



Research on the Coverage Effectiveness and Inclusive Growth of Inclusive Finance in the Mobile Payment Scenario

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SUMMARY: *This study investigates how the expansion of mobile payment platforms can be leveraged to enhance inclusive financial access in rural China, thereby promoting equitable financial coverage across underserved regions. Drawing on multiple authoritative secondary data sources, the analysis ensures robustness and credibility of the empirical findings. The results indicate that mobile payment service providers have substantially expanded their network coverage in rural areas, leading to significant growth in both the transaction value and volume of mobile payments. This expansion is positively associated with inclusive economic outcomes, particularly increases in per capita income and per capita consumption expenditure in rural China. Empirical evidence from descriptive statistics, correlation analysis, and regression models consistently confirms a statistically significant positive relationship between mobile payment adoption and indicators of inclusive growth. National and rural-level descriptive analyses further reveal that urban mobile payment markets are approaching saturation. This in turn reflects a deceleration in growth rates in the urban areas and a continuous rapid expansion in the rural areas of the country. Notably, the total number of mobile payment transactions in rural China increased by approximately 33% in 2024, highlighting substantial untapped growth potential. Overall, the findings suggest that the continued expansion of mobile payment platforms plays a critical role in facilitating financial inclusion and supporting inclusive economic development in China's rural regions.*

KEYWORDS: *Mobile Payments; Financial Inclusion; Inclusive Finance; Rural China Economic Development; Digital Financial Services*

1 Introduction

The financial system across China has been witnessing significant transformation in the recent past that could be attributed to the significant deregulations that the Chinese government has been seeking and the rapid advancement of technologies and their application within the industry [1]. Although, when the plastic money was introduced in the country, it witnessed significant impediments, as the majority of people across the country at that time preferred cash transactions [2]. However, due to technological advancements in the country, the plastic money has been transformed into online and mobile payment systems that witnessed a ready market and lesser barriers in the market [3]. Mobile payment platforms like Alipay and WeChat Pay have been changing the financial system across the country, as they are leveraged as more convenient and more efficient platforms across the country. The mobile payment platforms are not only witnessed by individuals, but also they have emerged as more popular platforms

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leveraged by small business organisations [4].

Financial services are considered the backbone of an economy, and due to the significance that the financial services hold, the Chinese government has been aiming to ensure inclusive finance across the country, as much of the socioeconomic growth of the country depends on the availability and access to such services [5]. Unlike the urban areas of the country, Chinese rural and countryside regions have not yet witnessed the level of socioeconomic development. Although there could be different reasons behind the socioeconomic disparities witnessed in the Chinese rural and urban areas, one of the key barriers that [6] have identified is the lack of equitable and affordable financial services in the Chinese rural areas. Although the Chinese government and other key stakeholders have been working with greater dedication to ensure inclusive financial access, limited success in this regard has been witnessed in the Chinese rural areas. However, the development in terms of mobile payment systems has been emerging as a strategic tool that different stakeholders could leverage to enhance access to inclusive finances [7].

The Chinese government and financial regulators have been increasingly realising the strategic significance of mobile payment platforms in promoting inclusive financial access in the Chinese rural areas, and as a result, one could see that policy-level initiatives have already been executed that aimed to expand mobile payment-based inclusive finances and coverage and the quality of services accessed in the Chinese rural areas [8]. However, challenges are still witnessed, as equitable access to inclusive finances in the low-income regions has not yet been realised throughout the country. Challenges persist for the inclusive financial growth in the Chinese rural areas not only because of limited financial infrastructure and service coverage but also information asymmetry and a weaker credit foundation, lack of desired financial literacy, and a significant mismatch between financial products and rural demands [9, 10] are, however, of the view that the development of mobile payment platforms and their effective application in the areas of inclusive financing could overcome many of the challenges encountered in the Chinese rural areas.

This research has been organised with the aim to critically analyse how the expansion and growth of mobile payment platforms could be leveraged across Chinese rural areas for driving growth in inclusive financial access, thus ensuring equitable access and coverage throughout the Chinese rural areas. The need for study emerged because there is a dearth of literature regarding the development of digital inclusive finances and the coverage effectiveness in terms of inclusive financial services. The study has been organised with the aim to fill the literature gap, as the study critically examines the effectiveness and growth implications of inclusive finance in the context of mobile payment development in China.

