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Report on China's Leverage Ratio, Q3 2019

Chief Editor Li Yang

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Leverage Growth Recovers, Yet the Economy Still Needs a Boost

- Report on China's Leverage Ratio, Q3 2019

Zhang Xiaojing, Chang Xin, Liu Lei

Center for National Balance Sheet of the National Institution for Finance & Development

Institute of Economics of the Chinese Academy of Social Sciences

In the first three quarters of 2019, China's macro leverage ratio increased by 5.1, 0.7 and 1.6 percentage points, respectively, up 7.4 percentage points on a cumulative basis. For the whole year, China's macro leverage ratio is projected to grow by 8 to 10 percentage points, which was 2 to 4 percentage points lower than the spike from 2008 to 2016. Such an increase in the leverage ratio is moderate, given the current priority to stabilize economic growth, and is much smaller than the rise in the leverage ratio by 31 percentage points in 2009.

In the first three quarters of 2019, China's economy grew by 6.4%, 6.2% and 6.0% respectively, giving rise to concerns over the prospect of economic growth dipping below 6.0%. To stabilize growth, the macro leverage ratio should continue to play its role. Nevertheless, **an increase in the leverage ratio alone is not enough. We should also adjust the internal structure of the macro leverage ratio, and resort to other forces to shore up growth. Among various initiatives, it is essential to accelerate supply-side structural reforms, boost confidence, and promote the initiative of various dies.**

I. Overall Assessment: Moderate Increase in the Real-Economy Leverage with Signs of Minor Change in Financial Deleveraging

In Q3 2019, the leverage ratio of real-economy sectors remained stable, up 1.6 percentage points from 249.5% at the end of Q2 to 251.1%. In the first three quarters, the real-economy leverage ratio increased by 5.1, 0.7 and 1.6 percentage points, or 7.4 percentage points in total. In Q3, the growth rate of the leverage ratio moderately restored, and the overall debt level remained stable.

Sector-wise, the household leverage ratio grew by 1.0 percentage point in Q3, up from 55.3% to 56.3%. The leverage ratio of non-financial corporations dropped by 0.1 percentage point, down from 155.7% to 155.6%. The government sector leverage ratio rose by 0.7 percentage points, up from 38.5% to 39.2%. In the first three quarters of 2019, the cumulative growth rates of leverage ratio reached 3.1 percentage points for the household sector, 2.0 percentage points for non-financial corporations, and 2.2 percentage points for the government sector. **Compared with previous growth, the increase of government sector leverage ratio is particularly striking in Q1 2019, which is consistent with our policy expectations that the government would raise its leverage.**



Figure 1: Leverage Ratios of Real-Economy Sectors and Distribution (%)

Source: PBoC, NBS, MOF, Wind; the Center for National Balance Sheet (CNBS).

The financial sector's leverage ratio slightly reduced. The asset-side leverage ratio fell from 60.6% at the end of 2018 to 55.8%, and the liability-side leverage ratio dropped from 60.9% to 59.4%, down 4.8 and 1.5 percentage points, respectively. The financial leverage ratio took a downward trend under the strong regulatory effect since 2017, and started to stabilize in 2019 with a smaller decrease. In the first three quarters of 2019, the asset-side leverage ratio continued to fall from 58.7% to 55.8%, down 2.9 percentage points. **The liability-side leverage ratio increased from 58.7% at the end of Q2 to 59.4%, up 0.7 percentage points. To some extent, the slight increase in the liability-side financial leverage ratio reflects a moderate change in the financial deleveraging policy under the priority to stabilize growth.**

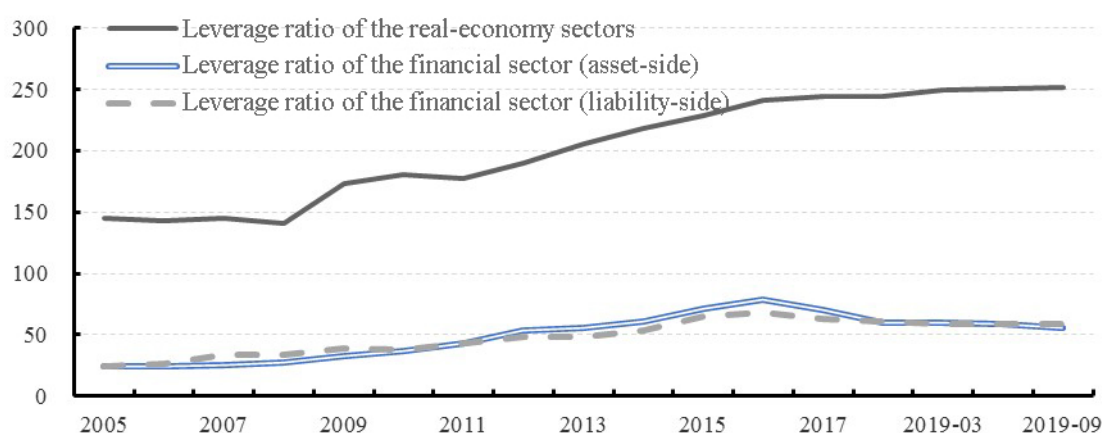


Figure 2: Leverage Ratios of the Real-Economy Sectors and the Financial Sector (%)

Source: PBoC, NBS, MOF, Wind; CNBS.

