China's A-share Crash in 2015- -Based on the Perspective of the Liquidity Barrier Lake Caused by the "Targeted Easing" Policy

Weixin Pan[1], Linze Yu[2, *]

[1]Oriental of International Trade and Foreign Languages, Haikou University of Economics, Haikou, China

[2]College of Water Resource & Hydropower, Sichuan university, Chengdu, China

*Corresponding author: 2019141480240@stu.scu.edu.cn

Abstract. This paper is based on the theory of liquidity effect, that the 2015 crash is formed by directional easing liquidity of the lake, namely the central bank directional loose monetary policy derived monetary is not through monetary policy transmission channel to the entity neighborhood, but deposited in the financial system, pushing up the rising asset prices, and cause industrial "real to virtual", further boost the financial asset prices and the real economy fundamentals mismatch. Small and medium-sized enterprises and state-owned enterprises local government "hidden guarantee" of real estate, city investment companies in financing credit discrimination, and commercial Banks to lend behavior, also led to the liquidity of the formation of the lake finally, this paper summarizes a series of Suggestions, such as accelerating the marketization of interest rate reform, improve the monetary policy management, improve the macro-prudential monetary policy framework, establish and improve the multi-level capital market measures, to prevent such problems from happening again, make the central bank's monetary policy can more powerful through the financial system to the real economy, promote the development of our country economy with high quality.

Keywords: Stock market crash; monetary policy; liquidity.

1. Introduction

In the past 20 years, China's capital market, in particular, has experienced many large fluctuations. In the previous fluctuations, A shares from June 2005 to October 2007 and the end of June 2013 to June 2015, the two large indexes gave people A deep impression. For example, the Shanghai Composite Index rose from 2024 points to 5380 points, up 165.8% in two years. However, only on June 26, 2015, the Shanghai Composite Index fell by 7.4%, and more than 2000 stocks fell by the daily limit. Even after the central bank decided to cut the reserve rate on 27 and 28 days, the Shanghai Composite Index did not continue to decline. On June 29, the A-share market again fell by the daily limit of 1,500 shares, falling by more than 20% in 10 trading days. The sudden plunge interrupted investors' enthusiasm in the first half of the year, and the market did not gradually stabilize until July 9, after strong government intervention.

The impact of the stock market crash in 2015 on the whole of society is undoubtedly huge. Many residents who have not been exposed to stocks have heard about the stock market crash in 2015. With the construction of China's financial market and the further improvement of the capital market, more and more residents begin to dabble in and participate in stock investment, and the fluctuation of the stock market also affects the wealth of the social residents. Taking the stock market crash in 2015 as an instance, in less than half a year, the market value of A-shares evaporated by 2.5 w billion. However, there were only 100 million registered shareholders in that year, which was equivalent to an average loss of 25w. So, what exactly caused the stock market crash? Why will the stock market appear "mad cow" to a "mad bear" rapid change? This is a question that puzzles many investors. In addition, although the central bank cut the reserve ratio and interest rate the second day after the Shanghai Index fell to 4000 points, the CSRC promoted the expected management, administrative measures, and monetary policy measures below 4000 points to rescue the market, but the effect of

these measures did not meet as expected. What exactly has affected the government's rescue effect? Can this stock market crash be avoided? To give A clear answer to these questions, understanding the reason why this round of "mad cows" in the A-share market and what caused such A big bubble in the A-share market are the priority.

From June 15 to July 9, China's capital market suffered the bloodiest stock market crash ever. Shanghai Composite Index fell from 5174 to 3373 by 34.8%; Shenzhen Composite Index fell from 18182 to 10850 by 40.3%; the core index representing growth stocks, CSI (China Security Index) 500 fell from 11589 to 6444 by 44.4% and 50% by 2139 and 50%, including 1,400 companies, according to the suspension in just 18 trading days. It can be observed from Table 1 and Table 2 that the consequence of collapse is remarkable.

1Table 1. Data source collected from iFinD

Stock code	Securities name	Range rise or fall (%)
000001.SH	SSE Composite Index	-43.34
399001.SZ	Shenzhen component index	-45.30
000300.SH	CSI 300	-43.29
399005.SZ	Small board refers to	-44.35
399006.SZ	Gem refers to	-51.53
399905.SZ	China Securities 500	-45.97

Table 2. Data source collected from iFinD

Sector index	Range rise or fall (%)	Sector index	Range rise or fall
Nonferrous smelting and processing	-52.53	Insurance and other	-45.53
Optical photoelectron	-52.47	White goods	-45.49
Retail	-52.23	Audiovisuals	-44.43
Electric accessory	-52.18	Package printing	-44.41
Media	-51.84	Traditional Chinese medicine	-44.40
Paper making	-51.82	Park development	-44.22
Transit	-51.73	Beverage manufacturing	-44.22
Chemicals	-51.16	Scenic spots and tourism	-44.08
Mining services	-51.04	Environmental protection project	-44.02
Textile manufacturing	-50.94	Defense and military industry	-43.26
Real estate development	-48.68	Electronic manufacturing	-36.57
Pharmaceutical business	-49.33	Bank	-34.97
Electrical	-48.68	Clothing home textile	-30.97