2 Materials and Methods

2.1 Research Design

The research design that has been adopted for investigating the effectiveness and growth implications of inclusive finance in the context of mobile payment development could be categorised as quantitative research design. Quantitative research design has been adopted in the current research as more scientific, objective and replicable research findings could be produced, which in turn enhance the validity and reliability of the findings of the study. To execute the research design, a robust research method has been used, as a range of quantitative data has been collected and analysed. The core analysis conducted in the study comprised descriptive and correlational analysis. The analysis thus conducted helped in examining the national-scale trends and regional disparities in different rural areas of China.

2.2 Data Sources

The major data collection method employed for analysing the effectiveness and growth implications of inclusive finance in the context of mobile payment development is secondary data, as published sources, widely available, have been used in this study. Although there were different data sources that could have been used in this study, the research only employs authentic, reliable and current data sources that were sourced from reliable sources. The major sources for data collection in this study include the People's Bank of China (PBOC), which published regular reports regarding financial inclusion, mobile payment transactions, and rural adoption rates. Another core data source that has been used in this study is the China National Bureau of Statistics (NBS), which provides provincial and national-level economic indicators, including per capita income, consumption, expenditure and urban-rural income ratios. Additionally, the study also used a range of industry and media reports from trusted sources that published trusted data and figures.

2.3 Variables and Measures

There are two core sets of variables that have been analysed in this study, which include explanatory and outcome variables of mobile payment adoption and inclusive finance coverage. On the basis of explanatory variables, coverage depth and coverage depth could be analysed, which in turn helped in the effective analysis of inclusive finance effectiveness. The following Table 1 highlights the major explanatory variables, their definitions and the source of data that has been used.

Table 1: Explanatory variables, definitions, and sources

Variable	Definition	Source
Mobile Payment Transaction Volume	This reflect the total number of payment transaction in billion, per year.	PBOC [11]
Mobile Payment Transaction Value	This reflect the total amount of payment transaction in billion RMB, per year.	PBOC
Rural Mobile Payment Transaction	This reflect the total number of mobile transaction in the Chinese rural areas, per year.	PBOC
Digital RMB Adoptions	Digital RMB Transaction counts in Billions	PBOC

Additionally, outcome variables have also been analysed in this study that helped in the analysis of inclusive growth indicators, which have been adopted in this study with the aim to analyse the economic impact and inclusivity of mobile payment-driven financial services in the Chinese market. The following Table 2 highlights the core outcome variables of inclusive growth analysed in this study.

Table 2: Outcome Variables, Definitions, and Sources

Variable	Definition	Source
Per capita disposable income	This reflect the average disposable income per person in RMB.	NBS [12]
Per Capita consumption Expenditure	Average household consumption (per person) in RMB	NBS
Urban-rural income ratio	Ratio of urban to rural per capita income	NBS

2.4 Data Analysis

There are different data analysis methods used for analysing the effectiveness and growth implications of inclusive finance in the context of mobile payment development. This includes descriptive statistical analysis used in the study to analyse coverage effectiveness. Furthermore, the correlational analysis has been adopted in this study with the aim to analyse the relationship between mobile payment adoption and inclusive growth in different parts and regions of the country. Regression analysis has also been adopted in this study with the aim to quantify the impact of mobile payment adoption on the inclusive growth. For the sake of regression analysis, the basic ordinary least square (OLS) model has been used, for which the following formula has been adopted in this study.

$$Y_i = \alpha + \beta_1 \text{MobilePayments}_i + \beta_2 \text{RuralMobile}_i + \varepsilon_i$$

In the above model, Y_i reflective inclusive growth outcome could be measured using disposable income or consumption in a particular region. $\beta_1 \text{MobilePayment}$ reflects total mobile payment transactions in a given period of time, while $\beta_2 \text{RuralMobile}$ reflects rural mobile payment transactions.

3 Results

3.1 Digital Payment and Inclusive Finance Adoptions

The following Table 3 summarises and highlights the key digital payment and inclusive finance adoption in the Chinese market during the year 2024, for which the data has been mainly sourced from the PBOC inclusive finance report.