II. Risk Analysis of Sector-Specific Leverage Ratios

(1) Household Sector Leverage Ratio Continued to Rise

The household sector's leverage ratio continued to rise with a slight decrease in YoY growth. In the first three quarters of 2019, China's household leverage ratio grew by 1.1, 1.0 and 1.0 percentage points respectively, up from 53.2% at the end of 2018 to 56.3% in Q3 2019, or 3.1 percentage points on a cumulative basis. In the decade from 2008 to 2018, it rose by 3.5 percentage points on an annual average basis. **In the first three quarters of 2019, the household leverage ratio increased by one percentage point on a quarterly average basis, and the growth rate for the whole year is likely to surpass average growth over the past decade.**

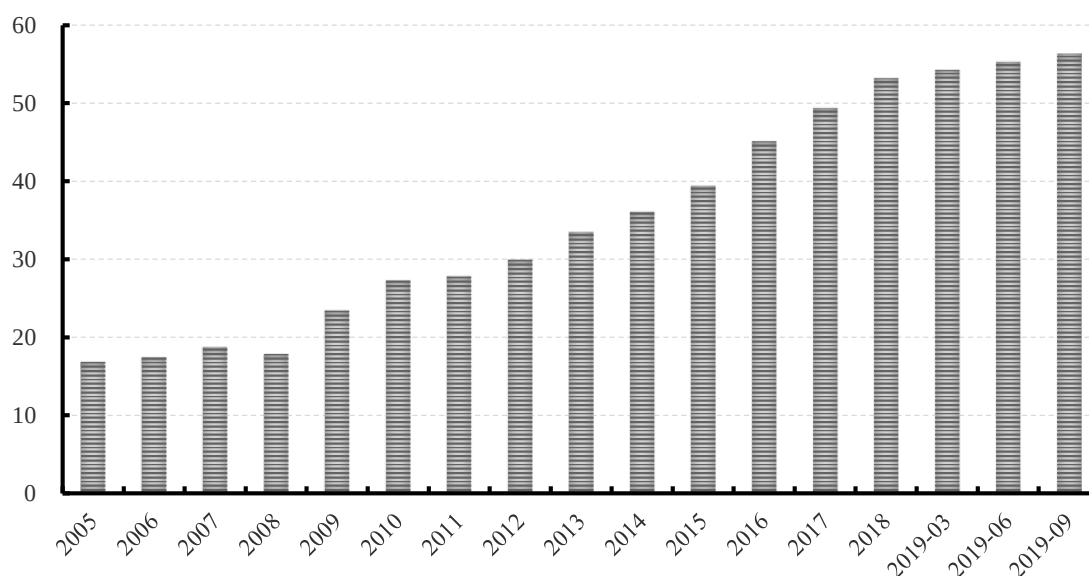


Figure 3: Household Sector Leverage Ratio (%)

Source: PBoC, NBS, MOF, Wind; CNBS.

The size of household loans reached 53.6 trillion yuan by the end of Q3 2019, including consumer loans worth 42.4 trillion yuan, or 79%, and operating loans worth 11.2 trillion yuan, or 21%. As part of consumer loans, short-term consumer loans amounted to 9.5 trillion yuan, or 18% of total household loans, and mid-and long-term consumer loans totaled 32.9 trillion yuan, accounting for 61%. Housing mortgage loans, which comprise the bulk of mid-and long-term consumer loans, stood at 28.1 trillion yuan by the end of Q2 2019, accounting for 89% of mid-and long-term household consumer loans.

The YoY growth of total household loans continued to slow, down from 18.2% at the end of 2018 to 15.9% in Q3 2019. Specifically, short-term consumer loans reduced the most significantly, down from 29.3% at the end of 2018 to 15.6%, which is 0.3 percentage points below the growth rate of household loans. The growth rate of mid-and long-term consumer loans slightly decreased over the previous quarter, down to 17.4%, which is close to the growth of 17.3% by the end of 2018 and 1.5 percentage points higher than the growth of household loans.