In 2015, the bull market since 2014 has been in full swing under the support of leverage, and the market accelerated, and the CSI 500 index, which represents the growth stocks, rose by 119%; the GEM (Growth Enterprise Market) index, which represents the emerging growth sector, increased by 175%, and the average PE (Price Earnings) rose to more than 140 times. This valuation has far exceeded the stock market bubble period in most international markets, the market gave the emerging growth stocks too high expectations, and the valuation of the serious bubble is the root cause of the crisis.

In this round of bull market, leveraged funds play a very big role in promoting. It is estimated that the peak scale of leveraged funds is about 4 trillion yuan, mainly including the exchange financing scale is 2.27 trillion yuan, and the off-market capital allocation scale is about 1.8 trillion yuan. This

is A very large scale, almost occupying 10% of the circulating market value of A shares, compared with any international market, leveraged funds exceeding the circulating market value of 5% is A very dangerous signal. Another problem derived from this problem is leverage, where the OTC (Over-The-Counter) allocation ratio is quite high, generally 3-10 times leverage, which means that once the stock market cuts 10-30%, these funds will be greeted by bursting. As can be seen from the Table 1 and Table 2, the impact of collapse is critical.

2. Literature Review

Research on the crash in 2015 and many, such as Zhu thought, is the cause of the crash leverage into the market, financing with capital account bursting caused a series of liquidity crisis, caused by the securities information system external access management notice about existing high leverage and fragile market volatility, and form the "speculators capital losses-selling stocks-price frustration-financing difficult / position loss-investors losses" liquidity spiral, resulting in the crash [1]. Liu also believes that the direct cause of the outbreak of the stock market crash in 2015 was the stampede of different multiples of leveraged funds, and the irrational selling of investors caused by the exhaustion of liquidity caused the further aggravation of the crisis of [2]. JamLi believe that the cause of the stock market crash is more "investors' recklessness", that is, investors are irrational. Trading participants in the stock market lack professional quality. They are not "rational investors" in the traditional economic model. Their investment behavior is irrational and there is a herd effect [3]. Through the analysis of the micro level, Wang Jianjun et al. believe that the existence of investor sentiment and leverage is not only significant in the volatility of the stock market but also has the "amplifier effect" of the high leverage of margin lending, which amplifies the impact of investor sentiment on stock price volatility [4]. Yang elected the sample data from the stock market oscillation period from June 15, 2015 to August 26, 2015, and through the Granger causality test, pointed out that the unilateral volatility spillover of stock index futures to the spot market, which further aggravated the [5] of the stock market crash. Liu Wei believes that the cause of the stock market crash is foreign short [6]. Ding believes that the decline of economic growth triggered the capital outflow at home and abroad, caused the pressure on RMB exchange rate, and then formed the expectation of RMB depreciation, thus aggravating the capital flight, and finally formed the stock market crash [7]. Zhao based on the macro perspective of policy design, thinks the crash is the government in the process of capital market reform ignored the capital market neighborhood policy attributes and system characteristics, continuation of administrative policy in the process of "policy process" operation logic, and induce government agencies and policy environment does not match the systemic results of [8]. Wu believes that the market's excessive optimism about China's economic growth in the short term, the wrong understanding of the development of capital market policies, and the bubble caused by the imperfect stock trading mechanism caused the stock market crash [9].

In addition, a few scholars consider the cause of the stock market crash from the perspective of liquidity and the perspective of economic structure. Yi thinks, the wrong estimation of national policy form the market "unilateral bull market", and "iron cow" with wrong expectations, in the absence of real economic support, A lot of money into the stock market booster market, further cause highly leveraged money into the stock market to increase the potential risk, at the same time our country a-share market system and regulation is not perfect, cause this round of crash [10]. Xie pointed out that in the six years from 2008 to 2014, China's macro leverage ratio surged, and there was a serious excess of liquidity. The industrial funds lost the investment direction, the industrial funds poured into the financial market, and the financing allocation policy that was not suitable for the market environment caused a lot of A bubble in the A-share market in A short period, and the excessive new issue drained the liquidity, resulting in the stock market crash [11].

