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Research on China's Internet Finance: Definition, Composition, and Total Accounting from the Perspective of MFS

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Abstract

While Internet finance has risen rapidly as an emerging financial sector in China, the current macro-financial statistics field lags significantly in its in-depth research on the accounting of Internet finance, posing numerous challenges to the effective implementation of regulatory and statistical efforts. Based on MFSMCG2016, the definition and connotation of China's internet finance, formation elements have been refined, the fourth mode of internet financial accounting is determined as the scope, and the classification of three types of accounting entities in MFS system has been clarified. Based on the "Classification of National Economic Industries", three types of accounting entities were further classified at the basic level, and then the specific business forms of each main form were analyzed. With the help of transaction diversion in SNA2008 and transaction virtualization, the virtual assets and liabilities and types of each main form were refined, and the object of internet financial accounting was clarified. The accounting objects and category attribution of internet finance from the perspective of MFS were further summarized, and the balance sheet of the internet financial sector was designed. Then, the virtual assets of China's internet finance were calculated by looking for alternative indicators. Research shows that in 2022, the virtual assets of China's Internet finance generally decreased, with a reduction of approximately 6003.53 billion yuan. Among them, the virtual assets of third-party payment platforms accounted for over 95%, highlighting their core position. This was a systematization of the micro-study of Internet finance, as well as helpful in solving the urgent needs of China's Internet financial statistics practice. It holds significant implications for strengthening regulatory frameworks and promoting financial stability.

Keywords

Internet Finance, The Monetary and Financial Statistics, Assets and Liabilities, Total Accounting

1. Introduction

Since the advent of Internet technology in the 20th century, it has rapidly transformed production and everyday life. In China, Internet finance has developed swiftly, posing comprehensive challenges to the existing financial system. The financial industry's large scale, wide service range, and high profitability offer a broad market space for the survival and development of Internet finance. Innovations in Internet technology continually enhance the efficiency of financial functions and expand the boundaries of financial services. However, since Internet finance operates outside the existing financial statistical system, many changes and improvements it brings to economic and financial operations are not accurately reflected, which hinders its development. Internet finance's virtual nature means that financial activities are not constrained by time and space, making trading objects vague and processes opaque. Consequently, accurately understanding the actual situation of assets and liabilities in Internet financial activities is challenging, and financial risks may arise in terms of supervision and prevention. Despite the issuance of the "General Office of the State Council's Opinions on Comprehensively Promoting the Comprehensive Statistics of the Financial Industry" by the General Office of the State Council in March 2018, which called for the improvement of statistical systems and the inclusion of financial activities outside the financial statistics framework, China's research and practice in the field of internet finance statistics still appear to be lagging, particularly in terms of foundational theory construction, innovation in accounting methods, and exploration of practical applications. The ambiguity in the definition of Internet finance, the diversity of business models, and the complexity of transactions pose numerous challenges to the accounting process. How to scientifically define Internet finance, reasonably delineate its constituent elements, and conduct total accounting based on the Monetary and Financial Statistics (MFS) framework is of significant theoretical value and practical significance for promoting the healthy development of Internet finance and deepening the theories and methodologies of macroeconomic statistics, monetary and financial statistics. This also expands the breadth and depth of research on the total accounting of Internet finance, which is beneficial for addressing the urgent needs of China's Internet finance statistics practice and supplements and improves macroeconomic and financial statistics.

Before conducting the accounting work of Internet finance, it is first necessary to clarify the definition of Internet finance, which serves as the foundation for the entire composition and accounting work of Internet finance. After defining Internet finance, it is crucial to analyze its inherent meaning, namely, its constituent

elements further. This process is essential as it provides a clear scope and framework for subsequent accounting. The composition of Internet finance encompasses the subjects and objects of Internet financial activities. The subjects refer to the core roles participating in Internet financial activities, while the objects reflect the specific actions or transaction targets implemented by these subjects. Based on a clear understanding of subjects and objects, we conduct a quantitative analysis of Internet finance based on the accounting theoretical framework of Monetary and Financial Statistics (MFS) to calculate the total volume of Internet financial activities. The "definition" of China's Internet finance provides the basic framework and logical starting point for the entire research; the "composition" provides specific objects and dimensions for the discussion of accounting issues based on this foundation; and " total accounting" is the key link that applies the aforementioned theoretical achievements to practical fields, realizing the combination of theory and practice. The definition and composition of Internet finance are the prerequisites and basis for aggregate accounting, while aggregate accounting is the result. These three aspects present a logical progression from theory to practice, constituting a complete framework for studying China's Internet finance.

This paper utilizes the monetary statistical framework of the MFS system to analyze the statistical definition of Internet finance from a monetary statistics perspective and determine its accounting scope. It also examines the composition of China's Internet finance. Based on the National Economic Industry Classification, three types of accounting entities are classified in detail at the grassroots level, and their specific business forms are analyzed. Utilizing the transaction diversion concept from SNA2008, Internet financial transactions are virtualized, and their virtual assets, liabilities, and types are defined. The study summarizes the accounting objects and category attribution of Internet finance from the perspective of the MFS, designs the balance sheet for the Internet finance sector, and calculates the total amount of virtual assets within Internet finance. The structure of this paper is as follows: the first part reviews the relevant literature; the second part refines the definition of Internet finance from the perspective of monetary statistics and analyzes the accounting boundaries; the third part further examines the composition of China's Internet finance and discusses the subjects and objects of accounting; the fourth part designs the balance sheet for China's Internet financial sector; the fifth part measures the total amount of virtual assets in Internet finance; and the sixth part provides the conclusion.

2. Literature Review

Academic discourse surrounding the concept of Internet finance presents diverse definitions and perspectives. Internationally, Internet finance is often interchangeably referred to as "digital finance" or "financial technology" (Chen, Zhang, & Chen, 2021). Antic et al. define electronic finance as the utilization of computer network technology and electronic communication technology to offer financial services and

establish market platforms (Antic & Hu, 2024). Beatty et al. characterize Internet finance as a novel financial model that integrates conventional financial practices with Internet technology (Beatty & Liao, 2014). The Guiding Opinions on Promoting the Healthy Development of Internet Finance introduced varying viewpoints on the definition of Internet finance (Jin, Shang, & Ma, 2019; Li, Wu, & Tang, 2018). Scholars such as Cao et al. advocate for a broad perspective, encompassing all financial activities within the Internet domain under the purview of Internet finance (Cao, Chang, Yu, & Yang, 2015). Conversely, scholars propose their interpretation, which delineates Internet finance as an extension of traditional financial services facilitated by the breadth and convenience of the Internet (Yue, Zheng, He, & Zhang, 2019). In a narrow sense, it primarily encompasses financial intermediary services and related transactions, such as third-party payment platforms (Gerstner, Taylor, Moon, & Butski, 2024). While disputes persist regarding the precise definition and categorization of Internet finance, consensus has emerged regarding its core elements and fundamental attributes. As a fusion of Internet technology and financial innovation, Internet finance has significantly transformed the operational framework and business modalities of the financial industry. Nevertheless, existing literature lacks a macro-level definition and discussion of Internet finance within the realms of financial statistical monitoring, financial stability, and monetary statistics. Consequently, this paper proposes a statistical definition of Internet finance from the perspective of monetary statistics, aiming to delineate the accounting boundaries of Internet finance and provide a foundational framework for its subsequent compositional and accounting aspects. This approach holds substantial implications for comprehensively comprehending and assessing the impact and role of Internet finance.

From the perspective of the business composition of Internet finance, foreign countries have engaged in earlier and more specific discussions on its various forms, often focusing on particular types of business. For instance, Beatty et al. explored the operational aspects of Internet banking and provided detailed product classifications (Beatty & Liao, 2014). Berns et al. examined the crowdfunding industry and investigated the utilization of online platforms for financing purposes (Berns, Shahriar, & Unda, 2021). "Crowdfunding" refers to raising relatively small amounts of private funds through the Internet from a large number of investors or individuals interested in the success of start-ups (Yin, 2017). These studies by foreign scholars offer in-depth insights into specific formats of Internet finance, aiding in the understanding of their operational mechanisms and market impacts. In China, research has similarly delved into the forms and classifications of Internet finance business types. Zhou posits that the development model of Internet finance primarily encompasses virtual currency, third-party payment systems, and online financial institutions (Zhou, Lu, Fan, & Wang, 2018). Specific business types such as third-party payments (Zhou et al., 2018), lending (Au, Tan, & Sun, 2020), and crowdfunding have been focal points of study (Budisusetyo, Nahumury, & Oktarina, 2023). Chen et al. broadly categorized Internet financial models into eight dis-

tinct types (Chen, Zhang, & Chen, 2021). Meanwhile, Cao et al. classified these models into platform finance, third-party payment finance, and online fund management finance (Cao et al., 2015). This multiplicity of classification approaches by domestic researchers facilitates a comprehensive understanding of the various dimensions of the Internet finance industry. However, the lack of standardized criteria for the classification of Internet financial formats has resulted in discrepancies across different studies, complicating the understanding and comparison of results. Therefore, this paper aims to conduct a comprehensive analysis of Internet finance from the perspectives of financial statistical monitoring, financial stability, and monetary statistics, integrating both domestic and international research. This approach seeks to provide a holistic and systematic research framework for understanding Internet finance.

