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Financial Inclusion: A Comparative Analysis on Rural Household Perspective

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Abstract: This article examines financial inclusion in Bhadrak district, Odisha, comparing it to the state as a whole. It highlights the challenges and opportunities faced in rural areas despite government initiatives. The study utilizes one-way ANOVA, effect size analysis, and post-hoc tests to assess differences in the distribution of banking offices across rural, semi-urban, and urban areas within Bhadrak district and Odisha. The results reveal statistically significant differences and large effect sizes, emphasizing pronounced disparities in office distribution across different areas. The study finds a decline in bank offices and deposits but an increase in financial service participation. Loan uptake is low, and there are significant disparities in office distribution across regions. The article emphasizes the need for targeted strategies to improve financial inclusion, especially in rural areas.

***Keywords*:** Financial Inclusion; Rural Areas; ANOVA, Financial Services; Urban Areas

JEL Codes: D91, G4, G5

1. INTRODUCTION

Financial inclusion refers to the accessibility and availability of financial services to all segments of society, particularly those traditionally excluded from the formal financial system. It encompasses initiatives aimed at providing individuals and communities with access to banking services, credit, savings, insurance, and other financial tools necessary for economic participation and empowerment. In the context of the study, financial inclusion in rural areas of Bhadrak district and Odisha is examined to understand the extent to which residents have access to formal financial services. The study investigates trends in the number of reporting offices, aggregate deposits, and gross bank credit, shedding light on the challenges and opportunities in promoting financial inclusion in these regions. Through the review of literature, the study aims to identify gaps in region-specific financial inclusion research and provide insights into the unique challenges faced by rural populations. The study presents a comprehensive study on the state of financial inclusion in rural areas of Bhadrak district, comparing it with the broader context of Odisha, with a specific focus on the coastal region. The research identifies gaps in region-specific financial inclusion research and adopts a robust research methodology integrating both descriptive and inferential statistics. Beginning with an analysis of trends in reporting offices, aggregate deposits, and gross bank credit over the past five years, the study highlights a positive trend in increased participation in financial services despite declines in reporting offices and deposits. However, a significant decrease in gross bank credit suggests a hesitancy towards loans. The study utilizes one-way ANOVA, effect size analysis, and post-hoc tests to assess differences in the distribution of banking offices across rural, semi-urban, and urban areas within Bhadrak district and Odisha. The results reveal statistically significant differences and large effect sizes, emphasizing pronounced disparities in office distribution across different areas. Overall, the study underscores the importance of region-specific analysis in understanding financial inclusion, highlighting challenges and opportunities unique to rural areas. It advocates for targeted strategies to address loan hesitancy and promote financial literacy, emphasizing the need for tailored approaches to enhance banking infrastructure and access, particularly in rural and semi-urban regions. Ultimately, the study calls for continued research and policy interventions to foster inclusive economic growth and development in rural areas of Bhadrak district and Odisha.

The study highlights the importance of considering regional nuances in financial inclusion research, emphasizing the need for tailored approaches to address unique challenges and opportunities in rural areas like Bhadrak district. There is a pressing need to enhance financial literacy among rural populations to address the hesitancy towards loans and promote greater participation in formal financial services. Pronounced differences in the distribution of banking offices across rural, semi-urban, and urban areas underscore the importance of enhancing banking infrastructure and access, especially in rural and semi-urban regions, to promote equitable financial inclusion efforts. Policymakers need to prioritize region-specific financial inclusion initiatives, especially in rural areas like Bhadrak district and Odisha, recognizing the unique challenges and opportunities they present.

