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Article

China's Financial Market Infrastructures: An Updated Analysis

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Abstract: Financial Market Infrastructures (FMIs) are crucial for the efficient operation of financial markets. However, studies focusing on Chinese FMIs are limited. Following the release of a draft regulation on Chinese FMIs in December 2022, this study, building on Zhang and Yin (2023), provides an updated analysis. It introduces non-central bank affiliated FMIs with the latest data, explores the evolution of regulatory reforms, and examines the newly-released regulations. In particular, it offers a critical review of specific regulations and their implications for China's recent policy shift towards prioritizing security and establishing financial dominance. Finally, the study outlines a research agenda for future investigations.

Keywords: China; financial market infrastructure; FMI; people's bank of China; regulation; payment system; central securities depositories; securities settlement systems; central counterparties; trade repositories

Introduction

Financial market infrastructure (FMI) is defined as “a multilateral system among participating institutions, including the operator of the system, used for the purposes of clearing, settling, or recording payments, securities, derivatives, or other financial transactions” (CPSS and IOSCO, 2012). FMIs play a crucial role in facilitating the smooth operation of financial markets, reducing counterparty risk, enhancing market integrity, and promoting financial stability.

In December 2022, the People's Bank of China (PBC, China's central bank) published the *Financial Market Infrastructure Supervision and Management Measures* (Draft for Soliciting Opinions) (hereafter referred to as *The Measure*) (PBC, 2022). In December 2023, Chinese President Xi Jinping instructed that “(China should) strengthen the construction of ... FMIs.”¹

As argued by Binder and Saguato (2021), FMIs have been pivotal in post-2008 financial crisis reforms. Despite their vital role, they have often been overlooked, with regulatory frameworks and policy questions under-theorized. Recently, international standard setters and academic research have started addressing FMI regulation more comprehensively. In China, research on this topic is even more limited. Zhang and Yin (2023) discussed the development of FMIs under the modern central bank system (see the literature review section for more information). This study focuses on China and provides an updated analysis. While Zhang and Yin (2023) introduced some central bank-affiliated FMIs, this study expands on their work by introducing additional FMIs with updated data. It also focuses on newly published regulations and their implications, which Zhang and Yin (2023) did not cover. Additionally, this study proposes a research agenda for the future.

The structure of this paper is as follows: Section 1 reviews relevant literature, including global market studies and several studies focusing on China. Section 2 introduces various Chinese FMIs with the most recent data. Section 3 analyzes the recent regulations and their implications. Section 4 concludes with a summary and a proposed research agenda for future studies.

¹ See <https://www.12371.cn/2023/12/03/ARTI1701603858186641.shtml> (in Chinese)

1. Literature Review

FMIIs are considered part of the broader category of critical infrastructure. According to Smith and Wilson (2023), “critical infrastructures are the vital/essential systems, assets, and services that can be physical or virtual. The impact of degradation, destruction, incapacity, and compromise would affect the nation’s economy, safety, security, and defense as well as the well-being of its citizens.” Smith and Wilson (2023) also emphasize the features of interconnectivity, dependencies, and interdependencies inherent in critical infrastructures. As discussed at the beginning of this paper, FMIIs fall within this category of critical infrastructure due to their essential role in maintaining financial stability and market integrity.

As argued by Binder and Saguato (2021), there has been a recent catch-up in regulations and studies concerning FMIIs. In this section, first, worldwide literature is reviewed; then, studies focusing on China are reviewed.

1.1. worldwide

Relevant literature can be classified into four types: conceptual perspective, regulatory perspective, technological perspective, and economic perspective.

First, regarding conceptual studies, CPSS and IOSCO (2012) defined five key types of FMIIs: payment systems, Central Securities Depositories (CSDs), Securities Settlement Systems (SSSs), Central Counterparties (CCPs), and Trade Repositories (TRs). In particular, “a payment system is a set of instruments, procedures, and rules for the transfer of funds between or among participants; the system includes the participants and the entity operating the arrangement.” A CSD offers securities accounts, central safekeeping services, and asset services. These services encompass administering corporate actions and redemptions, playing a pivotal role in safeguarding the integrity of securities issues. This entails preventing accidental or fraudulent creation, destruction, or alteration of securities details. A SSS facilitates the transfer and settlement of securities through book entry, adhering to a predefined set of multilateral rules. A CCP inserts itself between counterparties involved in contracts traded within one or more financial markets. It assumes the role of the buyer to every seller and the seller to every buyer, thereby guaranteeing the fulfillment of open contracts. A TR is an organization responsible for maintaining a centralized electronic database of transaction data. Bindseil and Pantelopoulos (2023) also provide a thorough introduction to payments and various FMIIs. Di Noia and Filippa (2020) described the evolution of FMIIs during 1990-2020, including changes in governance, location, business model, and market positioning.

