A Study on the Status of Present Financial Inclusion Policy in the Districts of The State of West Bengal, India

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Abstract

Introduction: The convergence of financially excluded population towards mainstream formal financial institutions through proper accessibility, affordability and usage of services is crucial, to eradicate the dependence on informal money lenders, and to help the vulnerable and poor people to come out of the vicious debt cycle. As India aims to achieve inclusive growth, it has worked upon removing barriers from the path of gaining complete 'Financial Inclusion (FI)' through the policy called, Pradhan Mantri Jan Dhan Yojana (PMJDY). This has helped in translating Jan Dhan (wealth of people) to Jan Suraksha (security of people) through insurance and pension schemes, with the objective of building a global social security mechanism for every citizen.

Objective: To analyse the status of the FI scheme (PMJDY) in the 23 districts of the state of West Bengal.

Research Methodology: This research work will evaluate the effects of the current FI schemes, on the lives of the citizens of the state of West Bengal, which has 23 districts in total. To investigate about the inclusiveness in the financial system of those 23 districts, District FI Index (FII) has been developed, by considering some indicators for sub-indices as well as for composite index, that are clubbed under three dimensions, namely, accessibility, availability and usage of bank offerings. Earlier literature focused on savings and deposit accounts as a variable to compute FI whereas this study bridges the gap and considers only PMJDY scheme-based accounts to evaluate the present status of the scheme in the state.

Findings and Conclusion: It is observed that Kolkata has secured the highest place in FII whereas other districts have shown relatively low FI. The state still has a long distance to travel in terms of achieving a complete FI but it has the capability of travelling at a faster rate due to well-developed banking infrastructure. Thus, to make the FI scheme effective, a developed and accessible banking structure is a pre-requisite. The success of this scheme in bringing the deprived and vulnerable section into the fold will not only increase savings and investment but also contribute to strengthening the human capital of the country.

Keywords: District Financial Inclusion Index, Financial Inclusion, PMJDY, PMJJBY, PMSBY, APY

1. Introduction:

Financial Inclusion (FI) received immense name and fame in India from both, the policy makers as well as the researchers. The reasons for this gained popularity was that it provided the economically weaker

section of people with a medium to save their money, to make the banking services affordable and accessible by the financially excluded population, and, to conceal leakages present in the welfare program system. The Indian government, in collaboration with the apex banking institution, Reserve Bank of India (RBI), is consistently addressing issues of exclusion of economically weaker sections from the mainstream financial mechanism, through the FI schemes. The policies such as nationalization of banks (1969), establishment & expansion of bank branches, Cooperatives and Regional Rural Banks (1975), Lead bank scheme (1969), Self-Help Groups formation (1992), etc. were all meant to address the social issue of banking exclusion.

1.1 Pradhan Mantri Jan Dhan Yojana (PMJDY): The holistic approach of FI, called 'Pradhan Mantri Jan Dhan Yojana' (PMJDY, 2014), introduced as the 'National Mission for Financial Inclusion', is one such significant effort initiated to address the exclusion issue at large. The mentioned aim of 'Everyone's Support, Everyone's Development' and a slogan of 'My Account, My Fortune', are what PMJDY has been known for. It provided an incentive for economically weaker and vulnerable population to open a zero-parity ledger in banks without a complicated documentation process. It also enabled them to get access to credit facilities and a range of financial products from banks, to save them from informal money laundering. This attracted huge part of the un-banked population and within a week of its introduction in the economy, PMJDY recorded the maximum number of accounts to be opened in banks, that also gained it recognition in Guinness Book of World Records (Agarwala, et al, 2023). To serve such a huge customer base, it entailed opening a greater number of ATMs, expanding bank branches and extending its operational network, to ensure better banking penetration in regions which earlier had an underdeveloped banking system or were untouched by the banks. The progress made so far not only drives inclusive growth in the economy's development but is also helpful for the policy makers to serve the purpose of public welfare and nation's the requirements better than before. One vital point is that the banking system also has to be efficient enough in utilising its resources properly, since a major part of the success of PMJDY goes to them. Some of the key features of these notable schemes are as follows:

