Risks and Causes of Financial Sector's High Growth in China

Dexu He, Chaoyang Wang*

In recent years, China's financial sector has witnessed a high growth trend. This trend has been caused by several reasons: the traditional macro-control tools do not match the new normal characteristics of China's economy growth, the regulatory reform is lagging behind the rapid progress of financial innovation, and the drastic fluctuations of the stock market are combined with a new round of increase in real estate price. In particular, this round of high growth in the financial sector occurs in the context of a rapid decline of manufacturing sector, which reflects the low efficiency of financial operations. It also means the foundation of financial stability and sustainable development is losing and high risks are coming. To deal with this change properly, we need to further deepen financial reform and improve financial supervision, and create a favorable financial environment for the real economy. At the same time, researchers should also reflect on and study the characteristics of China's financial development, and provide the theoretical basis for maintaining financial security.

Keywords: value-added of the financial sector, financial innovation, financial supervision, financial risks

1. Introduction

It was pointed out at the Central Economic Working Conference held at the end of 2016 that, "The roots of the prominent contradictions and problems in China's economic operation are major structural imbalances, which lead to unsmooth economic cycle, although there are also cyclical factors and aggregate factors. So solutions must be found from the supply side and structural reform to strive for a new dynamic equilibrium between supply and demand." *People's Daily* published a commentary to further clarify that, here the "major structural imbalances" are mainly reflected in "structural supply-demand disequilibrium of real economy, imbalance between finance and real economy, and the imbalance between real estate and real economy".[1]

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[1] People's Daily Commentator: *Firmly Deepen Supply-Side Structural Reform: A Second Discussion of Implementing Guiding Principles of the Central Economic Work Conference,* Xinhua News Agency, Dec., 18, 2016.

The relationship between finance and real economy is an everlasting topic in the study of finance and macro-economics. The financial sector promotes economic development by providing financial services, and in this process realizes its own growth and becomes a part of the overall economic growth. As an inseparable part of economic growth, do financial sector growth and non-financial sector growth mutually promote each other? Or does the financial sector grow at the expense of the non-financial sector? In other words, under what circumstances can these two promote each other? And under what circumstances may they counteract? Following this train of thought, when we view financial sector growth as a part of the overall economic growth, we can see that the rapid growth of China's financial sector is accompanied by a rapid decline of the proportion of industry in the economy, the financial sector growing at the cost of industry. How should we treat this phenomenon?

We retrace the starting point of research in classical literature. For a long time, it is widely accepted that financial development contributes to economic growth, and Levine (1997) summarizes five functions of financial system: being conducive to risk management; absorbing residents' savings and reasonably turning the savings into investments; advancing the flow of savings to investment projects of higher efficiency; reducing the costs of acquiring information; promoting innovation and generating spillover effect. There have been countless papers on empirical research on the above-mentioned functions. But it should be noted that, most of the above judgments are conclusions reached based on the transformation of financial system from being inhibited to being deepened. With the constant financial development, when the financial system gets rid of the inhibition and gets to the stage of deepening development or even overdevelopment, what effect does financial development exactly have on economic growth?

The financial crisis in US in 2008 is generally regarded as the result of overdevelopment of its financial sector. This being the turning point, questioning and criticism of the opinion that financial development is benefits to economic growth gets louder. For example, Krugman (2009) believes that "overdevelopment of the financial sector brings more disadvantages than advantages", "finance has attracted too much wealth and too many talents", highly complex innovative financial products have not brought clear benefits to economic growth, instead they gain more rental returns from the real economy, and once the degree of financial innovation goes beyond the scope of regulation, there may be financial crisis and economic recession. Conclusions of many empirical researches support this judgment, one example is that Rousseau and Wachtel (2011) use linear model to conduct empirical test of data from 1965 to 2004, and they find that when finance is deepened to a certain degree the promoting effects of financial development on economic growth will vanish, which they call vanishing effect.

According to research in recent years, in empirical study of economic growth the

indicator of per capita GDP growth rate is used, but there are more choices as to the indicators of financial development, among which the three more frequently used are the ration of credit scale to GDP, the ratio of money supply to GDP, and value-added of the financial sector to GDP (Table 1). In fact the three indicators reflect two properties of the financial sector. On the one hand, the first two indicators reflect that the operating object of the financial sector is monetary capital which is the lubricator for all economic activities, so financial development is closely related to economic growth; on the other hand, the financial sector is one of the many economic sectors, and financial activities not only create value added but also directly contribute to economic growth, which is implied by the third indicator. It should be pointed that that, nearly all existing literature neglects the relationship among these three indicators, i.e. how the financial sector creates value added for itself in the process of using money, lending and borrowing, as a result fails to answer the question about the relationship between finance and real economy from the root.[1]

We believe it is necessary to rethink deeply the relationship between finance and real economy, especially its manifestations in China. On the one hand, there has been no unified answer to the above-discussed relationship between finance and real economy in literature of theoretical research; on the other hand, in practice whether the derivative products under a host of names in US, or the increasingly "innovative" shadow banking system in China, all imply that finance is somewhat overdeveloped in certain aspects, or has gone beyond where it is supposed to be. As regards the rapid growth in China's financial sector in recent years, we believe that this growth reflects the low efficiency of financial operation, indicating that the foundation for financial stability and sustainable development is losing and the possibility of financial risks is increasing; to prevent this risk from the root, we need to intensify financial competition, perfect macro-control, control asset price bubble, and reform financial regulatory system to make finance better serve real economy.

Table 1. New Development in Research on the Relationship Between Financial Development and Economic Growth

Literature	Financial development indicators	Method and sample	Research findings
Law and Singh (2014)	Private credit/GDP, current liabilities /GDP, domestic credit/ GDP	Threshold model, Data of 87 countries from 1980 to 2010	Threshold value is 88%, 91%, and 99% respectively, significant negative effect appears above this threshold

[1] To answer this question, we need to sort out the transformation among capital, money, and credit capital, so we resort to Marx's discussion about the relationship among the accumulation of monetary capital, the accumulation of credit capital and the accumulation of actual capital. Please refer to the analysis in Chapter 30, 31, and 32 in Vol. III of *Capital* by Marx.

Literature	Financial development indicators	Method and sample	Research findings
Cournede and Denk (2015)	Value-added of the financial sector/GDP, total bank loan/GDP, stock market value/GDP	Linear equation, OECD countries	Coefficients of the three indicators are negative, negative, and positive respectively
Samargandi *et al.* (2015)	M3/GDP, commercial banks assets/assets of all financial institutions, bank's credit to individuals, /GDP, construct financial development index (FD) with the three indicators	Threshold model, 23 countries of middle-and-upper income, 29 countries with lower-to-middle income	Threshold value of all the samples is 0.915, those of the two groups of countries are 0.918 and 0.433 respectively; from a long-term perspective there is a negative correlation
Muhammad *et al.* (2015)	M2/GDP, domestic credit /GDP	Linear equation, 6 Gulf Nations from 1975 to 2012	Positive relationship
HaSanetal (2015)	Private sector credit/GDP, market value of listed companies/GDP, net interest margin and stock market turnover rate, capital return + capital/standard deviation of capital return (to measure banks' stability)	Bayesian estimation, data of 72 countries from 1960 to 2011	Only bank efficiency can promote economic growth
Capelle-Blancard and Laborme (2016)	Financial sector credit/GDP, number of employees of the financial sector /total labor force, unit employee credit	Linear equation, data of 24 OECD countries in the past 4 decades	No significant positive or negative relationship

Source: Hu and Wang (2016). Articles mentioned here in the table are not listed in Reference after the paper.

2. Definition and Facts of High Growth in China's Financial Sector

The formulation of high growth in the financial sector is based on the concept of value-added of the financial sector. Value-added of the financial sector is a statistical concept, comprised of value-added at current price and value-added at constant price; in terms of statistical period, there are quarterly value-added and annual value-added. To understand the accounting of value-added of the financial sector, first we need to clarify the statistical scope of financial sector, then we need to understand the accounting method of value-added and its relationship with relevant accounting items. Based on this, we can further discuss what the financial sector's high growth is and the specific reflections of this high growth.