Second, regarding regulatory studies, the profound impact of the 2007-09 financial crisis on regulating FMIIs was discussed by Ferrarini and Saguato (2014). This impact led to a shift from self-regulation to direct public intervention, with two main approaches emerging: the micro-level, transaction costs approach and the macro-level, systemic risk approach. In terms of practical regulations, in April 2012, the Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO) issued the Principles for Financial Market Infrastructures (CPMI and IOSCO, 2012), comprising 24 principles and five responsibilities for authorities. The latter include: Regulation, supervision, and oversight of FMIIs; Regulatory, supervisory, and oversight powers and resources; Disclosure of policies with respect to FMIIs; Application of the principles for FMIIs; and Cooperation with other authorities. In 2015, the CPMI and IOSCO released a report assessing the progress, concluding that among 28 jurisdictions, most have achieved a high level of observance of the responsibilities. TRs represented the FMI type for which most additional work remains to be done. Additionally, jurisdictions most frequently fell short of an “Observed” rating with respect to application and cooperation, i.e., the last two responsibilities (CPMI and IOSCO, 2015).

Third, some studies examine the challenges posed to FMIIs by technology. For instance, Veil (2021) and Feenan et al. (2021) discuss the decentralized nature of blockchain and distributed ledger

technology²-based financial instruments and trading transactions, along with the challenges they present for traditional regulatory strategies. Nabilou (2020) specifically considers the Bitcoin network as a decentralized FMI, while Ferreira and Sandner (2021) and McCarthy (2022) evaluate the European Union's regulatory approach to crypto assets.

Fourth, many studies have delved into the economics of FMIs. Diehl (2015) covers a range of economic topics related to payment systems, CSDs, CCPs, and TRs. Guggenheim, Kraenzlin, and Meyer (2022) find inefficiencies in Swiss FMIs and propose leveraging new technology as a solution. Li and Marinč (2018) identify economies of scale for FMIs, while Papaconstantinou (2024) examines the relationship between FMI regulations and international economic integration. Petry (2021, 2023) explores FMIs from the perspective of international political economy. Additionally, several studies focus on the risks associated with FMIs, such as the interactions between systemically important banks and FMIs (Faruqui, Huang, and Takáts, 2018), FMI failures (Huertas, 2016), the broad interdependent network connecting financial institutions and FMIs (Berndsen, León, and Renneboog, 2018), the measurement of FMIs' systemic risk (Li and Perez-Saiz, 2018), and operational risks stemming from blockchains to FMIs (Walch, 2018).

1.2. China

As noted by Zhang and Yin (2023), studies on Chinese FMIs are highly limited, often focusing on specific FMI operations and functions. With a particular emphasis on central bank-affiliated FMIs, Zhang and Yin (2023) analyzed the challenges in constructing China's FMI system. These challenges included the lack of a legal basis for regulations, poor coordination among regulatory bodies, an undiversified governance structure, and high market concentration, among others. They subsequently proposed policy suggestions.

This study aims to provide an updated analysis. Firstly, while Zhang and Yin (2023) introduced some central bank-affiliated FMIs using data as of 2021, this study introduces non-PBC-affiliated FMIs using the most updated data. Secondly, while Zhang and Yin (2023) mentioned the absence of legal regulations since the publication of a work plan for coordinating the regulation of FMIs by Chinese authorities, in December 2022, the PBC released a law-like document for regulating China's FMIs. Although not yet enacted (as of 24 May 2024), this marks the first-time regulations on FMIs in China will have a legal basis. This study contributes to the literature by introducing this regulation and its implications. Thirdly, based on relevant literature, this study proposes a potential research agenda for the future.

2. Categories

China adopts a slightly different categorization of FMIs. According to the PBC (2023), the credit rating system and trading facilities are also considered FMIs in China. Additionally, CCPs are considered part of SSSs. *The Measure*, as of 2022, identifies 26 FMIs, although no detailed list was disclosed. According to CPPI and IOSCO (2015), China has one SIPS, six CCPs, and three CSDs/SSSs. In this section, some important FMIs, rather than the entire list, are introduced.

² Distributed ledger technology (DLT) is a digital framework for documenting asset transactions, where these transactions and their specifics are simultaneously recorded across multiple locations. In contrast to conventional databases, distributed ledgers lack a central data repository or administrative capabilities (see [https://www.techtarget.com/searchcio/definition/distributed-ledger#:~:text=Distributed%20ledger%20technology%20\(DLT\)%20is,data%20store%20or%20administration%20functionality](https://www.techtarget.com/searchcio/definition/distributed-ledger#:~:text=Distributed%20ledger%20technology%20(DLT)%20is,data%20store%20or%20administration%20functionality)).

