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Shadow Banking: A Study Based on Mechanism, Risk and Supervision

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Abstract: *Since the outbreak of the financial crisis in the United States in 2008, "shadow banking" has attracted extensive attention of scholars at home and abroad. Based on the definition of shadow banking at home and abroad, this paper clarifies the mechanism of shadow banking in China, and finds that its business model is constantly changing with the introduction of regulatory policies. Secondly, it analyzes the credit risk and liquidity risk of shadow banking, and calculates its scale. This paper describes the risk situation of shadow banking in China from the perspective of theory and data. Finally, this paper analyzes the regulatory difficulties of shadow banking in China from three aspects of capital source, intermediate channel and capital destination, so as to reflect the regulatory status of shadow banking in China and give corresponding suggestions.*

Keywords: *Shadow Banking, Operation Mechanism, Risk Assessment, Regulatory Status Quo*

1. Introduction

Shadow banking was first proposed by Paul McCulley, president of PIMCO, at the annual meeting of the Federal Reserve in 2007. In the past decade and more, with the improvement of financial liberalization in China, shadow banking has gradually developed and grown in the process of financial innovation and financial regulation. All kinds of products continue to emerge and connect almost all financial fields, such as banking, trust, insurance, securities and funds, through complex and nested channels, profoundly changing the ecology of China's financial industry and exposing many new risks and chaos, controlling the risks of silver banks while balancing the circulation needs of the real economy has become a new challenge for financial regulators.

2. Introduction to the Connotation and Mechanism of Shadow Banking

2.1. Origin and Connotation

At present, there is no unified definition of shadow banking, but it is essentially a credit intermediary outside banks. At the same time, it is clear that the composition of shadow banking in China is quite different from that in developed countries (Zhou Xiaochuan, 2011) [1]. American shadow banking mainly conducts asset securitization business conducted by non-banking institutions (Chen Jiyong et al., 2013) [2]. However, China's shadow banking is dominated by credit intermediaries and relies on the development of commercial banking system. Abroad, therefore, she was referring to the traditional shadow Banks, namely the bank financial institutions include insurance, trust, securities, funds, small loan companies and financial institutions such as the Internet, while China's shadow banking is primarily a "shadow" Banks, it is to point to a bank to avoid regulation and policy restriction, for the purpose of using third-party financial institutions as a channel to carry out the financing business, The assets that should be recorded under the loan and other items in the statement are transferred to inter-bank assets, investment assets or off-statement (Sun Guofeng et al., 2015) [3].

2.2. Function Process and Business Model

At the present stage, shadow banking in China has a variety of specific operation modes, but in essence it is a combination of various channels and nested structures. Its main operation process can be divided into three steps: First, capital rising, which mainly comes from the issuance of financial products such as asset management or through inter-bank rising. The second is the flow channel, which invests the raised funds in the trust, brokerage, fund and other institutions as the channel, and covers

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the whereabouts of the funds through the nesting of multi-layer channels. The third is the stage of capital investment. The channel institutions finally put the funds to the financing demanders such as enterprises by means of entrusted loans, trust loans, undiscounted bank acceptance drafts and selling the beneficial rights of assets.

To be specific, shadow banking business is constantly innovating with the introduction of regulatory policies, which can be divided into three modes according to time: bank-trust cooperation, buy-back and resale, and inter-bank fund outsourcing: Collections mode was the earliest form of the shadow banking, commercial Banks because of its rigor, regulatory constraints by capital adequacy, LDR, and money requirements such as constraints, in order to avoid regulation, lending Banks choose and trust companies cooperation, specific operation performance for trust as a middle party, set up the trust plans to invest borrowers, Banks issue financial products to raise funds to buy the ultimate beneficial rights of the trust to achieve loan balance sheet. During this period, the bank-trust cooperation model has developed rapidly. According to statistics, in 2007, the total amount of bank-trust business was only 0.18 trillion yuan, but in 2009, the total amount had risen to 2.46 trillion yuan, with an astonishing growth (Wang Zhe et al., 2017) [4].

Faced with the explosive growth of bank-trust cooperation, regulators urgently issued regulatory policies to restrict the investment of wealth management funds into non-standard products through trust companies, and called off bank-trust cooperation. Shadow businesses had to move to new forms, and buy-and-resale businesses were born. Bank A will purchase the trust plan issued by the trust company with its own or inter-bank funds for the channel party and extend loans to the financing customers of Bank C. Here A can be a bank or other financial institutions. Bank B buys the beneficial rights of Bank A's letter on the same day and then sells them back to Bank C in the future. Bank C, as a backstop bank among the three parties, promised to buy unconditionally before the trust plan expires. Through a tripartite agreement, the beneficial rights of the trust shall pass from Party A to Party B and finally to Party C. Banks packaged loans through inter-bank capital transfer, and finally avoided the supervision of the loan-to-deposit ratio and broke through the loan restrictions (Zeng Huizhi et al., 2019) [5].

