

CHINA

Promoting the Shift from Indirect Financing to Direct Financing in China

Chi Hung Kwan / Nomura Institute of Capital Markets Research

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FOREWORD

This issue of *Nomura Journal of Asian Capital Markets* features articles from experts on noteworthy themes in Asian financial and capital markets with an eye toward the post-COVID era.

Chi Hung Kwan, Senior Fellow at Nomura Institute of Capital Markets Research (NICMR), highlights the importance of a shift from indirect to direct financing in China. In the 14th Five-Year Plan, the Chinese government pledged to implement six measures to increase the share of direct financing, including improving the multi-layered capital market system, enhancing the quality of listed companies, and promoting market access to long-term funds.

Eiichi Sekine, Managing Director, and Liangye Song, Financial Industry Analyst, in the Beijing Office of NICMR introduce China's first personal defined-contribution pension plan. This newly launched account-based personal pension scheme is expected to supplement the first pillar of the pension system—China's state-sponsored basic public pension plans that combine individual accounts with a social pool—and the second pillar which consists of private enterprise and occupational pension plans.

Minki Kim, Research Fellow at Korea Capital Market Institute, writes about the recent evolution of the exchange traded fund (ETF) market in Korea. The ETF has been preferred by many retail investors because of its low cost and high liquidity. In recent years, the rise of thematic ETFs that track a basket index of equities related to a specific theme and active ETFs that are purposed to outperform the benchmark index has become the key to the growth of the Korean ETF market.

Arunima Haldar, Assistant Professor, and Hemant Manuj, Associate Professor, at S.P. Jain Institute of Management and Research present the challenges Indian micro, small and medium enterprises (MSMEs) face and the enabler for them. MSMEs have suffered from a lack of adequate financing and are under heightened pressure from various stakeholders to comply with environmental, social and governance (ESG) norms. Fintech-based lending using big data and machine learning is expected to help MSMEs' access to financing.

Bordin Bordeerath, Lecturer at Thammasat Business School, discusses the importance of family business groups (FBGs) in Thailand. FBGs can effectively create a so-called "internal capital market" within the group and contribute to propelling economic growth through efficient resource allocation within the economy. His analysis suggests, though, that business groups can become inefficient as they grow too large, and some business groups in Thailand might be too large to allocate resources efficiently.



CHI HUNG KWAN

Nomura Institute of Capital Markets Research

Promoting the Shift from Indirect Financing to Direct Financing in China

Introduction

China's financial structure has been transformed significantly since the country started the process of market-oriented reform and opening up to the world in the late 1970s, but direct financing through capital markets is still playing a lesser role than indirect financing through banks. As a result, it has failed to meet the diverse needs of investment and funding, especially in supplying risk capital to technologically innovative firms needed to promote industrial transformation and upgrading. Overreliance on indirect financing has also increased systemic risk through the accumulation of debts owed by firms to banks.

To solve these problems, the government has positioned the shift from indirect to direct financing as a priority for financial reform. In the 14th Five-Year Plan (2021-2025), it has pledged to (1) fully implement a registration-based initial public offering (IPO) system and expand financing channels through direct financing; (2) improve the multi-layered capital market system and inclusiveness of direct financ-

ing; (3) improve the quality of listed companies and strengthen the basic system of direct financing; (4) promote innovative development in the bond market and enhance direct financing tools; (5) accelerate the development of private equity funds; and (6) promote the entry of long-term funds into the market and enhance the sources of direct financing. Among these initiatives, improving the quality of listed companies is the key to the healthy development of direct financing.

China's Indirect Financing-Centered Financial Structure

Direct financing refers to an economic entity raising funds through financial markets (stock markets, corporate bond markets, etc.), while indirect financing occurs when it raises funds through borrowing from banks and other financial institutions that collect deposits. China's financial structure is dominated by indirect financing, and this can be confirmed by checking the composition of financial assets of the household sector and financial liabilities of the nonfinancial corporate sector.¹

First, looking at the composition of the household sector's financial assets,

the share of cash and deposits in China reached 58.8% (at the end of 2018), higher than in developed countries and regions such as Japan, the United States and the euro area (all at the end of March 2021), while the share of debt securities (bonds) and equities, etc. is low (Figure 1).²

Next, looking at the composition of financial liabilities in the nonfinancial corporate sector, in the case of China, the share of loans is 54.2% (end of 2018), which is higher than in Japan, the United States, and the euro area (all at end of March 2021), while the share of equities and other assets is lower (Figure 2).

Aims of Promoting Direct Financing

The development of direct financing should contribute to industrial upgrading, a shift of funds from deposits to securities, and financial system stability.

Industrial upgrading

As shown by other countries' experience, indirect financing, mainly through borrowing from banks, is better suited to mature, traditional manufacturing and real estate industries, whereas direct fi-

Figure 1: Composition of Financial Assets of the Household Sector in China: Comparison with Japan, the U.S., and the Euro Area

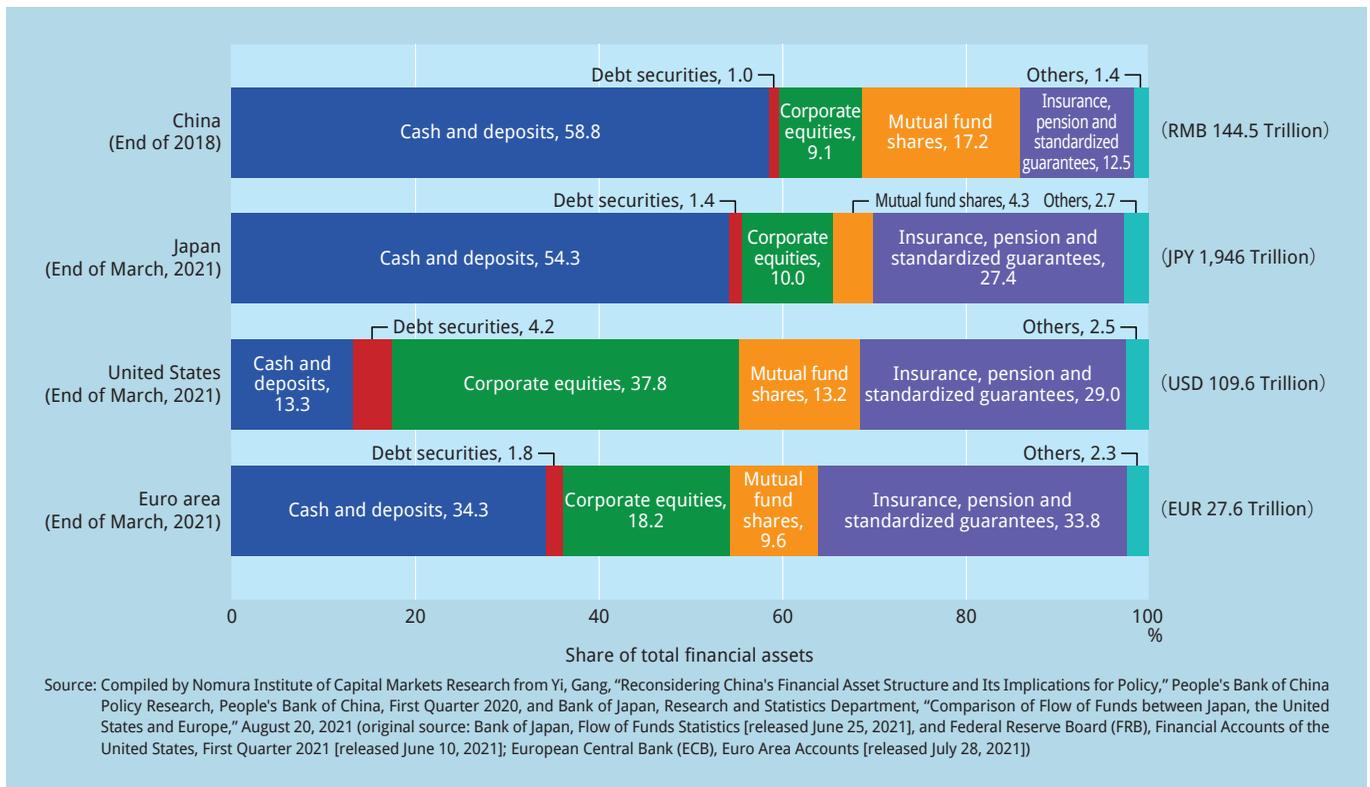
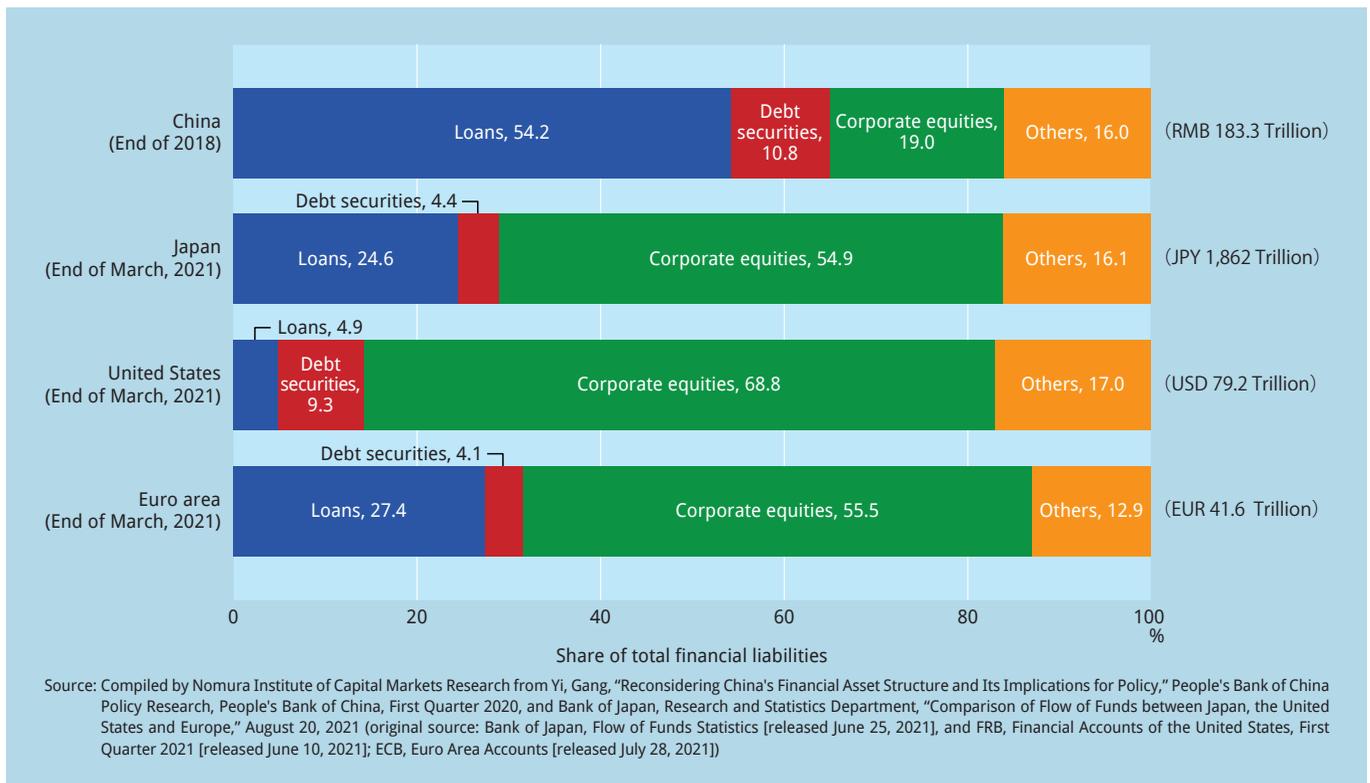


Figure 2: Composition of Financial Liabilities of the Nonfinancial Corporate Sector in China: Comparison with Japan, the U.S., and the Euro Area



nancing, mainly through issuing equity shares, is an important channel for raising funds for emerging industries.

For banks, companies in mature traditional manufacturing and real estate industries, which have large amounts of tangible assets, are low-risk borrowers because they can provide collateral such as land, and their earnings are relatively stable. In contrast, innovative companies in the high-tech and modern service industries are high-risk borrowers to avoid because the difficulty of assessing the value of their core assets, such as human resources and intellectual property, makes it difficult to use them as collateral, and because these companies also have difficulty turning expensive research and development (R&D) investments into profits in a short time.

On the other hand, direct financing, which provides products that can be priced commensurately with the risk, can provide an efficient route to the procurement of risk capital for innovative firms, thereby promoting R&D and, ultimately, industrial upgrading.

Shift of funds from deposits to securities

For households, deposits provide low-risk, low-return investment vehicles, while securities such as stocks and corporate bonds provide high-risk, high-return investment vehicles. In China, which has experienced rapid economic development, the household sector is becoming more risk tolerant when investing its funds as the size of its assets grows, leaving more room to shift funds from deposits to securities.

However, against the backdrop of an aging population, investable funds are increasingly concentrated among the elderly, who have low risk tolerance. In order to channel the funds that they have from indirect financing to direct financing, there is a need to develop financial products that reduce risk through diversified investments, such as mutual funds.

Financial system stability

For a long time in China, under a financial structure centered on indirect financing, corporate financing has been overly dependent on bank loans, leading to the accumulation of financial risks by banks. Moreover, as symbolized by the expression “too big to fail,” there is an expectation that the government will bail out banks in financial crisis, and this encourages moral hazard. As emphasized by Guo Shuqing, Party Secretary of the People’s Bank of China and Chairman of the China Banking and Insurance Regulatory

Commission, the development of direct financing is not only expected to improve the allocation of funds in a way that meets the diversified needs of fund providers and fund users, but also to contribute to financial system stability by reducing corporate reliance on bank loans and improving corporate financial conditions.³

Measures to Increase the Share of Direct Financing

In the 14th Five-Year Plan, increasing the share of direct financing has been identified as a priority for financial reform. To achieve this, the following issues must be addressed, according to Yi Huiman, Chairman of the China Securities Regulatory Commission.⁴

Full implementation of a registration-based IPO system and expansion of direct financing channels

First, by referring to successful examples from overseas, reflecting China’s characteristics and stage of development, and based on the trial experience of the Shanghai Stock Exchange Science and Technology Innovation Board (STAR Market) and the ChiNext Board, a registration-based IPO system focusing on information disclosure should be implemented in all domestic stock markets. In addition, basic institutional reforms regarding issuance, listing, trading, and ongoing supervision and management should be promoted to ensure that each related party can fulfill its respective responsibilities, the market pricing mechanism can function more effectively, and more and more promising companies can grow through capital market financing.

Improvement of the multi-layered capital market system and the strengthening of the inclusiveness of direct financing

In order to increase the share of direct financing, it is necessary to establish a multi-layered capital market system that is highly inclusive and able to respond to the diverse financing needs of different types of firms and stages of growth (Figure 3). Toward this end, the reform of the main boards in Shanghai and Shenzhen should be promoted. At the same time, through

innovations in the basic system, STAR Market should be further developed, while the characteristics of the ChiNext board should be utilized to support the growth of technologically innovative enterprises. Furthermore, the New Third Board should be further reformed to strengthen its ability to meet the needs of small and medium-sized enterprises (SMEs), while at the same time normative off-exchange markets, such as regional over-the-counter markets should be developed. The financial derivatives markets should be reformed and their risk management mechanisms should be improved.

Improving the quality of listed companies and strengthening of the basic system of direct financing

First, mechanisms for secondary offering, mergers and acquisitions, and equity compensation should be improved to support the transformation and upgrading of listed companies. In addition, the delisting system should be further improved, various exit routes should be developed, a permanent mechanism for delisting should be established, and the mechanism of natural selection should be strengthened. Furthermore, corporate governance reform of listed companies should be promoted and transparency in information disclosure should be enhanced. Companies leading in innovation and their industries should act as role models for others to follow. More and more companies should be encouraged to use direct financing as a means to achieve high quality development.

