WEALTH MANAGEMENT PRODUCTS, NEW REGULATION ON ASSET MANAGEMENT AND BANKING STABILITY IN CHINA

By

KANG KUAN

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Chairman : Zariyawati Mohd binti Ashhari, PhD
School : Business and Economics

China's Wealth Management Products (WMPs) as alternative financial innovation of deposits have experienced dramatical evolution and expansion during past decades, which are the largest and most important provider of shadow banking funding. Even though regulatory authorities constantly tighten regulations for both banking system and WMPs issuance, commercial banks tend to persevere in creating increasingly complicated operation mechanisms of WMPs business to participate in less regulated shadow banking activities. Until 2018, New Regulation on Asset Management (AMR) has been introduced officially to control the excessive and risky development of WMPs and shadow banking activities. The amount of WMPs issuance has declined for the first time in China.

This study empirically investigates determinant factors that influenced the issuance of WMPs, especially the important regulatory indicator AMR. In the post-crisis era, government intervention has ensured economic growth but directly resulted in credit expansion and imbalance of resource allocation in China. Consequently, with accelerated financial reform and bank transformation, China's commercial banks tend to window dressing their balance sheet to meet the regulatory requirements and provide shadow loans to satisfy social financing demands through issuing WMPs. Moreover, this study develops Banking Stability Index by Principal Component Analysis based on new supervisory indicators related to Basel III and China's new regulatory standards. Then, it further inspects the impacts of WMPs on banking stability and moderate effects of AMR on such relationship in China. Commercial banks design and issue a great deal of WMPs to involved in shadow banking activities through cooperation with both banks and Non-Bank Financial Institutions for improving liquidity and profitability, as well as lessening their regulatory burden. However, disclosed potential threats of WMPs, such as excessive maturity mismatch and over-

leverage, could undermine banking stability. Importantly, AMR aims to standardise the development of WMPs, curtail shadow banking activities, which plays an important role for the transformation WMPs and the stability of China's banking system.

A quarterly unbalanced panel data of 46 China's commercial banks from 2015 to 2021 and two-step system GMM model are adopted in this study. The result shows that stronger pressure of bank-related requirements leads to greater incentive of commercial banks to issue WMPs. The increase of financing demand and household savings contribute to the growth of WMPs issuance while the influence of Interest Rate Liberalisation (IRL) is opposite. Appropriate WMPs issuance has significantly positive association with banking stability. Importantly, AMR has restricted the growth of WMPs and can mitigate the negative impacts of WMPs on banking stability. Besides, BSI declines over the period of 2015-2017 and increases constantly from 2018, which implies the effectiveness of AMR. This study contributes to the literature on WMPs and shadow banking in China through in-depth empirical analyses. It takes important financial reform IRL and comprehensive regulation AMR in China into consideration to investigate the determinants of WMPs and the impacts of WMPs on banking stability. Besides, this study provides comparison between different types of commercial banks to help regulators formulate appropriate regulatory policies for different types of commercial banks.

Keywords: Wealth Management Products (WMPs), Shadow Banking, New Regulation on Asset Management (AMR), Banking Stability

SDG: GOAL 8: Decent Work and Economic Growth

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

PRODUK PENGURUSAN KEKAYAAN, PERATURAN BARU PENGURUSAN ASET DAN KESTABILAN PERBANKAN DI CHINA

Oleh

KANG KUAN

September 2023

Pengerusi : Zariyawati Mohd binti Ashhari, PhD
Sekolah : Perniagaan dan Ekonomi

Peranan Produk Pengurusan Kekayaan (WMP) China sebagai inovasi kewangan alternatif kepada deposit mengalami evolusi dan perkembangan dramatik dalam dekad yang lalu. Ia merupakan penyedia pendanaan perbankan bayangan terbesar dan paling penting. Walaupun Jawatankuasa Pengawalseliaan sentiasa mengetatkan peraturan sistem perbankan dan pengeluaran WMP, bank perdagangan masih berkeras dalam mewujudkan mekanisme operasi perniagaan WMP yang semakin rumit bagi mengambil bahagian dalam aktiviti perbankan bayangan yang kurang dikawal. Sehingga 2018, Peraturan Baharu Pengurusan Aset (AMR) secara rasminya diperkenalkan untuk mengawal pembangunan WMP dan aktiviti perbankan bayangan yang berlebihan dan berisiko. Kesan daripada usaha ini, jumlah terbitan WMP menurun buat pertama kalinya di China.

Kajian ini menyiasat faktor penentu yang mempengaruhi pengeluaran WMP secara empirikal, terutamanya penunjuk kawal selia yang penting, iaitu AMR. Dalam era pasca krisis, campur tangan kerajaan memastikan pertumbuhan ekonomi, tetapi secara langsung mengakibatkan pengembangan kredit dan ketidakseimbangan peruntukan sumber di China. Kesan dari pembaharuan kewangan yang dipercepatkan dan transformasi bank, bank perdagangan China cenderung menutup kunci kira-kira mereka bagi memenuhi keperluan kawal selia dan menyediakan pinjaman bayangan dalam memenuhi permintaan pembiayaan sosial melalui penerbitan WMP. Selain itu, kajian ini membangunkan Indeks Kestabilan Perbankan oleh Analisis Komponen Utama berdasarkan penunjuk penyeliaan baharu yang berkaitan dengan Basel III dan piawaian kawal selia baharu China. Seterusnya, ia memeriksa kesan WMP terhadap kestabilan perbankan dan kesan sederhana AMR terhadap hubungan sedemikian di China. Bank perdagangan mereka bentuk dan mengeluarkan WMP yang banyak untuk mengambil bahagian dalam aktiviti perbankan

bayangan melalui kerjasama dengan kedua-dua bank dan Institusi Kewangan Bukan Perbankan untuk meningkatkan kecairan dan keuntungan, serta mengurangkan beban kawal selia mereka. Walau bagaimanapun, potensi ancaman WMP kemudiannya didedahkan, seperti ketidakpadanan kematangan yang berlebihan dan lebihan leveraj yang boleh menjejaskan kestabilan perbankan. Apa yang lebih penting, AMR bertujuan menyeragamkan pembangunan WMP dan menyekat aktiviti perbankan bayangan yang memainkan peranan penting dalam transformasi WMP dan kestabilan sistem perbankan di China.

Data panel tidak seimbang suku tahunan bagi 46 bank perdagangan China dari 2015 hingga 2021 dan model GMM sistem langkah dua diguna pakai dalam kajian ini. Dapatan menunjukkan bahawa tekanan yang lebih kuat terhadap keperluan berkaitan bank membawa kepada insentif yang lebih besar bagi bank perdagangan untuk menerbitkan WMP. Sementara itu, peningkatan permintaan pembiayaan dan simpanan isi rumah menyumbang kepada pertumbuhan terbitan WMP, manakala pengaruh Liberalisasi Kadar Faedah (IRL) adalah sebaliknya. Terbitan WMP yang sesuai mempunyai perkaitan positif yang ketara dengan kestabilan perbankan. Pentingnya, AMR telah menyekat pertumbuhan WMP bagi mengurangkan kesan negatif WMP terhadap kestabilan perbankan. Selain itu, BSI dilihat menurun sepanjang tempoh 2015-2017 dan meningkat secara berterusan dari 2018, lalu memberi bayangan tentang keberkesanan AMR. Kajian ini menyumbang kepada kesusasteraan tentang WMP dan perbankan bayangan di China melalui analisis empirikal yang mendalam. Pembaharuan kewangan penting IRL dan peraturan komprehensif AMR di China diambil kira untuk menyiasat penentu WMP dan kesan WMP terhadap kestabilan perbankan. Selain itu, kajian ini menyediakan perbandingan jenis bank perdagangan yang berbeza untuk membantu pengawal selia merumuskan dasar pengawalseliaan yang sesuai bagi pelbagai jenis bank perdagangan.

