirical data points to a relationship between higher per-capita consumer spending, personal income growth, and economic expansion. The Keynesian theory of consumption states that as income levels rise, so do collective savings. Undeniably, a rise in total savings, sometimes prompted by increased income, can bolster investment possibilities and promote further national economic growth, even in the face of disagreements over the relationship between savings and economic growth. The amount of official regulated financial services the impoverished may access is significantly less than what is needed. Low-cost, straightforward, formalised approaches have become more popular recently, partly due to the formal sector's incapacity to offer goods and services that the impoverished most desire—such as closeness, flexibility, and in some situations, large returns. Savings groups are becoming increasingly common, as evidenced by the growth of these organisations. These individuals may find it challenging to deal with formal financial institutions due to a variety of factors, such as low cash balances, lack of access, illiteracy, or innumeracy, and a lack of funds to cover transaction costs, which can include anything from commissions and fees on savings accounts to the costs of travelling from remote rural areas to banks in market towns. The issues facing the impoverished go beyond money. Since the beginning, many microfinance companies have made it a top goal to provide goods and initiatives that improve well-being in non-financial ways. Human rights are advancing, education is being promoted, women are empowered, and marginalised communities are being improved. All of these objectives share the desire to influence some non-financial behavioural or cognitive shift. These adjustments might take many different shapes. The most notable benefit microfinance practitioners frequently mention is the educational advantages of joining a savings or credit programme. The majority of savings products demand at least a basic understanding of accounting; the potential rewards of involvement encourage impoverished individuals to acquire these abilities. **(Martin, 2013)**

Review of Literature:

Financial inclusion, mainly through savings, has been a key focus in various countries. In the UK and the US, asset-based welfare policies such as the Child Trust Fund and Individual Development Account initiatives have been implemented to encourage savings and tackle poverty. In Uganda, access to and useof formal financial services have positively influenced savings. Similarly, financial inclusion has been identified as crucial for economic growth and poverty reduction, focusing on encouraging saving habits in India. These studies collectively highlight the importance of financial inclusion in promoting savings and its potential to address poverty and inequality.

1) Niankara, et al., 2018

The paper provides a comparative analysis of the impact of financial inclusion on individuals' saving and borrowing behaviours in the United Arab Emirates (UAE) and the United States.The study found no significant difference in borrowing behaviour between residents of the United States and the United Arab Emirates. However, US residents are 31.4% more likely to save than their UAE counterparts. The results also revealed the absence of an income-based saving or borrowing gradient in both countries. Gender-based saving and borrowing inequalities were found in favour of males. The results reveal that US residents are 31.4% more likely to save than their UAE counterparts, highlighting a difference in saving behaviour between the two countries. The study also finds the absence of an income-based saving or borrowing gradient in both the UAE and the US, suggesting that saving and borrowing behaviours are not significantly influenced by income levels.

2) Prashant Bharadwaj, 2020

Financial inclusion is important for enhancing community welfare since it helps save and loan cooperatives; nevertheless, its influence on poverty reduction is limited to the usage dimension and not the access and service dimensions. Access to a bank account, debit cards, direct salary payments, and government transfer programmes are examples of financial inclusion tactics that greatly increase the possibility of borrowing and saving. Savings behaviour is influenced by financial knowledge, financial inclusion, and financial attitude, with financial attitude having the largest and most favourable impact. Use of mobile money promotes the use of mobile money as a tool to improve financial inclusion and raises savings and saving behaviour in Ghana, especially in rural regions. The possibility of saving and borrowing is greatly increased by financial inclusion methods such having access to a bank account, debit card ownership, direct pay and salary transfer rules, and government transfer programmes with direct deposit alternatives.

Additionally, having access to financial inclusion tools like bank accounts, debit cards, and direct income and salary transfer policies can improve borrowing and saving habits, which may draw in additional capital. One of the main problems with impoverished people's money management is that they occasionally make large, irregular (or "lumpy") purchases. These might be sporadic, like merchants who purchase wholesale goods monthly, or recurring, like weddings, funerals, or other costs brought on by life events. Results from the Global Findex, which show that 17% of individuals in the lowest income quartile saved for future expenses and 20% saved for emergencies, corroborate this picture.