Through reading A lot of relevant literature, most scholars focus on the perspective of high leverage caused by margin lending, the stampede crisis caused by irrational selling of investors, and capital flight of the RMB exchange rate. A few perspectives start from the abnormal rise of A-shares

in 2015. The reason is that the occurrence of any stock market crash is a bubble regardless of the basic economic environment. For example, Ji believes that the loose monetary policy during the economic downturn cannot be transmitted from the financial system to the real economy. The liquidity obstruction formed in the interbank market pushes up asset prices, while the rising asset prices attract funds from the real economy to enter the capital market, causing bubbles, thus laying hidden dangers for the crisis [12]. Based on the perspective of liquidity, this paper thinks, that A shares rose in 2015 due to poor monetary policy conduction and formed the financial market "liquidity effect", which formed the liquidity lake, the formation of the lake blame such as the State Council on strengthening the opinions of local government debt management, 43 and a series of directional loose credit policy and credit administrative means, squeezed the real estate and infrastructure financing space, and monetary policy to micro, small and medium enterprises and form policy and market, demand and supply mismatch, leading to excess reserves in the financial system to the capital market causing A bubble. Therefore, this paper will comprehensively consider economic factors, credit policies, and monetary policies, and analyze the A-share market crash in 2015 based on the perspective of excess liquidity.

3. Theoretical Preparation

3.1. The Impact of Monetary Policy on Stock Price Fluctuations

Monetary policy is when the central bank adopts the corresponding policy adjustment, financial instruments, and other adjustment means, together with the adjustment of the money supply, thus affecting various financial variables, especially the interest rate. The central bank's monetary policy objectives are mainly in four aspects, namely, stabilizing prices, creating full employment, promoting economic growth and achieving a balance of international payments. Usually, to understand whether the monetary policy tools used can achieve the ultimate goal of monetary policy and understand the operating state of the overall economy, the central bank will choose certain indicators closely related to the financial market as the intermediate goal. The choice of intermediate targets for national monetary policy includes interest rates and the money supply. The central bank can regulate the intermediate target through monetary policy, thus affecting the financial market, to achieve the desired ultimate goal. As a result, stock market volatility is often affected by the central bank's monetary policy. Loose monetary policy will provide capital support for the rise of the stock market, and influence the capital market through the transmission mechanism of interest rate and money supply, thus conducive to the rise of the stock market.

The transmission mechanism with interest rate as the channel is the core of the monetary policy transmission mechanism of the traditional Keynesian school. The Keynesian school believes that monetary policy first affects the interest rate level through the change of money supply, then affects the investment level by the change of interest rate level, and finally leads to the change of the income level. In this transmission mechanism, the core variable is the interest rate. Interest rate is not the decisive factor of investment and savings, but also the price of financial products. Interest rate level is undoubtedly important for the whole capital market and the whole financial system. From the perspective of enterprise financing, interest rate represents the opportunity cost of enterprise credit granting. The rise of interest rate will affect the operating cost of enterprises, thus reducing the investment income of enterprises and affecting the profitability of enterprises, which is then reflected by the decline of their stock price. At the same time, starting from the model of stock pricing, the stock price is the discounted value of the expected return, and the interest rate is used as the use cost of capital. When the interest rate rises, residents' demand for the stock decreases, and when the demand is less than the supply, the stock begins to fall.

Taking the asset price channel as the transmission mechanism is one of the monetary policy transmission mechanisms of the monetarism school. An important reason why monetarists oppose the use of traditional Keynesian schools is that the latter only focuses on one asset price, namely the interest rate, and ignores many asset prices. The monetary school believes that money is an asset with

a unique nature, which includes all assets including financial assets and physical assets. Therefore, the transmission mechanism of monetary policy is carried out in the money market and commodity market. To put it simply, when the central bank adopts a loose monetary policy, the currency held by residents increases, resulting in a diminishing marginal propensity for money. Residents choose to allocate more assets other than money, so asset prices in other markets, including the stock market, rise. Here, monetary policy also acts on the stock market through the wealth effect, a view that consumer spending is usually determined as a consumer's lifelong asset, consisting of human capital, physical capital, and financial wealth. An important part of financial wealth is common stock. Therefore, when the money supply rises, the price level of the whole society will rise, the income of enterprises through sales will increase, the operating profit will increase, the stock price will rise, the investors' income will rise, and the wealth growth of asset holders will increase the short-term marginal propensity to consume, and then repeat the above process.

3.2. Interest Rate and Monetary Policy

In the traditional ideal money economy, the money derived by the central bank is instantly and evenly distributed to the whole economic system, thus pushing up the nominal price in the economic system. Therefore, under the assumption of rational expectation, the loose monetary policy will raise the household sector's expectation of inflation, thus raising the nominal interest rate through the Fisher effect.