In the realm of Internet financial aggregate accounting, the existing literature has shown limited discussions from a macro perspective and has yet to establish a specific accounting method. However, essential insights have been gleaned from research on measuring the scale of the new economy related to Internet finance. Studies in this area primarily encompass the theory of Internet economy measurement, as exemplified by the "Internet Economy Outlook" from the OECD and the work of the European Union's New Economic Statistics Information System (NESIS). These sources furnish a theoretical framework and measurement methods for the accounting of Internet financial aggregates. Furthermore, accounting theories pertaining to new formats such as the digital economy and virtual economy offer valuable reference points for Internet financial accounting. For instance, Berns et al. and Chemmanur et al. examined the assets on bank balance sheets, shedding light on investment decisions based on private information about borrowers and projects (Berns, Shahriar, & Unda, 2021; Chemmanur & Fulghieri, 2014). Beatty et al. delved into bank financial accounting, introducing theoretical models and regulatory background (Beatty & Liao, 2014). Al-Hawamleh et al. discussed the current status of blockchain technology in urban virtual asset accounting and its potential impact on enterprises and the economy (Al-Hawamleh, Altarawneh, Hikal, & Elfedawy, 2024). While Gaddy et al. studied the virtual economy of Russia using a static accounting model (Gaddy & Ickes, 1999). Yao et al. clarified the theoretical provisions and systematic objects in the field of environmental accounting in the digital economy (Yao, Bo, & Zhang, 2025). Additionally, given the relevance of Internet finance and shadow banking, the measurement of the shadow banking scale offers pertinent insights for Internet financial aggregate accounting. For example, Zhu et al. innovatively constructed a "shadow banking business on the balance sheet" measure to accurately gauge the shadow banking activities of commercial banks concealed within the asset balance sheet (Zhu, Chen, Chen, & Li, 2019). Despite the progress made in Internet financial accounting and new economy scale measurement, there remains a dearth of discourse on macro-level Internet financial aggregate accounting in the existing literature, alongside an absence of specific accounting methods. As such, this paper directs its fo-

cus toward the macro perspective, seeking to explore effective methods suitable for Internet financial aggregate accounting and provide theoretical support for further research in this domain.

3. The Definition and Boundary of China's Internet Finance

MFSMCG2016, a draft revised and amalgamated version of the 2008 MFSCG (Guidelines for the Compilation of Monetary and Financial Statistics) and the 2000 MFSM (Manual on Monetary and Financial Statistics), finalized by the International Monetary Fund (IMF) in 2016, serves as a comprehensive manual aimed at establishing a robust framework for compiling statistical reports to form a comprehensive monetary statistical accounting system. The principles underpinning MFSMCG2016 encompass key tenets derived from economic and monetary financial theory, principles from financial practice, classification criteria, guidelines for account structure, balance principles, and flexibility standards. These principles collectively establish international standards that member states can adopt to enhance the compilation of monetary statistics, thereby contributing to the formulation of sound macroeconomic policies. The Chinese System of National Accounts (CSNA2016) is a comprehensive and systematic revision made by the National Bureau of Statistics of China based on the "System of National Accounts of China (2002)". This system establishes standards and norms for the national economic accounting work through a set of comprehensive and systematic basic concepts, basic classifications, accounting principles, accounting frameworks, basic indicators, and basic accounting methods.

This paper undertakes an analysis of the concept of Internet finance across three dimensions: core functions, primary outcomes, and central actors. Through the lens of monetary statistics, the focus lies on the flow of funds within financial activities and services. By examining the core functions of Internet finance—namely, payment processing, lending activities, and financing solutions—it becomes evident that these functions involve the movement of funds and the provision of services. These activities are facilitated through third-party Internet financial platforms, which act as the central entities (core subjects) enabling these transformations in financial services and fund flows (core outcomes). Consequently, a comprehensive definition of Internet finance emerges: it denotes a novel financial innovation model that delivers investment, financing, lending, payment processing, and clearing services via third-party platforms, distinct from traditional financial intermediaries and markets, leveraging the Internet for operations. This definition identifies the essential elements shaping Internet finance and sets the stage for delineating its accounting boundaries, laying the groundwork for future studies on its structural composition.

3.1. Observing the Three Dimensions of Internet Finance

To refine the monetary statistical definition of Internet finance, the following analysis considers the connotation of Internet finance from three dimensions: core

functions, core results, and core entities.

The first dimension is the core functions of Internet finance, which encompass payment methods, lending methods, and financing methods. These functions are analogous to the fundamental core functions of financial institutions. Specifically, much like traditional financial institutions, Internet financial institutions can engage in payment processing, fund lending, as well as investment and financing activities.

The second dimension is the core result of Internet finance, which provides a third-party platform for financial resource allocation and payment settlement. The outcome of these core functions is the use of third-party Internet platforms to transform traditional finance payment methods, reduce transaction costs, and mitigate information asymmetry in bank capital operations. This helps address longstanding issues such as financial difficulties for small and micro enterprises and improves the allocation of financial resources. The increase in lending and financing does not create currency for Internet financial institutions; it merely transfers currency.

The third dimension is the core entity of Internet finance, which is the third-party Internet finance platform. Third-party payment facilitates electronic payment settlement. Internet payment does not create currency but fully utilizes its functions. Third-party lending and financing platforms leverage information technology to provide intermediary services, effectively addressing existing information asymmetry challenges. These third-party Internet finance platforms establish a new financial trading market alongside traditional financial markets.

3.2. China's Internet Finance

To effectively capture the essence of Internet finance, it is imperative to define its scope clearly. Drawing upon three key dimensions of Internet finance and adopting a monetary statistics perspective, the following definition is proposed: "In China, Internet finance represents an innovative financial model distinct from the digitalization of traditional financial services. It involves the provision of financial services such as investment, financing, lending, and payment settlement through third-party platforms, independent of traditional financial intermediaries and markets".

The reasons why this article proposes the above definition of Internet finance from a narrow perspective are as follows: Firstly, based on a broad perspective, although it can cover a wide range, it would also overly complicate statistical standards, thereby failing to highlight key points and address current accounting blind spots in the field of Internet finance. Secondly, apart from the narrow perspective of Internet finance, other forms within the broader scope of Internet finance can be reflected through existing statistical monitoring systems, thus avoiding accounting blind spots. If it is necessary to calculate the total volume of Internet finance from a broader perspective, relevant data can be extracted from existing monitoring systems of Internet finance and further integrated with internal transactions

of corresponding departments within the narrow perspective.

3.3. Boundary of Internet Financial Accounting

To accurately measure Internet finance, it is essential to further clarify the specific scope of its measurement. To ensure the clarity and replicability of the measurement boundaries, this paper establishes two core rules for defining the measurement scope. Based on these rules, five types of Internet financial business models are evaluated one by one, ultimately establishing a narrow definition of the measurement scope.

Inclusion Rule: Business models that rely on Internet technology to establish independent financial intermediary platforms, substantively engage in core financial activities such as fund intermediation and payment settlement, are not affiliated with the traditional financial institution system, are not included in existing conventional financial statistics, and directly participate in fund flows and the formation of creditor-debtor relationships. These are considered pure Internet financial innovation businesses and are included in the measurement scope.

Exclusion Rule: Business models that are affiliated with the traditional financial institution system, merely use the Internet as a channel tool, are already covered by the existing comprehensive financial statistical monitoring system, or only provide auxiliary services such as information consulting without participating in fund flows or financial intermediation, are excluded from the measurement scope of this paper.