3) Ibrahim Niankara, 2020: The paper examines the impact of financial inclusion on saving and borrowing decisions in the USA and UAE, using data from the 2014 Global Findex database and a semi-parametric bivariate probit specification. The results show that consumers in the US are more likely to save than their UAE counterparts, and there is a gender-based inequality in favour of males in both saving and borrowing. Financial inclusion strategies such as access to bank accounts, debit cards, direct salary deposits, and government transfer programs significantly increase the likelihood of saving and borrowing in both countries. The main result was that consumers in the US are 31.4% more likely to save than their UAE counterparts. There is a gender-based inequality in saving and borrowing, with males having a 12.4% higher likelihood of saving and a 13.8% higher likelihood of borrowing than females. The results do not show any income-based saving or borrowing gradient in the US and UAE. Financial inclusion strategies such as access to a bank account, debit cards, direct salary deposits, and government transfer programs significantly increase the likelihood of saving and borrowing in both countries.

3) **Richy Wijaya, 2021:** The Role of Financial Inclusion in Improving Community Welfare: A Study on Cooperative Business. By: Richy Wijaya, Hartini, Margaretha. The paper examines the impact of financial inclusion on community welfare through saving and loan cooperatives, focusing on the role of education level as a moderating variable. The research paper focuses on the role of financial inclusion in improving community welfare, specifically in the context of cooperative businesses.

Financial inclusion is identified as an essential financial intervention strategy for business entities, including cooperatives. The study aims to examine the impact of financial inclusion on community welfare through saving and loan cooperatives, focusing on the moderating effect of education level. The study employed a correlational research design and used a hypothesis-testing method to examine the role of financial inclusion in improving community welfare through saving and loan cooperatives. Primary data was collected through questionnaires distributed to saving and loan cooperative members in Jakarta and its surrounding areas. The sample consisted of 139 respondents who were chosen purposively, specifically cooperative members who had at least graduated from high school. Primary data is collected through questionnaires distributed to saving and loan cooperative members in Jakarta and its surrounding areas.

The study involves 139 purposively chosen respondents who are cooperative members and have at least graduated from high school. The study finds that financial inclusion significantly reduces poverty in the usage dimension, regardless of the education level. However, it does not significantly impact poverty reduction in the access and service dimensions. Financial inclusion has not significantly reduced poverty in the access and service dimensions. Financial inclusion significantly reduces poverty, particularly in the usage dimension, regardless of the education level. However, financial inclusion does not significantly impact poverty reduction in the access and service dimensions.

Objectives

1) To understand Trends in Financial Borrowing.
2) To evaluate Household Sector Loan Dynamics.
3) To assess Savings Trends in India

Hypothesis

1. To investigate whether stable trends in borrowers from credit unions and cooperatives imply a consistent preference for savings.
2. To examine if increased branch density for microfinance institutions and commercial banks indicates expanded accessibility for savings accounts.
3. To assess whether significant differences exist in the number of loan accounts among various financial institutions and sectors.
4. To explore how correlation patterns among loan accounts reflect diverse borrowing associations.

Methodology of the Study:

The study is employed descriptive research method in which data is collected by secondary form. Data is analysed with the help of ANOVA and Correlation technique.

The Background of Government Savings in India

In India, savings have been based on government bank legislation for about 130 years. According to some historians, the government founded the first savings bank in Calcutta in 1834, marking the beginning of the savings movement. On the other hand, the Government Savings Bank Act was approved in 1873, and the Post Office Savings Bank of India was established in 1882. The Government District Savings Banks and the Post Office Savings Bank (POSB) amalgamated in 1886. In addition, the Indian government established the "National Savings Central Bureau" during the British colonial era. Its goals were to encourage saving, rein in inflationary economic tendencies brought on by the Second World War, and raise money to support the conflict. However, it is stated that the lack of enthusiasm among the populace to support an extraterrestrial war effort prevented this initiative from gaining traction. The National

Savings Organisation (NSO) (now known as NSI) was established in 1948 because the savings movement needed additional encouragement following the country's 1947 independence. In the framework of domestic savings as a force for national development, Pandit Jawaharlal Nehru, the prime minister at the time, spoke remarks that indicated the critical role the national savings movement was intended to play. **(Sumi Goswami, 2022)**

"I consider the National Savings movement to be critical. It is significant because it reaches many people, but because we want people to save and use those funds for our growth ambitions. It is insufficient only to make requests. It also has to be organised in order to reach every village. In addition to aiding in accomplishing our Second Five Year Plan, each individual who contributes to the savings during this campaign also becomes, in a way, a sharer in it. I hope this campaign is a huge success.