2. REVIEW OF LITERATURE

Rout and Bag (2020) examined the micro level analysis taking the all districts of Odisha as a sample. The study finds that financial literacy enhances the individuals to available credit facility and accessing of formal financial services which leads the poverty eradication. The poor persons are required to get the financial awareness training for accessing the formal financial services. Omar and Inaba (2020) examined the impact of financial inclusion on poverty reduction and income inequality in the context of 36 countries from Asia, 53 countries from Africa, and 27 countries from Latin America and the Caribbean of the world. Using panel data analysis, the results find that financial inclusion contributes to faster and more equitable macroeconomic growth, reduces poverty, and promotes income equality in developing countries by providing access to formal financial services. Ghosh and Sahu (2020) attempts to construct an index of financial inclusion across all the states and union territories of India for 2003–2018. The study further explores the effect of regional classification and productivity on the achievement of financial inclusion. Based on the financial inclusion score, Chandigarh is placed as a rank one in financial inclusion score followed by Uttar Pradesh and Himachal Pradesh. Matekenya, Moyo and Jeke (2020) explored the relationship between financial inclusion and human development in Sub-Saharan Africa countries from 2004-207. The results find that financial inclusion is positively related to human development. The finding supports the notion that access to and usage of financial services promotes human development. Further, in individually the study finds that financial inclusion improves health outcomes possibly by enabling households to save for health expenses.Fouejieu et al (2020) examined the relationship between financial inclusion and income inequality in cross-country context. Europe and Central Asia, and Latin America and Caribbean and sub-Sahara Africa countries as a sample and sample period from 2004 to 2015 are used for analysing the relationship between financial inclusion and income inequality. The results find that financial inclusion score is low in emerging and low-income countries compared to the developed countries. The negative impact of financial inclusion on inequality is higher when the economy performs well (higher economic growth), and the financial system is relatively more stable. Further, the study finds that financial inclusion gap between men and women remains persistent. Soyemi, Olowofela and Yunusa (2020) revealed the financial inclusion has positive and significant impact on sustainable development in Nigeria. The study analysed the short run and long run relationship of financial inclusion (bank branches, demand deposits from rural areas, loan to rural areas) and sustainable development. Overall result finds that financial inclusion has impact on sustainable development in Nigeria. Raichoudhury (2020) documented the determinants of financial inclusion taking 28 states of India over four years (2011-2015). The result finds that income, infrastructure and employment Opportunities are perhaps the most important determinants of financial inclusion. Furthermore, the computed indices can be utilized to track and measure financial inclusion over a period of time and at the micro level. The policymakers should also take into account these facts to improve the financial inclusiveness of any region. Arora and Kumar (2021) studied the relationship between financial inclusion and human development taking data from 1991-2020 using the dimensions of banking penetration, banking availability and usage of banking services. The study used the ganger causality test and find that the existence of bidirectional causality between financial inclusion and human development in short run and long run. Zou, Li and Zhou (2021) examined the mediating relationship of financial inclusion between financial cognition level and income of rural China household's data from the period 2013 to 2017. The results find that financial cognition level promotes the income level of rural households. Financial inclusion level stimulates the income level of rural households by providing access of digital financial solution. Nandru, Chendragiri and Velayutham (2021) explored the relationship between financial inclusion and financial well-being of marginal street vendors. The study finds that five dimension of financial inclusions such as accessibility, availability, usage and affordability are significant impact on financial inclusion. However, financial literacy is not statistically significant in case of marginal street vendor data. Further, the result finds that financial inclusion uplifts the marginalised section of street vendors by providing adequate knowledge regarding banking services, using of digital financial technology etc. Kazemikhasragh and Pineda (2021) provide the empirical evidence of importance of financial inclusion and value of education in Latin America and the Caribbean countries. The results find that the results influence financial inclusion factors, including education, number of borrowers, inequality in income distribution, technology use, and the human development index (HDI). Also, this study considered the interaction of Covid-19 with education and borrowing. These variables are directly related to financial inclusion. Further, the study finds that gender equality influences the financial inclusion. Behera (2021) documented the implementation of PMJDY and economic growth of Odisha taking 30 districts as a sample from 2012 to 2020. The results find that there is significant and positive association between PMJDY and economic growth. Further, the study finds that banking availability and banking usage have positive impact on economic growth. Nowacka, Szewczyk-Jarocka and Wiślińska (2021) studied the relationship between socio-demographic variables with financial inclusion in Poland country context using 350 unemployed registered in the Municipal Labour Office in Płock labour-class individuals. The results find that education, age, reasons, and period of registration impact the financial exclusion of the unemployed. Education is the most significant factor that determines financial inclusion among the labour class people in Poland. Mehry, Ashraf and Marwa (2021) studied in cross country context that financial inclusion has significant impact on unemployment rate of 35 developing counties. Further, the study finds that the level of education, inflation rate and economic growth has a significant negative impact on the unemployment rate. Guru and Panda (2022) examined the financial inclusion scenario taking the 30 districts of Odisha from the period 2001 to 2020 by preparing an Index of financial inclusion for every district year wise. The result finds that there is no significant change in financial inclusion performance of the districts with regard to the IFI. Arora and Kumar (2022) investigated the financial inclusion by creating a multi-dimensional financial inclusion index taking districts of Haryana state as a sample. The result finds that financial inclusion is quite high in Gurugram district but the situation is alarming in Mewat district indicating a wide inter district disparity in financial inclusion. Dogan, Madaleno and Taskin (2022) examined the relationship between financial inclusion and poverty level by segregating lover poverty, upper poverty, and extreme poverty groups. Using sample of 11595 rural household's data, the results find that financial inclusion is significantly related to poverty reduction in Turkey. Further, the results find that the probability of exposure to poverty is lower for those who are male, employed, unmarried, have higher education levels, and own a house. Ozili (2022) examined the association between financial inclusion and sustainable development in global context. revealed that high levels of financial inclusion (in terms of higher commercial bank branches per 100,000 adults) is significantly associated with higher electricity production from renewable sources, higher industry productivity, higher adult literacy rate, higher renewable electricity output and higher CO2 emissions from electricity and heat production. Also, higher commercial bank branches per 100,000 adults are associated with low combustible renewable and waste. There is a uni-directional granger causality between global interest in internet information about sustainable development and global interest in internet information about financial inclusion in the period after the GFC but before the COVID-19 pandemic. Ambarkhane (2022) attempts to assess the state-wise impact of the scheme for the years 2016, 2017 and 2018; considering coverage of rural poor, urban poor, percentage of Rupay cards issued and average balance in the account for 30 states and 6 union territories of India. It is found that the impact factor is positively influenced by geographic penetration of bank branches, ATMs and bank mitras and the number of poor in a particular state. The impact is found to be more where literacy is lower. Malik et al. (2022) studied the relationship between social sustainability and financial inclusion using Asian countries as a sample. The results find that social sustainability is significantly and positively associated with financial inclusion. Higher SS would encourage each entity in the region to be inclined toward contributing to FS. For instance, increasing SS can enhance the quality of life of the population by the provision of adequate resources. Such a population would be encouraged to invest their resources in the financial sector, which would increase FI in the region. These resources may also contribute to the economy through new business start-ups by a socially sustainable population.

