BOC Research Institute

Global Banking Industry Outlook

2022Q2 (Issue 50) **March 30, 2022**

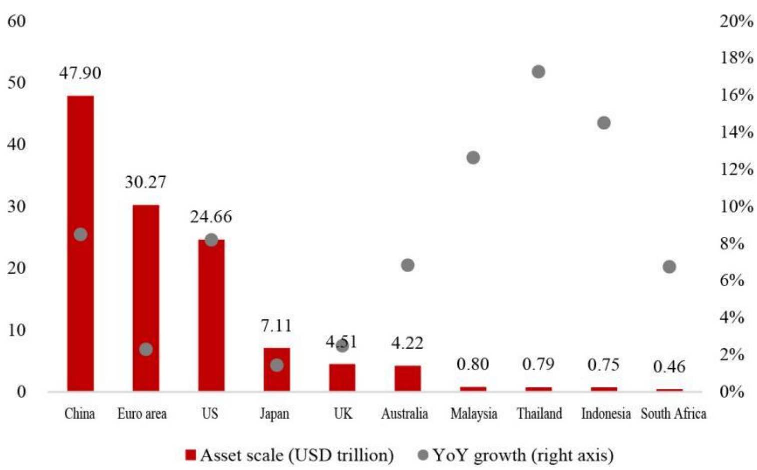
Highlights

● In the first half of 2022, despite a slowing down global economy, the banking business maintained a solid and sound development on the whole, yet faced new risks arising from increasing uncertainty in global economic growth, more volatile financial markets and so on.

● As new drivers to China's economy were emerging, the banking industry accelerated the transformation while serving the real economy, and recorded a medium-high rate of growth, with profit growth back to normal and asset quality enhanced steadily.

● The *2022 Report on the Work of the Government* of China made it clear that the main task of financial services is to "encourage the financial sector to provide more effective support to the real economy", clarifying the focuses of corporate credit granting and the direction of corporate business transformation. The development of technological finance, green finance, supply chain finance and investment banking has a great prospect.

Asset Scales of the Banking Sector and Their YoY Growth in 2022H1 (forecast)



BOC Research Institute

Global Banking Research Team

Team leader: Chen Weidong

Deputy leader: Wang Jiaqiang

Team members: Shao Ke
Yuan Xiaohui
Zheng Chenyang
Du Yang
Li Yelin
Li Jiao (Hong Kong)
Ji Yaoyao (Sydney)
Wang Zhe (Tokyo)
Zhang Yuzhu (London)
Yang Bo (Hungary)
Jiao Peng (Johannesburg)
Jin Lei (New York)
Mao Siqi (New York)
Sun Yangdi (Brazil)

Contact: Shao Ke

Telephone: 010-66594540

Email: shaoke@bankofchina.com

Corporate Business Transformation Leads High-Quality Banking Development

-- Global Banking Industry Outlook (2022Q2)

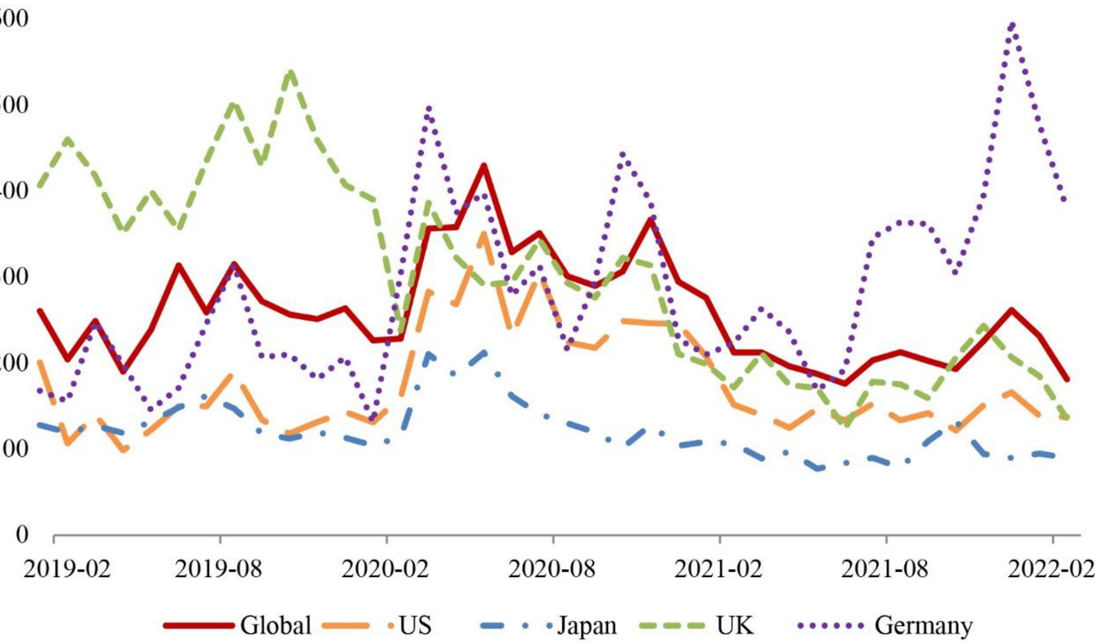
Entering 2022, the banking industry has maintained steady growth in scale in spite of a slowdown in global economic recovery. The rising interest margins promoted the improvement of profitability. Relatively speaking, the Chinese economy enjoys a good momentum overall, driving the healthy development of the banking industry and improving the quality and efficiency of serving the real economy. This report provides a special analysis of the several directions of corporate business transformation of banks, covering technology finance, green finance, supply chain finance and investment banking, etc.

I. Global Banking Review and Outlook for 2022H1

I.1 Global banking environment seeing dramatic changes since 2022

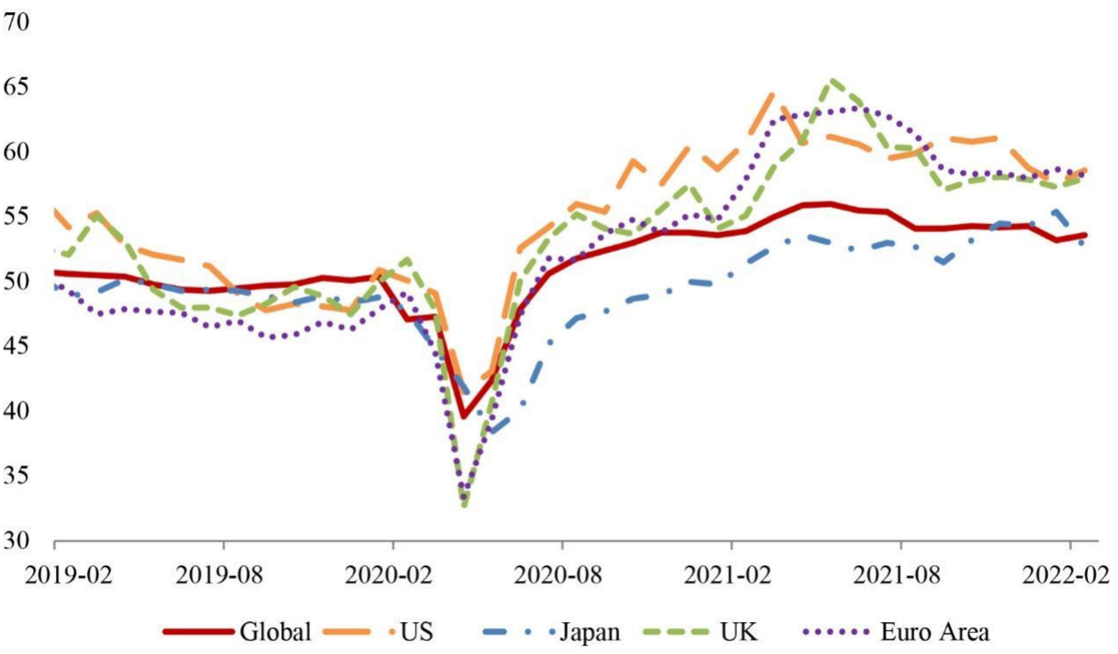
The Russia-Ukraine conflict beclouded the prospect of economic growth with increased uncertainties in banking activities. In March, the IMF said that it would continue to adjust downward the forecast for global economic growth as a result of issues such as the sustained disruptions in global supply due to the Russia-Ukraine conflict. In addition, the economic policy uncertainty indexes in major global advanced economies, such as the US, the UK and Germany, were correspondingly trending downward, but still remained at a high level compared to 2021 (Fig. 1), and was expected to soar in March. Since 2022, the manufacturing PMI indexes of the world and major economies have shown a trend of slight decline while maintaining overall steadiness (Fig. 2). As a whole, the global economy is facing certain downward risks, and changes in the situation of the Russia-Ukraine conflict will bring greater uncertainty to economic and financial activities. The repayment ability and willingness of the real economy may be negatively affected as the banking activities are facing increasing uncertainty.

