BOC Research Institute

Global Banking Industry Outlook

Annual Report 2020 (Issue 41) **November 28, 2019**

Highlights

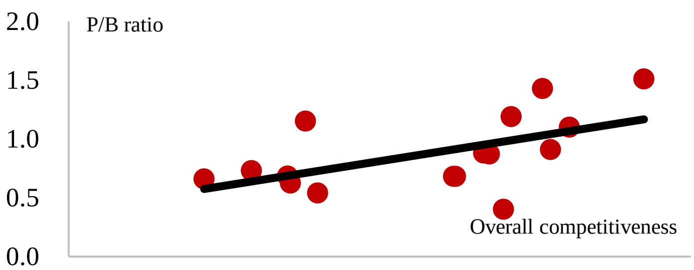
● Over the past decade, the global banking sector remained in a macro environment characterized by slow growth, low interest rates, low inflation, high risk, strict regulation and intense competition. Such an environment had a sustained impact on banking development and performance, including declining rate of return and low market valuations.

● Looking into future, the banking environment will remain complex. Facing a new development landscape and competitive pressure, the banking sector should create an assessment framework for high-quality development, promote organizational reform and strategic transformation and seek breakthroughs in development.

● This Report provides a special analysis on the inherent characteristics of the blockchain technology and its application in the global banking sector. The conclusion shows that the blockchain technology makes it possible to create a brand-new credit mechanism for the financial sector. Commercial banks should adopt appropriate development strategy to expand the application scenarios for the blockchain technology.

● This Report also provides a special analysis on the changes and future trends in China's banking industry. As shown by the conclusion, it is unlikely to see explosive expansion in non-performing assets and soaring NPL ratio in the banking industry as long as there are no drastic changes in the economic environment at home and abroad in the two to three years ahead.

Relationship between Banking Valuation and Overall Competitiveness



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Embark on a New Journey for Agile Transformation

-- Global Banking Industry Outlook (2020)

Affected by the global financial crisis, the global banking sector remained in an economic environment of slow growth, low inflation and low interest rates and a financial environment of strict regulation, high risk and high cost over the past decade. Against this backdrop, banks were trapped in sluggish growth of operating results, low return and low valuations. In the short term, it is still difficult to get rid of this situation and make breakthroughs. However, the prolonged quantitative market developments have fostered the energy and drivers for qualitative changes. In particular, the driving force of globalization, buildup of private wealth, technological innovation and industrial upgrading are all increasingly moving to the Asia Pacific region. This transition provides a new perspective of strategic layout, restructuring and transformation for banking development. With the wings of Fintech and agile action, the banking sector is likely to embrace new growth opportunities.

I. Macro Environment: Energy is Buildings Up for Great Changes

The 2008-2009 global financial crisis had a far-reaching impact on the global banking sector. From the perspective of development environment, the most important features can be reviewed and summarized in terms of real economy, financial market and regulatory policies. In addition, Fintech has become a new force, coupled with product innovation and changes in customers' investing and financing behaviors. They all have had a profound impact on the competition landscape and development mode of the entire sector. After ten years of development and accumulation, the banking sector is on the eve of great changes fostered in a reshaped landscape.

I.1 The banking sector lacked of growth momentum amid sluggish growth, low inflation and low interest rates in the real economy

In the decade leading up to the financial crisis, the world economy grew at about 3.1% annually on average, while the post-crisis decade witnessed a drop of the average growth rate to 2.5%. Given the decline in labor productivity, ageing population, impact of financial crisis, geopolitical turbulence and global trade frictions, it can be predicted that the next few years will hardly see a turnaround of the sluggish economic growth. Specifically, China's economy has slowed down from near 10% to less than 8% a year on average, expected to further decelerate to 6% or even lower in coming years. The economic growth rate of the US, the euro area and Japan are expected to drop from 2.6%, 2.1% and 1.0% to 1.8%, 1.5% and 0.6%, respectively (Table 1). The slow economic growth is accompanied by low inflation and low interest rates (even negative rates). The world's five largest economies saw their average inflation rate, central banks' benchmark rate and 10-year government bond interest rate declined by 1.1 percentage points, 2.0 percentage points and 1.0 percentage point on average between the two decades (Figure 1 and Figure 2). This situation of low inflation and low interest rates will continue into the next few years. Banking assets and development are highly correlated with real economic growth, inflation and interest rates. Thus the above-mentioned changes will directly soften banks' balance sheet expansion, increase credit risk, narrow interest rate spread and drag down income growth.

Table 1: Changes in Global GDP and CPI Growth Rates 1999-2024

	Average annual GDP growth (%)			Average annual CPI growth (%)		
	1999-2008	2009-2018	2019-2024f	1999-2008	2009-2018	2019-2024f
Global	**3.1**	**2.5**	**2.7**	**4.6**	**3.5**	**3.5**
China	10.1	7.9	5.8	1.8	2.2	2.7
US	2.6	1.8	1.8	2.8	1.6	2.2
Japan	1.0	0.7	0.6	-0.2	0.3	1.1
Euro area	2.1	0.8	1.3	2.2	1.3	1.6
UK	2.6	1.3	1.5	1.8	2.3	2.0

Sources: IMF, BOC Research Institute

Figure 1: Benchmark Interest Rates of Central Banks of Top 5 Economies (%)

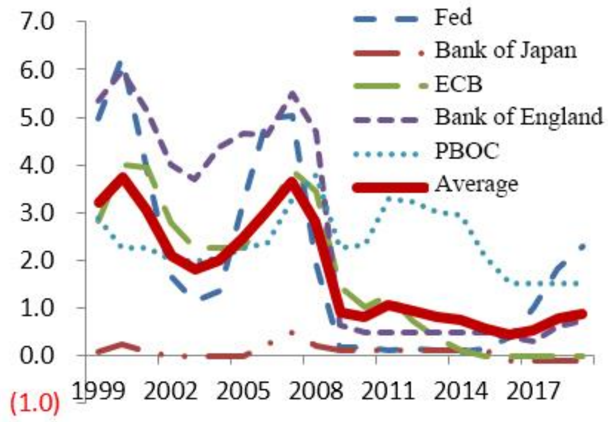
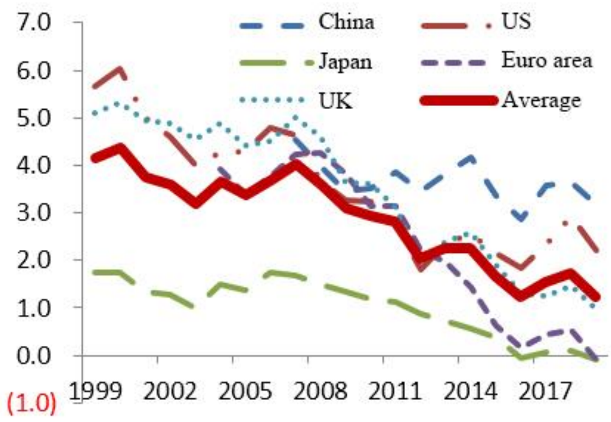