3. OBJECTIVE OF THE STUDY

Based on the review of existing literature, it is evident that there is limited research conducted on region-specific financial inclusion, particularly in the context of rural areas. Furthermore, there is a lack of comparative analysis between specific regions and the overall state to assess the financial inclusion status comprehensively. In this regard, this study aims to address this gap by focusing on the financial inclusion status of Bhadrak district and comparing it with Odisha as a whole, with a particular emphasis on the coastal region. By conducting a comparative analysis, the study seeks to provide insights into the unique financial inclusion challenges and opportunities faced by Bhadrak district, especially in comparison to the broader state of Odisha.

4. RESEARCH METHODOLOGY

The study focuses on investigating the state of financial inclusion in rural areas of the Bhadrak district, despite various governmental initiatives aimed at enhancing financial access. It employs a purposive sampling method to select rural areas for analysis. Secondary data from reliable sources, such as India-Stat, are utilized for the analysis. India-Stat is known for its comprehensive socio-economic statistical information about India, its states, sectors, regions, and districts.

The analysis comprises both descriptive and inferential statistics. Descriptive statistics, including percentage analysis, are used to assess trends in the data, with visualizations such as graphs and charts aiding in interpretation. Moreover, inferential statistics, specifically one-way ANOVA with post-hoc tests and effect size calculations, are employed to delve deeper into the data and draw conclusions.