Fig. 1: Economic Policy Uncertainty Indexes



Source: Wind, BOC Research Institute

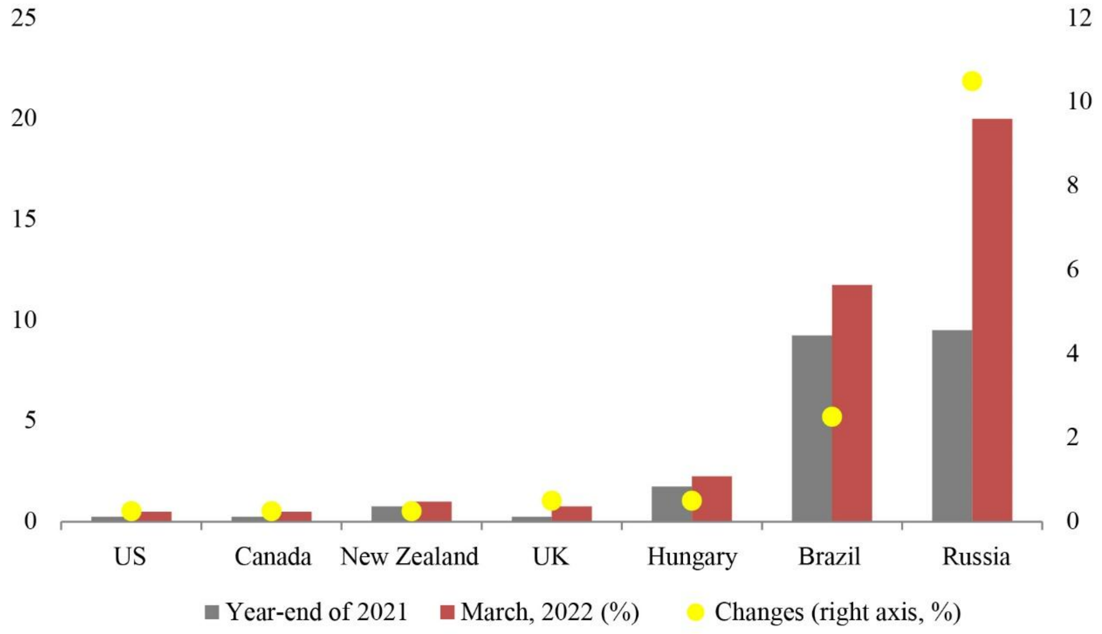
Fig. 2: Manufacturing PMIs



Source: Wind, BOC Research Institute

Interest rate hikes in major economies, such as the US, contributed to higher interest margins in the banking sector. Against the backdrop of high inflation and great uncertainty about economic growth prospects, monetary policy in major global economies was expected to tighten in 2022. In March, the Fed announced a 25-basis-point increase in the target range for the federal funds rate to 0.25%-0.5%, the first rate hike since December 2018; the Bank of England announced a 25-basis-point rate hike to 0.75%, with further tightening policy possibly launched ahead. Influenced by the rate hikes in major economies, some emerging economies kept hiking their interest rates (Fig. 3). In 2022, the rising commodity prices as a result of geopolitical turmoil are likely to continuously push up global inflation and monetary policy tightening, and the market interest rates and interest margins of the banking industry will probably see an increase.

Fig. 3: Changes of Selected Countries' Interest Rate Policy in 2022



Source: Central Banks, BOC Research Institute

Financial regulation continued to be strengthened as the banking compliance risks were on the rise. Since December 2021, financial regulatory policies in most major economies have seen a tightening trend. In December 2021, the Fed and the US Office of the Comptroller of the Currency proposed new regulatory requirements for the operational and climate-related risks of large banks, respectively; in the same month, the EU proposed to optimize the reporting process for the supervision of financial institutions. In January 2022, the BaFin upgraded two regulatory requirements for banking capital buffer, putting an end to the temporary relaxed regulatory measures, and in March, the Bank of Brazil introduced a stricter regulatory framework and upgraded capital requirements for digital payment institutions. Following the outbreak of the Russia-Ukraine conflict, the series of US and European sanctions against Russia will probably pose new compliance risks for the banking sector.

I.2 Global Banking Outlook for 2022H1

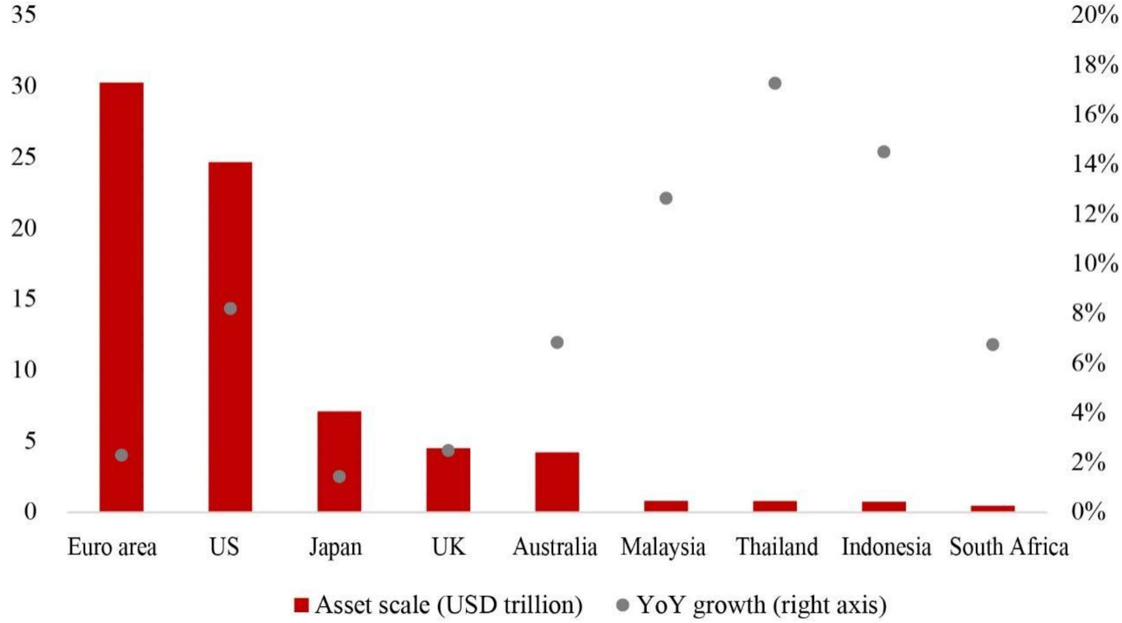
Ushering into 2022H1, the global banking industry as a whole will maintain solid progress in spite of the new risks arising from increased uncertainty in global economic growth and stronger fluctuation in financial markets.

(i) Expansion in scale will drop steadily

Global economic growth will remain highly uncertain in 2022H1, and the growth rate of the banking industry's asset scale is expected to drop steadily. In particular, influenced by positive factors such as a new round of rate hike cycle and the economic recovery in the US, the US banking industry will lead the scale growth of major developed economies on a year-on-year basis.

At the end of Q2, the total assets of the US banking industry are estimated to grow by 8.20% YoY; the asset scale of the banking industry in the euro area, Australia and Japan are projected to grow by 2.63%, 6.84% and 1.44% YoY respectively; the asset of the five largest banks in the UK is expected to achieve a YoY growth rate of 2.49%.