In 2014, the regulatory authorities issued the Notice on Regulating the Interbank Business of Financial Institutions, notifying banks to clean up the tripartite buy-and-resale business as soon as possible, and stopped the credit guarantee of the third-party financial institutions in the interbank business. As a result, the interbank business was severely hit, and a large number of buy-and-resale assets were returned to the table (Li Meng et al., 2015) [6]. However, the inter-bank business did not stop there. Instead, it became popular in the market in the form of inter-bank deposit certificates. Starting in 2015. Full institutinal structured outsourced investment business has expanded rapidly and developed into a new mode of shadow banking operation. Small and medium-sized banks, especially city commercial banks, become the issuing subjects of interbank certificates of deposit. Small and medium-sized banks raise funds by issuing interbank certificates of deposit and invest in interbank financial products to earn interest spread income. A large amount of inter-bank funds raised are then invested out through trusts, securities, insurance, funds and their subsidiaries. Finally, the outsourced investment institutions act as intermediaries to structurally grade and package the capital pool into products of different risk levels for sale, and the funds will eventually flow to the bond market, stock market and bill market (Zeng Huizhi et al., 2019) [5].

3. The Current Risk Situation of Shadow Banking in China

Tracing back from the source, the risks of shadow banking mainly include credit risk and liquidity risk:

3.1. Credit Risk

In the operating mechanism of the shadow banking, commercial Banks to avoid loan interest rate, the size of the related control the use of shadow Banks loans to off-balance-sheet behavior will cover up the bank the original bad loans, bank book balance sheet risk of undervalued, non-performing loans continued growth, the uncontrolled eventually lead to decline in the quality of bank assets. At the same time, investing a large amount of assets into restrictive industries with high risks through opaque channels is likely to cause large-scale defaults and further aggravate the credit risk of the entire financial system (Zhou Shunxing, 2018) [7].

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3.2. Liquidity Risk

In normal times, shadow banking transformed risky assets into liquid securities, which improved the efficiency and stability of the economy, but also easily led to high leverage and led to economic crisis. When uncertainty is high, assets become illiquid (Moreira, 2017) [8]. If the COVID-19 dries up liquidity around the world, shadow banking may explode. Moreover, under the liquidity shock of shadow banking, stabilization policies targeting only the securitization market are relatively ineffective. Asymmetric regulation of traditional banks and shadow banks will weaken the expected stabilization effect and reduce the effectiveness of macro-prudential policies (Feve, 2017) [9].

3.3. The Scale Measurement of Shadow Banking in China

Luck (2014) pointed out that the stability of shadow banking is closely related to its size [10]. The size of core shadow banking includes entrusted loans, trust loans and undiscounted banker's acceptance bills, according to the Moody's Rating Agency's calculation. On the basis of core shadow banking, the scale calculation of broad shadow banking includes off-balance sheet financing of banks, asset management products of securities companies and non-financial institutions such as private lending, as shown in Table 1.

Table 1: Calculation of China's shadow banking scale from 2015 to 2020

<table>
<tr><td rowspan="12">Broad shadow banking</td><td rowspan="5">Core shadow banking</td><td>Credit intermediary product</td><td>end of 2015</td><td>end of 2016</td><td>end of 2017</td><td>end of 2018</td><td>end of 2019</td><td>end of 2020</td></tr>
<tr><td>Entrusted loans</td><td>9.3</td><td>10.9</td><td>13.2</td><td>14</td><td>12.4</td><td>11.4</td></tr>
<tr><td>Trust loans</td><td>5.3</td><td>5.4</td><td>6.3</td><td>8.5</td><td>7.9</td><td>7.5</td></tr>
<tr><td>Undiscounted banker's acceptance bill</td><td>6.8</td><td>5.9</td><td>3.9</td><td>4.4</td><td>3.8</td><td>3.3</td></tr>
<tr><td>sum</td><td>21.4</td><td>22.2</td><td>23.4</td><td>26.9</td><td>24.1</td><td>22.2</td></tr>
<tr><td rowspan="7"></td><td>Among them: financial products and other asset management products</td><td>11</td><td>21.4</td><td>30.1</td><td>26.5</td><td>24.4</td><td>22.4</td></tr>
<tr><td>Off-balance-sheet banking</td><td>6</td><td>12.4</td><td>17.1</td><td>15.2</td><td>15.8</td><td>15.7</td></tr>
<tr><td>Including: securities companies and fund subsidiaries Information technology products</td><td>4.9</td><td>9</td><td>13</td><td>11.3</td><td>8.6</td><td>7.7</td></tr>
<tr><td>Finance company loan</td><td>2.4</td><td>2.6</td><td>3</td><td>3.1</td><td>3.2</td><td>3.5</td></tr>
<tr><td>Private lending</td><td>3.4</td><td>3.4</td><td>3.4</td><td>3.4</td><td>3.4</td><td>3.4</td></tr>
<tr><td>other</td><td>2.8</td><td>3.8</td><td>4.6</td><td>5.8</td><td>6.3</td><td>6.9</td></tr>
<tr><td>sum</td><td>40.8</td><td>53.3</td><td>64.5</td><td>65.6</td><td>61.3</td><td>59.6</td></tr>
<tr><td colspan="3">Change in the proportion of core shadow banking (%)</td><td>52.3</td><td>41.5</td><td>36.3</td><td>41.1</td><td>39.2</td><td>37.2</td></tr>
</table>