5. DATA ANALYSIS

The data provided (*Figure 1*) compares the number of reporting offices of all scheduled commercial banks in Bhadrak district and Odisha over the last five financial years, indicating a decline in both regions. This decline may be attributed to increasing NPAs, bank mergers, and defaults in loans, leading to banks cutting costs by closing existing offices. In Bhadrak district, the number of reporting offices decreased from 599 in 2017-18 to 533 in 2021-22, while in Odisha, it decreased from 21,001 to 19,047 over the same period. Bhadrak exhibited slower growth compared to Odisha. Despite the decline, reporting offices play a crucial role in

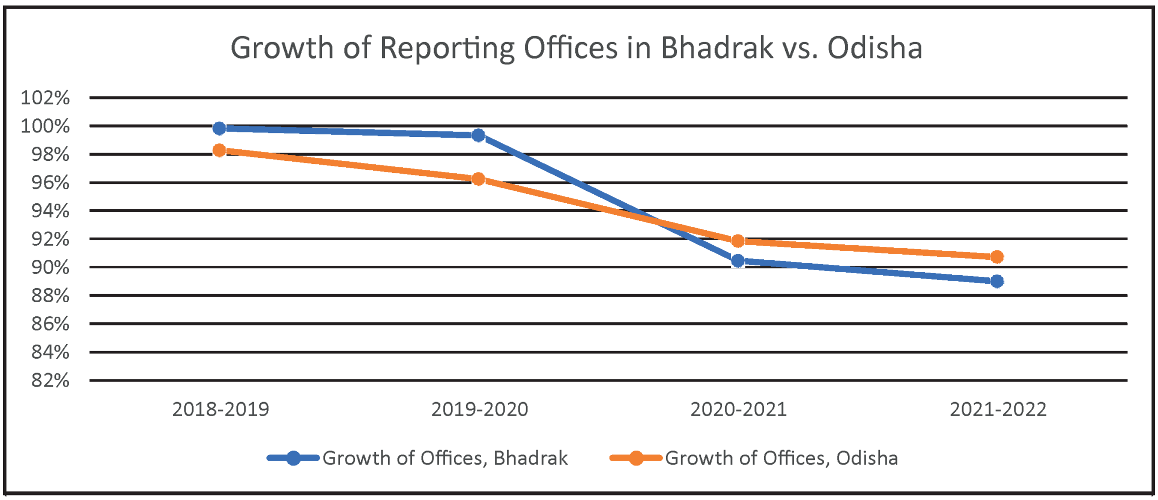

Figure 1: Comparative Analysis of the Number of Reporting Offices of Bhadrak vs. Odisha

Source: Authors' Compilation

financial inclusion by providing necessary services to the public, acting as bridges to address financial problems. While some offices closed due to financial reasons, others continue to facilitate financial services in Bhadrak district and Odisha, ensuring accessibility and inclusion.

The Pradhan Mantri Jan Dhan Yojana, launched by the Government of India in 2014, aimed to promote financial inclusion, especially in rural areas, by offering zero-balance accounts and free RuPay ATM cards. This initiative significantly increased banking penetration, encouraged saving habits, and facilitated small deposits in rural regions. However, the data presented (*Figure 2)* highlights a decline in aggregate deposits of all scheduled commercial banks in Bhadrak district and Odisha over the past five financial years, from 2017-18 to 2021-22. In 2017-18, Bhadrak had deposits worth Rs. 26,680 crores, and Odisha had Rs. 1,583,747 crores, which decreased to Rs. 17,493 crores and Rs. 1,030,048 crores, respectively, by 2021-22. This decline is attributed to factors such as the COVID-19 pandemic, which led to job losses in rural areas, prompting individuals to withdraw savings for daily expenses. Despite the decrease in deposits, there's a positive trend of increased participation in financial services, indicating an opportunity for enhanced financial inclusion. Access to bank accounts has made rural residents active participants in financial services, contributing to their economic empowerment and resilience, albeit at a slower pace post-COVID.