Kata Kunci: Produk Pengurusan Kekayaan (WMP), Perbankan Bayangan, Peraturan Baru Pengurusan Aset (AMR), Kestabilan Perbankan

SDG: GOAL 8: Decent Work and Economic Growth

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Zariyawati binti Mohd Ashhari, PhD
Senior Lecturer
School of Business and Economics
Universiti Putra Malaysia
(Chairman)

Mohamed Hisham bin Dato' Haji Yahya, DBA
Senior Lecturer
School of Business and Economics
Universiti Putra Malaysia
(Member)

Soh Wei Ni, PhD
Senior Lecturer
School of Business and Economics
Universiti Putra Malaysia
(Member)

ZALILAH MOHD SHARIFF, PhD
Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

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ABC	Agricultural Bank of China
AMPs	Asset Management Products
AMR	No. 106 [2018] "Guidance on Regulating the Asset Management Business of Financial Institutions (New Regulation on Asset Management)"
ARIs	Accounts Receivable Investments
ATR	Asset Turnover Ratio
BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
BOC	The Bank of China
BoCom	the Bank of Communications
BSI	Banking Stability Index
BWMS	Commercial Bank's Wealth Management Subsidiary
CAMELS	Capital, Asset, Management, Earning, Liquidity, Sensitivity
CAR	Capital Adequacy Ratio
CBIRC	China Banking Insurance Regulatory Commission
CBRC	China Banking Regulatory Commission
CBs	Commercial Banks
CCBs	City Commercial Banks
CDO	Collateralised Debt Obligations
CEB	China Everbright Bank
CIRC	China Insurance Regulatory Commission
COA	Cost on Asset
CPI	Consumer Price Index
CSRC	China Securities Regulatory Commission

FDIC	Federal Deposit Insurance Corporation
FER	Cumulative Foreign Exchange Exposure Ratio
FPAPM	Fund Pool-Asset Poll Model
FSB	Financial Stability Board
FSDC	Financial Supervision and Development Committee
FSI	Financial Soundness Indicators
GAP	Growth Rate of Average Real Estate Price
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GMM	Generalized Method of Moments
GSP	Great Stimulus Plan
HNWI	High Net Worth Individuals
ICBC	the Industrial and Commercial Bank of China
ICFs	Internal Circulating Funds
IMF	International Monetary Fund
IRL	Interest Rate Liberalisation
IRLI	Interest Rate Liberalization Index
ISF	Incremental Social Financing
LC	Lending Concentration
LCBs	Local Commercial Banks
LCR	Liquidity Covered Ratio
LDR	Loan-to-Deposit Ratio
LGFVs	Local Government Financing Vehicles
LMR	Liquidity Match Rate
LR	Liquid Ratio

LVR	Leverage Ratio
MCB	Municipal Corporate Bond
MMMFs	Money Market Mutual Funds
MPA	Macro Prudential Assessment
NBFIs	Non-Bank Financial Institutions
NBS	National Bureau of Statistics
NCBs	Nationwide Commercial Banks
NCDs	Negotiable Certificate of Deposit
NIIR	Non-interest Income Ratio
NIM	Net Interest Margin
NIPE	Net Income Per Employee
NJSCB	Nationwide Joint-Stock Commercial Banks
NPG-WMPs	Non-principal guaranteed WMPs
NPLR	Non-performing Loan Ratio
NPLs	Non-performing Loans
NSDAs	Non-Standardized Debt Assets
NSFR	Net Stable Funding Ratio
OBS	Off Balance Sheet
OER	Operating Expense Ratio
OLS	Ordinary Least Squares
PBOC	People's Bank of China
PCA	Principal Component Analysis
PCBC	the People's Construction Bank of China
PCDI	Per Capita Disposable Income
PCR	Provision Coverage Ratio

PFE	Proportion of Accumulated Foreign Exchange Exposure
POEs	Private Enterprises
PRG-WMPs	principal- or return-guaranteed WMPs
PSBC	Postal Savings Bank of China
RCBs	Rural Commercial Banks
RMB	Renminbi
RMCS	Redemptory Monetary Capital for Sale
ROA	Return on Assets
ROE	Return on Equity
RRR	Reserve Requirement Ratio
SOCBs	State-Owned Commercial Banks
SOEs	State-Owner Enterprises
TBRs	Trust Beneficial Rights
Tier1CAR	Tier 1 Capital Adequacy Ratio
UBA	Undiscounted Bankers' Acceptance
US	United States
WMRC	China Banking Wealth Management Registration and Custody Centre
WMB	Wealth Management Business
WMPs	Bank-issued Wealth Management Products
WTO	World Trade Organisation

CHAPTER 1

INTRODUCTION

This chapter intends to describe the general background of this study, which is comprised of eight sections. It first provides the background of Wealth Management Products (WMPs). A brief overview of China's banking system and China's financial supervisory system is given, followed by the New Regulation on Asset Management (AMR) being outlined in the second section. Thereafter, the problem statement of the study is discussed, followed by the research objectives and research questions. The significance of the research and organisation of the dissertation are presented in the sixth and seventh sections respectively, while the last section concludes this chapter.

1.1 Background of the Study

1.1.1 Wealth Management Products (WMPs)

Wealth Management is a broad term and easy to understand literally, that is "manage wealth for appreciation". As a matter of fact, there are no universal and specific definitions for Wealth Management Business (WMB) and Wealth Management Products around the world. According to Harrington (2016) and Dziawgo (2021), WMB provides comprehensive wealth management strategies to wealthy clients (individuals and their families) for long-term wealth growth in advisory and personalised ways. These strategies include a range of combined wealth management products and services (such as financial investments, tax planning, estate planning and retirement planning) as offered by a variety of wealth management organisations, like commercial banks and investment banks as well as wealth management, asset management, insurance, fund and securities companies (Dziawgo, 2021). In other countries, "wealth management products" is more like a generic term, referring to various kinds of financial products and packages, including but not limiting to funds, insurance, pensions, trust products and investment plans.

In particular, there is no strict constraint to separate the business of financial institutions according to structural regulations in countries with a mature capital market. In other words, the providers of wealth management products are allowed to integrate their operations and can offer each other's products to help their clients increase their wealth. As a consequence, a variety of wealth management products have been developed and issued by themselves and other third parties and are optional for clients in commercial banks (Su, 2014). Generally, commercial banks, as one kind of wealth management provider, play the role of consultant and brokerage in the wealth management industry in many developed countries.

In previous decades, the wealth management industry has experienced prosperous development on the basis of the considerable growth in the number of High-Net-Worth Individuals (HNWIs) around the world (Danon & Teker, 2020). Moreover, new branches of WMB have begun to emerge, such as family offices, private banking, and private wealth management, which has distinguished WMB from other mass-market businesses. Wealth management products and services tend to be increasingly extensive and exclusive to increasingly wealthy High-Net-Worth (HNW) and Ultra-High-Net-Worth (UHNW) individuals and families (Traff, 2016).

Although China's WMB keeps moving forward and private banking businesses targeting HNWIs have emerged in recent years, Wealth Management Products (WMPs) are a more specific term in China. WMPs represent a specific type of deposit-like financial product designed and issued by commercial banks to attract public funds and evade regulatory constraints over the past decade in China (Hachem, 2018; Ehlers, Kong & Zhu, 2018). Commercial banks play the role of designer and issuer for WMPs in China. WMPs are Asset Management Products (AMPs) essentially and are regarded as safe alternatives to traditional deposits by the reason of being a strong implicit guarantee for most investors in China. Therefore, due to the risk appetite of investors being relatively low in China, WMPs have become the second most important resource of funds after deposits (Feng, Lütkebohmert & Xiao, 2022). Besides, given their higher yield (Figure 1.2, page 5) and shorter duration (Figure 1.3, page 6) than conventional deposits, as well as relatively low investment threshold for the public, the targets of WMPs are not only the HNWIs but also the low- and middle-income groups gradually being valued [1]. However, owing to the increasingly tightened regulations, the funds raised by WMPs are used by commercial banks to invest in the sectors where bank loans are restricted, which are treated as shadow loans (Liu, Liu & Shim, 2022; Perry & Weltewitz, 2015). Table 1.1 summarises the comparison of WMPs between China and other countries.

Table 1.1 : Comparison of WMPs between China and Other Countries

	China	Other Countries
Definition	A specific type of financial products	A general term of financial products
Role of Banks	Designer and issuer	Consultants or brokerage
Purpose	Attract funds for shadow banking activities and regulatory arbitrage	Provide wealth management services and increase clients' wealth

Note(s): Summarised by Author.

[1] According to the PYSTANDARD report, the issuing number of private banking WMPs for HNWIs by commercial banks was 4821 in 2019, accounting for only 5% of the total amount. Besides, according to the China Banking Wealth Management Registration and Custody Centre (WMRC), publicly offered WMPs accounted for 96% of the total outstanding balance in 2021.