Fig. 4: Asset Scale of the Banking Sector in Major Economies[1] and Their YoY Growth at the End of 2022Q2 (forecast)



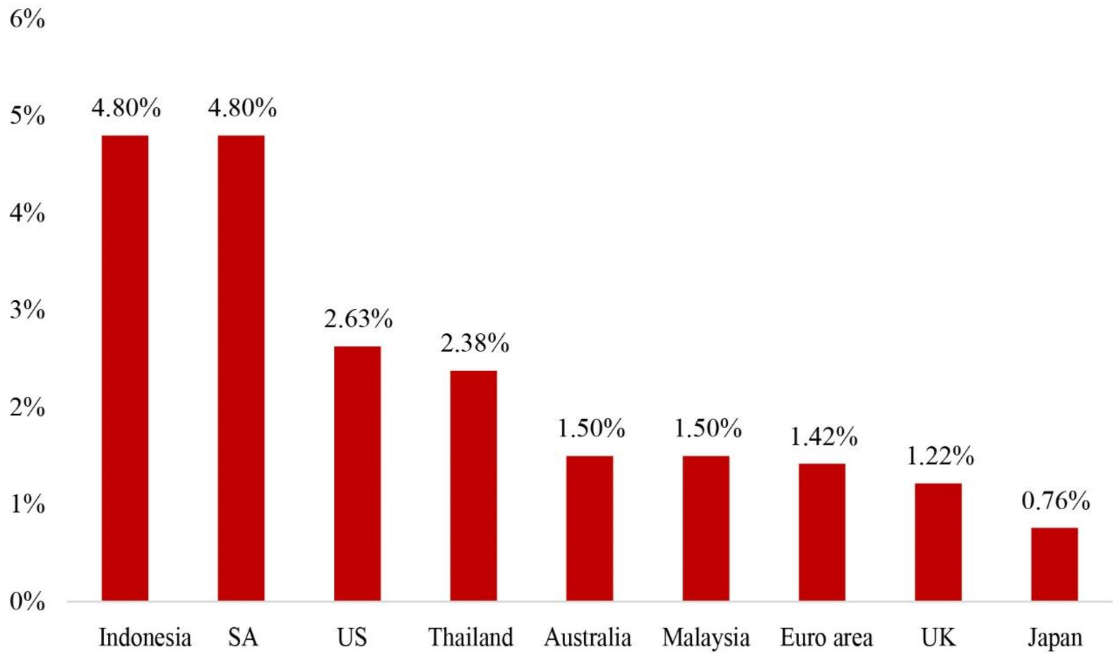
Source: Central Banks and Regulators, Banking Financial Reports, BOC Research Institute

(ii) Profitability will remain relatively stable

The net interest margin of banks will rise steadily as influenced by the monetary policy environment in 2022H1, contributing to steady profitability. The net interest margin of the US banking industry will rise to 2.63% from 2.50% a year earlier; the net interest margin of the banking industry in the euro area, Australia and Japan will continue to remain at around 1.42%, 1.5% and 0.76%, respectively; the net interest margin of the banking sector of Thailand, Malaysia and Indonesia will reach 2.38%, 1.5% and 4.80% respectively, maintaining relatively high. Estimated in 2022H1, the net profit of the US banking industry is expected to reach USD154.6 billion, up 4.97% YoY; the single quarter profit growth of the three major Japanese banks in the second quarter will reach 5.16% year-on-year.

[1] The UK's banking sector adopts the data of the five major banks, respectively, HSBC Holdings, National Westminster Bank, Lloyds Bank, Standard Chartered Bank and Barclays Bank, with the five major banks accounting for about 70% or more of the total assets of the UK's banking sector. The Japanese banking sector data is from the three major financial groups, respectively, Mitsubishi UFJ, Sumitomo Mitsui and Mizuho Financial, with the three major financial groups accounting for about 60% of the total assets of the Japanese banking sector.

Fig. 5: Net Interest Margins of Selected Countries' Banking Sector in 2022H1 (forecast)

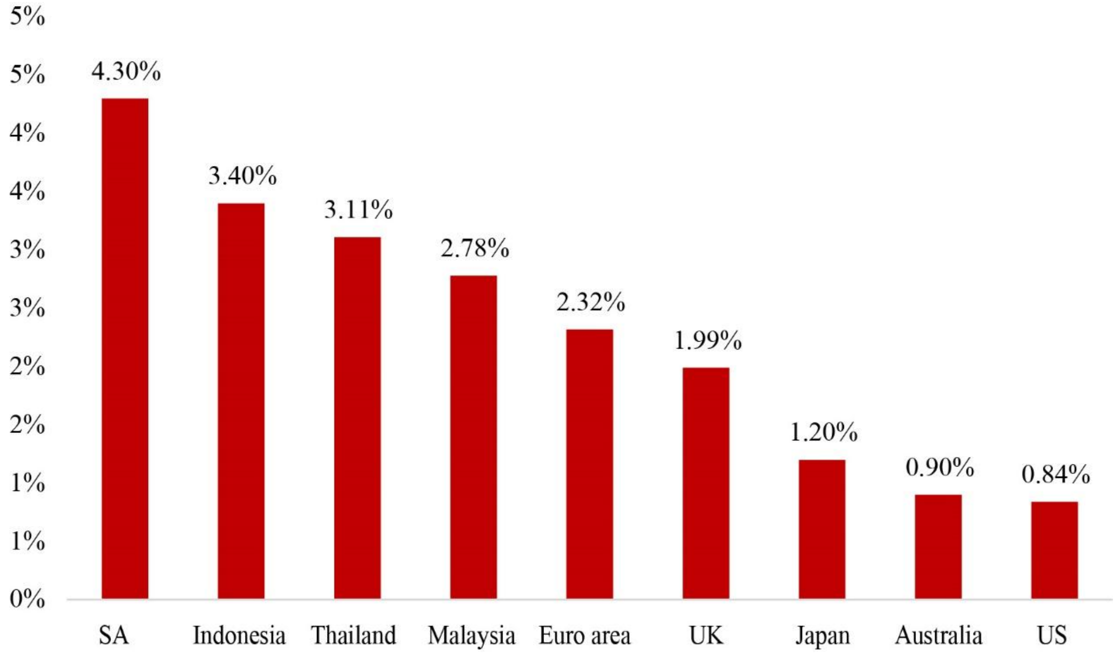


Source: Central Banks and Regulators, Banking Financial Reports, BOC Research Institute

(iii) Asset quality will be overall controllable

In 2022H1, though facing certain challenges, the asset quality of the global banking industry will steadily improve as the economy gradually recovers, the repayment ability and willingness of economic entities will go up, and the existing non-performing assets accumulated during the pandemic will be gradually dissolved, resulting in a steadily improved condition of the asset quality of the global banking system. It is expected that by the end of Q2, the non-performing asset ratio of the US banking industry will drop to 0.84%, while that of the euro area, Australia, Japan and the UK banking industry will remain at 2.32%, 0.9%, 1.12% and 1.99%, respectively. It is worth noting that affected by geopolitical conflicts, financial market volatility and other factors, the banking industry of emerging markets will be under greater pressure to improve the asset quality, and is likely to edge upward.

