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Can Digital Finance Narrow the Gap between Urban and Rural Areas?

-- Research Dynamic Analysis from China

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Abstract

As China continues to promote the integrated development of urban and rural areas and financial digital transformation, digital finance, as one of the five chapters of the financial industry to accelerate the formation of new quality productivity, has become an increasingly hot issue to narrow the gap between urban and rural development and help urban-rural integrated development. By combing and analyzing the related research between domestic digital finance and urban-rural gap, this paper comprehensively summarizes the research conclusions of the correlation between digital finance and urban-rural gap, and makes an in-depth analysis of the reasons for the differentiation of the research conclusions. It is clearly pointed out that there are three major problems in this field, such as narrow research surface, single research method and lack of timeliness of research conclusions. And based on the analysis results put forward further breakthrough and improvement direction.

Keywords

Digital Finance; Urban-rural Gap; Urbanization Rate; Economic Development Level.

1. Introduction

The Central Economic Work Conference in December 2023 clearly pointed out that the construction of a new type of urbanization with county seats should be promoted to form a new pattern of urban and rural development. The no. 1 document of the Central government in 2024 proposed that to promote the integrated development of urban and rural areas in counties, efforts should be made to solve the problem of imbalance and inadequacy in the process of urban and rural development. With the improvement of the coverage breadth and use depth of digital finance, the availability of financial services for rural residents and the participation of the financial market have been gradually improved, and the effect of digital finance in promoting the increase of residents' income has gradually emerged. In 2023, the central financial work conference for the first time to make finance, green finance, pratt & whitney finance, pension finance, digital financial five big articles, digital finance as a data elements "high yield field" and "enrichment", as the financial industry to speed up the formation of new quality productivity one of the five chapters, in the process of development can narrow the gap between urban and rural areas, solve the problem of inadequate domestic current unbalanced development, promote the development of urban and rural integration, increasingly concern by all parties. The related research on digital finance and urban-rural gap began in 2017. Looking at the existing relevant research results in China, there are no lack of studies on digital finance and urban-rural income gap, urban-rural consumption gap, urban-rural multidimensional gap and so on, etc. However, no matter which aspect is involved, the domestic research has no unified conclusion. Therefore, this paper sorts out the basic situation of the

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existing research in related fields, analyzes the current existing problems in the current research, and points out further research directions and ideas.

2. The Evolution and Characteristics of the Research Stage

In this paper, "digital finance" and "urban-rural gap" were searched for Chinese Journal Full-text Database (CNKI), and excluding the literature with low correlation and insufficient scientific basis, 254 documents were obtained, among which 62 were core journal documents, accounting for 24%. Through the combing and analysis of 62 core documents in related fields from 2017 to 2024, it is found that the empirical literature accounts for 98%, and the research conclusions are diversified, mainly showing positive correlation, negative correlation, inverted U type, U type, and unrelated conclusions. Domestic research on digital finance and the gap between urban and rural areas began in 2017, and showed a gradual growth trend in recent years. Throughout the six years of domestic research process, it can be roughly divided into the following three stages.

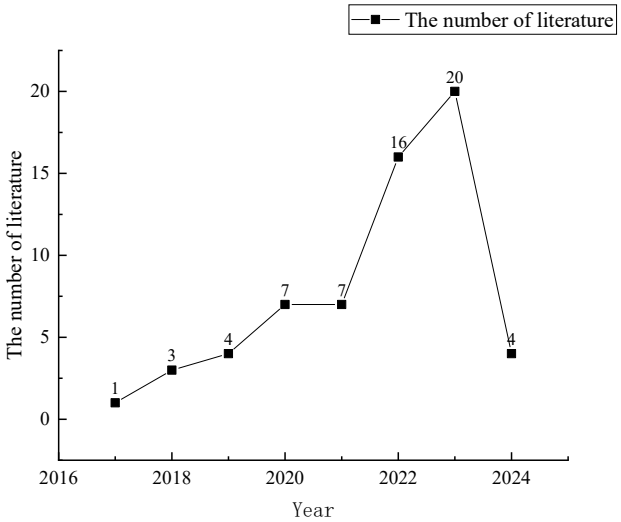


Figure 1. Distribution of journals of digital finance and urban-rural gap from 2017 to 2024