1.1.2 WMPs in China

Over the past handful of decades, along with the rapid expansion of China's economy and increasingly accumulating household wealth, the wealth management industry has gradually increased in China. In July 2004, the first Wealth Management Product (WMP) in Renminbi (RMB) was issued by China Everbright Bank (CEB), one of 12 Nationwide Joint-Stock Commercial Banks (NJSCBs) in China. In late 2008, the Chinese government launched 4 trillion RMB Great Stimulus Plan (GSP) to mitigate spillover effects from the Global Financial Crisis (GFC), which directly resulted in a credit shortage and ultimately the explosive growth of shadow banking over the past decade in China (Acharya et al., 2021; Yang et al., 2019; Ehlers, Kong & Zhu, 2018). Since then, Wealth Management Products (WMPs) have been designed as safe deposit-like products by commercial banks to raise funds for shadow loans, and are regarded as the most crucial part of shadow banking activities in China (Moody, 2023; Shah et al., 2023; Wang, Zhao & Li, 2022; Hachem, 2018). They are also a response to the deposit competition among banks (Wang, Zhao & Li, 2022). Therefore, WMPs have become a very important financial innovation and experienced explosive growth in the past.

During the recent period of sped-up financial reform and banking transformation, the fast-growing shadow banking activities and WMPs have caused wild concerns when it comes to China's financial regulators. Even though there have been multiple attempts on regulating the business of WMPs to contain the commercial banks involved in risky shadow banking activities, WMPs continued to increase dramatically until 2018 as new rules came into force. Figure 1.1 illustrates the outstanding balance of WMPs from 2006 to 2021 in China, which increased rapidly from about 0.20 trillion RMB in 2005 to its peak of 32.10 trillion RMB in 2018. Then it declined by 16.39% to 26.84 trillion RMB in 2019 and rebounded slowly from 2020.

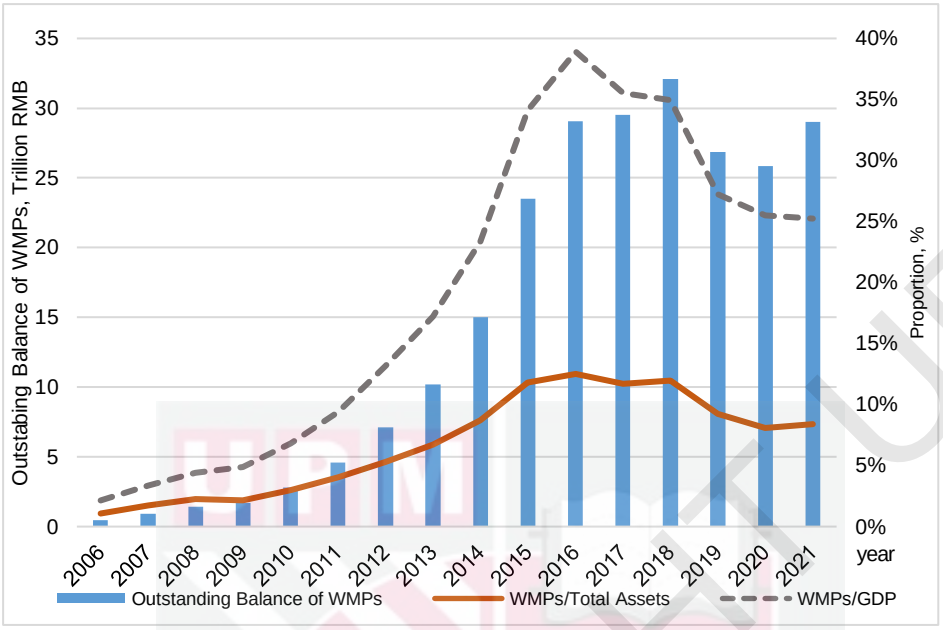

Figure 1.1 : Development of WMPs in China (trillion RMB, %)
(Source: CBIRC, China Banking Wealth Management Registration and Custody Centre, PYSTANDARD database and National Bureau of Statistics)

Essentially, WMPs are a kind of asset-backed financial product and Asset Management Product (AMP) in China. The official definition of WMPs comes from "Rules on Regulating the Wealth Management Business (WMB) of Commercial Banks", published in 2005 and renewed in 2018 by the China Banking Insurance Regulatory Commission (CBIRC) [2]. According to this guideline, WMPs are asset investment and management plans marketed to both individual and corporate investors, which are developed, designed, and sold by commercial banks based on the analysis of potential target customers. Besides, the investment proceeds and credit risks of WMPs are borne by investors in accordance with the contract.

China's commercial banks play the leading role of being the designer and issuer of WMPs and typically have the authorisation to manage and invest the funds raised by WMPs (CBIRC, 2018). Moreover, due to the large number of commercial banks dominating the financial system, WMPs have been equipped with the unique characteristic of "bank-centricity" from the beginning. Additionally, due to most of China's commercial banks being believed to have a strong implicit government guarantee, WMPs are regarded as a "quasi deposit" with the characteristic of "fixed return" and "rigid redemption" by investors from their initial stage of development. Nevertheless, unlike conventional bank

[2] The China Banking Regulatory Commission (CBRC) and China Insurance Regulatory Commission (CIRC) were merged into the China Banking Insurance Regulatory Commission (CBIRC) in 2018. In this study, CBIRC and CBRC are used interchangeably.

deposits, WMPs are uninsured products according to “Regulations on Deposit Insurance”, which were released officially in May 2015.

Given the maturity structure of WMPs as shown in Figure1.2, most WMPs mature within six months. It is worth noting that more than 50% of WMPs had maturities of less than three months before 2018. Furthermore, WMPs are not subject to the ceiling on the bank deposit rate, as traded through market-oriented interest rates in China. According to Figure 1.3, the average expected rate of return of one-year WMPs is about 3 points higher than the benchmark interest rate of a one-year term deposit over the past decade. Therefore, commercial banks tend to design WMPs as short-term financial products and issue them with higher expected yields than traditional deposits, which have a strong appeal to public investors.

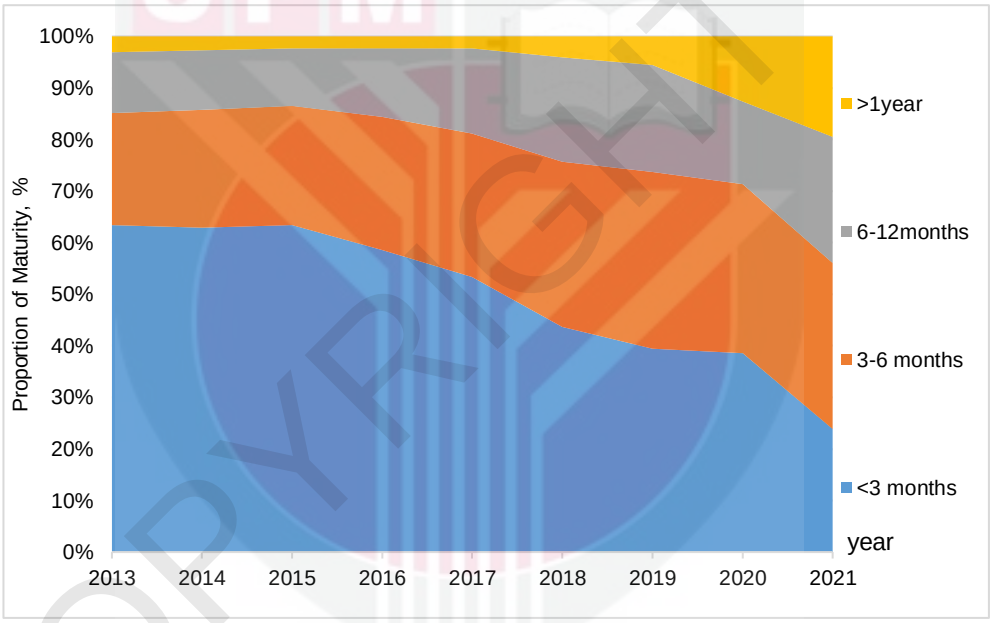

Figure 1.2 : Maturity Structure of WMPs based on Issuing Numbers from 2013 to 2021
(Source: Wind Database)