Fig. 6: NPLs ratio of Selected Countries' Banking Sector at the End of 2022Q2 (forecast)

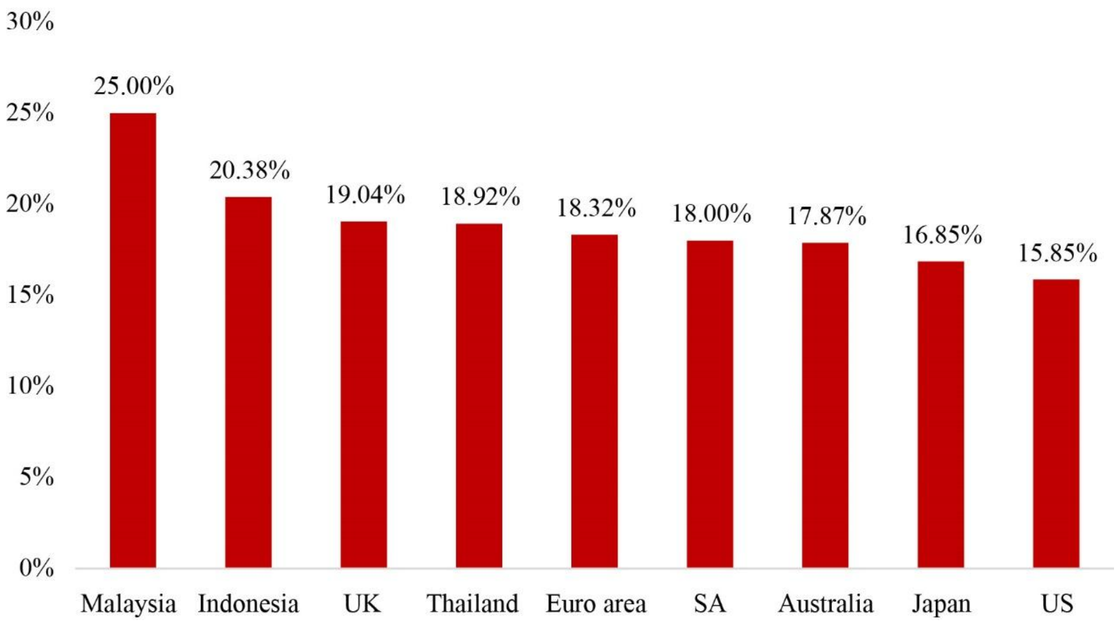


Source: Central Banks and Regulators, Banking Financial Reports, BOC Research Institute

(iv) Capital condition will maintain stable performance with good momentum for growth

In the face of new uncertainties ahead, some economies have introduced timely policies to support the development of the banking industry, and the capital adequacy level of their banking industries is expected to remain at a good level in 2022H1. Considering the global geopolitical conflicts, Japan has postponed the launch of Basel III capital standards for large banks by another year to March 2024. By the end of 2022Q2, the capital adequacy ratios (CAR) of the banking sector in the US, euro area, Australia, Japan and the UK are expected to reach 15.6%, 18.32%, 17.9%, 16.9% and 19.04%, respectively. The CARs in emerging economies will be relatively healthy, with Thailand, Malaysia, Indonesia, and South Africa registering 18.9%, 25.0%, 20.4%, and 18.0% respectively.

Fig. 7: CARs of Selected Countries' Banking Sector at the End of 2022Q2 (forecast)



Source: Central Banks and Regulators, Banking Financial Reports, BOC Research Institute

II. China's Banking Review and Outlook for 2022H1

II.1 China's banking environment continued to improve since 2022

The impact of the COVID-19 pandemic on the economy has gradually diminished since the start of 2022, and China's economy has registered a good start to the 14th Five-Year Plan, marking a solid step forward in building a new development pattern. New growth driver for the economy has continued to release, and the banking environment has achieved sustained improvement, with accelerated transformation achieved in serving the real economy.

First, the internal momentum of economic growth continued to strengthen, solidifying the cornerstone of high-quality development of the banking industry. The Chinese economy has achieved a good start to the "14th Five-Year Plan" in 2021 and continued to lead the world with its total economic volume exceeding RMB110 trillion and the GDP reaching a YoY growth rate of 8.1%. Entering 2022, the domestic situation of the pandemic has shown a scattered manner, and its impact on economic growth has gradually subsided as the normalized prevention and control measures were fully implemented, but still facing three major pressures of contracted demand, supply shock, and downgraded expectations. The GDP growth target set up for 2022 was about 5.5%, while the average GDP growth rate in the past two years was 5.1%. To achieve medium and high rate growth on a high base, the internal momentum should be further consolidated, which will bring opportunities for banking development. In 2022H1, the role of consumption as a driving force will continue to enhance, presenting a vast space for the consumer finance business of the banking sector; investment will show a divergent trend, with the investment in manufacturing remaining at a high level. Especially for high-end manufacturing, green manufacturing and other areas that cater to the prevailing trend of the digital economy and carbon neutrality, the banks' corporate loans granted to these areas are expected to see a rapid growth; investment in real estate will remain overall stable with a rebound from the low. With the improvement in the financing environment, the tightening of bank credit will tend to moderate.

Second, both fiscal and monetary policies worked in one direction to promote the reasonable easing of liquidity in the banking sector. In March 2022, the *2022 Report on the Work of the Government* of China set the macro policy direction for this year. It continued to adopt active fiscal policy and prudent monetary policy, strengthen cross-cycle and counter-cyclical adjustment, and retain adequate liquidity to respond to the three domestic pressures. The fiscal policy was more focused on precision and sustainability, with the new financial resources being mainly used to help enterprises relieve, stabilize employment and protect people's livelihood, promote consumption, and stimulate demand. At the end of 2021, the central bank cut the required reserve ratio (RRR) by 0.5 percentage points, and LPR was lowered for the first time after remaining unchanged for 19 consecutive months; in the first two months of 2022, the interest rate of the medium-term lending facility (MLF) was downgraded and renewed in additional volume, and the 1Y and 5Y loan prime rate (LPR) decreased, reflecting the intensification of the counter-cyclical adjustment, which was conducive to guiding financial institutions to make good credit arrangements for 2022, expand the scale of new loans, and promote the downward movement of loan interest rates to reduce corporate financing costs.

Third, priorities of financial regulation were placed on shoring up weaknesses, preventing risks and benefiting people's livelihood, so as to chart a course for the sound development of the banking industry. Since 2022, financial regulation has focused more on shoring up weaknesses, preventing risks and benefiting people's livelihood, which not only helped banks to strike a balance between business development and risk prevention, but also paid more attention to the interests of market players as part of its efforts to strengthen the financial attribute of serving the real economy. From the perspective of shoring up the weaknesses, Measures for the Administration of Related Transactions were introduced for corporate governance, in a way to regulate the related transactions of financial institutions; relevant guidelines were also launched for digital transformation, in a bid to promote the openness and intelligence of banks; for the weaknesses in financial standards, the development plan for financial standardization during the 14th Five-year Plan period was issued to improve the standard system that is compatible with the modern financial system. From the perspective of risks prevention, more emphasis was placed on new types of financial risks such as information technology and climate-related risks; from the perspective of benefiting people's livelihood, efforts were made to boost the interests of the real economy, such as standardizing the management of market regulation prices, expanding the pilot coverage of pension and wealth management products, supporting the development of government-subsidized rental housing, and strengthening the financial services for new urban residents, with an aim to continuously improve the quality and efficiency of financial services.

II.2 Outlook for China's banking industry in 2022H1

China's banking industry will present the following characteristics in 2022H1:

First, the balance sheet expansion is estimated to maintain a medium-high rate of growth. The YoY growth rates of total assets and total liabilities of Chinese commercial banks reached 8.58% and 8.36%, respectively, in 2021, basically recovering to the medium-high growth level before the pandemic. At the same time, the banking industry's support for the real economy continued to build up. Looking into 2022, China has set its GDP growth target at around 5.5%. The positive macroeconomy will bring impetus to the development of the banking industry, and the realization of the macroeconomic target also requires the banking industry to take proactive moves. It is expected that in 2022H1, Chinese commercial banks will maintain overall stability while pursuing progress, with asset and liability growth maintained at around 8.5%.

Second, profitability growth will return to normal. The cumulative net profit of commercial banks amounted to RMB2.18 trillion in 2021, a YoY increase of 12.63%, marking the fastest growth rate since 2015; the return on equity (ROE) and return on assets (ROA) stood at 9.64% and 0.79%, up 0.16 and 0.02 percentage points YoY respectively. Since 2022, based on the new development stage highlighting the shift from scale expansion to quality improvement, commercial banks have remained committed to cultivating advantages in both trading volume and price, contributing to the development of the real economy, boosting the off-balance-sheet businesses, optimizing the revenue structure, and improving the handling fee and commission income levels. Looking into 2022H1, it is expected that the YoY growth rate of commercial banks' net profit will approach 10%.