- No minimum balance criteria to be satisfied by the account holders
- The beneficiaries will get interest on their deposits
- Issuance of RuPay cards inbuilt with accident coverage of upto Rs 1 lakh to the account holders
- Easy transfer of money nationwide
- Direct benefit transfer by the government into the accounts of beneficiaries
- If the accounts are operated for a period of six months satisfactorily, then the account holders can also avail overdraft facility
- There will be camps put up by the Government of India (GOI) to ensure financial literacy programmes are being extended to the beneficiaries
- There will be creation of credit guarantee funds to cover the defaults of accounts that had availed overdraft facilities
- The beneficiaries will get access to micro insurance, if they are eligible
- The beneficiaries will get access to unorganised sector pension schemes like Swavalamban (Birla, 2021; Deb & Das, 2016).

1.2 Status of PMJDY: Providing a bank account to each household was the main motive of the scheme (reflected in Table 1 below), so that everyone would have accessibility to the banking system. This, in turn, would enable the management of financial crises, spread of banking merchandise, etc.

Table 1: Beneficiaries under PMJDY (reported as on 20/09/2023) (Figures in crores)

Type of Bank	Rural/Semi-urban beneficiaries	Urban beneficiaries	Rural-Urban beneficiaries	Sum of beneficiaries	Total deposits	RuPay cards issued
Public	24.74	14.71	21.73	39.45	159081.09	29.69
Regional Rural	8.06	1.34	5.43	9.40	39488.72	3.43
Private	0.72	0.72	0.76	1.44	5692.00	1.16
Rural Cooperative	0.19	0.00	0.10	0.19	0.01	0.00
Grand Total	33.71	16.77	28.02	50.48	204261.83	34.28

Source: PMJDY Progress Report (2023) accessed through PMJDY Portal

Total beneficiaries who have enrolled in PMJDY in the year 2023 have been reported in the above Table 1. Public Sector banks have shown the highest number of enrolments, followed by Regional Rural Banks (RRBs) and the Private Banks. A total of 50.48 crore citizens have registered under PMJDY, out of which 39.45 crore belong to public banks, showing how effective the public sector banks have been while implementing PMJDY. RRBs reported about 9.4 crores of beneficiaries and in case of Private Banks it is just around 1.44 crore beneficiaries. A similar trend can be observed from data on deposits and RuPay Debit cards. Hence, it is clear FI is well implemented by the public banks.

GOI has also made efforts in the translation from Jan Dhan (wealth of people) to Jan Suraksha (security of people) in terms of FI. In 2015, it announced three security schemes for the society, in the sectors of insurance as well as pension, namely, Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), and Atal Pension Yojana (APY). These schemes were aimed for building a global social security mechanism for every citizen, particularly for the under-privileged, women segment and the poor population. Though the scheme of PMJDY has shown great success, one has to observe that the success rates and stories are usually presented at an all-India level.

The main area of discussion of this study is at the state level. The progress a state has made under FI is less in literature (Singh et. al, 2020; Mishra et. al, 2015; Chakravarty & Pal, 2010). The exploration of West Bengal (WB) state as the study area has not been taken under consideration by earlier literature. Numerous literatures have constructed FII to measure the status of FI in India (Singh et. al, 2020; Verma & Khan, 2018; Goel et. al, 2017; Sethy, 2016; Mishra, Verma & Bose, 2015; Ambarkhane, Singh & Venkataramani, 2014; Gupte, Venkataramani & Gupta, 2012; Chakravarty & Pal, 2010). However, none of the papers have discussed about PMJDY. Our research work attempts to make contribution in the unexplored field of literature by constructing district level FII, by specifically considering PMJDY and its associated schemes. Various studies have considered several dimensions while estimating FII, like, some have considered only banking penetration (Mishra, Verma & Bose, 2015; Chakravarty & Pal, 2010); some have considered only penetration and usage (Gupte, Venkataramani & Gupta, 2012; Arora, 2010). We have considered banking services' availability, accessibility and usage dimensions, which are discussed in detail in the later sections of the study.

The study has been framed in the following way: the following sections make a systematic literature review, discusses the study's objectives, research methodology, data analysis and its findings and conclusion. The last section focuses on the future research agenda and implications for practice.