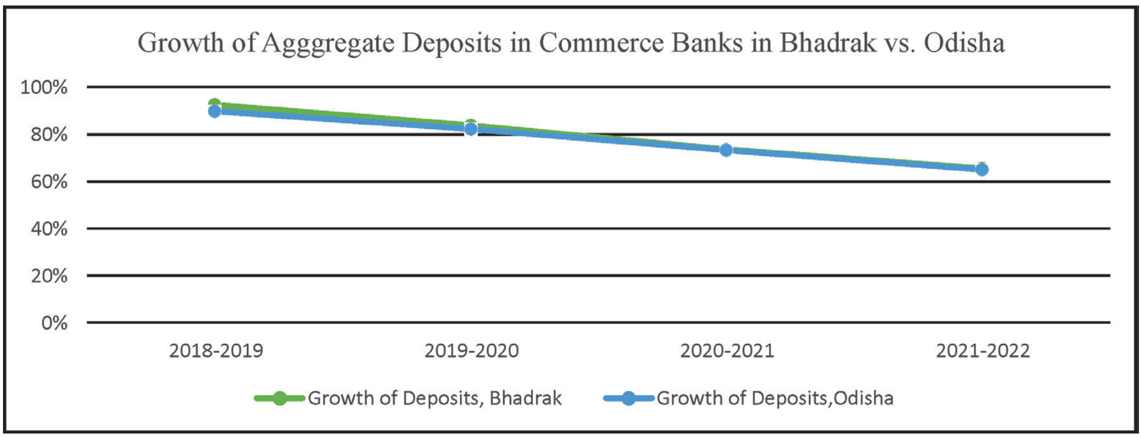

Figure 2: Comparative Analysis of Aggregate deposits in commercial banks in Bhadrak vs. Odisha

Source: Authors' Compilation

The data provided (*Figure 3*) showcases the gross credit extended by all scheduled commercial banks in Bhadrak district and Odisha over the past five years, along with the comparison of loan growth rates between the two regions. In 2017-18, Bhadrak received Rs. 12,889 crores in gross bank credit, while Odisha received Rs. 6,20,907 crores. However, both regions experienced a decline in credit over the subsequent years, with Bhadrak's credit falling to Rs. 6,401 crores and Odisha's to Rs. 3,80,374 crores by 2021-22. Bhadrak exhibited a more significant decrease in loan uptake compared to Odisha.

The declining trend in loan uptake suggests a hesitancy or limited recognition of loans as a major financial tool among individuals in Bhadrak and Odisha, particularly in rural areas where risk aversion is prevalent. This reluctance to take loans may stem from a desire to minimize expenses, adjust needs, or seek alternative solutions rather than relying on credit. However, it's worth noting that loans play a crucial role in financial inclusion, as individuals typically require bank accounts to access credit facilities. Despite the declining loan uptake, there remains an opportunity to educate and encourage individuals in Bhadrak and Odisha about the benefits and responsible use of loans to foster greater financial inclusion and economic growth.

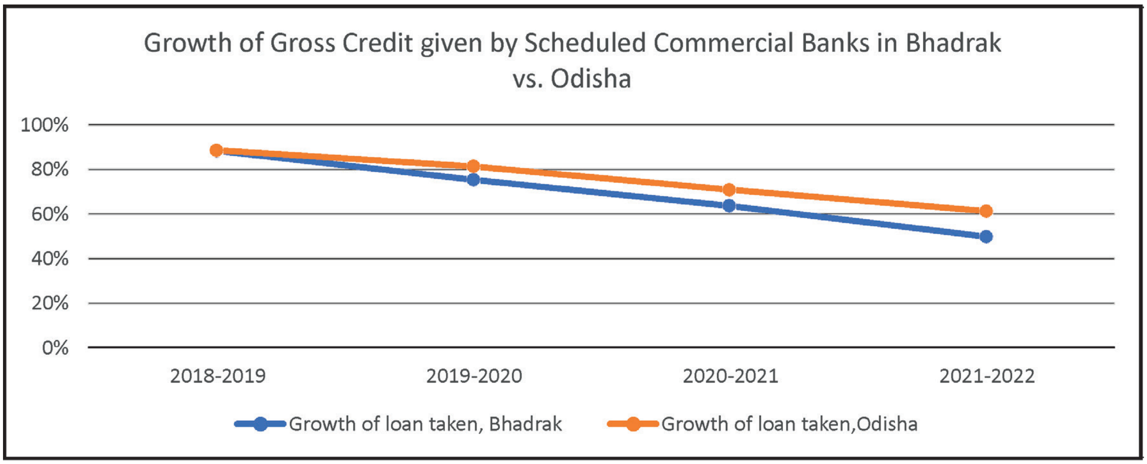

Figure 3: Comparative analysis of Credit given by Scheduled Commercial Banks

Source: Authors' Compilation

Table 1: Test Statistics of One-Way ANOVA

Groups		*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
Bhadrak Offices	Between Groups	22117	2	11058	1189	0.000
	Within Groups	140	15	9		
	Total	22256	17			
Odisha Offices	Between Groups	7722571	2	3861286	470	0.000
	Within Groups	123184	15	8212		
	Total	7845755	17			