However, the assumption of the Fisher effect is not exactly realistic. In reality, when the central bank chooses to ease monetary policy, it takes time for money to flow into the entire economy. This process is the transmission of monetary policy, and the whole process not only has a variety of time delays but also has a variety of friction. The result will not be a uniform distribution of money across the economy, where incremental money does not necessarily push up all nominal prices in equal proportion. When the incremental money is deposited in a certain link in a certain period, it will cause excessive money supply here, and the interest rate is the price of the money, so the nominal interest rate will fall in this financial link, and this effect is the liquidity effect. This effect is widely tested empirically, and Kopchak confirms that the federal funds rate falls by 12 basis points [13] for the average increase of $1 billion per week; Carpenter finds that the liquidity effect on interest rates is significant in daily and monthly data [14]. Liang also through regression analysis, obtained the conclusion that excess liquidity will push up asset prices [15];

Through the assumption of both, it is easy to find that the impact of the central bank's monetary policy on interest rate largely depends largely on whether the base currency is unimpeded in the transmission system of monetary policy.

Therefore, in this section, it can get the following judgment:

When monetary policy transmission channel unblocked, the central bank on the base money will instantly derived new broad money, the latter in the real economy of the expansion of total demand, at the same time push up expected inflation rate, and nominal interest rates, at this point, the central bank's monetary policy received Fisher effect, namely the money will push up the nominal interest rates.

When the transmission of monetary policy channel is blocked, the base money issued by the central bank cannot immediately derive broad money, but accumulate in the financial market. The excess liquidity in the financial market reduces the nominal interest rate in the financial market; and the derivative of the broad money cannot push up the real economic activity and the expected inflation rate, so the liquidity effect will dominate the monetary policy of the central bank, that is, the money supply will lower the nominal interest rate.

4. Case Analysis

Through the second chapter, this paper analyzed the impact of monetary policy on asset prices, and analyze the impact of loose monetary policy on asset prices from the Fisher effect and liquidity

effect respectively. Next, this paper will elaborate in the second half of 2014 to city investment company financing restrictions and real estate regulation on real estate financing, blocked the capital flow to the real economy, and formed the liquidity in the financial market "lake", and under the background of the real economy weakening up the asset prices, formed a bubble, the final crash for the outbreak of the hidden trouble.

4.1. Description of the Targeted Easing Policy in 2014

In 2014, various superimposed adverse factors brought great pressure on China's high economic growth. In 2014, the world economy was still in the process of adjustment after the subprime crisis, especially the differentiation of monetary policies in various economic systems intensified the adjustment process. For example, the United States withdrew from quantitative easing in October 2014, but the euro zone and Japan still increased their easing efforts, and Russia and Brazil raised interest rates several times. The increasing uncertainty of the external environment has caused a certain impact on China's economy. At the same time, China's macro economy is also faced with a variety of adverse factors, such as overcapacity, declining consumer demand and declining real estate investment and other factors have also caused great pressure on China's economic operation. For example, in the first quarter of 2014, the year-on-year growth was 7.4%, while it was only 7.5% in the second quarter and 7.3% in the third quarter, both lower than the growth target of 7.5% at the beginning of the year. Therefore, in the face of the increasingly severe economic situation, the central bank has issued a targeted easing monetary policy with industrial adjustment and transformation.

On April 22,2014, the People's Bank of China decided to cut the RMB reserve ratio of county rural commercial central banks by 2 percentage points from April 25, and cut the RMB reserve ratio of county rural cooperative banks by 0.5 percentage points from April 25, opening the prelude to the targeted reserve requirement reduction. On June 9,2014, the People's Bank of China again announced that it decided to cut the RMB reserve ratio by 0.5 percentage points from commercial banks that meet the requirements of prudent operation and have a certain proportion of loans to agriculture, farmers and small and micro enterprises from June 16, further expanding the scope of targeted RRR reduction. On May 8,2014, the People's Bank of China issued a notice, deciding to expand the financing channels of consumer finance companies and other non-bank financial institutions, reasonably adjust the conditions for financial leasing companies and auto finance companies to issue financial bonds, and increase financial support for consumption. On August 27,2014, the People's Bank of China increased the amount of RMB 20 billion to guide rural financial institutions to expand agricultural credit supply; meanwhile, the preferential re-lending rate of eligible rural financial institutions in poor areas can be reduced by 1 percentage point on the basis of the preferential interest rate. This is the People's Bank of China using targeted interest rate cuts and targeted refinancing policy tools to reduce the financing costs of " agriculture, rural areas and farmers. In September 2014, the People's Bank of China established the medium-term lending Facility (MLF); in September and October, the Bank of China provided RMB 500 billion yuan, large urban commercial banks and rural commercial banks through medium-term lending facilities, and the interest rate was 3.5%. This is the new attempt of the People's Bank of China. On September 30,2014, the People's Bank of China and the China Banking Regulatory Commission jointly issued the Notice on Further Improving Housing Financial Services, and decided to use the targeted loose monetary policy combination to actively support the reasonable housing loan demand of households. Obviously, the targeted loose monetary policy composed of targeted interest rate cut, targeted reserve requirement reduction, targeted open market operation and targeted re-lending has become the main theme of China's monetary policy in 2014 [16].