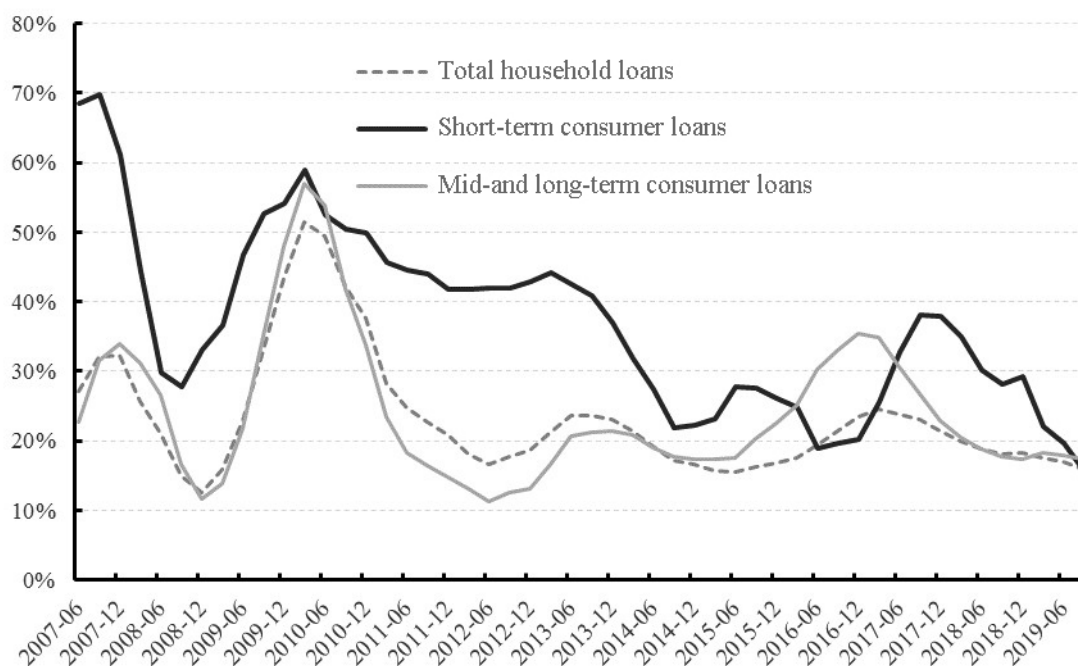


Figure 4: YoY Growth of Household Loans

Source: PBoC, Wind; CNBS.

The slowing YoY growth of short-term consumer loans is now smaller than the growth of household loans. Due to the strict control of household mortgage loans in the past few years, some borrowers resorted to short-term consumer loans, pushing the latter's growth to nearly 40%. As regulators took effective measures to curb short-term consumer loans and housing price expectations stabilized, the growth of short-term loans returned to a normal level. Short-term consumer loans, which include automobile loans and credit card loans, are the most direct reflection of consumption potentials. Complex and volatile and international situations at home and abroad have somewhat weighed on consumer demand and desire to purchase. Slowing consumer loan growth will also take a toll on overall consumption growth.

China's household leverage ratio is at the medium level by global standards and the highest among emerging economies. An excessive household leverage ratio - which may spur growth in the short run - will create a crowding-out effect on consumption and investment, thus undermining the speed and quality of economic growth. According to the list of 70 large and medium-sized cities released by the National Bureau of Statistics (NBS), we have estimated the household leverage ratios of various regions based on data availability and other factors, with results shown in Figure 5. **Among the 34 cities with available data, five cities have a household leverage ratio above 80%, including Hangzhou, Xiamen, Wenzhou, Haikou and Shenzhen. Judging by the leverage ratio, the household sector is exposed to more significant financial risks, and housing prices in these cities are higher than in others as well. Thus, we may find a high degree of correlation between the household leverage ratio and the real estate sector.**