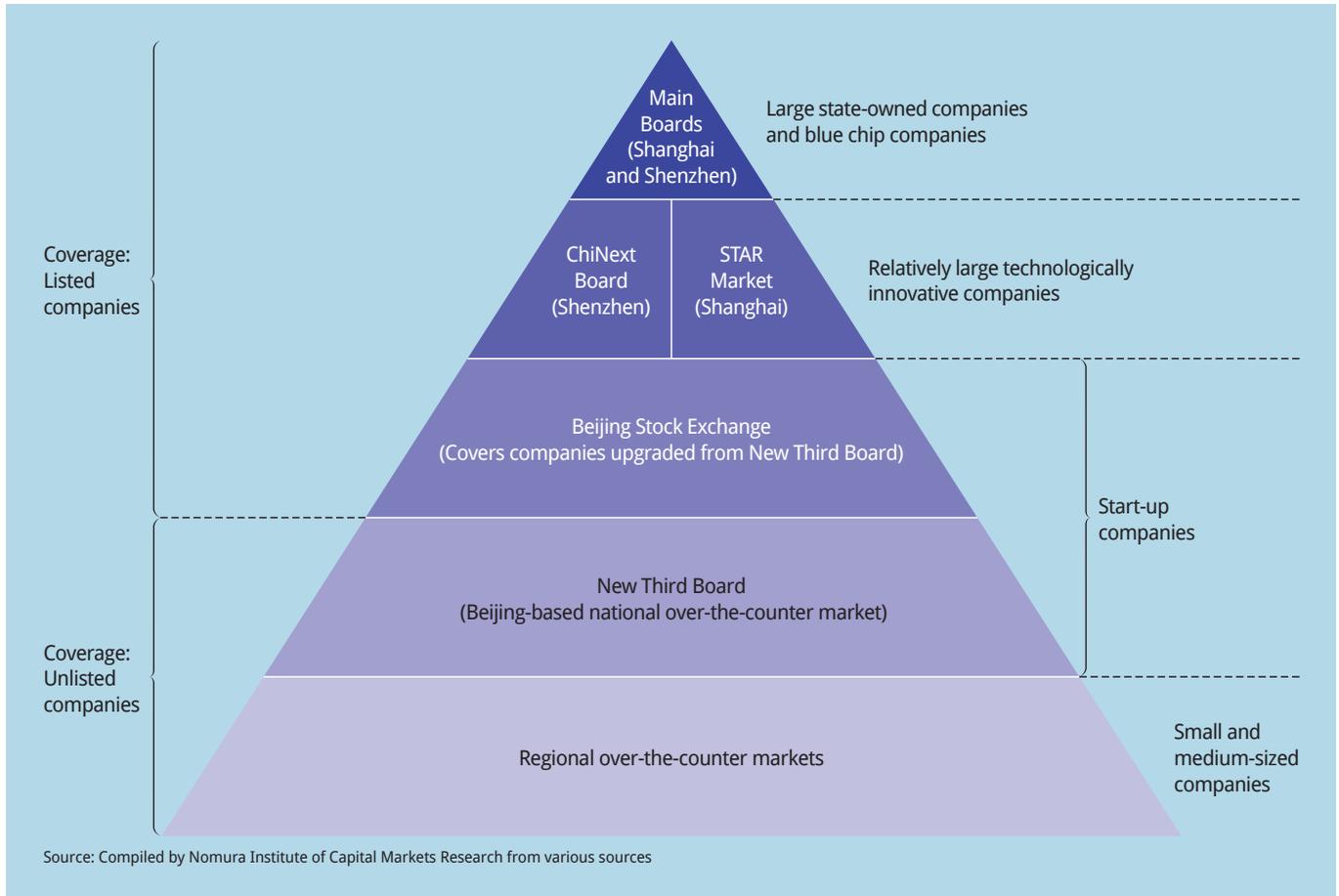
Promotion of innovative development in the bond market and enhancement of direct financing tools

First, the registration system for bond issuances should be improved, the interconnection of exchanges and inter-bank bond market infrastructure should be strengthened, and bank participation in bond trading should be supported. Development of asset securitization products should also be focused on. In the infrastructure sector, the scope of publicly offered real estate investment trusts on a trial basis should be expanded to establish a successful example as soon as possible. Furthermore, the scope of intellectual property securitization should be broadened to promote the practical application of scientific and technological achievements.

Acceleration of the development of private equity funds

First, sources of funding should be actively developed, barriers to each pro-

Figure 3: China's Multi-layered Capital Market System



cess should be eliminated, including recruitment, investment, management, and exit, and private equity funds should be encouraged to invest in small, start-up, and high-tech companies. An administrative interim ordinance on private equity funds should also be issued, guiding them to continuously improve their professional operation and compliance awareness. Furthermore, cooperation among government agencies and between the central and local governments in dealing with risks should be strengthened, misconduct related to private placements should be eliminated, and the normative and healthy development of the industry should be promoted.

Promotion of market access to long-term funds and enhancement of direct financing sources

First, in order to secure long-term funds, the capacity of specialized asset management institutions should be enhanced, and efforts should be focused on developing mutual fund products that invest primarily in equities to promote the entry of medium- to long-term funds into

the capital market. In addition, policies and guidance should be strengthened to increase the number of long-term oriented institutional investors and prompt a return to the key philosophy of value investing. Furthermore, outstanding foreign securities firms and asset management companies should be encouraged to enter the Chinese market in order to promote healthy competition in the industry.

Improving the Quality of Listed Companies

Among these measures, improving the quality of listed companies seems to be the key to promoting the development of direct financing. To this end, state-owned enterprises with lackluster performance

should be delisted and the new listing of dynamic private companies should be actively promoted.

In China's stock market, many listed companies are state-owned, with more than half of their outstanding shares held by the government or by state-owned companies. Corporate governance of these companies is usually weak, and as a result profitability is poor. Despite the implementation of "non-tradable share reform" in 2005, which aimed to eliminate the distinction between non-tradable shares owned by the government and state-owned companies and tradable shares owned by other investors, the situation has not changed significantly.

Moreover, the Communist Party has tightened its control on listed companies, including private ones by promoting "party building" in these companies. According to the "Governance for Listed Companies" issued by the China Securities Regulatory Commission, organizations of the Communist Party should be established in listed companies in accordance with the Company Law to conduct the Party's activities. In

addition, state-controlled listed companies should incorporate requirements related to party building into their articles of association.

The role of Party organizations in listed companies has extended beyond the traditional scope, which was limited to the supervision of enterprises, to decision-making.⁵ As a result, the authority of the board of directors has weakened, while shareholders have lost some legal rights prescribed by the Company Law, including the rights to make important decisions and to elect managers, which they previously exercised in accordance with the size of their shareholdings.

On the other hand, to avoid tight regulations in the Chinese market, many fast-growing private companies, including such high-tech giants as Alibaba and Tencent, have chosen to list their stocks on overseas markets, including in the United States. Under the current regime of capital controls, Chinese investors are deprived of the option to buy shares of these companies.

Reflecting this phenomenon, which could be called “bad money drives out good” (Gresham’s law), domestic stock prices have been stagnant for a long time and stocks have failed to attract investors, despite the high growth of the Chinese economy.

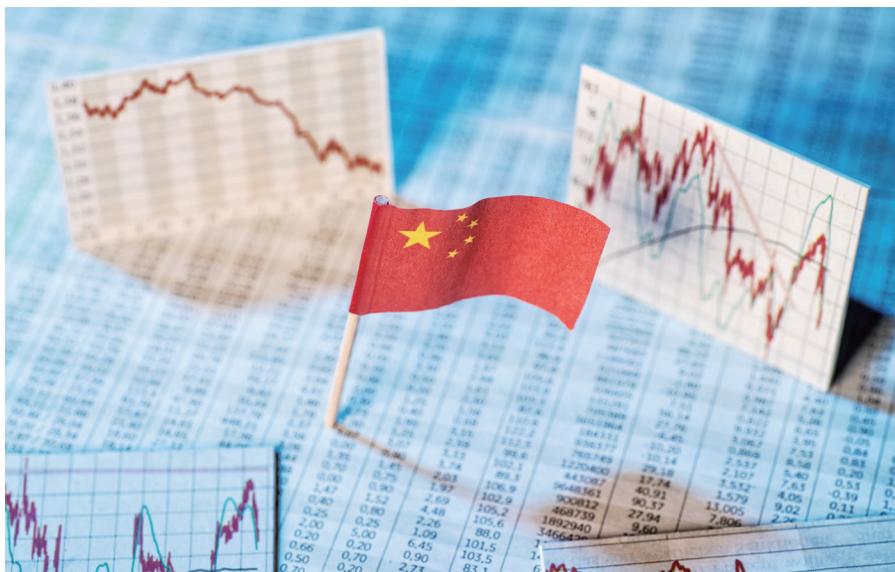
By improving the quality of listed companies, limiting the involvement of the government and the Communist Party in corporate decisions, broadening the channels for the listing of private companies on domestic stock exchanges through improving the multi-layered capital market system, and encouraging high-tech companies that are listed overseas to return to the Chinese market should promote the shift from indirect to direct financing in China.⁶

assets held by the urban household sector amounted to RMB3,179,000, of which real assets accounted for 79.6% of the total (of which housing accounted for 59.1% of the total), while financial assets amounted to RMB649,000 (20.4% of the total).

- 3 Guo, Shuqing, “Accelerate the Construction of New Development Patterns and Prevent the Re-Expansion of Financial Risks,” Keynote Address at Lujiuzui Forum 2021, June 10, 2021.
- 4 Yi, Huiman, “Raising the Share of Direct Financing,” *Supplementary Readings of The Proposal of the CPC Central on the 14th Five-Year Plan for National Economic and Social Development and Long-Term Goals to 2035*, People’s Publishing House, 2020.
- 5 See, for example, Livingston, Scott, “The New Challenge of Communist Corporate Govern-

ance,” *CSIS Briefs*, Center for Strategic and International Studies, January 2021.

- 6 To encourage Chinese companies listed overseas to return to the domestic market, the State Council announced on March 30, 2018 a document titled “Several Opinions on Launching Pilot Project for Innovative Enterprises’ Issuance of Shares or Depositary Receipts in Domestic Market.” This document lays down new rules for domestic listings (on the A-Share sections of the Shanghai and Shenzhen markets) of red-chip companies already listed in overseas markets by issuing China Depositary Receipts (CDRs), which are backed by shares and other securities issued abroad. See Kwan, Chi Hung, “Reform of the Listing System for High-tech Companies: Opening the way for red-chip companies to issue CDRs,” *China in Transition*, Research Institute of Economy, Trade and Industry, September 6, 2018.



Notes

- 1 Regarding the shift from indirect to direct financing, while in Japan the focus is on the composition of the household sector’s financial assets, as in the government’s effort to promote shifting “from savings to investment,” the Chinese government is more concerned with the structure of corporate funding.
- 2 The asset composition of the household sector in China shows a high percentage of real assets, such as housing, and a low percentage of financial assets. According to the “2019 Survey on the Household Assets and Liabilities of Urban Households in China” (*China Finance*, 2020, No. 9), the average

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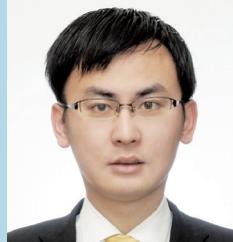
Chi Hung Kwan has been Senior Fellow at Nomura Institute of Capital Markets Research since 2004. Prior to his current position, he was Senior Fellow at the Research Institute of Economy, Trade and Industry (RIETI) from 2001 through 2004. From 1987 to 2001, he was Senior Economist at the Nomura Research Institute. During this period, he was a Visiting Fellow at The Brookings Institution in the Center for Northeast Asian Policy Studies from 1999 to 2000. Dr. Kwan received his bachelor’s degree from the Chinese University of Hong Kong, and his Ph. D. in Eco-

nomics from the University of Tokyo. He is the author of *Yen Bloc - Toward Economic Integration in Asia*, Brookings Institution Press, 2001; and *Economic Interdependence in the Asia-Pacific Region: Towards a Yen Bloc*, Routledge: London, 1994. He has published eleven books in Japanese, including *China as Number One* [Toyokeizai Shinposha, 2009]. His “China in Transition” column, which appears in RIETI’s website in English (<http://www.rieti.go.jp/en/china/index.html>), Japanese, and Chinese, is widely read by policymakers, researchers and business executives.



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China's New Private Pension Scheme—Account-based Personal Pensions & Key Tax Incentives

Introduction

On April 21, 2022, the Chinese government (State Council) issued the *Opinions of the General Office of the State Council on Promoting the Development of Private Pensions (Opinions of the State Council, hereinafter)*, announcing its decision to introduce a new private pension system that will enable individuals to contribute to and manage pension funds by opening a personal account.¹ This account-based personal pension scheme is the first personal defined-contribution pension plan introduced in China (equivalent to Japan's individual defined contribution pension plan, iDeCo). The scheme is attracting attention not only from pension professionals in China and abroad, but also from the asset management industry.

China has a three-pillar pension system. The first pillar includes China's basic public pension plans, the second pillar comprises private occupational pension plans, and the third pillar consists of private pension plans for individuals (Figure 1). The first pillar—China's state-sponsored basic public pension plans that combine in-

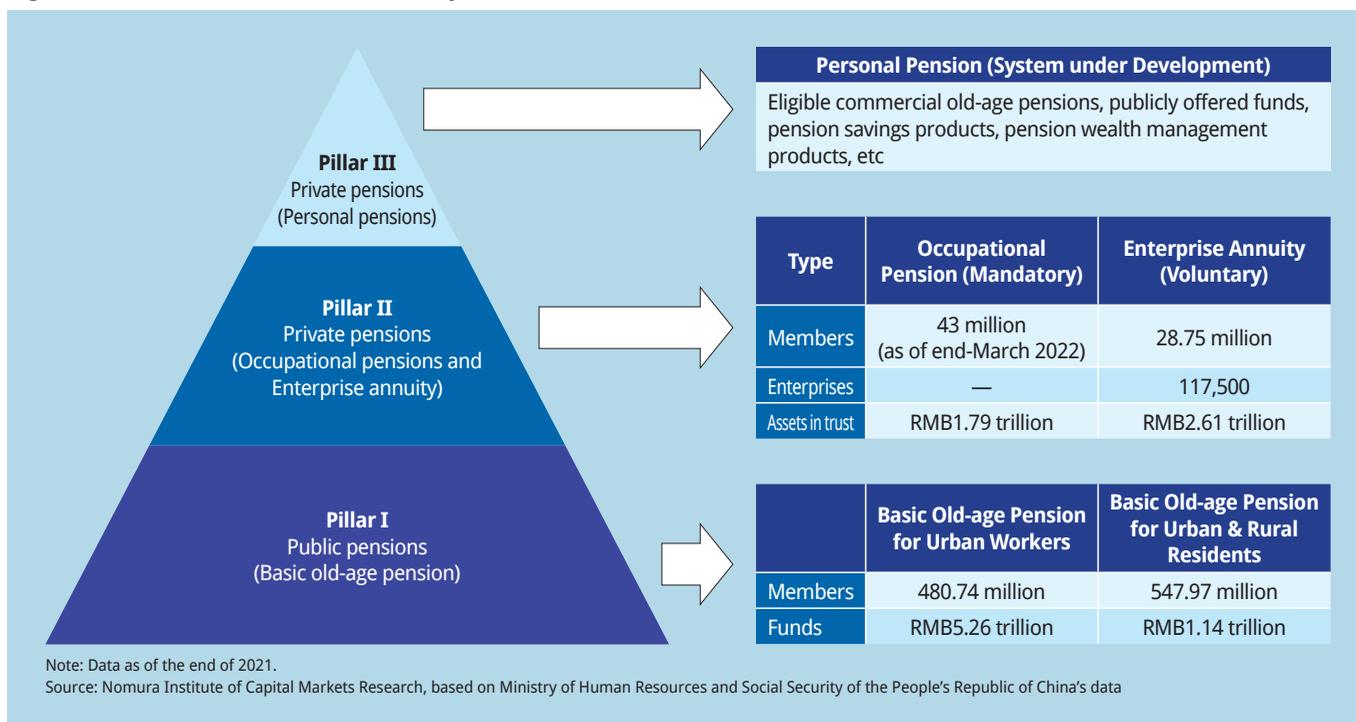
dividual accounts with a social pool—has the largest number of members. Although it is China's largest pension scheme, pension benefits are forecast to increase more than the pension premium income owing to China's declining birthrate and aging population. It therefore has been pointed out that the sustainable operation of the state public pension system may become difficult in the future. As for the second pillar, which consists of private enterprise and occupational pension plans (which will be described in more detail later) the growth rate for the number of enterprises introducing the system each year has declined in recent years, and growth in the participation rate among the working population has been sluggish. For this reason, the Chinese government and people have placed their hopes on private personal pensions, the third pillar of China's pension system, as a supplement to the first two pillars that will enable people to build retirement assets through their own investment efforts during their working years.

However, lacking any uniform standards, this third pillar of private personal pensions has to date been operated on a trial basis in certain regions with a focus on investment products developed specifically for these personal pension plans by various financial institutions under the management and supervision of various government financial authorities, including the People's Bank of China (PBOC), the China Banking and Insurance Regulatory Commission (CBIRC), and the China Securities Regulatory Commission (CSRC).²

It has been pointed out that, under this product-based personal pension scheme, the products developed and managed by different types of financial institutions lack uniformity from the perspective of investors. In addition, the procedure for investing in these pension-related financial products is difficult to understand. Moreover, tax incentives, the most important feature of any personal pension system, are being applied only to certain products, thereby creating the risk that this system will not deliver the long-term asset-building function that is crucial for a personal pension plan.

Considering the above issues, the reform of China's personal pension system moved into a new phase in 2021. The *14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-Range Objectives for 2035* (the 14th Five-Year Plan, hereafter), which was approved by the 13th National People's Congress on March 11, 2021, again emphasized that China's pension system is based on three pillars and adopted a policy of developing a well-regulated third pillar of private pension insurance.³ Following up on this policy, China has decided to introduce the account-based personal pension scheme mentioned at the beginning of this article. In October 2022, China's Ministry of Human Resources and Social Security, Ministry of Finance, State Taxation Administration, the CBIRC, and the CSRC announced the *Measures for the Implementation of Personal Pensions*, and then in November each agency announced

Figure 1: Structure of China's Pension System



detailed rules related to the account-based personal pension scheme. On November 25, the Ministry of Human Resources and Social Security announced this personal pension scheme would be launched in 36 pilot cities and regions.

This article presents an overview of the new account-based personal pension scheme, the role of financial institutions in establishing the scheme, and the scheme's complementary relationship with occupational pensions and enterprise annuities in the second pillar of China's pension system. The article will also discuss the importance of tax incentives, differences with Japan's iDeCo scheme, and other suggestions for China's pension system.

Design of China's Account-based Personal Pension Scheme

Account-based personal pension scheme outlined in the *Opinions of the State Council*

The previously mentioned *Opinions*

of the State Council presents the design of the new account-based private personal pension scheme, including which citizens can participate in the scheme, the financial products in which they can invest, and the operating model.

This new pension scheme is based on defined contribution (DC) pension plans, with contributions fully made by the subscribing individual up to an annual limit of RMB12,000.⁴ Eligible participants are workers 16 years of age or older who are already enrolled in one of China's basic public pension plans, the first pillar of the pension system.

The first key feature of the new personal pension scheme is the difference in tax treatment with the previous product-based scheme, under which the only tax incentive was the deferral of tax on personal income from commercial endowment insurance products. According to the *Opinions of the State Council*, the new scheme will provide tax incentives on a per-account basis for all regulation-compliant annuity-type financial products deposited in qualified personal pension accounts opened by subscribers to the new pension scheme. The opening of accounts and confirmation of the conditions for receiving benefits stipulated in the scheme's regulations will be carried out through the Personal Pension Information Management Service Platform (hereinafter, the "Infor-

mation Platform"), which is described in more detail below.