2.1. Statistical Scope of China's Financial Sector

In 1984, China's first *Industrial Classification for National Economic Activities* was issued, and it was later revised three times in 1994, 2002 and 2011. The standard

industrial classification revised in 2011 (GB/T 4754-2011) was drafted by National Bureau of Statistics, approved by General Administration of Quality Supervision, Inspection and Quarantine and Standardization Administration of PRC, and was implemented on Nov. 1st, 2011. This revision not only referred to the fourth edition of *International Standard Industrial Classification of All Economic Activities* (ISIC 4.0) which was revised by the UN in 2008, but also mainly adjusted and modified sections, divisions, groups and classes based on China's economic development situations and trends in recent years.

First, the standard revised in 2002 is GB/T4754-2002 (GB-2002 for short). In it J is used to stand for the section of finance, which is named as "financial sector"; under this section there are four divisions of banking (J68), securities (J69), insurance (J70), and other financial activities (J71), which are further classified into 16 groups and 16 classes. Specifically speaking, (1) the three divisions of banking (J68), securities (J69), and other financial activities (J71) are results of splitting and breaking up the division of finance (I68) in GB-1994, and insurance (J70) is the result of breaking up the division of insurance (I70) in GB-1994. (2) GB-2002 modified the scope of commercial banks, added joint-equity banks, and incorporated credit cooperatives into the category of commercial banks. (3) On the basis of GB-1994, economic activities such as were added to the financial sector in GB-2002 securities market management, securities investment, securities analysis and consulting, insurance auxiliary services and postal savings.

Second, the standard revised in 2011, GB /T4754-2011 (GB-2011for short) made great modification to the classification of financial sector in GB-2002. In GB-2011 J is used to stand for the section of finance and is named as "financial sector"; in this section there are four divisions of monetary and financial services (J66), capital market services (J67), insurance (J68), and other financial activities (J69), which include 21 groups and 29 classes, that is, 5 groups and 13 classes are added compared to GB-2002. Specifically speaking, (1) J66 in GB-2011 includes all institutions under the division of banking (J68) in GB-2002 and non-monetary banking services such as financial leasing services, finance company, pawn, microcredit company under the division of other financial activities (J71), and adds banking supervision services; in March 2007 Postal Savings Bank of China was founded so GB-2011 no longer lists "postal savings" as a group or class, but incorporates it into the class of monetary banking services. (2) The 5 groups of J67 in GB-2011 is the result of breaking up securities (J69) in GB-2002; securities market is separated from futures market and the item of securities and futures supervision services is separated from securities market management to form a new group and class. (3) The meaning of securities brokerage transaction services changes in GB-2011, and the activities such as securities underwriting and sponsoring and margin trading and short selling are added. (4) Insurance (J68) in GB-2011 is the result of breaking up insurance (J70) in GB-2002. (5) Compared with the other

financial activities (J71) in GB-2002, other financial activities (J69) in GB-2011 also change a lot.

2.2. Accounting Method of Value-Added of the Financial Sector

In December 2009, the UN, EU, IMF, OECD and World Bank jointly issued 2008SNA. In order not to affect the stability in implementing SNA (System of National Accounts), a fundamental principle regarding the updating of SNA has been set: no profound or comprehensive changes can be made to 1993SNA. Hence, the newest revision of international standard macro-economic accounting system, 2008SNA, maintains the basic framework of 1993SNA, but in order to better reflect the changes in economic conditions after 1993SNA was implemented, 2008SNA is revised in many aspects, new contents are introduced in almost all the sections, and key changes are mainly concentrated in the five fields of asset, financial sector, globalization and related issues, general government and public sector, and informal sector, with financial accounting being one of the key points.[1]

In the early 1950s, China established the national economic accounting system according to System of Material Product Balance (MPS); in 1980s MPS began to transform to SNA, and the accounting of gross national product began in 1985, and national economic accounting has been conducted according to SNA ever since 1993. During this period, China's national economic accounting system has always been in the process of modification and integration. Two major modifications were made during the economic censuses in 2004 and 2008, especially the latter one, National Bureau of Statistics revised the accounting system from various aspects on the basis of 2008SNA. In terms of concept system the accounting method of the financial sector in China has basically been in line with internationally accepted ones.

Specifically speaking, there are two approaches to the accounting of value-added the financial sector, production approach and income approach. With production approach the value added is obtained by the deduction of intermediate inputs from gross output of the various financial industries. As the accounting of gross output and intermediate inputs is complex, and data accessibility and timeliness are not very desirable, currently production approach is adopted to get intermediate inputs through backward deduction by value added, and to calculate value-added rate. Income approach reflects the final outcome on the basis of income share that production factors should get in production from the perspective of income produced by production. Annual accounting of value-added of the financial sector is based on income approach, and the formula is:

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[1] For detailed analysis concerning this, please refer to Chen (2011) and Song (2013).

Value-added of the financial sector = compensation of employees + net production tax + depreciation of fixed assets + operating surplus (1)

Here, compensation of employees refers to all the compensation that employees are entitled to get from the production activities they engage in; net production tax refers to the balance of the tax that enterprises pay to the government for their production activities (corporate income tax not included) and policy-related subsidies to cover enterprise losses; depreciation of fixed assets refers to attrition value of fixed assets such as houses and equipment which are used in production in the accounting period, reflecting the transfer value of fixed assets in current production; operating surplus refers to operating profits that enterprises get from their operations. There are differences among the calculating methods of banking, securities, insurance, and other financial activities. By income approach we get value-added of the financial sector at current price; the value-added of financial sector at constant price is calculated through single deflation, and the deflator is the weighted mean of CPI and price index of investment in fixed assets.[1]

Quite a number of detailed financial indicators are needed to calculate value-added of the financial sector by income approach. Compared with annual accounting data, quarterly accounting data are not as complete and accurate, so quarterly value-added of the financial sector is mainly calculated on the basis of relevant indicators. National Bureau of Statistics calculates value-added of the financial sector at current price each quarter, and divides it by deflator to get value-added of the financial sector at constant price. According to *Quarterly Regional GDP Accounting Plan (Trial Implementation)*[2] issued by National Bureau of Statistics in 2010, the financial sector is divided into three categories of banking and other financial activities, securities, and insurance, and the quarterly value-added of each of the three is calculated by taking RMB deposit and loan balance, securities turnover, and premium income as relevant indicator respectively. The calculating methods are shown in formula (2) and (3).

Current value-added of the financial sector at current price = value-added of the financial sector over the same period last year × (100 + growth rate of current value-added of the financial sector at current price) (2)

[1] From the annual perspective, a very important modification was the improvement of accounting method of financial sector during the second economic census in 2008. Please refer to the research group (2012) for details.

[2] Introduction to this plan is based on public data. In 2016 National Bureau of Statistics issued *Quarterly Regional GDP Accounting Plan (2016)* in order to regulate quarterly regional GDP accounting, make the accounting method more scientific, and enhance the quality and comparability of quarterly regional GDP data.

Growth rate of current value-added of the financial sector at current price = growth rate of current value-added of banking and other financial activities at current price × p1 + growth rate of current value-added of securities at current price × p2 + growth rate of current value-added of insurance at current price × p3 (3)

Here, p1, p2, and p3 represent the proportion of last year annual value-added of banking and other financial activities at current price, value-added of securities at current price, and value-added of insurance at current price in value-added of the financial sector at current price respectively. The growth rates of value-added of banking and other financial activities, of securities, and of insurance are based on the growth rate of current RMB deposit and loan balance at current price, growth rate of current securities turnover at current price, and growth rate of current premium income at current price, and these rates are substituted in combination with national conversion factor.

2.3. Proposition and Definition of High Growth in China's Financial Sector[1]

In the last decade, the proportion of value-added of the financial sector in China has doubled, increasingly rapidly from 4% in 2005 to 8.44% in 2015. This change is quite remarkable in international comparison, and it may imply the accumulation of risks. Selecting the proportion of value-added of the financial sector in US, Japan, UK, Germany, and Brazil, observing and comparing their changes from 1990 to 2016 (Figure 1), we find: (1) The proportion of financial sector in all the countries fluctuates but slightly, and there is no one-way rising trend. For example, in Germany this proportion is relatively steady, in the 20 years the highest being 5.5% in 1999 and the lowest being 3.8% in 2008. (2) The peak of proportion of value-added of the financial sector tends to correspond to the time of certain crisis, which also raises our caution. For example the two peaks in US are 7.7% in 2001 and 7.6% in 2006, which correspond to Dot-com Bubble and subprime mortgage crisis respectively; the peak in Japan is 6.9% in 1990, after which the proportion steadily declined, with 4.81% in 2000 and 4.11% in 2014, and this corresponds to Japan's "lost decade" or even "two lost decades" since 1990; the peak in UK is 9.35% in 2009, which may be related to the then European debt crisis.