2.1. 2017- -2018: Preliminary Exploration Stage of the Study

In 2017, China's digital finance related research entered its initial stage. In the same year, the "Top Ten Projects of the Communist Party of China" first proposed to "establish and improve the system and mechanism and policy system of urban and rural integrated development", and "narrow the gap between urban and rural areas and promote urban-rural integrated development" gradually became a hot topic. The emergence of this hot spot has stimulated the initial study of digital finance and urban-rural gap. Xiao-ling song[1] in 2017 the digital pratt & whitney financial narrow the income gap between urban and rural empirical examination officially opened the digital financial and the gap between urban and rural research, due to the research stage, the scholars of the measure of urban and rural income gap between urban and rural areas, and more to urban and rural per capita disposable income ratio, tire index measures the income gap between urban and rural areas. Due to the relatively single research in this stage, no scholars introduced third-party variables, so the research conclusions were relatively unified. All four articles reached the conclusion that the development of digital finance would narrow the gap between urban and rural areas.

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2.2. 2019- -2021: Steady Development Stage of the Research

On May 5,2019, the central committee of the communist party of China under the State Council issued "on establishing and perfecting the urban and rural integration development system and policy system opinions", in 2020 with the development of the Internet economy, the digital financial research into the stage of rapid growth, further promote the social from all walks of life about the development of digital finance and urban and rural integration research, narrow the gap between urban and rural areas as a key problem of the development of urban and rural integration, gradually received attention. In 2019, digital Inclusive Finance and Urban and Rural Consumption Gap, published by Lu Yanqin [2], pointed out the second research direction of digital finance and urban and rural consumption gap. At the same time, it also opened the prelude to the gap between digital finance and urban and rural consumption, marking that the research in this field has entered a steady development stage. During this period, with the proposal of the urban-rural consumption gap, the research on digital finance and urban-rural gap opened a dual-track mode. In three years, the number of documents in related fields increased by 18, among which 5 articles studied the gap between digital finance and urban-rural consumption, which was 4.5 times that of the initial stage. At this stage, scholars mostly measure the urban-rural consumption gap by the per capita consumption expenditure ratio of urban and rural residents and the per capita durable consumer goods ratio of urban and rural residents. With the gradual deepening of the research, the research contents and conclusions began to diversify. 50% of scholars introduced third-party variables such as urbanization rate, household economic level and household credit, and 16% of scholars reached inverted U-shaped and irrelevant conclusions.

2.3. 2022-present: Rapid Growth Phase of Research

With the initial completion of the system and mechanism of urban and rural integrated development in 2022, and the instructions of the Central Work Conference on five major financial articles, the research on the gap between digital finance and urban finance in China has gradually entered a stage of rapid growth rate, and the total number of documents has expanded by 36 in two years. Compared with the previous stage, the research content in this stage is more rich and more diverse. The amount of third-party variables accounts for 61% of the total literature in this stage. Many scholars have introduced new third-party variables such as human capital, family entrepreneurship and agricultural total factor productivity. At the same time, the new conclusion of the relationship between the two courses "U type"[3] also appeared in the research results, which further enriched the research in this field.

In 2023, Li Yi's "Digital Inclusive Finance and Inclusive Growth -- Based on the Perspective of multi-dimensional gap between urban and rural areas" opened the curtain of the multi-dimensional gap between digital finance and urban and rural areas. The three-line development marks the in-depth research between digital finance and urban and rural areas, and indicates that the research in this field will usher in a new wave of research in 2024 trend. At present, the domestic research on digital finance and the multi-dimensional gap between urban and rural areas is still in the initial stage, and scholars are still in the process of exploring the multi-dimensional gap between urban and rural areas. Among them, Zhao Danyu (2023) comprehensively measures the urban-rural gap from four dimensions of industrial economy, residents' life, infrastructure and public service [4]; Li Yi (2023) measures the urban-rural gap from four dimensions of income, medical care, education and social security [5]. As there are few studies on digital finance and the multidimensional gap between urban and rural areas in China, a unified measurement standard has not been formed.

In general, as shown in Figure 2, digital finance and urban-rural income gap have been studied since 2017. Up to now, the research results are relatively mature. However, the research on the gap between digital finance and urban and rural consumption in 2019 and the research on the

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multidimensional gap between digital finance and urban and rural areas in 2022 are still in the initial exploration stage, and the research in related fields needs to be further expanded and improved.