From a broad perspective, the business types of Internet finance are divided into five categories (Chen & Jiang, 2022). The first category is the Internet transformation of traditional finance. Traditional financial institutions, such as banks, leverage Internet information technology to Internet, enable their original financial services and other businesses. This model merely represents an extension of traditional financial business channels, with its business essence being no different from core financial activities such as banking and securities. Relevant data are already fully reflected in existing statistical systems, such as the balance sheet of financial institutions. Therefore, the exclusion rule applies, and this category is not included in the measurement scope. The second category consists of new financial institutions engaged in Internet financial business. These are purely online entities with no physical presence, conducting all business via the Internet, such as Internet banks, online insurance, and online securities. Although their operational form is innovative, the core financial activities they engage in, such as deposits, loans, and remittances, are essentially no different from those of traditional banks. Taking Internet banks as an example: first, their business model is merely a technological extension of traditional banking activities on the Internet, rather than a disruptive new financial model; second, they have been subject to strict regulation since their inception, and their financing data are already integrated into the overall banking statistics. These can be reflected by adding detailed items under the "loans" category and are not currently a blind spot in statistical measurement.

Therefore, the exclusion rule applies. The third category involves financial activities conducted on e-commerce platforms. These platforms hold financial licenses and engage in fund intermediation and other financial activities, such as JD Finance. These businesses are affiliated with e-commerce groups, are comprehensively monitored by the central bank, and their financial essence aligns with traditional finance. They conform to existing statistical standards, meet the exclusion rule, and are not included in the measurement scope. The fourth category is a brand-new innovative model of Internet finance. Li and Pan believe that Internet finance is an innovative financial model that combines the financing and capital circulation capabilities of finance with Internet information technology and is a pure Internet finance platform (Li & Pan, 2015). The fifth category is Internet platforms that provide auxiliary services. Mainly providing information, consulting, and other auxiliary services for Internet financial activities, such as third-party credit platforms and Internet financial portals, which do not involve fund transactions themselves (Chen, Zhang, & Chen, 2021). These platforms merely provide auxiliary services such as information consulting, technical support, or portal traffic guidance for financial activities, do not directly participate in fund flows, and do not create financial value. Therefore, they are excluded from the measurement scope.

The definition in this article only covers the fourth category, which belongs to a relatively "narrow" definition. It does not include the other four categories for the following reasons: Firstly, the first type of model is a branch of the traditional financial industry, which simply brings all the business operations of traditional banks to the Internet and has been under strict supervision since its establishment. The internet-based intermediary business is similar to that of banks, and the system for statistical reflection is relatively comprehensive. The second reason why the second type of model is not included in the accounting scope is similar to the first type, where Internet platforms are only used as trading tools. Focus on analyzing the reasons why Internet banking is not included in the scope of this article's accounting: Firstly, Internet banking has opened up new models for the development of China's banking industry (Liu & Xia, 2017). Internet banking simply transfers all the business operations of traditional banks to the Internet. It is merely a tool and channel, which, compared to traditional banks, has some innovative aspects but is ultimately an extension of means and its business model is not disruptive. Secondly, Internet banking has been under strict supervision since its establishment, and its intermediary business conducted through the Internet is no different from that of banks, with a relatively complete statistical reflection system. The financing data of Internet banking is included in the corresponding total amount of banks, but it is not separately displayed. It is possible to add "Internet financing" projects under the "loans" item, which is not a blind spot in current financial statistics and accounting. Thirdly, in March 2018, NetEase stipulated that banks will no longer provide withholding channels for third-party payments, which is the difference between the fourth type of model and Internet banking.

The third type of model is that large e-commerce platform enterprises engage in financial business, and large e-commerce platform enterprises have access to their financial transaction data, which is within the monitoring scope of the central bank. And its financial business is essentially the same as traditional finance, which can borrow from current statistical standards. The fourth is the fifth type of model, which only provides information services and serves as an Internet platform to assist business, and has not entered into financial business. In summary, this article conducts a total accounting for the fourth model, namely the new and innovative Internet finance model.

4. The Composition of Internet Finance in China

To explore the balance sheet and the total magnitude of Internet finance in China, it is essential to delineate its composition clearly. This section focuses on identifying the specific business types within the domain of Internet finance. By utilizing the National Economic Industry Classification (GB/T 4754-2017) as a framework, we first determine the granular classifications pertinent to Internet finance accounting. This involves specifying the business forms, formation elements, transaction processes, service charges, and other relevant aspects of each classification. Subsequently, an analysis of the accounting objects is conducted to ascertain the division of assets and liabilities. These steps are fundamental for establishing the groundwork necessary for compiling the balance sheet of China's Internet financial sector.

4.1. Accounting Entities Classification of Internet Finance from the Perspective of MFS

Based on the three core functions of payment, lending, and financing, the entities involved in Internet financial accounting specifically include third-party payment platforms, online lending platforms, and third-party financing platforms. These institutions are specialized third-party platforms engaged in Internet financial activities. For instance, third-party payment platforms are required to apply for a license, whereas third-party lending platforms and third-party financing platforms only need to register with the industrial and commercial administration department to obtain qualifications for providing financial information services. These platforms are categorized as non-financial institutions. The comprehensive statistical work on the financial industry suggests that the classification of these innovative institutions should be clarified in alignment with international standards and the specific regulatory environment in China. As emerging types of Internet financial entities, it is imperative to deliberate on the classification of third-party payment platforms, third-party lending platforms, and third-party financing platforms. This will facilitate a more precise categorization of assets and liabilities within the domain of Internet finance.

4.1.1. Category of Third-Party Payment Platforms

Based on the System of National Accounts 2008 (SNA2008) and MFSMCG2016

classification principles, third-party payment platforms should belong to the financial company departments-other financial company departments-financial auxiliary institutions-companies that provide infrastructure for the financial market. Firstly, they belong to the financial company sector. The reason is that SNA2008 has clear regulations on the ownership of companies involved in financial innovation activities, and third-party payments belong to financial innovation activities and should be included in the category of financial institutions. Secondly, they belong to other financial company departments. The business engaged in third-party payment platforms is similar to the payment business engaged in traditional banking. The difference is that the former relies on the Internet network, but its essence is to provide transaction bridges and information services for the payee and payer and to provide credit guarantees for customers themselves. Funds deposited with third-party payment platforms cannot be classified as bank deposits. Therefore, third-party payment platforms can be classified as non-deposit financial institutions. Thirdly, they belong to financial auxiliary institutions. MFSMCG2016 states that if an institutional department primarily engages in electronic payment services and does not need to bear responsibility for electronic payment tools, it can be referred to as a financial auxiliary institution. Fourthly, their main function is to provide payment means, and they belong to the financial infrastructure.

4.1.2. Category of Third-Party Lending Platforms

The third-party lending platform should belong to the category of financial company departments-other financial company departments-financial auxiliary institutions-loan brokers. Firstly, similar to third-party payment platforms and consistent with SNA2008 and MFSMCG2016, third-party lending platforms are included in the category of financial institutions and belong to financial auxiliary institutions under the financial company department. Secondly, MFSMCG2016 pointed out that the most common types of financial auxiliary institutions include public exchanges, securities markets, clearing houses, brokers and agents, foreign exchange companies or currency exchange offices, financial derivative companies, insurance and pension assistance institutions, etc. From the practice of Internet finance in developed economies, third-party lending platforms belong to brokers, such as the United States and France (Chen et al., 2022). Similarly, China's third-party lending platforms belong to loan brokers.

4.1.3. Category of Third-Party Financing Platforms

Third-party financing platforms should belong to the category of financial company departments-other financial company departments-financial auxiliary institutions-securities brokers. Third-party financing platforms help investors purchase equity, similar to securities brokers who conduct due diligence on information related to issuers and issuance projects. Similar to securities sponsors, they serve as trading venues for issuers and investors, and can also be seen as exchanges. From the practice of Internet finance in developed economies, the U.S. Securities and

Exchange Commission (SEC) defines online crowdfunding as a website for raising investments, also known as a "fundraising portal", which must obtain permission from financial regulatory authorities to proceed. The UK has a similar positioning and regulation to third-party lending platforms. Third-party financing platforms are similar to securities brokers.

