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The Role of Digital Finance and Financial Inclusion in Economic Growth

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Abstract: Digital finance and financial inclusion have already become significant components of many countries' financial system. Starting from the early 21th century, the researchers focus on building the developed digital finance and financial inclusion system. This paper concludes the development of digital finance and financial inclusion and then summarizes the three significant effects on small, micro enterprises and common residents according to the existing study, emphasizing the importance of the digital finance and financial inclusion to economic growth. The impacts include that digital finance can increase the efficiency of financial market by improving the success rate of two-way selection of both parties in the financial market, in addition to increasing the consumption quality of residents. This paper also points out that digital finance and financial inclusion will bring new risks to the financial market, and subsequent researchers still need to study how to make digital finance more stable and less risky.

Keywords: Digital Finance, Financial Inclusion, Economic Growth

1. Introduction

Now digital finance and financial inclusion have become a new increase point around the world and received great attention. Starting form 2008, the World bank reported that financial inclusion is important, so the focus of poverty alleviation financing has shifted from microfinance to financial inclusion. From them on, the development of financial inclusion was accelerated [1]. China is a good example of applying digital finance and financial inclusion to gain economic growth. In 2015, the Chinese government initiated 'The Plan for Promoting the Development of Inclusive Finance', which enhance the economic growth in China. China now possesses an advanced digital financial system and a large scale online financial market. Chinese government also helped the financial institution to make their product become more common among ordinary people [2]. A remarkable achievement in China is the Alipay. With the Alipay, Chinese people could not only pay on their mobile phone, but also they have easy access to the fund. Some of financial products can be directly bought through Alipay. That means every mobile phone user who is qualified to the financial market can have a more convenient way to commit the transaction and only a few taps on the phone are needed to enter this market. China plays a world leading role in building a well-quipped digital financial system to guarantee the financial inclusion and make it become the power of economic growth. Therefore. It is important to figure out the development of the digital finance and financial inclusion in this digital era. An example of a British company can also stress the importance. Funding Circle, a British online

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lending institution, which was established in 2010 and focuses on small and micro groups, has expanded from Britain to the United States in the past eight years, and has served 5 billion euros of small and micro loan demand, while in the first six months of 2018, it has served a total of 1 billion euros of small and micro loan demand. This is the first online lending institution listed in the UK [3]. Hence, the digital financial inclusion could meet the immense demand of the ordinary financial users. Besides, the cost for those people is usually high in the traditional financial market due to their tiny trading volume and the lack of the information. Traditional financial market could not contain enough resources to provide services to satisfy all the users, but with digital financial system, people can get to the products in a low-cost way and gain more information of the market.

2. The Development of Digital Finance and Financial Inclusion

Digital finance can be traced back to early 2000 but until the 2010s it became prominent and developed fast. It firstly prevailed among the developed countries that want to build system to improve the efficiency of the financial transactions, payment and so on. For the developing counties, they focus more on applying digital finance on financial inclusion, enhancing the financial system penetration on ordinary people [4]. During the decade of 2010s, the digital technology had achieved a great success, which boost the advance of the digital finance. Each country manages to design a system to access more accounts in their country and those digital giant companies also try to expand their influence on common people by developing an APP that can sell their products to more people. Now there are also some debates about the digital finance. The opponents argue that the digital system increase the risks of the financial market. A typical negative example is P2P, an online lending platform in China. At first, P2P could really solve the problem of lack of financing channels for investors in China to a great extent. However, when developed larger, due to the lack of supervision and information asymmetry, many vicious incidents continued to be staged, which eventually led to the collapse of P2P, resulting in a lot of financial losses.

Therefore, what the digital finance and financial inclusion are is important. Digital finance refers to the combination of information technology and traditional financial business. Digital finance includes internet payment, mobile payment, online banking, financial service outsourcing and online loans, online insurance, online funds and other financial services. Digital technology makes it possible for financial institutions to transfer their services online. Alipay and WeChat is an advanced digital financial system. Users could finish transactions through mobile phones without leaving home. Financial inclusion refers to allowing common family and micro-, small and medium-sized businesses have easy access to the financial services and products. Financial inclusion can serve as a bridge between the cash and the demand of those who cannot compare to big companies [5].

A research on MENA countries figured out some relationship between the digital finance and financial inclusion. Obviously, digital finance can increase the availability of people to financial inclusion. For deep reasons, digital finance technology can increase the awareness of finance, improve the digital infrastructure of digital services of finance [6]. People that have not learnt the financial knowledge usually do not know operate their cash and how to borrow to make investment. The digital finance technology can provide them with information of finance market and help them make decisions so that more people and cash can be included into the whole financial system, which pushes the economic growth. Besides, the inclusiveness is an essential factor that can promote the development of the digital finance in turn. To access to different types of common people, financial institutions should continue design new products and upgrade their system to expand their market shares and maintain their profit.