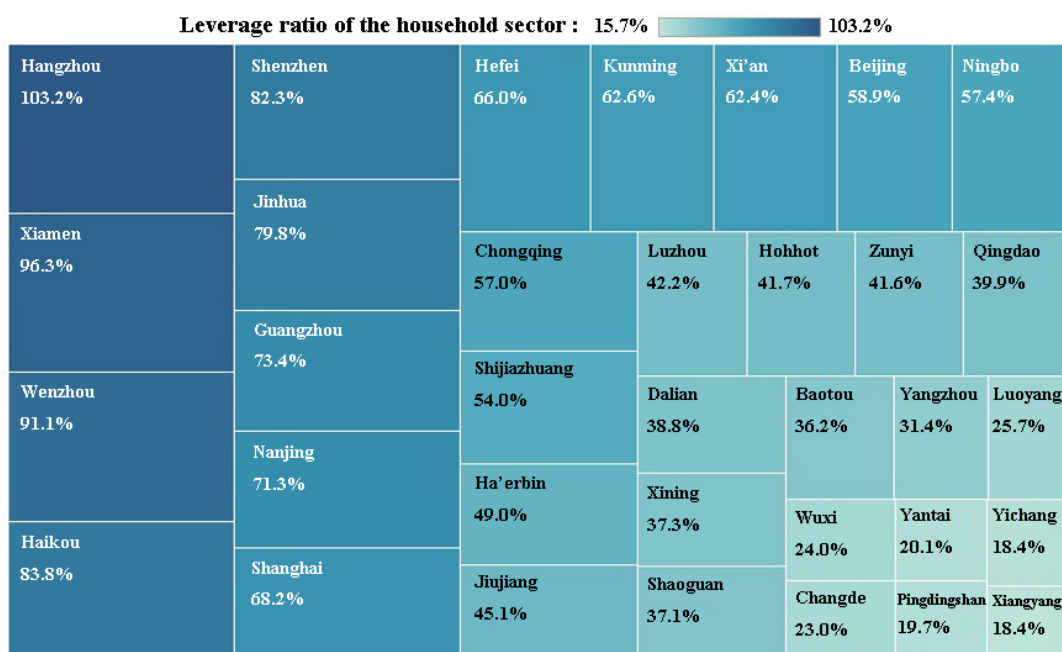


Figure 5: Leverage Ratio of the Household Sector in Large and Medium-Sized Cities by the End of 2018

Source: PBoC, NBS, Wind; CNBS.

According to provincial statistics, Zhejiang, Inner Mongolia and Shanghai had the highest household leverage ratios, which were all above 70%, and the two provinces of Shanxi and Qinghai had the lowest leverage ratios, which were all below 30%. Although the household leverage ratios of major cities and provinces may reveal the risk exposure of the household sector in various regions, regional household leverage ratios are not fully comparable with the national household leverage ratio.

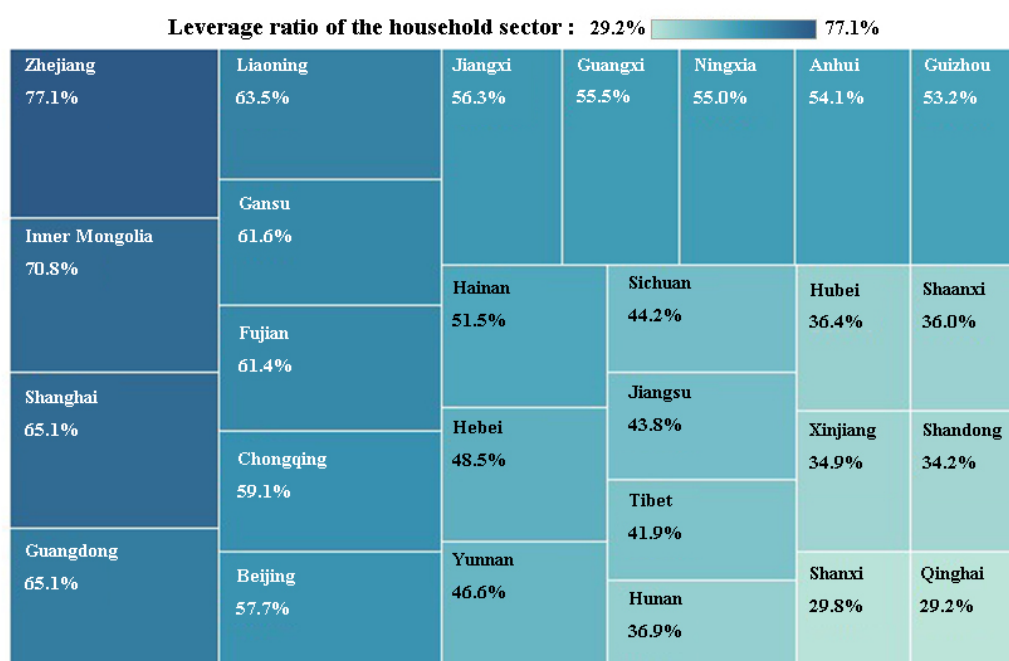


Figure 6: Provincial Household Leverage Ratios by the End of 2019

Source: PBoC, NBS, Wind; CNBS.

Note: Data for Tianjin, Jilin and Heilongjiang are missing.

First, regional GDP aggregate is inconsistent with national GDP, and the former is usually higher than the latter, which results in a possible underestimation of the regional household leverage ratio. Yet the degree of such underestimation is limited. Since 1993, the amount of regional GDP aggregate above national GDP has been equal to 2% to 6% of national GDP, and this percentage dropped to 1.6% in 2018.