How to define high growth in China's financial sector? This paper attempts to propose a simple method, i.e., to compare the relative relation between the growth rate of value-added of the financial sector and that of GDP. On the one hand, if the growth rate of value-added of the financial sector is constantly higher than that of GDP, then the proportion of the financial sector in the economy will raise continuously, but

[1] All data in this paper comes from WIND database unless specifically indicated.

obviously this trend is not sustainable; on the other hand, if the growth rate of value-added of the financial sector is constantly lower than that of GDP, it means financial sector only provides weak support for economic growth, which also brings no good to sustainable economic development. Hence, it is reasonable for the two growth rates to maintain a "proper" relationship. If the ratio of the latter to the latter is defined in [0.75, 1.25], then it can be seen from Figure 2 that there have been two periods of high growth in China's financial sector since 2000, one from 2006 to 2009 and the other from 2013 to 2015.

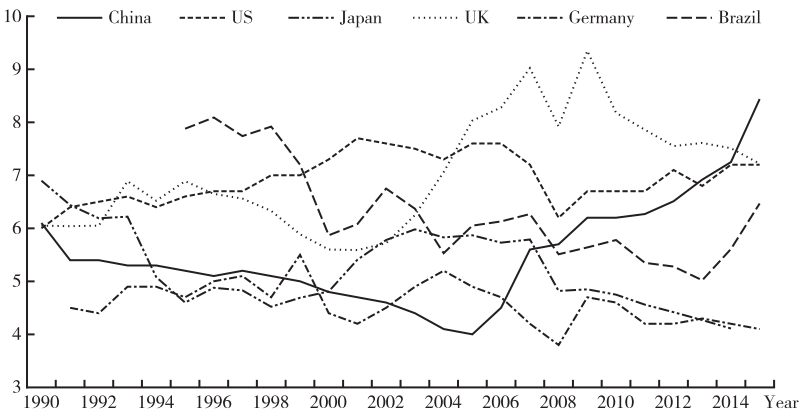

Figure 1. International Comparison of Proportion of Value-Added of Financial Sector

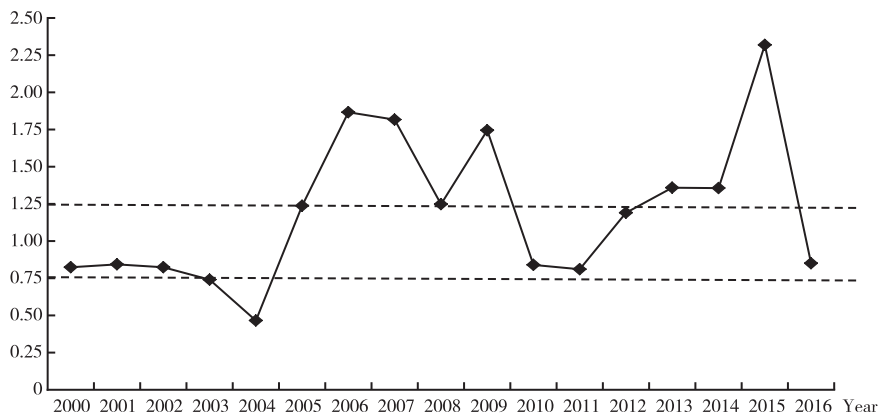

Figure 2. Change in Growth Rate of Value-Added of Financial Sector/ Growth Rate of GDP

Place the financial sector's high growth in the context of macro-economic conditions of China, we can see there are differences between these two (Figure 3 and Figure 4). Unlike the second period, the proportion of industry from 2006 to 2009 did not decline remarkably as it did after 2015. Returning to the essence of "finance serves

real economy", we hold that, maybe there is not much to worry about the existence of high growth in the financial sector in a short period alone, but if it happens together with rapid decline of industry we have to worry about it. Especially when China's economy steps into new normal, economic growth rate has shifted gears, and there are great pressures of economic growth downturn, we need to guard against this if we want to seek new drivers for economic growth. So follow-up research of this paper focus on the high growth in China's financial sector around 2015.

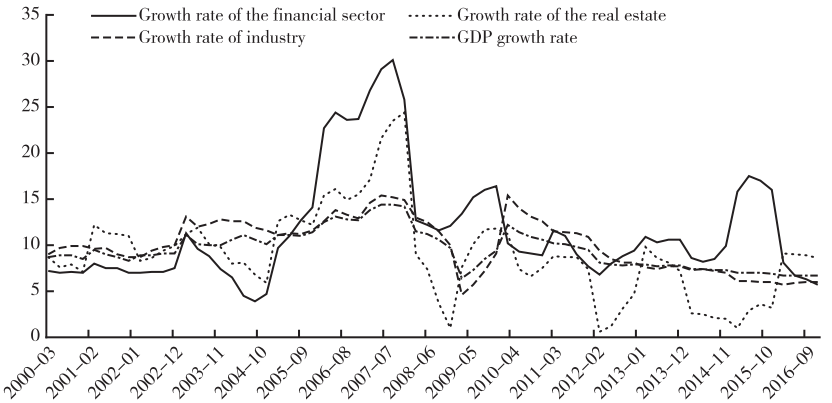

Figure 3. Growth Rate of the Financial Sector, Real Estate, Industry and GDP

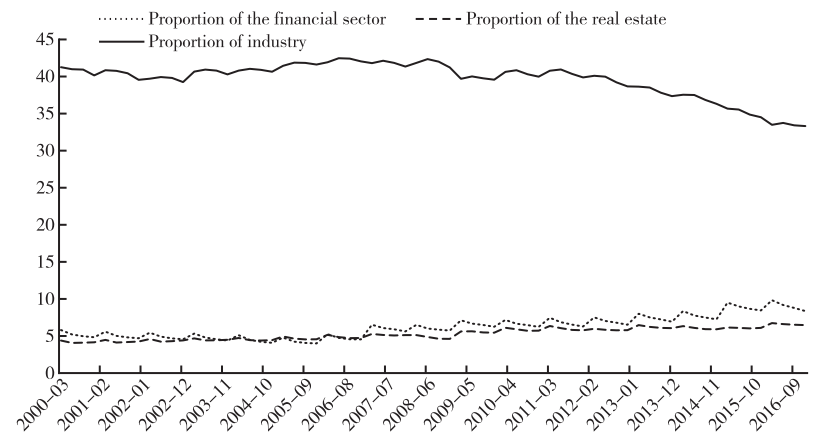

Figure 4. Proportion of the Financial Sector, Real Estate and Industry in GDP

2.4. Characteristic Facts of High Growth in China's Financial Sector

Since 2012 there has been a sharp contrast between the rapid growth in

China's financial sector and the decline in the proportion of industry, which can be demonstrated by three groups of data: the proportion of value added of the two industries, value-added growth rate and their rates of contribution to economic growth.

First, in terms of the proportion of the proportion of value-added (Figure 4), the proportion of value-added of the financial sector to GDP increased steadily from 2012 to 2016, being 6.51%, 6.92%, 7.25%, 8.44% and 8.35% through the years; during the same period the proportion of value-added of industry declined rapidly, being 38.66%、37.35%、36.31%、34.5%, and 33.31%.

Second, in terms of value-added growth rate (Figure 5), GDP growth rate from 2012 to 2016 was 7.9%, 7.8%, 7.3%, 6.9%, and 6.7% respectively, over the same period the growth rate of value-added of the financial sector was 9.4%, 10.6%, 9.9%, 16%, and 5.7% respectively, and the growth rate of industry was 8.1%, 7.7%, 7%, 6%, and 6%. In all these years the growth rate of the financial sector had been higher than that of industry, and higher than economic growth rate except in 2016, and the growth rate of industry had been lower than economic growth rate except in 2012; especially in 2015, growth rate of China's financial sector was more than twice of economic growth rate.

