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Evaluating the Role of PMMY in Inclusive Finance: A Social Category-Wise Analysis of Beneficiaries in Bihar (2016–2024).

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ABSTRACT: The Pradhan Mantri MUDRA Yojana (PMMY) was launched in April 2015 to enhance financial inclusion by providing collateral-free loans to micro and small entrepreneurs. Bihar, being a socially diverse state with a significant population of Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), and General categories, presents a unique case for evaluating inclusive finance. Bihar is among the best performing states for providing credit facility to small enterprises to build entrepreneurial capacity through PMMY loan Scheme. This study analyzes the distribution of PMMY loan accounts and disbursement amounts across social categories in Bihar between 2016–17 and 2023–24.The study analyzes the disbursement trend and patterns of MUDRA loans among SC, ST, OBC, and General beneficiaries in Bihar using secondary data from PMMY and SLBC Bihar reports. The Study applies percentage share analysis, growth indicators (AGR, CAGR), and comparative statistics (ANOVA) to evaluate inclusiveness. The study explores whether the scheme is equitably reaching different caste groups and highlights disparities in loan allocation across social categories. The findings are expected to reveal whether PMMY has equitably extended financial access across social groups or whether disparities persist. Results show considerable variations in loan disbursement patterns, with OBC and General categories dominating the share, while SC and ST groups remain underrepresented. The study suggests targeted policy measures to ensure inclusive and equitable access to PMMY loans for marginalized communities.

KEYWORDS: PMMY loan, Financial Inclusion, Entrepreneurship, Social Category- SC, ST, OBC, General, Inclusive finance,

INTRODUCTION

India's socio-economic development has long been hindered by systemic inequality, particularly in access to credit. The PMMY was introduced to address this gap by facilitating entrepreneurship through microfinance. The Government of India launched MUDRA Yojana i.e. Micro Units Development and Refinance Agency on 8th April 2015 after recognising the problem in financial access of the micro enterprises for providing collateral-free credit access to the small and micro enterprises. PMMY provides MUDRA loan to income generating micro enterprises engaged in manufacturing, trading, and services up to ₹ 10 lakh. MUDRA Loans are divided into three categories. Three categories are Shishu, Kishore and Tarun. Commercial Bank, Regional Rural Bank, NBFC's, MFI and other Intermediaries enrolled by MUDRA periodically are eligible to extend MUDRA loan. As far as Mission of MUDRA is concerned it is "To create an inclusive, sustainable and value based entrepreneurial culture, in collaboration with partner institutions in achieving economic success and financial security ."

The Pradhan Mantri MUDRA Yojana (PMMY) scheme, since it's implementation, has focused on providing incremental funding support to the weaker sections of the society. According to the Annual Report of MUDRA Scheme Financial Year 2023-2024 the share of weaker sections of borrowers (like SC ,ST, and OBC) in the PMMY programme was 46.94 % in terms of loan accounts and 35.52% in terms of loan amount disbursed in India. The share of SC, ST, OBC, and General were 15.56%, 5.04%, 26.35% and 53.06% in terms of accounts while 10.79% , 3.74%, 20.99% and 64.48% in terms of disbursement of loan respectively in India for the Financial Year 2023-2024.

According to the Sample Registration System-2018 Report Bihar's working age population (25-59 Years) increased from 57.2% to 59.7% between 2013 and 2018. But Bihar could not harnessed the demographic dividend due to low job opportunities locally. According to the Report of Centre for Monitoring Indian Economy (CMIE) unemployment in Bihar rose to 12.3% in February 2023. According to the Report of NITI Aayog 2023, Bihar has been ranked as the poorest state in the country in the Multidimensional

Poverty Index. According to the Report 33.76% of the population of Bihar is poor. Bihar has the second highest population of migrant workers in the country just after Uttar Pradesh.

So PMMY Loan Scheme may become financial inclusion tools to harness demographic dividend by providing loans to socially economically underprivileged population of the state. It may also help to reduce Poverty, Unemployment, and stop large scale migration for search of job by providing financial support for entrepreneurship development in Bihar. Bihar is counted among one of the top recipients and best performing states to provide loan to unbanked, unfinanced and small enterprises to build entrepreneurial capacity through PMMY loan Scheme. So there is urgent need to study social category wise distribution, share and Growth patterns of PMMY beneficiaries in Bihar to assess and evaluate performance of PMMY scheme in Bihar to uplifting underprivileged society like SC, ST, and OBC's Bihar, Bihar has witnessed a significant flow of PMMY loans. However, concerns remain regarding equitable distribution among caste groups. This study investigates caste-wise distribution of MUDRA loans in Bihar, assessing the extent to which PMMY has achieved social equity through financial inclusion.