Figure 2: 10Y Government Bond Interest Rates of Top 5 Economies (%)

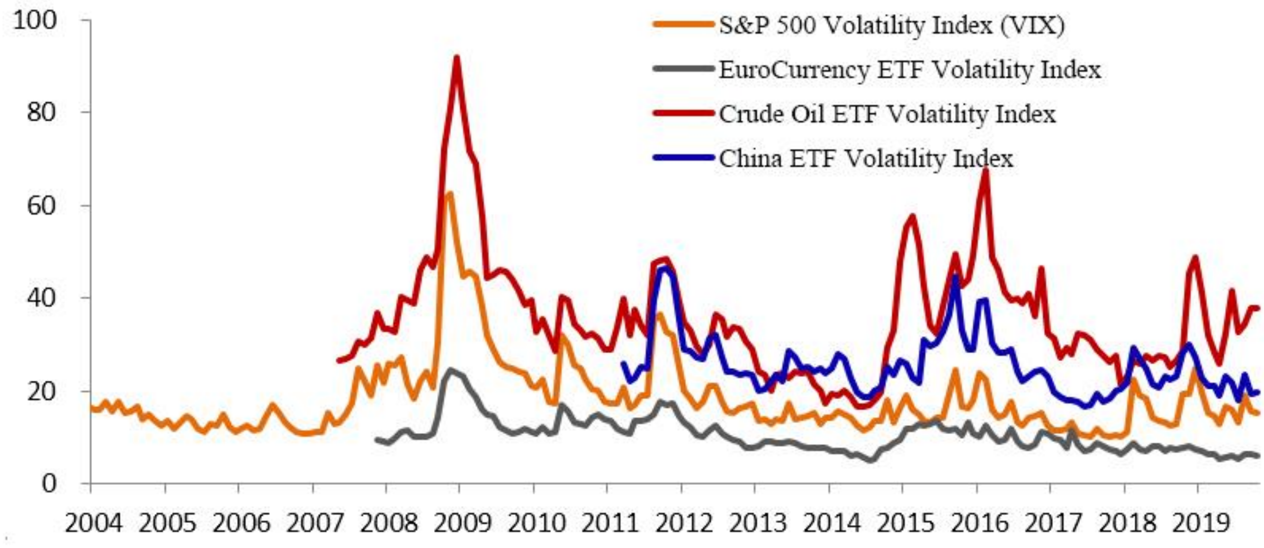


Sources: Wind, BOC Research Institute

I.2 Higher market risk in more volatile financial markets with frequent cross-border capital flows

In the past decade, global financial markets were significantly more volatile than the pre-crisis decade due to the shock induced by the crisis, greater policy uncertainty and emergence of more unexpected factors. The equity market, bond market, foreign exchange market and commodity market have all seen big rises and falls in prices, interest rates, exchange rates and indices. The extremely easy monetary policies of central banks spurred frequent capital flows across borders in pursuit of profits in the virtual economy, rather than entering the real economy. The allocation of resources was distorted significantly. In particular, emerging markets have seen rising financing costs, large capital outflows and currency depreciation. Measured by the US S&P 500 VIX Index, the average volatility in the post-crisis decade was 20% higher than the pre-crisis level (Figure 3). Notably, China's financial market and global crude oil market have been markedly more volatile than European and US markets since 2015, putting China under higher pressure of capital outflows. The high market volatility has led to a surge in market risk facing banking management. The situation deserves extra attention in the context of China's further opening-up of its financial industry in the years to come.

Figure 3: Global Financial Market Volatility Index (VIX, Monthly Average)



Sources: Wind, BOC Research Institute

I.3 Banks' operating costs were driven up by stringent regulatory policies and demanding customers

Since the financial crisis, the global regulatory framework has been continuously reformed to: enhance high-quality capital and liquidity and make financial institutions more resilience to shocks; strengthen the supervision of systemically important financial institutions (SIFIs) and reduce hidden public subsidies; strengthen financial institutions' ability to effectively resolve emerging problems and significantly improve the financial system's ability to withstand major risks and shocks; and improve the macro-prudential system for financial stability risks. The banking supervision mainly includes the following:

(1) stricter risk weight requirements were introduced to enhance the size and quality of capital, leverage ratio restrictions were imposed and macro-prudential countercyclical capital buffer was strengthened;

(2) the supervision of global systemically important banks (G-SIBs) has been tightened with higher capital buffer, additional requirements on large exposure and disclosure, stress testing requirements, etc.

(3) Prudential supervision was introduced for liquidity risk, with two quantitative tools at the core, namely liquidity coverage ratio (LCR) and net stable funding ratio (NSFR), to improve the short-term resilience of banks' liquidity position and ensure that banks maintain a stable funding structure.

(4) A global framework for banking recovery and resolution has been established. G-SIBs are required to maintain a sufficient total loss-absorbing capacity (TLAC), including ratio of debts for "emergency bailout" in case of bankruptcy.

(5) More regulatory measures have been intensified. For example, the US restricted proprietary trading and introduced rules for intermediate holding companies; the UK has isolated the trading book from other banking activities. Compliance supervision and punishments have substantially strengthened against money laundering, frauds, and terrorist financing. The regulatory standards for foreign banks have been tightened continuously, with regulatory measures gradually improved for

shadow banking, Fintech and digital currencies and so on (Table 2).

Table 2: Important Global Financial Regulatory Policies in Recent Years

Important regulatory policy	Description
The finalized Basel III was published in December 2017	It improves the classification of credit risk exposures, adds risk drivers for risk-weighted assets (RWAs), improves credit risk and operational risk measurement methods and introduces regulatory requirements such as additional leverage ratio of G-SIBs and output floor for RWAs under the internal ratings-based approach.
Large financial institutions are under mounting regulatory pressure	In July 2018, the Financial Stability Board (FSB) revised the G-SIBs assessment methodology and improved the framework of bail-in execution and resolution funding plan for G-SIBs
Supervisory reforms on financial infrastructure moves forward	In January 2018, IFRS 9 was launched and implemented; progress has been made in the benchmark interest rate reform; the policies on OTC derivatives market reform were introduced.
European and US regulators showed increasingly divergent attitudes toward foreign banks	The US has strengthened AML/CTF supervision over financial institutions operating in the US. In November 2016, the EU introduced the rule that that a non-EU financial group with total assets exceeding EUR30 billion should set up an intermediate parent undertaking (IPU).
The supervision of Fintech, digital currencies and shadow banking has been continuously improved and enhanced	In October 2017, FSB recommended practices for strengthening cyber-security supervision. Announcements are released for digital currencies, typically Bitcoin, alerting investors to risks. As for shadow banking supervision, China launched its new regulation on asset management in April 2018, resulting in shrinking off-balance-sheet financing in the banking system.
Total loss-absorbing capacity requirements for global systemically important banks	The TLAC policy was implemented by G-SIBs in developed countries. The TLAC-eligible capital instruments held by a G-SIB shall be at least 16% of its RWAs by January 2019, and at least 18% of its RWAs by January 1, 2022.