Source: Authors' Calculation

The One-Way ANOVA analysis (*Table 1*) conducted on the number of offices in Bhadrak district and Odisha, categorized by rural, semi-urban, and urban areas, reveals statistically significant differences between these groups. In Bhadrak district, the ANOVA results indicate a highly significant difference between rural, semi-urban, and urban offices ($F(2,15) = 1189$, $p = 0.0001$), as well as in Odisha ($F(2,15) = 470$, $p = 0.0001$). These p-values, which are less than 0.05, suggest that the observed differences in the number of offices across the different types of areas are unlikely to be due to chance.

This finding underscores the importance of considering the geographical distribution of offices when analysing banking infrastructure. The significant differences imply that the distribution of banking offices varies significantly between rural, semi-urban, and urban areas within both Bhadrak district and Odisha. Understanding these differences can inform targeted strategies for improving banking access and services across different regions, ultimately contributing to more equitable financial inclusion efforts.

Table 2: Test Statistics of One-Way ANOVA Effect Sizes

Groups		*ANOVA Effect Sizes*[a] *Point Estimate*	*95% Confidence Interval*	
			Lower	*Upper*
Bhadrak Offices	Eta-squared	0.994	0.982	0.996
	Epsilon-squared	0.993	0.980	0.995
	Omega-squared Fixed-effect	0.992	0.978	0.995
	Omega-squared Random-effect	0.985	0.958	0.990
Odisha Offices	Eta-squared	0.984	0.955	0.990
	Epsilon-squared	0.982	0.949	0.988
	Omega-squared Fixed-effect	0.981	0.946	0.988
	Omega-squared Random-effect	0.963	0.898	0.976

Source: Authors' Calculation

The Effect Sizes (Eta-squared) obtained from the ANOVA analysis (*Table 2)* for the number of offices in Bhadrak district and Odisha, categorized by rural, semi-urban, and urban areas, are exceptionally high (Eta-squared of 0.994 for Bhadrak and 0.984 for Odisha). According to the thumb rule, an Eta-squared of 0.14 indicates large effects, signifying dramatically different means among the groups. This high effect size suggests substantial differences in the number of offices across rural, semi-urban, and urban areas in both Bhadrak district and Odisha. It reinforces the findings from *Table 1,* confirming the statistically significant differences observed between these groups. The significant effect sizes indicate that the observed variations in office numbers are not merely due to chance but are reflective of real differences within the population. In summary, the Effect Sizes analysis corroborates the ANOVA results, emphasizing the pronounced disparities in the distribution of offices across different types of areas within Bhadrak district and Odisha. These findings underscore the importance of tailored strategies for enhancing banking infrastructure and access, particularly in rural and semi-urban regions, to promote more equitable financial inclusion efforts.

Table 3 (A): Post-Hoc Test, Tukey Honest Significant Difference

		Bhadrak Offices		
		Tukey HSD[a]		
Group	*N*	*Subset for alpha = 0.05*		
		1	*2*	*3*
Semi-urban	6	16.33		
Urban	6		32.17	
Rural	6			97.33
Sig.		1.000	1.000	1.000
Means for groups in homogeneous subsets are displayed.				
a. Uses Harmonic Mean Sample Size = 6.000.				

Source: Authors' Calculation

The post-hoc test conducted using Tukey's HSD in *Table 3 (A)* aimed to identify specific differences between offices in rural, semi-urban, and urban areas. Tukey's HSD is commonly employed following a significant finding in a One-Way ANOVA, indicating differences between groups. The results reveal that semi-urban areas stand out as the primary focus for financial activities and services in Bhadrak District. Compared to urban and rural areas, semi-urban areas demonstrate significantly higher levels of financial performance. This suggests that semi-urban regions are hubs for financial inclusion efforts, offering greater accessibility to banking services and activities. However, it's noteworthy that while semi-urban areas excel, rural areas in Bhadrak District still boast a considerable number of offices. This indicates a significant opportunity for financial inclusion initiatives to reach rural populations. Despite not performing as strongly as semi-urban areas, the presence of a substantial number of offices in rural regions suggests a potential for enhancing financial accessibility and services for rural communities.