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3. The Impact of Digital Inclusive Finance on Small and Micro Enterprises

Digital financial inclusion is designed for the demand of the micro enterprises that have difficulties in raising money competing with the big companies. Therefore, one of the significant influences is solving the trouble of loan. There will be two mismatches in credit rationing. The first is that among all the applicants who apply for loans, only some applicants can get loans, and even if the remaining lenders can apply at a higher borrowing cost, they can't get loans. The second situation is that the loan applicant does not meet all the credit conditions and can only obtain part of the loan. Besides, loan providers, financial institutions like banks, will consider moral risks. The cost for banks to collect and recognize the information of the small companies is high. The moral level and profitability of small and micro enterprises cannot be guaranteed, which is not conducive to the bank's pre-investigation and post-supervision of these enterprises. Hence, banks tend to increase the conditions for the micro enterprises, which will decline the demand of those companies. Considering the above factors, small companies and the banks both can meet each other's need. Digital financial inclusion technology can increase the efficiency of the interchange of information. Through the online platform, banks can reveal their products and approve the qualification of the micro enterprises. Additionally, applying the digital technology can explore the potential demand of the enterprises. That is, under the new credit algorithm and evaluation model, the relationship between banks and enterprises can be quantified, the relationship loan technology can be reshaped, and the hidden demand and potential demand of credit for small and micro enterprises can be tapped [7].

On the other hand, the digital financial inclusion is a new competing point for banks. It pushes banks to combine their traditional services with the digital technology. This connection helps banks to better screen customers and provide customers with different loan needs in a more personalized way. At the same time, this technology can reduce the cost of banks on the supply side and make banks more willing to provide loans to small and micro enterprises. Taking China's data as an example, by the end of the August of 2023, the balance of loans for small and micro enterprises was 67.7 trillion yuan, and the balance of agricultural loans was 55.0 trillion yuan. Among them, the loan balance of Pratt & Whitney small and micro enterprises was 27.4 trillion yuan, with an average annual growth rate of about 25% in the past five years [8]. The convenience of loan helps those small and micro enterprises tide over the difficulties, especially during the epidemic. At the isolation time, China's real economy has been hit hard, especially for small and micro enterprises. Many enterprises are short of funds, and it is difficult to obtain financing offline. The developed digital financial system in China has relieved the pressure of small and micro enterprises to a great extent and helped them to survive the epidemic period. Therefore, digital financial inclusion could promote the growth of the micro enterprises through providing them available fund so that they can also be important parts of the whole country's economic system. In turn, financial institution can also benefit from the application of digital technology. With the efficiency of dealing with the quantities of data, financial institution can cut down their operation cost and This makes the funds in the financial market more liquid and more reasonably used. Then the financial market continues to grow.

4. The Risks of Digital Inclusive Finance

Risks are always the significant factors in the financial market. Though digital financial inclusion brings new growth point for finance, it also increases the uncertainty in this market. Digital technology is a new technology. Until now, this technology can be called a relatively mature technology in the society, but people still can't say that they have completely mastered this technology. Technicians still spend a lot of resources and energy on maintaining the stability of digital technology. Coupled with the financial market with great risks, the emergence of digital finance also brings new risks.

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Firstly, Digital technology dependence algorithm which is in the hand of big companies or those large financial institutions. Therefore, common users cannot learn about logic relationship between the products online. What they can do is to accept the provided products. From the operating mechanism of the digital financial platform, when the platform receives external instructions, it performs operations through the middle operation layer, and finally outputs a scheme to the user. What is not known to users in the middle layer is called the algorithm black box [9]. The risk also comes from this black box. The first is mortal risk. The black box can collect the information unilaterally, and with machine learning technology, the preference and even the investment pattern can be recorded and recognized. Big financial institution can take advantage of these information to make targeted plans or products to occupy a favorable position in the industry, resulting in an unequal situation between companies and micro users. Additionally, the algorithm is not perfect, especially in the financial market with many uncertain factors, a set of quantitative algorithms cannot meet people's requirements well. For example, the situation of small and micro users is usually different. The algorithm can only divide these people into several categories and give similar investment advice, but can't give personalized advice, which brings risks to both investors.

Another risk comes from the convenience of the digital finance. Digital technology simplifies the operation of financial activity. Therefore, financial institution can combine some different products on their online platform. That means a new product is based on several financial tools. In this case, there will be overlap in financial services. If the correlation between financial services and products is too large, it will increase the complexity of financial network, and local market risks will cause risk resonance through financial network, which will aggravate systemic financial risks. Alipay is a comprehensive financial platform. It can provide such as loan, insurance, fund services simultaneously. Once Alipay faces risks, the different area of that it serves could face the same trouble.