2.   Literature Review:

Senapati (2018) reported in, "A Study of Pradhan Mantri Jan Dhan Yojana (PMJDY) Scheme in Odisha and Challenges of Financial Inclusion", that PMJDY has banked 98% of households in India. It has banked more than 43.04 crore citizens, since its introduction in the economy, that amounts to Rs. 1,46,231 crores (Press Information Bureau (2023) of the GOI).

Agarwala et. al (2023) in their study, "Efficiency of Indian banks in fostering financial inclusion: an emerging economy perspective", measured the efficiency of 25 banks in implementing PMJDY in India and found that only some banks have proved to be efficiently fulfilling PMJDY goals, even though they are socially responsible to fruitfully practice the government policies and that public sector banks have been more successful in implementing PMJDY than their private counterparts.

Acharya (2023) reported that as of May 2016, Uttar Pradesh and WB accounted for 24% of the total accounts opened under PMJDY, with 29% of the total deposits made in PMJDY accounts. In fact, in WB about 13 million accounts are from rural areas out of the total 19 million PMJDY accounts.

 Singh et al. (2020) in their study, "Does PMJDY Scheme Augment Financial Inclusion in India? Evidence from Indian States", evaluated FI status of the states for 2011 and 2016 with dimensions, Penetration, Availability and Usage. In both the years, WB was categorised under low FI.

Maity et. al (2022) in their study, "Financial Inclusion Through Banking for the Poor: A Study on Cycle Rickshaw Pullers in West Bengal", conducted a survey on 170 rickshaw pullers in WB about their awareness of banking services and found that majority of them are unbanked due to extreme low income and poverty.

Banerjee & Gupta (2019) in their study, "Pradhan Mantri Jan Dhan Yojana as a financial inclusion drive: a case study of West Bengal", conducted a survey in 5 selected districts of WB, with 500 PMJDY account holders and 500 normal account holders. It was found that the scheme has only induced opening accounts among the people and no other associated benefits were availed by them due to lack of knowledge.

Gupta (2022) in his study, "Can Financial inclusion Instil Happiness among the Mass in India? A study into the celebrated Jan Dhan scheme in the state of West Bengal" provided an extension of the previous paper (Banerjee & Gupta, 2019) and found that PMJDY could not bring happiness to the beneficiaries in WB state, since it lacks the ability to fund education and health expenses.

Chattopadhyay (2011) examined FI status in WB in, "Financial Inclusion in India: A case-study of West Bengal", and found that the banking sector outreach was significant though achievement in terms of FI was insignificant. Only Kolkata ranked first in the district FII and rest of the districts performed poorly. This study also conducted a survey in rural WB which revealed that 38% of the respondents reported that they lack enough income that can enable them to hold a savings bank account.

Yadav et. al (2020) in their study, "Impact Assessment of Pradhan Mantri Jan-Dhan Yojana in Augmenting Financial Inclusion in India - A District-Level Analysis", developed a district FII for 27 states with banking penetration and availability dimensions and revealed that in 2011, 2014, 2016 and 2018, Kolkata was categorised under high FI.

3. Objectives of the study:

This study aims to make an assessment of PMJDY scheme's status in WB and the progress made by each district of WB, in terms of supply side dimensions of banking services, so as to estimate their positions under PMJDY.

4. Research Methodology:

This study is based on the analysis of secondary data collected from several sources such as various research papers, RBI website, publications of GOI's Ministry of Finance, etc. For constructing District FII of WB, the mechanism relies specifically on the district-wise data availability on the mentioned dimensions. The latest data is available for the FY 2021-2022. The major sources of the data consist of NABARD's report on FI in WB, State Level Bankers' Committee (SLBC) 158th meeting's report on WB as well as the portal of PMJDY.

This study has used Sarma (2008) as the base literature for the construction of FII in this paper. Her study has considered Penetration or Accessibility, Availability and Usage, for all-India data in 2004 and allotted equal weightage to each dimension. Sarma (2008) also considered UNDP's approach of HDI calculations and computed each dimension as,

$$D_i I = (d_1+d_2+d_3+\ldots\ldots+d_n) / n$$
$$\text{and } d_i = (A_i - m_i) / (M_i - m_i)$$

where, i= i[th] indicator; D= dimension; d= variables of dimension; A= actual value; mi= minimum value; and M= maximum value (Sarma, 2008).

$$FII = 1- \text{Root over } [\{(1-p_i)^2+(1-a_i)^2+(1-u_i)^2\} / 3]$$

where i= i[th] indicator; p= dimension indices for penetration or accessibility; a= availability; and u= usage (Sarma, 2008).

