The Macroeconomic Impact of Internet Finance

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Abstract: This paper investigates the macroeconomic impacts of Internet finance, highlighting its advantages and challenges. Internet finance, a fusion of Internet technology with traditional financial practices, introduces innovative models for global asset management, capital financing, payments, investments, and intermediary services. While it enhances the accessibility and efficiency of financial services, it also introduces new risks, such as higher credit default rates. This study explores how Internet finance contributes to financial inclusivity and macroeconomic growth yet poses potential threats to traditional financial stability. The dual aspects of Internet finance are analyzed: its application in existing processes and its capacity to generate novel business models. Furthermore, the paper proposes strategic responses to mitigate the negative impacts of Internet finance, mainly focusing on risk management and regulatory improvements to safeguard economic stability.

Keywords: Internet finance; Macroeconomics; Credit default risk

1. Introduction

Internet finance refers to the integration of Internet technology with traditional financial practices to create new models for asset management, capital financing, payment, investment, and information intermediary services on a global scale. Compared to conventional finance, Internet finance can provide more convenient and efficient financial services, transform the operational modes of traditional financial businesses, and introduce more innovations and possibilities to the public. The impacts of Internet finance are divided into two categories: the application of Internet technology to existing processes and the innovation of new business models based on this technology. At the technology application level, Internet finance fully utilizes the Internet's information and communication technology, offering better coverage to users, improving efficiency, and reducing operating costs. At the business model level, models such as crowdfunding and P2P can transform traditional methods of matching capital demanders with suppliers, thereby reducing the problem of information asymmetry.

2. The positive macroeconomic impact of Internet finance
2.1. Enhancing the efficiency of financial services

Internet finance can provide round-the-clock services, 365 days a year, unlike traditional financial institutions,

which cannot meet customers' needs during non-working hours and holidays. Internet finance breaks time and space restrictions, allowing users to quickly receive financial services anytime and anywhere. For example, Internet banking enables customers to complete money transfers without leaving their homes. Additionally, in the era of Internet finance, financial institutions can process and analyze financial information more quickly and comprehensively, improving the efficiency of market-oriented financial services by utilizing information technologies such as big data and cloud computing. Through big data algorithms, financial institutions can accurately analyze customers' wealth statuses, credit ratings, investment preferences, and other information to provide financial products and services that align with their needs. Internet financial institutions, for example, can recommend the most suitable investment portfolio for customers based on their risk tolerance and investment return expectations, enhancing the quality and efficiency of financial services [1].