In addition to a series of easing policies, the Chinese government is also speeding up the financing restrictions on urban investment companies and the constraints on real estate financing. For example, in August 2014, the New Budget Law was introduced, which clearly pointed out that local governments could raise investment funds for the construction of budget centers through the discovery of bonds. In the same year, The State Council issued the Opinions of The State Council on

Strengthening the Management of Local Government Debt, which also explicitly required financing platform companies not to increase government debt, and stripped the function of financing platform companies in government financing.

At the same time, although the central bank pioneering targeted easing monetary policy. The original intention of the targeted easing policy is good, and the issue of money supply into agriculture and small and micro enterprises has solved its financing difficulties. For example, Zhang pointed out that China's small and micro enterprises are an important force that cannot be ignored in economic growth social stability, and healthy development, and more than 60% of China's GDP growth comes from small and micro enterprises. However, financing difficulties are the biggest problem that small and micro enterprises generally need to face, which is reflected in the limited financing scale in the capital market, and most of the credit comes from indirect financing, especially bank credit. However, the lack of credit guarantee for small and micro enterprises, small capital demand to measure business risks, and other factors cause banks to be "reluctant to lend", that is, even if banks have the excess deposit reserve to meet the business requirements and customers' withdrawal needs, they are not willing to release this part of loan [17].

However, in sharp contrast, there is a long-standing phenomenon of financial repression in China, that is, compared with private enterprises, state-owned enterprises tend to get more favorable prices when obtaining bank credit support. This phenomenon is called private credit discrimination [18]. Li proved through regression analysis that the structural contradiction between state-owned finance and private economy not only exists, but also for non-listed private enterprises, this type of discrimination will be more serious [19]. At the same time, Wang also passed the empirical test, soft budget constraints, government soft guarantee, and the implicit guarantee signal, which aggravated the difficult and expensive financing problems of small and medium-sized private enterprises. At the same time, some inefficient state-owned departments obtained a large amount of low credit funds at low cost, thus blindly expanding [19].

To optimize the current economic structure, the central bank has adopted loose credit policies for agriculture, rural areas, farmers, and small, and medium-sized enterprises, but have the funds flow to small and medium-sized enterprises that need credit support? Feng found through the oligopoly competition model of commercial banks in the two departments that under certain conditions, targeted RRR reduction can narrow the loan spread between the targeted departments relative to the traditional departments, but the effect is extremely weak, and most of the credit funds released by targeted RRR reduction still flow to the non-targeted field [20]. Wang believes that although the targeted RRR reduction has the advantages of targeted and precise fine-tuning, it is difficult to ensure the flow of funds to the target areas under the current system, and the liquidity released may flow into the real estate and local government investment and financing platforms, and it is difficult to solve the structural contradictions in financial operation [21]. At the same time, China's Monetary Policy Implementation Report in the second quarter of 2014 also pointed out that the targeted Required Reserve Rate reduction policy mainly plays a signal and guiding role, and the original text pointed out that "the long-term implementation of structural measures such as targeted RRR reduction will weaken the role of the market in determining the flow of funds".

4.2. Targeted Easing Policy Caused the Liquidity Barrier Lake

Although, in 2014, a series of directional easing policies was based on the government's hopes to achieve "precise precision", the real economy did not get enough liquidity, one of the obvious examples from the real economy credit support from the financial system, social financing, the current increment is significantly lower than the same period last year. In April 2015, the scale of social financing increased by 1.05 trillion yuan, only half of the new increase in January, with a significant decrease of 4,759 yuan year on year. During the same period, the broad money supply (M2) grew by just 10.1%, a record low. Visible loose monetary policy is not transmitted to the channel downstream.

Table 3. Comparison of Social Finance and Social Finance Data in April 2015 (data source Resset)

Project	On April 30,2015	On April 30,2014	Year-on-year change
Scale of social financing (RMB 100 million yuan)	10582	15500	-46.48%
RMB loan (100 million yuan	8045	7747	-3.70%
Entrusted loan (RMB 100 million yuan)	-265	186	-242.45%
Trust loan (RMB 100 million yuan)	344	1576	-78.17%
Undiscounted bank acceptance bill (RMB 100 million)	-46	1576	-102.92%
Corporate bonds (RMB 100 million yuan)	-74	787	-109.40%
Domestic stock financing of non-financial enterprises (RMB 100 million yuan)	1616	3663	-54.52%
Stock financing (RMB 100 million yuan)	597	751	-20.51%

It can be seen from Table 3 that the contraction of the social financing scale reflects the weakening of the financing demand of the real economy. Figure 1 illustrates the downward trend of the amount of investment in fixed assets.

