

# Concentrated Evolution of Global Banking and Development Strategy Adjustment of China's Banking

Li Huanli Fu Yaqi

**Abstract:** According to the studies based on the British magazine *The Banker* and the data of the central banks of the United States, Japan, and Britain, in the 1990s and the first decade of the 21st century, the trend of global concentration of banking and country concentration were obvious. Although the concentration trend of banking has slowed since the international financial crisis, it is still running at a high level, which has changed the competitive environment and landscape of global banking. The development trend of global banking and the banking of traditional financial powers is from deconcentration to concentration. Different from it, the development trend of China's banking is obviously from concentration to deconcentration. In order to promote the implementation of the internationalization strategy of China's banking, we should make adjustments to the financial system in terms of maintaining the relative concentration of banking, piloting the bank holding company system, and encouraging mainstream banks to expand overseas business.

**Key words:** global banking, concentration trend, internationalization strategy

## 1 Introduction

According to the "Top 1000 World Banks 2017" published in the British magazine *The Banker*, the assets of the top 10 banks account for 22.38% of the total assets of the listed banks, and the assets of top 25 banks account for 40.39%. The United States, Japan and Britain are the major global financial powers. The data shows that in the United States, the assets of the top four banks account for 52.30% of the total banking assets, in Japan, 78.32%, and in Britain, 62.79%. These data indicates that, no matter viewed from a global perspective or a national perspective, the current

banking market is highly concentrated on a few super-large financial institutions<sup>[1]</sup>.

However, historical backtracking shows that in the early 1990s, global banking was relatively dispersed, and the global concentration and country concentration were not obvious. This paper analyzes the evolution process of the global concentration trend of banking based on the "Top 1000 World Banks" published in the British magazine *The Banker* and uses the data of the central banks of corresponding nations to sort out the country concentration process of the banking of the United States, Japan and Britain. The study shows that the wave of mergers and acquisitions is the main driving force for banking's global concentration and country concentration, which has changed the competitive environment and landscape of global banking. Horizontal comparison shows that the concentration trend of China's banking has declined significantly, lower than that of the traditional financial powers. In the future, China's banking should maintain a certain degree of concentration so as to adapt to the new competitive environment of global banking and maintain its global competitiveness.

## 2 The evolution of the concentration trend of global banking

Global banking is the organic whole formed by the banking of various countries. Based on the availability of data and the competitive reality of contemporary global banking, this paper calculates the assets share of the world's top 10 banks (CR10) and top 25 banks (CR25) to describe the evolution of the concentration trend of global banking according to the "Top 1000 World Banks 2017" published in the British magazine *The Banker*. Clustering analysis of CR10 and CR25 begins with the editorial team of the "Top 1000

World Banks”. Their research found that the assets of the world’s top 10 banks are basically in the same

magnitude, and the top 25 banks roughly include all financial institutions with global influence.

**Table 1 Total Assets of the Listed Bank 1990-2016 / Changes in CR10 and CR25**

Units: a hundred million dollars / %

Year	Total Assets of the Listed Banks	Top 10 Banks		Top 25 Banks	
		Total Assets	CR10	Total Assets	CR25
1990	199,210.05	27,498.37	13.80	47,328.73	23.76
1995	303,150.16	49,565.13	16.35	94,219.02	31.08
2000	367,071.37	77,202.67	21.03	120,399.29	32.80
2005	605,015.15	125,981.96	20.82	233,233.28	38.55
2010	955,320.08	230,550.05	24.13	442,695.29	46.34
2015	1,102,320.00	246,579.66	22.37	457,348.91	41.49
2016	1,134,870.00	254,007.56	22.38	458,401.23	40.39

Data resource: the British magazine The Banker

Table 1 firstly describes the changes of the total assets of the listed banks in the “Top 1000 World Banks” from 1990 to 2016. The data shows that in the past 26 years, the total assets of the listed banks have increased from 19,921,005 million dollars to 113,487,000 million dollars with the asset scale expanding 4.69 times and the average annual growth rate reaching 6.92%. In Table 1, we also respectively sum up the assets of different years’ top 10 banks and top 25 banks. It indicates that the assets of the top 10 banks in 1990 were only 2,749,837 million dollars, which has increased to 25,400,756 million dollars in 2016 with the asset scale expanding 8.24 times and the average annual growth rate reaching 8.93%. And the assets of the top 25 banks in 1990 were only 4,732,873 million dollars, which has increased to 45,840,123 million dollars in 2016 with the asset scale expanding 8.69 times and the average annual growth rate reaching 9.13%.