Sources: Wind, BOC Research Institute

In China, financial supervision has been continuously strengthened. Since 2018, the People's Bank of China (PBOC), China Banking and Insurance Regulatory Commission (CBIRC) and other authorities have launched a number of measures successively to crack down on financial irregularities, reduce financial leverage, guide and regulate commercial banking activities and better forestall and defuse financial risks, working together to win the critical battle of forestalling major risks. Since the issuance of a series of regulatory documents (Table 3), including the new regulation on asset management, the new regulation on wealth management, the administrative measures for large risk exposures of commercial banks, the administrative measures for SIFIs and the administrative measures for supervision of financial holding companies, solid results have been delivered in forestalling major risks, containing the disorderly expansion of financial institutions' assets and cross-sector operations.

In addition, customers are more demanding on services. High-value corporate customers are increasingly demanding about professional services. Banks should focus on and provide more targeted service strategies, provide higher transaction efficiency and a wider range of asset options, and offer one-stop corporate, investment and retail banking services. In personal banking, the expanding middle-income groups have come up with higher requirements for wealth management and transaction payment facilitation, requiring banks to make breakthroughs in customized asset management services. Internet and Fintech development has driven different demand patterns from the past ones, posing higher requirements on scenario-based, convenient, professional, fine-grained and digital commercial banking services.

Table 3: Important Financial Regulatory Policies of China in Recent Years

Important regulatory policy	Purpose
In March 2018, China Banking Regulatory Commission (CBRC) and China Insurance Regulatory Commission (CIRC) were merged to create a new CBIRC	To accommodate organizational reforms, address the overlaps and gaps in financial supervision and progressively establish a modern framework of financial supervision
In April 2018, the *Administrative Measures for Large Risk Exposures of Commercial Banks* went into force	To prevent and control concentration risk, and unify and standardize the regulatory rules for large risk exposures
April 2018: *Guidelines for Regulating the Asset Management Business of Financial Institutions*	To regulate the asset management business of financial institutions and unify the regulatory standards for similar asset management products
April 2018: *Guidelines for Strengthening Supervision of Investment by Non-financial Enterprises in Financial Institutions*	To regulate non-financial enterprises investing in financial institutions and enhance the financial sector's support for the real economy
July 2018: *Administrative Measures for Supervision of Wealth Management Business of Commercial Banks (Exposure Draft)*	To standard the wealth management business and strengthen the investor management and information disclosure mechanisms.
November 2018: *Administrative Measures for Systematically Important Financial Institutions*	To publish a list of domestic systemically important banks (D-SIBs) and impose stricter supervision on D-SIBs.
March 2019: *Measures for Disclosure of Net Stable Funding Ratios of Commercial Banks*	Commercial banks are required to attach importance to liquidity risk management, strengthen information disclosure and disclose the net stable capital ratio accurately in a timely manner.
July 2019: *Administrative Measures for Supervision of Financial Holding Companies (Exposure Draft)*	To implement look-through monitoring of financial holding companies in terms of capital sources, business activities and connected transactions

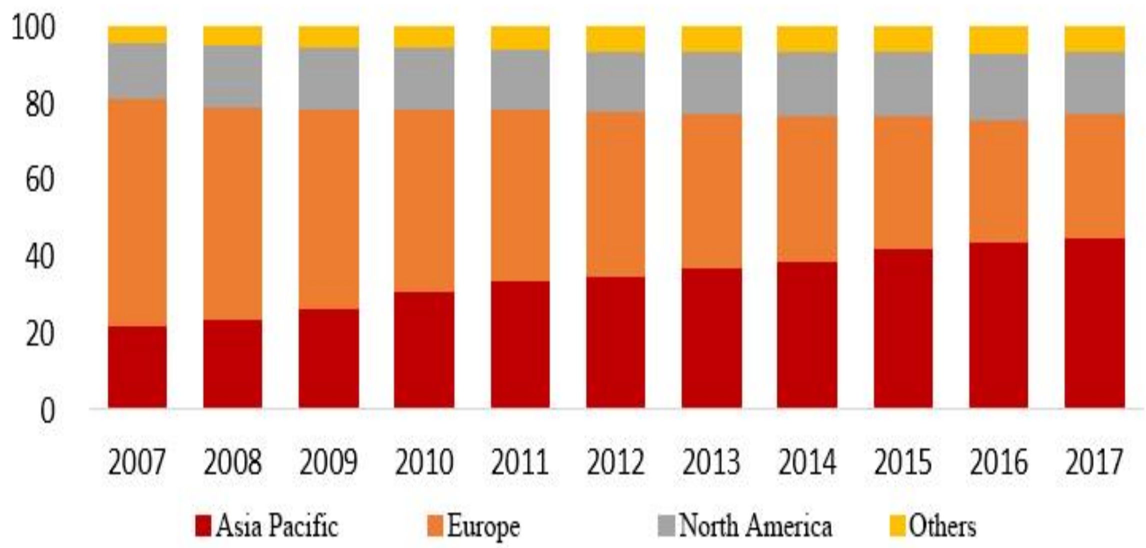
Source: Publicly available data

Against the backdrop of strengthened regulatory policies and customer requirements, global banks have seen their operating costs rising significantly, especially in capital adequacy, compliance and technological research and development. The costs regarding regulatory penalties have kept expanding, even leading to huge losses of European and US giant banks. Take regulatory penalties as an example. In April 2019, the US Federal Reserve (the "Fed"), the US Department of Justice and the UK's Financial Conduct Authority imposed fines totaling USD1.06 billion on the Standard Chartered Bank successively; the US Department of Justice and the US Department of the Treasury fined Italy's UniCredit for USD1.3 billion. In China, CBIRC issued 11,735 administrative penalty decisions from 2017 to 2019Q1, with fines totaling RMB5,941 million, more than the total for the previous 10 years.

I.4 The banking landscape will be reshaped by the impact of crisis, technological revolutions and opening-up policy and so on, which have intensified competition

On the one hand, the banking competition landscape has been fundamentally reshaped by the global financial crisis. At the core of the financial system, commercial banks had long taken up a big part of the financial system before the 2008 global financial crisis. However, the crisis dealt a heavy blow to the banking system. Many European and US banks went bankrupt. By assets, commercial banks accounted for 42.8% of the global financial system in 2017, a marked decline from 50% in 2008. The banking sector showed notable regional disparities. According to data on the top 1,000 banks published by *The Banker*, due to the financial crisis, the European and US banking assets as a percentage of the world total fell from 59.0% in 2007 to 32.5% in 2017. The Asian Pacific share rose from 22.0% to 44.7%, showing marked growth. The North American share was relatively stable, edging up slightly from 14.7% to 16.4% (Figure 4).