Table 3: Key Statistics regarding China Digital Payment

Indicator	Total Value	Year-on-Year Change
Total number of non-cash payment transactions	5763.29 billion	+ 6.22%
Per capita non-cash Transaction	409.24 per Chinese	+ 6.32%
Total number of electronic payment transaction of banking sector	3016.68 billion	+ 1.86%
Total number of mobile payment transactions	2109.80 billion	-
Total value of mobile payment transaction in RMB	RMB 563.70 trillion	-
Online payment transactions of non-banking sector	1340.00 billion	-
Value of total online payment transaction of non-banking sector in RMB	RMB 331.68 trillion	-

From the analysis of descriptive statistics revealed in Table 3, it is evident that an increasing number of Chinese are adopting non-cash transactions. During the year 2024, the total number of non-cash transactions reached a massive 5,763.29 billion, reflecting large-scale adoptions of digital and plastic money services by Chinese residents, professionals and business organisations. Furthermore, the analysis of Table 1 also reflects that the mobile payment transactions have been also significantly increasing in the country; that could be attributed to the large penetration of smartphone and 5G mobile spectrum technology and the greater convenience and efficiency of the mobile payment platforms. The total number of mobile transactions in the year 2024 reached a massive 2109.80 billion.

3.2 Rural Financial Inclusion Trends

Unlike the urban areas of China, the rural areas of the country are regarded as the underserved areas in terms of financial inclusion, which in turn has significantly affected the socioeconomic development in such regions. However, the increasing mobile payment coverage is believed to increase the financial inclusion of such traditionally underserved populations. To develop a better perspective in this regard, Table 4 summarised the key statistics regarding rural areas of China.

Table 4: Key Statistics regarding China Rural Mobile Payments

Indicator	Total Value	Year-on-Year Change
Number of Rural mobile payment transactions	339.33 billion	+ 33.03%
Total Value of Rural mobile payment transactions in RMB	RMB 119.44 trillion	+ 8.98%

From the analysis of the above Table 4, it is evident that although historically lower growth has been witnessed in the rural areas, significantly stronger growth in mobile payment in the year 2024 has been witnessed. The total number of transactions conducted in the Chinese areas witnessed a growth of 33.03% on a year-to-year basis, reflecting significant growth that has been emerging in the Chinese rural areas. The total number of mobile payment transactions in the year 2024 reached 339.33 billion, thereby recording a growth of 33% on a year-on-year basis. Furthermore, as per the analysis exhibited in Table 4, the total value of rural mobile payment transactions in the year 2024 reached a massive 119.44 trillion, thereby recording growth of almost 9% on a year-on-year basis. The increase thus experienced exhibits that not only has the frequency of transactions increased in the recent past, but also the monetary engagement of the rural population in mobile payment has also significantly increased.

Looking at Table 3 and Table 4 together, one could see that although significant growth in mobile payment has been witnessed across China, significantly higher growth has been witnessed in this regard in the rural areas than the urban areas. A major reason for this could be that mobile payment in the urban areas could have already reached its extreme level, while significant expansion is underway in the rural areas of the country. This also reflects significant potential for inclusive finance for which the mobile payment technology could be leveraged. In particular, the mobile payment technology could be the means through which the underserved areas of the country are more effectively served. The following Figure 1 compare and contrast the growth witnessed in the Chinese national non-cash payment sector and the mobile payments in the Chinese rural areas, year-on-year basis in the year 2024. From the analysis of Figure 1, it is evident that the national non-cash payment grew 6.22%, year-on-year basis, however the mobile payment growth in the Chinese rural area was 33.03% in the year 2024.