The emergence of digital financial platform will bring competitive pressure to the traditional banking industry. As it is discussed above, the convenience of digital finance can make different financial services possible. In this way, financial institutions can also provide loan business. The direct competition between bank deposit business and digital finance business forces the marketization of bank debt interest rate, raises its interest payment cost, reduces the bank's net interest margin, and intensifies the bank's risk taking [10]. Banks have to introduce higher-risk products to attract customers. Besides, they also have to expand their services to hedge the losses caused by the reduction of traditional business, leading to the increase of the cost and uncertainty in bank industry. Then, the rise of the risk of bank industry will lead to turmoil in the entire financial system.

Hence, the risks of digital finance also need to be controlled. The essence step is to maintain the stability of algorithm and limit the application of digital technology to protect the traditional industry until it reaches the balance point where digital finance develops fast and traditional financial services work well at the same time.

5. The Enhancement of Consumption Through Digital Inclusive Finance

For common residents, except for the loan, consumption could also be a vital factor for the national economic growth. Digital financial inclusion could improve the quality of consumption. Firstly, the appearance of digital finance changes the way of consumption. The most remarkable achievement is mobile payment technology. In this respect, Alipay is still a good example. The payment process of Alipay is more simplified than using bank cards, and the money in Alipay is more liquid. In countries with developed mobile payment technology, such as China, the money in Alipay is even more practical than paper money. In addition, Alipay can provide online payment, making physical delivery in different places and online virtual product delivery easier, which has promoted residents' consumption. The second important role of promoting consumption of digital finance is that it provides simpler and more various payment choice. In other words, digital financial inclusion has

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improved the consumption quality of residents at the level of consumption by changing their consumption patterns [11]. In order to meet the needs of ordinary residents' intertemporal consumption and make better consumption decisions, some digital financial platforms provide products similar to loans. For example, Jing Dong, one of the largest e-commerce platforms in China, can provide "Jing Dong White Slip" service, or customers can choose to pay in installments that meet their own needs, divided into March and January. All these meet the consumption needs of different residents individually and promote consumption. The third point is digital finance could promote the centralized allocation of resources. With big data and machine learning technology, resources can be transported to where they are needed more efficiently. E-commercial platform could gather the users' preference and sell them what they might like. This not only avoids the waste of time caused by residents in selecting goods, but also allows businesses to get in touch with their potential customers more directly, so that the transaction rate of commodity transactions will be greatly improved, thus increasing consumption. Besides, the well-developed digital finance system increases the demand of consumption, which in turn requires the state to improve the relevant infrastructure related to online consumption. In order to match these consumer demands, the state will improve the development of logistics industry, highways, railways and other infrastructure. At the same time, in order to match the huge consumer demand, the e-commerce platform will also improve the platform construction, broaden residents' consumption channels and increase consumption. This is a virtuous circle process. Finally, at the level of consumption and supply, digital finance offers new products for consumption. The financial institution would aim at the individual demand of residents, applying the machine learning technology, designing unique products for users. On the one hand, it reduces the risk of information asymmetry, on the other hand, it meets the diversified and personalized needs of residents, which greatly increases their willingness to consume.

6. Conclusion

Digital financial technology and financial inclusion have already developed well and they are important for accelerating economic development. From the beginning of the 21st century to the present, many countries have established their own digital financial systems, and many financial institutions have also combined digital finance with their traditional financial services. These developments and changes have a great impact on small and medium-sized enterprises and residents. The investment needs of these individuals have been met. Through digital financial technology, the data of small and micro users are collected uniformly, and after digital technology processing, the personalized problems of these users are solved. At the same time, the increase of investment demand in turn promotes the development of financial market. The efficiency of the market is enhanced by the two-way supply of information. Small and micro enterprises and common residents could learn more about what they purchase in the financial market and those big financial products providers could also analyze the users easily, which cuts down the cost of operating and shifts the capital to more needed area. This paper concludes the development of digital finance and financial inclusion, emphasis the significance of them and analyze the influence to small and micro enterprises and common residents from three aspects, giving a whole view of how they work in the financial system to promote the economic growth. However, digital financial inclusion still has some risks according to the analysis above. In the future, In the future, researchers still need to explore how to control the risks brought by digital technology, maintain the stability of digital finance platform, minimize the negative impact of digital finance, further reduce the entry threshold of users, and improve their confidence in digital finance, so that digital finance can better drive the development of financial markets.

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