Further study shows that the evolution of the asset size of the listed banks has two characteristics. One is phase characteristics. Taking the international financial crisis as a cut-off point, we found that before the crisis, the assets grew rapidly, while after the crisis, the growth rate decreased significantly. Another is asymmetric characteristics. The growth rate of mainstream banks’ assets is faster than the average growth rate of the listed banks’ assets, among which the average annual growth rate of the top 10 banks was 2.01 percentage points faster than that of all the banks on the list, and the average annual growth rate of the top 25 banks was 2.21 percentage points faster.

The changes in CR10 and CR25 showed in Table 1 can well describe the evolution of the concentration trend of global banking. The data shows that in 1990, CR10 was only 13.80%, indicating that only a little more than

1/8 of the assets were concentrated in the top ten banks in the world. And CR25 was 23.76%, which means that only less than 1/4 of the assets were concentrated in the top 25 banks in that year. In the last ten years of the 20th Century, both CR10 and CR25 increased rapidly, and the growth rate reached 21.03% and 32.80% in 2000. In the first ten years of the 21th Century, CR10 and CR25 maintained a strong upward trend with the growth rate respectively reaching 24.13% and 46.34% in 2010. Due to the impact of the international financial crisis, CR10 and CR25 fell slightly, but they still maintained a high level. In 2016, CR10 was 22.38% and CR25 was 40.39%, indicating that more than 1/5 of the world’s assets were concentrated in the top ten banks and more than 1/3 of the assets were concentrated in the top 25 banks. Compared with 1990, CR10 increased by 8.58 percentage points, and CR25 increased by 16.63 percentage points.

Since 1990s, the evolution of the concentration trend of global banking has been driven by three waves. The first wave is the wave of financial liberalization. In the early 1990s, a wave of financial liberalization marked by loosening financial regulation and allowing mixed operation was gaining steam in Europe and the United States. In 1998, the abolition of the “Glass-Steagall Act” by the United States pushed the wave of financial liberalization to its peak. Taking advantage of financial liberalization, many traditional banks in Europe and the United States expanded their business into securities industry, insurance industry and fund industry, and they transformed itself into bank holding companies or financial groups. The asset size of the mainstream banks expanded rapidly[3]. The second wave is the wave of bank merger and acquisition. In order to obtain economies of scale, economies of scope and competitive advantages,

in the last ten years of the 20th Century and the first ten years of the 21st Century, the mainstream banks of Europe and the United States unleashed a wave of mergers and acquisitions, keeping financial assets focused on mainstream banks. The third wave is the wave of bank internationalization. In 1990s, the mainstream banks took advantage of the European and American countries loosening the capital control and opening up the financial market. They continued to extend the overseas business, which formed a wave of bank internationalization. After entering the 21st century, emerging market countries gradually opened up their capital accounts, and the scale of the international capital flow continued to expand, which further pushing up the wave of bank internationalization. The wave of bank internationalization enlarged the scale of the mainstream banks' overseas assets and enhanced their competitive strength.

The changes of the concentration trend have changed the competitive environment and landscape of global banking, which is mainly manifested in three aspects. First, from complete competition to monopolistic competition. In the early 1990s, due to the low degree of concentration, competition among banks was in the form of complete competition. Then, with the continuous increase of the concentration degree, the market share has been occupied by a handful of large banks, and the competition has mainly concentrated among those banks in the monopoly position. Small and medium-sized banks are either acquired or merged. Second, from single competition to comprehensive competition. In the early 1990s, due to business segmentation, financial competition was mainly reflected inside the subdivided industries, such as banking, insurance, and securities. With the increase of concentration degree, most banks have implemented mixed operation. Current competition has no longer

been limited to the inside of the subdivided industries. It's in full swing among subdivided industries.

Third, from domestic competition to transnational competition. In the early 1990s, due to the severe division of banks, markets, and countries, bank competition was mainly concentrated within the country. The increase of concentration degree has enabled the mainstream banks not only gain a stable share in the domestic market, but also occupy a place in the foreign market. Cross-border business has been continuously improved and global competition has been constantly intensified.