Small savings were seen as the government's top goal. The Post Office Savings Bank is listed in the Seventh Schedule, Item No. 39, of the Indian Constitution, which was approved in 1949. The Ministry of Finance (MoF) created several minor savings schemes under the Public Provident Fund Act of 1968 and the Government Savings Certificates Act of 1959. The nation's people's practice of thrift and saving has been one of the main goals of the modest savings project. As the phrase "small savings" implies, the focus is on enlisting small depositors in the savings movement. From its founding 123 years ago, the Post Office Savings Bank has served as the primary vehicle for these initiatives throughout India. In 1882, Post Office Savings Banks were established. Axis Bank, ICICI, HDFC, and three nationalised banks run minor savings programmes, including the Public Provident Fund and Senior Citizen's Savings Scheme.

Saving Programmes in India

1. Sukanya Samriddhi Yojna

As part of the "Beti Bachao Beti Padhao" programme, the "Sukanya Samriddhi Yojna" is a modest deposit initiative for girls that offer an appealing interest rate and an income tax credit. 7.6% interest rate on deposits from 1.1.2023 to 31.3.2023). Annually compounded with the option to determine monthly interest payments based on the sum in completed thousands. The programme has been extended as appropriate under section 80C of the IT Act, 1961. Triple-exempt benefits include not paying taxes on the money invested, the interest earned, or the money withdrawn. Qualifications For up to two daughters under ten, parents or legal guardians may create deposits on behalf of female children (including adopted girls). When twin girls are born as a second birth or as the first birth, the outcome is three female children. For a girl child, just one account can be established. An initial deposit of at least Rs. 250 is required, followed by multiples of Rs. 150, with an annual cap of Rs. 1,500,000 in a fiscal year. The maximum amount to be deposited is fifteen years from the account's opening date. The account will mature 21 years from the date of account opening or, if it happens sooner, upon the account holder's marriage. Requiring the girl child's birth certificate before contacting Accounts can be opened at post offices and licenced bank locations. **(Vikaspeedia, 2023).**

2. National Saving Scheme, 1987

The National Savings Institute operates under the Department of Economic Affairs in the Ministry of Finance, Government of India. Its main role is to encourage savings in various government schemes across the country, managed through post offices and designated banks. The institute engages in activities such as nationwide promotion of savings schemes, gathering and organising data, printing savings instruments at the India Security Press in Nasik, and distributing them to Circle Stamp Depots of the Department of Posts. It also trains officials from the Department of Posts, banks, state governments, and various agents. Additionally, the institute handles tasks like addressing investors' grievances and collaborating and coordinating with state governments, banks, the Department of Posts, and extension agencies. It also participates in international cooperation and offers policy inputs to the Ministry of Finance on matters related to National Savings. **(INSTITUTE, 2013)**

3. Senior Citizen Savings Scheme (SCSS)

A government-backed programme with guaranteed returns is the SCSS. Although it is adjusted regularly, the interest rate is set for the duration of the investment. The maximum deposit amount is Rs. 30 lakh, with a minimum of Rs. 1,000. Although it can be extended for three years, the maturity period is five years. After a year, people can take money out of their accounts, although doing so early is subject to fines. For older individuals searching for a safe and secure method to invest their money, the SCSS is a beautiful choice. The government supports the plan, which guarantees returns. There is no chance of losing money because the interest rate is set for the duration of the investment. In addition to being flexible, the SCSS allows users to withdraw money from their accounts after a year. But before investing in the SCSS, there are a few things to consider. The maximum deposit amount is Rs. 30 lakh, with a minimum of Rs. 1,000. Although it can be extended for three years, the maturity period is five years. After a year, people can take money out of their accounts, although doing so early is subject to fines. Elderly individuals searching for a safe, secure way to invest their money could choose the SCSS. The government supports the plan, which guarantees returns. But before investing in the SCSS, there are a few things to consider. **(Groww, 2020).**