At the same time, several economic data in 2015 have indicated that China's economy has not stepped out of the downward trend of growth in the loose monetary policy. Specifically speaking, it is reflected in the following aspects:

First of all, as the Figure 1 illustrates, the scale of real estate investment is on a downward trend. The market stocking pressure and the pressure of most traditional workers to reduce production capacity also lead to the overall decline of the scale of fixed asset investment. Meanwhile, total investment in real estate development also reached its lowest record level in 2015, with year-on-year growth in May being only a third of the same period, according to the central bank.

Second, consumption growth slowed year-on-year. In April 2015, the total amount of consumer goods was only 10.0%, also the lowest level in 10 years.

Moreover, although industrial production recovered slightly, the producer price index (PPI) fell by 4.6% year on year in April 2015, showing negative growth for 38 consecutive months.

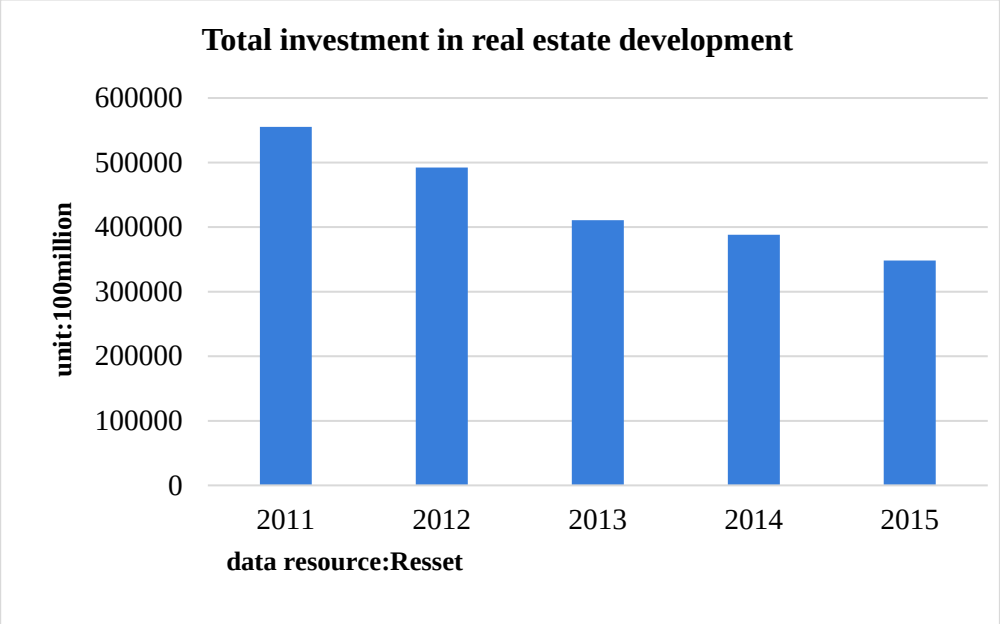


Fig. 1 Total investment in real estate development

However, in sharp contrast to the obvious downward pressure on the real economy and the slowdown in growth, according to the data from 2014 Monetary Policy Implementation Report of the People's Bank of China, the volume of interbank market trading increased approxiamately 30% compared to 2013.

Then, when the central bank introduced the loose monetary policy, the huge contrast between the financial and the real proved that the central bank —— financial market —— the real economy, which led to the flood of funds in the financial system, that is, the emergence of the barrier lake of liquidity.

While analyzing the causes of the liquidity blockage here, people should not ignore the trend of capital move from real to virtual, which increases the blockage of the monetary policy channel. On the one hand, the central bank's monetary policy report in the first quarter pointed out that financial institutions are generally "reluctant to lend", that is, the financial system is more willing to use excess currency derivatives to push up asset prices. At the same time, the rising asset prices further attract real funds into the market, resulting in the deviation from asset prices and commodity prices, such as capital from real to virtual problems.

Therefore, the mad cow in 2015 is undoubtedly a departure from the real economic fundamentals. In a longer cycle, there is a certain correlation between the Caixin PMI (Purchasing Manager Index), which represents the prosperity of the real economy, and the Shanghai Composite Index. Shen Feng's Granger causality test shows that compared with the official PMI, the Caixin PMI index has a great role in the Shanghai Composite index, especially of small and medium-sized enterprises [22]. Chen Fangying also passed the empirical test, believing that the Caixin PMI Shanghai Composite Index has a prediction effect. However, since the second half of 2014, the Shanghai Composite Index and the Caixin PMI index have deviated significantly from the [23]. The Figure 2 elaborates that the Shanghai Composite and Caixin PMI owns a high synchronization.