The second key feature is that the financial products eligible for inclusion in the new personal pension accounts include wealth management products, savings products, commercial endowment insurance, and target-date retirement funds. The criteria for products eligible for inclusion in the new personal pension accounts are that they be stable, mature, and securely managed financial products that have clearly defined investment targets and meet the risk appetite of each investor with an emphasis on long-term value retention.⁵

The third key feature involves the receipt of pension benefits. Pension plan subscribers can choose to receive benefits in monthly installments or in a single lump sum payout, but the payment method cannot be changed once decided. The age for beginning to receive pension benefits is China's statutory retirement age, which in principle is 60 for men and 50–60 for women depending on their occupation.

The fourth key feature is the schedule for implementing the new account-based personal pension scheme. According to the *Opinions of the State Council*, the scheme will be rolled out in certain selected cities on a one-year pilot test basis, and then gradually expanded nationwide. As noted above, the scheme will be rolled

out in 36 cities and regions selected by the Ministry of Human Resources and Social Security. The selected cities include the so-called first-tier cities⁶ of Beijing, Shanghai, and Shenzhen, as well as representative regional cities in each province (Table 1).

Account-based pension scheme management method

According to the *Opinions of the State Council*, participants in the new personal pension scheme must open two separate accounts. The first is a personal pension account registered with the pension authority and the second is a personal pension fund account opened at a financial institution for the deposit of insurance premium contributions and fund management.

Participants must first open a single dedicated personal pension account through the Information Platform managed by the Ministry of Human Resources

and Social Security. This account will be the basis for enrolling in the personal scheme and enjoying tax incentives. Related account information will be shared with other authorities, such as the Ministry of Finance and the State Taxation Administration, which will then provide such services as account management, contribution management, information retrieval, and tax payment information to subscribers.

Next, participants will have to open a separate personal pension fund account for their insurance premium contributions. Participants will be limited to opening one such personal pension fund account under their name at a bank or other eligible financial institution or financial instrument sales institution of their choice.⁷ Using this personal pension fund account, participants will be able to purchase various individual annuity products. In prin-

ciple, personal pension fund accounts will be operated in a closed-end manner, restricting the withdrawal of funds until the account owner reaches the age when pension benefits commence.

The *Measures for Implementing Personal Pensions* announced by the Ministry of Human Resources and Social Security in October 2022, stipulate that pension contributions deposited in the personal pension fund account will then be transferred to personal pension investment accounts managed by various approved financial institutions. As such, the participant's pension fund and pension fund investment accounts used to invest in financial products approved for personal pensions are managed separately. The financial institutions issuing and selling financial products for personal pensions must provide convenient service that enables participants to purchase, sell, and switch products in their

Table 1: Overview of Pilot Testing of the Product-based Personal Pension Scheme and the New Account-based Personal Pension Scheme

Pension Scheme	Test Products	Stage	Test Period	Test Region (First-tier Large Cities)	Test Region (Other Cities & Regions)
Product-based Personal Pension Scheme	Personal income tax deferred commercial endowment insurance	—	Apr-18	Shanghai	Fujian Province (including Xiamen), Suzhou Industrial Park (Jiangsu Province)
	Dedicated commercial endowment insurance	Phase 1	Jun-21	None	Zhejiang Province (including Ningbo), Chongqing
		Phase 2	Mar-22	—	Nationwide
	Specific retirement savings products	—	Nov-22	—	Hefei, Guangzhou, Chengdu, Xi'an, Qingdao
	Pension wealth management products	Phase 1	Sep-21	Shenzhen	Wuhan, Chengdu, Qingdao
		Phase 2	Mar-22	Beijing, Shanghai, Shenzhen	Shenyang, Changchun, Wuhan, Guangzhou, Chongqing, Chengdu, Qingdao
Target-date retirement funds	—	Mar-18	—	Nationwide	
Account-based Personal Pension Scheme	All personal pension-targeted financial products	—	Beijing, Tianjin, Shijiazhuang (Hebei Province), Xiong'an New Area (Hebei Province), Jincheng (Shanxi Province), Hohhot (Inner Mongolia Autonomous Region), Shenyang (Liaoning Province), Dalian (Liaoning Province), Changchun (Jilin Province), Harbin (Heilongjiang Province), Shanghai, Suzhou (Jiangsu Province), Hangzhou (Zhejiang Province), Ningbo (Zhejiang Province), Hefei (Anhui Province), Fujian Province, Nanchang (Jiangxi Province), Qingdao (Shandong Province), Dongying (Shandong Province), Zhengzhou (Henan Province), Wuhan (Hubei Province), Changsha (Hunan Province), Guangzhou (Guangdong Province), Shenzhen (Guangdong Province), Nanning (Guangxi Zhuang Autonomous Region), Haikou (Hainan Province), Chongqing, Chengdu (Sichuan Province), Guiyang (Guizhou Province), Yuxi (Yunnan Province), Lhasa (Tibet Autonomous Region), Xi'an (Shaanxi Province), Qingyang (Gansu Province), Xining (Qinghai Province), Yinchuan (Ningxia Hui Autonomous Region), Urumqi (Xinjiang Autonomous Region)		

Source: Nomura Institute of Capital Markets Research, based on CBIRC and CSRC notices

portfolios. The commercial banks that manage the pension fund accounts must treat uninvested funds as deposits (Figure 2).

Role of financial institutions in the account-based pension scheme

• Overview of financial institutions' roles

According to the *Opinions of the State Council* and the notices released by the CBIRC and the CSRC (explained below), financial institutions' main roles in the account-based personal pension scheme are (1) the management of personal pension fund accounts, (2) the creation of financial products for personal pensions, and (3) agency sales of financial products for personal pensions.

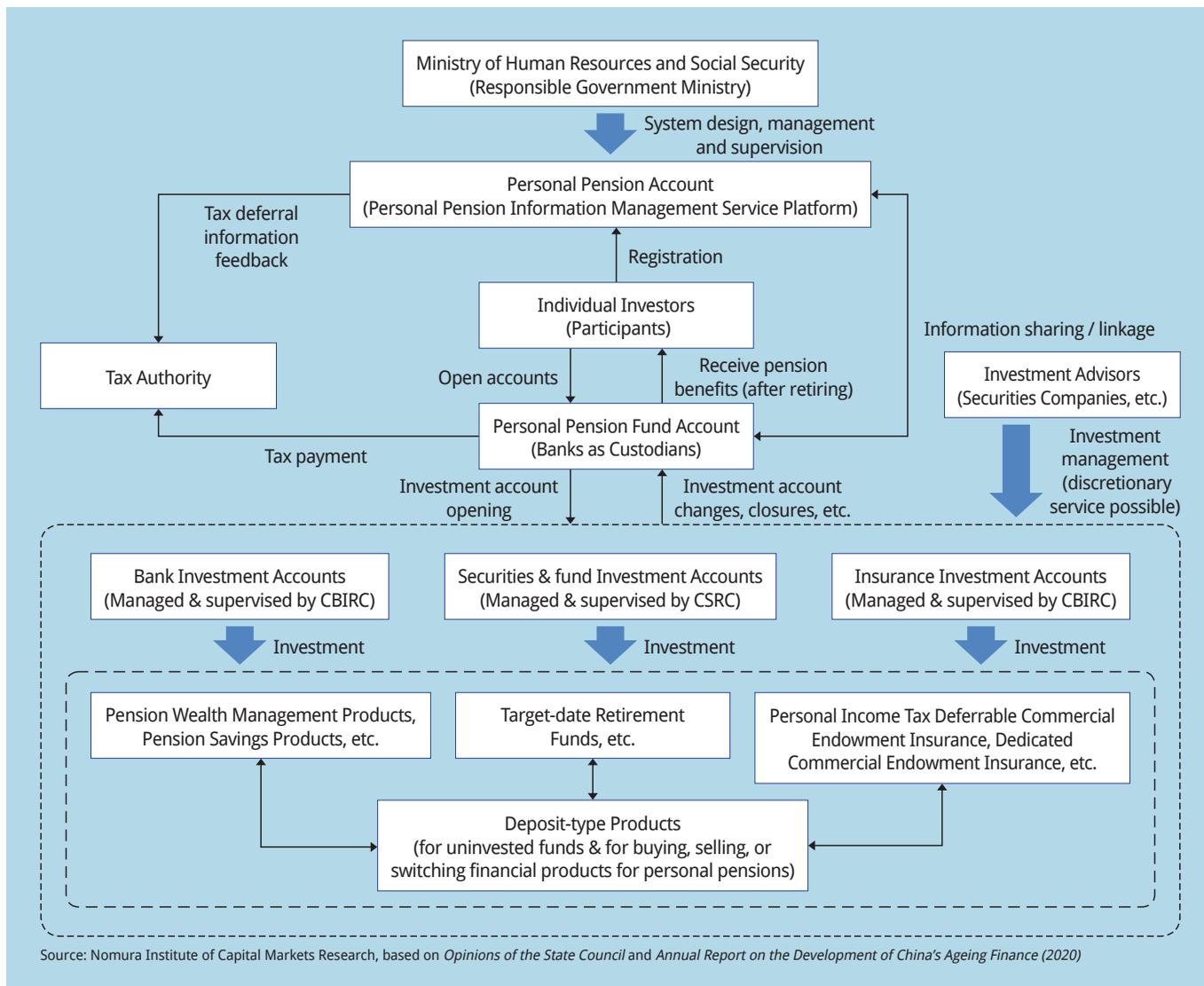
Regarding the first role, the authorities mentioned above have stipulated that opening and managing personal pension fund accounts will be limited to commercial banks (including wealth management subsidiaries) and insurance companies. The second role of creating financial products for personal pensions will be provided by various financial institutions: banks (or their wealth management subsidiaries) can provide pension-dedicated wealth management and savings products; insurance companies can provide dedicated commercial endowment insurance; and fund management companies will be able to offer target-date retirement funds. As for the third role mentioned above, while the *Opinions of the State Council* does not mention agency sales of financial products for personal pensions, the regulations related

to personal pension business presented later in this article indicate that banks, securities companies, and fund sales companies will be allowed to play this role.

• Role of commercial banks (wealth management subsidiaries) and insurance companies

On November 17, 2022, the CBIRC announced its *Interim Rules on Personal Pension Business of Commercial Banks and Wealth Management Companies*. The interim rules state that personal pension business that can be operated by commercial banks includes (1) personal pension fund account management, (2) the creation of pension savings products,⁸ (3) agency sales of financial products for personal pensions, (4) personal pension consulting business, and (5) other personal pension services ap-

Figure 2: Account-based Personal Pension Scheme Management Schematic



proved by the CBIRC. The CBIRC notice also indicates that bank wealth management subsidiaries can create and sell wealth management products for personal pension fund accounts.⁹ On the following day, November 18, 2022 the CBIRC published a list of banks and their wealth management subsidiaries permitted to engage in personal pension fund operations. The list included the big 6 state-owned banks, 12 joint-stock banks, 5 municipal banks, and 11 bank wealth management subsidiaries.

Then on November 21, 2022, the CBIRC released a *Notice on Matters Related to Personal Pension Business of Insurance Companies* that sets forth the role to be played by insurance companies. Specifically, the prescribed roles include (1) opening personal pension accounts for participants, (2) designating or changing personal pension accounts, and (3) providing personal pension insurance products (annuities, life insurance savings accounts, etc.). Among the approved products, personal-income tax-deferred commercial endowment insurance and dedicated commercial endowment insurance, which were approved for trial use when the previous product-based personal pension scheme was launched, may be transferred into accounts under the new account-based scheme.

• **Individual pension investment funds and the roles of fund management and sales companies**

On November 18, 2022, the CSRC released its interim rules for management of personal pension investment funds invested in publicly offered securities investment funds. The interim rules define personal pension investment funds as publicly offered funds that comply with the provisions allowing investors to invest in personal pension fund accounts that offer

tax incentives. Regarding personal pension investment funds, the CSRC stipulated that it would authorize the establishment of a Personal Pension Investment Fund Business Platform centered in the China Securities Depository and Clearing Corporation. Commercial banks, fund management companies, and fund sales companies are expected operate under this platform (Figure 3).

Fund sales companies seeking to sell funds as individual pension investment funds must have recorded total sales of equity and balanced funds over the most recent four quarters of more than RMB20 billion, of which holdings by individual investors must total more than RMB5 billion. The interim rules also allow fund management companies and their sales subsidiaries to sell personal pension investment funds created by the fund management company. On November 18, 2022, the CSRC published its initial list of institutions qualified to act as sales agents for financial products targeted at owners of personal pension plans. The list of 37 companies includes 16 banks, 14 securities companies, and 7 independent fund sales companies.

• **Role of securities companies**

As mentioned above, securities companies also can serve as sales agents for individual pension investment funds. In addition, public fund investment advisory service (China’s version of discretionary investment management service) might be provided to personal pension plan owners under the account-based personal pension scheme. This is giving rise to the view that securities companies and fund management companies with publicly offered fund investment advisory licenses might play many roles in the new personal pension scheme.

China’s Private Pension Scheme from a Tax System Perspective

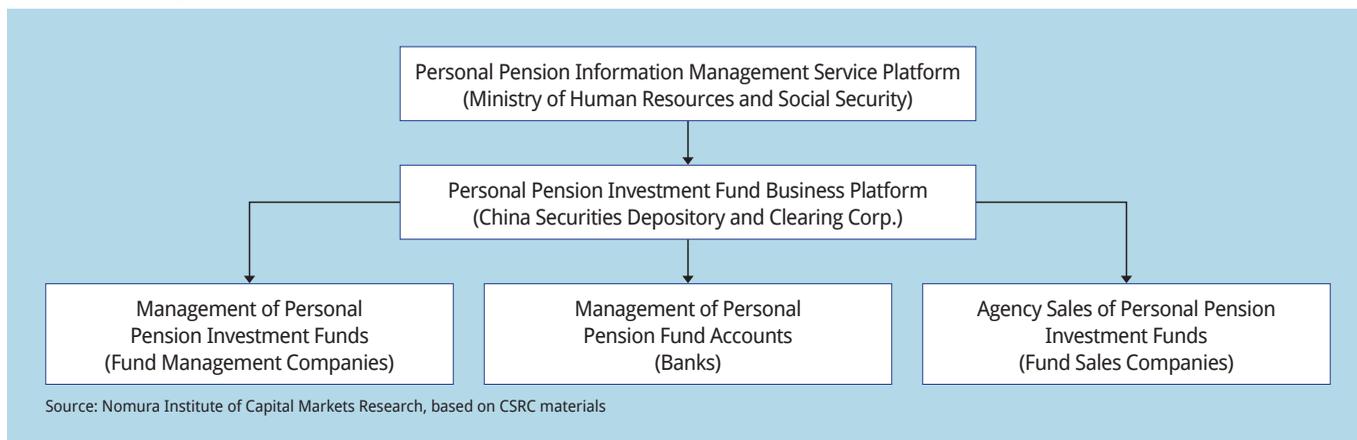
Tax incentives in enterprise / occupational pension plans, the second pillar of China’s pension system

• **Enterprise annuities have employees of state-owned enterprises as their main members**

The second pillar of China’s pension system includes DC-type enterprise annuities introduced in 2004 as a private pension scheme responding to China’s declining birthrate and aging population. In enterprise annuity pension plans, the company and its employee members each contribute to individual accounts established for each member.¹⁰ These accounts are managed collectively as an enterprise annuity fund, and funds are distributed to the individual member’s account along with generated income when the member reaches retirement age. The outstanding balance invested in these enterprise annuities expanded from RMB91 billion at the end of 2006 to RMB2.61 trillion at the end of 2021. Membership also increased over the same period, from 9.64 million to 28.75 million members, but that number is still only 2.8% of membership in basic public pension plans, the first pillar in China’s pension system.

The number of participating enterprises also increased, from 32,000 to

Figure 3: Management of Personal Pension Investment Funds



Source: Nomura Institute of Capital Markets Research, based on CSRC materials

118,000, the majority of which are state-owned enterprises in such industries as energy and finance. Many private companies in China and their employees already contribute a high level of 22% of total employee wages to the urban employees' basic pension plan.¹¹ The high cost of establishing and contributing to an independent enterprise pension reduces the incentive for doing so.

• Occupational pensions are mandatory for civil servants

The occupational pension plan in China is intended for civil servants and employees of government-affiliated state institutions. The occupational pension scheme was launched based on the *Interim Rules for the Management of Occupational Pension Funds*, announced in 2016 by the Ministry of Human Resources and Social Security and other government agencies.

In the occupational pension scheme, state institutions and business units contribute 8% of their total wages paid to defined-benefit (DB) plan. Employees contribute 4% of their wages into an individual account that applies the DC method. As participation in the occupational pension scheme is mandatory for employees of state institutions, the enrollment rate is high and expanding more quickly than for the enterprise annuities. As of the end of 2021, the occupational pension scheme had 43 million members and an outstanding asset balance of RMB1.79 trillion. However, further expansion will be difficult as membership is limited to civil servants and

other state employees.

• Occupational pensions offer limited tax incentives

Tax incentives included in current occupational pension plans (enterprise annuities and occupational pensions), the second pillar of the pension system, were introduced in a *Notice on Issues Pertaining to the Collection and Administration of Individual Income Tax on Enterprise Annuities and Occupational Pensions* jointly released by the Ministry of Finance, Ministry of Human Resources and Social Security, and the State Taxation Administration on December 6, 2013, and implemented from January 1, 2014.

The specifics include tax-exempt contributions from employers when posted in an employee's personal account. Individuals are exempt from paying income tax on their contributions, with a cap of 4% of their wages. Investment income on assets in the pension fund also is exempt from taxation, but pension benefits are taxed at time of receipt, making tax treatment in the occupational pension scheme an EET (exempted, exempted, taxed) system. The maximum contribution from employers is 8% of their total wages paid, but 5% is recorded as an operating cost, thereby providing employers with preferential enterprise income tax treatment.

However, it has been pointed out that the effect of these tax incentives is rather limited. One reason for this criticism is that investment gains in China are exempt from taxation in the first place.

Unless China adopts a system for collecting a capital gains tax on all investment products, the EET-type tax deferral received by members of occupational pension plans has little merit.