4. Post Office Monthly Income Scheme (POMIS)

As its name implies, the Post Office Monthly Income programme provides fixed income in interest depending on the investor's lump sum investment. Investors seeking a regular guaranteed payment with a low-risk tolerance would find this programme suitable. Minors may also use this plan, even though resident individuals are eligible to participate in it. Indeed, minors who are older than ten years old can even use his account. The depositor may open more than one account under this monthly savings plan; however, the total net balance in all schemes must not surpass Rs 4.5 Lakh. With benefits for liquidity, investors can retrieve the invested corpus after a year from the first investment.

Nonetheless, please be advised that there is a 1% penalty for withdrawals made during the first and third years and a 1% penalty for withdrawals made after the third year. One significant drawback of POMIS is that it has no tax benefits, unlike other savings plans that provide the advantages of both wealth growth and tax savings. The monthly interest and deposit amounts are exempt from TDS; nevertheless, the interest will be included in the taxable income. **(Groww, 2020)**

TABLE NO. 1: COMPARE INDIAN SAVINGS PROGRAMS

Small Savings						
(₹ Crore)						
Scheme		**2021-22**	**2021**	**2022**		
			Dec.	**Oct.**	**Nov.**	**Dec.**
		1	**2**	**3**	**4**	**5**
Post Office Saving Bank Deposits	Receipts	17581	2630	6	-393	3806
	Outstanding	188433	179437	196446	196053	199859
Sukanya SamriddhiYojna	Receipts	23748	1845	1394	1597	1890
	Outstanding	58783	47264	70176	71773	73663
National Saving Scheme, 1987	Receipts	-1524	-366	-20	-20	-22
	Outstanding	1894	3200	1701	1680	1659
National Saving Scheme, 1992	Receipts	-352	2	-2	-2	-2
	Outstanding	-177	150	-195	-198	-200
Monthly Income Scheme	Receipts	14441	1228	506	275	-125
	Outstanding	235820	232747	240671	240946	240821
Senior Citizen Scheme 2004	Receipts	22281	1929	1491	1256	935
	Outstanding	119333	114134	130652	131908	132843
Post Office Time Deposits	Receipts	43725	3926	1900	1547	527
	Outstanding	251282	241034	272186	273732	274259
PM Care for children	Receipts			0	3	2
	Outstanding			94	94	94
Saving Certificates	Receipts	45307	3978	2545	2564	2115
	Outstanding	333189	321027	353818	356308	358362
National Savings Certificate VIII issue	Receipts	19696	1860	791	627	446
	Outstanding	155043	150513	162152	162779	163224
Indira Vikas Patras	Receipts	-16	0	0	0	0
	Outstanding	143	158	142	142	142
Kisan Vikas Patras	Receipts	-1115	-426	-134	-165	-238
	Outstanding	-7891	-8455	-9302	-9466	-9704
Kisan Vikas Patras - 2014	Receipts	26619	2544	1888	2102	1907
	Outstanding	174560	168720	189654	191756	193663
National Saving Certificate VI issue	Receipts	92	0	0	0	0
	Outstanding	-22	-114	-22	-22	-22
National Saving Certificate VII issue	Receipts	31	0	0	0	0
	Outstanding	-44	-74	-44	-44	-44

Notable patterns emerge from analysing the data for Indian savings programmes for 2021–2022 and 2022. The Post Office Saving Bank Deposits had a notable revenue surge from October to November 2021, followed by a minor decline in December. The outstanding balances continued to rise throughout this period. Sukanya Samriddhi Yojna showed cyclical collections, with a notable uptick in December 2022 and steadily growing overdue sums. The National Savings

Scheme saw varying but generally low outstanding balances in 1987, along with negative receipts showing that withdrawals exceeded deposits. Positive collections were recorded for the Monthly Income Scheme, with a dip in December 2022 and steady outstanding balances of about 240,000 Crore. The 2004 Senior Citizen Scheme showed a steady increase in outstanding amounts but a steady decline in collections in December 2021. The reception patterns for Post Office Time Deposits varied, showing a fall in December 2021 and a steady growth in the outstanding amounts. Savings Certificate receipts varied, with a large decline in December 2022 and continuously growing outstanding amounts, reaching 358,362 Crore in December 2022. In contrast, the PM Care for Children plan had consistent outstanding amounts at 94 Crore. The VIII and VI/VII National Savings Certificate releases showed different trends in receipts and a steady increase in the outstanding balances. While Indira Vikas Patras had little revenues and somewhat consistent overdue amounts, Kisan Vikas Patras and Kisan Vikas Patras - 2014 showed variations in receipts and outstanding amounts.