2.2. Creating financial inclusion and promoting wealth equity

Due to limited resources, traditional financial institutions face significant challenges in making their services inclusive. In some countries and regions with substantial population bases, broad geographic distribution, and strong demand for financial services, physical financial outlets have significant limitations in service coverage, especially in townships and remote areas. Due to the sparse distribution of the population, financial institutions have relatively high operating costs and often do not set up sufficient service outlets. Internet finance services, which do not need physical outlets, can substantially save financial institutions operating costs while covering a more comprehensive range of people, thus promoting financial inclusion. Traditional financial institutions tend to focus on enterprises and large organizations based on financial risk analysis, often neglecting services for individual consumers and small enterprises. Through big data, cloud computing, and other analytical technologies, Internet financial platforms can effectively assess the credit costs for small enterprises and individuals, further expanding the coverage of financial services. Financial institutions provide online lending, crowdfunding, and other services, offering more accessible financing channels and allowing small and medium-sized enterprises and individuals to achieve financial inclusion. Beginning in 2012, many countries worldwide launched markets based on Internet finance, with China being the biggest beneficiary. A large number of individuals and small enterprises have been able to enter a new financial period as their past difficulties in accessing funds have been resolved. In 2022, China's Internet consumer finance industry lending scale reached 21 trillion yuan, a year-by-year growth of 4.3%. That same year, the balance reached 6.2 trillion yuan, with a year-by-year growth of 7.2%, representing a new low. **Figure 1** below shows the lending and balance scales of China's Internet consumer finance industry from 2018 to 2027 as predicted by Common Research Industry Consulting (Common Research Network) [2].
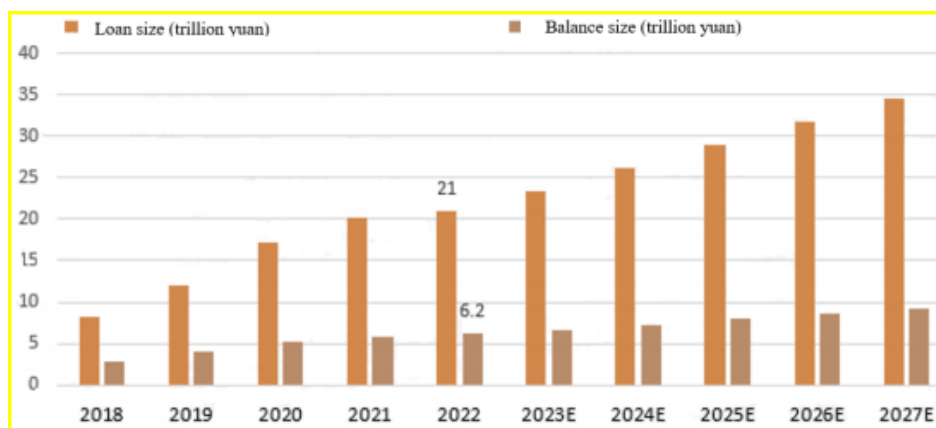

Figure 1. Forecast of lending scale and balance scale of China's Internet consumer finance industry 2018–2027 (Source: Common Research)

2.3. Promoting macroeconomic growth

Internet finance plays a vital role in promoting macroeconomic growth. Internet finance can better connect idle funds and investment demand and improve the utilization rate of funds. Through P2P lending, crowdfunding, network funds, and other modes, the world's public idle funds can be directly invested to help small and medium-sized enterprises and promote the development of innovative projects. Internet finance realizes financial services "everywhere" and provides financing channels for funds to promote the growth of various enterprises, investments, and innovation. Effectively, it broadens the source of economic development [3].

3. The negative impact of Internet finance on the macroeconomy and coping strategies

3.1. Higher credit default risk

3.1.1. Description of the problem

Internet finance, as a new financial model, has numerous positive effects. However, it also has negative impacts, with higher credit default risk being the most common. Credit default risk refers to the risk that borrowers and lenders cannot fulfill the agreed-upon loan contract due to various factors. In the traditional financial market, financial institutions have established mature credit review mechanisms and risk control tools, such as credit investigation, collateral, and pledge requirements. However, Internet financial platforms have obvious shortcomings in credit risk control compared to traditional financial institutions due to their business characteristics and operation mode.

Firstly, Internet financial platforms rely only on electronic information for customer credit audits and lack direct verification of borrower identity as well as access to and control of loan usage information. This may lead to the overestimation of the credit status of some customers. Secondly, the anonymity and convenience provided by Internet financial platforms may be exploited by unscrupulous users to engage in fraudulent borrowing and malicious lending. On Internet financial platforms, especially P2P lending platforms, investors and borrowers are not directly linked (they are connected only through the platform for transactions), creating opportunities for fraudulent behavior.

According to data, in 2023, the credit delinquencies of Bank of America, JPMorgan Chase, Citibank, National Service Bank, Goshen, and Morgan Stanley all increased more than twofold to $9.3 billion. FDIC's recent data indicates that in the U.S. banking industry, the delinquency amount of a dollar of commercial real estate loans corresponds to a $1.4 provision for credit losses. Additionally, according to S&P data, as of 2021, global bank losses increased to $926 billion, reaching $2.1 trillion [1]. Thirdly, the risk control systems and regulations of Internet financial platforms are relatively backward compared to traditional finance, resulting in increased regulatory difficulties.