REVIEW OF LITERATURE

According to Ahmed and Gupta (2025), the Pradhan Mantri MUDRA Yojana (PMMY) in Bihar exhibited a consistent upward trajectory in loan disbursement from 2015–2024, with *Shishu* loans accounting for the highest share of beneficiaries. Their analysis, based on secondary data.

Bharti and Verma (2023) studied Comparatively the Mudra loan disbursement among different social groups aimed at to provide an in-depth understanding of the Sub Categories within the Mudra Yojana Frameworks to assess the effectiveness and inclusivity of the Mudra Yojana in reaching marginalized communities. The period of Study was from Financial Year 2016-17 to 2021-22. The study shows continuous growth among all the Social Categories (except in OBC in Shishu loan Scheme) in all Mudra loan schemes.

C, Kalaiarasan and Panchalan (2023) studied to analyze the state wise and district wise performance of PMMY with focus on the top10 states in India with the help of secondary data of PMMY annual reports, The Pradhan Mantri MUDRA Yojana in Uttar Pradesh, Bihar and Tamil Nadu stood out as the top states in distributing funds to support small business, highlighting their dedication to empowering this enterprise.

Kumari and Sinha (2023), on the basis of Secondary sources of data studied Comparative Analysis of the Performance of PMMY in Jharkhand and Top Ten States in India with the objective of to analyze the performance of PMMY in Jharkhand as compared to the top states of India from 2015-2016 to 2021-22. It was found that there are the states continuously showing increasing trend in terms of accounts opening and amount disbursed.

Rajagopal, D (2022) in his study, The Performance of Pradhan Mantri Mudra Yojana (PMMY) , focused on the state wise performance of the Pradhan Mantri mudra Yojana (PMMY) during the financial year 2020-2021 and it disclosed the information regarding the numbers of accounts, and amount disbursed state wise .it was found that though number of accounts are maintained more in the Bihar state but amount disbursed was very less compared to the other states.

While previous studies have examined PMMY at the national level, limited research focuses on comparative analysis of PMMY loan disbursement among SC, ST, OBC and General categories in a specific state like Bihar.

This paper addresses this gap by examining the % share of accounts, and disbursed amounts, AGR and CAGR for Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward caste (OBC) and General Caste (GEN) in PMMY loan in Bihar, supported by statistical validation using ANOVA.

OBJECTIVES OF THE STUDY

- To examine the social category-wise distribution of PMMY loan accounts in Bihar from 2016-17 to 2023–24.
- To analyze the category-wise disbursed loan amounts and their share in total lending.
- To evaluate the growth performance **(**AGR **&** CAGR**)** of PMMY loans among different social groups.
- To assess the overall role of PMMY in promoting inclusive finance and social equity in Bihar.

HYPOTHESIS:

- H_0 (Null Hypothesis): The Mean Annual Growth Rate (AGR) Of PMMY Accounts Is The Same Across Social Categories (SC, ST, OBC, General) in Bihar.

H_1 (Alternative Hypothesis):At least one Social Category Has A Different Mean Annual Growth Rate (AGR) Of PMMY Accounts In Bihar.

- H_0 (Null Hypothesis): There is no significant difference in MUDRA loan disbursement among SC, ST, OBC, and General categories in Bihar.

- H_1 (Alternative Hypothesis): The share of total loan amount disbursed is independent of the caste category of the beneficiary.

METHODOLOGY

Nature of the Study:

This is a descriptive and analytical study based on secondary data collected from PMMY Annual Reports and SLBC Bihar Reports

Data Sources: MUDRA Portal www.mudra.org.in and SLBC Bihar Reports.

Analytical Tools used for study Annual Growth Rate (AGR), CAGR, and Analysis of Variance (ANOVA) Test.

Data Analysis and Interpretation:

Social Category wise Number of Beneficiaries of Pradhan Mantri MUDRA Yojana in Bihar from Financial Year 2016-17 to 2023-2024.

Table.1 Social Category wise PMMY number of Accounts in Bihar from FY 2016-2017 to 2023-2024.