Table 3 (B): Post-Hoc Test, Tukey Honest Significant Difference

Odisha Offices				
Tukey HSD[a]				
Group	*N*	*Subset for alpha = 0.05*		
		1	*2*	*3*
Urban	6	1134.17		
Semi-urban	6		1323.67	
Rural	6			2608.67
Sig.		1.000	1.000	1.000
Means for groups in homogeneous subsets are displayed.				
a. Uses Harmonic Mean Sample Size = 6.000.				

Source: Authors' Calculation

Table 3 (B) reveals that in Odisha, the number of offices demonstrates a hierarchical performance, with urban offices exhibiting the highest level of service provision, followed by semi-urban and rural offices, respectively. Tukey's HSD analysis confirms this ranking, highlighting the emphasis placed on urban areas by Odisha's offices in terms of service provision. This emphasis on urban areas suggests a focused approach to financial services delivery, with urban centers receiving greater attention and resources. However, it's notable that while urban areas excel, semi-urban and rural offices also play significant roles, albeit to a lesser extent. Despite rural offices being ranked lowest in terms of service provision, their presence remains crucial in facilitating financial inclusion efforts across Odisha. With a significant number of rural offices in place, there exists substantial potential to extend financial services and promote inclusion among rural populations. This underscores the importance of leveraging the existing infrastructure and focusing efforts on expanding financial services reach to rural areas.

6. SUMMARY AND CONCLUSION

The study investigates the state of financial inclusion in rural areas of Bhadrak district and compares it with the broader context of Odisha, with a particular focus on the coastal region. It draws upon a review of existing literature to identify gaps in region-specific financial inclusion research and adopts a comprehensive research methodology involving both descriptive and inferential statistics. The analysis begins by examining trends in the number of reporting offices, aggregate deposits, and gross bank credit in Bhadrak district and Odisha over the past five years. Despite a decline in reporting offices and deposits, there is a positive trend of increased participation in financial services, indicating an opportunity for enhanced financial inclusion. However, there is a significant decrease in gross bank credit, suggesting a hesitancy or limited recognition of loans as a major financial tool among individuals in both regions. The study further employs one-way ANOVA, effect size analysis, and post-hoc tests to assess the differences in the distribution of banking offices across rural, semi-urban, and urban areas within Bhadrak district and Odisha. The results reveal statistically significant differences and large effect sizes, indicating pronounced disparities in the distribution of offices across different types of areas. The findings of the study underscore the importance of region-specific analysis in understanding the state of financial inclusion. Despite various governmental initiatives aimed at enhancing financial access, there remain challenges and opportunities unique to rural areas, particularly in Bhadrak district and Odisha. While there is a positive trend of increased participation in financial services, there is also a need for targeted strategies to address the hesitancy towards loans and promote greater financial literacy. The significant differences observed in the distribution of banking offices across rural, semi-urban, and urban areas emphasize the importance of tailored approaches to enhance banking infrastructure and access, especially in rural and semi-urban regions. Leveraging existing infrastructure and focusing efforts on expanding financial services reach to rural areas can contribute to more equitable financial inclusion efforts and economic development. Overall, the study highlights the need for continued research and policy interventions to address the unique challenges and opportunities in promoting financial inclusion, particularly in rural areas of Bhadrak district and Odisha, ultimately contributing to inclusive economic growth and development.

References

A., Szewczyk-Jarocka, M., & Zawiślińska, I. (2021). Socio-demographic determinants of financial exclusion of the unemployed on the local labour market: a case study. *Ekonomia i Prawo. Economics and Law*, *20*(1): 155–171. doi:10.12775/EiP.2021.010.

Ambarkhane, D., Singh, A. S., Venkataramani, B., & Marak, Z. (2022). Overcoming barriers to financial inclusion: empirical evidence from India. *International Journal of Social Economics*, *49*(9), 1302-1323. DOI 10.1108/IJSE-04-2020-0254.

Arora, N. and Kumar, N. (2021). Does Financial Inclusion Promote Human Development? Evidence from India. *Jindal Journal of Business Research*, *10*(2), 163– 184. https://doi.org/10.1177/22786821211045180.