3.1.2. Coping strategies

To address the higher credit default risk, the financial regulatory system must be improved to prevent and mitigate credit default risk. Regulators should increase the supervision of Internet finance, including the construction of anti-money laundering, anti-malicious financing, and other systems to protect investor safety. Regulators should formulate and adjust regulatory rules promptly, incorporating Internet finance into the macro-prudential management framework to establish a comprehensive regulatory system adapted to the Internet financial industry [4].

Additionally, regulators should improve their ability to use big data risk control technology to control credit risk from the source. This includes conducting more accurate and comprehensive evaluations of enterprise and personal credit and establishing scientific and adaptable credit scoring standards combined with precise credit

assessment to effectively reduce the risk of credit default. Finally, regulators should establish an extensive data lending risk control system, which can include a Customer Relationship Management (CRM) system, an early warning system, a credit risk mitigation platform, a post-credit system, and a credit platform/system. The specific system structure is shown in **Figure 2**.

Application layer

CRM system	Early warning system	Credit risk mitigation platform	Post-loan system	Credit platforms/systems
Industry prosperity index	Risk communication	Customer composite score		Integration - Conversion - Interaction
Overdue projections	Fraud identification	Public opinion monitoring	Decision engine	MOS/Decision front-end system
Mark-to-market alerts	Intelligent valuation	Risk push		

Basic technical service layer

Index	User portrait	Risks portrait	Knowledge map portrait	Participle	Entity extraction portrait	Offerings	Financial management	Dealings
Autosummary	Keyword extraction		Duplicate detection	Machine translation	Polarity judgment		Clients	Institution
Clustering	Categorization	Statistics	Related	Text mining	Graphical calculation	Stream processing		ETL

Fundamental data layer

Enterprise credit authorization/ credit, black/gray lists	Enterprise reputation	Commerce, industry and justice	Ratings, Qualifications, Recruitment, Investment and Financing, Market Prices, News, Sudden outburst	Enterprises
Personal credit authorization/ credit, black/gray lists	Personal credit, education, vehicles	Check the authenticity of a cell phone	P2P Default List, Device Fingerprinting, Twitter	
Data in the industry	User authorization data	Third-party data	Internet data	Individuals
Text push	API	Crawler		

Figure 2. Credit risk control system of banks based on big data

The CRM module is responsible for revealing the industry's boom index and making lending and borrowing past-due forecasts through big data analysis. By analyzing industry data, competitor analysis, market dynamics, and other information, it determines the development trend and future risks of the industry. Simultaneously, using historical lending information and customer credit data, overdue prediction models can be constructed to provide timely warnings of lending risks.

The early warning system module is responsible for building risk exposure, fraud identification, and intelligent valuation models based on big data technology. Risk exposure identifies potentially risky customers, fraud identification avoids credit risks caused by inaccurate information, and intelligent valuation conducts reasonable valuations for borrowing projects to control risks [3].

The credit risk mitigation module uses big data technology to perform functions such as customer scoring, public opinion monitoring, and risk pushing. Customer scoring assesses customers' credit ratings, and public opinion monitoring allows banks and other financial institutions to better understand customers' social reputations and credit statuses. Risk push provides timely notifications of possible risks so that managers can take measures.

The decision engine under the post-loan system module is the core module for making lending and borrowing decisions based on various types of customer information. In-depth analysis of customer behavior, lending history, and industry trends through big data technology provides a scientific basis for post-credit management and helps banks make reasonable decisions.

The credit platform/system module is responsible for information integration, conversion, and interaction. The data and information in each module are linked to form a complete risk management process for lending and borrowing, ensuring that risk information flows between each module to enable dynamic monitoring [5].

3.2. Blind borrowing by teenagers

Internet finance has broadened the channels and coverage of financial services but also produced social problems, most notably the issue of blind borrowing by teenagers, which seriously affects the rationality of individual economic behavior and negatively impacts macroeconomic stability.