Financial Year	SC Acct.	ST Acct.	OBC Acct	Gen Acct	Total Acct
2016-17	470295	105184	2089807	1091430	3756716
2017-18	681338	189864	2311299	1132360	4314861
2018-19	875728	290511	2618461	2214940	5999640
2019-20	1052729	353105	2725968	2580692	6712494
2020-21	813317	275762	2225052	1992563	5306694
2021-22	1064641	360626	2930165	2322723	6678155
2022-23	1299929	367584	3677737	3143981	8489231
2023-24	1455742	397795	3898768	3878972	9631277
Total	7713719	2340431	22477257	18357661	50889068

Sources: www.mudra.org.in & Answer of unstarred question no 1672 in Rajya Sabha on 10.12.2024.

This study analyzed PMMY data from Financial Year 2016 to 2024 on the basis of Secondary Data collected from PMMY portal and SLBC Bihar Report and different digital sources. In the study Percentage share, Annual Growth Rate (AGR) and Compound Annual Growth Rate (CAGR) for different Social Category were computed to assess and evaluate growth trends of PMMY loan Accounts. The Analysis indicates trends of PMMY loan Accounts, Growth patterns , Annual Growth Rate, and CAGR of the Social Category SC, ST, OBC's and General

Table 2. Caste wise Percentage Share of PMMY Accounts (Beneficiaries) in Bihar from 2016-17 to 2023-2024.

Financial Year	SC Acct %	ST Acct %	OBC Acct %	General Acct %
2016-17	12.51	2.79	55.62	29.05
2017-18	15.79	4.40	53.56	26.24
2018-19	14.59	4.84	43.64	36.91
2019-20	15.68	5.26	40.61	38.44
2020-21	15.32	5.19	41.92	37.54
2021-22	15.94	5.40	43.87	34.78
2022-23	15.31	4.33	43.32	37.03
2023-24	15.11	4.13	40.48	40.27
Total.	15.15	4.59	44.16	36.07

Source: Calculated.

Table 3. Caste wise AGR for Accounts (beneficiaries) in Bihar from 2016-17 to 2023-2024.

Financial Year	SC AGR (%)	ST AGR (%)	OBC AGR (%)	General category AGR (%)
2017-18	44.89	80.47	10.60	3.75
2018-19	28.53	53.01.	13.28	95.61
2019-20	20.22	21.53	4.10	16.47
2020-21	-22.76	-21.89	-18.35	-22.79
2021-22	30.91	30.76	31.68	16.61
2022-23	22.11	1.93	25.48	35.31
2023-24	11.98	8.21	6.00	23.37

Source: Calculated.

***Interpretations* for SC Category**:

Trend of growth in number of accounts showed a general upward trend for SC beneficiaries under PMMY loan from four lakh seventy thousand two hundred ninety-five (470295) account in FY 2016-2017 to fourteen lakh fifty-five thousand seven hundred forty-two (1455742) accounts in FY 2023-2024.The number of accounts increased and more than tripled in this period. So, it indicates successful financial support to marginalized social groups through institutional credit.

The share of SC beneficiaries varied between 12 **%** and 15.94 **%** approximately during the study period. This shows a stable but moderate presence of SC beneficiaries in PMMY accounts. While participation is better compared to STs, the proportion is still lower than OBC and General categories, highlighting scope for policy measures to improve SC representation further.

On the basis of Annual Growth Rate study reflected the higher Growth Rate in FY 2017-18 with a 44.89 % increase in the number of accounts for SC, which indicates that there is aggressive outreach among Schedule Caste communities.

Sharp Decline: My study revealed that there was sharp decline or fall likely due to the impact of the COVID-19 pandemic in FY 2020-21. Tabulated data of PMMY loan account for SC showed sharp decline in PMMY loan Accounts growth -22.76 % in 2020-21 which identify a sharp decline in Annual Growth Rate of PMMY loan accounts due to COVID-19 pandemic and lockdown effects on SC category.

Post COVID-19 Recovery: This study indicated Annual Growth Rate of MUDRA loan accounts for SC bounced back in Year 2021-22. Annual Growth Rate were 30.91 % , 22.11 % and 11.98 % in FY 2021-22, 2022-23 and 2023-2024 respectively. It implied that PMMY performance bounced back strongly after COVID-19 with consistent growth and showing trust restoration with better implications.

***Interpretation* for ST Category**:

The share of ST beneficiaries in PMMY loan accounts remained the lowest among all categories, varying between 2.79% and 5.40% throughout the study period. This consistently low share points to limited access or lower participation of the ST population in Bihar under PMMY. It reflects the need for greater outreach**,** awareness**,** and targeted support for ST entrepreneurs to ensure inclusiveness.

Initial Boom: In my study AGR of PMMY loan account indicated that ST Category beneficiaries' number of accounts grown very fastly during Year 2016-2019. It revealed massive rise in ST participation (80.47 %) in year 2017-18 and (53.01%) in Year 2018-19. It showed there was strong outreach or first-time access among ST communities.