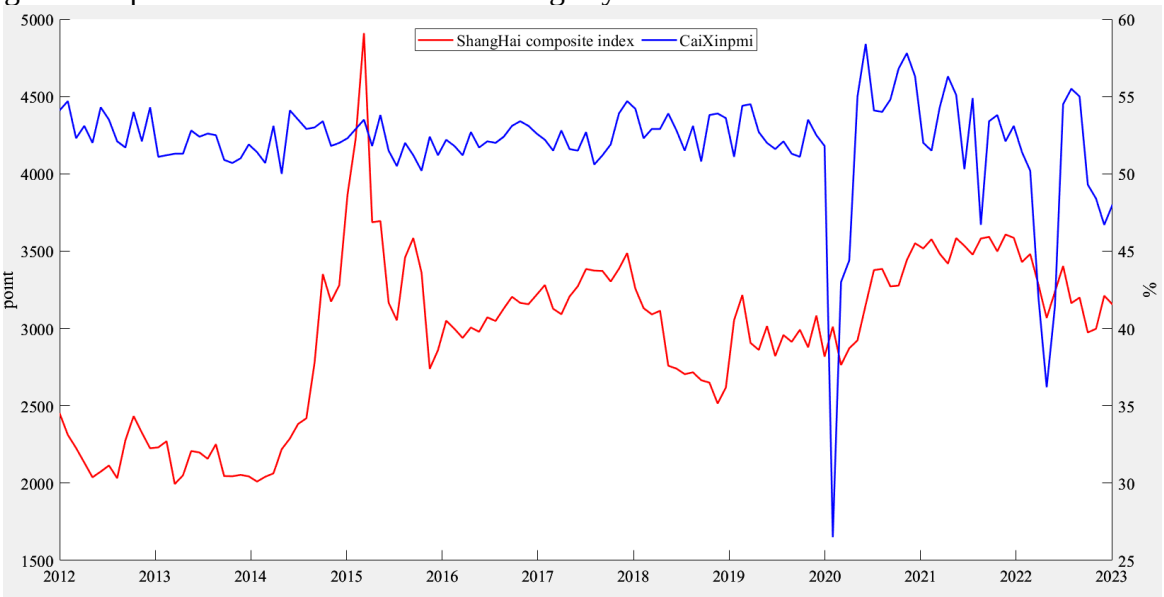


Fig. 2 Comparison of Caixin PMI and Shanghai Composite trend in recent years

Therefore, the "mad cow" in the early stage of the stock market crash in 2015 largely came from the targeted easing policy tone orientation blocking the transmission path of monetary policy, and the liquidity effect formed in the financial market was created, that is, the excess funds in the financial market laid a foundation for the rise of the stock price bubble. At the same time, in 2014, CSRC opened the margin and short-selling business in the stock market. A large number of leveraged funds entered the market further promoting the deviation between the stock index and the fundamentals, which finally laid the foreshadowed the formation of the stock market crash.

5. Conclusion

The impact of the 2015 stock market crash on the whole market is huge. On June 26 alone, the two cities suffered losses of more than 4.9 trillion yuan, and during the crash, 95 percent of the stocks fell, with 1,500 stocks falling by more than 50 percent. After the analysis of this paper, the crash before the bubble originated from a directional mismatch of loose credit easing, in summary, the structure of the financial system and the real economy the demand for financing mismatch caused excess liquidity into the financial market pushed up the asset prices, at the same time the central bank wants money flow of small and medium-sized enterprises still face the financing difficulties, financing expensive problem.

Reviewing a series of policies carried out by the government before and after the stock market crash, the reasons for the mismatch are naturally related to China's current economic results in China on the one hand, on the other hand, it is more related to China's imperfect financial system, the imperfect financial market and the lack of monetary policy transmission in place.

Given this, this paper puts forward the following suggestions for the problem of liquidity barrier lake. Accelerating the completion of the reform of interest rate liberalization, the interest rate is the price of funds, which plays an important guiding role in macroeconomic balance and effective allocation of resources, reflecting the degree of supply and demand of funds. As an important factor of production price, the level of interest rate directly affects the savings and investment of the residential sector, the production behavior of enterprises, and the balance of international payments. It has an important leverage role and plays a decisive role in the whole economic system.

Looking back, the transmission mechanism of the whole central bank's monetary monetary policy is distorted. Therefore, based on M2 and social harmony quantitative monetary policy regulation system no longer matches the needs of our country's economic transformation, it faces such as quantitative regulation cannot make the price fully response economic performance information, administrative orientation of monetary and credit target may not necessarily match the economic situation, the number of rigid regulation target cause asset prices fluctuations. Therefore, monetary policy to the direction of marketization price regulation reform is imperative, such as in 2016 The People's Bank of China Ma Jun published "the new monetary policy framework interest rate transmission mechanism", the interest rate marketization process was studied, think policy rates if not effectively influence loan interest rates, deposit rates, bond yield to maturity, etc., will be unable to affect the real economy to achieve the ultimate goal of monetary policy.