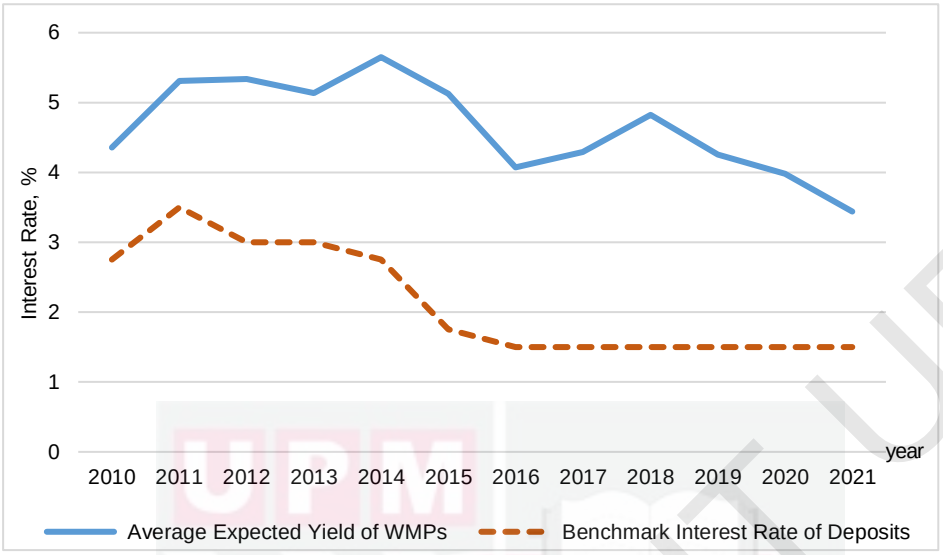

Figure 1.3 : Difference between Interest Rate of 1-year Deposit and Average Expected Yield of 1-year WMPs from 2010 to 2021
(Source: People's Bank of China and Wind Database)

Commercial banks have heavily satisfied the demand for liquidity and settled the shortage of formal credit by issuing such short-term WMPs frequently in a rolling way[3] (Allen et al., 2019; Luo, 2017). Additionally, WMPs help commercial banks improve their profitability structure and expand their capital to a great extent due to not being subject to the restrictions of required reserves and capital requirement like traditional deposits (Huang, Zhou & Liu, 2022; Chan & Ji, 2020; Wang et al., 2019). Therefore, WMPs jumped in popularity as safe and high-return investment products for investors and as an instrument of benefit maximisation for commercial banks in China. By the end of 2021, the issuing number of WMPs was over 47,600 with an outstanding balance of 29 trillion Renminbi (RMB) (WMRC[4], 2022), which is almost relative to more than 60 times that in 2004. As shown in Figure 1.1, WMPs raised 122.19 trillion RMB funds accumulatively in 2021, equal to 35.44% of the total assets of the banking system and 106.33% of the Gross Domestic Product (GDP), respectively. WMPs play a crucial role in the development of the banking system and economy in China.

[3] Before 2018, most WMPs were close-ended and short-term. The principal and interest should be settled when the WMPs mature. In order to maintain liquidity, commercial banks design the value date of new WMPs around the maturity date of previous WMPs. The issuance of WMPs continues uninterrupted.

[4] WMRC stands for the China Banking Wealth Management Registration and Custody Centre, authorised by the Ministry of Finance and China Banking Insurance Regulatory Commission (CBIRC), which is in charge of the registration, custody and information disclosure of bank-issued WMPs in China.

However, the WMP business is more likely to be just one of the responses to financial repression in recent years (Collier, 2017). Under the pressure of the constantly updating and increasingly tightened regulations, commercial banks have become thoroughly involved in complex and non-transparent "asset pools", channelling and outsourcing businesses[5] through issuing WMPs. They package their credit loans and sell them to Non-Bank Financial Institutions (NBFIs). Thus, they remove Non-Performance Loans (NPLs) off the balance sheet and window-dress it as a result. These credit assets are defined as Non-Standardised Debt Assets (NSDAs)[6]. Meanwhile, NBFIs repackage NSDAs as the underlying assets of WMPs to sell back to commercial banks under repurchase agreements. Consequently, WMPs have become a necessary off-balance-sheet (OBS) instrument of commercial banks in response to regulatory arbitrage.

More importantly, since the underlying assets of WMPs are typically traded in debt, bonds and securities markets, WMPs, as a financial innovation, can be regarded as informal securitisation (Wang, Zhao & Li, 2022; Luo et al., 2019; Shen, 2016). In other words, WMP business is more like a financial intermediation to channel short-term public funds into long-term shadow banking projects. Inevitably, a series of problems, such as information asymmetry, maturity mismatch and over-leverage, exist in WMP businesses (Huang, Zhou & Liu, 2022; Liu, Liu & Shim, 2022; Luo et al., 2019). Hence, the enormous size and complexity of WMPs have become a concern of regulators because of the interconnected nature of the financial system.

Nevertheless, in order to enhance the competitiveness and profitability of the banking system, China's strictly regulated commercial banks have widely been involved in the WMP business, which has always been without prompt and proper supervision over the past decade (Shah, 2021). After a long period of practice and exploration, the New Regulation on Asset Management (AMR) was issued jointly by China's regulators[7] to provide a healthier and more standardised WMP market in the long run. This refers to the No. 106 [2018] "Guidance on Regulating the Asset Management Business of Financial Institutions (AMR)" of April 2018. Subsequently, a series of regulations were introduced related to the WMP business. According to Figure 1.1, even though both the outstanding balances and funds raised by WMPs have kept at a high level from 2016 onwards, the proportion of WMPs to both the total assets of the banking system and GDP has declined significantly. It reveals that the evolution of WMPs, as well as the cooperation among financial institution through WMPs and other AMPs (especially the transaction between commercial banks and NBFIs), has been supervised both continuously and strictly. The development of WMPs entered a transition period from 2018, in which commercial banks needed

[5] The operating mechanism of "asset pool", channelling and outsourcing businesses refers to Chapter 3 Section 3.3 (p. 62).
[6] Non-Standardised Debt Assets (NSDAs) are the most important underlying assets of WMPs, which are credit assets and not tradable either on the interbank market or on exchanges. Please refer to Chapter 3, Section 3.2 (p. 59) for details.
[7] The joint regulators are the People's Bank of China (PBOC), the China Banking Insurance Regulatory Commission (CBIRC), the China Securities Regulatory Commission (CSRC), and the State Administration of Foreign Exchange of the People's Republic of China (SAFE).

to improve the operating modes of WMPs to meet the requirements of the new regulations.

In conclusion, the development of WMPs plays a vital role in the banking and financial systems in China. For most investors, WMPs are relatively safe substitutions for deposits with an implicit guarantee but not in the insurance system. For commercial banks, WMPs are more like an important instrument of regulatory arbitrage based on complex and risky underlying assets (asset pool) and operating mechanisms. For the authorities, WMPs are a type of Asset Management Products (AMPs) that has moved away from the goal of AMPs to increase client wealth. More importantly, the funds raised by WMPs have become channelling sources for businesses positioned between traditional banking and shadow banking over the decades in China, which has resulted in them posing a threat to the stability of the banking and financial systems. Therefore, as a unique financial vehicle, the rapid expansion of WMPs has come with benefits and potential risks, which has been deeply discussed in this study.

1.2 Financial System in China

1.2.1 Banking System in China

China has been one of the fastest growing economies around the globe, even though it is without a well-developed financial system (Allen et al., 2017). In recent years, with a period of fast economic growth and given the development of the financial opening-up and financial reformation in China, the financial system has tended to be one of marketisation, diversification and internationalisation. The financial system plays a core role in the economic sector (Chen, 2020). However, due to the government intervention in resource allocation (Yin, 2019) and the banking industry being more advanced than the security industry (Schmidt, 2018), the financial system in China is still bank-based rather than market-based.

In China, the banking system is dominated by a large number of commercial banks and there were more than 1,700 domestic commercial banks by the end of 2021 (CBIRC). The total assets of commercial banks in China was around 288.59 trillion RMB, occupying 83.7% of the total assets of the banking system (344.76 trillion RMB) and 75.56% of the total assets of the financial system (381.95 trillion RMB) as of 2021 (PBOC, 2022). Importantly, depending on whether cross-regional operations can be carried out, commercial banks can be classified into one of two main categories, Nationwide Commercial Banks (NCBs) and Local Commercial Banks (LCBs). NCBs can have a large number of branches and develop their businesses in the majority of cities in China. By contrast, LCBs cannot develop cross-regional operations. They can only have branches and businesses in certain cities or rural areas (Acharya et al., 2020).