COVID-19 Impact: The Study suggested that there was a sharp decline of -21.89 % in year 2020-21 which indicated that the pandemic severely disrupted credit access or loan approval process for ST borrowers.

Post COVID-19 Recovery: When we observed AGR of the PMMY loan accounts of ST beneficiaries AGR for year 2021-22 it showed bounce back trend. PMMY loan Accounts in year 2021-22 for ST beneficiaries was 30.76 % followed by moderate growth 1.93% and 8.22 % in year 2022-23 and 2023-24 respectively. It indicated that there was efforts from MUDRA Agency and financial institution to restore lending. But growth seems to be slowing recently.

Percentage share table reflects that ST beneficiaries share of accounts were varying between 2.79 % to 5.40 % in Bihar during the study period.

***OBC* Beneficiaries Account Trend and AGR**:

The percentage share of OBC beneficiaries fluctuated between 40% and 55% during the study period. This represents the largest share of PMMY loan accounts among all social categories and indicating a positive and inclusive trend. The data reveal that OBCs have been the primary beneficiaries in terms of number of accounts, which reflects good awareness**,** participation**,** and accessibility of PMMY among them.

My study indicated that AGR of OBC beneficiaries accounts during initial implementation years remained in the range of 10 to 13 % which shows consistent expansion of credit access to OBC in the initial implementation years.

COVID-19 Impact: This study suggests that there was sharp fall of -18.35 % in OBC category PMMY accounts. AGR consistent with national lending disruptions due to lockdown and income instability in informal sectors.

Post Pandemic Recovery: The AGR of OBC category PMMY loan accounts indicated that there were strong bounce back with 31.68 % growth in 2021-22 and 25.48 % in 2022-23. It indicates a revival in demand for credit among OBCs borrowers in Bihar. However, year 2023-24 shows moderation with only 6.01 % growth. It reflects market stabilization.

Percentage share table showed the share of OBC beneficiaries accounts varying between 40 to 55 % approximately in Bihar. Which reflects a good trends of PMMY loan Accounts share for OBC .

General Category Loan Accounts Trend and AGR:

The percentage share of General category beneficiaries in total PMMY loan accounts in Bihar varied between 26% and 40% during the study period. This indicates that although the General category accounts for a significant proportion of beneficiaries, But their presence is comparatively moderate, especially when compared with OBC beneficiaries. The data suggest that the General category beneficiaries are availing loans in a substantial but not dominant share of accounts, reflecting a balanced but not excessive participation.

Massive Surge: Calculated Annual Growth Rate in study revealed that there was massive/extraordinary growth of 95.61 % possibly due to policy expansion and increased outreach of first time General category **entrepreneurs** of Bihar.

Pandemic Effects: The study revealed that there was severe drop of -22.79 % in Annual Growth Rate of PMMY loan account of General category in year 2020-21. It indicates sharp disruptions due to COVID-19 lockdown, business closures and risk averse lending in Bihar.

Post COVID-19 Recovery: My study suggested that there were consistent Recovery in the following years 2021-22, 2022-23 and 2023-24 and the value of AGR for respective years were 16.61 %, 35.31 % and 23.40 % in Bihar respectively for General category beneficiaries. It shows improved trust, and Economic revival among General category small borrowers. Percentage share Table 2 reflects that General category beneficiaries accounts share varying between 26% to 40 % approximately.

Social Category wise Analysis of PMMY Loan *Amount disbursed* in Bihar from FY 2016-2017 to 2023-2024:

Table 4. Caste-Wise PMMY loan Disbursed amount in Bihar.

Financial Year	SC (₹Crore)	ST (₹Crore)	OBC (₹Crore)	GENERAL (₹Crore)	Total Disbursement (₹Crore)
2016-17	1191.63	260.53	5425.36	4708.09	11585.61
2017-18	1708.86	456.10	6679.17	6552.58	15396.71
2018-19	2402.86	752.67	8465.28	11447.51	23068.32
2019-20	3213.97	1066.90	9436.48	12622.89	26340.24
2020-21	2542.01	812.51	8620.05	12045.20	24019.77
2021-22	3760.12	1242.76	12683.95	13038.20	30725.03
2022-23	5250.39	1481.24	18006.69	20710.25	45448.57
2023-24	6854.47	1862.35	20407.87	27716.45	56841.14
Total Disbursement (₹ Crore)	26924.31	7935.06	89724.85	108841.17	233425.39

