A MULTIDIMENSIONAL APPROACH TO MEASURING FINANCIAL INCLUSION: DEVELOPMENT OF A COMPOSITE INDEX IN THE INDIAN PERSPECTIVE

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Abstract

Financial inclusion plays a pivotal role in economic growth and social development, particularly in emerging economies like India. It ensures that individuals and businesses have access to essential financial services, fostering economic stability and reducing disparities. While several studies have attempted to measure financial inclusion, most rely heavily on supply-side indicators, such as the number of bank branches and ATMs, which do not fully capture the accessibility and usage of financial services at the individual level. This paper proposes a Multidimensional Financial Inclusion Index (MFII) tailored to India, incorporating both demand- and supply-side indicators through a descriptive analysis approach. The proposed index evaluates financial inclusion across different states based on key dimensions, including banking penetration, availability of financial services, digital transactions, credit accessibility, and financial literacy. The study highlights regional disparities in financial access and usage, with some states demonstrating significantly better financial inclusion than others. These findings emphasize the need for targeted policy measures, such as improving digital infrastructure, promoting financial awareness, and expanding credit facilities for underserved populations. The study contributes to the broader discourse on financial inclusion and supports efforts to bridge the gap between financial services and the unbanked population in India. Future research can refine the index further by incorporating real-time financial transaction data and assessing the impact of financial inclusion initiatives like Jan Dhan Yojana and Digital India.

Keywords: Financial Inclusion, Financial Accessibility, Multidimensional Index, Demand-Side Indicators, Policy Interventions, India

Introduction

Financial inclusion has become a key area of interest and a pressing socioeconomic challenge for international institutions, policymakers, central banks, financial institutions, and governments. The United Nations' objective of achieving universal financial access by 2020 underscores its significance in promoting economic growth and alleviating poverty. According to the World Bank's latest estimates, nearly half of the global adult population lacks access to a formal bank account. However, financial inclusion is a complex concept that extends beyond basic indicators such as the percentage of bank accounts, loan accessibility, or the number of ATMs and bank branches.

Despite its importance, research on measuring financial inclusion through comprehensive multidimensional indices remains limited and often incomplete. There is a noticeable gap in the literature regarding a robust, statistically sound indicator that integrates both demand-side and supply-side information. This study aims to address this gap by developing a multidimensional financial inclusion index for Indian perspective.

Financial inclusion, defined as the accessibility and usage of affordable financial services by all segments of society, is a crucial component of economic development. In India, financial inclusion has been at the forefront of policy initiatives, with programs such as Pradhan Mantri Jan Dhan Yojana (PMJDY) significantly expanding banking penetration. Despite these efforts, challenges such as digital illiteracy, lack of formal credit access, and regional disparities persist.

Financial inclusion is more than just access to banking facilities. It involves the availability of financial products and services, the ease of usage, and the ability of individuals to benefit from these services effectively. Access to a bank account does not necessarily mean financial inclusion if individuals do not actively use their accounts or have access to other financial products such as insurance, credit, or investment options. In the Indian context, financial inclusion is vital to bringing the unbanked population into the formal economy, promoting savings, and enabling access to credit, particularly in rural and semi-urban areas.

While financial inclusion is often assessed using indicators like the number of bank accounts or ATMs, these measures fail to capture the multidimensional nature of financial access and usage. A more comprehensive approach is required to assess financial inclusion accurately. This study aims to develop a composite index that integrates both supply- and demand-side indicators to provide a nuanced understanding of financial inclusion in India. The objective of this paper is to highlight the gaps in financial inclusion measurement and propose a method that ensures a holistic approach.

Literature Review

Several studies have explored financial inclusion using different methodologies

Sarma (2008, 2012) developed a Financial Inclusion Index (FII) using supply-side indicators, highlighting disparities between developing and developed nations.

Amidzic et al. (2014) used Common Factor Analysis to create a financial inclusion measure, but it relied solely on supply-side data.

Chakravarty & Pal (2010) applied non-parametric techniques to measure financial inclusion but lacked a harmonized approach.

World Bank Reports emphasize the importance of financial inclusion for economic stability but recognize the limitations of existing indices.