Figure 4: Geographical Distribution of Assets of Top 1,000 World Banks (%)



Source: The Banker

On the other hand, Fintech continues to penetrate into the banking sector. In an era when the digital economy is sweeping the world, traditional financial institutions are facing subversive competition from new rivals. Fintech firms are eating into the banking business, and large tech companies are expanding into the financial sector. Globally, Amazon entered the field of payment in 2007, and then further entered cash management and lending markets. Payment, e-cash and lending constitute the three pillars of Amazon's financial business. Facebook put its payment function online in March 2015 and launched its Libra program in June 2019, focusing on payment and cross-border remittance, which are the business domains of commercial banks. Domestically, Fintech giants such as Ant Financial Services have built a business system encompassing payment, wealth management, credit, credit services, technology and global distribution. They are profoundly changing China's financial services ecosphere.

In China, the policy of deepening two-way opening further intensifies competition in the banking sector. Since 2018, the Financial Stability and Development Committee of the State Council, PBOC and CBIRC have successively launched a number of measures to further open up the financial sector, attach greater importance to foreign investment, allow foreign capital to acquire a minority or controlling interest in financial institutions and relax the business scope of foreign financial institutions. China is speeding up its financial market liberalization (Table 4). In the banking system, the industry concentration (the percentage share of the top five banks by assets) remained in a downtrend, falling to about 35% at the end of 2018, showing fierce competition among banks. The assets of foreign banks increased from RMB288.1 billion in 2002 to RMB4,379.1 billion in June 2019, a very rapid expansion. More measures will be put in place as the financial market is opening wider. The entry of foreign financial institutions will intensify market competition and further complicate the environment of banking development.

Table 4: China's Policies on Financial Sector Opening-up in Recent Years (Selected)

Financial sector opening-up policy	Description
In April 2018, CBIRC called for actions to speed up the opening-up of banking and insurance sectors	Advancing foreign investment facilitation; relaxing the conditions for foreign investment to set up institutions; expanding the business scope of foreign financial institutions; improving regulatory rules for foreign financial institutions
In May 2019, CBIRC launched 12 new measures to further open up the banking and insurance sectors	Removing the ceiling of total assets for foreign financial institutions to enter relevant financial markets; emphasizing the principle of equal treatment of domestic and foreign investors; strengthening supervision during and after events
In July 2019, CBIRC issued seven new opening-up measures	Encouraging foreign financial institutions to participate in the establishment or buy into wealth management subsidiaries of banks; allowing foreign investors to acquire a minority stake in pension management companies and acquire a minority stake in or set up money brokerage companies, etc.
In July 2019, the Financial Stability and Development Committee of the State Council launched 11 measures to further open up the financial sector	The foreign ownership caps on financial institutions were lifted, including life insurers, securities firms and fund companies; the bond market opening-up gained pace

Source: Publicly available data

I.5 Banking services will be refocused as the global economic and financial landscapes are further reshaped

In a generally harsher development environment, new momentum of growth is building up for global economy and finance, and the global banking landscape will further evolve. There is a potential crisis of being left behind or wiped out by competitors, alongside the opportunities for developing new businesses. This requires banks to have a deep insight into the industry trends and find out the growth opportunities and market positioning.

First, the growth drivers of global economy and finance are moving eastwards. In 2008, the aggregate GDP of developed economies still accounted for 68.9% of the world total. But that percentage fell to 60.3% in 2018, estimated to further drop to 56.0% in 2024 (Figure 5). Alongside the changes was mixed performance of global companies, with Chinese companies outnumbering their US counterparts on the Fortune 500 list for the first time in 2019. Meanwhile, household wealth is building up in emerging markets and the Asia Pacific. In 2008, the total household wealth in the Asia Pacific accounted for only 27% of the world total. That percentage rose to 36% in 2018 (Figure 6). China's household wealth grew faster, from USD3.7 trillion in 2000 to USD51.9 trillion in 2018, a more than 13-fold increase. It is expected that global household wealth will further move to emerging markets such as the Asia Pacific in the five years to come. The scale of China's consumer market is second only to that of the US. With the middle-income groups expanding, China is expected to become the world's largest consumer market.

Figure 5: Changes (%) in Global Economic Aggregate

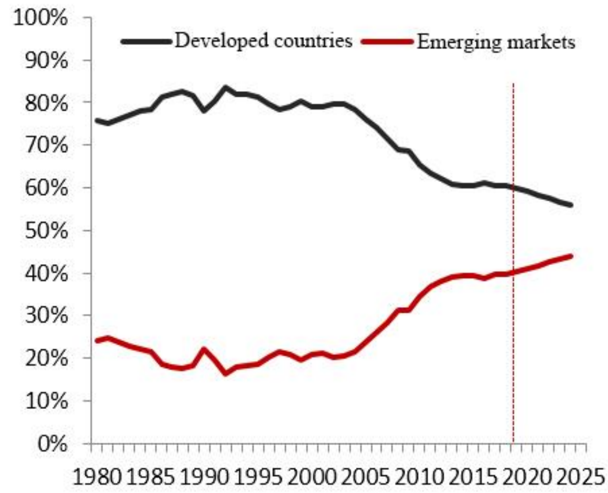
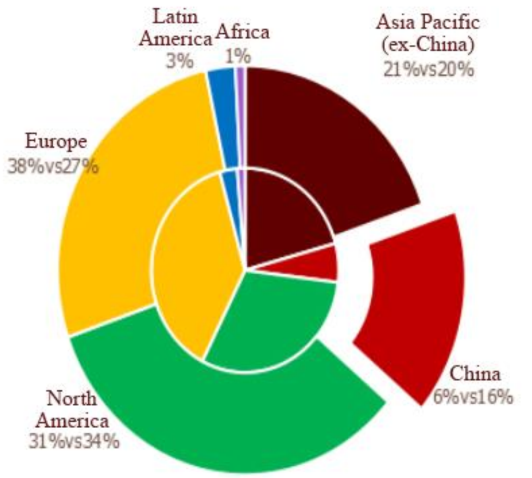


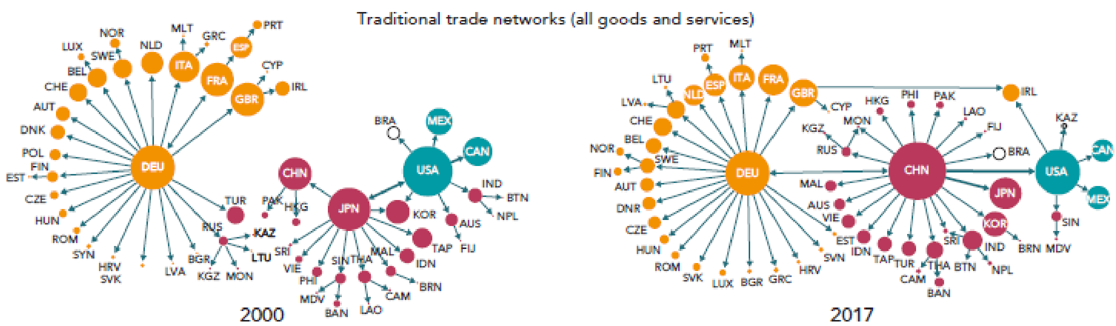
Figure 6: Structural Changes (%) in Global Household Wealth