Source: SLBC, Bihar Reports, and Answer of unstarred question no 1672 in Rajya Sabha on 10.12.2024. website: **www.mudra.org.in**

Table 5. Trend in Category-wise Share of Total Disbursement (in %)

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Financial Year	SC (%) Disbursed. Amt	ST (%) Disbursed. Amt	OBC (%) Disbursed Amt.	GEN (%) Disbursed. Amt.
2016-17	10.28	2.24	46.82	40.63
2017-18	11.09	2.96	43.38	42.55
2018-19	10.41	3.26	36.69	49.62
2019-20	12.20	4.05	35.82	47.92
2020-21	10.58	3.38	35.88	50.14
2021-22	12.23	4.04	41.28	42.43
2022-23	11.55	3.25	39.61	45.56
2023-24	12.05	3.27	35.90	48.76
Total	11.53	3.39	38.43	46.62

Source: Calculated.

Table 6. Annual Growth Rate (AGR) of PMMY loan Disbursed to Social Category-wise form FY 2016-2017 to 2023-2024.

Financial Year	AGR % SC	AGR % ST	AGR % OBC	AGR %General
2017-18	43.40	75.06	23.11	39.17
2018-19	40.61	65.02	26.74	74.70
2019-20	33.75	41.74	11.47	10.26
2020-21	-20.90	-23.84	-8.65	-4.57
2021-22	47.91	52.95	47.14	8.24
2022-23	39.63	19.18	41.96	58.84
2023-24	30.55	25.72	13.33	33.82

Source: Calculated.

Data Analysis and *Interpretation*:

The study analysed the distribution of loan to Social categories in Bihar from 2016-17 to 2023-2024.

Trend Analysis of PMMY Loan Disbursement in Bihar (2016–17 to 2023–24)

Overall Trend: The total loan disbursement under PMMY in Bihar shows a continuous upward trend from ₹11,585.61 crore in 2016–17 to ₹56,841.14 crore in 2023–24.This indicates strong expansion of credit availability through PMMY. The Cumulative disbursement during 2016–17 to 2023–24 reached ₹2,33,425.39 crore, indicating a strong expansion of the PMMY scheme in Bihar.

SOCIAL CATEGORY-WISE TRENDS: Scheduled Castes (SC): The trend shows steady year-on-year growth of PMMY disbursed amount in Bihar for study period , except for a dip in 2020–21 due to pandemic disruptions. Disbursement rose from ₹1,191.63 crore in 2016–17 to ₹6,854.47 crore in 2023–24. Cumulative Amount: ₹26,924.31 crore **(**11.54% of total).This indicates a steady rise in credit support to SC entrepreneurs, though still relatively modest compared to OBC and General categories. Share of SCs in total disbursement was 10.3% in 2016–17 to 12.1% in 2023–24, indicating slight improvement in inclusiveness. The study showed that Scheduled Castes (SC) Category exhibited consistent growth during the initial years (2017-2019), peaking at 43.41% in 2017 and gradually declining. A sharp contraction occurred in year 2020-21 (-20.29 %) ,followed by a strong recovery in 2021-22 (47.92 %).

Scheduled Tribes (ST):

The disbursed amount started from ₹260.53 crore in 2016–17 and reached to ₹1,862.35 crore in 2023-24. Cumulative Disbursed amount ₹7,935.06 crore (3.40% of total) reflects the lowest share among all categories. This suggests that ST beneficiaries remain significantly underrepresented in access to MUDRA .

The AGR for Scheduled Tribe borrowers showed very high early stage growth notably 75.07 per cent in 2017-18 and 65.02 per cent in 2018-19 in Bihar. It indicates strong policy outreach for PMMY loan disbursement for ST category beneficiaries. However, 2020-21 marked a downturn of -23.84 per cent due to COVID-19 impacts. After that the category rebounded robustly. Trend is positive but modest, with STs consistently receiving the lowest share. It varied between 2.2% in year 2016–17 to 3.3% in 2023–24 .

Other Backward Classes (OBC):

The study demonstrated that the other Backward caste (OBC) AGR for PMMY loan disbursement maintained steady growth thoroughly with notable spikes in FY 2021-22 and 2022-23 in Bihar and minor contraction occurred in year 2020-21. Growth of PMMY loan disbursed to OBC beneficiary was relatively faster in earlier years **(**2016–20**)** and stabilized afterwards. It Grew from ₹5,425.36 crore in 2016–17 to ₹20,407.87 crore in 2023–24.From ₹5,425.36 crore in 2016–17 to ₹20,407.87 crore in 2023–24, showing a strong upward trend.