Data Analysis

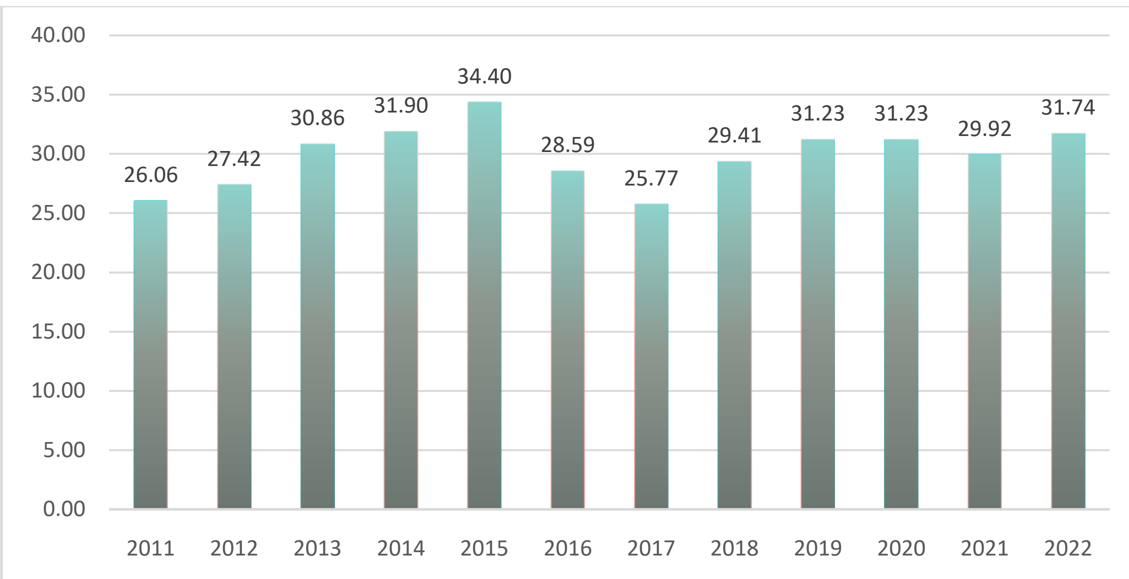

Figure 1: Number of borrowers from all microfinance institutions per 1,000 adults:

The number of borrowers from all microfinance institutions per 1,000 adults fluctuated from 2011 to 2022. Starting at 26.06 in 2011, it increased to 34.40 in 2015, signalling a growing engagement with microfinance services. However, subsequent years saw a decline, reaching 25.77 in 2017. The figures rebounded in 2018 and 2019, with 31.23 borrowers per 1,000 adults. 2020 and 2021 maintained the same level at 31.23 and 29.92, respectively. The latest data for 2022 shows a slight increase to 31.74, suggesting renewed interest in microfinance services. The analysis reflects the dynamic nature of microfinance participation, influenced by economic conditions and policy changes.