### 3 Comparison of the concentration trends of the banking in the U.S, Japan and Britain

The United States, Japan, and Britain are the major global financial powers in the world. The evolution of the concentration trends of their banking is representative. European and American scholars generally use the assets share of the top four banks (CR4) to measure the degree of competition and monopoly of a country's banking. According to Bain (1951),  $CR4 < 30$  belongs to complete competition.  $30 \leq CR4 < 35$  belongs to low concentration oligopoly.  $35 \leq CR4 < 50$  belongs to middle (lower) concentration oligopoly.  $50 \leq CR4 < 65$  belongs to middle (upper) concentration oligopoly.  $65 \leq CR4 < 75$  belongs to high concentration oligopoly.  $CR4 > 75$  high belongs to oligopoly[2]. Further research shows that although in different years, the top 4 banks of the same country may have slight differences, the pattern of the first phalanx formed by the top 4 banks is basically stable, and its asset size is quite different from that of other banks. Therefore, we also use CR4 to study the country concentration trend of banking.

**Table 2 Total Bank Assets of the United States, Japan, and Britain 1990-2016 / Changes in CR4**

Units: a hundred million dollars / %

Year	The United States		Japan		Britain	
	Total Bank Assets	CR4	Total Bank Assets	CR4	Total Bank Assts	CR4
1990	32,888.86	14.46	69,569.21	19.16	24,119.43	23.32
1995	41,746.24	19.33	75,035.62	30.66	44,946.02	21.44
2000	60,950.98	41.54	72,118.13	40.75	42,185.51	44.34
2005	88,004.80	51.20	72,555.37	57.25	79,267.13	67.65
2010	117,993.44	64.03	88,810.10	77.84	110,568.43	77.89
2015	155,344.77	51.61	83,894.63	82.50	101,696.02	63.94
2016	160,654.66	52.3	92,144.43	78.32	93,460.91	62.79

Data resources: Central banks of those countries and the British magazine The Banker

Table 2 firstly describes the changes in the asset size of the banking of the United States, Japan, and Britain. According to statistics, during the 26 years from 1990 to 2016, the U.S. banking has developed rapidly. The asset size has increased by 3.88 times with the average annual growth rate reaching 6.29%. Japanese banking has expanded relatively slowly, and its asset size has only increased by 0.32 times with the average annual growth rate reaching only 1.09%. The UK banking has grown strongly. Its asset size has increased by 2.87 times with the average annual growth rate reaching 5.35%.

It is worth noting that those data is significantly affected by the exchange rate. If the interference of the Yen appreciation in 2016 is removed, the average annual growth rate of Japanese banking will be much lower than 1%. If the interference of the depreciation of pound in 2016 is removed, the average annual growth rate of the British banking will be close to 6%. From an industry perspective, the financial crisis didn't change the overall trajectory of the U.S. banking, which may differ from people's general expectations[4]. Despite the double impacts of the international financial crisis and the European debt crisis, the overall operation of the UK banking has remained basically stable. The decline of the Japanese banking is closely related to the long-term stagnation of Japanese economy.

The changes in CR4 showed in Table 2 can help us understand the changes in the concentration trend of the banking of the United States, Japan and Britain. The data shows that in 1990, although CR4 of the United States, Japan, and Britain had some differences, the overall level was rather low. According to Bain's standards, all the three countries' banking belonged to complete competition. During the 20 years from 1990 to 2010, the three countries all experienced the process of rapid concentration of banking. Taking the year 2010 as an example, CR4 of the United States in that year was 64.03%, belonging to the middle (upper) concentration oligopoly. CR4 of Japan and Britain respectively reached 77.84% and 77.89%, belonging to the extremely high oligopoly. After 2010, both American and British CR4 have obviously declined. CR4 of the United States has dropped by 12 percentage points, and CR4 of Britain has dropped by 15 percentage points. Despite this, both of them belongs to the middle (upper) concentration oligopoly. Unlike the situation in the United States and Britain, Japan's CR4 remains the upward trend. It used to be as high as 82.50% in 2015. The degree of the extremely high oligopoly is constantly deepened. Overall, since

1990, the market structure of the banking of the United States, Japan, and Britain has transformed from complete competition to higher-level oligopoly.