Cumulative share of OBC beneficiaries loan disbursed amounts in Bihar : The study found that cumulative disbursed amount to OBC beneficiaries was ₹89,724.85 crore (38.43% of total) . OBCs beneficiary consistently maintained the largest share among reserved categories, which shows strong participation and inclusiveness. OBCs maintained a significant share **(**35–47%) throughout the period.

General Category:

The study revealed that the general category PMMY loan Disbursed amount has shown the **steepest** upward trend, especially after 2019–20. It Increased from ₹4,708.09 crore in 2016–17 to ₹27,716.45 crore in 2023–24. The study revealed that the General category had volatile AGRs ,with a substantial increase 74.70 per cent in 2018-19 and 58.84 per cent in 2022-23, despite drop of -4.58 per cent in year 2020-21.These trends collectively revealed a cyclical disbursement patterns, likely to reflecting policy shifts, economic cycle and external shocks. The study also highlights the share of PMMY loan disbursement increased from 40**.6% (**2016–17**) to** 48.8**% (**2023**–**24**)**, It highlights persistent dominance in loan access.The cumulative amount Disbursed to General category beneficiaries has reached ₹1,08,841.17 crore (46.63% of total**)** from FY 2016-2017 to 2023-2024. It means the General category group accounts for nearly half of total disbursement and reflecting dominance in access to formal finance despite the scheme's focus on inclusive development.

Relative Distribution (2016–17 vs 2023–24):

In 2016**–**17, General (40.62%) and OBC (46.82%) together received nearly 87**%** of the total disbursement, while SC and ST shared only **13%**.By 2023**–**24, General (48.76%) and OBC (35.89%) still dominated with 85**%** share, whereas SC and ST collectively received about 15**%**.Thus, while absolute amounts have increased for all groups, the proportional gap remains nearly unchanged, highlighting persistent disparities.

COMPARATIVE TREND

All categories show an upward trajectory in absolute terms. SC/ST share has improved slightly but remains comparatively low. OBC growth is strong but its share has reduced slightly due to rising dominance of the General category. General category consistently shows the sharpest increase, capturing nearly half of all disbursements by 2023**–**24.

Compound Annual Growth Rate (CAGR) of PMMY Number of Accounts & disbursed amount to Social categories of Bihar from 2016-17 to 2023-2024.

Analysis and Interpretation:

Table 7. CAGR of Accounts and Disbursed Amount of PMMY Loan in Bihar from 2016-17 to 2023-2024.

Category	CAGR (%) Accounts	CAGR (%) Disbursed. Amounts
SC	17.51%	28.39%
ST	20.92%	32.44%
OBC	9.31%	20.83%

General	19.86%	28.82%
Overall	14.39%	25.50%

***Interpretation* :** The above table 7. represents Compound Annual Growth Rate and it was calculated to study growth trends of PMMY loan to different Social Category of beneficiaries during 2016-2024.

The study exhibited growth trend of PMMY loan distribution to beneficiaries in Bihar were as below: According to above table 8 which recorded highest growth in **accounts** according to Compound Annual Growth Rate (CAGR) among ST beneficiaries (20.92%), followed by General (19.86 %) and SC (17.51 %) while in terms of disbursed amount, ST beneficiaries again lead with 32.44 %, while SC (28.39 %) and General (28.82 %) also show impressive growth.

OBCs have the largest share in absolute accounts but recorded the lowest CAGR of accounts (9.31 %).

Overall CAGR shows moderate growth in accounts (14.39 %) but stronger growth in disbursed amount (25.50 %).The overall growth of loan amounts (25.50 %) outpaced the growth of accounts (14.39%), indicating larger average loan size.

ANOVA ANALYSIS OF ANNUAL GROWTH RATE (AGR) OF PMMY ACCOUNTS BY SOCIAL CATEGORIES IN BIHAR FROM FY 2017-18 TO 2023-2024.

1st Hypothesis (PMMY Number of Accounts in Bihar)

H_0 (Null Hypothesis): The mean Annual Growth Rate (AGR) of PMMY accounts is the same across social categories (SC, ST, OBC, General) in Bihar.

H_1 (Alternative Hypothesis): At least one social category has a different mean Annual Growth Rate (AGR) of PMMY accounts in Bihar.

Table 8. ANOVA Results on the basis of Annual Growth Rate of Accounts.