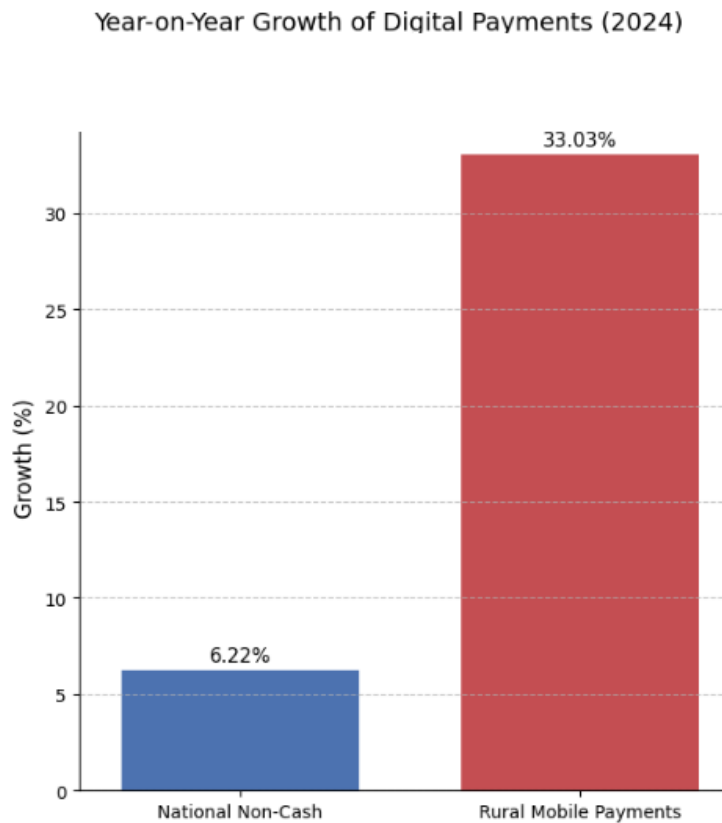


Figure 1: Year-on-Year Growth of Digital Payment in China

3.3 Correlations Analysis

For developing a better understanding regarding how mobile payment expansion in the Chinese rural areas have been contributing to inclusive growth, the correlation analysis could be conducted. Pearson correlation analysis has been conducted, the results of which have been summarised in the following Table 5:

Table 5: Pearson Correlations Analysis

Variable Pair	Pearson Correlation Analysis	Descriptions
Mobile payment and per capita income	+ 0.65	Moderate positive relations between the two variables
Rural mobile payment and per capita income	+ 0.48	Positive relations, which is smaller in magnitude
Mobile payment and consumption expenditure	+ 0.58	Positive correlation that are moderate in nature
Rural mobile payment and consumption expenditure	+ 0.43	Positive but weaker relations between the two variables

From the analysis of Pearson correlations summarised in the above Table 5, it is pertinent to note that the expanding coverage of mobile payment in the Chinese rural areas has been resulting in economic growth in the region. Not only has the per capita income been expanding in the rural areas of the country, but also consumption expenditure has been witnessing positive growth, signalling increasing economic activities in the country. The positive correlations

between the key economic determinants and the expansion of mobile payment in the rural areas reflect greater financial inclusion, which points towards enhanced economic engagement and consumer capacity in the rural areas of the country.

3.4 Regression Analysis

The regression analysis has been conducted using the ordinary least squares model, which has been summarised in the following Table 6:

Table 6: Regression Analysis

Dependable Variable	β_1 Mobile Payment	β_2 Rural Mobile	R ²
Per Capita Income	+ 0.0028*	+ 0.0012	0.58
Consumption Expenditure	+ 0.0021*	+ 0.0009	0.55

From the analysis exhibited in the above Table 6, it is pertinent to note that the increasing mobile payment in the Chinese rural areas has been associated with the increasing per capita income and consumption expenditure. However, since there are different factors that could have been accounting for the increasing per capita income and higher consumption expenditure in the rural areas of the country, the positive relations between the two variables established in the regression analysis could be only termed as indicative, rather than the causal impact.

4 Discussions

4.1 Mobile Payment and Inclusive Finance Growth

As per the core findings of the current study, the platforms offering mobile payment services in China have significantly increased their network and reach in the Chinese rural areas, which in turn has resulted in significant growth in terms of both value and the total number of mobile payment transactions conducted in the Chinese rural areas. The infrastructure development emerging in the form of a digital payment system could be driving the socioeconomic growth in the rural areas, as a substantial increase in the non-cash transaction has been taking place in the country. The changes thus taking place in the Chinese rural areas reflect a positive association between the mobile payments in the rural areas and the inclusive growth witnessed in the form of increasing per capita income and expansion of the consumption expenditure. The association between these variables has been confirmed through both correlation analysis and regression analysis that signified the positive relations. From the findings of the current study, although the expanding mobile payment in the rural areas could not be given the credit for the entire inclusive finance growth witnessed in the Chinese rural areas, it could be regarded as one of the core factors that have been positively contributing to the economic expansion in the Chinese rural areas.