Third, the asset quality will grow steadily. In 2021, commercial banks recorded RMB2.84 trillion in the balance of NPLs, up 5.39% YoY; the NPL ratio stood at 1.73%, down 0.11 percentage points YoY, reaching the lowest level since 2016. Benefiting from the recovery of the real economy and the diversification of the disposal means of non-performing assets, the asset quality of commercial banks will continue to move upward in 2022H1, presenting a trend of "one rising and one falling": the NPL ratio will continue to decline and is expected to drop to about 1.72%; due to the pressure of the expiration of the deferred principal repayment policy, the balance of NPL will rise slightly.

Fourth, the capital adequacy will register a sound performance. The core tier 1 CAR, tier 1 CAR and CAR of commercial banks in 2021 stood at 10.78%、12.35% and 15.13% respectively, up 6, 32 and 42 basis points YoY. In 2022H1, commercial banks will need to further replenish their capital in order to respond to the increasingly strengthened capital regulation requirements and increase their support to the real economy. Small and medium-sized banks will face greater pressure in capital replenishment with weaker risk resistance capability and narrower capital replenishment channels. Overall, the capital adequacy of Chinese commercial banks will remain stable in 2022H1.

Table1: Forecasts on China's Commercial Banking Development Indicators in 2022H1 (RMB trillion, %)

	Indicator	2018	2019	2020	2021	2022H1（E）	2022（E）
Size	Assets (RMB trillion)	210.0	239.5	265.8	288.6	305	311
	Liabilities (RMB trillion)	193.5	220.1	244.5	264.7	280	286
	Growth of assets, YoY (%)	6.70	9.12	10.98	8.58	8.5	8.0
	Growth of liabilities, YoY (%)	6.28	8.66	11.13	8.36	8.5	8.0
Profit	Net profit (RMB trillion)	1.83	1.99	1.94	2.18	1.30	2.25
	ROA (%)	0.90	0.87	0.77	0.79	0.80	0.78
	ROE (%)	11.73	10.96	9.48	9.64	10.0	9.4
	Net interest margin (%)	2.18	2.20	2.10	2.08	2.08	2.10
	Cost/income ratio (%)	30.84	31.68	31.19	32.08	28.5	31.5
Risk	NPL ratio (%)	1.83	1.86	1.84	1.73	1.72	1.75
	PCR (%)	186.3	186.1	184.5	196.9	200	200
	CAR (%)	14.20	14.64	14.70	15.13	15.0	15.0
	Core Tier 1 CAR（%）	11.03	10.92	10.72	10.78	10.5	10.8

Source: CBIRC, BOC Research Institute

III. Special Research: Corporate Business Transformation Leads High-Quality Banking Development

III.1 *2022 Report on the Work of the Government* of China guides banks to support the real economy with corporate loans

China's *2022 Report on the Work of the Government* has repeatedly mentioned finance, with "encouraging the financial sector to provide more effective support to the real economy" running through the main line of financial services. It also set the direction of credit supply in the banking sector, with a focus on the key areas and weak links of the real economy.

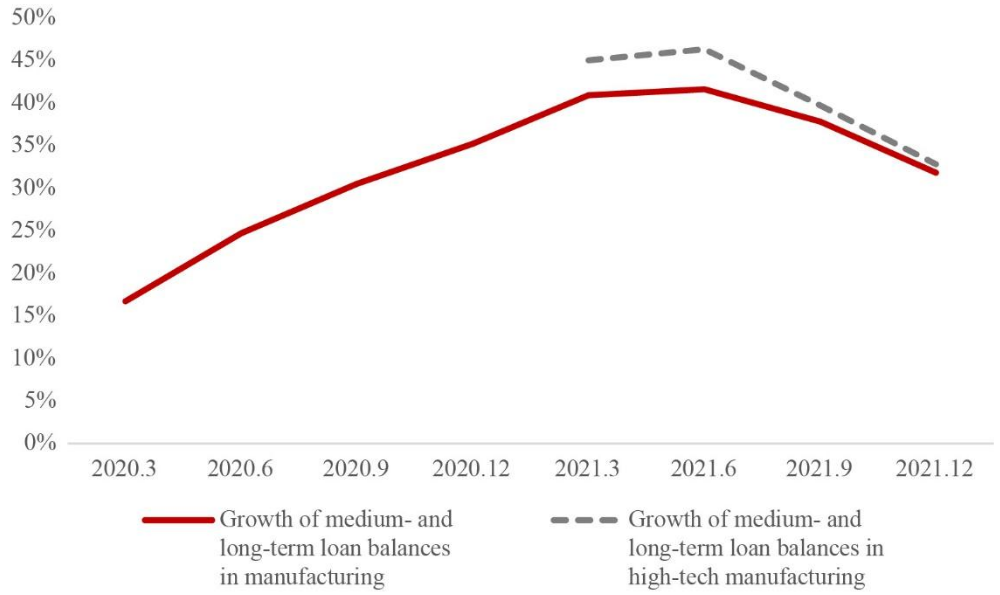
(i) Infrastructure loans will embrace a larger room for growth

Government investment will mainly flow to the renovation of key water conservancy projects, integrated multi-dimensional transportation systems, important energy bases and facilities, urban gas pipelines and other pipeline networks, the improvement of flood control and drainage facilities, as well as the construction of underground utility tunnels, which are also the key destinations of the banks' government-related loan granting. At the same time, the 2022 work report of the government has proposed to renovate another group of old residential communities in urban areas and promote the development of barrier-free environments and renovations for the convenience of the elderly people. According to statistics, more than 50,000 old urban residential communities will be put into renovation nationwide throughout the year, with related financing needs urgently to be met. In addition, the *2022 Report on the Work of the Government* of China has also pointed out that the special-purpose bonds for local governments will total RMB3.65 trillion this year, which will further push forward the projects in a series of key areas. Taken together, China's efforts in infrastructure construction are expected to ease the pressure on the credit supply of the banking industry and create more potential areas for credit supply.

(ii) Manufacturing, green industry, government-subsidized rental housing, and pension industry will be the key areas of credit efforts

First, medium- and long-term loans to manufacturing industries will continue to increase, promoting technological innovation and industrial upgrading. Manufacturing serves as the cornerstone of the country's economic development, and China has been guiding the financial sector to increase the credit support for the manufacturing industry. At the end of 2021, the balance of medium- and long-term loans to the manufacturing industry grew by 31.8% YoY. It is expected that the growth rate of medium- and long-term loans in manufacturing will continue to stand at above 30% in 2022, and the YoY growth rate of medium- and long-term loans in the high-tech manufacturing industry will be even faster.

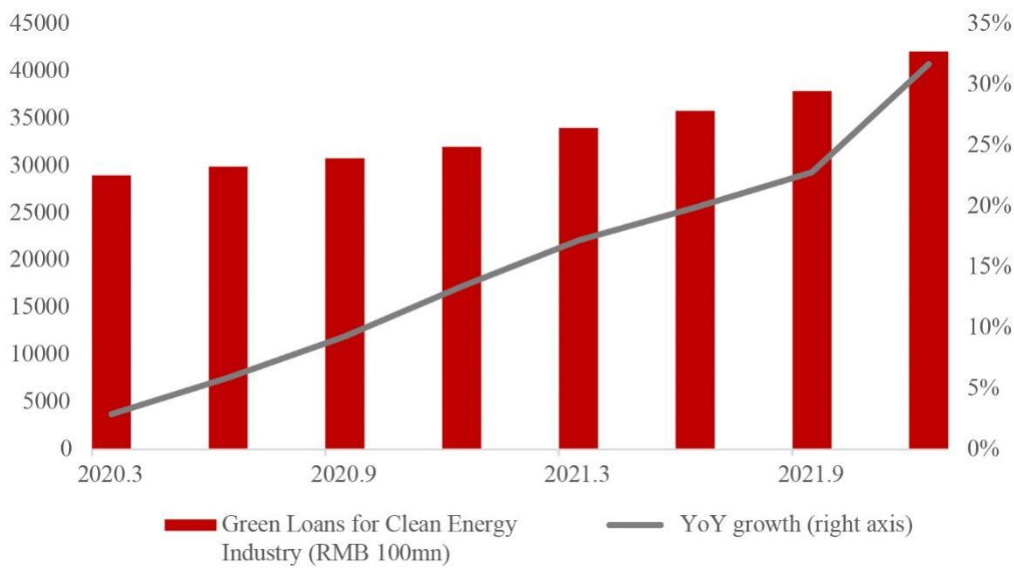
Fig. 8: Growth Rate of the Balance of Medium and Long-term Loans in the Manufacturing Sector by Financial Institutions



Source: PBOC, BOC Research Institute.