Importance of tax incentives in the account-based personal pension scheme

• Tax incentives reference the personal income tax deferred commercial endowment insurance trial

In November 2022, the Ministry of Finance and the State Taxation Administration issued a notice on income tax on personal pensions. The EET system applied to the second-pillar occupational pension scheme and the previously tested personal income tax deferred commercial endowment insurance will be applied to the new account-based personal pension scheme, retroactive to January 1, 2022. Pension contributions of up to RMB12,000 per year will be deducted from the employee's income or employer's income and not subject to personal income tax. In addition, personal income tax will not be collected on the individual's pension investment income. After the pension holder retires and begins receiving pension benefits, a 3% personal income tax will be levied on received benefits (Table 2).¹²

• Personal income tax reforms could open up possibility of combining EET and TEE (taxed, exempted, exempted) taxation systems

China's personal income tax reforms

Table 2: Taxation on Third-pillar Private Pension Schemes (Comparison of New and Previous Schemes)

Item		New Account-based Personal Pension	Product-based personal pension (previously launched)				Corporate Pension (Reference)
			Target-date Retirement Fund	Dedicated Commercial Endowment Insurance	Pension Wealth Management Products	Personal Income Tax Deferred Commercial Endowment Insurance	
Time of Contribution	Employer Contribution	—	—	—	—	—	No tax on opening of employee accounts
	Member's Contribution	Tax exemption (up to RMB 12,000)	Taxed	Taxed	Taxed	Tax exemption (lower of 6% of annual wage income or RMB 12,000)	Tax deduction for up to 4% of wage income
Accumulation/Investment		Not taxed	Not taxed	Not taxed	Not taxed	Not taxed	Not taxed
Receiving Benefits		Taxed (at 3% rate)	Taxed	Taxed	Taxed	Taxed (10% rate on 75% of benefits received)	Taxed

Source: Nomura Institute of Capital Markets Research, based on data from CSRC and other Chinese government agencies

have already raised the minimum taxable income level to RMB5,000 per month, shrinking the number of Chinese paying personal income tax to 72 million. It has been announced that the increase in the minimum taxable income level exempted 115 million people from paying personal income tax as of the end of June 2019. For these already tax exempt individuals to fully benefit from tax incentives in the new personal pension scheme, some experts have suggested the adoption of a TEE system, in which contributions to the pension fund remain subject to income tax at time of contribution but pension fund generated income and benefits received after retirement are exempt from personal income tax.¹³ If a TEE taxation system were adopted, low-income earners who already are exempt from tax on their income will have their personal pension exempt from taxation at all stages—contribution, investment, and receipt of benefits—greatly increasing the tax incentive for opening a new account-based personal pension.

Account-based Personal Pension Scheme: Outlook and Pending Issues

Japan's iDeCo initiative

Japan enacted its Defined Contribution Pension Act in 2001, introducing corporate DC pensions and individual DC (iDeCo) pensions. This section introduces recent iDeCo-related initiatives in Japan.

First, system revisions enacted since 2017 expanded eligibility for enrollment in iDeCo plans and increased the number of people in Japan with iDeCo pension plans. At the end of fiscal 2016, 451,436 people had opened iDeCo plans, the total outstanding balance of which was JPY1,381.4 billion, as of the end of March 2021, those numbers had risen to 1,945,637 and JPY 2,970.5 billion.¹⁴

Second, iDeCo Plus was launched in May 2018 for employees of small and mid-size enterprises (SMEs), which often find it difficult to introduce corporate pension plans owing to their cost and the administrative burden on the company. The iDeCo Plus scheme enables SMEs to make voluntary contributions to their employees' personal iDeCo accounts.

Third, since its introduction, iDeCo has functioned as the receptacle for funds transferred from the personal corporate DC accounts of people who changed jobs or retired, and iDeCo's role is becoming more important as Japan's increasingly liquid labor market raises the importance of asset formation through DCs.

Fourth, while iDeCo accounts can be opened at securities companies as well as banks, there currently are various restrictions on the provision of highly individualized investment advice. As investment of iDeCo pension accounts funds are decided by the account holders themselves, the system needs to be revised so that financial institutions, such as securities companies, can bring their experience in providing investment advice for individuals to owners of iDeCo accounts.

In China, roll out of the new account-based personal pension scheme is expected to move into full throttle. In the early design stage of this rollout, it will be useful for Chinese authorities to study the system design and experience of private pension schemes in other countries, including Japan, that have earlier adopted private pension plans as the third pillar of their national pension systems.

Closing remarks

China's newly introduced account-based personal pension scheme has been launched in 2022 on the basis of the format announced in the *Opinions of the State Council* release earlier in the same year. The new scheme is intended to supplement the nation's basic old-age insurance, a public pension, and serve as a substitute for occupational pensions, which are private pensions. The following system design related issues bear close attention.

First, China's 14th Five-Year Plan mentions gradually increasing the statutory retirement age. Raising the statutory retirement age would likely result in the age at which people can start receiving the public basic old-age pension benefit also being raised¹⁵. If the eligible age for receiving benefits from the new account-based personal pension plans is raised together with the statutory retirement age, it will create issues about the period for investing in the pension plan and the timing for receiving preferential tax measures. These issues will need to be discussed together with any proposed change to the statutory retirement.

Second, in China, capital gains on investments in financial products are tax exempt, making tax exemption of pension-generated income under the EET

taxation system irrelevant. Although a separate capital gains tax system could be established in the future, China's tax authorities need to consider how to increase the incentive for investors to open a new account-based personal pension plan in a tax environment that will be characterized by imbalanced treatment of current product-based pensions and the projected new account-based pensions. Lastly, there are many long-standing questions about the best methods for supporting investor asset accumulation in preparation for their retirement years that still need to be discussed. These include improving investor education, expanding access to investment advice by financial institutions, and opening investment channels that will promote more diversified investment in financial products available not only in China but also those available in international markets.

Notes

- 1 State Council of the People's Republic of China, *Opinions of the General Office of the State Council on Promoting the Development of Private Pensions*, April 21, 2022. Link to Chinese release: http://www.gov.cn/zhengce/content/2022-04/21/content_5686402.htm
- 2 Specifically, these products include personal income tax deferred commercial endowment insurance, bank wealth management funds, and dedicated commercial endowment insurance under CBIRC supervision, and target-date retirement funds under CSRC supervision.
- 3 Central People's Government of the People's Republic of China, *14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-Range Objectives for 2035*, March 13, 2021. Link to Chinese release: http://www.fujian.gov.cn/english/news/202108/t20210809_5665713.htm#C49
- 4 Contribution limits may vary by region.
- 5 Emphasis evidently is being placed on low-to-medium risk investment products suitable for long-term investments.
- 6 "First-tier city" is an unofficial classification that refers to cities in China that have the highest concentration of resources, population, and international companies. In general, first-tier cities include the capital of Beijing, the international economic center Shanghai, and Shenzhen, which is considered to be a center of innovation.



- 7 The designated account may serve as a bridge account for an existing personal income tax deferred commercial endowment insurance policy.
- 8 Pension savings products include specific retirement savings products that will be able to sufficiently perform the function of a pension that meets needs during a long life after retirement. In July 2022, the PBOC and the CBIRC jointly issued the *Notice on Launching the Specific Retirement Savings Pilot Scheme* (operation officially started on November 20, 2022).
- 9 Personal pension wealth management products refer to long-term bank wealth management products that are clearly labeled as such and are intended to be invested by personal pension accounts to cover the investor's needs during a long life after retirement. Pilot operation of individual pension wealth management products has been underway in some Chinese cities since September 10, 2021.
- 10 Contributions will be no more than 8% of the enterprise's total wages paid to all employees and no more than 12% when combined with employee contributions. The specific ratio will be determined through consultations between the enterprise and employees participating in the pension plan.
- 11 China's basic pension plan is a combination of a defined benefit (DB) social pool for all members and the individual DC personal accounts of each member. The enterprise contributes 14% of all wages paid to the social pool, and members contribute 8% of their wages to their personal accounts.
- 12 Ministry of Finance, State Taxation Administration. *Notice on Personal Income Tax on Personal Pensions*, November 3, 2022.
- 13 Zheng Bing-wen, *Top-level Design of the Third Pillar "Individual Pension Account": The Leverage Role of Taxation and Its Far-reaching Effect*, Journal of Renmin University of China, 2016 Issue 1.
- 14 Liaison Council of Pension Management Organizations. *Defined Contribution Pension Plan Statistical Data (end-March 2021)*
- 15 In January 2022, Jiangsu and Shandong provinces launched pilot programs that allow company employees to defer retirement beyond the statutory retirement age. In principle, employees can defer their retirement for a period of 1-3 years.

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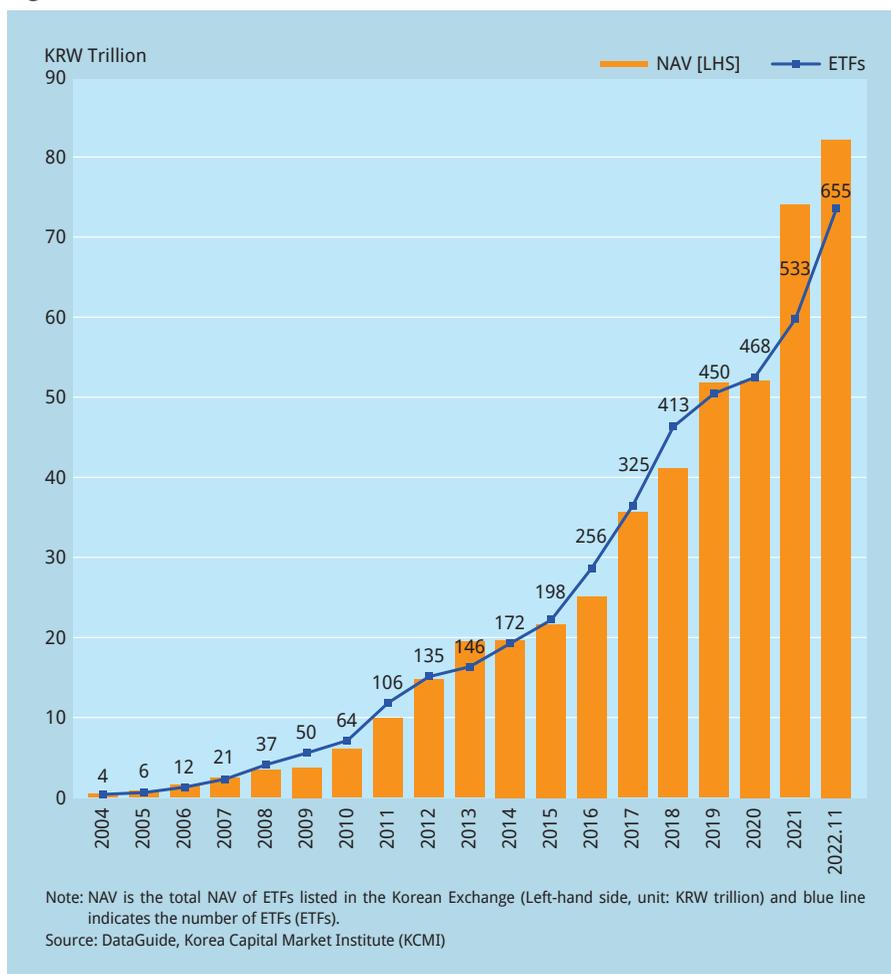
The Recent Evolution of and Challenges in the Korean ETF Market

Growth of the ETF Market in Korea

The Korean exchange traded fund (ETF) market has shown steady growth over 20 years and a remarkable performance in the recent 5 to 6 years.¹ Figure 1 shows changes in the size of the Korean ETF market. In 2004, the total net asset value (NAV) was only KRW0.5 trillion (4 listed products), but at the end of November 2022, the total NAV of the Korean ETF market reached KRW82 trillion (655 listed products). The ETF has become a widely invested product and has been preferred by many retail investors in Korea because of its simple strategic structure, low-cost portfolio investment (simply diversifying portfolio), and high liquidity. In Korea, the ETF market will continue to grow and drive the growth of the mutual fund market in the future.

It is not an exaggeration to say that the ETF has driven the growth of the mutual fund market in the 2000s. Above all, the growth trend of conventional mutual funds and the ETF market in Korea is different from other developed countries. The rapid growth of passive funds compared to

Figure 1: Market Size of Korean ETF Market



active funds is similar to other countries, but the dominant growth of ETFs is a major feature of the changes in the Korean market.² In Korea, while the conventional mutual fund market had grown rapidly before the 2008 global financial crisis, the mutual fund market stagnated after the crisis (Figure 2). At the same time ETFs began to be listed on the exchange and grew rapidly on their own. As shown in Figure 2, in 2009-10, ETFs only accounted for 2-3% of the total mutual fund market in Korea, but the market share has risen steadily to around 28% in November 2022. Especially for equity mutual funds, ETFs account for about 60%, and more than half of equity mutual funds are now ETFs. Days of conventional equity mutual funds are fading and ETFs are replacing them.

As mentioned, the status of ETFs in the Korean fund market is unrivaled. Thus, it is very important to examine the recent changes in the Korean ETF market. The variety of policies to revitalize traditional mutual funds have yet to get results. Com-

pared to active mutual funds, low-cost (low expense ratio and zero fees), quite good performance, and above all, the possibility of real-time trading (creation and redemption) make the ETFs peerless in the Korean fund market. The future issue of the Korean fund market is to identify the growth of ETFs. This article addresses the characteristics of recent changes and future challenges in the Korean ETF market.

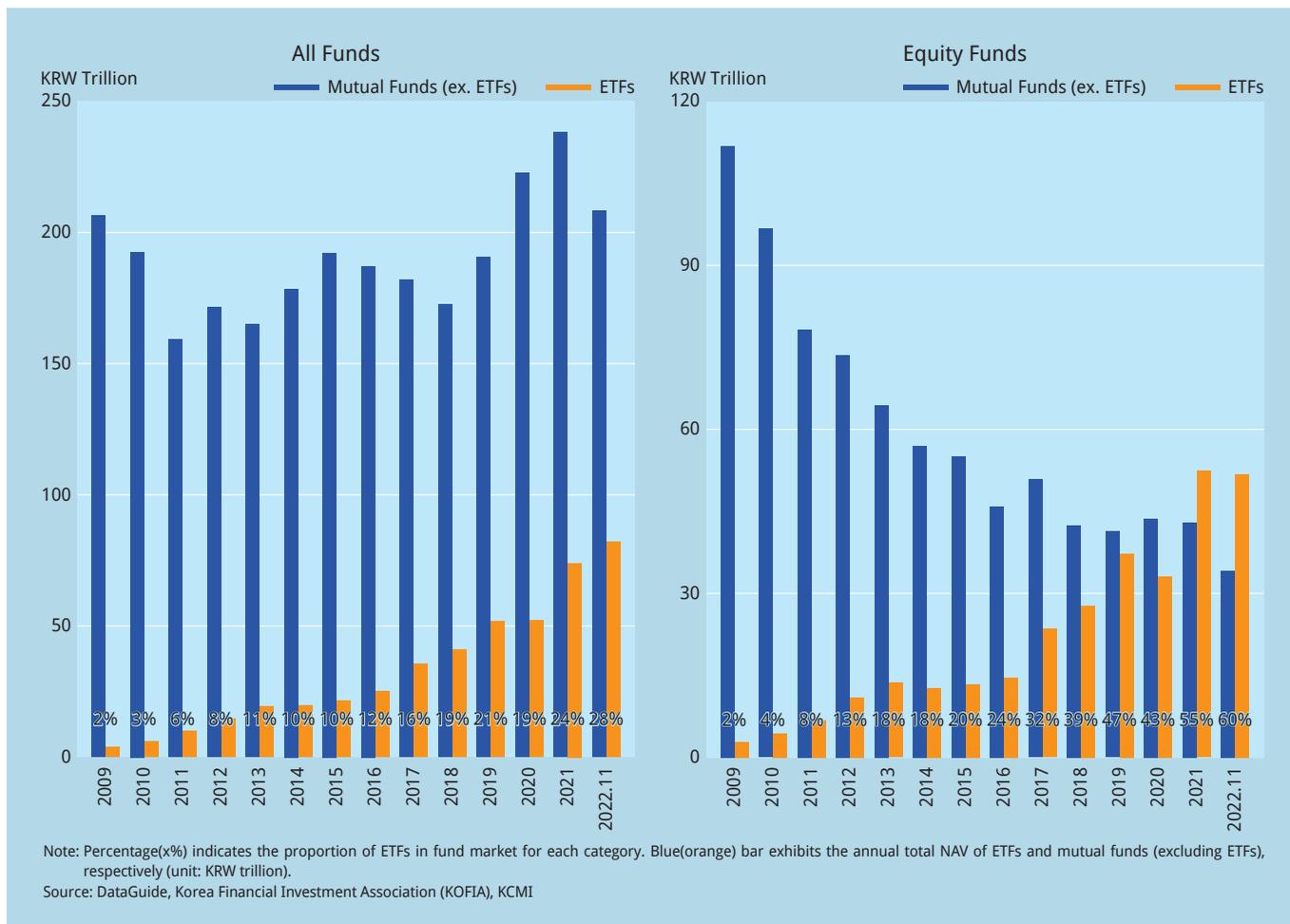
Rise of Thematic and Active ETFs

A recent change in the Korean ETF market is the rise of thematic ETFs and the introduction of active ETFs on Korea Exchange

(KRX), where most ETFs are stock-index ETFs. In terms of the number of products, 73% of products are stock-index ETFs and the others are bond-index ETFs (13%), commodity ETFs (5%), real-estate ETFs (2%), and mixed-asset ETFs (8%).³ Among stock-index ETFs, the recent driving forces of growth are thematic and active products.