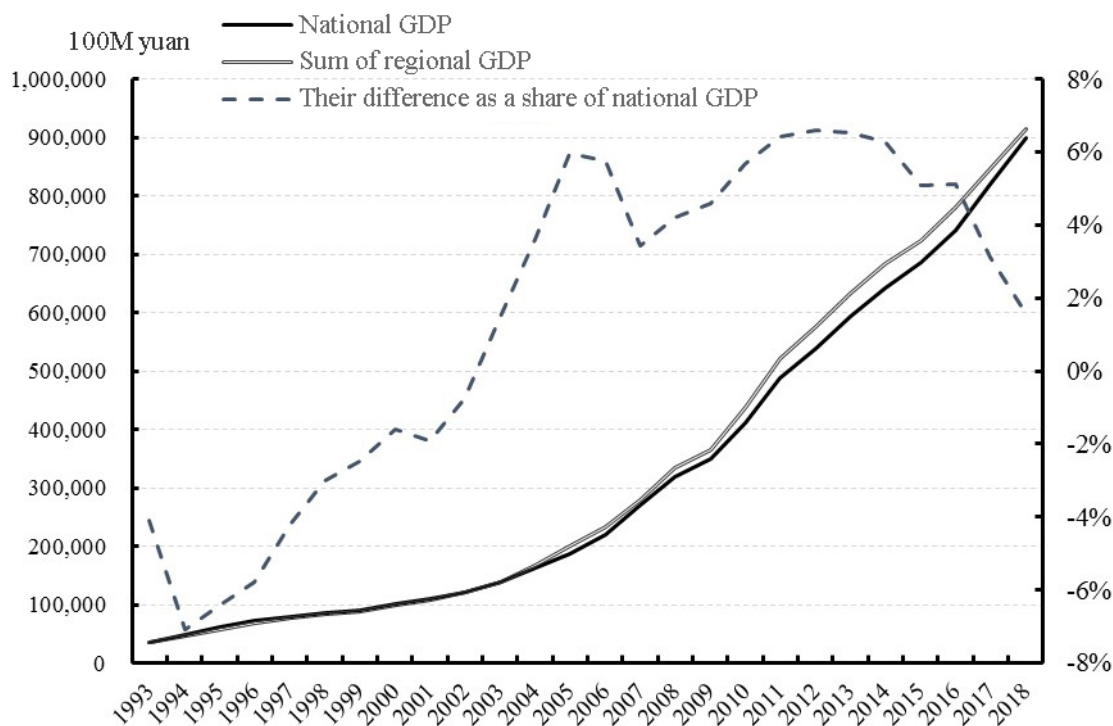


Figure 7: Provincial GDP Aggregate and National GDP

Source: NBS, Wind; CNBS.

Second, excessive household leverage ratios in some regions stem from real estate investments by non-local residents. In China, real estate policy-making is differentiated across regions, and some cities and provinces have relaxed housing purchase and credit restrictions to attract homebuyers from elsewhere, driving up the local household leverage ratio. Yet nonlocal homebuyers may not live and work in the cities where they purchase properties and do not contribute to local GDP growth. As a result, the provinces and cities where nonlocal homebuyers account for a significant share have developed higher household leverage ratios, which may not suggest high financial risks. **Interpretation of the regional household leverage ratios should be cautious and avoid unnecessary nervousness.**

(2) Non-Financial Sector's Leverage Ratio Nudged Down

In the first three quarters of 2019, the leverage ratio of non-financial corporations rose by a total of 2.0 percentage points, up from 153.6% at the end of 2018 to 155.6%, or 3.3, -1.1 and -0.1 percentage points respectively in each quarter. By the end of Q3 2019, the leverage ratio of non-financial corporations was roughly consistent with the level at the end of Q2.

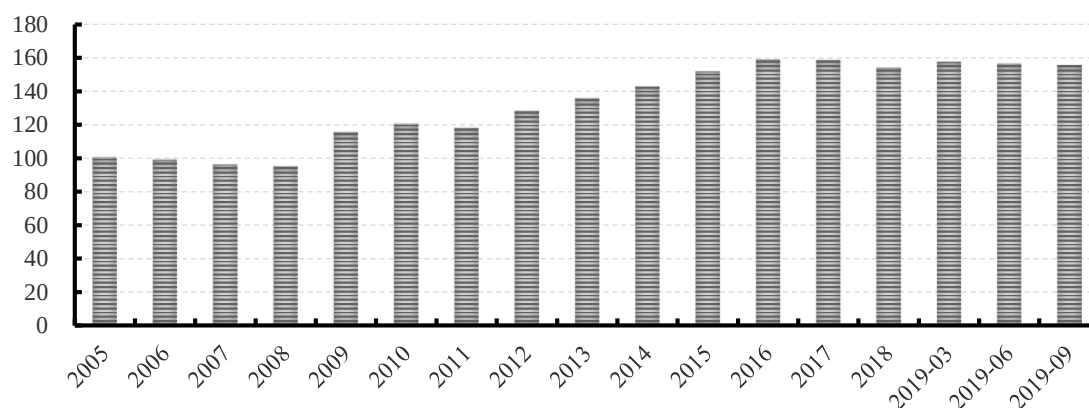


Figure 8: Leverage Ratio of Non-Financial Corporations (%)

Source: PBoC, NBS, Wind; CNBS.

Corporate deleveraging inevitably brings about volatility in the economic cycle, as manifested in its correlation with producer price index (PPI). Figures 9 and 10 reveal a comparison between the increase of corporate leverage ratio and PPP.