Mergers and acquisitions are the most important explanatory variables for the increase of CR4 of the United States, Japan, and Britain. We can illustrate the impact mergers and acquisitions have on the scale expansion of mainstream banks by reviewing the history of mergers and acquisitions of the top 4 banks of the United States, Japan, and Britain in the past 20 years.

The top four American banks in 2016 were JP Morgan Chase, Bank of America, Citigroup and Wells Fargo. JP Morgan Chase was formed by the merger of seven major financial institutions, including JP Morgan and Chase Manhattan Bank. Bank of America was formed by the merger of six major financial institutions, including Bank of America and National City Bank. Citigroup was formed by the merger of seven major financial institutions, including Citibank and Travelers Group. Wells Fargo was formed by the merger of five banks, including Wells Fargo Bank and Norwest. The top four Japanese banks in 2016 were Mitsubishi UFJ Financial Group, Sumitomo Mitsui Financial Group, Mizuho Financial Group, and Norinchukin Bank. Mitsubishi UFJ Financial Group was formed by the merger of six major financial institutions, including Bank of Tokyo and Mitsubishi Bank. Mitsui Bank, Taiyo Kobe Bank, and Mitsui Banking Corporation, and Sumitomo Bank were merged to form Sumitomo Mitsui Financial Group. Dai-ichi Kangyo Bank, Fuji Bank and Industrial Bank of Japan were merged to form Mizuho Financial Group. Only Norinchukin Bank didn't participate in any mergers or acquisitions. The top four British banks in 2016 were HSBC Holdings, Barclays Bank, Royal Bank of Scotland, and Lloyds Bank. HSBC Holdings was formed by the merger of five major financial institutions, including HSBC and Midland Bank. Barclays Bank was formed by the merger of Barclays Bank, Woolwich Bank, and Alberta Bank of South Africa. Royal Bank of Scotland was formed by the merger of Royal Bank of Scotland, National Westminster Bank, and the First Charter Bank of the United States. Lloyds Bank was formed by the merger of four financial institutions, including Lloyds Bank and Trustee Savings Bank. Mergers and acquisitions have created new financial aircraft carriers and raised the level of CR4, which also means a considerable number of well-known global bank brands have withdrawn from the historical stage, such as Wachovia and Merrill Lynch in the United

States, Bank of Tokyo and Fuji Bank in Japan, National Westminster Bank and Midland Bank in Britain.

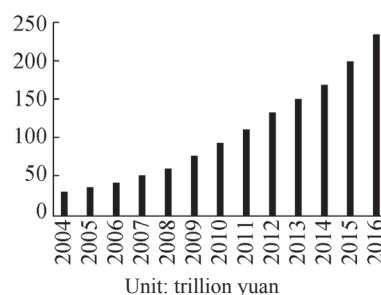
Since the 1990s, CR4 in the United States, Japan, and Britain have increased simultaneously, which indicates that the country concentration of banking is by no means a single case, but a general trend. We have noticed that the concentration of the banking in the United States and Britain was accompanied by the expansion of banking. Although Japan's banking stagnated, there was also obvious industrial concentration, which indicates that the concentration of industry is not necessarily related to the development of the industry. It further confirms the trend of global banking concentration. In fact, in other financial powers, such as Switzerland, France, Spain, and Italy, the speed of industrial concentration is faster than that in the United States, Japan, and Britain. The level of industrial monopolies are even higher.

#### 4 Changes in the Concentration Trend of China's Banking

After entering the 21st century, the reform of China's banking system has made significant progress. From 2004 to 2007, five state-owned banks successively completed joint-stock system reform and listing and transformed themselves into state-owned holding banks. They were Bank of China, Agricultural Bank of China, Industrial and Commercial Bank of China, China Construction Bank, and Bank of Communications. At the same time, the restructuring of city commercial banks and rural commercial banks was basically completed. According to the annual report of the China Banking Regulatory Commission, by the end of 2016, China's banking financial institutions had 4,408 legal person institutions. While the banking system continues to improve, China's banking has also experienced rapid development. The data from the China Banking Regulatory Commission can illustrate the growth of China's banking.