Figure 3 shows the number of newly listed ETFs on KRX, excluding bond-index and other ETFs. In this figure, stock-index ETFs are generally divided into two groups: passive and active products. Passive products are designed to track a specific index like an index fund and active products are purposed to outperform the benchmark index but they can be traded at a fair value in the exchange market. Passive ETFs are then classified into four sub-categories: broad-index, sector, smart-beta, and thematic ETF. Broad-index ETFs usually track an index representing the stock market (or major indices, such as KOSPI200, TOPIX, and S&P500). Sector (industry) ETFs track

Figure 2: Comparison between ETFs and Conventional Mutual Funds



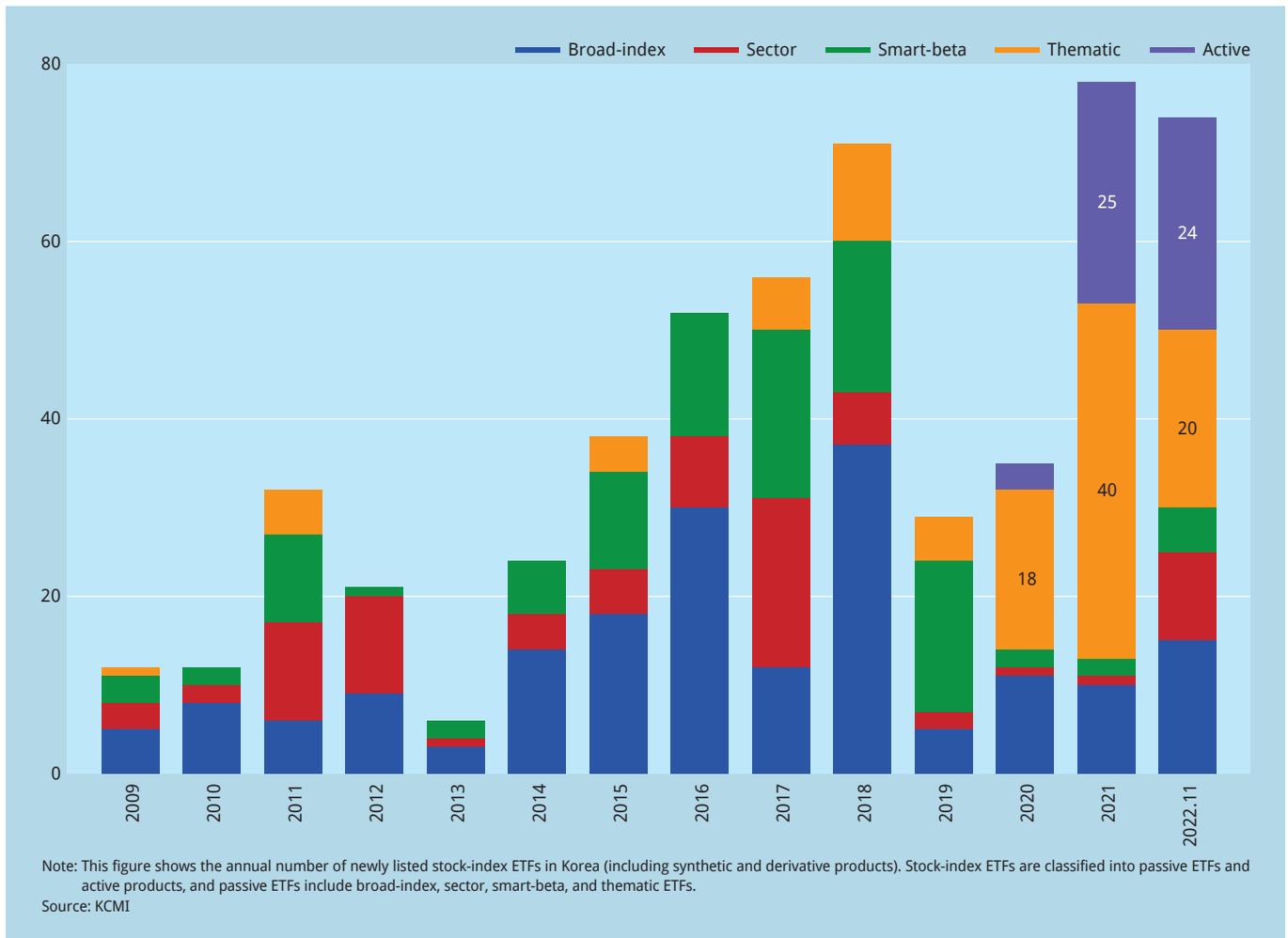
an industry index in which the sector is classified according to predefined criteria. Smart-beta ETFs are a kind of strategic ETF that tracks a basket portfolio based on characteristics (e.g., factor models) of equity, for example, value, growth, momentum, and low-volatility. Lastly, thematic ETFs track a basket index composed of equities related to a specific theme or trend. As shown in Figure 3, most newly listed passive ETFs are thematic products. In 2021, 40 thematic ETFs were listed, which is 75% of all new-listed passive equity ETFs and 44% of all newly listed ETFs in Korea. The total NAV of thematic ETFs now accounts for 17% (25%) among all (equity) ETFs in Korea and their trading volume has grown fast. On the other hand, the number of active equity ETFs is rapidly increasing in the Korean ETF markets. In the recent 2 years, about 50 active equity ETFs are listed in KRX and they constitute about 22% (32%) of all (stock-index) newly listed ETFs as shown in Figure 3.

Why are these kinds of ETFs growing fast? At first, on the demand side, many retail investors have been surging into the stock market after the COVID-19 situation. At the end of 2021, the number of retail investors exceeded 13 million, which is more than double the number before COVID-19. Young people, aged 30s or below, who are more likely to prefer direct investment to indirect products, now account for 40% of investors.⁴ Of course, ETFs are one of the indirect investment products, but investors prefer to trade equities by themselves so they show a similar preference for ETFs rather than other conventional mutual funds. Furthermore, the growth of retirement pension plans is one of the key demand factors for the growth of ETFs. The reserves of retirement pension plans, such as Defined Contribution (DC) and Individual Retirement Pension (IRP) accounts which must be managed by account holders, keep growing.⁵ In summary, the expansion of the investor base is a ma-

major macroeconomic factor in the growth of ETFs in Korea.

Generally, retail investors or IRP account holders who want to invest in an ETF face a selection problem. There are lots of ETFs listed on KRX (more than 650 products), so their recognition or visibility in the ETF universe is important. In terms of investors' interests, thematic and active ETFs have superior visibility compared to other ETFs. To increase visibility, thematic or active ETFs tend to use keywords to focus investors' attention. The majority of thematic and active ETFs have keywords to attract investors' attention, for instance, Renewable Energy, Korean Webtoon & Drama, Golf, K-Game, K-POP, K-Food, Innovation, CO₂, Mobility, Metaverse, MZ-generation, Platform, and Electrical Vehicle. One active ETF has the keyword 'K-Stock' in its product name. In the case of thematic ETFs, people can easily understand which portfolio they will invest in through the product name, while in the case of active ETFs, the prod-

Figure 3: New-listed Stock-index ETFs in Korea



uct names attempt to give investors the belief that the ETF will outperform the stock market. These attention-grabbing products are related to competition among fund managers (e.g., Ben-David et al., 2021). If investors do not recognize or understand products (or underlying indices), it is hard to gain their attention, such as smart-beta ETFs in the Korean ETF market.

On the supply side, the leader advantage exists in ETF supply markets. Theoretically, there are improvement effects in liquidity and profitability (fees) for leader funds (e.g., Khomyn et al., 2021).⁶ Since the average expense ratio of ETFs is low compared to conventional mutual funds, it is difficult to compete in the ETF market. Due to ETF characteristics, such as transparency, it is also hard for fund managers to exercise their discretion and managing capabilities. Thus, there is an incentive for product differentiation. Becoming a leader could be a feasible strategy to compete in the ETF market so follower suppliers are more likely to target niche markets; specialized ETFs. Grounded on these reasons, ETF suppliers would launch thematic and active ETFs to differentiate their products and attract investors' attention.

Competition in the Korean ETF market has accelerated since 2007. The Herfindahl-Hirschman index for the ETF supply market is close to 0.3, which means that there are three groups that share the market equally. In fact, there are two oligopoly players in the Korean ETF market, Samsung and Mirae Asset Management, and their occupation was dominant. However, with the growth of thematic and active ETFs, many new funds have entered the ETF market. Samsung and Mirae's proportion of products has decreased. Overall, the thematic and active ETFs have contributed to the diversification and variety of

products and suppliers in the Korean ETF market.

Characteristics and Future Challenges to Thematic and Active ETFs

Recent empirical evidence confirms that those niche products have diversified the ETF universe and offer a wide selection of products to investors. According to analyses by Kim (2022), thematic ETFs show a low level of similarity to existing ETFs in Korea's market. By calculating cosine similarity, Kim shows that thematic ETFs exhibit a higher heterogeneity (lower similarity) to the existing ETF market than broad-index and smart-beta ETFs.⁷ Sector ETFs also have the lowest similarity because of their industry-specific portfolio and the timing of their introduction.

In addition to passive funds like thematic ETFs, active ETFs could contribute to market heterogeneity. Fundamentally, active ETFs are designed to outperform the benchmark index, so they are likely to hold a differentiated portfolio. Although active ETFs might be subject to the managing skills of fund managers, we can expect that the strategy is different from a simple buy-and-hold index portfolio. Overall, thematic and active ETFs have contributed to expanding the investment opportunity set for ETF investors.

In addition to market differentiation, the characteristics of thematic ETFs are summarized in Table 1. First, themat-

ic ETFs are traded actively compared to other passive ETFs. Since retail investors are the main demand base in the Korean ETF market, their interests are directly associated with the trading activity. Thematic ETFs have an average daily trading turnover rate of 3.0%, which is much higher than other passive ETFs. Although there is a variation in trading activity, the price divergence is quite low because of active trading. Basically, ETFs are different from conventional mutual funds so the exchange-traded price could differ from the NAV per share. To minimize the price disparity, designated authorized participants (APs) conduct arbitrage activity to reduce the price gap between NAV and ETF prices. When ETFs are liquid, arbitrage trading is facilitated, resulting in small price disparity. Owing to the high liquidity of thematic ETFs, the average price spreads are low (16 basis point on average), which allows investors to pay lower (implied) trading costs.⁸ Secondly, thematic ETFs offer a relatively concentrated portfolio. The average diversification ratio is somewhat lower than that of typical passive ETFs, which implies a lower level of portfolio diversification. Some thematic ETFs focusing on a particular theme tend to include similar equities within a portfolio, which potentially exacerbates exposure to the idiosyncratic risk of individual equities.

Lastly, thematic ETFs contain relatively overvalued equities in their basket portfolio. In terms of the average portfolio-level market-to-book ratio, stocks in thematic ETFs have a higher ratio (average 2.76), which implies either high growth opportunity or over-valuation. As Kim (2022) points out in his analysis, thematic ETFs in Korea have hardly achieved satisfying post-listing performance. According to the result⁹, thematic ETFs showed a cumu-

Table 1: Characteristics of Passive Equity ETFs in Korea

Average Characteristics	Broad-index	Sector	Smart-beta	Thematic
Average Similarity (0-1)	0.76	0.20	0.45	0.35
Average Daily Turnover (%)	1.3	1.1	0.8	3.0
Average Price Disparity (bp)	29.0	25.5	22.6	16.4
Average Diversification Ratio	1.99	1.63	2.28	1.91
Average Market-to-book	1.89	2.16	1.45	2.76

Note: This table reports the cross-sectional average characteristics of four classes of equity (passive) ETFs. Similarity is defined as cosine similarity (inner-product) between the ETF basket and the market portfolio. It normally ranges from zero to one. The higher the similarity value, the more similar to the market portfolio ETF. Daily trading turnover is trading volume divided by shares outstanding and the price disparity is the absolute value of the difference between ETF price and NAV per share divided by ETF price. The diversification ratio is computed as the weighted average of the volatility of stocks in the ETF basket portfolio normalized by portfolio-level return volatility. Market-to-book ratio is the portfolio-level summation of market value (market capitalization) divided by the sum of the book value of equity in the basket portfolio.

Source: KCMI

relative excess return of -5.7% for one year after listing, underperforming the stock market in the period. The bottom 25 percentile of cumulative excess return stands at -18.3%. As for other types of passive equity ETFs, cumulative excess returns averaged nearly 0%, not much different from the market returns. One reason for this phenomenon might be over-valuation at the point of listing. Since thematic ETFs involve stocks gaining great attention from the market prior to listing, post-listing performance is poor compared to other types of passive ETFs. This is consistent with a high market-to-book ratio and associated with the attention-grabbing behavior of ETF suppliers (Ben-David et al., 2021).

The return characteristics of active equity ETFs listed on KRX are shown in Figure 4. First, active equity ETFs achieve a positive alpha compared to the benchmark index, but the magnitude is not economically significant. As seen in the left-hand panel of Figure 4, the average cumulative excess returns were 2-3% per year. The excess returns are calculated as the cumulative returns in excess of benchmarks¹⁰, and only reported for 14-month periods within a sufficient number of samples.

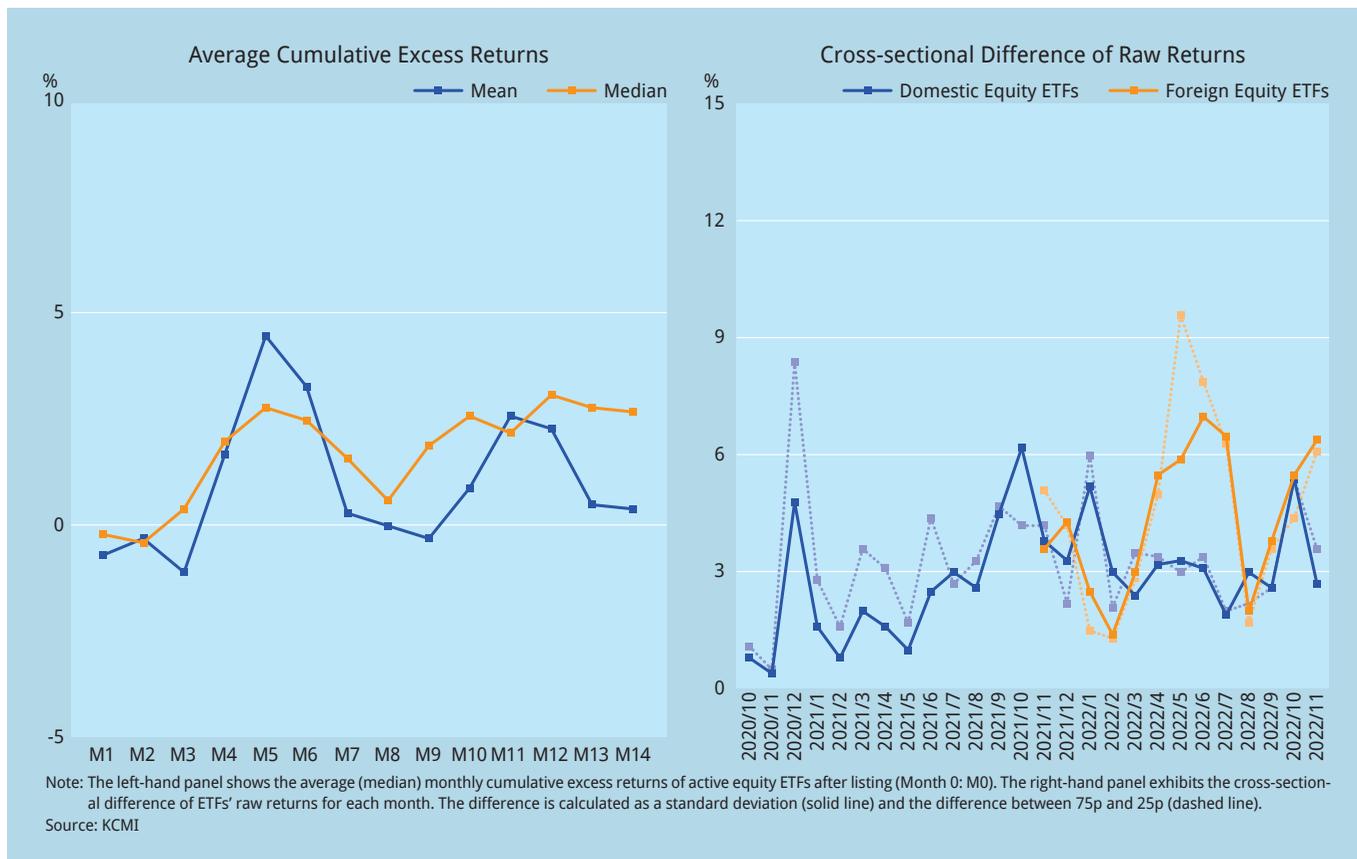
On the other hand, the return difference among ETFs is not large enough to achieve a diversity of products, as shown in the right-hand panel of Figure 4. The monthly mean of the cross-sectional standard deviation of domestic (foreign) active equity ETFs is 2.8% (3.2%). This implies that those ETFs may not use different portfolio strategies among each other. Nonetheless, the positive side is that active products have shown positive abnormal returns, so more diverse active ETFs need to be launched to revitalize the Korean mutual fund market.

recently. This trend is expected to continue for the time being. In the midst of such changes, now is the time to consider how to revitalize the mutual fund market in Korea through ETFs. First, to diversify the active ETFs in Korea, policymakers have to consider relaxing the regulations. In Korea, ETFs are basically regulated under Korea Capital Market Act and the KRX rule, and active ETFs are more tightly regulated compared to those in overseas markets. The most representative regulations are correlation and transparency. Now the correlation between the benchmark index and an active ETF should be more than 0.7. If the correlation is below 0.7 in three consecutive three months, the ETF could be delisted. Also, all ETFs, including active ETFs, should disclose their portfolio deposit file (PDF) every single day, which means that their portfolio compositions are disclosed every day. Fundamentally, it is important to resolve the trade-off between portfolio transparency and confidentiality of a strategy. In the short term, policymakers need to relax the correlation regulation and discuss the possibility of non-transparent active ETFs (delaying the portfolio disclosure) in the medium and long term.