Arora, N., & Kumar, N. (2022). Extent of Financial Inclusion in Haryana: A District-level Analysis. *Vision*, 09722629221096023, DOI: 10.1177/09722629221096023.

Behera, D. (2020). Financial Inclusion through PMJDY and Economic Growth Linkage: Evidence from All Districts of Odisha. *Journal of Economic Policy and Research*, *16*(1), 64-81.

Dogan, E., Madaleno, M., & Taskin, D. (2022). Financial inclusion and poverty: Evidence from Turkish household survey data. *Applied Economics*, *54*(19), 2135-2147. https://doi.org/10.1080/00036846.2021.1985076

Fouejieu, A., Sahay, R., Cihak, M., & Chen, S. (2020). Financial inclusion and inequality: A cross-country analysis. *The Journal of International Trade & Economic Development*, *29*(8), 1018-1048. https://doi.org/10.1080/09638199.2020.1785532

Ghosh, S., & Sahu, T. N. (2021). Financial inclusion and economic status of the states of India: Empirical Evidence. *Economic Notes*, *50*(2), e12182, DOI: 10.1111/ecno.12182.

Guru Mamatamayee & Panda Prabhati (2022) Financial Inclusion in Odisha: An Inter-District Analysis, *International Journal of Humanities and Social Science Invention (IJHSSI)*, *11*(4) Ser. II, 51-54, DOI: 10.35629/7722-1104025154.

Kazemikhasragh, A., & Buoni Pineda, M. V. (2022). Financial inclusion and education: An empirical study of financial inclusion in the face of the pandemic emergency due to Covid-19 in Latin America and the Caribbean. *Review of Development Economics*, *26*(3), 1785-1797, DOI:10.1111/rode.12884.

Malik, A.H., Jais, M.B., Md Isa, A.H. and Rehman, A.U. (2022). Role of social sustainability for financial inclusion and stability among Asian countries. *International Journal of Social Economics, 49*(9), 1324-1348. https://doi.org/10.1108/IJSE-08-2021-0458

Mehry, E. B., Ashraf, S., & Marwa, E. (2021). The impact of financial inclusion on unemployment rate in developing countries. *International Journal of Economics and Financial Issues, 11*(1), 79, DOI: https://doi.org/10.32479/ijefi.10871.

Nandru, P., Chendragiri, M., & Velayutham, A. (2021). Examining the influence of financial inclusion on financial well-being of marginalized street vendors: empirical evidence from India. *International Journal of Social Economics, 48*(8), 1139-1158, DOI 10.1108/IJSE-10-2020-0711.

Omar, Md A. & Inaba, K. (2020). Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis. *Journal of Economic Structure, 9*(1), 37. https://doi.org/10.1186/s40008-020-00214-4

Ozili, P. K. (2022). Financial inclusion and sustainable development: an empirical association. *Journal of Money and Business, 2*(2), 186-198, DOI 10.1108/JMB-03-2022-0019.

Raichoudhury, A. (2020). Major Determinants of Financial Inclusion: State-Level Evidences from India. *Vision, 24*(2), 151–159. https://doi.org/10.1177/0972262920923882

Rout, N., & Bag, D. (2020). Role of financial inclusion in poverty alleviation in Odisha. *Indian Journal of Economics and Development, 8*(3), 1-8, Doi: https://doi.org/ 10.17485/IJED/v8.39.

Soyemi, K. A., Olowofela, O. E., & Yunusa, L. A. (2020). Financial inclusion and sustainable development in Nigeria. *Journal of Economics & Management, 39*(1), 105- 131. https://doi.org/10.22367/jem.2020.39.06

Weliswa Matekenya, Clement Moyo & Leward Jeke (2021) Financial inclusion and human development: Evidence from Sub-Saharan Africa, *Development Southern Africa*, 38:5, 683-700, DOI: 10.1080/0376835X.2020.1799760

Zou, F.; Li, T.; Zhou, F. (2021) Does the Level of Financial Cognition Affect the Income of Rural Households? Based on the Moderating Effect of the Digital Financial Inclusion Index. *Agronomy, 11*, 1813, https://doi.org/ 10.3390/agronomy11091813.