For the specific purpose of the study, we have considered 8 indicators for sub-indices as well as for composite index and they are clubbed under 3 dimensions (details provided in Table-5).

5. Data Analysis and Findings:

WB shelters millions of people and has 23 districts. The population estimate as of 2023 is 102,552,787 (World Population Review, 2023). This section is divided into two subsections, first, that examines the status of PMJDY in the present scenario in WB and second, that evaluates the status of PMJDY in different districts of WB's financial system through the construction of FII.

5.1. Current Status of PMJDY in the State of West Bengal:

The count of account holders under PMJDY from WB is shown in the following Table 2. About 4,92,20,968 beneficiaries are there in WB, out of which 3,65,62,861 beneficiaries are from rural areas and 1,26,58,107 beneficiaries are from urban areas, in 2023.

Table 2: Report of account opening in West Bengal (reported as on 20/09/2023)

State	Rural/Semi-urban beneficiaries	Urban beneficiaries	Sum of beneficiaries	Total deposits (in crore)	RuPay cards issued
West Bengal	36,562,861	12,658,107	49,220,968	20,462.70	30,921,130

Source: PMJDY Progress Report (2023) accessed through PMJDY Portal https://pmjdy.gov.in/account
It is observed that more rural people are involved in the scheme than the urban figures, which is a good sign of inclusiveness in the state economy. Table 3 below, reports about the status of the households of the state of WB.

Table 3: West Bengal Household Report

Number of wards allotted-SSAs	Survey completed in number of wards	Survey pending in number of wards	Sum of households	Households covered	Coverage -% of household
13248	13248	0	19261587	19261587	100.00%

Source: PMJDY Progress Report (2023) accessed through PMJDY Portal https://pmjdy.gov.in/account
Around 13248 wards are surveyed under the schemes as on 29/09/2023, representing 100% coverage. Table 4 depicts the district level status of WB.

Table 4: District-wise Household Report of West Bengal

District	Number of wards allotted-SSAs	Survey completed in number of wards	Coverage-% of household
Alipurduar	225	225	100.00%
Bankura	603	603	100.00%
Bardhhaman	1131	1131	100.00%
Birbhum	623	623	100.00%
Dakshin Dinajpur	316	316	100.00%
Darjeeling	353	353	100.00%
Haora	554	554	100.00%
Hugli	919	919	100.00%
Jalpaiguri	373	373	100.00%
Koch Bihar	519	519	100.00%
Kolkata	183	183	100.00%
Malda	629	629	100.00%
Murshidabad	1084	1084	100.00%
Nadia	745	745	100.00%
North Twenty-Four Parganas	1285	1285	100.00%
Paschim Medinipur	1007	1007	100.00%

Purba Medinipur	822	822	100.00%
Puruliya	426	426	100.00%
South Twenty-Four Parganas	925	925	100.00%
Uttar Dinajpur	526	526	100.00%

Source: https://pmjdy.gov.in/statewise-statistics

PMJDY has been successful in WB, on the basis of household reports. The possible reasons can be the well-developed banking infrastructure of the state as well as the physical infrastructure. It also shows a 100% coverage status.

5.2 District-wise Status of PMJDY in West Bengal

This subsection attempts to look into the government schemes undertaken for the welfare of the poor households at district level of the state. WB has 23 districts in total. To investigate the inclusiveness in the financial system of those 23 districts, we attempt to construct district FII, by evaluating several dimensions. For the construction of FII, many researchers have considered various dimensions. Honohan (2007) considered Formal bank accounts and Deposit as percentage of per capita GDP. Sarma (2008) considered Penetration as the number of bank accounts per 1000 population, Availability as the number of bank branches and ATMs per 1000 population, and Usage as the number of beneficiaries. Mehrotra, et. al (2009), considered variables like number of offices, deposit accounts, volume of deposit, all for rural level and credit from banks at district level. Arora (2010) has considered Geographical Penetration, Ease and Cost of Transaction. This study used Sarma (2008) as the base literature for the construction of FII in its analysis.