Figure 9 is a comparison between the annual increase in the quarterly leverage ratio of non-financial corporations and the YoY growth of PPI. The annual increase in the leverage ratio has a significant leading effect on the YoY growth of PPI. Whenever corporate leverage ratio swerves, a turning point in PPI usually occurs within four phases of lag. Since the corporate leverage ratio reduced by a narrowing degree in the first three quarters of 2019, we expect an uptick in the YoY growth of PPI from negative to positive by the end of 2019.

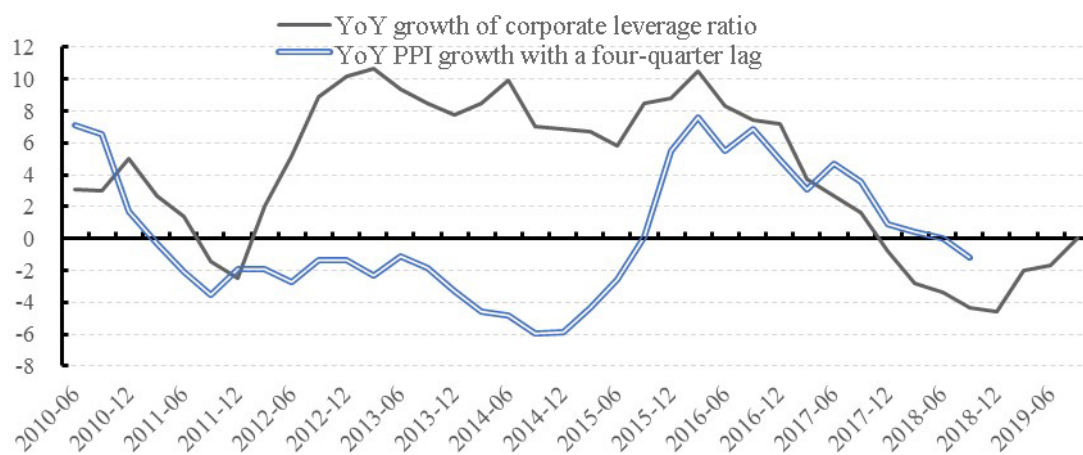


Figure 9: YoY Growth in the Leverage Ratio of Non-Financial Corporations and YoY PPI Growth (%)

Source: PBoC, NBS, Wind; CNBS.

Figure 10 presents a comparison between the quarterly growth of the corporate leverage ratio and the quarterly growth of PPI. Since the quarterly growth of PPI is more sensitive to the economic climate, the leading cycle of the corporate leverage ratio is even shorter. As can be seen from the chart, corporate leverage ratio is ahead of quarterly PPI growth by about one or two quarters for most of the time (consistency between the two is slightly smaller than the YoY comparison shown in Figure 9). Since the corporate leverage ratio stabilized in Q3 2019, we forecast the quarterly growth of PPI to turn from negative to positive also at the end of 2019 or in Q1 2020.

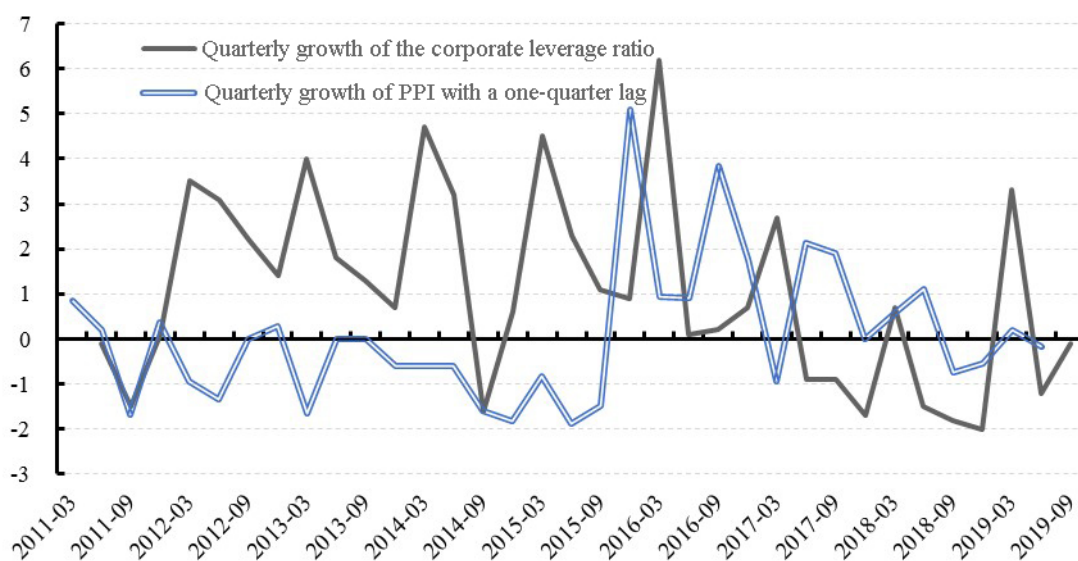


Figure 10: Quarterly Growth of the Leverage Ratio of Non-financial Corporations and the Quarterly Growth of PPI (%)

Source: PBoC, NBS, Wind; CNBS.