2.1. Payment System

China's payment systems include the China National Clearing Center (CNCC)³, an entity affiliated with the PBC, responsible for payment-related services for the central bank, commercial banks, and the entire society in China. Other payment systems include within-bank payment systems, the China UnionPay cross-bank payment system⁴, city-commercial-bank payment systems⁵, Rural Credit Funds payment systems⁶, the Cross-Border Inter-Bank Payments System (CIPS)⁷, and online clearing platforms⁸ (CNCC, 2023). Their names reflect the differences in their functions.

According to CNCC (2023), out of the total CNY10,877 trillion (equivalent to US\$1,480.4 trillion) of payments in 2022, CNCC dominates, accounting for 72.5 percent. Of these, 94.1 percent are processed through the High-Value Payment System, classified as a systemically important payment system (CPMI and IOSCO, 2015).

Among other payment systems, the CIPS has attracted particular attention from global markets, including the implications of Russia's aggression against Ukraine (Cho, 2022). In 2022, CIPS processed CNY 96.7 trillion (equivalent to US\$ 13.2 trillion). In contrast, its major global competitor SWIFT (Society for Worldwide Interbank Financial Telecommunication) processes US\$ 150 trillion per year⁹. Additionally, as of December 2023, CIPS has 139 direct participants and 1,353 indirect participants¹⁰. In comparison, SWIFT, as of 2022, is connected with over 11,500 institutions¹¹.

2.2. CCPs

There are six CCPs in China subject to regulation, including Shanghai Clearing House¹², China Securities Depository and Clearing Co. Ltd.¹³, Shanghai Futures Exchange¹⁴, Zhengzhou Commodity Exchange¹⁵, Dalian Commodity Exchange¹⁶, and China Financial Futures Exchange¹⁷ (CPMI and IOSCO, 2015).

³ See <https://www.cncc.cn/> (in Chinese)

⁴ See <https://open.unionpay.com/tjweb/index> (in Chinese)

⁵ See <http://www.ccfccb.cn/> (in Chinese)

⁶ See <https://nongxinyin.com/> (in Chinese)

⁷ See <https://www.cips.com.cn/cipsen/7050/index.html>

⁸ See <https://www.nucc.com/> (in Chinese)

⁹ See <https://www.pymnts.com/news/cross-border-commerce/cross-border-payments/2022/swift-plots-real-time-role-for-next-50-years-of-cross-border-payments/>

¹⁰ See <https://www.cips.com.cn/cips/gywm/cipsxt/zjczyzd/index.html> (in Chinese)

¹¹ See <https://www.swift.com/about-us/swift-traffic-highlights>

¹² See <https://www.shclearing.com.cn/en/>

¹³ See <http://m.chinaclear.cn/english/index.shtml>

¹⁴ See <https://www.shfe.com.cn/eng/>

¹⁵ See <http://english.czce.com.cn/>

¹⁶ See <http://www.dce.com.cn/DCE/>

¹⁷ See http://www.cffex.com.cn/en_new/

Established in 2009, the Shanghai Clearing House functions as a CCP facilitating central clearing services within China's inter-bank markets, spanning interest rate swaps, foreign exchange, bonds, and commodity derivatives. By 2021, its CCP clearing service amounted to CNY 149.9 trillion (equivalent to US\$ 29.2 trillion)¹⁸. In contrast, the China Securities Depository and Clearing Co. Ltd., founded in 2001, offers a broader spectrum of central clearing services compared to the Shanghai Clearing House. Notably, it stands as the sole Chinese CCP adhering to the disclosure requirements outlined in the *Principles for Financial Market Infrastructures* published in 2012¹⁹. An additional challenge arises from the lack of disclosure by other CCPs. Moreover, the definitions of certain concepts, particularly those involving statistics, remain unclear, further complicating comparison efforts. The remaining four CCPs exclusively operate as future/option exchanges.

2.3. CSDs and SSSs

According to CPMI and IOSCO (2015), three CSDs and SSSs are subject to regulation in China, including Shanghai Clearing House, China Securities Depository and Clearing Co. Ltd., and China Central Depository and Clearing Co. Ltd. It means that Shanghai Clearing House and China Securities Depository and Clearing Co. Ltd. are both CCPs and CSDs/SSSs.

The China Securities Depository and Clearing offers depository and settlement services spanning a broad spectrum of equity, fixed-income, and derivative products. In contrast, the China Central Depository and Clearing specializes in fixed-income products, particularly government bonds, along with wealth management, trust, and loan products. Furthermore, the latter has conducted self-assessment and disclosed information²⁰ in accordance with the *Principles for Financial Market Infrastructures*. Given their distinct market positioning, conducting a direct statistical comparison between the two may not yield meaningful insights.