Source of Variation	Degrees of freedom	Sum of Squares	Mean Square
Between Groups (SSB)	3 (4-1)	925.1938486	(MSSB)=308.3979495
Within Groups (SSW)	24 (28-4)	19171.99158	(MSSW)=798.8329825
Total	27		
Calculated F-Ratio=MSSB/MSSW =0.386060611			
p value = 0.764014556			
Significance level: α = 0.05 , F Critical Value 3.01 (from F distribution table)			

Source: Calculated.

The Independent variable Caste Category (SC, ST, OBC, General) and dependent variable AGR % of PMMY accounts were used for study.

One-Way ANOVA Statistical Test was used for Hypothesis test in the study.

Interpretation

Calculated F = 0.386. and Critical F Value =3.01

The Calculated F-Value < F-Critical and the p-Value > α (0.05). Therefore, the null hypothesis is not rejected. This means that the mean AGR of PMMY accounts is not significantly different across SC, ST , OBC, and General, categories in bihar for the study period (2017–18 to 2023–24).

The ANOVA analysis confirms that there is no significant difference in the AGR of PMMY accounts among different social categories in Bihar. This result indicates that PMMY is promoting inclusive finance, enabling fair participation of SC, ST, OBC, and General communities in the formal credit system.

2nd HYPOTHESIS of Disbursement Amount in Bihar:

Null Hypothesis **(H_0):** There is no significant difference in the mean AGR of loan disbursement among the caste categories (SC, ST, OBC, General).

Alternative Hypothesis **(H_1):** There is a significant difference in the mean AGR of loan disbursement among the caste categories.

The Independent variable Caste Category (SC, ST, OBC, General) and dependent variable AGR % of loan disbursement were used for study.

Table 9. One-way Analysis of Variance (ANOVA):

Source of Variation	Degrees of freedom	Sum of Squares	Mean Square
Between Groups (SSB)	3	749.5364286	(MSSB) 249.8454762
Within Groups (SSW)	24	17036.33524	(MSSW) 709.8473016
Total	27		
F- ratio =MSSB/MSSW =0.351970			
p value = 0.78808.			
Significance level: α = 0.05			
F-critical (from F-distribution table at α = 0.05) = 3.01			

***INTERPRETATION*:**

The Calculated F-statistic is **0.35197** and the p-value is **0.78808**. Since the F-calculated **(0.3519)** is **less** than the F-critical **(3.01)** and the p-value 0.788 > 0.05, we fail to reject the null hypothesis. This indicates that there is no statistically significant difference in the AGR of PMMY loan disbursement across SC, ST, OBC, and General categories in Bihar from 2017–18 to 2023–24. In other words it reflects that there is **no statistically significant difference** in the average loan disbursement among SC, ST, OBC, and General caste categories under the Pradhan Mantri MUDRA Yojana in Bihar. The variations observed are likely due to random fluctuations rather than actual differences in policy implementation or beneficiary treatment.

The ANOVA test suggests that the variation in AGR among caste groups is statistically insignificant. Therefore, caste-wise differences in growth trends of loan disbursement under PMMY do not appear meaningful over the studied period. This result may reflect a relatively uniform growth rate across social categories, aligning with the PMMY objective of inclusive financial access. Thus, the scheme is contributing to social equity in financial inclusion, fulfilling its mandate of empowering small entrepreneurs across all sections of society.

DISCUSSION

Financial Inclusion Perspective:

The ANOVA results highlight an important aspect of financial inclusion:

Equitable Outreach: The study indicates the AGR of accounts is not significantly different so PMMY has reached all social categories equitably There is no any category (SC, ST, OBC, General) showing statistically higher or lower account growth.

Inclusive Growth: The scheme reflects the government's intention of inclusive credit expansion, ensuring vulnerable and marginalized groups (SC, and ST) are not excluded.

Balanced Performance: Though descriptive statistics may show variation in absolute numbers, the growth pattern across categories is statistically uniform, suggesting broad-based financial inclusion.

The findings of the Study imply that PMMY has successfully expanded outreach to marginalized groups. The remarkable growth rates of SCs and STs suggest a positive trend in reducing social and financial exclusion, The findings align with the objectives of PMMY as a tool for inclusive finance. Thereby strengthening financial inclusion in Bihar. The study highlighted that PMMY in Bihar

(2016–24) has experienced robust growth and outreach but social category disparities persist. SC/ST groups have witnessed rising disbursements in absolute terms but yet their relative share remains much lower compared to OBC and General categories,

The present analysis highlights a notable shift as OBCs traditionally dominated loan access but marginalized categories (SC and ST) are now experiencing faster growth. This indicates an evolving credit landscape where weaker sections are progressively included in formal finance.