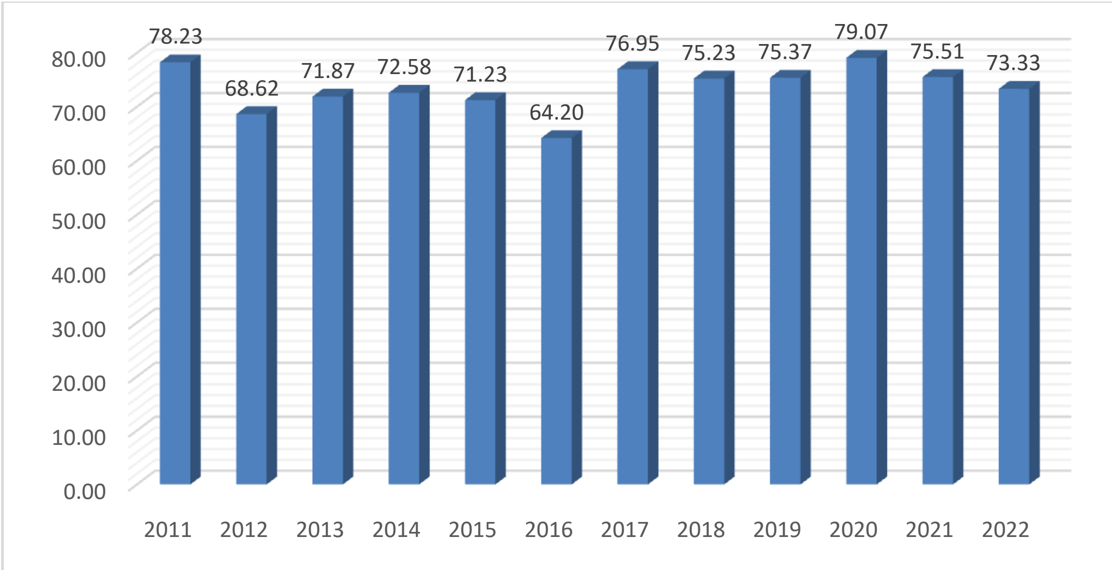

Figure 2: Number of borrowers from credit unions and credit cooperatives per 1,000 adults

The data from 2011 to 2022 shows the number of credit union and credit cooperative borrowers per 1,000 adults. The value decreased from 78.23 in 2011 to 64.20 in 2016, and then there was an increasing trend. The numbers were relatively stable at 75 in 2019 and 2020, rising a little to 75.51 in 2021 and falling slightly to 73.33 in 2022. In general, the data points to a variable trend but typically declining until 2016, when it stabilised and showed a modest improvement in the following years.

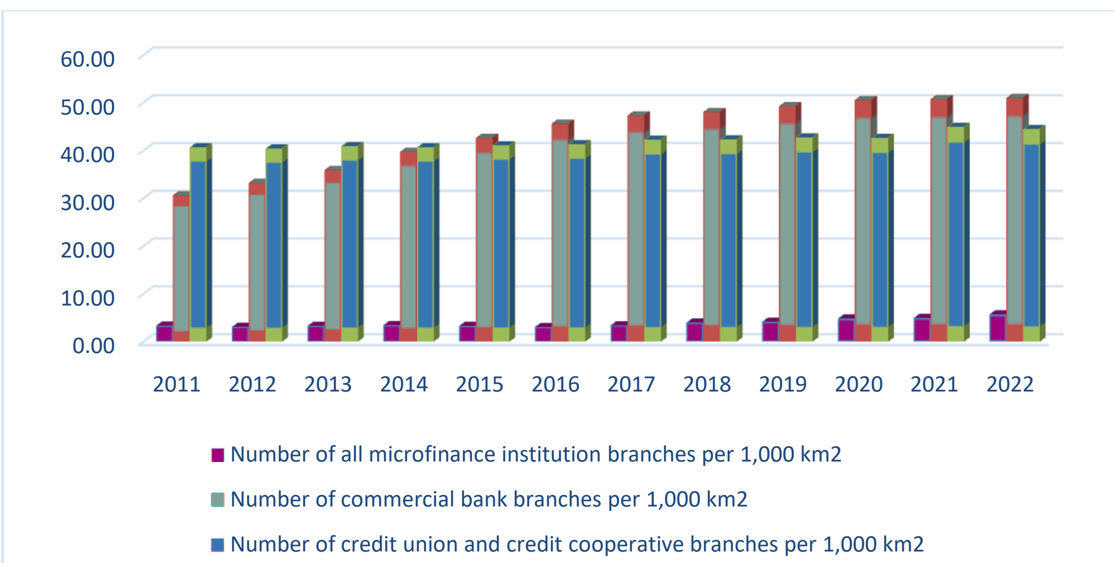

Figure 3: Branch Density of Financial Institutions (per 1,000 km2) from 2011 to 2022

Over the decade from 2011 to 2022, the data reveals a consistent increase in microfinance institution branches (3.33 to 5.70 per 1,000 km2) and commercial bank branches (30.61 to 50.96

per 1,000 km2), indicating significant expansion in their accessibility. Meanwhile, credit union and credit cooperative branches remained relatively stable, with a slight dip in 2020 but a subsequent rise to 44.51 per 1,000 km2 in 2022. This highlights a resilient and consistent presence of credit unions and cooperatives, contributing to financial inclusivity.