FII is a multidimensional approach that computes different FI dimensions through a single digit, the value of which lies in the range of zero and one, indicating extremes of FE (Financial Exclusion) and FI, respectively (Sarma & Pais, 2008). In this study, we have considered 3 dimensions of FI, the details of which are provided in Table 5 below.

Table 5: Indicators of the Dimensions of FII

Sl. No.	Dimension	Variables	Symbol
1	Availability	No. of bank branches per 1000 Sq. Km.	D1
		No. of ATMs per 1000 Sq. Km.	
2	Accessibility	Total No. of PMJDY accounts per 1000 population (as on 31.03.2022)	D2
		Total No. of PMJJBY accounts per 1000 population (as on 31.03.2022)	
		Total No. of PMSBY accounts per 1000 population (as on 31.03.2022)	
		Total No. of APY accounts per 1000 population (as on 31.03.2022)	
3	Usage	Per capita Deposit (in rupees)	D3
		Per capita Credit (in rupees)	

Source: Researcher's Study

For the specific purpose of the study, we have considered 8 indicators for sub-indices as well as for the composite index and they are clubbed under 3 dimensions. The rationale for including Availability indicators in constructing FII is that it indicates there is not much distance to the nearest branch for the citizens. Accessibility indicators indicate the fruitfulness of FI schemes in covering the earlier excluded population also. Usage indicators indicates the availability of per capita deposits and Credit by the common people.

Table 6, reflects the availability of bank branches as well as the number of ATMs located in each district of WB.

Table 6: District-wise Banking Infrastructure (per 1000 sq. km)

Sl. No.	Districts	Number of Branches	Number of ATMs	Total	Availability Sub-Index (d1)	Ranks
1	Alipurduar	41	18	59	0.00074405	21
2	Bankura	42	37	79	0.00180697	19
3	Birbhum	75	61	136	0.00483631	14
4	Coochbehar	87	55	142	0.00515519	12
5	Dakshin Dinajpur	68	64	132	0.00462372	15
6	Darjeeling	92	152	254	0.01110757	7
7	Hooghly	186	214	400	0.01886692	5
8	Howrah	365	426	791	0.03964711	2
9	Jalpaiguri	41	60	101	0.00297619	17
10	Jhargram	31	14	45	0	22
11	Kalimpong	33	35	68	0.00122236	20
12	**Kolkata**	**6701**	**12160**	**18861**	**1**	**1**
13	Malda	77	71	148	0.00547406	11
14	Murshidabad	99	115	214	0.00898172	8
15	Nadia	126	145	271	0.01201105	6
16	Paschim Burdwan	231	351	582	0.02853954	4
17	Paschim Medinipur	43	48	91	0.00244473	18
18	Purba Burdwan	92	91	183	0.00733418	9
19	Purba Medinipur	88	92	180	0.00717474	10
20	Purulia	30	29	59	0.00074405	21
21	Uttar Dinajpur	71	63	114	0.00366709	16
22	24 Parganas (North)	257	393	650	0.03215349	3
23	24 Parganas (South)	68	70	138	0.0049426	13

Source: Researcher's compilation from the data on Financial Inclusion Outreach in West Bengal 2022-2023, NABARD

The stated figures of bank branches include only the types of formal financial institutions and not the informal ones. The above Table 6 shows that Kolkata ranks 1st in physical banking infrastructure with the highest number of bank branches as well as the highest number of ATMs. On the other hand, Jhargram district ranks the lowest.