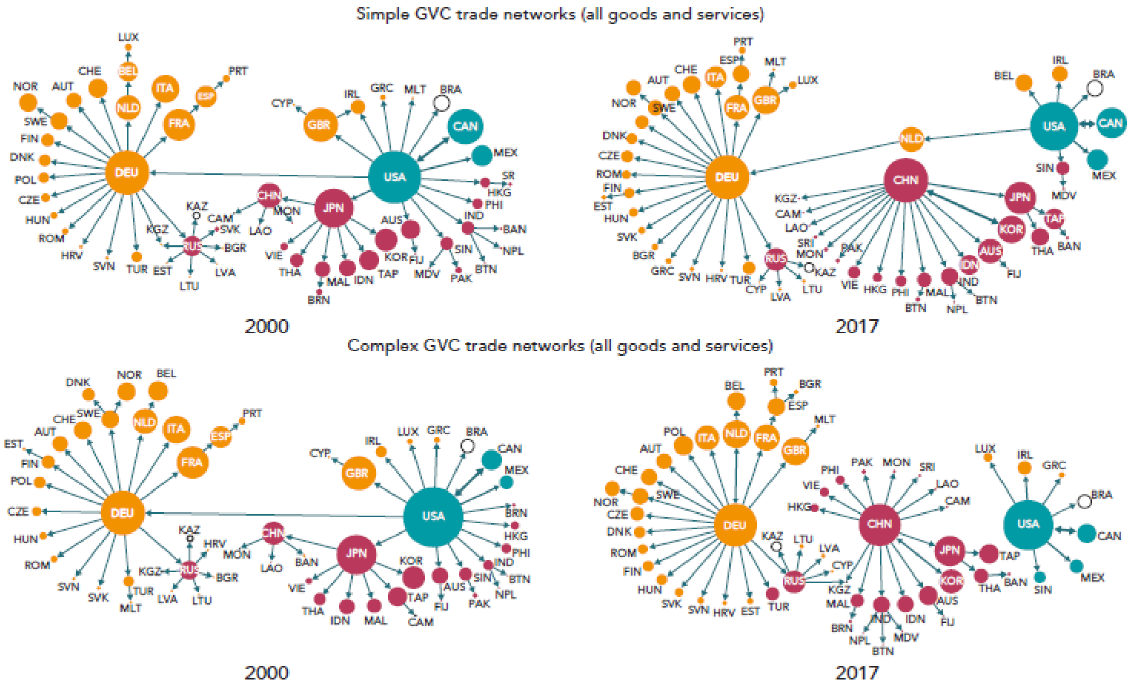


Sources: IMF, Credit Suisse and BOC Research Institute; 2019-2025 data are forecasts

Second, global industrial structure shifts with restructuring of industry, supply and value chains. Over the past 20 years, great changes have taken place in the global industrial structure and trade structure. In 2000, the US, Germany and Japan were at the center of global trade, supply chain and value chain, surrounded by other economies seeking global connections through trade and value chains. Over the 10 years or so that followed, China kept rising in the global trade network and value chain. Three centers of trade networks and value chains were gradually built in the world: the US, Germany and China (Figure 7). Major Asian countries get integrated into the global value chain system through China. The US and Germany are still the value chain centers in Americas and Europe, but connections with Europe's value chain center (Germany) are made mainly through the Netherlands. Looking into the future, China's industrial upgrading driven typically by 5G technology will still be in progress. Global trade frictions will continue to evolve. Trade, supply and value chains will be further restructured, impacting the global layout and service modes of the banking sector.

Figure 7: Changes in Global Trade Networks and Value Chains 2000-2017





Source: WTO

II. Changes in National Banking Landscapes Over the Past Decade: Tradeoffs between Stability and Progress

In the past 10 years, global banking development has undergone profound changes in a drastically changing environment. Significant new changes have taken place in the competition landscape of national and international banking sectors, and in the business models, product and service innovation and business performance of banking institutions. The future banking development will still depend on the strategic decisions and market positioning made by banking institutions in adapting to the environment and making changes and innovations.

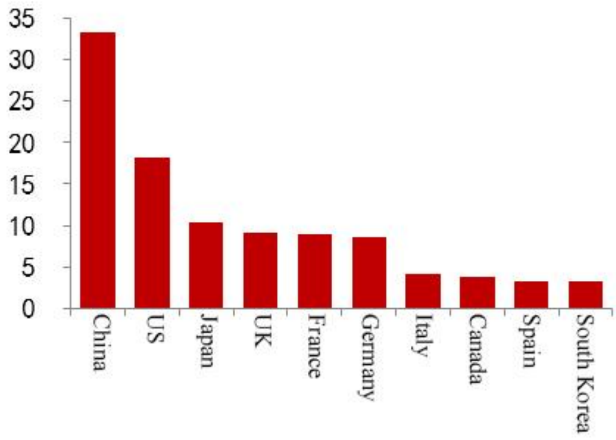
II.1 Changes in the global structure of the banking assets

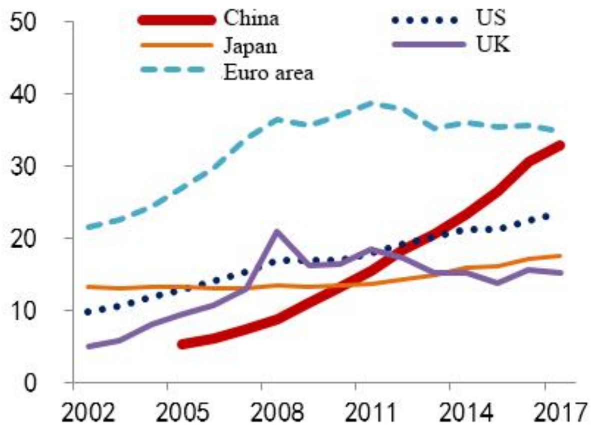
At the end of June 2019, China, the US and Japan ranked among the top three worldwide by scale of the banking sector, each with more than USD10 trillion in banking assets. Countries with large banking assets also include the UK, France, Germany, Italy, Canada, Spain and South Korea, all exceeding USD3 trillion (Figure 8). Compared with the situation immediately before the 2008 financial crisis, the most marked changes are as follows: European banks are in a continuous downturn, hit hard by the global financial crisis and the European debt crisis; the US and Japanese banks have maintained relatively stable development; China’s banking sector has markedly moved up the global ladder, boasting more banking assets than the euro area now. At the end of September 2019, China’s banking institutions registered RMB284.7 trillion (about USD40.2 trillion) in total assets in 2019, three times that at the end of 2010. The assets of Chinese commercial banks totaled about USD33.2 trillion. In the past decade, China underwent the fastest growth in the banking sector among the world’s major economies (Figure 9).