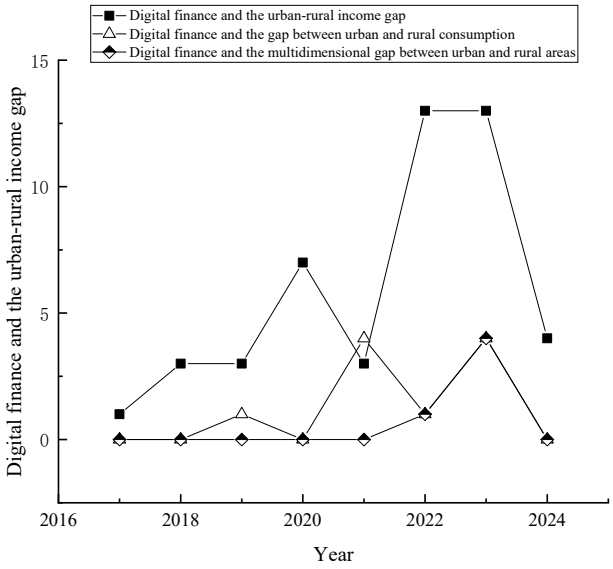


Figure 2. Distribution of journal literature classification of digital finance and urban-rural gap from 2017 to 2024

3. Main Research Conclusions

Table 1. Conclusion table of the correlation between digital finance and urban-rural gap in 2017-2024

Research category	Conclusion Research theory	quantity	proportion
Urban-rural income gap(75.8%)	The development of digital finance will narrow the gap between urban and rural areas	42	70.00%
	The relationship between digital finance and the urban-rural gap is "inverted U-shaped"	1	1.67%
	The development of digital finance makes the gap between urban and rural areas narrow with the increase of urbanization rate, and expand with the decrease of urbanization rate	1	1.67%
	The development of digital finance in high economic level areas will narrow the gap between urban and rural areas The development of digital finance in regions with low economic level will widen the gap between urban and rural areas	1	1.67%
	The development of regional digital finance with low per capita GDP will narrow the gap between urban and rural areas, and the development of regional digital finance with high per capita GDP will widen the gap between urban and rural areas	1	1.67%
	The development of digital finance has not yet responded to the urban-rural income gap	1	1.67%
Urban-rural consumption gap (16.1%)	The development of digital finance will narrow the gap between urban and rural areas	8	13.33%
	The relationship between digital finance and the urban-rural gap is "inverted U-shaped"	1	1.67%
	The increased coverage and digitalization of digital finance will narrow the gap between urban and rural areas, and the increased depth of use will widen the gap between urban and rural areas	1	1.67%
Multi-dimensional gap between urban and rural areas (8.1%)	The development of digital finance will narrow the gap between urban and rural areas	3	5.00%
	Digital finance and the urban-rural gap show a "U-shaped" relationship	1	1.67%
	The relationship between digital finance and the urban-rural gap is "inverted U-shaped"	1	1.67%

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As can be seen from Table 1, the current research conclusions in the field are relatively concentrated, and the conclusion that digital finance can narrow the gap between urban and rural areas accounts for about 85%, which is the current mainstream view. However, 15% of the studies still raised doubts and reached seven kinds of scattered and different views. Through the analysis of the literature, it is found that the reasons for this phenomenon are mainly the following two aspects.

3.1. Differences in Variable Dimension Construction

As can be seen from Table 1, when measuring the gap between urban and rural areas from the single dimension of urban and rural consumption gap, the difference rate of literature results accounted for 8.5% and 20% of the respective dimensions, respectively. After introducing multidimensional indicators such as income, education, medical care and social security to measure the gap between urban and rural areas, the difference rate of literature results accounted for as high as 40%. On the one hand, using multi-dimensional indicators to measure the urban-rural gap can reflect the real differences between urban and rural areas more comprehensively and truly. On the other hand, the introduction of multi-dimensional indicators means the diversification of index system construction. As mentioned in the previous article, when measuring the gap between urban and rural areas, the quantity and category were not consistent, and these differences contributed to the dispersion and diversity of the research results.

3.2. Introduction of Third-party Variables

Statistics show that the introduction of third-party variables has significantly improved the diversity of research results. Before the introduction of third-party variables, the overall conclusion of 41.3% was that the development of digital finance can narrow the gap between urban and rural areas. The overall proportion of the difference of the conclusion was only 4.83%, with two articles varied in the subdivision dimension, and one research result showed that the development of digital inclusive finance has not yet responded to the local urban and rural income gap [6]. After the introduction of third-party variables, the proportion of differential articles increased to 11.27%. In the existing literature, the third party variables introduced up to 15 categories, among which 20.97% of studies introduced financial development level, urbanization rate, household credit and per capita GDP to test the threshold effect; 19.35% of scholars introduced intermediary variables such as human capital, resident entrepreneurship and agricultural total factor productivity; 11.29% of studies tested the spatial spillover effect of third party variables, and the introduction of these variables is bound to cause the differentiation of research conclusions. According to the introduction frequency of variables, it can be found that rural entrepreneurship, human capital, economic level, resident income, peasant household credit and urbanization rate are the more commonly used third-party variables.