4.2 Coverage Effectiveness of Mobile Payment

From the analysis of descriptive statistics compiled at both the national level and in the rural areas of the country, it is pertinent to note that the mobile payment platforms have been working for the excellent coverage of the entire Chinese market. Although in this regard, the optimal level has already been realised in the urban areas of the country, nevertheless, the mobile payment service companies have been working with greater effectiveness and focus in the Chinese rural areas. The assertion in this regard is based on the findings of the study, which stressed that the growth rate in the urban areas has been slowing down, demonstrating the

maturity of the market, signifying excellent coverage in the market. However, in the rural areas, a significantly higher growth rate that reached 33% in terms of the total number of transactions has been realised in the year 2024, which in turn signifies significant growth potential in the rural areas of the country. From the differences in the growth witnessed in the Chinese urban and rural areas, one could easily establish the significant urban-rural areas gap, both in terms of mobile payment coverage and income potentials. Furthermore, from the significantly higher growth witnessed in the Chinese rural areas, it is also pertinent to note that in the rural areas of the country, full coverage could not yet have been realised, as the market is still passing through the growth phase and has not yet entered the maturity stage of the product lifecycle. This in turn reflects that there are still areas that could be covered in the future, and the capacity of mobile payment services in the market could be further expanded, which in turn could add new avenues for growth in terms of inclusive finances in the Chinese rural areas. The findings of the current study reiterate the findings of [13] and [14], who have also found that mobile payment network coverage has been positively associated with inclusive finance in the market.

4.3 Mobile Payment and Inclusive Growth Outcomes

Positive correlations have been observed in the Chinese rural areas during the year 2024 between mobile payment expansion and both per capita income and per capita consumption expenditure. The positive correlations suggested that the expansion of mobile payment in the rural areas has been facilitating inclusive growth throughout the region. In particular, digital payment tools have been providing Chinese rural areas mobile phone payment users the opportunity to participate in greater economic activities and access better lifestyles and socioeconomic development. The study particularly found stronger relations between the per capita income and the mobile payment coverage, which in turn suggests that a significant number of Chinese people living in the rural areas of the country could have been accessing income opportunities in the informal economic sector through remote and virtual networking. Additionally, the study also found that the consumption expenditure on a per capita basis and the mobile payments have also been positively correlated. This in turn suggests that as a result of the expanded coverage of the mobile payments in the rural areas, the economic activities in the region have been expanding. The findings of the current study in this regard are in line with the findings of [15] and [16], who have also asserted the positive relationship between mobile payment and inclusive growth outcomes.

5 Conclusion

This research examined how the expansion and growth of mobile payment platforms could be leveraged across Chinese rural areas for driving growth in inclusive financial access, thus ensuring equitable access and coverage throughout the Chinese rural areas. A range of secondary data sources have been used in the research, which enhanced the credibility of the findings of the study. As per the core findings of the current study, the platforms offering mobile payment services in China have significantly increased their network and reach in the Chinese rural areas, which in turn has resulted in significant growth in terms of both value and the total number of mobile payment transactions conducted in the Chinese rural areas. The changes thus taking place in the Chinese rural areas reflect a positive association between the mobile payments in the rural areas and the inclusive growth witnessed in the form of increasing per capita income and expansion of the consumption expenditure. The association between these variables has been confirmed through both correlation analysis and regression analysis that signified the positive relations. Furthermore, from the analysis of descriptive statistics compiled

at both the national level and in the rural areas of the country, it is pertinent to note that the mobile payment platforms have been working for the excellent coverage of the entire Chinese market. The assertion in this regard is based on the findings of the study, which stressed that the growth rate in the urban areas has been slowing down, demonstrating the maturity of the market, signifying excellent coverage in the market. However, in the rural areas, a significantly higher growth rate that reached 33% in terms of the total number of transactions has been realised in the year 2024, which in turn signifies significant growth potential in the rural areas of the country. Additionally, positive correlations have been observed in the Chinese rural areas during the year 2024 between mobile payment expansion and both per capita income and per capita consumption expenditure. The positive correlations suggested that the expansion of mobile payment in the rural areas has been facilitating inclusive growth in rural areas of the country.

About the Author

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