Figure 1.4 summarises the structure and asset proportion of commercial banks in China, which shows the discernible difference in asset size between NCBs and LCBs. NCBs dominate the banking system with a near 70% share with respect of the total assets. State-Owned Commercial Banks (SOCBs) and Nationwide Joint-Stocks Commercial Banks (NJSCBs) are the two subtypes. According to the CBIRC, there are six SOCBs which account for about 50% of the total assets and 12 NJSCBs that occupies about 20% of the total assets of commercial banks. The average asset size of NJSCBs is about 10% of SOCBs. Comparatively, the total asset of LCBs was about 81 trillion RMB in 2021, accounting for about 28% of commercial banks. City Commercial Banks (CCBs) and Rural Commercial Banks (RCBs) constitute the categories within LCBs. Most of them are typically much smaller than NJSCBs. Lastly, the remaining asset proportion is held by private commercial banks and foreign commercial banks.

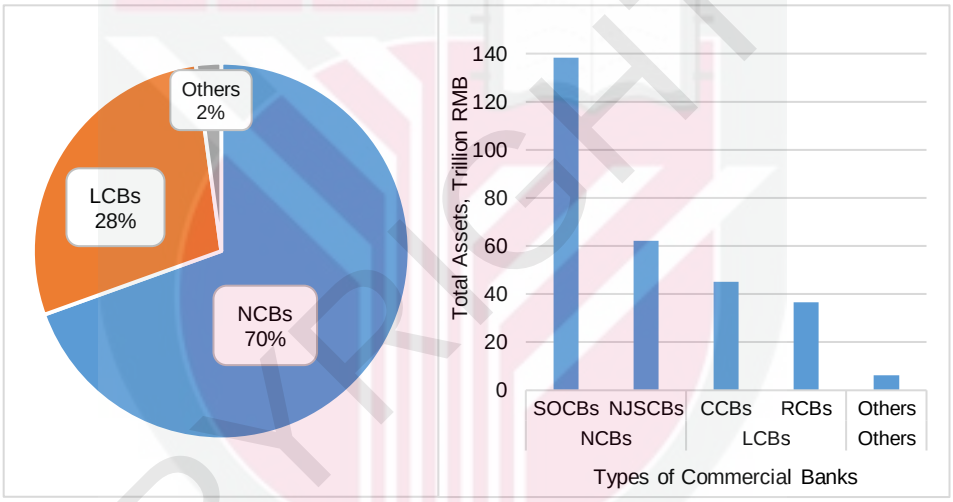

Figure 1.4 : Asset Proportion of China's Commercial Banks by Types in 2021 (trillion RMB, %)
(Source, China Banking Insurance Regulatory Commission)

In addition, NCBs and LCBs have different ownership structures. Since all SOCBs have become publicly listed enterprises, the ownership of those banks has diversified especially. However, the central government is still the controlling shareholder of those banks. By the end of 2021, 10 of 12 NJSCBs were listed on the stock exchange and the state and State-Owned Enterprises (SOEs) hold most of their equity ownership. In comparison, CCBs are typically majority-owned by local governments and enterprises while RCBs are transformed from rural credit cooperatives. By the end of 2021, there were 30 CCBs and 13 RCBs listed on the stock exchange.

In summary, commercial banks play a vital role in China's banking system. It has been noticed that LCBs keep increasing in asset size and, importance notwithstanding, NCBs are still in the dominant position in this system. Moreover, the significant distinctions in geographic reach, asset size and ownership also signify different governance and business structures between NCBs and LCBs. With regard to the WMPs business, NCBs issue much more WMPs and are involved in more complex operation mechanisms than LCBs due to having more branches and investment opportunities (Acharya et al., 2019). As of 2021, the outstanding amount of WMPs issued by NCBs was 21.93 trillion RMB and that of LCBs was 6.62 trillion RMB (PYSTANDARD, 2022). In particular, all NCBs can issue WMPs and have the authorisation to invest WMP funds while the great majority of LCBs (more than 1500) do not issue WMPs or do have the licences to issue WMPs, especially RCBs that mainly engage in deposit and loan businesses and are solely dedicated to the development of rural areas. Therefore, this study only concerns the top RCBs of a certain asset size and WMP issuance.

1.2.2 Banking Stability in China

The eruption and consequence of the Global Financial Crisis (GFC) in 2008 has motivated worldwide attention being paid to financial stability, which is undeniably based on having a sound banking system (Sakarombe, 2018). Notwithstanding, banking stability is extensively used, although the existing literature cannot provide a general consensus on the definition. According to Swamy (2014), banking stability can be described as when banks as solvent financial institutions can effectively perform their primary functions, such as allocating resources and withstanding risks. Banking stability refers to a banking system where there is an absence of crises and the banks are competent at resisting negative volatility and shocks (Yensu et al., 2021; Jabra, 2020; Kočišová, 2014). Similarly, there is no widely accepted definition and measure for banking stability in China. Xiu (2019) defines "banking stability" as a state where commercial banks have sufficient liquidity and capital, as well as a steady enough income and solvency to withstand the volatility and risks. The stability of the banking system can be reflected by the indicators of capital adequacy, liquidity, asset quality and profitability (Dai, 2017).

As an emerging market economy, China's banking system dominates more than 75% of the financial system, which assumes the prominent responsibility to ensure financial stability and economic growth. Since 1978, the Chinese banking system has experienced a sustainable and healthy evolution through several banking reforms to increase competitive conditions, improve performance and create a sound banking system (Chen, Matousek & Wanke, 2018). According to the China Financial Stability Report issued by PBOC, the banking system has remained stable overall over the past decade with a stabilised capital adequacy level, and the assets and liabilities of China's banking system increasing steadily. Meanwhile, profitability remains stable and the overall liquidity remains in a reasonable and sufficient range. Although asset quality is under large downward

pressure, there is a relatively strong degree of risk coverage in the banking sector (PBOC, 2022).

It is noteworthy that the performance and stability of NCBs and LCBs are expected to be different. NCBs, with a larger network of facilities and asset sizes, are allowed to operate a wide variety of banking businesses including asset management and investment at the national level, while LCBs operate in limited regions and engage heavily in traditional deposit and loan businesses (Schmidt, 2018). Therefore, NCBs and LCBs could have a substantially different liquidity creation, as well as profitability and risk-taking levels (Fang et al., 2019; Tan, Floros & Anchor, 2017), which imposes a range of impacts on banking stability.

Moreover, the expansion of most LCBs is impeded (Dong et al., 2016) and there are competitive advantages for NCBs (Wang, Zhao & Li, 2022). However, LCBs have a strong relationship with the local government and retail customers, which may increase competitiveness in their operating regions (Zhou et al., 2018). Additionally, the regulatory requirements between these two types of commercial banks are different. There are increasingly tightened regulations for NCBs due to them holding about 70% of the total bank assets and most of them have been regarded as Domestic Systemically Important Banks (D-SIBs) since 2019 to maintain the healthy development of the banking system. Consequently, it is worth investigating the different levels of stability between these two types of commercial bank.

1.2.3 Financial Supervisory System

China's financial supervisory system was originally known as "One Bank and Three Commissions". "One Bank" is the People's Bank of China (PBOC), which is the central bank. "Three Commissions" are the China Banking Regulatory Commission (CBRC), the China Insurance Regulatory Commission (CIRC) and the China Securities Regulatory Commission (CSRC), who act as regulators for banks and trust companies, as well as insurance businesses, securities, and future trading, respectively (Chen, 2019).

However, since the 2007/2008 Global Financial Crisis (GFC), most experts have taken interest in the development of shadow banking activities and pay more attention on the regulation of shadow banking (Moosa, 2017). During the post-crisis era, shadow banking activities have experienced an explosive growth in China's financial system under frequent cooperation between commercial banks and Non-Bank Financial Institutions (NBFIs) through WMPs (Allen et al., 2023; Ehlers, Kong & Zhu, 2018). According to Li (2019), the estimated shadow banking assets reached 54.83 trillion RMB in 2018 from 8.75 trillion RMB in 2009. However, PBOC, as the central bank in China, does not have authority over the three commissions and vice versa. Therefore, it is difficult to coordinate the regulatory work among the "One Bank and Three Commissions" to regulate and monitor mixed shadow banking activities effectively (Chen, 2019).