The existing literature shows that financial inclusion is typically measured using metrics that focus on financial access rather than usage. However, financial access alone does not determine whether an individual or a community is financially included. Active usage of financial services, financial literacy, and the quality of financial products are critical components of true financial inclusion.

Existing literature lacks a comprehensive index that considers both supply-side (e.g., bank branches, digital transactions) and demand-side (e.g., financial literacy, accessibility to credit) data. This study fills this gap by constructing a multidimensional financial inclusion index for India. Previous research has also failed to address the disparities in financial inclusion across different states, leading to a lack of targeted policies for financially underdeveloped regions.

Furthermore, non-parametric methods used in earlier indices tend to assign arbitrary weights to financial inclusion indicators, which may lead to inconsistencies in measurement. In contrast, parametric methods, particularly Principal Component Analysis (PCA), provide a statistically sound methodology by extracting weights from the data itself. This ensures a more accurate and unbiased assessment of financial inclusion levels across different geographies and time periods.

Another limitation of previous studies is their heavy reliance on supply-side data, which may not reflect the actual financial behavior of individuals. The presence of a bank account does not guarantee its active use, and simply counting the number of ATMs or bank branches does not provide a complete picture of financial inclusion. Demand-side data, which includes information about financial literacy, transaction frequency, and access to credit, is crucial for a holistic understanding of financial inclusion. The integration of both supply- and demand-side indicators in this study ensures a more comprehensive measurement framework. thus, while existing research has made significant contributions to the understanding of financial inclusion, gaps remain in terms of methodology, data integration, and measurement accuracy. This study aims to address these gaps by constructing a robust composite financial inclusion index for India that incorporates both access and usage dimensions using a statistically sound methodology.

Dimensions of Financial Inclusion in India

Financial inclusion in India can be categorized into three primary dimensions:

Access to Financial Services

Access to financial services refers to the availability of financial institutions and products that enable individuals to participate in the formal economy. Key indicators include:

Number of bank branches per 100,000 people

Number of ATMs per capita

Percentage of the population with a bank account

Availability of mobile banking and digital payment options

Penetration of microfinance institutions in rural areas

Ensuring access requires a robust banking infrastructure, increased penetration of digital financial services, and policies that encourage banking institutions to expand their reach. Mobile banking, digital wallets, and fintech innovations are essential in bridging the gap between urban and rural financial access.

Usage of Financial Services

Usage measures how frequently and effectively financial services are used by individuals and businesses. Key factors include:

Frequency of digital transactions

Number of active savings accounts

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Access to formal credit institutions
Frequency of borrowing from banks or financial institutions
Use of insurance and pension schemes
Digital payment adoption and mobile wallet penetration
Higher usage rates indicate not just access but also confidence in the financial system. Policies promoting digital transactions, credit accessibility, and insurance participation contribute to increased financial inclusion.

Quality and Financial Literacy

Quality of financial services and financial literacy are crucial for sustainable financial inclusion. Even with access to banking, many individuals lack awareness about how to use financial services effectively. Key indicators include:
Level of financial awareness among rural and urban populations
Availability of financial literacy programs
Accessibility to grievance redressal mechanisms
Trust in financial institutions
Protection against fraud and financial risks
A financially literate population can make informed decisions regarding savings, credit, and investments. Government and private sector initiatives must focus on enhancing financial literacy through targeted educational programs and consumer protection policies. The proposed model presented in the following figure 1.