Rural entrepreneurship and human capital are the most frequently introduced third-party variables. Existing studies, such as Yang Fang (2023) and other scholars have unanimously introduced rural entrepreneurship as an intermediary variable between the two studies, and believed that the development of digital finance can promote rural entrepreneurship [7]Advanced rural industries [8]Increase the income of rural residents, and then narrow the gap between urban and rural areas. However, human capital was introduced into the two study as intermediary variables, threshold variables and adjustment variables,[9]Zheng Zhanpeng (2023) believes that after crossing a certain threshold of human capital, the impact of digital finance on urban-rural gap has both "Matthew effect" and "long tail effect", and realizes the inflection point change from Matthew effect to the long tail effect. Other scholars, such as Xu Guangshun (2022), believe that farmers' human capital investment can strengthen the convergence effect of digital finance on the urban-rural gap [10].

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Economic level and urbanization rate are the third-party variables that have the most influence on the research results of digital finance and urban-rural gap. Among them, scholars Zhao Bingqi (2020) [11]and Xiong Deping (2020) [12] who introduced economic level agree that in the areas with high economic level, the development of digital finance can narrow the gap between urban and rural areas, and in the areas with low economic level, the development of digital finance will expand the gap between urban and rural areas. Sun Jiguo (2019) and Zhang Lezhu (2023) have drawn different conclusions. Zhang Jiguo (2019) believes that with the improvement of the urbanization rate, the process of narrowing and then expanding and then narrowing [13]; Zhang Lezhu (2023) believes that when the urbanization rate is lower than 0.862, the digital financial development will expand the gap between urban and rural areas, and when the urbanization rate is higher than 0.862, the digital financial development will narrow the gap between urban and rural areas .[14].

4. Conclusion

Through a comprehensive analysis of the literature related to digital finance and urban-rural gap, it is found that there are still three problems in the research in this field. First, there is insufficient research on digital finance, urban-rural consumption gap and urban-rural multidimensional gap, which means that the current research in this field is still in the development stage and still needs to be improved. Second, the research method is single. At present, empirical studies account for 98% of the studies in this field, while there is a serious shortage of case studies and investigation studies. Third, with the promotion of the epidemic, China's digitalization has entered a new stage, but only one piece of the current research is updated to 2022, two are updated to 2021, and the rest are before 2020, which shows that the current research and the social development status are derailment, and the timeliness of the research conclusions is not strong. There is still a lot of room for exploration in this field in the future, which can be made from the following aspects.

4.1. Expand the Research Surface of the Multidimensional Gap between Urban and Rural Areas

China's urban-rural integration focuses on narrowing the regional gap, the gap between urban and rural areas and the income gap and the income gap between urban and rural public services. Therefore, in the future research, scholars should not only study the gap between digital finance and urban and rural income and consumption, but also pay attention to the role of digital finance on the dimension of urban and rural public service. By measuring the urban-rural gap in multiple dimensions, the relationship and mechanism of digital finance on the urban-rural gap are more comprehensively analyzed.

4.2. Strengthen Case Studies and Cooperative Studies

Theoretical research is an important basis for practical exploration. At present, the consensus rate of research conclusions between digital finance and urban and rural income gap in China has exceeded 90%, which is basically consistent. However, there are still no scholars conducting case studies or cooperative studies with the government on this conclusion. Therefore, in the future research in the field of digital finance and urban and rural income gap, case study and cooperative research can be strengthened. By analyzing the current successful typical cases in China, we can narrow the gap between urban and rural areas for digital finance and sort out feasible practical policies for reference for urban-rural integration.

4.3. Strengthen the Measurement Research of Digital Finance

Current domestic scholars in the study of digital finance excessive reliance on pratt & Whitney financial index, Beijing university pratt & whitney financial index can fully reflect the regional

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digital financial development level, but the data update timeliness is not strong, is bound to have a certain impact on the timeliness and feasibility of research results in the field. Therefore, future research can choose data update and more accurate measurement methods at the development level of digital finance, so as to avoid the lag of data and conclusions, improve the timeliness and accuracy of research conclusions, and lay a solid foundation for further theoretical service practice.

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