In November 2017, the Financial Supervision and Development Committee (FSDC) was established to strengthen the coordination capacity of financial supervision (Chen, 2019). The authority of the FSDC is higher than the PBOC and three commissions, which is owned by the State Council directly. Besides, the CBRC and CIRC were merged into the CBIRC and the financial regulatory system was restructured from "One Bank and Three Commissions" to "One Committee, One Bank and Two Commissions" in March 2018. Figure 1.5 shows the recent financial supervisory system in China. The new financial supervisory system has changed from "separated operating, separated regulation" to "mixed regulation" to a control cooperation business among financial institutions, especially shadow banking businesses. The main goal shifted from sustaining economic growth to preventing and controlling financial risks (Chen, 2019).

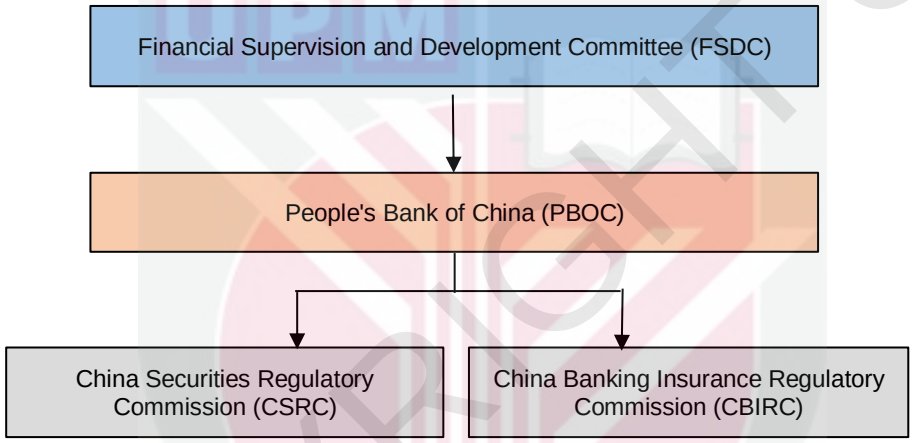

Figure 1.5 : China's Financial Supervisory System in the late of 2017
(Source: State Council "2018 Reforming Program of Institutions")

The FSDC coordinates the overall strategy for the financial sector and formulates policy at a high level, including supervising China's monetary policy and financial regulation, formulating policy on systemic financial risk management, maintaining China's financial security, and giving the local governments guidelines on their financial development. The central bank PBOC is responsible for macro-prudential regulation, including making and implementing monetary and exchange rate policy, issuing currency, and regulating interbank lending and the interbank bond market, etc. The CBIRC is in charge of micro-prudential regulation and consumer protection, in addition to overseeing banks, insurance companies, social security fund companies, trust companies, finance leasing companies, asset management companies, other finance companies, and financing intermediaries. The CSRC is in charge of micro-prudential regulation and investor protection, and oversees securities companies, investment fund companies and other investment and consulting intermediaries.

1.2.4 New Regulation on Asset Management (AMR)

In recent years, WMPs have expanded dramatically and played an important role in China's financial market, identified as the direct and primary source of funds for shadow banking (Ehler et al., 2018). Commercial banks have a strong incentive to be involved in the shadow banking business and regulation arbitrage by issuing WMPs under the competitive and relatively strict regulatory environment in China. However, shadow banking is always non-transparent and illiquid, which may lead to an asset bubble and systemic risks (Shen, 2015).

To standardise the development of WMPs, curtail shadow banking activities, reduce the leverage level and prevent potential systematic risks in the banking system and whole financial system, a new regulation on asset management "Guidance on Regulating the Asset Management Business of Financial Institutions (AMR)" was released on April 27, 2018. Subsequently, related regulations "Rules on Regulating the Wealth Management Business of Commercial Banks (New Rules on WMB)" and "Rules on Managing Commercial Banks' Wealth Management Subsidiaries (New Rules on Managing BWMS)" were released in the following months.

According to AMR, commercial banks had to adjust all of their existing products to satisfy the new requirements until the end of 2021. Meanwhile, newly issued WMPs had to comply with the guidelines from the start. Specifically, the Fund Pool-Asset Pool Model (FPAPM) [8] with characteristics of rolling issuance, aggregative operation and separate pricing were forbidden by AMR to prevent the risk of maturity mismatch. Financial institutions, including commercial banks, should create separate accounting books for the funds held by each WMP, as well as separately manage and keep the associated accounts. Additionally, the structure, leverage, and duration of WMPs are all strictly regulated and the improved disclosure of WMP information is required by AMR to reduce risks.

Consequently, under the requirements of AMR, the outstanding balance of WMPs declined in the following two years (Figure 1.1, p. 4). Moreover, commercial banks were restricted by AMR from engaging in shadow banking business to invest WMPs funds into NSDAs through interbank, channelling, and outsourcing businesses. Shadow banking assets on the basis of WMP funds constricted around two trillion RMB in 2018 (Moody's, 2023). As a result, AMR not only helped commercial banks control their leverage and risk-taking level but also reduced the risk contagion from shadow banking to commercial banks. The imposition of AMR could influence the liquidity creation and profitability of commercial banks. On one hand, the compression of WMP issuances will result in the decline of liquidity replenishment from WMP funds. Due to the underlying

[8] The Fund Pool-Asset Pool Model (FPAPM) is one important operating mechanism of WMPs. To put it simply, the liability side of WMPs is a "fund pool" accumulated by various WMPs and then managed collectively, which corresponds to a mixed "asset pool" of a range of investment assets. In other words, the asset and liability sides of each WMP cannot correspond directly. Please referring to Chapter 3 Section 3.3 (p. 62) for details.

assets of WMPs tending to be standardised, commercial banks cannot benefit from the relatively higher spread income between the asset and liability sides of WMPs (Acharya et al., 2021). On the other hand, there is an increasing balance of deposits in commercial banks due to WMPs that are regarded as risky and retail investors can turn their WMP investments into traditional deposits. The liquidity of commercial banks is adequate, which promotes commercial banks to improve their profitability (Gao, 2023).

AMR plays an important role in the development of WMPs and the stability of commercial banks. It does not simply impose significant impacts on the stability of commercial banks considering risk-taking, liquidity, profitability and so forth. Moreover, it provides regulatory standards to the asset management industry and affects the stability of commercial banks through rectifying WMP businesses to avoid risk following an excessive maturity mismatch and regulatory arbitrage.

1.3 Problem Statement

Since entering the World Trade Organisation (WTO) in 2001, China's economy has maintained a sustained and steady growth. According to the National Bureau of Statistics (NBS), the growth rate of Gross Domestic Products (GDP) has kept around 7% in recent years. Meanwhile, the income and wealth of residents in China has also been increasing rapidly during the past decade. According to the People's Bank of China (PBOC), the savings of Chinese residents reached 103 trillion RMB by the end of 2021, an increase of about 3.5 times in contrast to 30.33 trillion RMB in 2010. The rapid growth of resident income and wealth has led to an increase in the demand for safe investments. However, due to most investors being short of specialised knowledge in China, the products issued by commercial banks are widely regarded as low-risk (Cao, 2018; Lasak, 2015). Therefore, WMPs with an implicit guarantee and higher yield than the traditional deposits issued by commercial banks have become attractive investment products and jumped in popularity in recent years.

Besides, there are other probable macro-economic triggers for the dramatic increase in WMPs in China. The active 4 trillion RMB Great Stimulus Plan (GSP) by the government in response to the Global Financial Crisis (GFC) in late 2008 resulted in some unintended consequences. Major funds of GSP were financed through issuing short-term loans by commercial banks to long-term projects (Acharya et al., 2021), which has led to credit expansion and huge financing demands to refinance the loans in the following years[9]. With correspondingly loose credit policies, such a credit boom has worsened the asset quality and resulted in the distortion of credit and resource allocation in China's financial system, leading to the demand and increase of shadow loans (Chen & Lin, 2019). Commercial banks have innovated WMPs to attract public funds and invest in shadow loans to circumvent both regulations and arbitrage.

[9] According to the National Bureau of Statistics (NBS), the incremental (new) financing amount has doubled from 6.98 trillion RMB in 2008 to around 15 trillion RMB every year over the period of 2009-2016 in China. Please refer to Figure 2.2 (p. 32).