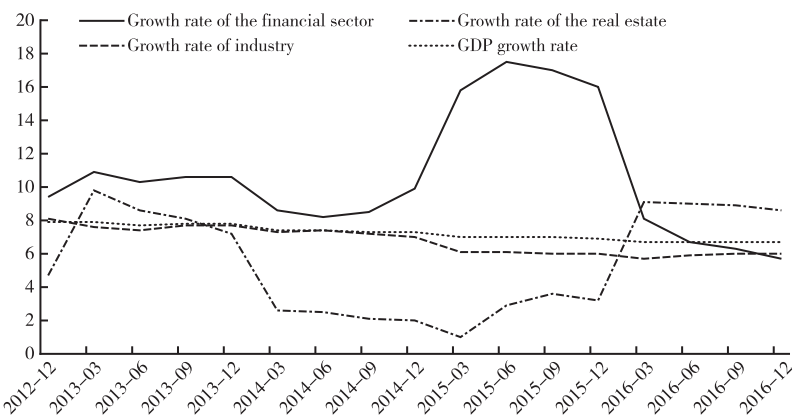

Figure 5. Growth Rate of the Financial Sector, Real Estate, Industry and GDP

Third, in terms of the rates of contribution of the different sectors to economic growth (Figure 6), the contribute rate of the financial sector from 2012 to 2016 was 7.5%, 8.9%, 9.5%, 16.4% and 7.1% respectively, while that of industry declined remarkably, being 40.59%, 37.9%, 35.3%, 30.4%, and 30.7% respectively.

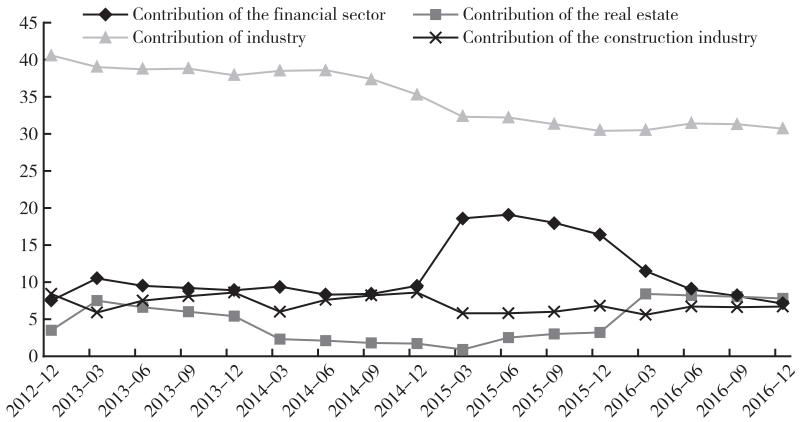

Figure 6. Contribution of the Financial Sector, Real Estate, Industry and Construction Industry to GDP

3. Analysis of Causes for High Growth in China's Financial Sector

There are many factors affecting the high growth in the financial sector. When studying the high growth in China's financial sector over the last decade we need to take into account the reasonable elements: over the past 10 years China's economic growth, rising urbanization and industrialization, and rapid development of the service industry all have needs for finance and demand corresponding growth in the financial sector. But further research on the high growth in China's financial sector around 2015 is needed to find out the reason. To this end, it is necessary to understand the accounting of value-added of the financial sector and conduct comparative analysis in combination with relevant indicators; and then it is necessary to investigate money and factors besides money given that money is the foundation for various financial institutions to operate.

3.1. Statistical Factors

As discussed above, in statistical accounting, the statistical scope of the financial sector mainly covers banking, securities, and insurance, and annual accounting of value-added of the financial sector is based on income approach, including compensation of employees, net production tax, depreciation of fixed assets, and operating surplus which accounts for about 50% in the value-added; quarterly accounting of value-added of the financial sector is based on calculation, the growth rates of RMB deposit and loan balance, securities turnover, and premium income are used as coefficient of banking, securities, and insurance respectively, and processed in

combination with conversion factor.

Due to data limitations, we can only examine the changes in proportions of the profits of banking and securities in value-added of the financial sector. Since 2010 the profits of banking have been around 30% of the whole value-added of the financial sector, with the highest at 35.2% in 2012 and the lowest at 26.54% in 2016, which displays obvious downward trend. In contrast, the profits of securities account for only about 2%, and the proportion is subject to market fluctuations, for example in 2015 the figure rose to 4.23% (Figure 7). On micro-level, there is also evidence showing that banking accounts for the highest proportion.[1]

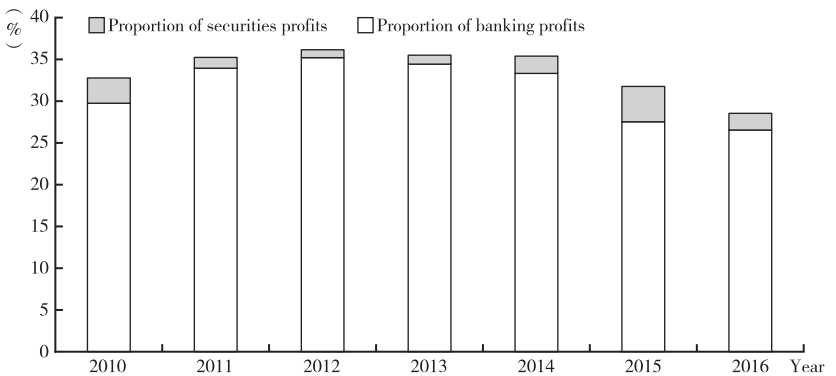

Figure 7. Proportion of Banking and Securities Profits in Value-Added of the Financial Sector

We calculate the growth rate of RMB deposit and loan balance, of securities turnover, and of premium income, and by comparing them with that of value-added of the financial sector we find that the growth rates of securities turnover and premium income fluctuate obviously. Given the high proportion of banking in the whole financial sector and the effect of stock market fluctuations on financial operations, we keep the growth rates of RMB deposit and loan balance and securities turnover and find the growth rate of value-added of the financial sector highly coincides with that of securities turnover in trend (Figure 8). This means that although securities industry does not contribute remarkably to value-added of the financial sector, stock market fluctuations are closely related to it. In other words, asset price plays an importance role—the growth of securities and insurance is affected the most by stock market, as securities profit directly from the bull market and insurance also gets more investment income (included in value-added).

[1] For example, at regional level, Urumchi and Jinan provide their statistics of value-added of the financial sector by items and by industries.

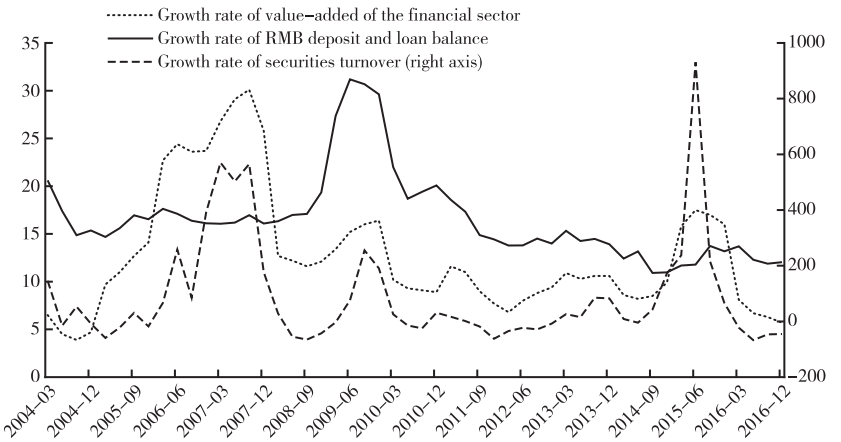

Figure 8. Growth Rate of Value-Added of the Financial Sector and Key Indicators

3.2. Monetary Factors

One basic setting of the high growth in China's financial sector is the financial system dominated by banks. In terms of the constitution of total social financing, despite the obvious rise of direct financing in recent years, indirect financing based on commercial banks accounts for as high as 75%, which is clearly shown in the above statistical factors. Hence, to understand the high growth in the financial sector is to understand the high growth in banking, to this end we need to study money supply and velocity.

In response to the impacts of US financial crisis, M2 growth rate in China was as high as 27.6% in 2009 with M2/GDP of the same year being 1.74, while M2/GDP of 2008 was 1.49. After that M2 growth rate dropped, but because of the high base, loose monetary conditions were formed, demonstrated by the increasing M2/GDP year by year. It should be noted that, there were two clear divergences between the growth trends of M2 and GDP, i.e., from 2008 to 2009 and from 2014 to 2015 (Figure 9). While money supply growth rate was still rising, economic growth rate was decreasing—the first time was attributed to the shocks of financial crisis, and the second time indicated that the foundation and environment of economic development have changed. New normal originated from this, indicating traditional macro-control patterns may have come an end and future demand management needs to be combined with supply-side structural reform and may be even more dependent on supply-side reform to a larger extent.