Concluding Remarks

The rise of thematic ETFs and the introduction of active ETFs are the key aspects in the evolution of the Korean ETF market

Figure 4: Return Characteristics of Active Equity ETFs



Furthermore, thematic ETFs obviously provide various kinds of passive investment tools. However, due to intensified competition and attention-grabbing behavior, some thematic ETFs show poor performance and high volatility. Competition in the ETF market might result in a decrease in investor welfare. Since there is a huge growth opportunity in the ETF market, both product suppliers and investors should consider long-term growth potential, which is not a myopic and short-term strategy. The role of thematic ETFs is not only diversifying the ETF universe but also contributing to long-term value investing through ETFs.

Notes

- 1 After the introduction, the compound annual growth rate (CAGR) of the Korean ETF market size is 32.7%, which is higher than the 25.6% of global ETF markets. (source: ET-FGI.com)
- 2 For example, in the United States, not only passive funds but also active funds are growing together. The proportion of passive funds, especially ETFs, is increasing but conventional mutual funds are also growing with ETFs. (source: Morningstar)
- 3 In terms of total NAV (fund size), stock-index ETFs account for about 75% of all ETFs, and bond-index ETFs and other ETFs constitute

about 22% and 3%, respectively.

- 4 Before the COVID-19 pandemic, only 25% of investors were aged 30s or below. (source: Korea Securities Depository (KSD))
- 5 The reserves of DC and IRP are KRW76.5 and 46.5 trillion, respectively at the end of 2021. (source: Financial Supervisory Service)
- 6 From the model of Khomyn et al. (2021), equilibrium fees and trading turnover are higher for the leader funds than for follower funds.
- 7 See Figure 2 in Kim (2022).
- 8 For example, investors looking to buy (sell) the ETF will trade the ETF at a value higher (lower) than its true value when the ETF price is higher (lower) than its NAV per share.

9 See Figures 3 and 4 in Kim (2022).

- 10 The benchmarks are KOSPI and KOSPI200 indices for domestic ETFs and S&P500 and NASDAQ100 indices for foreign products.

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ESG and Fintech—the Enablers for Indian MSMEs

Introduction—Small Business Financing in the Past

It was the year 2015. Ashok and Vinay could not sleep after their college trip to “Chokhi Dhani Village¹”. Being born and brought up in poor families, they were intrigued by the idea of showcasing a glimpse of culture and tradition by presenting a puppet show. They thought of starting a storytelling venture by using katputli (dolls). Being a small venture, it meant a meager investment of USD384 for taking a rented place, dolls, shamianas, and seating arrangements. Both of them immediately went to a known money lender who liked their idea and immediately lent them the money. Their weekly plays were enjoyed both by kids and the elderly alike and became the meeting ground of families. As their audience expanded through word of mouth, their demand for shows increased and hence they again went to the microfinance lender after 6 months. However, this time the money lender reluctantly said no to them as they wanted a loan of USD1,836.22 to buy a bigger setup where they could conduct more shows which required investment in place,

amenities and people. They were sure of their entrepreneurial venture and did not lose hope and decided to meet a commercial bank manager in the nearby city of Amritsar. They met the micro, small and medium enterprises (MSMEs) branch head who was also convinced of their interesting venture but alas shook her head. The smallest amount that she could lend was USD12,239.97 which was also targeted for MSMEs, not informal start-ups. Ashok and Vinay felt dejected and looked at each other with gloomy eyes.

They had not even realized that they had become victims of what has been popularly known as the microfinance graduate syndrome or the missing middle syndrome. This refers to the lack of financing options for enterprises and start-ups whose needs are sandwiched between the typical loan sizes offered by microfinance institutions and commercial banks. This has been a common problem for millions of fledging entrepreneurs in developing countries.

Historically, MSMEs have had to finance their businesses largely through the owners’ equity, since they could not easily access bank financing. The banks have been risk-averse for their own structural reasons. As a pre-condition for financing, banks would usually expect the MSMEs to bring in significant collateral, have a healthy financial status, and comply with restrictive conditions. As a result, the MSMEs suffered from lack of adequate and affordable financing.

MSMEs in India

As of November 2022, India had approximately 12.2 million MSMEs, providing employment to over 110 million persons. This sector contributed approximately 38% to the country’s gross domestic product (GDP) and drives 45% of the production and 40% of exports. However, it receives only 16% of bank financing.² The MSMEs Notification³ issued on 1st June, 2020 by the Government of India defines micro, small, and medium enterprises. For instance, a small enterprise is one where investment in plant and machinery does not exceed INR100 million and sales turnover does not exceed INR500 million. These enterprises have gained significance due to their inclusive economic development and hence are popularly known as the growth driver of the economy. They are widely dispersed geographically, located in rural, urban, national or international locations. The ease of access to financing is important for the growth and sustainability of any business. It is more so for small businesses. Hence, catering to their financing needs is imperative for policymakers and has the potential to make the Indian econ-

omy far more inclusive and dynamic than it is today.

Environmental, Social, and Governance (ESG) in India

The ESG framework in India is based on a combination of laws and codes of governance. The applicability of the laws depends on the size of the firm. Large firms are subject to more rigorous laws than MSMEs. One key regulation that was introduced as a part of the Companies Act 2013 asks large firms to spend at least 2% of their average net profits over the past 3 financial years on corporate social responsibility (CSR) initiatives. Firms also require permissions from pollution control boards, and environment and forest regulators (mostly government agencies) before operating any infrastructure project. Reporting requirements on ESG are mandated for large firms by the Securities and Exchange Board of India (SEBI). A National Green Tribunal (NGT) has been operating since 2010 with the mandate to adjudicate on matters related to environment protection. Firms in India are also subject to laws relating to deployment of labour and corporate governance.

The concern for ESG in India reflects the increasingly global concern. On 10th November 2022, the European Union (EU) Parliament formally adopted the Corporate Sustainability Reporting Directive (CSRD) in a move to make businesses within the EU and those that operate within the EU disclose information on their ESG credentials. The regulation had, till now, covered only large companies. However, listed MSMEs will also now be covered by the Directive.

MSMEs in India are also increasingly becoming a part of the larger framework for adhering to high standards of ESG. They recognise the need to adopt the best practices with respect to ESG. This has been brought out by a recent survey conducted by DBS and Bloomberg Media Studios.⁴ The survey was conducted among MSMEs in 6 countries and regions, namely Singapore, Hong Kong, India, Indonesia, Mainland China, and Taiwan. As per the survey, 56% of Indian MSMEs are directing their focus towards employee well-being, and 40% focus on diversity, equity and inclusion (DE&I). Ninety-two percent of MSMEs be-

lieve that environmental issues concerning pollution monitoring, climate change, carbon footprint, and depletion of natural resources are top priorities directly impacting their businesses. Waste management is also a key concern raised by 77% of MSMEs in India compared to 62% overall in Asia.

Fintech—the Enabler

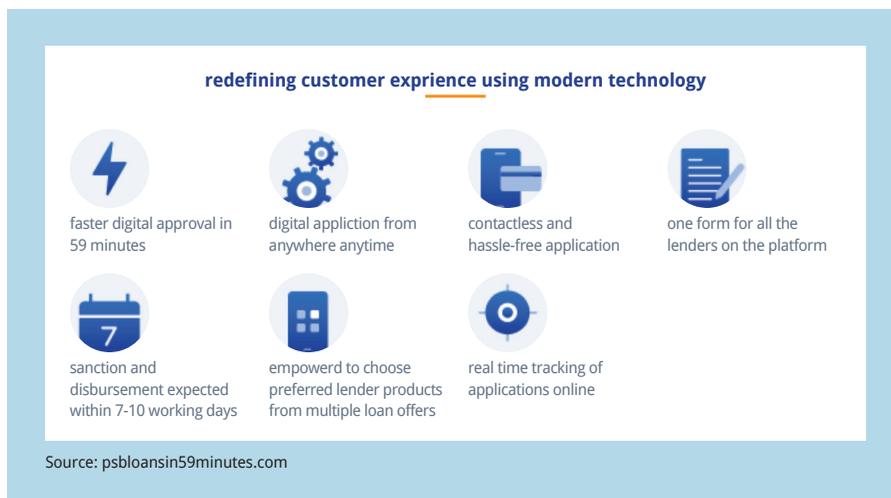
Even as MSMEs in India are working towards achieving the high standards of compliance on ESG, they have been facing financing constraints for a long time (Thampy, 2010). These constraints are in the nature of the cost of as well as speed of access to funds. It is not easy for small businesses to stay competitive as well as sustainable in the face of a difficult financing environment.

However, in the last few years, the potential for growth of Indian MSMEs was boosted with the initiation of the Jan Dhan-Aadhaar-Mobile (JAM) trinity by India's Prime Minister Narendra Modi (Government of India, 2016). This government scheme intends to utilise three modes of identification of customers, based on their Jan Dhan account, Aadhaar card and mobile banking numbers, for implementing one of the biggest reforms in independent India. Jan Dhan accounts are bank accounts that have, in the last few years,

been opened for the erstwhile unbanked sections of the society. These accounts integrate the poor sections of society into the mainstream banking infrastructure. Furthermore, government subsidies directed at specific persons or entities could be deposited into these bank accounts by way of direct transfers, thus eliminating potential leakages. The problem of unique identity proof was addressed by issuing an Aadhaar Card⁵ to all citizens. The Aadhaar card contains a 12-digit unique individual identification number which serves as the proof of identity and address for all residents of India. Together, Aadhaar, helping in direct biometric identification of disadvantaged citizens, and Jan Dhan bank accounts and mobile phones, allowing direct transfer of funds into their accounts, enable an efficient and disintermediated financing process. The trinity of JAM was introduced to improve upon the previously inefficient and indirect subsidy schemes (such as public distribution system and the MGNREGA) directed at the poor residents.⁶

The JAM trinity facilitated adoption of digital financial services which served as the foundation of credit accessibility to the unserved segments of the market (see for instance Ghosh, 2017 for a detailed discussion on interlinkages of JAM with financial inclusion of MSMEs). Services on the JAM platform provided transparency due to its adaptability, multilingual options of access and robust interface, leading to an expansion of the consumer base. These financial technologies, or fintech, refer to software, mobile applications, and other technologies created to improve and automate traditional forms of finance for businesses and consumers alike (Figure 1). These transformations could fundamen-

Figure 1: Benefits of Modern Technology for Borrowers



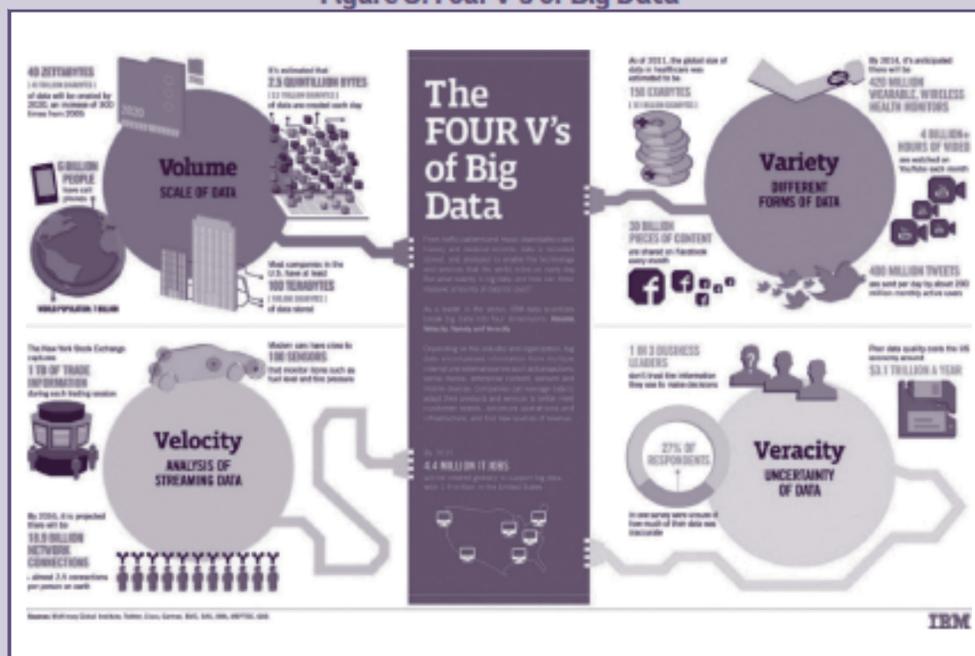
Box 1: What is Big Data?

"Big data" includes both structured and unstructured data that require cost-effective and innovative forms of information processing to produce actionable insights to aid decision making and automation.^a Big data is used to describe information generated by traditional business activities and extracted from new sources such as electronic payments data from point-of-sale terminals, bank automated teller machines, mobile network operators, utilities, and social media (such as Facebook posts, Twitter tweets, and YouTube videos) and geodemographic data. The analysis of these data points can identify hidden behavior patterns that could be used to better anticipate future performance. Great advances are being made by analytic and processing capabilities, spreading data-driven intelligence across new digital systems at lower transaction costs.

The amount of digital data, a large part of big data, is expected to double every two years through 2020,^b fueled by the phenomenal intersection of and growth in mobile, cloud, big data, electronic payments, and social media.^c It is estimated that by 2020, 60 percent of digital data will come from developing countries.^d

Because much of the volume of big data is unstructured, the veracity of insights derived needs to be carefully gauged. The data may also be rapidly changing—think about the number of electronic payment transactions or Facebook and Twitter updates an active user might make in one day. The IBM Four V's approach looks at how volume, variety, velocity, and veracity shape the use of big data (figure 3).

Figure 3: Four V's of Big Data



Source: "The Four V's of Big Data," IBM Big Data and Analytics Hub, Infographics and Animations, <http://www.ibmbigdatahub.com/infographic/four-vs-big-data>.

Note: ^a "Gartner IT Glossary: What Is Big Data," Gartner website, accessed June 21, 2017, <https://www.gartner.com/it-glossary/big-data>.

^b International Data Corporation (IDC), cited in GPFI (Global Partnership for Financial Inclusion), "Alternative Data Transforming SME Finance," International Finance Corp., Washington, DC, 2017, vii.

^c GPFI, "Alternative Data Transforming SME Finance."

^d GPFI, "Alternative Data Transforming SME Finance."

Source: Trends and innovation in disruptive technology, World Bank Report, 2019

tally change the financial landscape of the nation so that end users could benefit from competitive cost-effective options and financial institutions could improve efficiency through low operational cost.

India has the second fastest growth rate of digital adoption amongst major economies.⁷ Digital financial services have become a key driver of credit disbursement via digital platforms. India's fintech adoption rate is 87%, as against the global average of 64%, second only to China as per the Ministry of Commerce, Government of India. India has the potential to create over USD1 trillion in economic value from the digital economy, including services as per the Ministry of Electronics and IT. India's fintech market shall reach about \$160 billion by 2025 as per Finance Ministry estimation. The IMF's *World Economic Outlook* suggests that India shall become a USD5 trillion economy by 2026-27. A large part of this growth is attributed to the exponential growth expected in digital infrastructure for services, especially in the financial domain. The fintech-driven gig and platform

economy is helping India move towards the USD5 trillion target as per the latest National Institution for Transforming India (NITI) Aayog⁸ (a government planning organisation) report.

These digital services gave financial assistance to the missing middle who were denied access to finance as they were too large for the self-help group and too small for corporate banks. Use of QR-based technologies for payments could now create a credit history and address the credit gap problem, especially in rural areas. It can assist small-scale industries in addressing the credit gap problems and invoice trading which can resolve working capital and cash flow problems due to delayed payments. These nascent technologies help in developing unique and innovative models which leverage Big Data, machine learning and alternative data (Box 1) to underwrite credit and develop credit scores for customers with a limited structured credit history. For instance, maintaining online transaction records (unstructured data) of small vendors may help them to obtain

credit without collateral from banks.

Take the example of *psbloansin59minutes.com*, a new-age digital lending platform developed with the objective of providing advanced technology-based financial innovation and solutions. The platform was born off the insight that MSMEs found it hard to avail loans from formal banking channels due to the tedious application, documentation and verification processes.⁹ Today, automated credit decision systems can help extract information from documents. The platform's chatbots and artificial intelligence (AI)-based call centres can assist in the filling of forms by MSMEs (Table 1). Thus, powered by rigorous innovation and technological advancements, *psbloansin59minutes.com* was recognized as India's largest lending platform by Credit Suisse in March 2019. Combined with passionately servicing customers, the integration of AI and machine learning automates the lending process for borrowers and lenders. Figure 1 illustrates how this platform redefines the customer experience. Additionally, in 2021 Reserve Bank of

Table 1: Regulatory Sandbox: Third Cohort on MSME Lending -Test Phase

The Reserve Bank announced opening of the Third Cohort under Regulatory Sandbox vide Press release dated September 13, 2021 for MSME Lending. The Reserve Bank received 22 applications of which eight entities have been selected for the 'Test Phase'. The entities, as per details below, commenced testing of their products in June 2022.

Sl. No.	Sandbox Entity	Description
1	FinAGG Technologies Private Limited	The product 'Quick Cash Flow' is a cash flow-based digital credit line to MSMEs via Anchor led model through Co-lending.
2	Moshpit Technologies Private Limited	The product 'Finbox Embedded Finance' is a digital credit API infrastructure using which any company can build contextual credit products for their MSME customers.
3	Mynd Solutions Private Limited	The product 'M1xchange Small-Small' is a One-stop Plug and Play Small Seller to Small Buyer Factoring on TReDS focused on 'MSME Lending'.
4	New Street Technologies Private Limited	The product 'MiFIX' is a Blockchain Middleware that enables Co-lending for the MSME sector.
5	Rupifi Technology Solutions Private Limited	The product 'Pay By Rupifi' provides MSMEs real-time access to working capital through strong technology layer for data collection, data verification and risk calculation.
6	Small Industries Development Bank of India	The product 'GST Sahay' is a FinTech application for Invoice Based Finance for small businesses that is real time, contactless, cash flow-based and end-to-end digital.
7	SysArc Infomatix Private Limited	The product 'LENDperfect - Shishu Mudra' provides end to end STP journey for MSME Mudra Loan from lead to disbursement without any manual intervention.
8	ZikZuk Technologies Private Limited	The product 'Business Finance Manager' integrates with MSME's accounting software, banking ecosystem and uses its proprietary analytics engine empowering MSMEs with insights on sales, cashflows, payables, receivables etc. and enables lenders to take data driven decisions in order to provide contextual credit to MSMEs.