4.2. The Business Forms of Internet Finance in China

Based on the analysis of the boundaries of internet finance accounting, this paper focuses exclusively on the fourth category. The preceding section identified the classification of three accounting entities under the Monetary and Financial Statistics (MFS) framework. However, a detailed categorization of the specific assets and liabilities within their business activities remains a challenge. In the following discussion, we will classify the basic industries of three types of accounting entities—third-party payment platforms, third-party lending platforms, and third-party financing platforms—based on the "National Economic Industry Classification (GB/T 4754-2017)". This classification will aid in identifying the specific businesses conducted by these entities, allowing for a more in-depth analysis of their business forms, financial service models, and profit modes. Furthermore, it will help clarify the assets and liabilities associated with these specific businesses, thereby exploring the corresponding accounting objects.

Before proceeding, it is essential to discuss the asset characteristics of these three types of accounting entities. Third-party platform entities are categorized as financial auxiliary institutions, primarily facilitating fund transfers and settlements between transaction parties. In the context of internet financial transactions, the platform serves merely as an intermediary, while the ownership of transaction funds remains with the payer and payee. Similarly, third-party lending and third-party financing operate on comparable principles. Essentially, third-party platforms function as custodians and intermediaries of funds without possessing ownership of the transaction funds. Traditional statistical methods consider financial assets and liabilities as requiring actual ownership by the entity. Consequently, the assets or liabilities generated by transactions on third-party platforms inherently belong to the transacting parties, such as households or corporate accounts. Traditional statistical or accounting standards do not attribute the funds transacted on third-party platforms to the platforms themselves but rather to the transacting parties.

From a monetary statistics perspective, the ownership of assets and liabilities is undoubtedly significant for internet financial enterprises; however, the monitoring of funds is equally crucial. By recording these asset and liability data, third-party platforms can better reflect the capital intermediation function of these internet financial institutions. Additionally, the transaction data of these funds genuinely exists on third-party platforms. The question then arises: how should these lending funds be recorded on third-party platforms? We propose an alteration to the transaction process: a direct transaction between units A and B could be rec-

orded as if it occurred through a third unit C, as suggested by the System of National Accounts (SNA2008). Therefore, the internet financial business activities conducted by third-party platforms can be considered transactions where the borrower and lender operate through the third-party platform, effectively splitting the transaction into two parts: one where the asset side first transacts with the third-party platform, followed by the third-party platform transacting with the liability side. The actual transaction remains between the asset and liability sides, termed a virtual transaction. Consequently, the financial assets and liabilities generated on the platform are referred to as virtual assets and virtual liabilities. This approach allows the business transactions conducted on the third-party platform to be recorded in its balance sheet as virtual transactions, thereby facilitating comprehensive fund monitoring.

4.2.1. Forms of Third-Party Payment Business and Types of Virtual Assets

Firstly, the "non-financial institution payment service management approach (2010)" issued by the Central Bank and the "Industry Classification" elaborate on the payment services of non-financial institutions. The grassroots classification of Internet finance between the two is the same, except that the "Industry Classification" emphasizes third-party payment institutions. The payment services of non-financial institutions in the Industry Classification belong to a subcategory of other financial industry classifications (code 69) under the financial industry category. The specific classification is shown in Table 1.

Table 1. Classification of non-financial institutions' payment services in the national economy industry.

Code	Industry	Specific Classification
6930	Non-financial institution payment services	Online payment
		Issuance and acceptance of prepaid cards
		Other payments and other services
		Approved by the People's Bank of China

What is the market size between these specific categories in Table 1? What is the market share? According to the third-party payment cards released by the People's Bank of China, the sub-sectors of third-party payment mainly include prepaid card issuance, acceptance, and online payment. Among them, the Internet platform payment and mobile payment markets are closely linked with the payment scenarios of service providers, and Alipay is the largest, followed by WeChat payment. According to the data of S&P Consulting, by the end of 2022, the top ten third-party payment institutions accounted for 96.7% of the market share, the top two, Alipay and WeChat payments, accounted for 54.5% and 38.8% of the market share respectively, and the top two accounted for 93.3% of the market share, basically forming a monopoly situation.

Secondly, further analyzing the specific business processes, business is generally

divided into acquiring business and payment business. Third-party payment provides a bridge for fund flow between the collecting and paying parties, as shown in Figure 1.

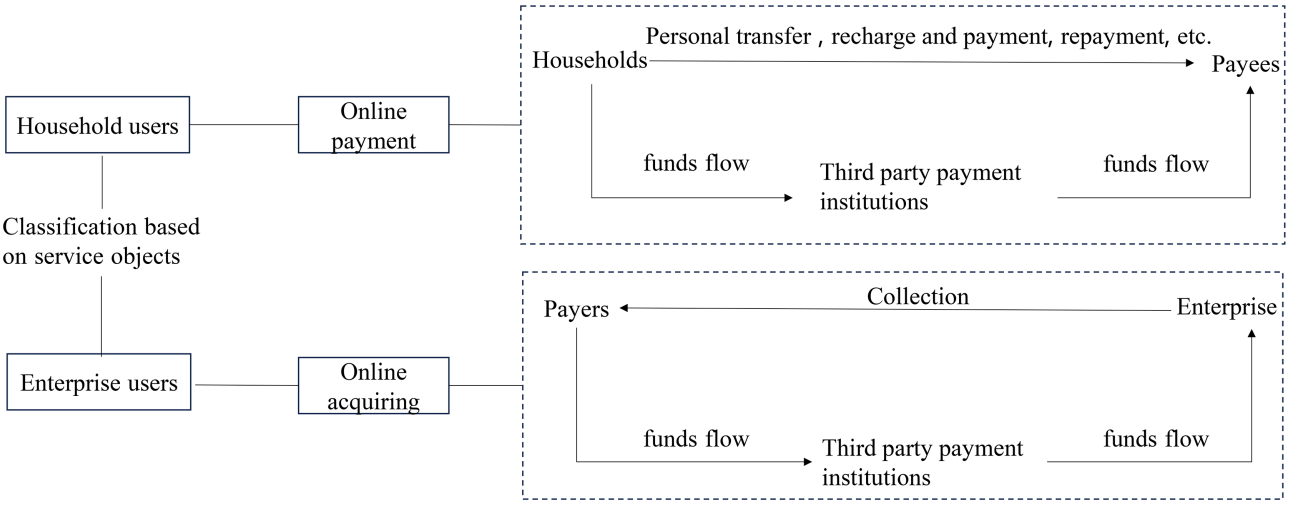

Figure 1. Business process diagram of third-party payment.

Then, based on the specific business form and process, we need to determine the specific asset and liability types of the business. Third-party payment mainly engages in online payments, bank card receipts, personal transfers, and other businesses. The assets or liabilities generated by trading on a third-party platform belong to the traders themselves, that is, to households or enterprise accounts. From the perspective of traditional statistics or accounting standards, funds traded on a third-party platform are not classified as belonging to the third-party platform, but rather under the name of the traders. However, from the perspective of monetary statistics, while ownership of assets and liabilities is important for Internet finance companies, fund monitoring is also quite important. Based on the particularity of the financial auxiliary institution of entity, according to SNA2008, by changing the transaction process, a transaction between debit and credit on the platform can be recorded as two transactions, namely, a transaction between the asset side and the platform, followed by a transaction between the platform and the liability side, which is called a virtual transaction. Therefore, the financial assets and liabilities generated by the third-party payment platform are called virtual assets and virtual liabilities.

In the MFS classification of financial assets and liabilities, loans include all loans and advances issued by other financial intermediaries to various departments. Third-party payment companies belong to financial auxiliary institutions, such as an Internet payment business of a third-party payment company that involves the payer prepaying funds to a third party, which can be considered as advance payments. As the ownership of this advance payment does not belong to a third-party company, the related assets and liabilities generated by this transaction type are categorized as virtual loans. Based on the above, the virtual assets and liabilities of

third-party payment platforms should belong to financial virtual assets-virtual loans.

4.2.2. Forms of Third-Party Lending Business and Types of Virtual Assets

In the conceptual definition section, this paper identifies third-party lending platforms as one component of narrow-sense internet finance, while in the subsequent empirical accounting, it uses transaction volume data from online microcredit companies. This treatment stems from a major institutional change in China's internet finance sector in 2020. In mid-November 2020, all operational P2P lending institutions nationwide were terminated, marking the complete exit of the P2P model from the market. This liquidation signaled the end of the P2P model, which was positioned as an information intermediary with funding sourced from individual lenders. Lending businesses originally conducted by such platforms no longer constitute an object of accounting.