Second, green credit, with a huge room for growth, will focus on supporting the low-carbon transformation of energy. The *2022 Report on the Work of the Government* of China has paid more attention to the comprehensive management of the ecological environment and low-carbon transformation of energy when it comes to green development, and the green credit of banks will continue to underpin the development of green industries and scale up support for the transformation of high-carbon industries. The balance of green credit is expected to exceed RMB16 trillion in 2022, with the growth rate remaining above 20%.

Fig. 9: Green Loans for Clean Energy Industry and Their Growth



Source: Wind, BOC Research Institute.

Third, government-subsidized housing will likely become the new direction of real estate credit development. The *2022 Report on the Work of the Government* of China has clearly pointed out that we should continue to meet people's housing needs. Loans related to government-subsidized housing are in line with important national strategies and policies, represent the commitment to the principle that "houses are for living in, not for speculation", and support in better meeting the reasonable housing needs of residents, emerging as a key breakthrough point for banks to expand their real estate business. The balance of loans for affordable housing projects is expected to exceed the RMB8 trillion mark in 2022.

Fourth, the pension industry will become a new growth point for the credit supply of banks. It has been clearly presented in the 2022 government work report of China that efforts should be made to promote the high-quality development of both elderly care programs and the elderly care sector. With the release of the plan for the elderly care service during the 14th Five-Year Plan period, the top-level design has taken shape, and the pension industry will usher in an important period of strategic opportunity. In 2022, the pension industry is likely to achieve leapfrog development and become a new growth point for banking credit supply.

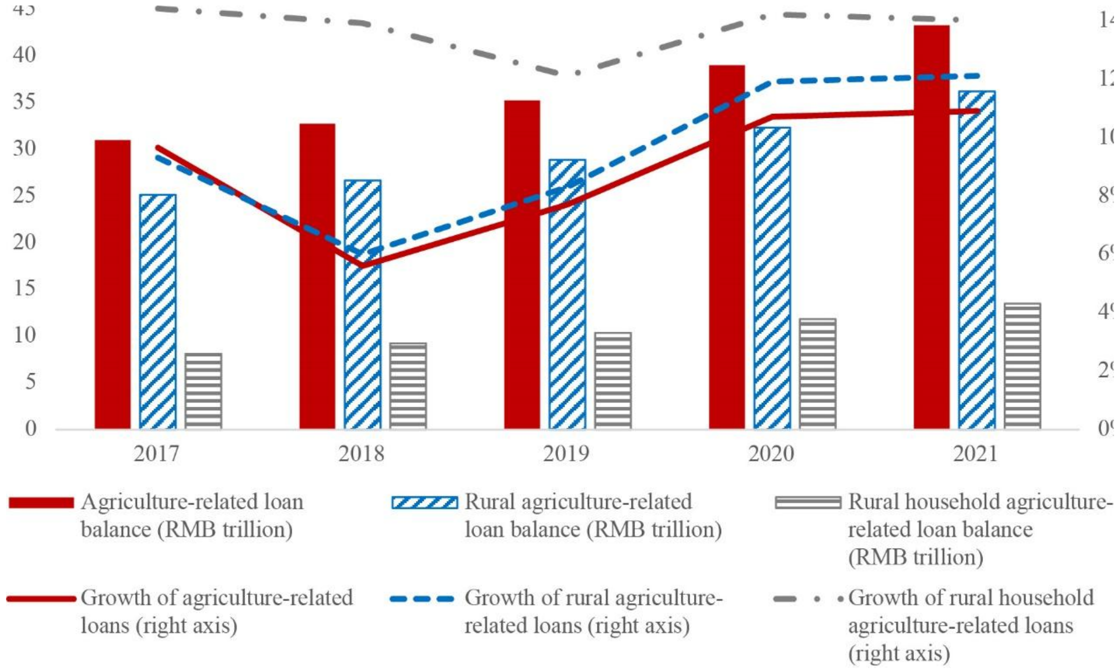
(iii) Inclusive credit will focus more on small and micro businesses and agriculture-related areas

First, without a growth rate target, inclusive loans to small and micro businesses will enter a critical period of transition from quantity to quality development. The *2022 Report on the Work of the Government* of China has continued to highlight financial institutions' support for small and micro enterprises, proposing to promote a marked increase in inclusive loans to micro and small businesses and a further rise in the proportion of collateral-free loans and first-time loans. As the financial service of providing inclusive loans to micro and small businesses has entered a critical period of transition from quantity to quality development, financial support should be conducive to resolving fundamental contradictions and establishing a long-term mechanism, so as to enhance the hard power of micro and small enterprises.

Second, support will be given to enterprises and industries severely affected by the pandemic while ensuring the continuity and stability of credit supply. The *2022 Report on the Work of the Government* of China has for the first time proposed to prevent industry-wide lending restrictions, forced early repayment of loans, and arbitrary termination of loan agreements by financial institutions, and emphasized financing support for enterprises and industries severely hit by the pandemic. It is expected that banks will increase their credit support for such industries in 2022, with a steady increase in the growth rate of related credit.

Third, the agriculture-related loans will see rapid growth, contributing to the achievement of rural revitalization and common prosperity. The *2022 Report on the Work of the Government* of China has made boosting agricultural production one of the nine major tasks and called for improving financial services in rural areas, accelerating the development of the rural business sector, and promoting the consolidation of the achievements made in poverty alleviation in coordination with the extensive drive for rural vitalization. Rural finance is one of the driving forces for rural revitalization and common prosperity. The growth rate of balance in agriculture-related loans is expected to exceed 10% in 2022.

Fig. 10: Agricultural-related Loan Balances and Their Growth Rates of Financial Institutions



Source: Wind, BOC Research Institute.

The banking industry should deepen its understanding of the new guidelines and requirements for the financial sector put forward in the *2022 Report on the Work of the Government* of China, so as to provide high-quality financial services. The first is to grasp the overall situation and formulate business development strategies centering on the new development pattern of the dual circulation, regional industrial policies and financial reform priorities. The second is to optimize the asset layout and adjust the credit structure, with green credit focusing on supporting energy transformation, technical innovation credit supporting enterprises specialized in niche sectors, and agriculture-related loans supporting modern agricultural industries and new types of agribusiness entities, with an aim to provide continuous and stable credit support to enterprises and industries severely affected by the pandemic. The third is to accelerate business innovation, cultivate new types of consumer finance, actively develop aging finance and supply chain finance to ensure the stability, security and strengthening of industrial and supply chains, and increase financing support for government-subsidized rental housing. The fourth is to push forward the comprehensive use of traditional and new risk control tools, so as to improve the prospective and flexible risk management capabilities of small and micro enterprises and high-carbon industries that are badly hit by the pandemic.

III.2 Technology finance fuels innovation-driven development strategy

The *2022 Report on the Work of the Government* of China has proposed to thoroughly implement the innovation-driven development strategy and consolidate the foundation of the real economy, putting forward new requirements for the innovative technology financial services of banks.

(i) Innovative high-tech enterprises around the world are bucking the trend

A new round of technological and industrial revolution is evolving rapidly around the world. The global innovation sector is still maintaining strong growth momentum despite the pandemic. **The venture capital (VC) market is booming, with the Asia Pacific becoming the new growth engine driving global innovation.** The trading volume of VC in 2020 grew by 5.8%, exceeding the average growth rate of the previous 10 years; the number of VC transactions in the Asia Pacific grew by 26.6%, making it the new growth engine of innovation.

(ii) International banking sector speeds up innovation in the model of technology finance

The banking industry of developed economies is accelerating model innovation while strengthening its credit business. The technology loan business in the US market has shown a good performance recently, while the technology investment banking model stands out. In the Japanese market with indirect financing as the mainstream, large banks have actively developed technical innovation investment funds in recent years to develop technology finance on multiple lines.