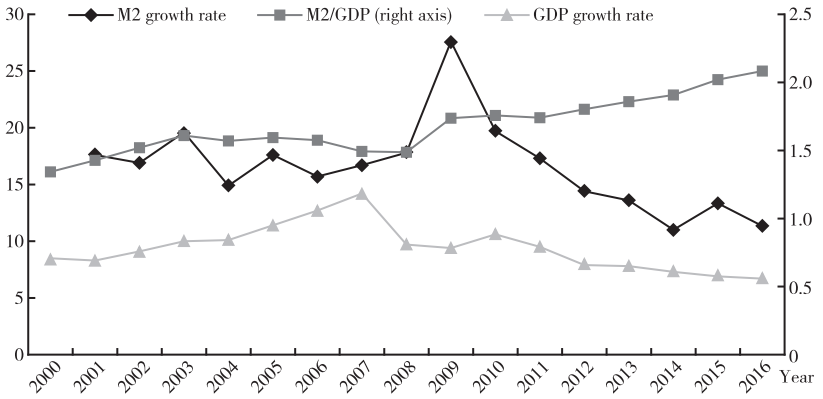

Figure 9. Changes in M2 Growth Rate, M2/GDP and GDP Growth Rate

Another proof for monetary factor is the international comparison of the indicator of M2/GDP. Despite inconsistent standards of strata of money among nations, analysis can be made in terms of trends. Comparison with situations in US, Japan, UK, Germany and Brazil shows that although the indicator in developed countries has witnessed increase, the growth is stable; the overall level in Brazil is not high and it only went upward in recent years (its M4/GDP in 2016 was 0.94); in contrast, the overall level of this indicator in China is the highest and displays a most striking rising trend (Figure 10).

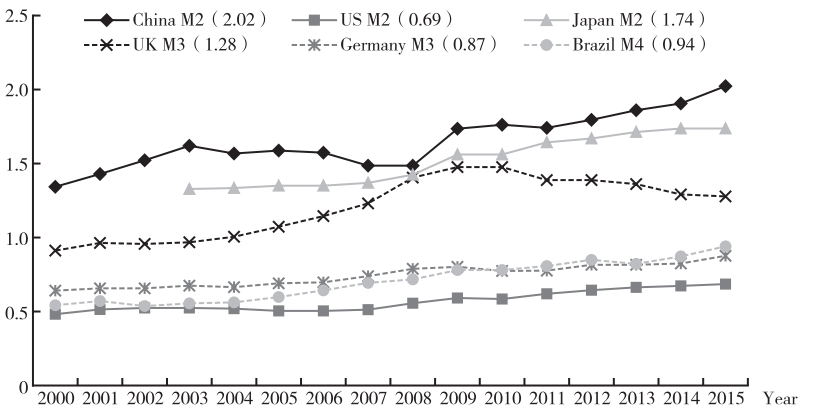

Figure 10. Changes in the Ratio of Monely Supply to GDP

The distinct manifestation of new normal at macro level is economic growth rate shifting gears, and at micro level is the drop of business profit margin and the rise of corresponding market players' leverage. Taking the listed companies of various industries classified by China Securities Regulatory Commission as an example (Table

2), we can see that since 2010 ROE of industries including mining, manufacturing, wholesale and retail trade, transport, storage and post, hotel and catering service, scientific research and technical service, water conservancy, environment and public-facility management has displayed an obvious downward trend; ROE of construction, leasing and business services, culture, sports and entertainment has been relatively stable; only ROE of education, health and social work has seen obvious rise. Facing declining ROE of the real sectors, where does the great amount of newly issued money flow? At this time numerous financial innovation products came into public view.

Table 2. ROE of Listed Companies By Industry (2010–2016)

Industry	2010	2011	2012	2013	2014	2015	2016
Mining	17.13	16.04	13.14	11.54	8.41	2.82	2.41
Manufacturing	13.88	12.2	8.54	9.37	8.73	6.95	9.78
Construction	12.91	13.51	11.23	13.45	12.99	11.89	11.38
Whole and retail trade	14.92	13.77	9.37	9.7	8.42	6.18	7.85
Transport, storage and post	16.12	8.94	7.64	6.98	9.5	8.96	7.37
Hotel and catering service	9.62	8.32	8.19	2.56	–3.26	6.62	6.04
Leasing and business services	10.24	10.28	10.9	11.95	11.36	11.63	10.25
Scientific research and technical service	14.5	11.95	15.52	15.08	11.87	10	7.92
Water conservancy, environment and public-facility management	18.22	16.53	14.55	16.77	12.95	11.14	12.34
Education	2.71	1.47	17.01	28.85	29.77	22.43	11.44
Health and social work	5.41	7.73	1.61	10.02	8.09	13.68	20.1
Culture, sports and entertainment	11.88	11.28	11.49	12.36	12.87	11.54	10.74

3.3. Financial Innovation Factors

In recent years China's financial market has witnessed innovation of various forms, such as wealth-management services, non-standard asset management, asset management, entrusted investment, interbank negotiable certificates of deposit, and internet finance. Everything has its cause and the causes for these innovations include: (1) The loose monetary conditions and the declining ROE of the real sectors forced financial institutions to seek activities that can yield returns for capital. (2) Interest rate liberalization has been accelerated: starting July 20, 2013, the lower limit of 0.7 times of lending rate was canceled, control over financial institutions' lending rate was fully liberalized and financial institution could autonomously determine their lending rates; since October 24, 2015, there have been no interest rate floating limitations to commercial banks and rural cooperative financial institutions. Deregulating interest rate has granted financial institutions more autonomy and provided them with greater ability and space to seek higher returns. (3) Finance is a scarce resource in essence, and this scarcity is intensified by the monopolistic competition in China's financial sector. Large financial institutions or systematic financial institutions dominate the

market in a great degree and own pricing power, emerging internet finance competes for resources and brings traditional financial institutions pressure, which intensifies impetus of major financial institutions to seek higher returns. Under the combined effects of these factors, the so-called shadow banks become shadows of banks, the credit chain between commercial banks and entity enterprises is stretched amongst various "innovation", self-increase and intrinsic reinforcement of the financial sector comes into being.

China's shadow banks originated from the low efficiency of financial operations and regulatory arbitrage under the indirect financing system. Structural problems are also obvious in current financial system in China: on the one hand, large commercial banks are predominant, can get capital from the Central bank and deposits more easily, and generally their liability scale is larger, while small and medium banks and other financial institutions are faced with greater pressure in this aspect; on the other hand, large banks mainly serve state-owned enterprises, are relatively lacking in innovation impetus, and confront stricter financial regulation, while small and medium banks and other financial institutions are more innovative and dare to move in regulatory gaps. This structural problem causes credit cycle to be intensified inside the financial system (Figure 11): in one case other financial institutions obtain funds from large banks and invest in incremental assets, in another case other financial institutions obtain funds from large banks and invest in these banks' stock assets. For the former case, incremental assets could have obtained investments from large banks, but now the credit chain is stretched because of the intervention of other financial institutions; for the latter case, the efficiency of large banks injecting funds into real economy is decreased and there are greater risks of maturity mismatch. Both cases will raise the financing costs of real economy.