Figure 8: Top 10 Banking Markets Worldwide

Figure 9: Changes in Banking Assets in Major Economies

Commercial bank assets at end-June 2019, USD trn Total banking assets, USD trn





Source: Wind, FSB

II.2 NIM of the banking sector is titled to the downside

After the outbreak of the 2008 financial crisis, the policy interest rates of all countries were generally low. Some countries even adopted "negative interest rates". The low interest rates lasted for more than 10 years. Since 2019, major economies have entered another round of interest rate cuts, with rate levels showing a downward trend: The Fed lowered the target federal funds rate range to 1.50%-1.75%. The European Central Bank (ECB) stepped up quantitative easing and lowered the policy rate to -0.5%. The Bank of Japan (BOJ) holds interest rates negative, keeping its monetary policy easy. In emerging markets, policy rates have gone down in South Africa, Brazil, Russia, India, Indonesia, Turkey and Thailand. The low interest rates and the rate-cut cycle have put great pressure on net interest margin (NIM) in the global banking sector, having a significant impact on the operating activity of banks. China has furthered its market-based interest rate reform by introducing and improving the loan primate rate (LPR) pricing mechanism and forming a transmission path of "open market operation (OMO) rates -LPR- lending rate", thereby guiding the overall funding costs to the downside. This reform, coupled with a series of effective policies launched to reduce the financing costs of private enterprises and micro businesses, has led to declining NIM of commercial banks, from 2.8% in 2012 to 2.19% in 2019Q3 (Figure 11).

II.3 Some economies face great pressure on the quality of banking assets

With respect to quality of banking assets, the US banking sector sees the NPL ratio falling. The euro area has accelerated the disposal of NPLs. The Southern Europe has felted eased pressure from NPLs. Japan sees NPL ratio in a stable and proper range. However, some emerging market economies, such as Brazil and Russia, are under heavy NPL pressure with high NPL ratio. In 2018, Brazil's NPL ratio stood at 6.4% and Russia's was 4.7%. China has found its NPL ratio on the rise, yet gradually stabilizing in recent years. China's NPL ratio was 1.83% in 2018, a medium-to-low level among major economies. The provision coverage ratio (PCR) fell first and then rallied to 186.31% in 2018, still showing strong resilience to risks.

Figure 10: NIM of Global Large Banks (%)

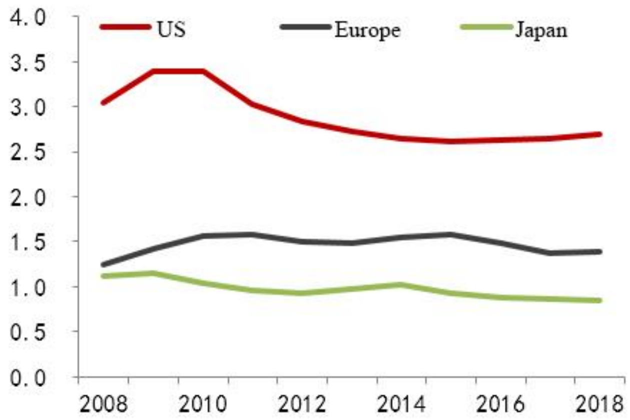
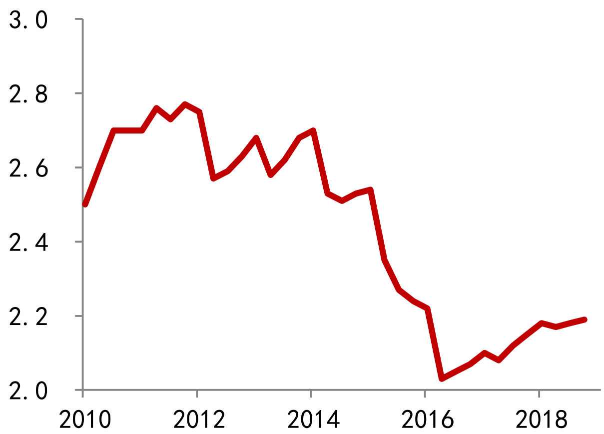


Figure 11: NIM Changes of Chinese Commercial Banks (%)



Note: Selected samples of large banks include JPMorgan Chase, Bank of America, Citigroup and Wells Fargo in the US; Barclays, HSBC and Standard Chartered in the UK; Paris Bank, Societe Generale and Societe Generale in France; Deutsche Bank in Germany; Mitsubishi UFJ FG, Mizuho FG and Sumitomo Mitsui FG in Japan; UBS Group in Switzerland and Banco Santander in Spain.

Source: CBIRC, annual reports of banks and BOC Research Institute

II.4 High management costs has led to redundancies

The cost-to-income ratio of banks is generally high in developed countries, reaching about 60% in 2018 for major banks. Staff downsizing has become important means to reduce management costs. Some large banks saw their headcounts falling over years after the 2008 financial crisis, such as Citibank, HSBC, RBS, Barclays, UniCredit in Italy and ING Group in the Netherlands. Some other large banks showed an inverted V-shaped pattern of staff changes, such as JPMorgan Chase, Bank of America, BNP Paribas, Deutsche Bank, Mitsubishi UFJ FG and Mizuho FG. Among them, the number of employees at the Bank of America at the end of 2018 decreased by 80,000, or 28%, from the end of 2011. According to our statistics, the world's 16 large banks had 2.337 million employees at the end of 2018, down 450,000, or 16% on average, from the end of 2008. The cost-to-income ratio of China's commercial banks is relatively low, seemingly in an overall uptrend. In recent years, the cost-to-income ratio of commercial banks has dropped to the current 30% or so from over 35% in 2010, mainly for the following two reasons: First, banks have slashed costs to keep their profits stable amid sluggish revenue growth. Second, the development of information technology has created better conditions for banks to improve their cost efficiency. Since 2016, however, the decline in cost-to-income ratio has moderated significantly, and even picked up slightly. The ratio is likely to start an up-cycle in the future: On the one hand, interest rate liberalization is going deeper, the competition for professional managers and specialists is increasingly fierce in the market, and the remuneration mechanism will become more market-oriented. On the other hand, subject to stricter regulatory requirement, banks will further increase their investment in strategy and risk compliance.

II.5 Banks have become less profitable under pressure from both revenue and cost sides

The global banking sector suffered sluggish growth in assets and revenue amid a gloomy real economy, while feeling great pressure from the rise of costs influenced by regulation, technology and talent. The drag from both sides of the balance sheet has weakened the profitability of global banks, leaving behind the strong growth and high yield seen before the 2008 financial crisis. Take *The Banker*'s top 1,000 world banks for example. In 2007, the pre-tax profits of the world's top

1,000 banks totaled USD780.8 billion, with the return on assets (ROA) of pre-tax profits reaching as high as 1.0%. However, ROA has averaged only about 0.8% in the post-crisis decade or so (Figure 12). Since the crisis, China's banking sector has outperformed the world average, but in recent years it has also shown slowdown in revenue growth and decline in ROA (Figure 13).