The growth of innovative high-tech enterprises in emerging economies is picking up pace, and the market potential of technology finance remains relatively huge. Driven by the global VC market, the scale of corporate VC investment in emerging economies has reached a record high. However, the penetration rate of the banking industry's services to small, medium and micro innovative high-tech enterprises is not high, giving rise to plenty of opportunities for technology finance services.

(iii) Chinese banking sector witnesses rapid development in technology finance

First, the top-level design of technology finance has been enhanced. Firstly, the strategic importance of technology finance has been raised, giving impetus to the business development of technology finance. Secondly, special institutions in technology finance have been set up, with more than 1,000 technological sub-branches spreading nationwide to provide high-quality financial services for innovative high-tech enterprises. Thirdly, the professionalism of technology finance has been pushed to a higher level, with the specialized risk control systems, credit-granting personnel, financing programs and information platforms gradually putting into place.

Second, the quality and efficiency of traditional credit services have been improved. Firstly, breakthroughs have been made in the growth of loans granted to strategic emerging industries, and the loan balance of technology-based enterprises and high-tech manufacturing industries as well as the number of credit customers have also achieved significant increases. Secondly, the accessibility of credit services for enterprises specialized in niche sectors has been boosted, with the numbers of households receiving credits from ICBC and BOC both exceeding 15,000 in 2021 and the coverage rates of both surpassing 30%. Thirdly, the cooperation between government and banks in technology finance has been enhanced, and the Ministry of Science and Technology and governments at all levels have established cooperation with commercial banks to strengthen the financial service system for technological development.

Third, the diversified services capability has been strengthened. Firstly, an increased number of technology finance-themed wealth management products have been launched, driving up the scale of investment in technology finance-themed assets by wealth management subsidiaries. Secondly, as many fund subsidiaries set up funds themed with enterprises specialized in niche sectors, the technology funds have seen an expansion in their management scale. Thirdly, exclusive insurance services have been provided for technology-based enterprises, with insurance subsidiaries providing guarantees for the entire business process. Fourthly, the vitality of the debt-equity combination financing system has been boosted up, with a variety of business models already formed in practice. Fifthly, efforts have been made to promote the listing of enterprises dedicated to technological innovation, and more than 2/3 of the technology Chinese stocks listed in Hong Kong in 2021 involve the participation of Chinese banking groups.

(iv) The future direction of China's technology finance development

The technology finance business of the banking industry still faces the following problems: firstly, there is a lack of overall strategic guidance, and the relevant mechanisms and systems have yet to be perfected; secondly, it is difficult to match the risk management mechanism with the needs of innovative high-tech enterprises; thirdly, the role of banks in the technological innovation cycle is not prominent enough with a lack of growth momentum.

The main directions for improvement of the banking industry's technology finance business are: **first, to strengthen the overall design and push forward the improvement of standards**, including clarifying the development goals and improvement ideas, and providing guidance for resource allocation, while actively promoting the improvement of various standards; **second, to optimize the risk management mechanism for technology finance business** by moderately increasing the tolerance for NPLs, perfecting the loan approval model and professional committee review system, and establishing a specialized post-lending management service system; **third, to step up the ecosystem building of technology finance featuring internal and external coordination** by establishing a special linkage mechanism for commercial banks and integrated operation subsidiaries internally, and strengthening synergistic cooperation with government departments, regulators and non-bank financial institutions externally.

III.3 Much can be accomplished in promoting energy transition with green finance

(i) Energy transition in China is speeding up with a huge potential of green finance

Energy transition serves as the key to peak carbon emission and achieve carbon neutrality. Looking back at 2020, China's carbon dioxide emissions totaled 9.894 billion tons, and the energy sector is the biggest emission source which contributed nearly 80% of the country's total emissions. **Compared with developed countries, energy transition is a more difficult task for China**, as China is in the later stage of industrialization, making it hard to change its fundamental reality of coal-based development in the short term. **Bottlenecks in industrial and supply chains add to the pressure on energy security**. China is the world's largest oil and gas importer, with its dependence on external oil and natural gas exceeding 70% and 40% respectively. However, amid the increased volatility in the international situation, energy security risks are on the rise. **Much can be accomplished in promoting energy transition with green finance.** As far as China is concerned, green and low-carbon energy transition alone can mobilize more than RMB130 trillion of investment, and green finance is conducive to leading more market-based funds to the field of energy transition.

(ii) China's banking sector shows weaknesses in supporting energy transition

The carbon neutrality strategy does not include a reduction target for the energy sector. The goal of carbon neutrality is not broken down into various sectors, especially the energy sector which contributes the highest emissions volume, and further exploration is required to figure out a feasible pathway on how to effectively implement the approach of "establishing the new before abolishing the old" in the energy transition. **The adjustment of investment and financing structure falls short in foresight and effectiveness.** The force of the investment and financing structure on the direction and rhythm of the adjustment in the energy sector needs to be improved, and the carbon emission reduction effort fails to achieve much, making it difficult to improve the efficiency of energy use. **Green financial products designed to promote energy transition are insufficient in quantity and single in structure,** with green credit and green bonds emerging as the main products and a lack of exclusive financial services instruments. **Climate risk prevention and control capability in the energy sector still needs to be enhanced,** with stress testing serving as the major tool and deficiencies in industry coverage and testing factors. **International cooperation of green finance in the field of energy transition is relatively absent,** with no accession in any international organizations related to energy transition recorded, including the four major banks of RE100.

(iii) International experience of green finance supporting energy transition

The strategic positioning of energy transition in the carbon neutrality endeavor is highlighted in the investment and financing portfolio. Energy transition factors are taken into account in the achievement of carbon neutrality goals and specific carbon reduction targets are developed for the energy sector. J.P. Morgan's carbon intensity of oil and gas production and refining in 2030 is set to be 35% lower than in 2019. **Strengthened constraints are imposed on financing in the fossil energy sector.** Citigroup announced in 2020 a ban on financing construction and expansion projects based on thermal coal and mine, as well as Arctic Circle oil and gas exploration and production. Innovation is made in green finance products. BNP Paribas offers its customers financing tools for energy transition such as the Green and Socially Responsible Investment Fund and sustainability loans exclusive for energy transition. **Risk management of financing portfolios for fossil energy is strengthened.** The Paris Agreement Capital Transition Assessment (PACTA) is introduced by Citigroup and the Terra methodology is adopted by ING to assess the loan portfolio risk in high-carbon sectors. **Active participation in international cooperation is encouraged.** Goldman Sachs has joined the World Economic Forum's Transition Finance Working Group and ING has joined the Climate-Aligned Finance Working Group under the Net Zero Steel Initiative.

(iv) Chinese banking sector boosts the future direction of energy transition

The carbon reduction target for the energy sector is formulated and raised to the strategic level. Drawing on the basis, methods and standards of the international banking industry in target setting, the emission reduction targets for the financing portfolio of fossil energy is developed. **The transformation of investment and financing structure is promoted in a steady and orderly manner.** Support should be provided to the scale development of renewable energy, while avoiding "one-size-fits-all" measures to arbitrarily terminate loan agreements and force early repayment of loans. **A diversified and multifunctional chain of green financial products and services is established.** Teams providing specialized services are built up, and new products such as energy efficiency credit, carbon emission reduction-linked bonds and green supply chain are developed. Innovations are also made in carbon finance products and services. **The risk prevention and control system for energy transition is further improved.** By exploring and piloting PACTA, Terra and other risk assessment tools specifically designed for high-carbon industries, stress testing for climate-related risk is further improved. **International cooperation in the energy sector is strengthened.** Green energy cooperation is carried out under the BRI Initiative, and exchanges on energy transition are conducted through the G20, APEC, BRICS countries, etc.

III.4 New development pathway for supply chain finance

By vigorously developing the supply chain finance services, commercial banks are able to deeply participate in the whole process of the industrial chain and form in-depth integration with enterprises in the industrial chain, so as to achieve long-term and win-win cooperation.