However, the exit of P2P platforms does not mean the disappearance of third-party lending as a business form; instead, the industry has undergone business restructuring and regulatory reshaping. According to the transition path clarified by regulators, former P2P platforms may transform into licensed credit assistance platforms by obtaining licenses for online microcredit or consumer finance companies. Meanwhile, online microcredit companies, established in 2005 and subject to multiple rounds of regulatory adjustment, have become legitimate licensed lending entities. Following the formal implementation of the Interim Measures for the Supervision and Administration of Microcredit Companies in 2025, the regulatory framework for online microcredit companies has been fully established, with clear rules governing business scope, financing leverage, and risk management.

The rationale for including online microcredit companies within the same accounting scope as "third-party lending" is as follows: First, homogeneity in business substance. In both the P2P era and the online microcredit era, the core function of third-party platforms is to connect the funding side and the asset side to facilitate lending transactions, both of which generate virtual assets in the form of credit assets under the MFS/SNA2008 framework. Second, continuity in statistical accounting. After the elimination of P2P services, the lending business they previously intermediated has shifted to a credit assistance model dominated by licensed institutions (Basha, Elgammal, & Abuzayed, 2021; Cao et al., 2015; Zheng & Guo, 2024). Abandoning accounting for such activities due to institutional change would create a statistical break and fail to reflect the full scale of financial intermediation in this sector. Third, clear regulatory classification. As licensed local financial institutions, online microcredit companies are included in the monitoring system of the People's Bank of China and other regulatory authorities, with accessible and standardized data that satisfy the basic requirements of this study's accounting framework. In summary, using quarterly transaction volume of online microcredit companies as the basis for measuring virtual assets of "third-party lending" in the empirical part realistically reflects the industry structure following

institutional changes. This approach maintains consistency between the conceptual definition and empirical implementation in terms of business substance, while ensuring the replicability and continuity of the accounting boundary.

Consistent with the accounting logic for third-party payment businesses, and to further clarify the accounting boundary and standardize the statistical caliber of third-party lending, this paper classifies third-party lending at the granular industry level by reference to the "Industry Classification" standard, so as to accurately define its specific business scope. Under the "Industry Classification" system, online lending services fall under "non-monetary banking services" within the broader financial industry sector. The detailed classification is shown in Table 2.

Table 2. Industrial classification for national economic activities for online lending services.

Code	Industry	Specific Classification
6637	Internet lending service Internet financing	Internet financing platform (P2P) SERVICES
		Activities of lenders on Internet platforms
		Services of small loan companies on Internet platforms
		Activities of borrowers on Internet platforms

The national standard "Industrial classification for national economic activities (GB/T 4754-2017)" specifically states that online lending services do not include lending services provided by banks and other institutions using Internet platforms, and should be included in the relevant industry categories of 662 (monetary banking services) or 663 (non-monetary banking services).

According to Table 2, online lending services include four service activities. The main participants in online lending services include online lending platform services, borrower activities, lender activities, and other small loan service companies. The online lending platform is responsible for coordinating the matching of funds. Among them, the activities of platform lenders and platform borrowers ultimately boil down to the services of Internet financing platforms (P2P) and Internet platform small loan companies, while others are merely participating entities.

Next, further analyze the specific business processes and methods of obtaining financial service output. Online lending originated from the P2P model, known as Peer to Peer. However, in 2020, the P2P platform was fully retired. Currently, Internet platform small loans (online small loans) have replaced P2P platforms as the mainstream of the development of the online lending industry. The "Interim Measures for Online Loans" provide a clear definition of online small loans, mainly referring to small loan companies using Internet technology and combining user information obtained from various legal channels, approving user loan requests, and completing small loan business for lending online (Zhao et al.,

2017). The details and operations of online small loan businesses on different platforms may vary slightly, but the overall process is roughly similar, as shown in Figure 2.

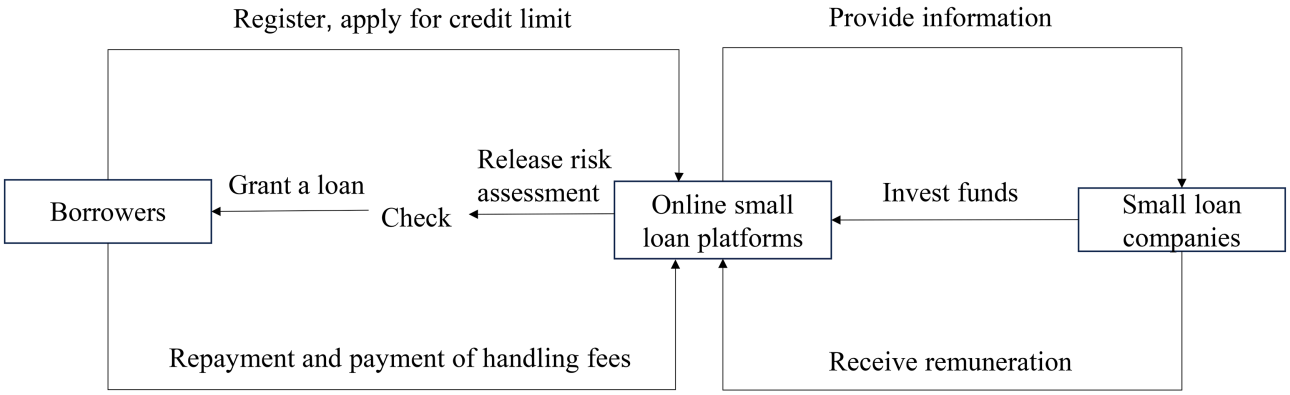

Figure 2. Business process diagram of third-party lending.

Finally, we should clarify the types of virtual assets and liabilities associated with the specific business of online small loan platforms based on their business forms, processes, and other factors. The online small loan platform has detailed information on fund flow during trading activities. Similar to third-party payment platforms, when recording transaction activities in online small loan platforms, transaction diversion (SNA2008) can be performed. A transaction between debit and credit on the platform can be recorded as two transactions, which are recorded as a transaction between the asset side and the platform, and then between the platform and the liability side. This type of transaction is called a virtual transaction. The financial assets and liabilities generated by online small loan platforms are called virtual assets and virtual liabilities. The platform serves as a credit intermediary in transactions, and the virtual assets and liabilities of third-party lending platforms should belong to financial virtual assets-virtual credit loans.

4.2.3. Forms of Third-Party Financing Business and Types of Virtual Assets

Firstly, according to the "Industry Classification", the Internet Technology Innovation Platform (code 6433) category states that crowdfunding platforms (online fundraising) should be classified under other non-publicly raised securities investment funds (code 6739). Other non-public securities investment funds belong to the classification catalog under the capital market service category, which includes fund investment wealth management services. The specific grassroots classification can be found in Table 3.

In December 2014, the "Management Measures for Private Equity Crowdfunding Financing (Trial) (Draft for Soliciting Opinions)" defined the equity crowdfunding platform and stipulated that it should not engage in P2P online lending or small-scale online lending business concurrently in its business scope.

Table 3. Industrial classification for national economic activities for other non-publicly raised securities investment.

Code	Industry	Specific Classification
6639	Other non-publicly raised securities investments	Non-publicly raised securities investment fund
		Non-publicly raised equity investment
		Non-publicly raised real estate investment fund
		Non-publicly raised venture capital fund
		Non-publicly raised other investment funds
		Other private equity funds
		Other venture capital services

Secondly, crowdfunding platforms have various types of operations, with China's crowdfunding platforms mainly focusing on the equity type and equity crowdfunding. The crowdfunding industry also includes public welfare crowdfunding, such as water drop fundraising, which has a public welfare nature and is usually not aimed at providing certain income or profits to the units that own or control them (although whether to make profits is another matter). Such platforms should be attributed to the non-profit sector of household services (SNA2008).

The basic business processes of crowdfunding platforms of different operational types are similar, as shown in Figure 3.