Subsequently, shadow banking activities have increased dramatically and the authorities began to accelerate the financial reforms and financial supervision to control the financial turmoil in the post-crisis era. As an important financial reform in China, Interest Rate Liberalisation (IRL) has effectively increased the competition for deposits and reduced the traditional interest margin in the banking industry, especially after 2013 (Wang, Zhao & Li, 2022; Fang et al., 2019). WMPs with higher market-oriented yields have been boosted remarkably, serving as a competitive substitution to deposits and the resource of income diversity.

Therefore, under the impact of macro-economic factors, commercial banks, as the dominant financial institution in China, face the challenge of effectively conducting funds and credit from the supply side to the demand side under the pressure of profitable and sustainable development. They continuously innovate and issue WMPs to satisfy the demand for an investment instrument to raise funds in response to financing, especially shadow loans. On the other hand, due to WMPs being under-regulated products and playing a crucial role in commercial banks related to regulatory arbitrage, the development of WMPs has also been driven by internal factors, especially the supervisory indicators for commercial banks.

In recent years, commercial banks have been under strong regulations in China. Due to the credit boom since 2009, the liquidity indicators of commercial banks have reached and even exceeded the supervisory ceiling. To temporarily reduce the Loan-to-Deposit Ratio (LDR) when it is monitored, commercial banks issue more WMPs to attract funds, which can be recorded as deposits on the balance sheet in the fundraising period (Acharya et al., 2021; Cai, et al., 2019; Ehlers, Kong & Zhu, 2018). Besides, to remove Non-Performance Loans (NPLs) off the balance sheet and satisfy the requirements of capital and asset quality, commercial banks package their NPLs and other credit assets to sell to Non-bank Financial Institutions (NBFIs) and buy them back under repurchase agreements (Luo et al., 2019). Subsequently, an increasing number of WMPs have been issued and invested into trust plans and asset management plans, which are repackaged credit assets[10].

Significantly, due to the funds raised by WMPs going beyond 50% of the total assets of the banking industry, the development of WMPs has become increasingly important in banking stability in recent years. As an innovative arbitrage instrument, WMPs have a positive impact on the liquidity and profitability of commercial banks, enhancing banking stability notably. WMPs attract public funds to increase the scale of capital, then commercial banks can issue more loans to obtain an interest margin income. Because the costs of short-term WMPs are always lower than the return and risk premium of the long-term asset portfolios that WMPs ultimately invested in, commercial banks

[10] Those repackaged credit assets are also regarded as Non-Standardised Debt Assets (NSDAs). Please referring to Chapter 3, Section 3.2 (p. 59) for details.

achieve investment benefits as well. The proportion of WMP income to the gross income of commercial banks has increased significantly in previous years[11].

However, the evolution of WMPs is more like a combat between the regulations and regulatory arbitrage by commercial banks, something which has caused potential threats to the stability of banking system. During the past decade, there have been three main innovations in the operations of WMPs, specifically the Fund Pool-Asset Pool Model (FPAPM), Non-Standardised Debt Assets (NSDAs), as well as channelling and outsourcing businesses, which have made commercial banks incur an excessive maturity mismatch and higher likelihood of engaging in shadow banking activities (Luo et al., 2019). The underlying assets in the "asset pool" tend to be less transparent and face potential defaults. Multiple embedded channelling and outsourcing businesses have lengthened the financial chain and caused massive funds to circulate in the banking and financial system to default to arbitrage, which has increased the leverage ratio and false expansion of assets (Li, 2017). More importantly, WMP operations make the cooperation between banks and NBFIs, as well as among banks, much closer. The instability of an individual bank or one type of commercial bank may affect the whole banking sector. These problems may lead to the instability of the banking system and even the whole financial system.

As a consequence, the New Regulation on Asset Management (AMR) has been announced to standardise WMP businesses. It gives commercial banks a transitional period to transform their risky WMPs operation mechanisms. The excessive expansion of WMPs has been contained since 2018. The development of WMPs and commercial banks in China has entered a new state. AMR also aims to effectively limit the immoderate growth of shadow banking, preventing financial risks and guiding social funds to inflow into the real economy in China, which is conducive to banking stability. Therefore, AMR is a significant regulation that has affected the development of WMPs and banking stability.

In addition, the assessment of banking stability has been continuously updating in the post-crisis era. The Basel Committee on Banking Supervision (BCBS) has continued to improve the regulatory framework of Basel III regarding management risks and ensuring the stability of the banking system. In recent years, the Chinese government has explicitly emphasised the importance of financial reforms and safety. The authorities have restructured the financial supervisory system from 2017 onwards to crack down on shadow banking activities (including WMPs), looking to reduce the financial leverage to improve banking stability. The supervisory indicators of commercial banks in China have subsequently been updated. To be specific, liquidity indicators, like the Net Stable Funding Ratio (NSFR) were introduced in late 2017. Capital Adequacy Ratio (CAR) and leverage ratio are important indicators in the Macro-Prudential Assessment (MPA) for banking stability evaluation, which was proposed by

[11] According to Cao (2018), incomes from WMPs have increased from 90.8 billion RMB in 2014 to 220 billion RMB, while the proportion of WMP income to the gross income of commercial banks has increased from 4.17% in 2014 to 12.57% in 2017.

PBOC from 2017 onwards. The grading management of leverage was underlined in 2018. Moreover, non-interest business has become an important income source for banks, making the Non-Interest Income Rate (NIIR) an important indicator of banking diversity and sustainable development. Consequently, evaluating banking stability under multifaceted indicators affected by the new requirements has resulted in acute concern under the increasingly competitive financial environment in China.

Noteworthily, nationwide commercial banks (including SOCBs and NJSCBs) occupy about 70% of the total banking assets in China, while in recent years, local commercial banks (including CCBs and RCBs) are playing an increasingly important part in the banking system. Moreover, there is an imbalance of resources and credit allocation in China's banking system. Due to NCBs and LCBs operating under distinct asset sizes, ownership structures, market segmentation and functions, they face different risks and requirements regarding the regulations. Therefore, the stability of NCBs and LCBs is expected to be different. It is also worth exploring the differences between the types of commercial bank and the development of WMPs and their impact on banking stability.

1.4 Research Objectives

In general, the objectives of this study are to find out the determinants of the development of WMPs and their impact on banking stability. The specific objectives of the study are as follows:

Objective 1: To investigate the factors influencing the development of WMPs in China.

This study will take two aspects, macro-economic factors and internal factors, into consideration. The macro-economic factors include social financing demands, resident income, Interest Rate Liberalisation (IRL), the development of the real estate industry and more importantly, the New Regulation on Asset Management (AMR). The internal factors include indicators for liquidity, capital requirement, asset quality and earnings. Furthermore, due to there being differences in asset size, governance structure, supervision requirements and resource allocation between NCBs and LCBs, it is worth exploring the differences between the determinants of WMP development by the type of commercial bank.

Objective 2: To develop the Banking Stability Index (BSI) based on the new supervisory indicators related to Basel III and China's new regulations, and to analyse the different levels of bank stability.

This study refers to the CAMELS (Capital, Asset, Management, Earning, Liquidity and Sensitivity of Market Risks) supervisory rating system to develop the Banking Stability Index (BSI). The new Basel III, the Chinese supervisory standards of Tier 1 CAR, the leverage ratio, the Non-Interest Income Rate (NIIR) and Net Stable Funding Ratio (NSFR) have also been taken into consideration in this study to analyse the variations in banking stability. Additionally, due to there being differences in asset size, business structure, governance structure, supervision requirements and resource allocation between NCBs and LCBs, this study compares and discusses their different levels of banking stability.

Objective 3: To ascertain the impact of WMPs on banking stability in China.

This study inspects the impacts of WMPs on banking stability based on the BSI developed in Objective 2. Besides, considering the different issuing sizes and operation mechanisms of WMPs, as well as the differences in asset size, governance structure, supervision requirements, and resource allocation between NCBs and LCBs, the impact of WMPs on different types of commercial banks is expected to be different. Therefore, this study compares and discusses the different impacts of WMPs on banking stability between the different types of commercial bank in China.

Objective 4: To examine the moderate effects of the new regulation on Asset Management (AMR) on the relationship between WMPs and banking stability in China.

This study will take AMR into consideration to examine the impact of WMPs on banking stability. AMR brings in a major change in how commercial banks operate their WMPs, reducing the probability of potential risks being felt by WMPs related to the development of commercial banks.