For the next dimension, we have considered PMJDY accounts as the proxy, since the motive of this research is to compute FII with respect to PMJDY only. Following table 7 represents the district-wise report on PMJDY-

Table 7: District-wise Enrolments under FI Schemes

Sl. No.	Districts	PMJDY Accounts	PMJJBY Accounts	PMSBY Accounts	APY Accounts	Total No. of FI Accounts	Accessibility Sub-Index (d2)	Ranks
1	Alipurduar	138	54	150	24	366	0.3310745	21
2	Bankura	566	51	201	25	843	0.7928364	5
3	Birbhum	601	93	225	41	960	0.9060987	3
4	Coochbehar	510	68	196	42	816	0.7666989	8
5	Dakshin Dinajpur	640	66	220	34	960	0.9060987	3
6	Darjeeling	290	99	235	36	660	0.6156825	12
7	Hooghly	389	58	176	32	655	0.6108422	13
8	Howrah	380	55	155	30	620	0.5769603	16
9	Jalpaiguri	427	56	139	29	651	0.60697	14
10	Jhargram	360	40	147	25	572	0.5304937	18
11	Kalimpong	255	87	207	32	581	0.5392062	17
12	**Kolkata**	**172**	**80**	**277**	**30**	**559**	0.517909	**19**
13	Malda	724	67	218	44	1053	0.9961278	2
14	Murshidabad	555	55	215	40	865	0.8141336	4
15	Nadia	536	49	200	34	819	0.7696031	7
16	Paschim Burdwan	429	58	168	73	728	0.6815102	10
17	Paschim Medinipur	441	49	180	30	700	0.6544046	11
18	Purba Burdwan	429	22	63	27	541	0.500484	20
19	Purba Medinipur	550	55	211	49	865	0.8141336	4
20	Purulia	614	49	150	24	837	0.7870281	6
21	Uttar Dinajpur	792	54	177	34	1057	1	1

| 22 | 24 Parganas (North) | 388 | 49 | 172 | 27 | 636 | 0.5924492 | 15 |
| 23 | 24 Parganas (South) | 554 | 42 | 143 | 25 | 764 | 0.7163601 | 9 |

Source: Researcher's compilation from the data on Financial Inclusion Outreach in West Bengal 2022-2023, NABARD

In the above Table 7, we have also ranked the districts on the basis of the highest number of enrolments in FI or highest number of FI accounts. It was found that Uttar Dinajpur district of WB has shown the highest number of accounts under the present FI schemes, Alipurduar the lowest and our study region, Kolkata, ranks 19th on the list. Next, we move towards the amount of deposits in the FI schemes-based accounts and the amount of credit taken by the beneficiaries. The following Table 8 provides the detail.

Table 8: District-wise Deposits and Credit in the beneficiaries' accounts

Sl. No.	District	Per Capita Deposit	Per Capita Credit	Total	Usage Sub-Index (d3)	Ranks
1	Alipurduar	39760	29139	68899	0.018426594	12
2	Bankura	41501	21224	62725	0.014206951	15
3	Birbhum	46542	31380	77922	0.024593396	10
4	Coochbehar	34321	33462	67783	0.01766386	14
5	Dakshin Dinajpur	29875	22589	52464	0.007194033	17
6	Darjeeling	139294	88905	228199	0.127300761	2
7	Hooghly	89570	35327	124897	0.056698632	5
8	Howrah	82001	42896	124897	0.056698632	5
9	Jalpaiguri	29485	22042	51527	0.006553637	19
10	Jhargram	36535	15500	52035	0.006900832	18
11	Kalimpong	70054	46266	116320	0.05083665	6
12	**Kolkata**	**928651**	**576444**	**1505095**	1	**1**
13	Malda	32879	24359	57238	0.010456841	16
14	Murshidabad	32182	16918	49100	0.004894895	21
15	Nadia	62349	41200	103549	0.042108263	8
16	Paschim Burdwan	150978	68239	219217	0.121161981	4
17	Paschim Medinipur	51943	25738	77681	0.024428684	11
18	Purba Burdwan	53273	30935	84208	0.028889586	9
19	Purba Medinipur	69405	35627	105032	0.043121825	7
20	Purulia	28054	13884	41938	0	22
21	Uttar Dinajpur	28222	21693	49915	0.00545191	20

| 22 | 24 Parganas (North) | 153735 | 65587 | 219322 | 0.121233743 | 3 |
| 23 | 24 Parganas (South) | 46077 | 22711 | 68788 | 0.018350731 | 13 |

Source: Researcher's compilation from the data on Financial Inclusion Outreach in West Bengal 2022-2023, NABARD

We have used the deposit and credit calculated on per capita basis, as the proxy for usage dimension. The above Table 8 shows that Kolkata ranks first in the usage dimension and Purulia is the last.