2.4. Others

Regarding TRs, according to the *OTC Derivatives Market Reforms: Implementation progress in 2021* published by Financial Stability Board, Zhang and Yin (2023) concluded that there are two TRs, including China Futures Market Monitoring Center and China Securities Internet System, and two TR-like entities, including The China Foreign Exchange Trade System and the National Association of Financial Market Institutional Investors. In 2022, these TR-like entities were elevated to the status of TRs (FSB, 2022). Moreover, according to a self-assessment report released in 2022, the China Central Depository and Clearing also classified itself as a TR.

Regarding trading facilities, Zhang and Yin (2023) provided an in-depth overview of PBC-affiliated ones, including the National Interbank Funding Center, Shanghai Commercial Paper Exchange, China Central Depository & Clearing, and Shanghai Clearing House. However, due to the absence of an official list, this study refrains from further elaboration. Noteworthy for international investors is the introduction of Swap Connect in May 2023, a program jointly administered by the

¹⁸ See https://www.shclearing.com.cn/gwym/gsj/ywjs/202212/t20221227_1165791.html (in Chinese)

¹⁹ See its 2022 report

<http://www.chinaclear.cn/zdjs/xxxpl/202307/e8fcc5f599a34963b5c83c8ac07ece1d/files/%E4%B8%AD%E5%9B%BD%E7%BB%93%E7%AE%97%E9%81%B5%E5%BE%AA%E3%80%8A%E9%87%91%E8%9E%8D%E5%B8%82%E5%9C%BA%E5%9F%BA%E7%A1%80%E8%AE%BE%E6%96%BD%E5%8E%9F%E5%88%99%E3%80%8B%E4%BF%A1%E6%81%AF%E6%8A%AB%E9%9C%B2%E6%8A%A5%E5%91%8A%EF%BC%882022%EF%BC%89.pdf> (in Chinese)

²⁰ See its 2022 report

<https://www.ccdc.com.cn/guanyuwomen/nbjdsj/A162695487/A162695554/202307/P020230727042126223289.pdf> (in Chinese)

China Foreign Exchange Trade System, Shanghai Clearing House, and the Hong Kong Exchange. This initiative enables international investors to engage in trading and clearing onshore RMB interest rate swaps without necessitating alterations to their existing trading and settlement practices²¹.

Regarding credit reference system, Zhang and Yin (2023) concluded that “(China) has currently established a diversified credit reporting system, with the PBC’s credit information database as the main component and supplemented by market-based credit reporting agencies.” The PBC’s credit reference centre “has become the world’s largest credit information database. It is now the most extensive, comprehensive, and widely used credit information database globally.... It has essentially created credit profiles for every enterprise and individual engaged in credit activities within the country (China).”²² In particular, as of the end of 2019, the credit reporting system had collected information on 1.02 billion individuals and 28.341 million enterprises and other organizations²³.

3. Regulations

This section delves into China’s regulatory framework concerning FMIs. Initially, it examines the evolution of China’s regulatory reform. Subsequently, it analyzes specific regulations on FMIs based on *The Measure*. Lastly, it explores the implications of China’s recent efforts to bolster regulations in this domain.

3.1. Evolution of Regulatory Reform

China first underscored the need to enhance FMI infrastructure in 2013, against the backdrop of the Third Plenary Session of the 18th Central Committee of the CCP. During this event, China outlined 60 comprehensive reforms²⁴. While the actual advancement of market-oriented reforms varied, progress on the 12th item, focused on enhancing the financial market system encompassing FMIs, largely proceeded as intended.

In July 2017, during the 5th National Finance Conference, a pivotal event held every five years and considered the apex of finance in China, the imperative to “strengthen the coordinated regulation and interconnectivity of FMIs”²⁵ was emphasized. Subsequently, in 2020, the PBC, in conjunction with other financial and economic authorities, promulgated the *Coordinated Regulation Work Plan for FMIs*²⁶. This laid the groundwork for unified oversight. Finally, in December 2022, *The Measure* was published, marking a significant milestone in refining regulations governing FMIs in China.

Over the past decade, China’s financial landscape has witnessed remarkable transformations, characterized by a series of reforms and advancements. First, there has been significant expansion in financial markets, exemplified by the Shanghai Stock Exchange and Shenzhen Stock Exchange, which have seen their market capitalization soar from under US\$ 4 trillion to over US\$ 10 trillion by 2023²⁷.