Let's take entrusted investment as another example (Figure 12). It is so "innovative" that no clear definition can be found in official documents till now. Usually it means that the principal entrusts funds to investment business managed by external institutions and there are two types of operation mode—product mode and investment consulting mode, which correspond to "entrusted management" and "entrusted investment-agreement" of "asset management products" in official documents. On the surface, entrusted investment provides real sectors with new channels to obtain funds, but the existence of at least two transmissions will result in two possibilities: one is significant rise in the financing costs of real sectors, the other is financial sectors enlarge the narrow profit space by leveraging-up or maturity mismatch. The former exacerbates the problem of high financing cost of real economy, the latter will result in high risks for the financial sector. Some analysis has pointed out that there are two opportunities of arbitrage in the whole entrusted investment chain, and neither is dispensable: one is the spread between the profits gained by banks from entrusted investment and the costs of raising funds by providing wealth-management services

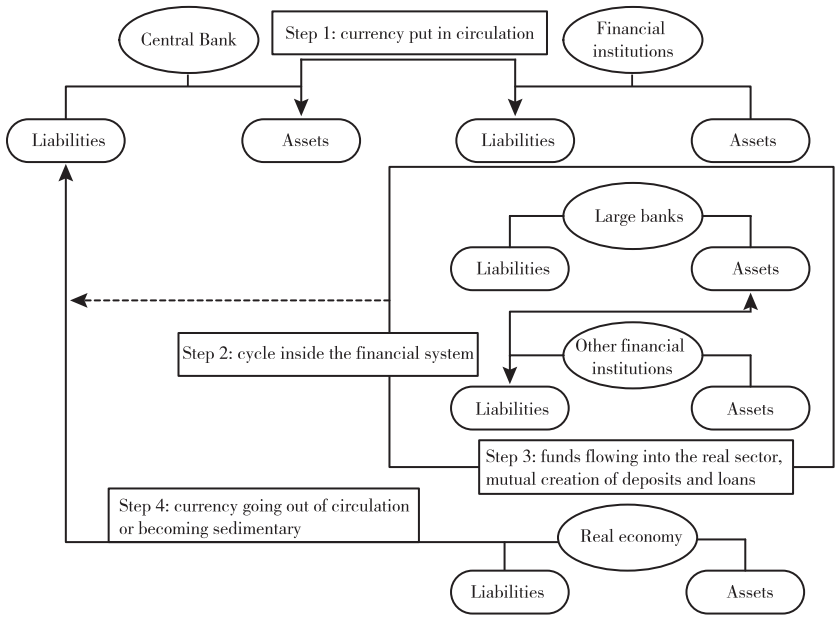

Figure 11. Formation of Shadow Banks and Stretching of Credit Chain

or certificates of deposit, the other is the interest margin earned by the trustee from investment in bond market. In 2016 the yield on entrusted investment ranged between 4% and 5%, and the funds of entrusted investment require more of investment security; hence, in the context of "asset shortage" in 2016, the entrusted institutions can realize the second arbitrage only through leveraging-up or maturity mismatch, and entrusted investment became an important fund source inducing high leverage.[1]

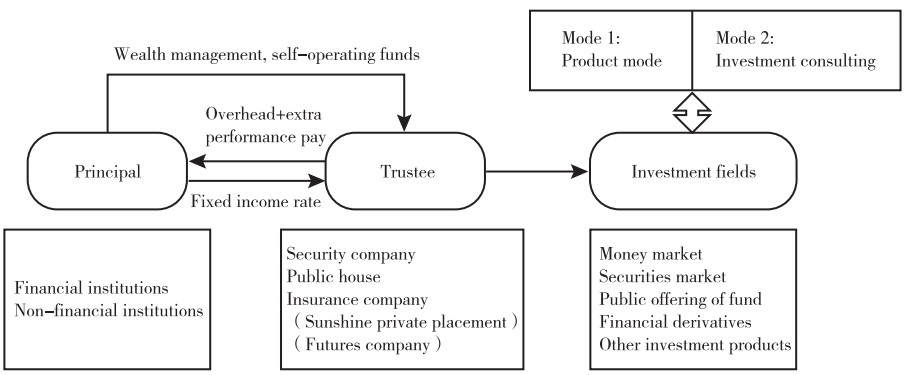

Figure 12. Flowchart of Entrusted Investment

[1] Source: CITIC Securities Research Department (http://mp.weixin.qq.com/s/uJr5Be2IhWZYhFZV3LI8cQ##).

Although the above-mentioned financial innovations mushroomed, no significant adjustments have been made to the financial regulation structure in China. The regulation structure in China has been based on "one bank and three commissions" for a long time, and this division helps to clarify regulation responsibilities and raise regulation efficiency under the circumstance of relatively simple financial business modes and inactive financial innovation, but when there is flourishing financial innovation, the problems of regulation gap and regulation arbitrage become striking. For instance, the above-mentioned entrusted investment at least involves two industries of banking and securities; the "universal insurance" which prospers in capital market involves both insurance and securities, so regulation coordination becomes vital. In August 2013, *The State Council's Approval of Establishing Inter-Ministerial Joint Conference System for Coordination of Financial Regulation* was issued, giving consent to the establishment of inter-ministerial joint conference system for coordination of financial regulation led by People's Bank of China, but the so-called "led" and "coordination" are merely a matter on the paper in the institutional environment of same ranks, and the numerous incidents that have taken place in securities market since 2015 may be an interpretation.

3.4. A Comprehensive Explanation

A combination of the above factors leads to the framework shown in Figure 13, which gives a comprehensive explanation for the high growth in China's financial sector, including the starting point, process, periodical results and future possibility. (1) Excess currency is confronted with structural slowdown, which becomes the starting point of this round of high growth in the financial sector. There was a period when demand management has proved effective every time, but when population dividend for China's economic growth came to an end and higher quality is required of consumption demands and investment demands, the shortcomings of traditional macro-control were thoroughly exposed. (2) Deregulated financial innovation is confronted with financial regulation that is relatively lagging behind. Lack of financial innovation used to be a weak link in China's financial system, so encouragement of innovation has always been called for, but profound research into innovation is still insufficient, for example further discussion is needed regarding what "desirable" innovation is and how to realize "desirable" innovation. (3) Asset price fluctuations add fuel to the flame, which is demonstrated in stock market and real estate market more clearly. Excess currency won't flow into real sectors which have low rates of return, so it rampages in capital market and fluctuates drastically with the loosening and tightening of regulatory policies.[1]

[1] Limited to its length, this paper has not discussed in particular the effect of asset price fluctuations on real economy, especially enterprise investments. Zhang and Zhang (2016) explained the puzzle of declining investment rate of China's real sector from the perspective of economic financialization, believing that "the mismatch of income and risk in financial market is not merely a problem of the financial sector itself, but a problem affecting long-term development of the whole national economy".

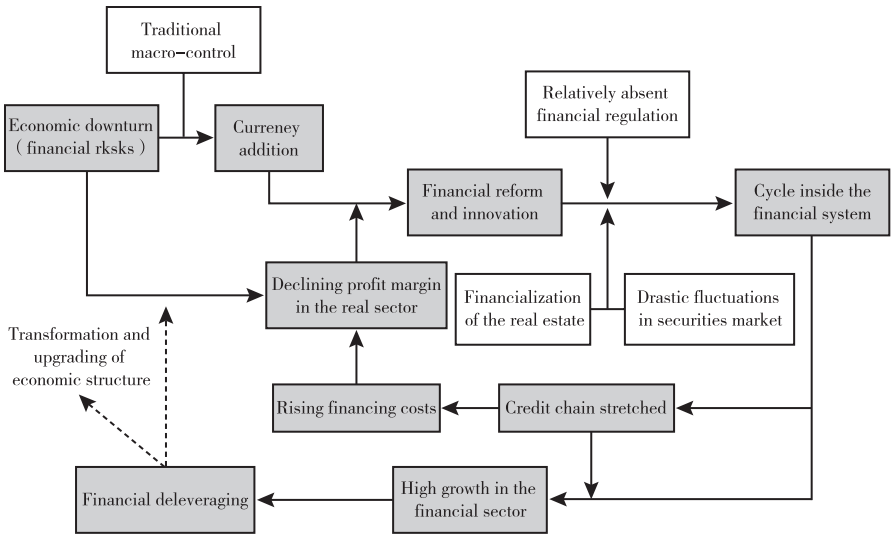

Figure 13. High Growth in the Financial Sector: Starting Point, Process and Future Risks

In a word, because of monetary easing but real economy downturn, various financial innovations flourished to absorb newly issued currency and so-called "idling money", "money detached from real economy to virtual economy" gradually appeared with the most direct demonstration in the high growth of financial sector itself. If no proper measures are taken to tackle this, economic downturn and fluctuations may be exacerbated and systematic financial risks are more likely to happen. To break this cycle, the only way is to steadily advance financial deleveraging, to combine it with structural optimization and transformation and upgrading of real economy, and to deepen supply-side structural reform.

4. Potential Risks of High Growth in China's Financial Sector

Risks brought by high growth in China's financial sector can be analyzed from two aspects: one is the risk of the discordance between high growth in the financial sector itself and real economy, the other is possible impacts of financial deleveraging in the context of strengthening regulation. On the surface, the former is the cause and the latter is the result, but because of the causal circle, once mutually intensifying feedback mechanism is formed, this circle can only be broken by deepening reform with greater boldness.