Figure 12: Changes in Profits of Top 1,000 World Banks

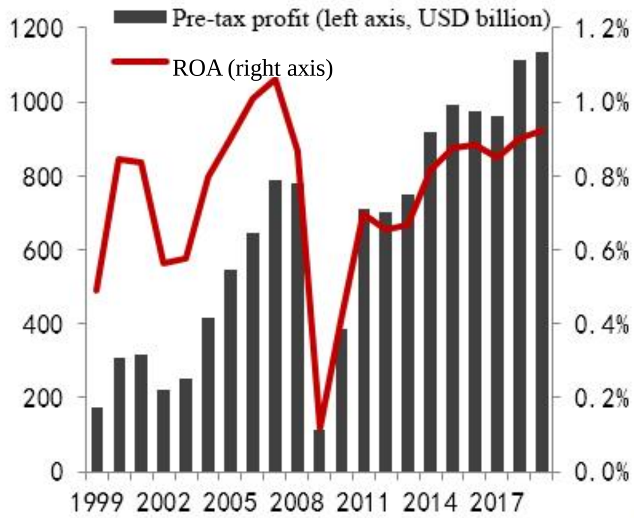
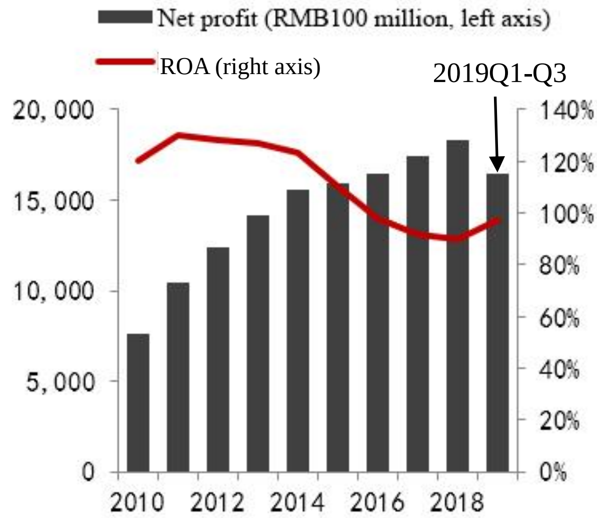


Figure 13: Changes in Profits of China's Commercial Banks



Source: CBIRC, The Banker and BOC Research Institute

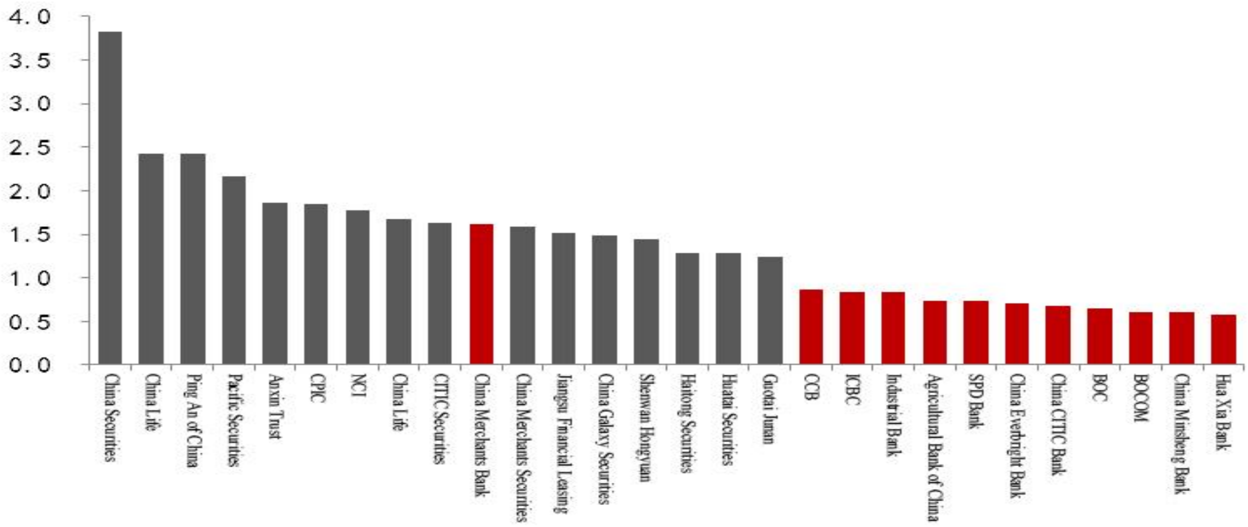
II.6 Heavy pressure on capital replenishment

After the financial crisis, global banks have worked hard to deleverage and kept replenishing capital amid tightening supervision and asset quality pressure. China's banking sector has increased the capital adequacy ratio (CAR), yet still lagging behind its counterparts in developed economies. At the end of September 2019, China's commercial banks had a CAR of 14.54%, lower than the average 18.0% of European banks. Meanwhile, banks' demand for capital has kept rising. The NPL ratio of banks has increased, reaching 1.86% at the end of September 2019. Moreover, non-performing assets remain under an upward pressure given the big downside pressure to the economy and unsound internal control mechanisms of some banks. Thus banks are in urgent need of additional capital for greater resilience to risks. Growth in banking assets rebounded, reaching a YoY rate of 7.69% at the end of September, up 0.73 percentage point from the same period last year. Banks are in urgent need for further capital replenishment to keep scale growth on track and provide stronger support for the real economy. In addition, city commercial banks and rural commercial banks have higher NPL ratios and lower provisions. Some small and medium-sized banks have found themselves in difficulties. In May 2019, Baoshang Bank was taken over by PBOC and CBIRC and placed in the custody of China Construction Bank. In July 2019, Bank of Jinzhou accepted strategic reorganization arrangements with its shares acquired by ICBC, China Cinda Asset Management and China Great Wall Asset Management. In August 2019, Hengfeng Bank received capital injection from Huijin.

II.7 Low market valuations

The global banking sector has remained at a low level of market valuations since the 2008 financial crisis. Currently the price-to-book (P/B) ratio of major international banks such as Citigroup, Wells Fargo, Bank of America and HSBC is only 40% to 50% of their end-2016 level. Also, China's listed banks show weak market performance, mostly with a P/B ratio of below 1x (Figure 14). By contrast, China's securities firms and insurance companies mostly have a P/B ratio of over 1x, and the best performers of them even reach 2x. The under-valuations have restricted banks' access to market financing and affected their sustainability of growth.

Figure 14: P/B Ratios of China's Major Listed Financial Institutions in China (as at Nov. 22, 2019)



Source: Wind, BOC Research Institute

III. Future Outlook: Embarking on a New Journey for Agile Transformation

The profound changes in banking environment, at home and worldwide, warrant an overall downtrend in the profitability and leverage in the banking sector. Against this backdrop, it is necessary for banks to embark on a new journey for agile transformation to make new breakthroughs in development.

III.1 Global banking outlook for 2020

In 2020, the global economy will remain in an environment of slow growth, low inflation and low interest rates. The banking sector will face major challenges posed by continued tightening of regulatory requirements and greater uncertainty in banking operations.

First, the expansion in scale will be curtailed by demand and supervision. The global economy is likely to slow down in 2020. The economic downturn will be a drag on the demand for funds in consumer spending, corporate investment and import and export activities, thus affecting the expansion of banking scale on the demand side. On the supply side, the global monetary policies will tend to ease and the basic money supply will expand. However, the increasingly tight banking supervision (including TLAC, IFRS 9, LCR and NSFR requirements) will probably weigh on the expansion of banking scale. In some regions with lax financial supervision, such as the US, the banking scale is expected to expand faster.