The study validates and supports that Current trends align with national level studies which indicates that the Social inclusion has deepened because SC and ST groups not only accessing loans but also witnessing significant year over year growth especially during the early implementation Phase .

The negative AGRs in FY 2020-2021 reflected the vulnerability to shocks remains a challenge for disadvantaged groups. OBCs forming a large entrepreneurial base in Bihar displayed relatively stable growth reflecting their established presence in the informal sector. The General category continued to receive the largest absolute share though their AGRs point to market saturation and fluctuating demand.

Growth in loan size indicates that beneficiaries are not just accessing credit but are also trusted with higher volumes, signaling enhanced entrepreneurial capacity.

However, the disparity in absolute shares shows that OBC and General categories still dominate the scheme, which raises equity concerns. Discussion

Loan Distribution Inequality: Higher disbursement share for General category suggests their better access to larger loans under Kishore and Tarun categories, while SC/STs mostly access smaller Shishu loans.

CHALLENGES: While equality in AGR is positive, it may also mean that structural disadvantages of weaker sections (like SC/ST) are not being specially addressed . They are merely growing at the same rate as others,

Despite the inclusive design of PMMY, socially disadvantaged groups (SC/ST) still lag behind in terms of the size of loans, which may limit their entrepreneurial growth and long-term financial stability.

FINDINGS: Financial Inclusion -The data proves that marginalized categories (SC and ST) are catching up, with higher growth rates than the average.

Equity Concern: Despite higher growth, the base level of SC and ST accounts remains low compared to OBCs and General categories. Hence, true inclusiveness still requires focused interventions for weaker sections.

Financial Empowerment: Higher growth in disbursed amounts reflects enhanced capacity of beneficiaries to undertake larger business activities, showing a transition from mere access to empowerment.

The study found that OBCs retain the largest share of accounts, but their growth is the lowest among social categories.

ST beneficiaries, though historically excluded, recorded the highest CAGR in Accounts and second highest in terms of amounts disbursed.

SCs also experienced strong improvement in access and credit flow.

SUGGESTIONS / POLICY RECOMMENDATIONS: Based on the findings, the following recommendations are made:

- Sustain Equitable Growth: MUDRA Agency should Continue ensuring balanced outreach across all categories, avoiding concentration in OBC/General groups only.
- **Targeted Outreach:** Awareness drives in tribal and SC-dominated regions should be intensified in Bihar. Special drives for mentoring to help them scale up from Shishu to Kishore/Tarun categories with the help of training and mentoring rural and semi-urban areas to bring more ST and SC populations into higher categories of PMMY loans.
- **Credit Monitoring:** Banks should monitor repayment patterns and extend refinancing support to successful micro-entrepreneurs from disadvantaged groups from SC and ST category beneficiaries.
- Balanced Loan Size Distribution: Encourage banks in Bihar to focus on quality lending to OBC, SC, and ST categories, not just increasing account numbers. Introduce incentives for branches achieving higher disbursement share to disadvantaged categories.
- State Level Bankers Committee Bihar must upload bifurcated data of Shishu , Kishore and Tarun loan category distributed to different Social Category of beneficiaries . Due to unavailability of Social Category wise bifurcated Shishu ,Kishore and Tarun loan distribution data of Bihar there were problem to Analyze Loan Category wise social Inclusion. So Annual Reports of SLBC Bihar must annually upload data on website. For further research.

CONCLUSION

1. The study concludes that PMMY has been instrumental in promoting financial inclusion in Bihar, with SC and ST categories recording higher growth rates in both accounts and disbursements compared to OBCs and General categories in terms of CAGR. This signifies a narrowing gap in access to formal finance.
2. OBCs dominate in terms of account share, which reflects successful outreach of PMMY to this group.
3. General category shows moderate but steady share, indicating balanced participation.
4. SCs maintain a moderate and stable presence, but STs remain underrepresented, requiring special focus and inclusive strategies.
5. The trend indicates rapid overall growth in loan disbursement, but distribution remains skewed. The General and OBC categories capture the majority share. While SC and ST categories despite growth remain relatively underrepresented.
6. The Consistent high AGRs in ST and SC segments during 2017-18 to 2019-20 suggests the success of early PMMY initiatives in expanding financial access to traditionally excluded groups.
7. The universal negative AGRs of all social category beneficiary in 2020-21 signal systematic disruption most likely attributable to the economic slowdown caused by the COVID-19 pandemic and its aftermath.
8. The recovery in Financial Year 2021-22 indicates the resilience of the MUDRA ecosystem.

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