4.1. Potential Risks of the Financial Sector

First, problems such as "idling money" and "money detached from real economy to virtual economy" are severe, resulting in the loss of foundation for steady and healthy financial development. The job of the financial sector is to "serve real economy"

and its profits should only stem from real economy eventually. The concurrence of extraordinary growth in the financial sector and rapid decline in industrial sector reveals that, on the one hand finance is "charging" too high for serving real economy, i.e., financing difficulties and high financing costs which have long constrained the improvement of economic vitality in China have not been resolved properly; on the other hand, funds would rather seek opportunities in financial market or be kept at hand while waiting for opportunities than flow into real sectors of lower rate of return, striking decline in the growth rate of private investment being the clear evidence. But this growth pattern is by no means sustainable, declining real economy means finance has become "water without a source" and will break like a bubble.

Second, low efficiency of the financial system decreases the capabilities of financial sustainable operation. As discussed above, M2/GDP has risen remarkably in recent years, reaching 2.08 in 2016. Traditionally, M2/GDP is an index measuring financial deepening, but if this index is too high, it implies the decrease of efficiency of money circulation and funds have trouble creating actual output. It is no longer an indicator of further financial deepening but a sign of low efficiency of macro finance. What is more important, newly issued currency cannot get into real economy, instead triggers asset price rise and further exacerbate financial instability. In the strata of money, M1 mainly refers to current deposits, M2 includes time deposits, the difference between the growth rates of M1 and M2 is usually viewed as the degree to which currency is turning current, reflecting business climate index. but this rule was also overturned in 2016, as the difference between growth rate of M1and that of M2 has been continuously widening since 2016 but macroeconomic climate index has been on decline (Figure 14), revealing a change in the relationship between economy and finance.

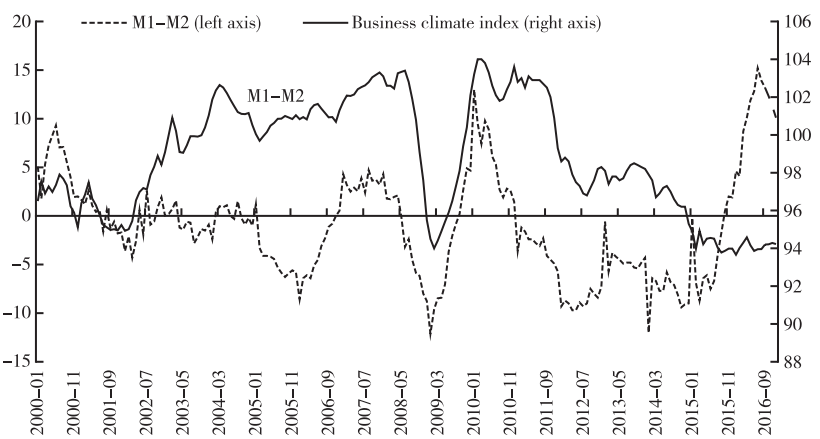

Figure 14. The Difference Between Growth Rates of M1 and M2, and Business Climate Index

From the perspective of credit scale, in recent years the ratio of various loan balances to GDP has increased a bit, and the ratio of new lending to GDP is also rising

(Figure 15). Basically it remained around 0.54 from 2011 to 2014 except in 2009 it once reached 0.95 because of the impacts of financial crisis, but it rose to 0.61 in 2015 and to 0.6 in 2016, which means more loans are needed for unit GDP growth. From the standpoint of real economy, loans of financial institutions are liabilities of real sector, and the increase in credit scale means the increase in real sector liability ratio or leverage. Research by National Institution for Finance & Development shows that as of the end of 2015, China's gross debts reached 168.48 trillion yuan, social leverage being 249%; non-financial corporate sector is facing particularly acute problem of debts, debt ration being as high as 156%.

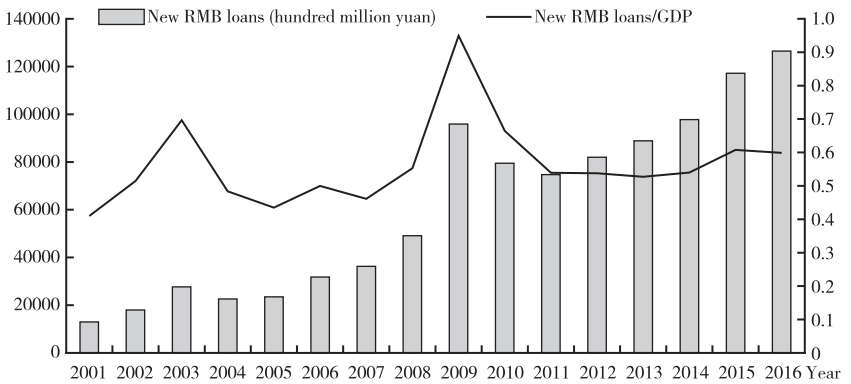

Figure 15. The Ratio of New RMB Loans Scale to GDP

Third, lack of both variety of financial instruments and investment channels leads to obvious accumulation of financial risks in certain fields. For domestic enterprise, the leading financing channel is still bank credit, and despite the rising proportion of direct financing instruments such as stocks and bonds in recent years, for most enterprises, especially small and medium ones these instruments are still within sight but beyond reach; emerging internet finance is rich in forms but limited in scale, and is far behind bank credit in quantitative sense. For most residents, the main channel to gain property income is stock and real estate, and the drastic fluctuations of stock price once caused "asset shortage"; the continuing increase of housing price, especially the increase of housing price in first-tier cities has made housing the most popular "speculation" object, and risks in real estate field cannot be neglected. Ren *et al*. (2016) believe that the ratio of total market value of global real estate to global GDP is about 2.6, while the total market value of China's real estate is 4.11 times of GDP, indicating the existence of obvious bubble in real estate.

4.2. Potential Impacts of Financial Deleveraging

Since 2017 strengthening financial regulation and financial anti-corruption have

become buzzwords, behind which is the promoting of financial deleveraging. To strengthen regulation, China Banking Regulatory Commission has continuously issued six documents in only half a month since the end of March, directed at banking "violation of laws, rules, and regulations", "regulatory, idling, and related arbitrage", and "improper innovation, transactions, motivation, and charges", proposing to "effectively remedy regulatory weaknesses and promote regulatory effectiveness" and "enhance the quality and efficiency of banking serving real economy". China Insurance Regulatory Commission proposed to remedy regulatory weak links and construct a rigorous and effective regulation system, and launch a special campaign to screen risks in insurance fund utilization. Moreover, since the first quarter of 2017, People's Bank of China has formally incorporated off-balance sheet wealth-management into the category of general credit when conducting Macro Prudential Assessment (MPA) in order to reasonably guide financial institutions to strengthen risk management of off-balance sheet activities. *Guidance on Regulating Asset Management Activities of Financial Institutions* is also in the process formulating and perfecting, which covers but is not limited to wealth-management products, trust plan, public offering of fund, and privately offered fund, and asset management products such as cash pooling, non-standard asset investment, and multinest which are issued by various financial institutions will also be included.