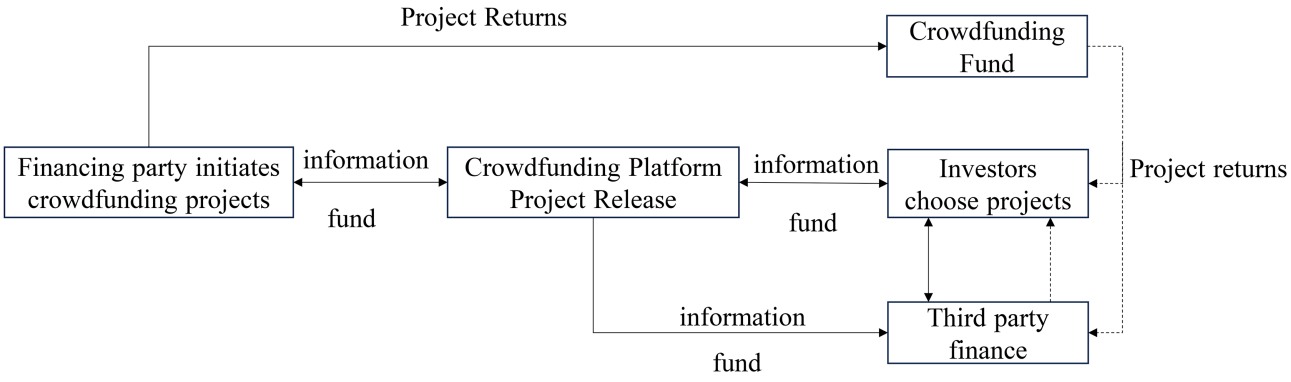

Figure 3. Business process diagram of third-party financing.

Finally, based on specific business forms and processes, the virtual assets and liability types of the crowdfunding platform's specific business can be clarified. Similarly, when recording transaction activities on crowdfunding platforms, transactions can be redirected. When a project is successfully raised, a transaction between the borrower and the lender can be recorded as two transactions. These transactions are recorded as transactions between the borrower and the crowdfunding platform first, and then between the crowdfunding platform and the lender. This type of transaction is called a virtual transaction, and the resulting

financial asset is called a virtual asset. The virtual assets of crowdfunding platforms should belong to financial virtual assets-virtual equity investment, while the virtual liabilities of crowdfunding platforms should belong to financial virtual liabilities-virtual equity financing.

4.2.4. An Illustrative Example of Internet Finance Accounting

To address the excessive abstractness of the accounting logic for virtual assets and virtual liabilities, and to further strengthen the operability of the accounting framework in this paper, this section selects a single transaction on a third-party payment platform within the narrow definition of internet finance as an example. Following the Monetary and Financial Statistics (MFS) system and the accounting principles of the System of National Accounts 2008 (SNA2008), the entire transaction process is converted into concrete accounting entries. This example adopts the daily high-frequency e-commerce payment scenario, which is consistent with the actual business form of internet finance and can directly reflect the accounting boundary and core logic defined in this paper.

This example employs the transaction re-routing method under SNA2008. The basic transaction background is set as follows: the household sector (consumer) purchases goods through a third-party payment platform and pays 1000 yuan. The funds are first deposited in the platform's reserve account, and after the consumer confirms receipt, the platform transfers the funds to the non-financial enterprise sector (merchant). In accordance with MFS/SNA2008 accounting requirements, this paper defines the platform's virtual assets as monetary settlement assets held during fund deposition, and the platform's virtual liabilities as outstanding payables to transaction participants. Both follow the accrual basis and double-entry bookkeeping principle, achieving equal matching of assets and liabilities. Numerical examples are shown in Table 4.

Table 4. MFS accounting example of a single transaction on a third-party payment platform.

Transaction Stage	Debit/Credit	Accounting Item	Amount (CNY)	MFS Statistical Classification
Fund deposit stage (consumer-platform)	Debit	Virtual Assets-Virtual Loans	1000	Asset item of financial corporations sector
Fund deposit stage (consumer-platform)	Credit	Virtual Liabilities-Virtual Loans	1000	Liability item of financial corporations sector
Fund transfer stage (platform-merchant)	Debit	Virtual Liabilities-Virtual Loans	1000	Write-off of previously recognized virtual liabilities
Fund transfer stage (platform-merchant)	Credit	Virtual Assets-Virtual Loans	1000	Write-off of corresponding virtual assets

5. Virtual Assets and Liabilities of China's Internet Finance Sector

From the perspective of Monetary and Financial Statistics (MFS), this paper fur-

ther organizes the accounting objects and their attributions for internet finance from a sectoral angle, providing a balance sheet for the Chinese internet finance sector. This serves as a foundation for the subsequent estimation of the total volume of virtual assets in internet finance.

In terms of accounting objects, internet finance exhibits both similarities and differences compared to traditional monetary statistics. MFS does not differentiate between the proprietary funds and non-proprietary funds of financial companies' departments. The primary reason is that the business activities conducted by these entities involve a significant proportion of proprietary financial assets and liabilities, rendering such distinctions less meaningful. However, internet financial institutions operate differently. Through detailed business analysis, it becomes evident that the assets generated by transactions on internet financial platforms do not belong to the platforms themselves but rather to the transactors. Nevertheless, these transactions constitute the core business of third-party payments, and the transaction data genuinely exist on these third-party platforms. Failing to record this data would obscure the capital intermediation dynamics of internet finance and impede effective monitoring of funds on internet financial platforms. Therefore, for both capital monitoring and reflecting the role of internet financial institutions in capital intermediation, it is essential to distinguish between virtual assets and proprietary assets for statistical purposes. The general category of proprietary assets aligns with the asset types and classifications in traditional monetary statistics and can be managed according to standard practices in monetary statistics. These aspects will not be discussed in detail here. Consistent with the previous discussion, this paper will focus exclusively on the classification of virtual assets and liabilities within the internet finance sector under the MFS framework.

5.1. Accounting Object and Category from the Perspective of MFS

From the three dimensions and specific business forms of Internet finance, it is noted that Internet finance does not involve the issuance of currency or the expansion of credit. The total financial amount in Internet finance is reflected in the aggregate credit amount, aligning with the statistical type and scope defined in MFSMCG2016.

Within the realm of Internet finance, as per SNA2008 guidelines, transactions on third-party payment platforms are split into two virtual transactions by altering the transaction process. For example, a transaction between residents and enterprises is first recorded as a transaction between residents and the third-party platform and then recorded as a transaction between the third-party platform and the enterprise. Third-party platforms acquire virtual assets and liabilities through virtual transactions. The three distinct business segments of Internet finance and their utilization of virtual assets are categorized into sectors. Thus, third-party payment providers primarily deal in virtual loans on both asset and liability sides. Meanwhile, platforms like online small loan providers specialize in virtual credit, encompassing assets and liabilities. Similarly, crowdfunding platforms focus on

virtual equity, involving investment and financing activities on both sides of the balance sheet. Please refer to Table 5 for more details.

Table 5. Comparison table of financial assets between monetary statistics and internet financial accounting.

MFSMCG2016 Financial Asset Classification	Virtual Assets in Internet Finance
Monetary gold and special drawing rights	
Currency and deposits	
Debt securities	
loan	Virtual loan
Equity and investment fund shares	
Shareholding	Virtual equity
Investment fund shares	
Insurance, pension funds, and standardized guarantee plans	
Financial derivatives and employee stock options	
Other accounts receivable/payable	

In Table 5, the financial asset classification of Internet finance still generally follows the financial asset classification method in MFSMCG2016. In terms of virtual financial asset classification of Internet finance, virtual loans correspond to loans in MFSMCG2016, and virtual equity corresponds to equity in MFSMCG2016.

5.2. Design a Virtual Balance Sheet

Referring to the table format provided in the Chinese "Chinese System of National Accounts (CSNA2016)", Internet finance accounting differs in that it incorporates virtual assets and liabilities. This aspect is not separately distinguished in the current balance sheet. Therefore, based on the original table format, an Internet finance balance sheet for virtual assets has been devised, incorporating the classification of virtual assets under asset items. Virtual assets represent the core operations of Internet finance. According to Table 5, virtual assets are primarily categorized into virtual loans and virtual equity. This discussion primarily centers on the accounting treatment of virtual assets in Internet finance, detailed in Table 6.

Table 6. Internet finance sector virtual balance sheet.

Project	Balance (100 Million Yuan)	Project	Balance (100 Million Yuan)
Virtual assets		Virtual liabilities	
Virtual loan		Virtual loan	

Continued

Virtual equity investment	Virtual equity financing
Other virtual assets	Other virtual liabilities

6. Total Accounting of Virtual Assets in China's Internet Finance

When it comes to using the balance sheet of the Internet finance department for virtual asset total accounting, it is necessary to discuss the relationship between flow and stock. According to SNA2008, theoretically, the balance sheet accounting of Internet finance should include the initial stock, ending stock, and accounting for changes in assets and liabilities. However, in reality, it is difficult to obtain basic data and achieve a complete balance sheet accounting for Internet finance.