We move further and present the following tables 9.A and 9.B which shows necessary calculations required for FII.

Table 9.A: Showing necessary calculations of Composite FII

District	(1-d1) A	(1-d2) B	(1-d3) C	A^2 D	B^2 E	C^2 F	Sum (D+E+F) G
Alipurduar	0.999256	0.668926	0.981573	0.998512	0.447461	0.963486	2.40946
Bankura	0.998193	0.207164	0.985793	0.996389	0.042917	0.971788	2.011094
Birbhum	0.995164	0.093901	0.975407	0.990351	0.008817	0.951418	1.950586
Coochbehar	0.994845	0.233301	0.982336	0.989716	0.054429	0.964984	2.00913
Dakshin Dinajpur	0.995376	0.093901	0.992806	0.990774	0.008817	0.985664	1.985255
Darjeeling	0.988892	0.384318	0.872699	0.977908	0.1477	0.761604	1.887212
Hooghly	0.981133	0.389158	0.943301	0.962622	0.151444	0.889817	2.003883
Howrah	0.960353	0.42304	0.943301	0.922278	0.178963	0.889817	1.991058
Jalpaiguri	0.997024	0.39303	0.993446	0.994056	0.154473	0.986936	2.135465
Jhargram	1	0.469506	0.993099	1	0.220436	0.986246	2.206682
Kalimpong	0.998778	0.460794	0.949163	0.997557	0.212331	0.900911	2.110799
Kolkata	0	0.482091	0	0	0.232412	0	0.232412
Malda	0.994526	0.003872	0.989543	0.989082	1.5E-05	0.979196	1.968293
Murshidabad	0.991018	0.185866	0.995105	0.982117	0.034546	0.990234	2.006898
Nadia	0.987989	0.230397	0.957892	0.976122	0.053083	0.917557	1.946761
Paschim Burdwan	0.97146	0.31849	0.878838	0.943735	0.101436	0.772356	1.817527
Paschim Medinipur	0.997555	0.345595	0.975571	0.995117	0.119436	0.951739	2.066292
Purba Burdwan	0.992666	0.499516	0.97111	0.985385	0.249516	0.943055	2.177957
Purba Medinipur	0.992825	0.185866	0.956878	0.985702	0.034546	0.915616	1.935864
Purulia	0.999256	0.212972	1	0.998512	0.045357	1	2.043869

Uttar Dinajpur	0.996333	0	0.994548	0.992679	0	0.989126	1.981805
24 Parganas (North)	0.967847	0.407551	0.878766	0.936727	0.166098	0.77223	1.875055
24 Parganas (South)	0.995057	0.28364	0.981649	0.990139	0.080452	0.963635	2.034226

Source: Author's Calculation

Table 9.B: Computation of District FII

District	(G/3) H	SQRT(H) I	(1-I) FII
Alipurduar	0.803153	0.896188	0.103812
Bankura	0.670365	0.818758	0.181242
Birbhum	0.650195	0.806347	0.193653
Coochbehar	0.66971	0.818358	0.181642
Dakshin Dinajpur	0.661752	0.813481	0.186519
Darjeeling	0.629071	0.79314	0.20686
Hooghly	0.667961	0.817289	0.182711
Howrah	0.663686	0.814669	0.185331
Jalpaiguri	0.711822	0.843695	0.156305
Jhargram	0.735561	0.857648	0.142352
Kalimpong	0.7036	0.838808	0.161192
Kolkata	0.077471	0.278335	**0.721665**
Malda	0.656098	0.809998	0.190002
Murshidabad	0.668966	0.817903	0.182097
Nadia	0.64892	0.805556	0.194444
Paschim Burdwan	0.605842	0.778359	0.221641
Paschim Medinipur	0.688764	0.829918	0.170082
Purba Burdwan	0.725986	0.852048	0.147952
Purba Medinipur	0.645288	0.803298	0.196702
Purulia	0.68129	0.825403	0.174597
Uttar Dinajpur	0.660602	0.812774	0.187226
24 Parganas (North)	0.625018	0.790581	0.209419
24 Parganas (South)	0.678075	0.823453	0.176547

Source: Author's Calculation

To understand the interpretation of the above Table 9.B, consider the following scale-

- $0 \leq FII \leq 0.4$; indicates low FI;
- $0.4 < FII \leq 0.6$; indicates medium FI;
- $0.6 < FII \leq 1$; indicates high FI.