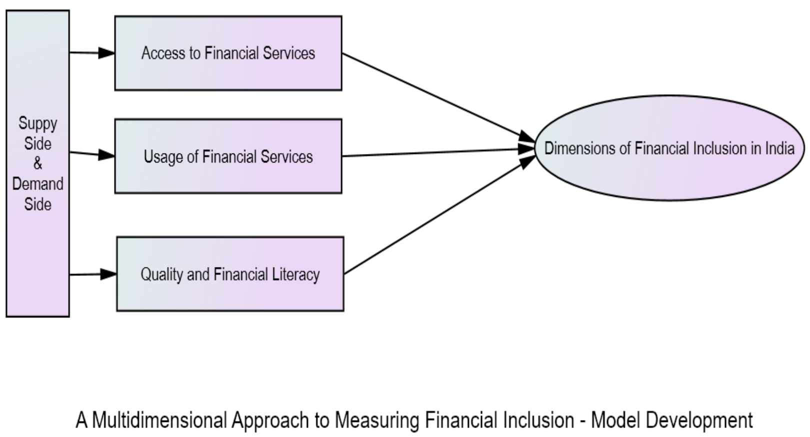

Figure 1

Source: authors own development

Policy Recommendations and Implications

- Higher financial inclusion correlates with increased GDP per capita and economic stability. It facilitates investment, entrepreneurship, and employment generation, contributing to overall economic prosperity.
- Financial access allows marginalized communities to participate in economic activities, reducing income inequality. By providing access to credit and savings mechanisms, financial inclusion can lift people out of poverty and reduce dependence on informal financial sources.

- Financial inclusion remains a cornerstone of economic development, necessitating targeted policies and strategic interventions to address existing gaps. Expanding financial literacy programs is crucial to ensuring that individuals, particularly in rural areas, are equipped with the knowledge to use banking services effectively. Financial education initiatives should be incorporated into school curricula, adult learning programs, and digital literacy campaigns. A well-informed population can make better financial decisions, reducing the risks associated with over-indebtedness and financial fraud.
- Enhancing digital infrastructure is another fundamental aspect of promoting financial inclusion. Investments in mobile banking technology, internet connectivity, and digital payment platforms can bridge the urban-rural divide and make financial services more accessible. Expanding the reach of mobile banking, increasing the penetration of smartphones, and improving network connectivity in remote regions will allow a larger segment of the population to participate in digital financial transactions, reducing dependence on cash-based economies.
- Strengthening regulatory frameworks is equally important in fostering financial inclusion. Regulatory bodies such as the Reserve Bank of India (RBI) must work on ensuring secure, transparent, and inclusive financial systems that cater to all citizens. Policies should aim at enhancing consumer protection, reducing transaction costs, and improving the security of digital financial transactions to build trust among users. Simplifying the Know Your Customer (KYC) process, while maintaining security, can also facilitate greater financial inclusion by removing unnecessary bureaucratic hurdles.
- Promoting fintech solutions can play a transformative role in accelerating financial inclusion efforts. Encouraging the adoption of digital wallets, Unified Payments Interface (UPI) payments, and other fintech innovations can enhance the accessibility and efficiency of financial services. Public-private partnerships should be encouraged to drive fintech expansion, leveraging technological advancements to reach underserved populations. Collaboration between banks, technology firms, and the government can create an ecosystem that fosters inclusive financial growth.
- Targeted government interventions are necessary to address regional disparities in financial inclusion. Identifying underbanked regions and implementing customized policy measures can enhance the effectiveness of financial inclusion initiatives. Policymakers should prioritize setting up banking facilities in remote areas, providing incentives for financial institutions to expand their services, and supporting microfinance institutions to cater to low-income groups. Additionally, gender-inclusive policies should be emphasized to ensure women's access to financial resources, promoting economic empowerment and social development. So that, financial inclusion requires a multidimensional approach that combines financial literacy, digital advancements, regulatory enhancements, fintech innovations, and targeted interventions. Policymakers must adopt a holistic strategy to ensure that financial services are accessible, affordable, and effectively utilized by all segments of society. By addressing these aspects, India can achieve meaningful financial inclusion that contributes to economic growth, poverty alleviation, and overall financial stability.

Conclusion

This study presents a robust composite index to measure financial inclusion in India, addressing gaps in existing methodologies. The findings reveal significant regional disparities, necessitating targeted interventions. By integrating supply- and demand-side indicators, this index provides policymakers with a more accurate tool for assessing financial accessibility.

Financial inclusion remains a fundamental aspect of India's economic development. While substantial progress has been made, much work remains to ensure financial services reach all segments of the population effectively. Future research can explore dynamic changes in financial inclusion over time and evaluate the impact of digital financial services on inclusion levels. Additionally, longitudinal studies can assess how government interventions influence financial inclusion over extended periods, providing valuable insights for refining policies and initiatives.

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