Source: RBI Press Release: 2022-2023/315

India announced eight more digital lenders are in the testing stage.

Credit facilitated by online platforms is popularly known as “debt-based alternative finance” (Wardrop et al., 2015) or “fintech credit” (Claessens et al., 2018). Lately, many technology companies have entered this fintech credit business, based on Big Data, either directly or in partnership with financial institutions (BIS, 2019; Stulz, 2019). These new age credit providers utilize not only the existing 20% of data on borrowers that can be easily read and analysed by machine, structured data. They also exploit the remaining unstructured data to understand the personality and psychographics of borrowers’ social media profiles. Today, rapidly growing datasets on structured transactions are easily compiled by capturing an applicant’s history of electronic payments, e-commerce, pay-as-you-go mobile telephone services and solar panels. This objective information on cash flow can be augmented with subjective behavioural information (for instance, what types of products and services are used,

in what combinations, with whom, and at what time period). While the transactional and location data from borrowers’ mobile devices could be structured, browsing patterns and social media profiles could give an indication of their unstructured data. Finally, digital payments can reveal information about owners’ identity, financial health, habits, relationships, and even their personality which can help in judging the creditworthiness of individuals and legal entities. Box 1 suggests how Big Data helps these new age lenders lend seamlessly.

Conclusion

MSMEs have for long suffered from a lack

of adequate volume and mix of financing. Also they are under heightened pressure from various stakeholders to comply with ESG norms. As a result of these twin challenges, MSMEs face an increasing pressure in the short term on their costs and competitive viability. In the face of this, the emergence of fintech-based lending companies has been a great help to the MSMEs. Fintech companies bring superior technological efficiency and risk-taking ability and thus are able to provide financing to MSMEs in a faster and more economical manner. This is a win-win situation for both MSMEs and fintech companies. At the same time, policymakers and regulators would do well to keep a watch for the emergence of systemic risks associated with the emergence of fintech credit platforms and evaluate the costs and benefits of one of the most significant emerging parts of the economic system.



Notes

- 1 Chokhi Dhani Group, which literally means “fine hamlet,” is a Rajasthani-village-themed hospitality brand, which was conceptualised in 1990, with the notion to promote the heritage and culture indigenous to Rajasthan and India. Accessed from <http://chokhidhani.com>
- 2 [https://www.ibef.org/industry/msme#:~:text=As%20per%20data%20from%20the,Udyog%20Aadhaar%20Memorandum%20\(UAMhttps://www.ibef.org/blogs/india-s-msme-sector](https://www.ibef.org/industry/msme#:~:text=As%20per%20data%20from%20the,Udyog%20Aadhaar%20Memorandum%20(UAMhttps://www.ibef.org/blogs/india-s-msme-sector)
- 3 https://msme.gov.in/sites/default/files/MSME_gazette_of_india.pdf
- 4 <https://www.livemint.com/money/personal-finance/92-of-indian-smes-focused-on-adopting-esg-measures-survey-11668408896767.html>
- 5 <https://uidai.gov.in/en/>
- 6 <https://pib.gov.in/newsite/PrintRelease.aspx?relid=191189>
- 7 <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1565669>

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- 8 “NITI Aayog is developing as a state-of-the-art resource centre with the knowledge and skills to act with speed, promote research and innovation, provide strategic policy vision for the government, and deal with contingent issues.” Accessed from <https://www.niti.gov.in/objectives-and-features>
- 9 <https://www.infosys.com/industries/financial-services/white-papers/Documents/banks-change-game-SME.pdf>

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Family Business Groups and the Efficiency of Capital Allocation: Evidence from Thailand's COVID Crisis

Introduction

Family business groups (FBGs) are commonplace around the world, especially in developing economies such as Thailand, India, Mexico, and many more. Unlike freestanding firms prevalent in the United States and other developed economies, FBGs contain several legally independent firms connected through a chain of control or significant ownership, all ultimately controlled by a single business family or tycoon. With control over many different firms, often in different industries, an FBG can instruct firms under its control to transact with one another, effectively creating a so-called “internal capital market” within its group. To illustrate the dominance of this form of organization, Masulis, Pham, and Zein (2011) show that, around the world, FBGs control an average of 21% of their country's total market capitalization. Moreover, they wield more corporate control in countries with lower GDP per capita such as Thailand and Indonesia whose FBGs control over 45% of their total market capitalization.

The economic importance of FBGs

naturally leads to a growing body of literature that attempts to explain their existence. One of the most widely accepted explanations is that business groups exist to overcome high market frictions in an early stage of economic development (Dau, Morck, and Yeung, 2021; Morck, Wolfenzon, and Yeung, 2005; Khanna and Yafeh, 2007). Economies in such stage suffer from underdeveloped financial institutions and dysfunctional legal systems, making arms'-length transactions between two independent firms very costly. This results in a classic hold-up problem in which an economic agent expects its profits to be ripped off by another agent who is the sole provider of its capital. For example, suppose there is only one company that produces concrete in the economy. A construction company may expect that, when it becomes profitable, the concrete company will increase prices of its supplies, effectively taking away the future profits the construction company would make. Anticipating this predicament, the construction company will not undertake its potential investments. A wide-spread hold-up problem can therefore stall economic growth. Business groups, however, can circumvent this problem. They can reduce such transaction costs by instructing firms under their control not to cheat one another. Due to their lower transaction costs, they can undertake value-enhancing investments that would otherwise be considered worthless by freestanding firms. These advantages of business groups allow them to efficiently allocate resources within the economy,

thus propelling economic growth.

Despite their advantages, FBGs may no longer be able to allocate resources efficiently when they grow too large. Dau et al. (2021) argue that larger business groups have greater hierarchy transaction costs. In particular, first, the controlling family may have problems gathering information necessary for efficient resource allocation. Second, they may also find it difficult to align the interests of the managements from different parts of the group such that the group's value is maximized. Finally, the controlling family itself may have interests, such as preserving family control, that do not necessarily maximize the group's value. Since large FBGs are arguably inefficient, their existence is consistent with the assertion that they exist to preserve control of the founding families (Masulis et al., 2011; Bertrand, Mehta, and Mullainathan, 2002; Johnson, La Porta, de Silanes, and Shleifer, 2000).

In this paper, I provide empirical evidence consistent with the above hypothesis: FBGs are necessary for efficient resource allocation in developing economies, but they become inefficient when they grow too large. I employ the recent COVID crisis in Thailand as an exogenous increase¹ in market frictions and observe the stock performance and other outcomes of firms affiliated with FBGs in comparison with their similar non-FBG counterparts. Note that non-FBG firms include state-controlled firms, freestanding firms that are controlled by families, multinational corporations, and those without controlling

shareholders.

To begin my analysis, I illustrate the impact of the COVID crisis on Thailand's private sector in Figure 1 which plots profitability, investment, and leverage levels of all Thai listed firms around the COVID crisis. Each point and its attached bar represent a mean and its 95% confidence interval, respectively. To attenuate the effects of outliers, all variables are winsorized at the 1st and 99th percentiles. The top left graph of Figure 1 shows the trend of firm profitability as measured by return on assets (ROA). Firm profitability drops sharply from 2019 to 2020 when the COVID crisis takes place, although it seems to recover in 2021. The bottom left graph reveals that, unlike profitability, firm investment, as measured by capital expenditure over total assets, falls dramatically in 2020 and does not recover its pre-COVID levels in 2021. Because of the unexpected lower profitability, firms can no longer fund their operations using retained earnings; thus, they opt to do so using leverage instead. The top and bottom right graphs of Figure 1 show that firms drastically increase their long-term debt

levels in 2020. Short-term debt levels, on the other hand, decrease in the same year.

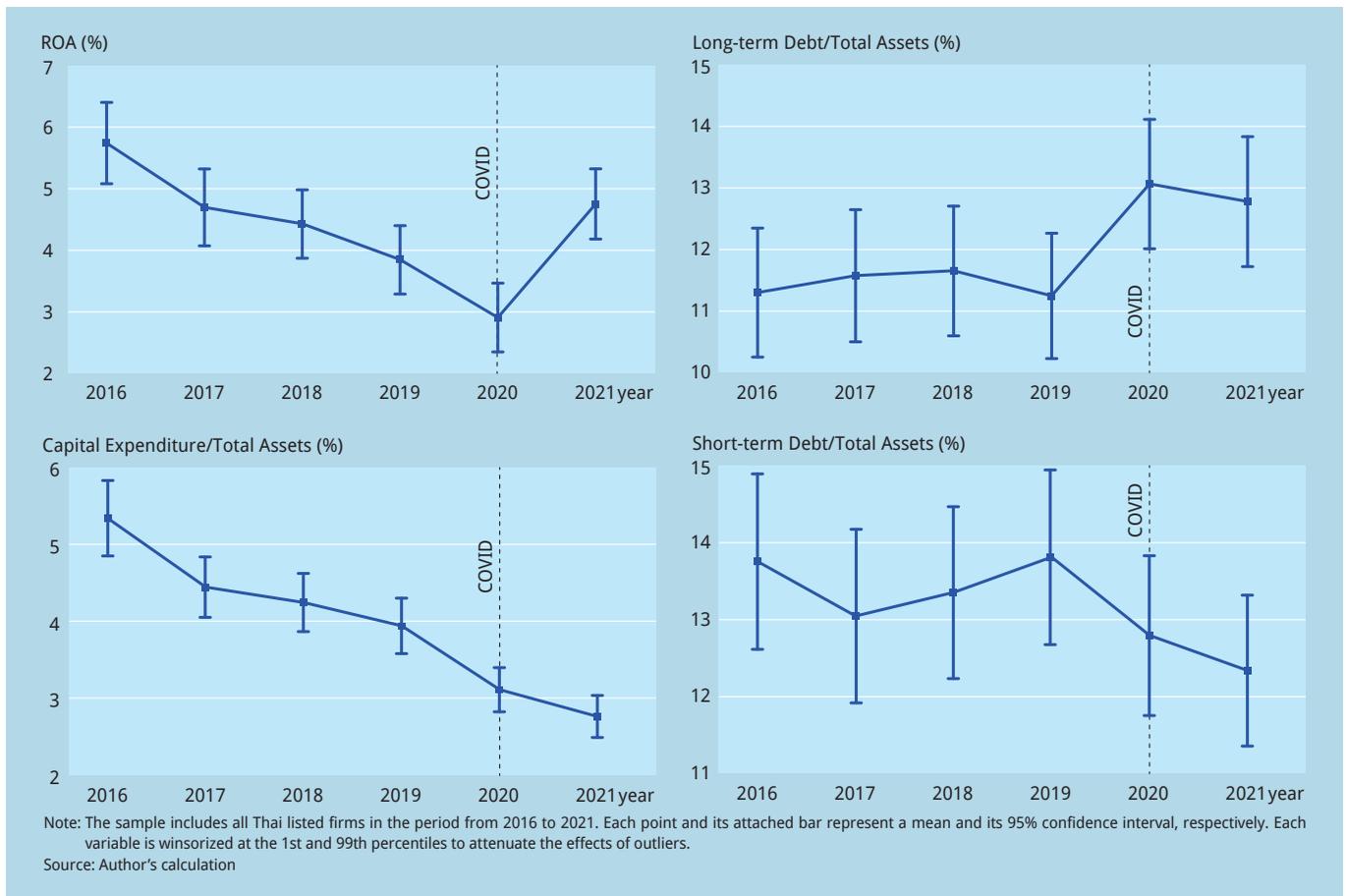
What are the sources of inefficiency of these large FBGs? In an attempt to answer this question, I compare the financing and spending of FBG affiliates with those of similar non-FBG firms. I find that firms affiliated with large FBGs receive more short-term and long-term debt financing after the COVID crisis occurs than their similar non-FBG peers do. With more access to financing, they maintain their dividend payout which is an important mode of compensation for the controlling family, while their similar non-FBG peers cut the payout. Moreover, their valuations (measured by Tobin's *q*) decrease more than those of their non-FBG peers, suggesting that they undertake value-destroying investments during the crisis. Interestingly, on the other hand, firms affiliated with small FBGs do not exhibit these patterns. Compared to their non-FBG peers, they receive comparable debt financing, cut their dividends, but are able to undertake more value-enhancing investment.

The results in this paper are useful in

that they provide systematic evidence that FBGs are still important drivers of growth in developing economies such as Thailand. This is because they can overcome high market frictions with their internal capital markets, allowing them to efficiently allocate resources within the economy. In addition, this paper shows that some FBGs may be too large and thus inefficient due to their high hierarchy transaction costs. Therefore, the existence of some large FBGs in Thailand might be consistent with the hypothesis that FBGs exist to preserve control of the founding families. Finally, the results suggest that, in times of crisis, investing in firms affiliated with small FBGs yields significant gains, while investing in those affiliated with large FBGs yields significant losses.

The rest of this paper is organized as follows. Data Section describes the process of constructing ownership structure data for Thai listed firms as well as other variables. Methodology Section explains the empirical methodology. Main Findings Section reports the main findings. Finally, Conclusion Section concludes.

Figure 1: Profitability, Investment, and Leverage Levels of Thai Listed Firms in 2016-2021



Data

In this section, I describe the process of constructing the datasets used in this paper. Comparing firms affiliated with FBGs to non-FBG firms around the COVID crisis requires two datasets, namely, ownership structures of all Thai listed firms and their associated financial statement variables.

As in Bordeerath (2022), I start with all publicly listed firms in Thailand that exist in 2019, one year prior to the COVID crisis in 2020. To identify the ultimate controlling shareholder of each firm, I rely on the comprehensive data on major shareholders from the Stock Exchange of Thailand. Because the pandemic starts in February 2020, the information on major shareholders used is as of the month closest to but before February 2020. With this information, I follow Masulis et al. (2011) and identify the ultimate controlling shareholder using the following steps. First, because major shareholders can be several

members from the same family or a company ultimately controlled by the family, I aggregate ownership of individuals or companies from the same family into family ownership. Note that, in this step, the ultimate controlling shareholder is not necessarily family, it can also be government, foreign firms, or nonexistent because the firm has dispersed ownership. Second, I classify a family, government or firm as the ultimate controlling shareholder if it has the largest ownership share and controls at least 20% of voting rights. The minimum voting rights cut-off is down to 10% if the family member is also a CEO or chairman. Third, if at least two descendants of the founding family hold positions at the board of directors, the founding family is classified as the ultimate controlling shareholder regardless of its voting rights. Finally, once the ultimate controlling shareholder is identified, I classify a firm as affiliated with an FBG if its ultimate controlling family controls at least two publicly listed firms.

Table 1 shows the ten largest FBGs by market capitalization in Thailand, in which group market capitalization is calculated as the summation of market values of all firms under the family's control. As with several other developing countries, the control of Thailand's corporate sector is concentrated in a few business families. Strikingly, only ten families control

approximately 38% of the country's total market capitalization.

Next, I obtain the data on stock returns and other financial statement variables from the Worldscope database in Datastream. Stock returns are computed based on Datastream's total return indexes which account for dividends and other types of payout. Following are the variables describing firm characteristics and their associated Datastream designations. *TotalAst* is total assets in THB billion (Datastream designation: WC02999). *Age* is the number of years after incorporation (WC18273). *Market/Book* is market value of equity over book value of equity (WC08001/(WC05491 × WC05301)). *ROA* is return on assets defined as net income over total assets (WC08376). *Sales Growth* is current year's sales divided by last year's sales minus one (WC01001). *Collateral* is property, plant and equipment divided by total assets (WC02501/WC02999). *Leverage* is total debt divided by total assets (WC03255/WC02999). Each variable is an average of its values in 2018 and 2019, two years before the pandemic. After obtaining the data on firm characteristics, I merge them with the ownership structure data.

Using the merged data above, I compare firms affiliated with FBGs with the rest of the market before the COVID crisis. In an unreported test, the data observed in

Table 1: Ten Largest FBGs in Thailand by Market Capitalization

Family	Group	Group Market Cap (% Total Market Cap)
Chearavanont	CP (Charoen Pokphand Group)	8.445
Ratanavadi	GULF (Gulf Energy Development)	5.928
The Royal Family	SCB (Siam Commercial Bank) and SCG (Siam Cement Group)	5.355
Prasattongsoth	Bangkok Airways and Bangkok Dusit Medical Services	3.475
Sirivadhanabhakdi	TCC (Thai Charoen Corporation Group), Fraser & Neave, and ThaiBeverage*	2.658
Asavabhokhin	Land and Houses	2.651
Chirathivat	Central Group	2.466
Lamsam	Kasikorn Bank	2.270
Sophonpanich	Bangkok Bank	2.265
Kanjanapas	BTS Group and Bangkok Land	2.114
	Total	37.627

Note: *This firm is listed on Singapore's stock exchange and is therefore excluded in the sample. All data are as of the end of 2019, immediately before the COVID crisis started.
Source: Data are from Bordeerath (2022).

Thailand are consistent with the literature on FBGs. That is, FBG firms are significantly larger and more leveraged than the rest of the market. Moreover, they are, on average, older, have higher market-to-book ratio and collateral but lower profitability, although these differences are not statistically significant. The following section describes the empirical methodology, i.e., how I estimate the impact of affiliation with an FBG during the crisis. Non-technical readers may skip this section without loss of continuity.

Methodology

To estimate the impact of affiliation with an FBG, one may simply compare the outcomes of FBG firms with those of non-FBG firms. This straightforward comparison, however, can pose a problem when interpreting the results. This is because firms in these two groups are systematically different, at least in terms of size and leverage as described in Data Section. To illustrate this problem, suppose FBG stocks outperform the rest of the market during the pandemic. One may argue that this is not a result of being affiliated with FBGs, but rather a result of having more assets which allow them to better survive the pandemic. Therefore, one cannot conclusively attribute such outperformance of FBG stocks to their affiliation with FBGs.