²¹ For more information, please see https://www.hkexgroup.com/Media-Centre/Insight/Insight/2022/HKEX/Swap-Connect-a-new-channel-a-new-chapter?sc_lang=en

²² See its official website <http://www.pbccrc.org.cn/zxzx/zxgk/gywm.shtml> (in Chinese)

²³ See http://www.xinhuanet.com/politics/2020-01/19/c_1125479055.htm (in Chinese)

²⁴ See https://www.gov.cn/jrzq/2013-11/15/content_2528179.htm (in Chinese)

²⁵ See <https://szca.com/about/news/Industry/detail436.html> (in Chinese)

²⁶ See https://www.gov.cn/xinwen/2020-03/06/content_5487618.htm (in Chinese)

²⁷ Source: CEIC. See <https://www.ceicdata.com/en/indicator/china/market-capitalization#:~:text=in%20Apr%202024%3F-,China%20Market%20Capitalization%20accounted%20for%2010%2C776.170%20USD%20bn%20in%20Apr.table%20below%20for%20more%20data.>

The establishment of the STAR Market in 2019, modelled after NASDAQ, has particularly invigorated the tech sector, offering high-tech and innovative companies a platform to raise capital. Second, China's financial markets have progressively opened up to foreign investors. Initiatives like the Bond Connect program, inaugurated in 2017, enable foreign investors to access China's bond market, with foreign holdings of Chinese bonds surpassing US\$ 500 billion by 2023²⁸. Additionally, the Stock Connect schemes linking Mainland China and Hong Kong, launched in 2014 (Shanghai) and 2016 (Shenzhen), have facilitated cross-border investments, with trading quotas regularly being utilized and expanded. Third, the green finance sector has witnessed substantial growth, with China emerging as the largest green bond market globally²⁹. Fourth, there have been significant strides in financial regulation and supervision, exemplified by intensified crackdowns on shadow banking and internet finance to fortify financial stability. Consequently, the shadow banking sector has notably contracted from its peak in 2016. Fifth, China has experienced a rapid digital transformation, with mobile payment transaction volumes soaring to USD 74 trillion in 2022³⁰. The PBC pilot program for the digital yuan (e-CNY) commenced in 2020, positioning China as a pioneer in central bank digital currency development. Last, there has been a notable increase in household and corporate debt. Household debt surged from around 34% of GDP in 2013 to approximately 64% of GDP by 2023, propelled by mortgage and consumer loans. Corporate debt levels have also risen, though efforts to deleverage persist, with corporate debt accounting for approximately 170% of GDP by 2023³¹. Amidst the rapid evolution of Chinese financial markets, regulations governing FMIs have lagged behind. The issuance of *The Measure* addresses this gap, representing a policy response to bolster FMI regulations in alignment with the dynamic financial landscape.

As of 24 May 2024, there has been no further progress reported on the implementation of *The Measure* since the deadline for seeking comments passed on January 14, 2023. This delay could stem from two potential reasons. First, China's regulatory landscape underwent a reshuffling with the establishment of the National Administration of Financial Regulation (NAFR) on 7 March 2023. Such organizational changes may necessitate time to ensure a smooth transition and could contribute to delays in implementing new regulations. Second, China's financial services sector is experiencing a transformation in its positioning. A statement made by Chinese leadership in January 2024 emphasized the importance of charting a uniquely Chinese path for financial development and adhering to a people-centered value orientation³². These sentiments indicate uncertainties regarding the practical implementation of FMI regulations, as the sector undergoes shifts in strategic direction. While this study provides an updated analysis, it underscores the necessity for future research to continue monitoring the development of FMI regulation in China, given the ongoing changes in the regulatory framework and the evolving landscape of the financial services sector.

²⁸ Source: CEIC. See <https://www.ceicdata.com/en/china/bond-foreign-holdings>

²⁹ See [https://www.regulationasia.com/china-leads-way-on-green-bond-issuance/#:~:text=Onshore%20and%20offshore%20green%20bonds,Climate%20Bonds%20Initiative%20\(CBD\).](https://www.regulationasia.com/china-leads-way-on-green-bond-issuance/#:~:text=Onshore%20and%20offshore%20green%20bonds,Climate%20Bonds%20Initiative%20(CBD).)

³⁰ See <https://www.statista.com/statistics/1060702/china-mobile-payment-transaction-value/#:~:text=In%202022%2C%20the%20total%20transaction,payment%20transactions%20in%20the%20country.>

³¹ See data from Chinese Academy of Social Science <http://114.115.232.154:8080/>

³² See https://www.gov.cn/yaowen/liebiao/202401/content_6926302.htm (in Chinese)

3.2. Details

The categorization provided by the PBC in 2023 offers a comprehensive breakdown of the detailed regulations outlined in *The Measure*. These categories include definitions on FMIs, requirements on market entry, operational and risk management requirements, rules for supervision and management of FMIs, and legal responsibilities of FMIs. Rather than proposing an alternative categorization, this study aims to offer critical analyses of these regulations.