TABLE NO. 2 LOAN ACCOUNTS STATISTICS (2011-2022)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Number of loan accounts with all microfinance institutions per 1,000 adults	28.44	30.02	33.20	35.23	39.77	31.87	28.98	36.54	38.20	37.87	36.07	36.64
Number of loan accounts with commercial banks per 1,000 adults	138.19	146.88	141.18	149.78	152.78	168.75	175.81	197.34	228.80	264.13	285.22	303.10
Number of household sector loan accounts with commercial banks per 1,000 adults	20.04	22.89	137.47	146.16	148.82	164.68	171.11	189.29	221.25	255.58	275.55	292.80
Number of small and medium enterprise (SME) loan accounts with commercial banks (% of non-financial corporation loan accounts with commercial banks)	9.01	8.92	00	00	00	00	00	00	00	00	00	00
Number of loan accounts with credit unions and credit cooperatives per 1,000 adults	00	00	00	00	00	00	15.34	14.18	16.58	16.53	15.79	14.37

From 2011 to 2022, the data shows dynamic developments in the financial environment. Microfinance institution loan accounts fluctuated, reaching a peak in 2015 and a significant fall in 2016. On the other hand, during the same period, the number of loan accounts with commercial banks increased steadily and significantly, almost doubling by 2022 for every 1,000 persons. There was an odd upsurge in commercial bank loans to households in 2013, followed by a more moderate increase in the following years. Over time, loan accounts held by credit unions and credit cooperatives saw a minor decline, suggesting that consumer borrowing preferences may have changed. The trends point to changing financial borrowing habits, focusing on commercial banks and potential moves away from credit unions and microfinance companies.

TABLE NO. 3 ANOVA RESULT

Anova: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
	12	24198	2016.5	13		
Number of loan accounts with all microfinance institutions per 1,000 adults	12	412.816	34.4013 3	14.5765		
Number of loan accounts with commercial banks per 1,000 adults	12	2351.96 1	195.996 7	3551.371		
Number of household sector loan accounts with commercial banks per 1,000 adults	12	2045.64 1	170.470 1	7525.088		
Number of small and medium enterprise (SME) loan accounts with commercial banks (% of non-financial corporation loan accounts with commercial banks)	2	17.9347 1	8.96735 7	0.004065		
Number of loan accounts with credit unions and credit cooperatives per 1,000 adults	6	92.7771 2	15.4628 5	1.071962		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	3447926 6	5	689585 3	2822.705	4.99E -60	2.40040 9
Within Groups	122149. 7	50	2442.99 5			
Total	3460141 6	55				

The one-way ANOVA was conducted to assess variations in the number of loan accounts among different financial institutions and sectors. The groups included loan accounts with microfinance institutions, commercial banks, household sectors within commercial banks, small and medium enterprise (SME) loan accounts, and credit unions and credit cooperatives. The results demonstrate a highly **significant** difference in means across these groups, as evidenced by a substantial F-statistic of 2822.705 ($p < 0.001$) the result is significant with a p-value less than 0.001.

TABLE NO. 4 CORRELATION TEST RESULT

		Number of loan accounts with all microfinance institutions per 1,000 adults	Number of loan accounts with commercial banks per 1,000 adults	Number of household sector loan accounts with commercial banks per 1,000 adults	Number of small and medium enterprise (SME) loan accounts with commercial banks (% of non-financial corporation loan accounts with commercial banks)
	1				
Number of loan accounts with all microfinance institutions per 1,000 adults	0.59296	1			
Number of loan accounts with commercial banks per 1,000 adults	0.942577	0.51389	1		
Number of household sector loan accounts with commercial banks per 1,000 adults	0.959813	0.6684	0.877981	1	
Number of small and medium enterprise (SME) loan accounts with commercial banks (% of non-financial corporation loan accounts with commercial banks)	-1	-1	-1	-1	1
Number of loan accounts with credit unions and credit cooperatives per 1,000 adults	-0.00414	0.225486	0.082735	0.091915	#DIV/0!