(i) Significance of commercial banks to develop supply chain finance

First, it helps to penetrate into the whole process of the industry, realize in-depth cooperation with enterprises and effectively promote the integration of industry and finance, which will provide a strong opportunity for the successful transformation of corporate business; second, it can ensure the authenticity of transactions and the controllability of subsequent withdrawal of fund by making use of the closed-loop operation of funds within the industrial chain, which significantly reduce the lending costs and risks; third, it fills the gap of financial services for corporate business scenarios and enhances the differentiated competitiveness.

(ii) Main characteristics of supply chain finance development in the Chinese banking sector

Firstly, it is dominated by accounts receivable financing. According to the research data from China Wanlian Supply Chain Finance Research Institute, companies utilizing accounts receivable financing account for 83.1% of the total number of companies surveyed. **Secondly, the dominant position of banks is continuously weakened.** Based on the bank-oriented model, new supply chain financial service models such as core enterprise-oriented and e-commerce platform-oriented models continue to expand, and the status of banks as the "chain master" is undermined. **Thirdly, the digitalized and ecosystem-based development trend comes to the fore.** At present, there are many participants in supply chain finance, showing the development trend of decentralization and intelligence, and forming a financial ecosystem integrating capital flow, logistics, and information and business flows.

(iii) New highlights of international banking sector boosting supply chain finance

First, cross-border supply chain finance business receives wide popularity. The demand for supply chain finance in cross-border trade has risen in the post-pandemic era, and major multinational banks are actively laying out supply chain finance to accelerate the sustained growth of the cross-border transaction scale of supply chain finance. **Second, the concept of sustainability is integrated into the development of supply chain finance.** Currently BNP Paribas, Barclays, Standard Chartered and Rabobank have all indicated that they are incorporating sustainability into supply chain finance development and are actively testing how to use blockchain technology to collect and record the ESG data of companies within the supply chain. **Third, the service capability of supply chain finance is boosted through cooperation.** The supply chain finance services in the international banking industry are presenting a more obvious development trend of "circle breaking" and openness, and work to make up for the inadequacy in their own technological investment and leverage their own strengths by enhancing cooperation with core enterprises or technological platforms, so as to specialize their targeted services.

(iv) Future development direction of the supply chain finance in the Chinese banking sector

Positioning should be precisely identified to push forward cooperation in building a supply chain finance ecosystem. In combination with its own advantages in financial services and technological platforms, the Chinese banking sector should redefine its role in the supply chain finance platform, so as to integrate into and contribute to the building of the supply chain finance ecosystem. **Priority should be given to key points to enhance the specialized service capability of the industry**. In-depth research can be conducted in some key industries to effectively improve the differentiated and refined financial service level for the whole industrial chain. Focusing on the industrial layout of national strategic priorities, the Chinese banking sector can leverage its own advantages and strengthen its industrial specialization services through strategic cooperation. **Advantages should be brought into play to promote the development of cross-border supply chain finance business.** Commercial banks, especially large commercial banks with global financial service networks, can give full play to the role of promoting financial integration in the cross-border supply chain and expand the financial layout of the cross-border supply chains in a finance-oriented manner when necessary. **Innovation should be driven to secure the highland of sustainable supply chain finance.** The Chinese banking sector should explore customized sustainable supply chain financing solutions for core enterprises and provide differentiated supply chain financing solutions based on sustainable development for suppliers and dealers of core enterprises according to the condition of industrial development, the local market and upstream and downstream enterprises. **The digital application should be further strengthened to improve all-around risk prevention capability.** The Chinese banking sector should strengthen the application of blockchain and artificial intelligence in supply chain finance, improve the authenticity identification of transactions through automatic detection and transaction data screening, and optimize the risk monitoring system by means of big data.

III.5 Investment banking-oriented transformation of corporate business

Currently, Chinese commercial banks are facing an environment of narrowing net interest margin and growing momentum of financial disintermediation. Along with the further development of the capital market, the investment banking business can provide an important opportunity for the transformation of corporate business.

(i) Current situation and characteristics of investment banking business in the Chinese banking sector

First, developing the investment banking business has become an important direction for the corporate business transformation of commercial banks. Large state-owned banks, by virtue of their advantages in strategy formulation, institutional layout, customer scale, technology base and talent pool, are making all-round efforts to strengthen their business competitiveness. Joint-stock commercial banks are also giving full play to their advantage in innovation and working to achieve solid progress in high-quality businesses, forming a development pattern of driving the development of the surrounding areas with its own development. Small and medium-sized banks, with a relatively single business model in investment banking, also put local business opportunities as a priority by strengthening cooperation with other financial institutions.

Second, the investment banking revenue continues to rise, optimizing the revenue structure of the banking industry. As of 2021H1, the investment banking revenue of the five major banks reached RMB33.6 billion, up 8.84% YoY; the contribution of investment banking revenue to non-interest income maintains steady growth, and the proportion of investment banking revenue of the five major banks to non-interest income reached 11.63%, up 0.32 percentage points YoY.

Third, investment banking has become an important instrument for commercial banks to implement major national strategies. Against the background of steady progress in the national strategies such as "opening up to the outside world", "rural revitalization" and "carbon neutrality and carbon peaking", commercial banks, in addition to serving the real economy with traditional credit business, can also take advantage of investment banking business which covers bond underwriting, syndicated loans, M&A loans and structure financing to serve the national strategic plan.

Fourth, bond underwriting becomes the largest business with the highest contribution to revenue in the process of moving closer to the investment banking business. However, it still needs to pay great attention to risk issues, so as to ensure the sustainable development of the business.

Fifth, commercial banks are able to carry out more diversified investment banking services by relying on integrated operation companies. Supported by its affiliated integrated operation companies, large and medium-sized commercial banks are able to provide a full range of financial services.

(ii) Learning from global banking sectors' transition to investment banking

First, the US's banking sector is a global leader in investment banking. The total revenue of the investment banking and financial markets business in the US is far ahead of the global peers, with seven of the world's top 10 banks being US banks. In 2021, the total business income of US investment banks in the global top 10 reached about USD145.2 billion, an increase of about 23% YoY. **Now it comes at a time when U.S. investment banking and financial markets business is witnessing a series of significant changes.** First of all, the business focus will shift back to emerging markets under the effect of the returns; for another, the specialization and complexity of investment banking business are seeing a rise; then, there will be a clear differentiation between investment banks and financial market participants; finally, the application of financial technology, AI and digital technology will play an increasingly important role, leading the whole investment banking and financial market business to embark on a new stage of development.

Second, the investment banking business in other developed economies shows a number of local features. For example, the investment banking business of the Australian banking sector focuses mainly on bond underwriting; the M&A business is mainly concentrated in the fields of energy and mining resources, financial industry, and people's livelihood and consumption; investment in ESG-related areas is also increasing. The banking industry in Hong Kong, China, continues to strengthen the integrated development of commercial and investment banking, with efforts mainly including share repurchase and employee equity incentive plans for listed companies and financial advisory matchmaking business for local customers in Hong Kong.

Third, driven by the development of capital markets, the banking industry in developing economies witnesses an acceleration in the transition to investment banking business. For example, with soaring equity issuance and frequent M&A deals in Brazil in 2021, the commissions of investment banking in Brazil have risen rapidly, reaching USD698 million in the first half of the year, up 121.8% YoY, with revenues from J.P. Morgan Chase, BTG Pactual, Citibank and Brazil XP Investment tripling YoY.

Looking ahead, along with the development of the capital market, large Chinese banks will draw on the experience of the international banking sector to steadily push forward the transformation of their investment banking business toward the three directions of integration, digitalization and specialization.

Disclaimer

This report is prepared by BOC Research Institute. The information contained in this report is from publicly available sources.

The views or estimates contained in this report only represent the judgment of the author as of the date hereof. They don't necessarily reflect the views of BOC. BOC Research Institute may change the views or estimates without prior notice, and shall not be held liable for update, correction or revision of this report.

The contents and views in the report are for information purpose only and do not constitute any investment advice. No responsibility is held for any direct and indirect investment consequences as a result of the information provided in the report.

BOC Research Institute
1 Fuxingmen Nei Street, Beijing, 100818 China
Postal Code: 100818
Telephone: +86-10-66592780
Fax: +86-10-66594040