First, *The Measure* categorizes FMIs as payment systems, CCPs, CSDs, SSSs, trading facilities, and credit reference systems, yet it lacks detailed definitions for each category. This absence of clarity, especially concerning trading facilities, introduces confusion and uncertainty regarding meeting market entry requirements and ensuring compliance³³. For instance, with the launch of the national China Carbon Emission Trade Exchange in July 2021, many local carbon exchanges remain operational. Given that carbon-related financial products qualify as financial assets, it remains unclear whether these local exchanges fall under the definition of trading facilities, necessitating further clarification.

Second, since its release in November 2022, *The Measure* has outlined market entry requirements encompassing regulatory authorities, conditions for establishing FMIs, personnel prerequisites, material lists, cross-border delivery management requirements for overseas FMIs, matters to be submitted for approval, and the announcement of FMI lists. However, significant institutional reforms have occurred in China since then. For instance, the establishment of the NAFR on 10 March 2023 has replaced the China Banking and Insurance Regulatory Commission, assuming some roles from the PBC and the China Securities Regulatory Commission. The NAFR now oversees all facets of China's financial sector, excluding securities³⁴. *The Measure* particularly highlighted the PBC's role in FMI market entry administration. Given these regulatory reshuffles, updated regulations are imperative. Furthermore, in March 2023, the Central Financial Commission, a commission of the Central Committee of the Chinese Communist Party (China's sole and permanent ruling party), was established, upgrading the previous Financial Stability and Development Committee under the State Council (China's cabinet). This alteration in the reporting line of financial regulation introduces additional uncertainties.

Third, *The Measure* furnishes comprehensive directives concerning operational procedures. The metrics encompass corporate governance, risk management (comprising credit, liquidity, and market risks), technological infrastructure, internal controls, data retention and security, service outsourcing, participant criteria, FMI interconnectivity, risk provisioning, pricing mechanisms, and emergency protocols. Notably, the notion of risk provisioning mandates FMIs to allocate adequate resources, such as margin funds, general risk reserves, and other provisions, to mitigate losses stemming from defaults, technical glitches, operational lapses, force majeure events, and unidentified risks. Furthermore, revenues accrued by FMIs are mandated primarily for bolstering risk prevention measures. Chinese FMIs operate as non-profit entities, a governance structure criticized by Zhang and Yin (2023) for potentially stifling innovation. Conversely, FMIs worldwide may adopt either for-profit or non-profit models contingent upon their organizational framework, ownership structure, and regulatory landscape. Concerning interconnectivity, a significant milestone occurred in January

³³ See <https://www.kwm.com/cn/zh/insights/latest-thinking/brief-comments-on-draft-version-of-fmi-supervision-and-administration-measures-of-China.html> (in Chinese)

³⁴ For a comprehensive list of its responsibilities, please see <https://www.cbirc.gov.cn/cn/view/pages/ItemList.html?itemPid=900&itemId=901&itemUrl=ItemListRightArticle.html&itemName=%E4%B8%BB%E8%A6%81%E8%81%8C%E8%B4%A3> (in Chinese)

2022 when China's two bond markets—the interbank bond market and the exchange market—were officially linked, resulting in interconnection among five FMIs³⁵.

Fourth, in terms of the regulatory framework governing FMIs, *The Measure* outlines specific requirements encompassing filing procedures, reporting obligations, comprehensive statistical data, inspections and assessments, resolution and exit protocols, as well as reporting criteria for foreign FMIs. Additionally, *The Measure* introduces the concept of Systemically Important FMIs, delineating criteria such as participant numbers, market share, business complexity, and substitutability. Concurrently, it asserts that FMIs deemed critical to national financial security and possessing significant spillover effects are subject to absolute state control. Legally elucidating the relations between “Systemically Important FMI” and entities impacting national financial security and spillover effects is imperative³⁶. Furthermore, *The Measure* assigns responsibilities for overseeing systemically important FMIs. Following the regulatory restructuring in March 2023, detailed delineation of the roles of regulatory authorities—including the PBC, NAFR, State Administration of Foreign Exchange, National Development and Reform Commission, Ministry of Finance, and Central Financial Commission—is warranted.

Fifth, concerning legal obligations, *The Measure* delineates penalties for institutions and affiliated personnel in various scenarios, including the submission of falsified administrative licensing materials, unauthorized operations, appointment of inadequately qualified board members and senior executives, breaches of filing, reporting, evaluation, and inspection mandates, and actions that disrupt the smooth functioning of FMIs. However, certain provisions may pose implementation challenges. For instance, the punitive measures for those “failing to strictly adhere to the stipulated provisions” appear vague. Additionally, the fine amount of CNY1 million seems arbitrary; aligning it with the magnitude of damages incurred or revenue generated would provide a more rational basis for penalties.