1.5 Research Questions

Consistent with the above issues, this study attempts to address the research questions formulated from the research objectives.

Question 1:

What are the determinant factors of the development of WMPs?

Do macro-economic factors, internal factors and AMR have a significant effect on the development of WMPs in China?

Are the impacts of the macro-economic factors, internal factors, and AMR on the development of WMPs different between the two different types of commercial bank?

Question 2:

How is the level of banking stability in China reflected in the Banking Stability Index (BSI) constructed under the new supervisory requirements of Basel III and the regulations of the Chinese financial system?

Are there differences in the BSI between different types of commercial bank in China?

Question 3:

Does the development of WMPs have a significant impact on banking stability in China?

Are there different impacts due to WMPs on banking stability between the different types of commercial bank in China?

Question 4:

Is there a moderate effect of AMR on the relationship between the development of WMPs and banking stability in China?

1.6 Significance of the Study

This study has discussed the development of WMPs, including their nature, the current situation, classification, underlying assets, and operating mechanisms. The consequent influences of WMPs on the stability of the banking system and the entirety of the financial system in China have both been explored and analysed. This study consists of great theoretical and practical contributions on the development of WMPs and shadow banking under the new supervisory situation, as well as the profound impacts of WMPs on banking system in China.

From the theoretical point of view, this study makes contributions to the existing literature according to the following aspects. First, it provides empirical evidence on the determinants of WMP development, especially external factors such as Interest Rate Liberalisation (IRL) and New Regulation on Asset Management (AMR), whereas most of the previous research has mainly focused on internal factors like the liquidity indicators. Due to the particular politico-economic structure and strong government interventions found in China, financial deregulation and financial repression coexist in China's financial market. Therefore, financial regulations play an increasingly important role in the performance of WMPs and commercial banks in China. This study took the most influential regulation in the development of WMPs in recent years, AMR, into consideration and provided evidence on the impacts of AMR related to the development of WMPs and banking stability. Besides this, IRL is an important part of financial reform in China. There seems to be interaction between IRL and the development of WMPs. IRL has narrowed the interest margin and increased

the deposit competition among commercial banks, while the market-oriented high yield of WMPs has promoted IRL. This study constructed a quarterly Interest Rate Liberalisation Index (IRLI) to investigate the impacts of IRLI on the development of WMPs.

Additionally, this study developed the Banking Stability Index (BSI) using the updated supervisory requirements of Basel III and China's banking supervisory system, which contributes to the existing research about the proxy variable of banking stability. Specifically, "Rules on Leverage Ratio Management of Commercial Banks" was revised in January 2015 and introduced the new formula for the leverage ratio for commercial banks. "Rules on Liquidity Risk Management of Commercial Banks" was then updated in late 2017, introducing new liquidity indicators. This study calculated two indicators for developing BSI: the Leverage Ratio (LVR) based on the new formula and the Net Stable Funding Ratio (NSFR) considering the off-balance sheet (OBS) activities for chosen commercial banks. Under the accelerating process of IRL in China, increasing the proportion of commercial banks' revenue has come from a non-interest income to cope with the fluctuations of interest rates. Non-Interest Income Rate (NIIR) has thus become an important indicator of banking income diversification and sensitivity to interest rate risks in recent years. Therefore, this study also takes NIIR into account when constructing the BSI of commercial banks in China.

Furthermore, WMPs are regarded as a significant instrument related to the regulatory arbitrage and OBS activities of commercial banks, which window dress their financial statement. It also makes the cooperation between banks and Non-Bank Financial Institutions (NBFIs), and even among banks themselves, much closer. Consequently, the impacts of WMPs on banking stability are multifaceted and a comprehensive BSI can give a more appropriate explanation. The previous research has always focused on the impact of WMPs on the risk-taking of commercial banks, using NPLR that reflects the credit risk and Z-score that reflects bankruptcy risk as the dependent variable. This study developed the BSI based on the CAMELS model[12], which considers various aspects of the effects on commercial banks. The analysis of the impacts on banking stability is more integrated.

Lastly, this study expands the literature on the impacts of WMPs on the stability of the banking system in China by taking AMR into consideration. AMR gave commercial banks an interim period from 2018 to 2021 in which commercial banks needed to transform their existing WMPs to meet the new requirements. This study attempts to inspect the moderate effect of AMR to enhance the current understanding about the relationship between WMPs and banking stability.

[12] CAMELS model (rating system) includes Capital adequacy, Asset quality, Management, Earnings, Liquidity and Sensitivity to market risk, six components for banking evaluation.

In a practical sense, China's financial regulators are paying close attention to the development of WMPs since they are an important part of shadow banking and an intermediary between traditional and shadow banking in China. This study provides suggestions to regulators and commercial banks in China. Regulators can recognise WMPs based on the results and analysis of this study, including both its positive and negative influences related to the development of commercial banks and the financial system. Besides, this study further identifies the differences between the two types of commercial banks as the determinants of WMP development, as well as the impact of WMPs on banking stability and the moderate effects of AMR. Therefore, this study could help regulators formulate and differentiate between regulations, taking different types of banks into consideration. Subsequently, they can identify and confirm the targets of WMPs and bank regulations to normalise the operation of WMPs and improve the banking supervisory system as well as avoid asset bubbles and even bank runs.

Additionally, this study provides commercial banks with an in-depth understanding of their WMPs and an assessment of the impacts of WMPs. WMPs are also a way for commercial banks to increase their competitiveness, especially Nationwide Joint-Stocks Commercial Banks (NJSCBs) and City Commercial Banks (CCBs). This study also reminds banks to consider their net profits and potential risks when issuing excessive WMPs. Commercial banks should balance the influences of both the benefits and risks caused by WMPs and accelerate the reformation of WMPs under regulations. Besides, owing to WMP management being closely related to the asset-liability management of commercial banks, this study could provide thoughts for commercial banks on asset-liability management. Therefore, this study contributes to the process of accelerating the reformation of WMPs and commercial banks, as well as preventing financial risks and promoting the development of real economy.

Last but not least, this study provides a thorough understanding of WMPs for the public, including both individual and corporate investors. Better guidelines for professional institutions and the media for public investors will stimulate the reformation of WMPs according to the essence of Asset Management Products (AMPs) and increase client wealth. From the perspective of the macro-economy, a comprehensive explanation of the development of WMPs and their impacts could promote the reformation of WMPs, which are able to accelerate the development of the capital market and financial liberalisation in China.

1.7 Structure of the Study

This thesis is comprised of six chapters and is organised as follows. Chapter 1 provides the general context of this study, starting with the basic definition and nature of WMPs as well as the current situation of WMPs in China. Then it gives an overview of China's banking system and China's financial supervisory system. After that, it proposes sets of research questions based on the issues and problem statements with regards to the innovation of WMPs. The theoretical

and practical contributions of this study are outlined in the final parts. Chapter 2 reviews the literature on WMPs and the influences of WMPs on banking stability. After that, it provides related theories and develops the theoretical framework. The literature review is structured into the following three sections: (1) the relationship between shadow banking and WMPs, and the consequences of the rapid expansion of shadow banking and WMPs; (2) the determinants of the development of WMPs; and (3) the indicators of banking stability, specifically the impacts of WMPs on banking and financial stability. Chapter 3 introduces the development of WMPs in China, including the classification, main underlying assets, operating mechanism and characteristics found in the different stages of WMPs.

Chapter 4 reports the research design, data, and methodology. Specifically, it presents the sample design and sources used in the data collection. Then, the methods of the data analysis are discussed, and empirical models consistent with the research objectives are conducted in this chapter, such as the methods used to develop the banking stability index. Chapter 5 discusses and analyses the empirical results of the models, covering the determinants of the development of WMPs, the results of the banking stability index, the influences of WMPs on the banking stability, and the moderate effects of AMR on the relationship between WMPs and banking stability in China. Chapter 6 includes a conclusion of the whole thesis, including a summary of the findings, as well as the theoretical and practical implications, limitations, and future research suggestions.

1.8 Conclusion

This chapter discusses the development of WMPs first, which has underlined the great importance of WMPs in China's banking system as the largest fund resource for shadow banking activities. Due to China's unique financial market, the banking system and financial supervisory system in China are introduced as background. Then, the problem statement, research objectives and questions are presented to understand the significance of the study. The next chapter deeply explores the underlying assets and operating mechanism of WMPs in China to understand how WMPs have become shadow deposits and generated a growing amount of research.

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