In terms of the structure of financing instruments, the most noticeable change is the continuous reduction in off-balance-sheet financing. In the first three quarters of 2019, trust loans, entrusted loans and undiscounted bank acceptance notes decreased by 166 billion yuan, 625.7 billion yuan and 522.5 billion yuan, respectively. The sum of the three as a share in nominal GDP dropped from 26.7% at the end of 2018 to 23.9%, contributing the most to the deleveraging of non-financial corporations. The balance of bank loans to non-financial corporations continued to surge, up 4.4 trillion yuan, 1.8 trillion yuan and 1.9 trillion yuan respectively in the first three quarters of 2019. Among them, mid-and long-term loans increased the most, resulting in an improving loan structure. In Q1 2019, bank loans contributed to the leverage ratio by 3.2 percentage points but did not cause any change in the leverage ratio at the end of Q2 and Q3.

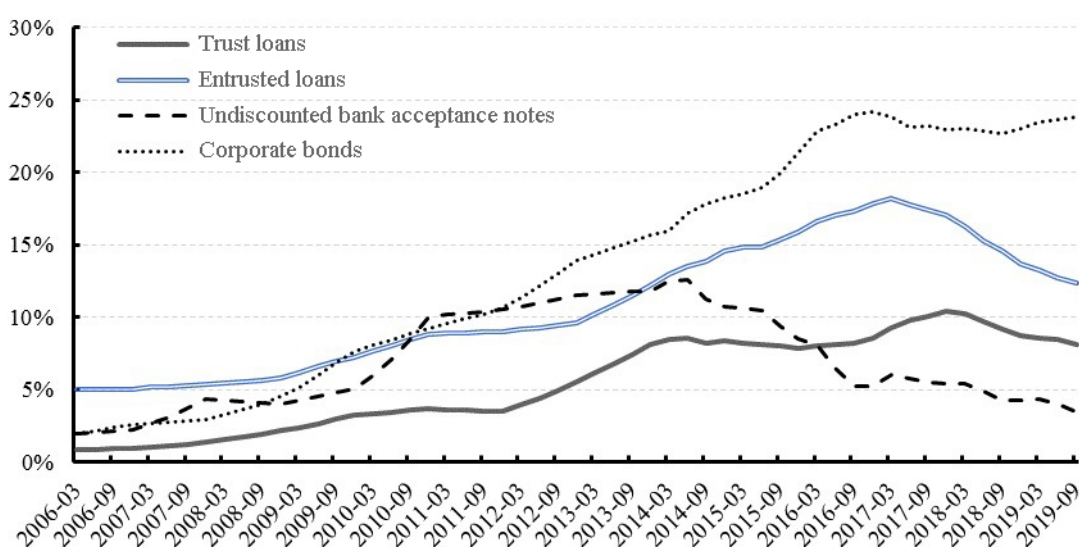


Figure 11: Balance of Non-Standard Financing to Non-Financial Corporations As a Share of GDP

Source: PBoC, NBS, Wind; CNBS.

The changing portfolio of financing instruments indicates an improving financing structure. First, mid-and long-term loans are more stable and imply expectations about macroeconomic stability and a more stable demand for capital. Second, on-balance-sheet financing avoids off-balance-sheet credit arbitrage and is conducive to reducing the cost of financing. Falling off-balance-sheet financing indicates a smaller size of shadow bank assets and cheaper access to capital. Third, overall loan interest rates tend to fall after the interest rate liberalization reform introduced the loan prime rate (LPR). The shift of corporate financing structure towards mid-and long-term on-balance-sheet loans will make it even cheaper for the corporate sector to access capital.

Increasing corporate bond financing offers incentives to financial institutions. However, defaults on corporate bonds have occurred more frequently in 2019 than in 2018. By the end of October 2019, defaults on 140 corporate bonds had occurred, involving funds worth over 100 billion yuan. The number of corporate fund defaults exceeded the total of 2018, involving funds of similar size compared to the whole year of 2018. In 2018, defaults on 125 corporate bonds occurred, involving funds worth 120.96 billion yuan. In the three years from 2015 to 2017, the total amount of corporate bond defaults only reached 84.6 billion yuan.