3.3. Implications

The decade-long progression in FMI regulatory legislation, culminating in the release of its initial draft in December 2022, carries significant implications. On a macro level, it mirrors China's shift in focus from development to security, or at least a heightened emphasis on security since December 2020. At an industry level, it underscores China's endeavours to fortify its financial sector, complementing its already substantial real economy sector.

3.3.1. Policy Shift to Security

In 2014, China introduced the “Holistic View of National Security” (HVNS). The Central Economic Work Conference, typically held each December, sets the national economic agenda for the coming year. Although HVNS was established in 2014, its significance in economic matters only became prominent in late 2020. A crucial turning point occurred during the Central Economic Work Conference held from 16 to 18 December 2020. For the first time in the conference's history, the phrase “adhering to overall development and security” was included in the conference's communique³⁷. This critical terminology reappeared in the communiqués of the subsequent conferences held in

³⁵ See <https://www.kwm.com/cn/zh/insights/latest-thinking/brief-comments-on-draft-version-of-fmi-supervision-and-administration-measures-of-China.html> (in Chinese)

³⁶ See https://www.sse.com.cn/lawandrules/sselawrules/bond/trading/currency/c/c_20220422_5701328.shtml (in Chinese)

³⁷ See http://www.xinhuanet.com/politics/leaders/2020-12/18/c_1126879325.htm (in Chinese)

December 2021³⁸, December 2022³⁹, and December 2023⁴⁰. This indicates that from 2021 to 2024, “adhering to overall development and security” has become a central focus for the Chinese government. Additionally, this concept has been expanded to encompass an entire chapter in China’s 14th five-year plan, which outlines a variety of social and economic development initiatives spanning the period from 2021 to 2025⁴¹.

Financial security stands as a pivotal element within the HVNS. China’s 14th five-year plan delineates specific strategies concerning financial security, prompting significant actions by the Chinese government to fortify this aspect. These efforts encompass the establishment of a new governance framework (as detailed in part 3.2) and the implementation of stringent financial regulations. Notably, China initiated macroprudential assessments in 2016, with official guidelines formalized in December 2021⁴². Furthermore, regulatory oversight extended to the consumer finance and FinTech sectors starting from 2017. The introduction of the trial measure for supervising financial holding companies⁴³ in September 2020 marked another milestone, followed by guidelines for assessing systemically important banks in December 2020. Subsequently, in December 2022, the release of the Financial Stability Law (draft)⁴⁴ aimed to safeguard national financial security, ensuring the uninterrupted functioning of FMIs and averting systemic financial risks. A financial stability guarantee fund, although not yet established as of 24 May 2024, is envisioned as part of this legislative framework. The issuance of *The Measure* in December 2022 represents a continuation of these ongoing efforts.

According to Zheng and Liu (2023), two critical areas within FMIs pose potential threats to financial security. Firstly, the payment system remains a key concern. As discussed in part 2.1, China’s CIPS still significantly lags behind its major competitor, SWIFT. Under extreme circumstances, Chinese financial institutions could face isolation from the global payment system. Secondly, data security within FMIs is another significant issue. *The Measure* specifically mandates regulatory approval for the transfer of FMI-generated data across borders. This regulation is part of China’s broader legislative framework on data security, which includes the Data Security Law⁴⁵ (Effective 1 September 2021), Critical Information Infrastructure Security Protection Regulations⁴⁶

³⁸ See https://www.gov.cn/xinwen/2021-12/10/content_5659796.htm (in Chinese)

³⁹ See https://www.gov.cn/xinwen/2022-12/16/content_5732408.htm (in Chinese)

⁴⁰ See http://www.news.cn/politics/leaders/2023-12/12/c_1130022917.htm (in Chinese). Please note that the phrasing in this instance differs slightly. It appears that in 2024, China may prioritize development to a greater extent than it did in 2023.