To alleviate this problem, I compare FBG firms with their *similar* non-FBG counterparts. To find these similar firms, I use the following propensity score matching algorithm. To begin with, I estimate the following logit model:

$$FBG_i = \alpha + \beta_1 \log(1 + age)_i + \beta_2 Collateral_i + \beta_3 Market/Book_i + \beta_4 ROA_i + \beta_5 SalesGrowth_i + \beta_6 \log(TotalAst)_i + IndustryFE + \varepsilon_i \quad (1)$$

where FBG_i is an indicator variable equal to one if firm i is affiliated with a family business group, and zero otherwise; $IndustryFE$ indicates industry fixed effects which follow the two-digit Standard Industrial Classification (SIC); and ε is an error term. All other variables are defined in Data Section. Once the parameters in Equation (1) are estimated, the propensity score

for each firm is computed as the predicted probability of being affiliated with an FBG. A non-FBG firm i is said to be *similar* to an FBG firm j if both are in the same two-digit SIC industry and the absolute difference between their propensity scores is smallest among the pairs between firm j and all other firms in the same industry.

With the above algorithm, each FBG firm in the sample is matched with a non-FBG firm that is comparable in terms of age, collateral, market-to-book ratio, ROA, sales growth, total assets and is from the same industry. Therefore, the concern that these factors are driving the results is mitigated. To illustrate the effectiveness of this algorithm, I compare FBG firms with their matched non-FBG firms. In an unreported test, the observable characteristics of both groups are no longer significantly different, suggesting that they are comparable along these dimensions.

In addition to the above controls, I also account for time-invariant unobservable differences between FBG and non-FBG firms that can explain their outcomes during the COVID crisis. These differences may include, for example, FBG firms having more capable CEOs than non-FBG firms because the former have more resources than the latter. To control for these fixed unobservable factors, I compare the change in outcome variables rather than their levels. Doing so differences out these fixed unobservable factors, thus allowing us to more accurately estimate the impact of affiliation with an FBG.

Main Findings

Do FBGs allocate resources efficiently?

The efficiency of resource allocation by FBGs depends on their size. Small FBGs benefit from their internal capital markets. They can efficiently allocate resources within their groups to overcome market frictions that often prove too high for standalone firms in emerging economies. However, such benefit can be compromised when FBGs grow too large and thus suffer from high hierarchy transaction costs. That is, gathering information necessary for efficient resource allocation be-

comes difficult due to the bureaucracy in a large organization. Aligning interests of the management from different parts of the group is also considerably more challenging than doing so in a small group. Lastly, the family behind the business group themselves may have an objective, such as preserving their control, that does not necessarily maximize their group's value.

To test the above hypothesis, I split the sample of all Thai listed firms into four quartiles by the total market capitalization of the business group with which they affiliate. If a firm is standalone, i.e., not affiliated with any group or state-controlled, its group's total market cap equals its own market cap. I define large FBGs as those whose total market caps are in the top (fourth) quartile, and small FBGs as those in the bottom three quartiles.² Each FBG firm is then matched with its similar non-FBG counterpart using the algorithm proposed in Methodology Section. Figure 2 below compares the stock performance of FBG firms with that of their matches after the end of February 2020 when the COVID crisis started.

The three bar charts in the upper part of Figure 2 compare the stock performance of small FBG firms with their non-FBG counterparts as well as the market whose returns are from Datastream's total market index of Thailand. Using the end of February 2020 as a base date, stocks of firms affiliated with small FBGs significantly outperform both their non-FBG peers and the market. In particular, over the next 12 months (also 18 and 24 months), they outperform their peers by 13.7% (34.5% and 44.8%) and outperform the market by 14.9% (56.0% and 80.3%). These differences are also statistically significant at 5% level or better. In contrast to small FBG firms, those affiliated with large FBGs underperform both their non-FBG peers and the market. The three bar charts in the lower part of Figure 2 show that, over the next 12 months (also 18 and 24 months), large FBG firms underperform their non-FBG peers by 10.9% (29.0% and 35.9%) and the market by 11.5% (6.65% and 0.55%). The stock return differences between large FBG firms and their non-FBG peers are also statistically significant at 5% level.

Overall, the above results suggest that being affiliated with a small FBG adds significant value to the firm during the COVID crisis, likely because of the benefits of the FBG's internal capital market. However, being affiliated with a large FBG curtails such benefits and the firm value, because of the large FBG's high hierarchy transaction costs.

Financing and spending of FBGs during the pandemic

This subsection explores other advantages and disadvantages of being affiliated with an FBG. Specifically, I examine how FBG firms finance themselves and spend their funds during the COVID crisis, as compared to non-FBG firms. Table 2 shows the comparison. The outcome variables considered here are: a) change in short-term debt over total assets ($\Delta StDebt/TotalAst$); b) change in long-term debt over total assets ($\Delta LtDebt/Total Ast$); c) relative change in dividend payout ($\Delta \log(1 + Dividend)$); and d) change in firm valuation ($\Delta TobinsQ$). Change is calculated as the value in 2020 (the pandemic year) minus the value in 2019. As in the previous subsection, I split the sample by FBG size. The results for small FBGs are reported in Panel A, Table 2, and those for large FBGs in Panel B.

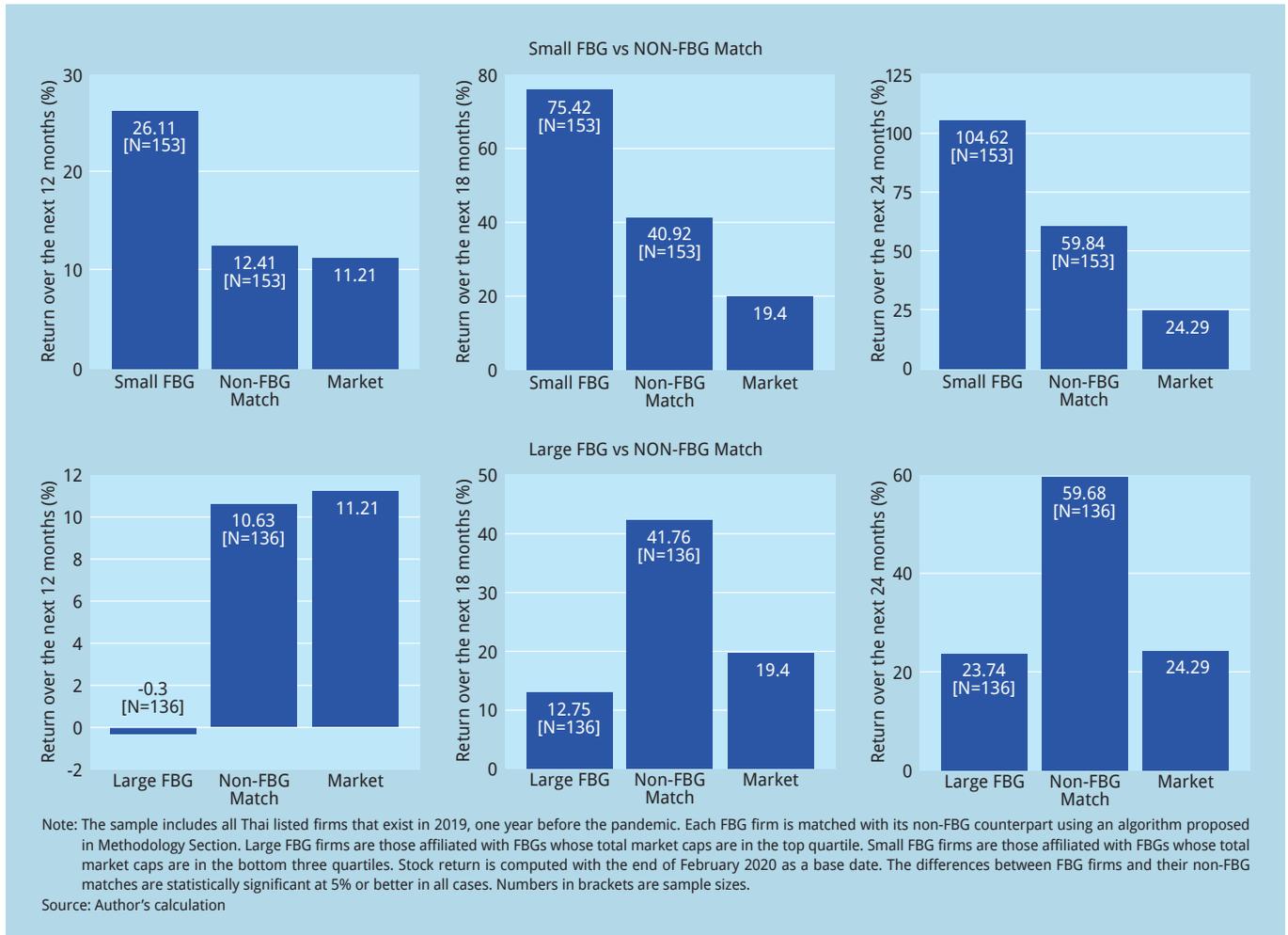
During the pandemic, firms incur

losses due to the sudden drop in demand. To sustain their operations, they must raise capital from the market. Firms affiliated with FBGs have an advantage in that their collateral comes not only from their own assets, but also from the assets of other firms in the same group. Thus, being affiliated with an FBG should give more access to debt than other freestanding firms. Consistent with this argument, Panel A in Table 2 reports that small FBG affiliates increase their short-term leverage by 2.4 percentage points (ppt),³ while their non-FBG peers increase it by 0.6 ppt. This result suggests that an affiliation with a small FBG increases access to short-term debt financing by 1.8 ppt (2.4 minus 0.6). However, it does not affect long-term debt financing. On the other hand, Panel B, Table 2 shows that an affiliation with a large FBG significantly increases access to both short-term and long-term financing during the crisis by 2.0 ppt and 2.2 ppt, respectively. This might be because, in addition to having more tan-

gible assets as collateral, large FBGs often have strong political connection, which makes them more likely to be bailed out by the government (Faccio, Masulis, and McConnell, 2006). Anticipating this bailout, the market is willing to provide large FBGs with low cost of debt, which in turn allows large FBGs to be more leveraged.

With more access to debt financing, how do FBGs spend their funds during the crisis? I first examine their dividend payment as this is one of the main channels through which an FBG spends its cash as compensation for its controlling family. Because some firms pay no dividends and we are also comparing firms of different sizes, I measure a *relative* change in dividend as $\Delta \log(1 + Dividend) = \log(1 + Dividend_{2020}) - \log(1 + Dividend_{2019})$. In Panel A, Table 2, $\Delta \log(1 + Dividend)$ for both small FBG affiliates and their non-FBG peers are significantly negative, suggesting that both cut their dividends and that, as a result, the controlling families of small FBGs receive

Figure 2: Stock Performance of Family Business Group Affiliates vs Non-FBG Matches



less compensation in the crisis period. In contrast, Panel B shows that $\Delta \log(1 + \text{Dividend})$ for large FBGs is not significantly different from zero, suggesting that large FBG affiliates maintain their dividends and that the controlling families do not receive less compensation even in times of crisis. This stands in contrast to their non-FBG peers whose $\Delta \log(1 + \text{Dividend})$ is significantly negative, indicating that these firms decrease their dividends during the pandemic.

Next, I analyze how efficiently FBGs invest when they are hit by the pandemic. To measure the investment efficiency, I argue that a firm's valuation ought to be high relative to its total assets if it invests efficiently. Thus, I measure a firm's investment efficiency using Tobin's q ratio. Ideally, Tobin's q is the market value of the firm divided by its replacement cost, i.e., the total value of assets had they been sold to the market piece by piece. If the management invests in value-enhancing projects, Tobin's q ought to be high, and vice versa. Measuring the true Tobin's q is very challenging, however. Two of the many reasons are that the market value of debt does not reflect on the bond price because debt is not often traded and also that the true replacement cost is unobservable. Therefore, I follow Croci, Doukas, and Gonenc (2011) and define Tobin's q as total assets minus book value of equity plus market value of equity all divided by total assets. Panel A, Table 2 reveals that Tobin's q of firms affiliated with small FBGs increases significantly more than that of their non-FBG counterparts, by 10.4 ppt. This suggests

that affiliation with a small FBG increases firm valuation during the crisis, reflecting the benefits of an internal capital market. Panel B paints a different picture. Firms affiliated with large FBGs, on average, see their valuation decrease by 16.9 ppt as compared to their non-FBG counterparts. This result indicates that large FBGs may have considerable hierarchy transaction costs, which melt away the benefits of their internal capital markets.

Collectively, the results in this subsection suggest that despite more access to debt financing during the COVID crisis, large FBGs invest inefficiently and spend their cash maintaining dividends which act as compensation for the controlling families. In contrast, small FBGs utilize their internal capital markets and invest efficiently, thus seeing their valuation significantly increase.

Conclusion

Developing economies like Thailand are plagued with significant market frictions which stem from underdeveloped financial markets and dysfunctional legal systems. A group of firms ultimately controlled by a single business family or tycoon can miti-

gate such problems. Particularly, firms under the family's control can be instructed to transact with one another with lower costs, effectively creating an internal capital market. However, as the business group grows large, it can become inefficient due to its high hierarchy transaction costs and thus might exist to preserve control of the founding family.

This paper provides empirical evidence consistent with the argument above. I find that, in the presence of heightened market frictions due to the COVID crisis, firms affiliated with small FBGs significantly see their stocks outperform those of their similar non-FBG peers, reflecting the benefits of internal capital markets. Moreover, they decrease their dividends and invest efficiently during the crisis. In contrast, firms affiliated with large FBGs, underperform their non-FBG counterparts, likely because of greater hierarchy transaction costs that outweigh the benefits of their internal capital markets. Additionally, they maintain their dividend payment and invest inefficiently.

Overall, the findings in this paper suggest that internal capital markets are necessary for the growth of Thailand's economy. They also raise the possibility that some business groups in Thailand might be too large and thus are inefficient at allocating resources.

Acknowledgments

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Table 2: Financing and Spending of FBGs during the COVID Crisis

	FBG Firms			Non-FBG Matches			Difference: FBG minus Non-FBG	
	N	Mean	p-Value	N	Mean	p-Value	Mean	p-Value
Panel A: Firms affiliated with small FBGs								
$\Delta \text{LtDebt}/\text{TotalAst}$	125	0.024***	0.004	125	0.006	0.464	0.018*	0.088
$\Delta \text{StDebt}/\text{TotalAst}$	122	-0.004	0.682	122	0.002	0.818	-0.006	0.635
$\Delta \log(1 + \text{Dividend})$	150	-0.974***	0.006	150	-1.088***	0.002	0.114	0.812
$\Delta \text{TobinsQ}$	150	0.076***	0.003	150	-0.028	0.433	0.104**	0.019
Panel B: Firms affiliated with large FBGs								
$\Delta \text{LtDebt}/\text{TotalAst}$	116	0.035***	0.000	116	0.015**	0.035	0.020**	0.039
$\Delta \text{StDebt}/\text{TotalAst}$	109	0.019**	0.027	109	-0.003	0.606	0.022**	0.034
$\Delta \log(1 + \text{Dividend})$	135	0.437	0.175	135	-1.245***	0.000	1.682***	0.000
$\Delta \text{TobinsQ}$	134	-0.159***	0.000	134	0.010	0.795	-0.169***	0.001

Note: This table compares changes in debt levels, dividend, and Tobin's q of FBG firms with their similar non-FBG counterparts. Change is calculated as the value at the end of 2020 (the COVID crisis year) minus that at the end of 2019. Number of observations varies due to data availability of each variable. p-Values are probability levels of rejecting the null hypothesis of zero means. ***, **and* indicate statistical significance at 1%, 5%, and 10% levels, respectively.

Source: Author's calculation



Notes

- 1 An increase caused by nature, not by other factors that may be able to explain the results.
- 2 The results remain robust when I split the sample into three terciles instead of four quartiles.
- 3 Percentage point is a difference between two percentages.

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tions prepared for conferences and the content of print publications are available on the Foundation's website <http://nomurafoundation.or.jp/en>.

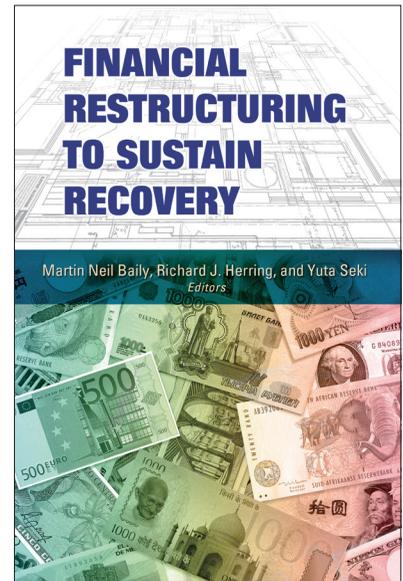
With the expanding importance of Asia in the 21st century global economy, the Foundation has been increasing its support of intellectual interactions among experts at think tanks, universities and government agencies in the region. As part of this effort and recognizing the importance of capital market development in promoting economic growth and prosperity in Asian countries, the Foundation started publishing *Nomura Journal of Asian Capital Markets* in 2016.



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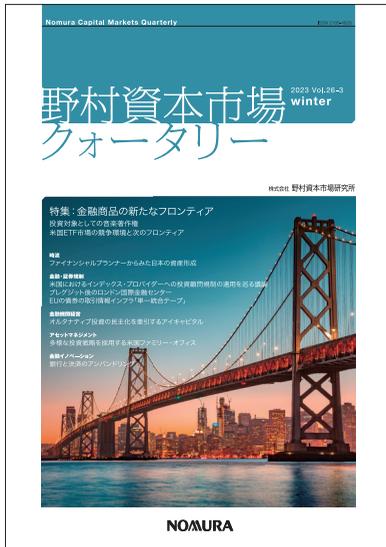
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