Society should improve the expected management mechanism for monetary policy, improve the transparency of monetary policy, and clarify the intermediary target of money supply and social finance matching with nominal GDP growth. At the same time, people should improve the regular monetary policy communication mechanism to promote the formation of prudent market expectations. The interpretation and analysis of public data should be strengthened to prevent unilateral effects and emotional blindness in the market.

Society should improve macro-prudential policy governance mechanisms, enhance our ability to prevent and defuse systemic financial risks and prevent the pro-cyclical accumulation of systemic financial risks as well as cross-institutional, cross-market, and cross-border contagion. Society should improve the overall resilience and robustness of the financial system and maintain reasonably adequate liquidity.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

References

[1] Zhu Hongwei. China's A-share market in 2015. Southwestern University of Finance and Economics, 2016.

[2] Liu Ke. Research on the causes and countermeasures of A stock market crash in China's A-share market in 2015. Zhengzhou University, 2016.

[3] JamLi, Feng Weiqi. On the Irrationality of Chinese Stock in China . Research on Technical Economics and Management, 2016, (07): 93-97.

[4] Wang Jianjun, Yin Linsen, Ye Wenjing. Investor sentiment, leveraged funds and stock prices - On the cause of the stock market crash from 2015 to 2016 . Research of Financial Economics, 2017, 32 (01): 85-98.

[5] Yang Lin, Yang Yaru. Based on the empirical analysis of the high-frequency data of the CSI 300 stock index futures during the stock market crash in 2015. Financial Theory and Practice, 2017, 38(03): 58-63.

[6] Liu Wei. An Empirical Analysis of the fluctuation of the US-Japanese exchange rate and the price fluctuation of A-share stocks . Theoretical exploration, 2015, (06): 100-104.

[7] Ding Haishan. Empirical analysis of the impact of exchange rate fluctuations on stock price during stock crash - Investigation on the causes of stock market crash in 2015 . Management Science in Shanghai, 2016, 38(02): 96-101.

[8] Zhao Jing, Xue Lan, Wang Yuzhe. Old bottles: an explanation of the public policy process for the cause of the "2015 stock market crash" . Journal of Public Administration, 2020, 17(02): 1-13

[9] Wu Xiaoqiu. Stock market Crisis: Structural Defects and Regulatory Reform. Finance and Trade Economy, 2016, 37(01): 22-32.

[10] Yi Xianrong. How China's stock market returns to normal - The reasons for the sharp rise and fall of A shares and the path of the government to save the delisting . Exploration and contention, 2015, (08): 87-93.

[11] Xie Baisan, Tong Xin. Reflection and Suggestions on China's stock market crash in 2015. Price Theory and Practice, 2015, (12): 29-32.

[12] Ji Feifeng. Thoughts on China's Current Financial Reform . Financial Expo, 2016, (06): 34-35.

[13] Kopchak,S. "The liquidity effect for open market operations", Journal of Banking & Finance, 2011, 35(12): 3292-3299

[14] Carpenter S, Demiralp S. The Liquidity Effect in the Federal Funds Market: Evidence from Daily Open Market Operations.Journal of Money, Credit and Banking, 2006, 38(4): 901-920.

[15] Liang Dongqing, Macro Group, China Center for Economic Research, Peking University. Measures of liquidity and its relationship to asset prices. Financial Research, 2008, (09): 44-55.

[16] Li Huanli, Wang Wei. Evaluation of China's targeted easing monetary policy - Based on the perspective of endogenous defects of US quantitative easing monetary policy. Research of Financial Economics, 2015,30 (01): 13-22.

[17] Zhang Han. Use targeted easing policies to relieve the business difficulties of small and micro enterprises . Productivity Research, 2012, (08): 132-134...

[18] Loren Brandt, Hongbin Li,Bank discrimination in transition economies: ideology, information, or incentive Journal of Comparative Economics, 2003, 31(3): 87-413,

[19] Li Guangzi, Liu Li. Debt financing costs and private credit discrimination. Financial Research, 2009, (12): 137-150.

[20] Wang Jue, Luo Li qian, Guo Qi. Does local government intervention harm the efficiency of credit allocation. Financial Research, 2015, (04): 99-114.

[21] Feng Ming, Wu Ge. Research on the structural effect of targeted RRR reduction policy —— Theoretical analysis based on the heterogeneous commercial bank model of two departments . Finance and Trade Economy, 2018, 39 (12): 62-79.

[22] Shen Feng. Comparative study on the correlation between official PMI, Caixin PMI and Shanghai Composite Index . China Market, 2016 (37): 23-25.

[23] Chen Fangying. Study on the prediction ability of PMI on stock yield. Nanchang University, 2021.