⁴¹ See <https://cset.georgetown.edu/publication/china-14th-five-year-plan/>

⁴² See <https://www.gov.cn/xinwen/2022-01/01/5665976/files/d7e55e8a7dce4b179d71fcf70aa49bed.pdf> (in Chinese)

⁴³ See <http://www.pbc.gov.cn/en/3688253/3689009/3788480/4110293/2020101516495219224.pdf>

⁴⁴ See <https://npcobserver.com/legislation/financial-stability-law/>

⁴⁵ See <http://www.npc.gov.cn/englishnpc/c23934/202112/1abd8829788946ecab270e469b13c39c.shtml>

⁴⁶ See <https://digichina.stanford.edu/work/translation-critical-information-infrastructure-security-protection-regulations-effective-sept-1-2021/>

(Effective 1 September 2021), Personal Information Protection Law⁴⁷ (Effective 1 November 2021), Cybersecurity Review Measures⁴⁸ (Effective 15 February 2022), and Measures on Standard Contracts for the Export of Personal Information⁴⁹ (Effective 1 June 2023). However, detailed discussions of these laws are beyond the scope of this paper.

3.3.2. Establishing Financial Dominance

China's economy currently ranks as the world's second-largest, driven predominantly by its formidable manufacturing sector, which contributes approximately 30 percent⁵⁰ to global output. Notably, China's financial sector holds the mantle as the largest globally, boasting assets worth \$60 trillion, a figure equivalent to 340% of its GDP⁵¹. Despite the significant role played by certain segments of the Chinese financial system, such as development finance, its global impact, particularly through Chinese banks, is not commensurate with its size. Although Chinese equity and bond markets have seen increased integration with global markets in recent years, their exposure remains relatively limited. Against this backdrop, Chinese leaders declared in November 2023⁵² and February 2024⁵³ their intent to cultivate financial prowess and steadfastly promote high-quality financial development.

According to official Chinese statements⁵⁴, FMIs constitute one of the six essential systems for cultivating financial prowess. Specifically, Chinese FMIs are mandated to possess attributes of independence, controllability, safety, and efficiency. The ongoing regulatory overhaul concerning FMIs, exemplified by the release of *The Measure* and subsequent deliberations, forms a crucial component of this endeavour towards building financial dominance.

4. Concluding Remarks

FMIs wield significant influence within financial markets. With the release of *The Measure* by Chinese regulatory authorities in December 2022, aimed at overseeing Chinese FMIs, this study scrutinizes a range of pertinent issues. These encompass diverse categorizations, the trajectory of regulatory reforms, granular regulatory provisions, and their implications for the policy paradigm shift towards security and the cultivation of financial dominance. Despite the scarcity of studies on Chinese FMIs, this research presents a timely and comprehensive analysis, building upon the groundwork laid by Zhang and Yin (2023). The study makes three primary contributions: first, it introduces FMIs not affiliated with the PBC, providing updated data; second, it conducts an analysis

⁴⁷ See <https://digichina.stanford.edu/work/translation-personal-information-protection-law-of-the-peoples-republic-of-china-effective-nov-1-2021/>

⁴⁸ See <https://www.pillsburylaw.com/en/news-and-insights/china-pip-law-draft.html>

⁴⁹ See <https://digichina.stanford.edu/work/translation-cybersecurity-review-measures-revised-effective-feb-15-2022/>

⁵⁰ See <https://cepr.org/voxeu/columns/china-worlds-sole-manufacturing-superpower-line-sketch-rise>

⁵¹ See <https://www.bruegel.org/first-glance/chinas-new-regulator-hints-major-clean-worlds-largest-financial-sector#:~:text=First%20glance-.China's%20new%20regulator%20hints%20at%20a%20major%20clean%20Du%20of,to%20oversee%20China's%20financial%20industry.>

⁵² See <http://cpc.people.com.cn/n1/2023/1101/c64094-40107631.html> (in Chinese)

⁵³ See https://www.gov.cn/zhengce/202402/content_6932983.htm (in Chinese)

⁵⁴ See http://www.ce.cn/xwzx/gnsz/gdxw/202402/01/t20240201_38889668.shtml (in Chinese)

of recently released regulations; and third, it outlines a research agenda for the future, as discussed below.

Future studies can explore several avenues. First, in the wake of the stock market crash in China between 2015 and 2016, Chinese authorities intensified their focus on mitigating financial systemic risk, making it a primary national imperative. However, the relationship between FMIs and systemic risk remains largely unexplored. Future research can revisit existing studies on Chinese financial systemic risk, integrating FMIs into their analytical frameworks. Additionally, further investigation into the operational risks of Chinese FMIs is warranted. Second, there is a need for in-depth exploration into the applications of emerging technologies, such as blockchain, within Chinese FMIs. While Yao (2022) has touched upon some applications, such as e-CNY, a comprehensive cost-benefit analysis and comparative study against existing FMIs are imperative to understand the full potential and implications of these technologies. Lastly, despite the title of this study indicating an “updated analysis,” it is important to acknowledge that regulatory reforms concerning FMIs in China are still ongoing. Future research should continue to monitor and analyse the evolving regulatory landscape surrounding FMIs in China, providing insights into their implications and effectiveness.

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