Meanwhile, the latest scale changes of shadow banking in 2020 can be ploted according to Table 1, as shown in Figure 1. It can be seen that the scale of core shadow banking assets and broad shadow banking assets began to decline to varying degrees from 2018. In 2020, the assets decreased by nearly 1.7 trillion yuan, reaching the lowest level since 2017. The main driving factor for the decline in scale is the continuous reduction in the overall scale of the asset management business of banks and non-bank financial institutions. This shows that since 2019, China's shadow banking risk prevention work has achieved certain results.

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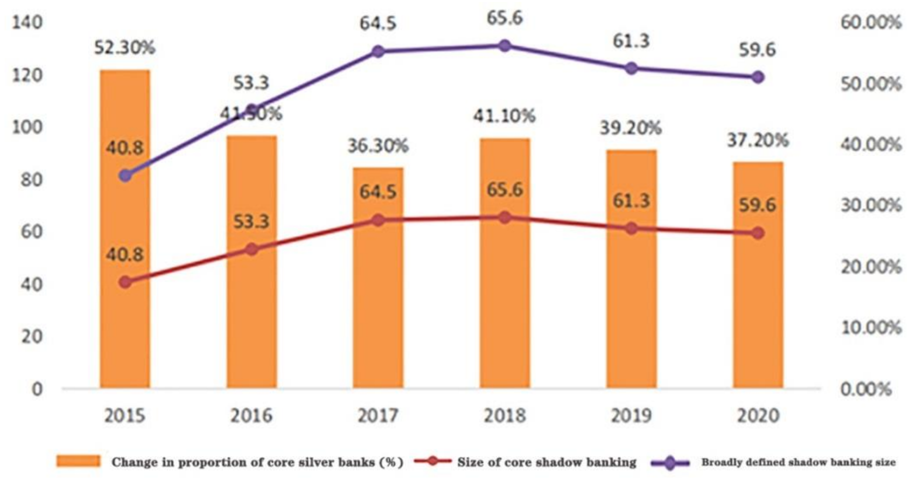

Figure 1: Changes in the Size of Shadow Banking

4. Regulatory Difficulties

According to the analysis of the capital source, channel and investment of shadow banking, the current pain points in urgent need of supervision can be summarized as follows:

4.1. It is Difficult to Trace the Source of Funds

For the supervision of shadow banking, the biggest difficulty lies in the opacity of shadow banking. In the nested layers of various channels, the traceability of the underlying assets becomes very difficult, which is very unfavorable to the implementation of penetrating supervision by the supervisory layer.

4.2. Channel Agencies Belong to Different Regulatory Departments, as a Whole Management is Difficult

Before 2017, China's financial supervision features are obvious, banking, trust, securities, fund, insurance and other industries belong to different regulatory departments, with obvious information barriers. In the absence of overall planning, when one party's business receives supervision due to its rapid development and soaring risks, funds can be transferred to other channels with less supervision. In general, risks are still not under control.

4.3. There is Excessive Concentration of Capital Flows and There Is Excessive Financing

In China, the hidden debts of local governments, state-owned enterprises and real estate developers account for the vast majority of bank credit. Taking the bank credit and non-credit channels together, there will be nearly 15-20 trillion yuan of capital flowing to developers in the banking industry every year, leading to the rising housing prices. At present, shadow banking has accumulated a large number of risks in real estate, local government platforms and other industries with excess capacity. Continued rapid expansion will reduce the stability of the banking system (Xiao Liwei, 2019).

5. Summary and Suggestions

The essence of financial regulation is to solve the problems of regulatory arbitrage, moral hazard and rigid payment, not to eliminate maturity, liquidity and credit mismatches, without which finance would cease to exist. For shadow banking, it is necessary to strengthen the tracking and monitoring of its institutions, product size and capital flow, but it cannot be suppressed blindly.

The business model development and supervision process of shadow banking in China are just like a cat-and-mouse game between financial institutions and supervision. Regulation lags behind innovation, and the introduction of new regulatory policies will give birth to new business models of shadow banking. Too much regulation of shadow banking may lead to the emergence of more new types of shadow banking.

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In order to realize the effective supervision of shadow banking, it is necessary to develop towards technology-based and penetrative supervision in the future, and make use of big data, cloud computing, regulatory sandbox and other technological means to empower financial supervision. To be specific, the "One Committee, One Line, Two Sessions" and local financial supervision bureaus need to perform their respective duties, gradually bring shadow banking into the scope of financial supervision and strike a balance between strict supervision and financial development. At the same time, we will actively guide the silver banks on the road of healthy normalization, enrich China's investment and financing channels, and ultimately enable the real

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