6.1. Methodology and Data Selection

6.1.1. Accounting Ideas

The overall accounting ideas are to use the method of sub-item calculation and aggregation based on the form of Internet finance business. Specifically, the following steps are taken: firstly, virtual assets reflect the core business of Internet finance platforms, measuring the virtual assets and liabilities. According to **Table 6**, first calculate the virtual assets of third-party payment platforms, third-party lending platforms, and third-party financing platforms, and then add them up to obtain the total virtual assets of Internet finance.

Let the total transaction volume of a certain type of internet finance business during the accounting period be Q (unit: 100 million yuan). In accordance with the double-entry bookkeeping principles of SNA2008, the recognition of virtual assets and virtual liabilities on the platform side follows the rules below:

For each transaction amount T, when the transaction occurs, the platform recognizes an equal amount of virtual assets and virtual liabilities simultaneously:

$$\Delta\text{Virtual Assets} = +T_i, \Delta\text{Virtual Liabilities} = +T_i$$

After the transaction is completed and funds are finally transferred, reverse write-offs are conducted:

$$\Delta\text{Virtual Liabilities} = -T_i, \Delta\text{Virtual Assets} = -T_i$$

Therefore, during the accounting period, the total cumulative debits of all transactions equal the total cumulative credits, both of which equal the total transaction volume $Q = \sum T_i$ during the period.

For third-party payment businesses (including mobile payment and internet payment), the virtual asset recognized by the platform at the fund deposit stage is reserve deposits, and the virtual liability is settlement payables to merchants; during a quarter, total debits equal total credits, which equal the quarterly transaction volume of third-party payments Q_h. For online microcredit businesses, the virtual asset recognized by the platform at the loan disbursement stage is facilitated microcredit, and the virtual liability is entrusted funds from cooperative institu-

tions; during a quarter, total debits equal total credits, which equal the quarterly issuance volume of online microcredit Q_{loan}. For internet crowdfunding businesses, the virtual asset recognized by the platform upon successful fundraising is equity assets, and the virtual liability is equity payables to investors; during a quarter, total debits equal total credits, which equal the quarterly successful fundraising volume of crowdfunding Q_{cf}.

The total amount of virtual assets of the internet finance sector is the sum of virtual assets from all types of businesses:

$$V = Q_h + Q_{loan} + Q_{cf}$$

Moreover, the total amount of virtual assets is always equal to the total amount of virtual liabilities.

6.1.2. Data Sources and Alternative Indicators

This section selects quarterly data for 2022 to conduct virtual asset accounting on three types of accounting entities and explains the data sources of these three types of accounting entities. Firstly, in terms of third-party payment platforms, the data mainly comes from the "Quarterly Monitoring Report on China's Third Party Payment Mobile Payment Market 2022Q4" and "Quarterly Monitoring Report on China's Third Party Payment Internet Payment Market 2022Q4" released by Analysys, The "Quarterly Monitoring Report on China's Third Party Payment Mobile Payment Market 2022Q4" and "Quarterly Monitoring Report on China's Third Party Payment Internet Payment Market 2022Q4" will release transaction scale data. Although transaction scale is not a stock, it can reflect the changes in the virtual asset stock of third-party payment platforms during the quarter, which is also important from the perspective of fund monitoring. Secondly, the relevant data of third-party lending platforms mainly comes from the Wind database. At the end of 2020, lending platforms were reorganized and cleared, and online small loans became the mainstream of the development of the online lending industry. To ensure consistency with the final aggregation of third-party lending platforms and third-party financing platforms, transaction volume data is used here. Thirdly, in terms of third-party financing platforms, the Wind database provides quarterly transaction volume for the crowdfunding industry in 2022, similar to the other two types of entities. Third-party financing platforms use transaction volume data to calculate virtual assets.

6.1.3. Rationale for Choosing Quarterly Transaction Volume

This paper adopts quarterly transaction volume as the proxy variable for relevant balance sheet indicators, which is closely related to data availability, the business characteristics of Internet finance, and the accounting objectives. Specifically, the reasons can be explained from two aspects. On the one hand, from the perspective of practical data acquisition, the holding stock data of virtual assets of Internet finance platforms constitute core internal operating information with extremely low public availability. It is difficult to obtain complete and continuous quarterly data through public channels (such as Analysys, Wind Database, etc.), including

the reserve fund stock of third-party payment platforms, the credit balance of third-party lending platforms, and the equity financing stock of third-party financing platforms. As a core indicator publicly disclosed by platforms, quarterly transaction volume has the advantages of high availability, good continuity and unified caliber, which can effectively compensate for the lack of stock data and provide feasible data support for the measurement of total virtual assets. On the other hand, from the perspective of Internet finance business characteristics, the virtual assets defined in this paper mainly originate from fund intermediation and transaction matching services of platforms, whose stock size is highly correlated with quarterly transaction volume. Quarterly transaction volume can directly reflect the circulation frequency and scale of virtual assets of platforms during a certain period, and indirectly reflect the change of virtual asset stock. Combined with the logic of "flow reflects changes in stock" in MFS accounting, the actual scale of virtual assets can be reasonably estimated through quarterly transaction volume.

It should be clarified that the total amount of virtual assets measured based on quarterly transaction volume in this paper reflects the monitored transaction scale rather than the holding stock of virtual assets. The core difference between them is that holding stock is the static balance of virtual assets of platforms at a specific time point (such as the balance of reserve funds, credit balance at the end of a quarter), reflecting the accumulated asset level at a specific moment; while transaction scale is the cumulative amount of all platform transactions during a certain period (quarterly in this paper), reflecting the total dynamic circulation of virtual assets. This distinction is crucial for the correct interpretation of accounting results, so as to avoid misinterpreting the "total circulation of virtual assets in a quarter" as the "holding balance of virtual assets at a specific time point". It also explains why the accounting results can reflect the capital financing activity of Internet finance platforms but cannot be directly equated with the stock scale of virtual assets at a specific time point, ensuring that the interpretation of accounting results conforms to the MFS statistical logic and the accounting definition of this paper.

6.2. Accounting Results of Virtual Assets in Internet Finance

6.2.1. Virtual Assets of Third-Party Payment

At present, it is generally divided into third-party Internet payments and third-party mobile payments in the market. In the report "Special Analysis of China's Third Party Payment Market 2019", iResearch pointed out that third-party Internet payments are formed by the intersection of Internet payments and third-party payments. According to the quarterly data of mobile payments and third-party Internet payments released by Yi Guan analysis in 2022, the quarterly virtual assets of third-party payments in 2022 were calculated, as shown in **Table 7**.

The data was obtained through Yi Guan's analysis, and the specific method is as follows: Find the "Quarterly Monitoring Report on China's Third Party Payment Mobile Payment Market" and "Quarterly Monitoring Report on China's Third Party Payment Internet Payment Market" released by Yi Guan, and extract transaction scale data from them.

Table 7. The third-party payment industry's quarter virtual balance sheet in 2022 (100 million yuan).

Business Type	Third-Party Mobile Payment		Third-Party Internet Payment		Total Third-Party Payments	
Project	Virtual Loan (Debit)	Virtual Loan (Credit)	Virtual Loan (Debit)	Virtual Loan (Credit)	Virtual Loan (Debit)	Virtual Loan (Credit)
2022Q1	805223.1	805223.1	74088.8	74088.8	879311.9	879311.9
2022Q2	753318.6	753318.6	69299.7	69299.7	822618.3	822618.3
2022Q3	767010.2	767010.2	70115.0	70115.0	837125.2	837125.2
2022Q4	764773.9	764773.9	69709.4	69709.4	834483.3	834483.3

6.2.2. Third-Party Lending Virtual Assets

According to Table 2, Online small loans are currently the primary cash flow source for third-party lending. To ensure consistency with the final aggregation of third-party lending platforms and third-party financing platforms, the 2022 quarterly online small loan transaction volume data was used to calculate the quarterly virtual assets of third-party lending in 2022, as shown in Table 8.

Table 8. The third-party lending industry's quarter virtual balance sheet in 2022 (100 million yuan).

Quarter	Virtual Credit Loan (Debit)	Virtual credit loan (Credit)
2022Q1	54603.0	54603.0
2022Q2	44592.0	44592.0
2022Q3	56137.2	56137.2
2022Q4	39753.7	39753.7

The data is obtained through the Wind database.