Based on these scaling of FII, it was found that only Kolkata has the highest FI in the entire WB state with an FII value of 0.7. If observed properly, remaining districts come under the lower range of FII. This finding is in line with Chattopadhyay (2011) and Yadav et. al (2020). This also reveals that PMJDY has been successful in some areas but not in overall state. This revelation is in line with Yadav et. al (2020). Since the focus of the paper is strictly on the present FI schemes initiated by GOI, the index is based on PMJDY accounts only, and no other bank accounts or accounts with non-banking financial institutions have been looked into. FII tells us the degree of success of PMJDY in different districts of WB. It was observed that no other districts in WB has seen much of success in terms of PMJDY apart from Kolkata. Hence, the finding of the study shows that PMJDY has been successful in Kolkata city of WB, based on secondary data analysis. A prime factor for this is the well-developed banking infrastructure of the city. Other reasons of differential impact of PMJDY on various districts of the same state may be the size and composition of population, the pattern of employment and the level of education of the citizens in the districts.

6. Policy and Research Implications:

To enhance FI, emphasis on three crucial factors of availability, accessibility and usage of financial services is required. However, the gap here can be bridged through digitalisation. Therefore, thrust is needed in policies to address the barriers in digital payments, to achieve complete FI. Availability of banking services requires redevelopment with reference to delivery mode and necessities of citizens, in order to ensure accessibility plus usage. FI should also be treated as to mandate addressal and development of concerned and relevant indicators, in the domain of health, poverty, human development, etc. Policies are also called in the field of financial literacy so that people can be made aware of the beneficial provisions of FI schemes. A comprehensive collaboration is required between the policy initiators and service providers so as to target the financially excluded population.

Only bank accounts under PMJDY and enrolment in its associated schemes have exclusively been taken as variables for this study. WB was chosen as the study area. A cross state study can be undertaken by considering the same dimensions as stated in the study for different states. Further study can also be developed by incorporating both supply-side and demand-side indicators of banking services.

7. Conclusion:

If a district or a state has accomplished a high degree of FI, then it will positively impact inclusive growth, reduce farmers' indebtedness, promote innovations at grassroots level, increase undertaking of more entrepreneurship-based livelihood, raise the standard of living of its citizens, etc. No doubt, PMJDY has shown successful growth rates over time in India, with an increased number of accounts opened under the scheme. However, one should understand that the progress of any scheme cannot merely be counted by higher account opening figures. People might open their accounts under the scheme but may end up not operating their accounts frequently. Hence, owning a bank account does not capture the true picture of FI's progress. The significance of FI depends on the provision of formal financial institutions' services that must be accessed and availed by every citizen and that the benefits of such schemes should reach the worthy recipients for whom they are actually meant. The facilities should be efficiently and frequently used by people. However, there are a number of challenges while accessing FI schemes, like psychological, physical, economic or political conditions of the beneficiaries. These challenges act as obstacles in the achievement path of complete FI. These obstacles can be removed, partly by the banking

system through optimal operation and efficient utilisation of their resources endowed to them by the GOI for meeting the needs of FI, and partly by the GOI through better governance in monitoring and implementation of the schemes. It also requires cooperation among inter-sectoral shareholders, consisting of inter-bank and inter-state population, which covers the scheme's various socioeconomic dimensions.

FI is well implemented by Public Banks. This points out an empirical application for the bankers. The other types of banks may observe the findings and keep a note of it in their future policy endeavours by focusing on the regions that still suffer from under-development of the banking system. The public sector banks may also formulate strategic policies to attract the potential customers from untouched regions of the districts of WB and may frame course of actions to further furnish PMJDY in those regions.

Conflict of interest

It is declared by the authors that there exists no conflict of interest with respect to authorship, research and publication of this study. The views expressed herein are solely that of the authors.

Acknowledgement

Funding

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