3.2.1. Description of the problem

In the context of Internet finance, one of the main factors leading to blind borrowing by teenagers worldwide is their lack of financial knowledge. Teenagers, as young adults newly discovering the natural world and its responsibilities, often have a limited understanding of the economic field. This lack of financial knowledge makes it easy for them to fall into the traps of loan sharks and fraud. Another factor is the pursuit of consumption. Influenced by a strong consumerist culture, many teenagers borrow to meet their current consumption desires, including the trend of "borrowing to follow the stars," where they incur debt to support their idols. According to a survey by a world-renowned consulting company, 69.04% of teenage stargazers have spent money on their idols, with some spending more than U.S. dollar (USD) 700 per month, and many spending over USD 300 at once [6], as shown in **Table 1**.

Table 1. 2019–2023 Star chasing teenagers' spending situation

Survey items	Percentage of people
Spending behavior for idols	69.04%
Spent more than USD 700 per month on average for idols	4.67%
Spent more than USD 300 in a single transaction	36.36%

Blind borrowing has several negative consequences. First, excessive borrowing leads to heavy debt among adolescents, affecting their future academic and employment prospects, sense of well-being, and psychological health. From a macroeconomic perspective, a large number of adolescents engaging in blind borrowing increases overall credit risk, potentially raising the alarming debt rate of banks. Second, blind borrowing may stimulate over-consumption, creating an economic bubble that, when burst, can lead to severe macroeconomic problems. Third, large-scale borrowing and lending defaults may erode market confidence in the macroeconomy, affecting social investment and consumption behaviors.

3.2.2. Coping strategies

To mitigate the negative impacts of blind borrowing caused by Internet finance, several strategies can be implemented, including strengthening youth education, supervision, and guidance towards rational consumption. Schools should provide effective psychological counseling and introduce financial literacy programs as essential measures for promoting financial success and independence.

(1) Financial education for young people: Education is the most basic and effective line of defense. Schools should include financial knowledge in their curriculum to help young people understand basic financial concepts, including loans, interest, and credit. Additionally, schools should partner with parents to discuss financial issues with students, emphasizing the importance of financial knowledge and establishing responsible financial practices.

(2) Guiding rational consumption: Schools, society, government, and families should encourage young adults to spend money rationally. They need to understand both the potential harms and benefits of money, recognizing that daily consumption should be within their means to avoid long-term consequences from short-term satisfaction.

(3) Borrowing and lending management based on artificial intelligence: Banking institutions can utilize AI technology to effectively control the problem of blind borrowing and lending by teenagers. This can be implemented in several steps:

(a) Enhance real-name authentication: Use AI identification and verification technology to ensure the authenticity of the borrower's identity, avoiding blind borrowing by minors through big data background checks, including ID cards, education, home addresses, and other personal information.

(b) Early warnings using data analysis: Employ AI combined with big data to deeply analyze the user's education, occupation, credit history, browsing records, etc., to determine the user's risk and avoid lending to minors and other high-risk individuals.

(c) Create a risk assessment model: Establish an AI risk assessment model to conduct credit approval based on the information provided by users, reducing the probability of issuing risky loans.

(d) Enhance financial literacy: Use AI technology to educate users about hazards on apps or websites. Promote financial knowledge to groups such as minors to improve their awareness of lending risks [7].

4. Conclusion

This paper discusses the impact of Internet finance on the macroeconomy. It examines the enhancement of financial service efficiency, creation of financial inclusion, promotion of wealth equity, and stimulation of macroeconomic growth. Additionally, it addresses the issues of higher credit default risk and blind borrowing by teenagers, along with the repercussions of each. The paper presents specific coping strategies for addressing blind borrowing and its impact on teenagers, which can help relevant national departments ensure the healthy development of the macroeconomy through effective management. The aim is to identify the macroeconomic effects of Internet finance by highlighting both its negative and positive aspects while using China's Internet consumer finance industry as an example to illustrate the significant global economic growth in recent years.

Disclosure statement

The author declares no conflict of interest.

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