1) Number of loan accounts with all microfinance institutions per 1,000 adults:

   - Positively correlated with the number of loan accounts with commercial banks (r = 0.59296) and household sector loan accounts with commercial banks (r = 0.959813).

2) Number of loan accounts with commercial banks per 1,000 adults:

   - A strong positive correlation exists between the number of loan accounts with all microfinance institutions (r = 0.942577), and household sector loan accounts with commercial banks (r = 0.6684).

3) Number of household sector loan accounts with commercial banks per 1,000 adults:

   - Strong positive correlations with the number of loan accounts with all microfinance institutions (r = 0.959813) and with commercial banks (r = 0.877981).

4) Number of small and medium enterprise (SME) loan accounts with commercial banks (% of non-financial corporation loan accounts with commercial banks):

   - The correlation matrix indicates a perfect negative correlation with the other variables, denoted as -1. This could be an error or require further investigation into the nature of the data.

5) Number of loan accounts with credit unions and credit cooperatives per 1,000 adults:

   - The correlation with other variables seems minimal, with a small positive correlation with the number of loan accounts with commercial banks (r = 0.225486) and negligible correlations with the other variables.

It's worth noting that a correlation of -1 for the SME loan accounts with commercial banks suggests a perfect negative linear relationship, which is unusual and may require validation or correction in the dataset.

Hypothesis testing

1) Credit Unions and Cooperatives Savings Stability Hypothesis:

Hypothesis: Stable trends in borrowers from credit unions and cooperatives imply a consistent preference for savings.

Result: Stable borrower trends support the hypothesis, suggesting a sustained preference for savings in these institutions.

2) Branch Density Expansion Hypothesis:

Hypothesis: Increased branch density for microfinance institutions and commercial banks indicates expanded accessibility for savings accounts.

Result: Data supports the hypothesis, revealing a continuous rise in branch density for enhanced savings accessibility.

3) Financial Institutions' Significance Hypothesis:

Hypothesis: Significant differences exist in the number of loan accounts among institutions and sectors.

Result: A highly significant ANOVA result (F-statistic of 2822.705, $p < 0.001$) supports the hypothesis, indicating distinct group means.

4) Borrowing Patterns Correlation Hypothesis:

Hypothesis: Correlation patterns among loan accounts reveal diverse borrowing associations.

Result: Positive correlations affirm the hypothesis, while a perfect negative correlation for SME loan accounts suggests a potential anomaly requiring investigation.

CONCLUSION

In conclusion, this comprehensive analysis sheds light on the intricate dynamics of savings and borrowing trends within the Indian financial landscape from 2011 to 2022. Several key insights have emerged by exploring various financial institutions, saving strategies, government savings programs, and data analysis. The study highlights individuals' diverse saving strategies, from traditional home savings to modern approaches such as mobile banking. It underscores the importance of understanding the advantages and disadvantages of each plan in pursuing financial well-being. The analysis delves into the institutional organizations facilitating savings in India, emphasizing the role of both formal and informal entities. It elucidates the challenges formal institutions face in competing with informal ones and underscores the need for cost-effective measures to enhance financial inclusion.

Furthermore, the study provides a detailed examination of government savings programs, such as the Sukanya Samriddhi Yojna and the Senior Citizen Savings Scheme, showcasing their objectives and benefits for different segments of society. The data analysis section reveals intriguing trends in savings and borrowing behavior, including fluctuations in microfinance participation, steady growth in commercial bank loan accounts, and stable trends in credit union borrowing. The correlation analysis highlights the interconnectedness of these variables and underscores the need for further investigation into anomalies, such as the perfect negative correlation observed for SME loan accounts. The hypotheses testing confirms several hypotheses, including the stability of credit unions' and cooperatives' savings trends, the expansion of branch density enhancing accessibility for savings accounts, the significance of differences in loan accounts among institutions and sectors, and diverse borrowing associations. Overall, this study provides valuable insights into India's evolving landscape of savings and borrowing, offering implications for policymakers, financial institutions, and individuals alike. By understanding these dynamics, stakeholders can make informed decisions to promote financial inclusion, stability, and prosperity for all segments of society.

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