Since the China Banking Regulatory Commission didn't have complete statistics on banking until 2004, the time series on the development of China's banking can only be traced back to 2004. In 2004, the total assets of China's banking financial institutions were only 31 trillion yuan, which exceeded 50 trillion yuan in 2007 and further outnumbered 100 trillion yuan in 2011. In 2015, they were nearly 200 trillion yuan. In 2016, they reached 232.25 trillion yuan. During 12 years, the assets of banking financial institutions

increased by 6.35 times, with an average annual growth rate reaching 18.08% (see Figure 1). Of course, the achievements of China's financial system are not only reflected in the expansion of asset size, but also in the improvement of profitability, the perfection of asset quality, and the enhancement of risk prevention capabilities. In the last decade's "Top 1000 World Banks" published on the British magazine *The Banker*, the editorial team has repeatedly used the term "Chinese miracle" to describe the rise of China's banking.



**Figure 1 Changes in the asset size of China's Banking 2004-2016**

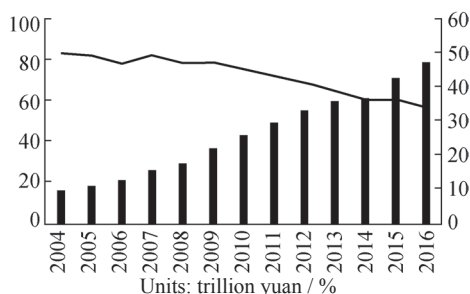
Since the 1980s, China's top four banks have always been Industrial and Commercial Bank of China, China Construction Bank, Agricultural Bank of China, and Bank of China. This situation remains unchanged now. According to the usual practice, we still use CR4 to analyze the changes in the concentration trend of China's banking. In Figure 2, the columns describe the changes in the total assets of the four major banks, and the broken line describes the changes in CR4. After 2000, the asset size of the four state-owned commercial banks has expanded rapidly. Especially after the restructuring and listing, the speed of assets expansion has significantly accelerated. In 2004, the total assets of the four state-owned commercial banks were 15.79 trillion yuan, which increased to 78.20 trillion yuan in 2016. That is to say, during the 12 years from 2004 to 2016, the total assets have increased by nearly four times with an average annual growth rate of 14.26%. Obviously, the development of China's banking is significantly asymmetric. The assets of the mainstream banks in traditional financial powers are expanding faster than the assets of banking. Different from this, the expansion of China's banking assets is faster than that of mainstream banks' assets.

As the growth rate of the assets of the four state-owned commercial banks is lower than that of banking financial institutions, China's CR4 has continued to rapidly decline. In 2004, China's CR4 was 49.96, which, according to the standards of Europe and the United States, belonged to middle (lower) concentration

oligopoly. Then it continued to decline. In 2016, only 33.67% remained, which belonged to complete competition.

Comparing the operation of CR4 in China, the United States, Japan, and Britain, we can find that there are two points deserving our special attention. First, the development trend of the banking of traditional financial powers is from deconcentration to concentration. Different from it, since 2014, the development trend of China's banking is obviously from concentration to deconcentration. Second, the concentration degree of China's banking is far lower than that of traditional financial powers. It's worth emphasizing the data in 2016 again. In 2016, CR4 of China's banking was 33.67%, 18.63 percentage points lower than America's 52.30%, 44.65 percentage points lower than Japan's 78.32%, and 29.12 percentage points lower than UK's 62.97%.

With regard to the development of China's banking, one of the focuses of debate in recent years is industrial concentration. Many scholars have disguised criticism on banking's market share concentrating too much in the four state-owned commercial banks. They argue that high concentration has hindered the free competition of market, which leads to excessive concentration of risks. Study shows that if it was a decade ago, such criticism would make sense. There is obviously no data supporting this view now<sup>[5][6]</sup>.



**Figure 2 Total Assets of China's Four Major Banks 2004-2006 / CR4**

Data resources: China Banking Regulatory Commission and the annual reports of the four major banks

## 5 Development strategy adjustment of China's banking

Over the past 30 years of reform and opening up, the development strategy of China's banking has always revolved around the establishment and improvement of banking system. Now that this goal has been or has almost been completed, it is necessary to make

adjustments. Considering that the internationalization of banking has entered the implementation stage as a national strategy, the authorities should make adjustments to the development strategy of banking in terms of maintaining the relative concentration of banking, piloting the bank holding company system, and encouraging mainstream banks to expand overseas business.