While regulation is being strengthened, financial deleveraging may have quietly begun. In 2017, total assets of People's Bank of China decreased by 1.1 trillion yuan, from 34.8 trillion yuan in January to 33.7 trillion yuan in March; among others funds outstanding for foreign exchange decreased by 0.1 trillion yuan, claims to other depository corporations decreased 1 trillion yuan (there was no change in claims to government and other financial corporations, and there was slight increase in claims to non-financial corporations). It should also be noted that, in this process the Central Bank had not carried out open market operations or placed capital into the market for days on end, which displays its intention to conduct pressure test along with deleveraging. In a word, financial regulation is vigorously promoted in every aspect, monetary policy is shifting from "prudent" to "prudent and neutral", and much controversy has been triggered as to whether this change is "overcorrection".[1]

If this momentum continues, impacts of financial deleveraging will first be reflected in various financial markets, for example funds become tight in bond market, and rise becomes weak in stock market; what is to be studied next is whether funds can flow into real economy if they do not stay inside the financial system and at what price

[1] Mao Zedong once wrote in *The Report on Hunan Peasant Movement,* "overcorrection is needed to correct the wrong, without overcorrection the wrong cannot be corrected". (*Selected Works of Mao Zedong*, Vol I, the People's Publishing House, 1968, p17). This view was proposed aiming at the reformists and opportunists at that time. In financial regulation, if policy operations cannot strike a precise balance between "chaos" and "order", then we can only hope to realize spiral in "too wrong" and "overcorrection".

they flow into real economy, which directly determines whether "money detached from real economy to virtual economy" can be converted to "money detached from virtual economy to real economy". Research by Chen *et al.* (2017) reveals that, when pushing asset price up, driven by optimistic anticipations the market will significantly increase asset purchases and decrease investment in real economy; tightening financing constraints will strengthen this mechanism, causing more "money detached from real economy to virtual economy". As rising asset price does not promote the level of outputs, the market's optimistic anticipations about continuous rise of asset price become weaker, tendency to pessimistic anticipations becomes obviously stronger, and the probability of asset bubble breaking will significantly increase. Hence, a cautious control over the force and pace of financial deleveraging is needed, so as to ensure that financial stability is not affected by the quick removal of leverage and squeeze the funds' idling space in financial system and force funds to flow into real sector, seek those promising investment projects and lead the whole economy to transformation and upgrading. In this process, special attention should be paid to the change in asset price to prevent rapid rise in asset price from forming new attraction to funds and falling into the trap of "money detached from real economy to virtual economy".

International experience also reveals that, during economic expansion, rising asset price relaxes financing constraints, leverage also rises but not to the top yet because leverage itself is affected by asset price, and high asset price increases total asset valuation and decreases leverage. Once asset price decreases, debt nominal value remains unchanged, net assets decrease substantially and leverage will increase significantly. That is to say, in the context of high asset price, current debt asset ratio underestimates real leverage, and once economic downturn is combined with asset bubble breaking, spiral cycle of "deleveraging-output contraction-price decrease" will appear, i.e., the financial accelerator effect during economic downturn; deleveraging exacerbates recession by "debt-currency contraction". In this process, liquidity once again becomes the key word, and market liquidity may go from one extreme to another, from excess to scarcity. Therefore, it is necessary for us to review Marx's classic statement, "Once a crisis breaks out, the problem lies only in means of payment. But as the receiving of the means of payment, for everybody, is dependent on another person, no one knows whether the other person can pay in time; so there will be a chase after the bank note which is the current means of payment in market. Everybody wants to store the currency available as much as possible. As a result, the bank note will disappear from circulation on the day it is needed the most."[1]

5. Conclusions, Recommendations and Reflections

In 2015 value-added of the financial sector accounted for as high as 8.44% in GDP

[1] Marx, K. H., *Capital* (Vol III), The People's Publishing House, 1975, p598.

in China. This figure is not only higher than that of emerging market economies such as Brazil and Russia, but also higher than that of developed countries such as US and UK. We should be particularly alert to the fact that this round of high growth in China's financial sector circa 2015 appeared in the context of rapidly declining manufacturing. This means the foundation for financial stability and sustainable development is losing and there is higher possibility of risks. The relationship between the financial sector and the real sector needs to be further clarified to seek new driving force of economic growth with economy stepping into new normal in China.

This paper believes that this round of rapid growth in China's financial sector circa 2015 has been caused by several reasons: the traditional macro-control tools do not match the new normal characteristics of China's economy growth, the regulatory reform is lagging behind the rapid progress of financial innovation, and the drastic fluctuations of the stock market are combined with a new round of increase in real estate price. Potential risks of high growth in the financial sector on the one hand come from the accumulation of risks inside the financial sector, on the other hand stem from impacts of financial deleveraging on macro-economy. In other words, this round of high growth in the financial sector is not desirable, and needs to be dealt with properly. Given the complicated and changeable relationship between the financial sector and the real economy, it is not feasible to deal with this problem in a simple way. This paper attempts to propose the following systematic recommendations.

First, improve and perfect macro-control framework. Stick to the basic tone of seeking progress while maintaining stability, and keep the strategic focus to combine demand-side management with supply-side structural reform. On the one hand, stable environment and time for reform should be provided for supply-side reform by means of effective demand management; on the other hand, interference of demand management should be avoided so as not to go back in the old rut of macro-control. As regards monetary policies, MPA should be improved and perfected and economic growth, monetary stability and financial stability should be incorporated in one unified framework; interest transmission mechanism should be further perfected to make monetary policy operations more targeted. As regards credit policies, financial institutions should be encouraged to strengthen their support for the real sector especially advanced manufacturing sectors.

Second, concertedly promote innovation and supervision, reform and opening up in finance. On the one hand, discriminate and encourage legal and desirable financial innovation, while unreasonable competitions in the disguise of financial innovation should be regulated correspondingly. For example, financial innovation that aims at combining production and financing should be promoted while insurance funds making trouble and creating confusion based on "universal insurance" should be restricted. On the other hand, the requirements of "proactively and steadily pressing ahead with reform of financial regulation system" should be implemented as soon as possible, coordination mechanism between regulation departments and between central and local supervision should be strengthened in particular, and attempts should be made to

establish effective patterns of local financial regulation, so that financial risks prevention and control structure where efforts all over the country are coordinated can be formed. Besides, financial reform and opening-up should be promoted in a coordinated manner, more foreign financial institutions should be permitted to enter the market and conduct business, and timely adjustments to capital account liberalization and the pace of RMB internationalization should be made based on the changes of circumstances.

Third, increase the supply of financial institutions and products, and decrease the profit margin of the financial sector by intensifying competition. Some people believe that current banking development pattern are similar, so it is inappropriate to set up too many banks from the perspective of risk prevention. We believe that, similar patterns derive from inadequate competition, and the situation that banks thrive on spread hasn't completely changed; intensifying competition may bring some risks but the risks are mostly individual risks, not big impacts; if competition is not intensified, risk accumulation due to financial monopoly will become more significant and once the risks break out they are mostly systematic and regional. Risks of high growth in the financial sector can be prevented from the root only by decreasing the profit margin of the financial sector with intensified competition and by realizing coordination of the financial sector and the real economy in terms of profit margin. Of course, the increase of the real economy's profit margin should be combined with "reducing costs", such as tax costs and institutional costs.

Fourth, curb the excessively rapid rise of asset price, tightly prevent and control asset price bubble, and reverse the situation that holding assets is more profitable than investing in real economy. On the one hand, the monetary policy "keeps prudent and neutral", but the operations should be more accurate, ways of money supply should be studied and improved, and quantitative control and price control should be better combined, so that more funds can effectively flow into real sector. On the other hand, break away with old-fashioned ideas such as "rigid honor", resolve to deal with risk points, enable "matching risks and profits" to be reflected in every field, and strengthen risk awareness of investors. Of course, risk disposal should be combined with the protection of financial consumers' rights, and the protection of legal rights should be strengthened in particular.

Fifth, further significantly increase the proportion of direct financing and enable finance to better serve the real economy. In the last three years the proportion of direct financing in total social financing has increased remarkably but the scale of direct financing is still insufficient compared with the increasingly growing, more diversified and more individualized financial demands of the real economy. Therefore, *Suggestions on the Implementation of Further Significantly Increasing the Proportion of Direct Financing and Optimizing Financial Structure* needs to be implemented more quickly and more deeply, direct financing market system should be further perfected, direct financing tools and channels should be proactively developed, service level of direct financing intermediaries should be improved, and a good environment of steady and healthy development for direct financing should be created. We suggest that the index of the proportion of direct financing

in 2020 should be raised to 30% and the proportion of value-added of the financial sector be set around 8% in the 13th Five-Year Plan of the financial sector.

President Xi Jinping stressed, "To develop the financial sector we need to draw on beneficial foreign experience, but we must be based on our national conditions, start from China's reality, accurately grasp the characteristics and laws of financial development in China, and cannot copy blindly." [1]What are the characteristics and laws of financial development in China? An accurate answer to this problem is the premise and condition of improving financial governance capabilities and level, dong various financial jobs and effectively maintaining financial security in China. This depends on researchers making efforts to establish the discipline system, academic system, and discourse system of China's finance by adopting Marxism's ideas, standpoints and methods and ascertaining their research objects and objectives.

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[1] *Financial vitality brings economic vitality and financial stability ensures economic stability, we must do a good job in financial management and maintain financial security.* Xinhua News Agency, April 26, 2017.