Second, profit improvements will be dragged down by interest margin and asset quality. Currently, interest rates are negative in some regions that contribute more than 30% of the global GDP. The further drop in key interest rate will have a greater impact on NIM of banks than previous rate cuts. Banks whose revenue come mainly from interest income, banks focusing on retail banking, and small and medium-sized banks whose business is concentrated in negative-rate regions will be hit harder. The decline in interest income will become a significant drag on banking profits in 2020. In addition, the quality of assets will remain a focus of attention in some regions. The new accounting standards adopted will increase asset impairments and further erode into profits. Some banks in Southern Europe, Brazil, Russia and China are at the risk of declining asset quality, which will weigh on profit improvement.

Third, cost efficiency will become the key to banking transformation. Banks have limited room for stepping up efforts on the revenue side as interest income is eroded by easy policies and non-interest income is limited by tight supervision. Improving profits through cost control has become a common post-crisis strategy in global banking. Specifically, the banking sector will further strengthen layoffs and remuneration reform to reduce staff costs, which can account for more than 50% of a bank's non-interest expenses. Banks will expand the Fintech investment and use, reduce operating costs of physical outlets by moving to electronic channels and cut regulatory compliance costs by using regulatory technology (Regtech). Risk prevention and control will be strengthened to lower the credit cost caused by the rising provisions for loss impairments. The tax burden will be reasonably reduced by taking advantage of tax reforms in various countries.

Fourth, banking valuations will remain low. Global banking valuations will remain low in 2020. Especially in Europe, Japan and China, the unfavorable external environment will affect banks' financial performance and shareholder returns and thus have a drag on the valuation. However, those banks that can better adapt to changes in the environment and take the initiative in shifting to high-quality development will be recognized and valued higher in the market.

Fifth, global banking mergers and acquisitions will be resumed. 2020 will see a higher concentration in global banking. The main reasons include small and medium-sized banks' subdued resilience to risks. In an unfavorable business environment, more "problematic" small and medium-sized banks will emerge to spur mergers and reorganizations of banks. In China, it is possible to see some small and medium-sized banks removed from the market. The banking sector is expected to end the continuous decline in concentration lasting over the past decade as the expansion of small and medium-sized banks slows down sharply, while larger banks remain robust in performance. The gap between large and medium-sized banks will be narrowed and foreign banks will gain a larger share.

III.2 China's Banking Outlook for 2020

First, banking performance will remained stable. China's banking sector ended 2019Q3 with stable performance in general. Total assets rose by 7.7% YoY, showing continued expansion in scale. NPL ratio was 1.86%, up 0.05 percentage point from the end of Q2, but down 0.01 percentage point YoY. Profitability has weakened, with an average ROA of 0.97%, down 0.03 percentage point YoY, and an average ROE of 12.28%, down 0.87 percentage point YoY. The resilience to risks was strong, evidenced by commercial banks' PCR of 187.63%, up 6.90 percentage points YoY, and CAR of 14.54%, up 0.73 percentage point YoY. Looking into 2020, China's banking sector will remain stable. First, banking assets will keep growing at around 8%. China's economy will continue to grow at a relatively high speed under a prudent and neutral monetary policy, laying a solid foundation for the growth of banking assets. Second, commercial banks' net profits are expected to grow at around 6%. The stability of banking profits is underpinned by the steady expansion of scale. Some banks have established and put into operation their wealth management subsidiaries in a rapid diversification process, which will increase the fee-based income of banks. But NIM improvements will remain under pressure. Third, credit risk will remain, with commercial banks' NPL ratio staying at about 1.9%. China's economy still faces downward pressure with great uncertainties in the Sino-US trade frictions. Some regions and industries and related enterprises still pose a credit risk. Retail banking grows rapidly with a surge in personal credit card loans and consumer loans, which has led to a buildup in credit risk alongside income growth. Fourth, risk resilience is expected to be further improved. Commercial banks' PCR will reach about 190% and their CAR will be about 14%. Banks will diversify their capital replenishments by issuing preference shares, convertible bonds and perpetual bonds, further increase provisions and continue to boost their loss-absorbing capacity.

Second, agile reaction will become a core competency of banks. Today's world market is in a "volatile, uncertain, complex and ambiguous (VUCA)" environment. China's banking sector also faces many challenges, including the ever-changing demands brought by the volatile environment, introduction of disruptive technologies, accelerated digitalization and information transparency and the intensifying competition for talents. Conventional banks have long been unable to adapt to this market environment where threats are everywhere and opportunities are fleeting. They must speed up the transformation from a controlled organization that follows a stereotype routine to an ecosystem-like organization that is flexible, agile and responsive to changes, so as to ensure quick iteration and self-adaptation in a VUCA environment. To achieve agile reaction, banks' front office should embed financial services into business scenarios and become an active financial service provider in users' everyday life scenarios. Middle and back offices should provide collaboration for products and services by moving embedded operations to earlier steps. Specific characteristics are as follows: First, banks will, by building an ecosphere, create financial service scenarios, improve operating procedures and pursue integration of customer relationship (R), product research and development (P), inter-business-line coordination (C) and smart operation (O), thereby continuously expanding the customer base and enhancinguser stickiness. Second, banks will break through business line boundaries to ensure responsiveness to the market with a flexible organizational structure and realize end-to-end delivery based on customer demand. Third, employees will work in various roles to fully tap into the potential of agile organization. Fourth, banks will share information rapidly and communicate in an unobstructed and timely manner for in-depth dissemination of the agile culture. Fifth, banks' internal system platforms will work to the fullest to ensure rapid development and iteration to achieve boundaryless governance.

Third, banks will make key breakthroughs. First, breakthroughs will be made in key regions, such as the Guangdong-Hong Kong-Macao Greater Bay Area and the Belt and Road. Banks will pour more resources and services into these regions to gain new room for development. Second, breakthroughs will be made in key scenarios. Based on their insight into the market potential, banks will take customer demand and market pain points as the breakthrough points, define the unique positioning, layout mode and profit mode of the ecosphere scenarios taking into account their own resources and capabilities, and serve every respect of customers' specific scenarios leveraging on their capability of comprehensive operation. Third, breakthroughs will be made in key business fields. For example, asset management will become a key development field for banks. On the demand side, the growing private wealth in China translates into a huge demand for asset management, which is still expanding. On the supply side, asset management is capital-efficient, featuring a high ROE, stable income contribution, notable synergies and high valuations and so on, and thus of great strategic value to banks. Fourth, breakthroughs will be made in Fintech. To date, over 10 banks have set up their financial technology subsidiaries, with more banks remaining in the preparatory stage. In the future, a bank's Fintech subsidiary will follow the principle of "serving in-house first" in its development, i.e. primarily serving the banking group to facilitate its digital transformation while also extending their products and services to other small and medium-sized banks and non-bank financial institutions.

Disclaimer

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