### 5.1 Maintaining the relative concentration of banking

The development trend of the banking of traditional financial powers is from deconcentration to concentration. Historical comparison shows that different from it, the development trend of China's banking is obviously from concentration to deconcentration. In the past 12 years, China's CR4 has dropped by 17 percentage points. International comparison shows that China's CR4 is lower than that of the United States, Japan, and far lower than that of Britain. The data shows that maintaining the relative concentration of banking is a global trend. We do not know at which level will the CR4 of the traditional financial powers finally stay, but their upward trend is certain. If we don't prevent the continuing decline in concentration degree, in another decade, the CR4 of China's banking will fall into the same level with the that of the traditional financial powers in the 1990s, and China's banking will not be on the same platform as other competitors. Therefore, we should strengthen the balance and coordinated development of small, medium, and large banks, and maintain the relative concentration of China's banking. At present, the expansion of the asset size of the four major state-owned commercial banks is mainly constrained by the capital adequacy ratio. The plan to increase capital and expand stocks in the securities market has repeatedly been hindered by the downturn in the stock market. We should broaden the financing channels for the four major state-owned commercial banks to provide sufficient financial support for their future development, maintain the simultaneous development of the four state-owned commercial banks and other types of banks, and keep the relative stability of CR4.

### 5.2 Piloting the Bank Holding Company System

After the financial explosion in the 1990s, the mainstream banks in the United States, Japan, and Europe have completed the transition to financial groups and bank holding companies. They are engaged

in the full-caliber financial services. However, Banks in China still insists on separated operation and supervision. Mainstream banks are still commercial banks in the traditional sense. Therefore, they have significant competitive disadvantages in international competition. By comparing the European financial group system with the American bank holding company system, we suggest to pilot the bank holding company system in the four major state-owned commercial banks as soon as possible, and encourage them to carry out a wide range of financial services and compete with international competitors in an equal and all-round manner on the premise of having enough firewalls to isolate the risks.

### 5.3 Encouraging mainstream banks to expand overseas business

If we only examine Tier I capital, asset size, and pretax profits, China's four major state-owned commercial banks are no weaker than international competitors. According to the data from British magazine *The Banker*, in 2016, measured by the indicator of Tier I capital, Industrial and Commercial Bank of China ranks 1st in the world. China Construction Bank ranks 2nd. Bank of China ranks 6th, and Agricultural Bank of China ranks 8th. Measured by the indicator of total assets, Industrial and Commercial Bank of China ranks 1st in the world. China Construction Bank ranks 2nd. Bank of China ranks 5th, and Agricultural Bank of China ranks 3rd. Measured by the indicator of pretax profits, Industrial and Commercial Bank of China ranks 1st in the world. China Construction Bank ranks 2nd. Bank of China ranks 6th, and Agricultural Bank of China ranks 4th. However, so far, the internationalization level of China's four major bank brands has been far lower than that of European and American competitors<sup>[7]</sup>. Chinese government is committed to promoting the internationalization of CNY. Obviously, the low-level internationalization of banking has become a bottleneck in the internationalization of CNY. We believe that promoting the internationalization of banking can also have a positive effect on the internationalization of CNY. We should issue policies to actively encourage mainstream banks to expand their international market share, participate in international competition, and increase their global influence. In view of the experience of the traditional financial powers' internationalization, the internationalization of China's banking should not

be fully rolled out. Instead, it should focus on the key points. The task of expanding international markets should be concentrated on the four major state-owned commercial banks.

## 6 Conclusion

Since the 1990s, global banking and the banking of traditional financial powers have shown an obvious concentration trend, which has changed the competition landscape and mode of global banking. The competition among global mainstream banks has become more direct and intense. The development trend of global banking and the banking of traditional financial powers is from deconcentration to concentration. Contrary to that, since the reform and opening up, China's banking has significantly developed from concentration to deconcentration, and the CR4 level of China's banking has been far lower than that of the financial powers, such as the United States, Japan, and Britain. From a global perspective, we should take into account the fairness of domestic financial market competition and the improvement of the global competitiveness of banking. We need to make adjustments to the existing financial regulations and systems in terms of maintaining the relative concentration of banking, piloting the bank holding company system, and encouraging mainstream banks to expand overseas business.

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