6.2.3. Virtual Assets for Third-Party Financing

Table 3 indicates that third-party financing platforms are mostly crowdfunding platforms. Using transaction volume data from the crowdfunding industry provided in the Wind database, we can calculate the quarterly virtual assets and liabilities of third-party financing in 2022. These calculations are presented in Table 9.

Table 9. Crowdfunding industry's quarter virtual balance sheet in 2022 (100 million yuan).

Quarter	Virtual Equity Investment	Virtual Equity Financing
2022Q1	3277.9	3277.9
2022Q2	3254.3	3254.3
2022Q3	3964.5	3964.5
2022Q4	2920.5	2920.5

The data is obtained through the Wind database.

6.2.4. Measurement of Virtual Assets in Internet Finance

By aggregating Tables 7-9, the total virtual assets of the Internet finance sector can be obtained, as shown in Table 10.

Table 10. Internet finance quarterly virtual balance sheet in 2022 (100 million yuan).

Quarter	Virtual Assets	Virtual Liabilities
2022Q1	937192.8	937192.8
2022Q2	870464.6	870464.6
2022Q3	897226.9	897226.9
2022Q4	877157.5	877157.5

The accounting results are as follows: The quarterly virtual loan amounts paid by third parties in 2022 are 87931.19 billion yuan, 82261.83 billion yuan, 83712.52 billion yuan, and 83712.52 billion yuan, respectively; The quarterly virtual credit loans for third-party lending in 2022 were 5460.3 billion yuan, 5460.3 billion yuan, 5613.72 billion yuan, and 3975.37 billion yuan, respectively; The quarterly virtual equity investment for third-party financing in 2022 is 327.79 billion yuan, 325.43 billion yuan, 396.45 billion yuan, and 292.05 billion yuan; In the quarter of 2022, the virtual assets of Internet finance were 93719.28 billion yuan, 87046.46 billion yuan, 89722.69 billion yuan, and 87715.75 billion yuan, respectively.

7. Conclusion and Limitations

This article aims to conduct a comprehensive study on accounting for internet finance, focusing on three key aspects. Firstly, it addresses the fundamental issues that need to be clarified prior to undertaking accounting for internet finance. From the perspective of monetary statistics, the article defines internet finance from a narrow viewpoint by considering its core functions, outcomes, and entities involved, thereby establishing clear boundaries for accounting. Secondly, the article delves into the composition of internet finance and constructs a theoretical framework for its accounting. This framework is based on the objectives, involved entities, and objects of accounting. It elucidates the categorization, specific business forms, and classification of virtual assets for accounting entities within the Monetary and Financial Statistics (MFS) framework. Furthermore, it designs a balance sheet tailored for the internet finance sector. Lastly, the article explores the methodologies for compiling an overview of virtual assets in internet finance, utilizing the total amount of virtual assets and liabilities within the sector as an indicator of overall institutional development. Applying the constructed accounting framework, the study selects "third-party payment virtual assets", "online micro-lending", and "crowdfunding platforms" as representatives of third-party payment platforms, third-party lending platforms, and third-party financing platforms, respectively. It presents the balance sheets for these three platforms and outlines the process of compiling a comprehensive balance sheet for internet finance, vir-

tual assets and liabilities. The main conclusions are as follows:

Firstly, to define internet finance in China from the perspectives of core functions, core outcomes, and core subjects, and based on a monetary statistical perspective, we propose the following definition: Internet finance in China refers to an innovative financial model that operates independently of traditional financial intermediaries and markets. Beyond the digitization of traditional financial services, it offers investment, financing, lending, payment, and clearing services through third-party platforms, which facilitate fund transfers. This paper specifically focuses on the fourth type of business model within the broader scope of internet finance, which relates to entirely new innovative financial models on the Internet. This relatively narrow definition encompasses third-party lending, third-party financing, and third-party payment platforms.

Secondly, to understand the composition of Internet finance, we categorize the accounting entities within the Monetary Financial Statistics (MFS) system, identify specific business forms, and classify virtual assets. Firstly, we recognize that all three accounting entities fall under financial auxiliary institutions within the category of other financial companies. Specifically, third-party payment platforms are classified as financial infrastructure, third-party lending platforms as loan brokers, and third-party financing platforms as securities brokers. Secondly, we analyze the basic classification of each business model based on the "National Economic Industry Classification (GB/T 4754-2017)". Thirdly, we delve into the specific business forms and processes for each classification, examining the accounting objects of representative business models. We propose analyzing the asset and liability sides of internet finance using virtual assets and virtual liabilities. For instance, third-party payment platforms have virtual loans on the asset side. Third-party lending platforms primarily deal with virtual credits, appearing on both the asset and liability sides. Third-party financing platforms offer virtual equity, involving virtual equity investments on the asset side and virtual equity financing on the liability side.

Thirdly, within the context of Monetary Financial Statistics (MFS), it is crucial to acknowledge that third-party platforms fall under the category of financial auxiliary institutions. Virtual assets serve as a fundamental representation of the core financial operations conducted by internet financial platforms. This study primarily focuses on accounting for virtual assets. The accounting methodology employed involves initially calculating the virtual assets of individual departments within the third-party lending, third-party financing, and third-party payment sectors. Subsequently, the total amount of virtual assets held by China's internet financial departments is determined. The accounting results for the year 2022 are as follows: Throughout the course of the year, the intermediary financial business scale of third-party payments, third-party lending, and third-party financing exhibited a gradual decline. Specifically, the virtual assets of third-party payment platforms decreased from 87931.19 billion yuan in the first quarter to 83448.33 billion yuan in the fourth quarter, representing a reduction of approximately 4482.86 billion

yuan. Similarly, the virtual assets of third-party lending decreased from 5460.3 billion yuan in the first quarter to 3975.37 billion yuan in the fourth quarter, indicating a decrease of approximately 1484.93 billion yuan. Furthermore, the virtual assets of third-party financing decreased from 327.79 billion yuan in the first quarter to 292.05 billion yuan in the fourth quarter, reflecting a decrease of approximately 35.74 billion yuan. Consequently, the overall reduction in virtual assets within China's internet financial sector during this period amounted to approximately 6003.53 billion yuan. In the fourth quarter of 2022, the reduced amount of virtual assets within the third-party payment sector accounted for approximately 75% of the total reduction. Remarkably, third-party payment platforms constituted over 95% of the virtual assets within the entire internet finance domain. This underscores the significant role played by third-party payment platforms in driving the development of internet finance, considering the scale of intermediary financial business.

Based on the MFS framework, this paper defines and measures virtual assets and liabilities of Internet finance in China, yet certain research limitations remain. First, at the data level, this paper uses quarterly transaction volume as a proxy indicator for virtual assets, which can reflect the "monitored transaction scale and capital circulation activity" of Internet finance platforms, but cannot accurately measure the actual holding stock at a specific point in time, nor can it examine the dynamic changes in the stock structure. Second, at the regulatory level, this paper can capture the trend of the overall scale of Internet finance, but is limited by the availability of public data and cannot conduct empirical tests on the impacts of regulatory policies, the effects of industry rectification, risk transmission mechanisms, and other related issues. Third, at the market structure level, the accounting results in this paper can reflect the overall transaction level of the industry, but cannot identify industry concentration, the head-platform effect, or the competitive and substitution relationships among different institutions. Fourth, at the substitution effect level, this paper can describe the development trend of Internet finance itself, but cannot test the substitution or complementary effects of Internet finance businesses on traditional banking channels, off-balance-sheet businesses, and the shadow banking system. Fifth, at the business boundary level, this paper focuses on the narrow definition of Internet finance for accounting, which ensures the purity and consistency of statistical caliber, but excludes mixed business forms such as e-commerce-based finance, Internet banks, and online businesses of licensed institutions, and thus cannot fully reflect the overall scale of the digital financial ecosystem. These limitations provide directions for further expanding data sources, deepening empirical analysis, and broadening research boundaries in future studies.

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Data Availability Statement

The research-related data were not deposited in a publicly available repository. Data are contained within the article.

Authors' Contributions

Shaoling Ding: Conceptualization, methodology, validation, formal analysis, data curation, writing—original draft, writing—review & editing, resources. **Yanling Xia:** Conceptualization, methodology, validation, formal analysis, writing—original draft, writing—review & editing.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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