Macroeconomic slowdown is the primary reason for corporate bond defaults. **We reckon corporate bond defaults will continue to be frequent, but will not present excessive risks to the financial system.** The overall size and ratio of defaults in China's bond market remain relatively low. In 2018, for instance, the inventory of corporate bonds stood at 20.1 trillion yuan, and bond defaults involved funds worth only 120.96 billion yuan, or 0.6%, which is far below the NPL ratio of banks. **Capital markets will gradually come to terms with corporate bond defaults as a routine.**

By the end of Q3 2019, the balance of bonds issued by non-financial corporations reached 22.6 trillion yuan, including city investment bonds worth 8.5 trillion yuan, accounting for 38%. In the first three quarters of 2019, city investment bonds increased by 0.8 trillion yuan, which made up 41% of the 1.9 trillion yuan increase in bonds issued by non-financial corporations. Obviously, there was an increase in city investment bonds and a reduction of bonds issued by private companies as a share of the total increase of corporate bonds. Financial deleveraging continued to distort the financing structure of non-financial corporations. Beyond doubt, shadow banks have caused an array of problems, such as regulatory arbitrage, funds circulating in the financial industry without entering the real economy, and the rising cost of access to capital. Nevertheless, shadow banks have supported small and micro-businesses underserved by traditional banking institutions. Some funds flowed from traditional banking institutions to shadow banks and then to private companies and small and micro-businesses in the form of non-standard financing, extending them credit support at a higher cost.

However, financial deleveraging has blocked shadow banks. As a result, SOEs and financing platforms have accounted for a higher share of financing to non-financial corporations. We believe financial supply-side reforms are the only solution to this dilemma. First, commercial banks must enhance investment research and coverage of small and micro-businesses and private companies. Second, capital markets must be further developed to increase the diversity of fund sources in the financial system and reduce reliance on traditional commercial banks. Diversified capital markets will better serve small and micro-businesses and private companies.

(3) Government Leverage Rose Slowly

The government leverage ratio rose by a small margin, up 2.2 percentage points from 37.0% to 39.2% in

the first three quarters of 2019, or 0.7, 0.8 and 0.7 percentage points respectively in each quarter. In Q3 2019, the local government leverage ratio rose by 0.5 percentage points, up from 22.0% to 22.5%, and the central government leverage ratio grew by 0.2 percentage points, up from 16.5% to 16.7%. Compared with the previous trend, the increase in China's government sector leverage ratio in the first three quarters of 2019 is particularly striking and coincided with our expectations.

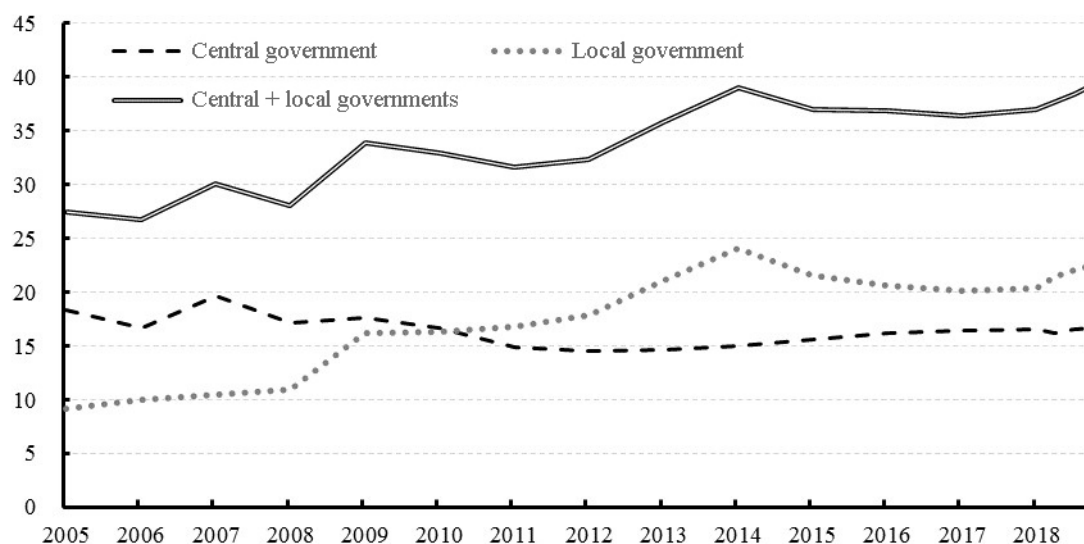


Figure 12: Government Leverage Ratio (%)

Source: PBoC, NBS, MOF, Wind; CNBS.

In 2019, the limit of additional local government liabilities approved by the National People's Congress (NPC), China's legislature, was 3.08 trillion yuan. Specifically, additional general and special liabilities should not exceed 930 billion yuan and 2.15 trillion yuan, respectively. An executive meeting of the State Council required all the special liabilities to be raised by the end of September, and all the funds to be allocated to projects by the end of October to expedite implementation. According to our statistics, additional general and special liabilities amounted to 904.6 billion yuan and 2,124.2 billion yuan respectively in the first three quarters of 2019. The total amount of 3.03 trillion yuan is close to the annual limit, as Table 1 shows.

Table 1: Balance of Local Government Liabilities (in 100 Million Yuan)

	Bonds			Inventory of non-bond liabilities			Sum of bonds and other liabilities		
	General	Special	Total	General	Special	Total	General	Special	Total
Balance at the end of 2018	108040	72671	180711	1899	1252	3151	109939	73923	183862
Balance at the end of Q3 2019	117095	94329	211424	1890	836	2727	118985	95165	214150
Increase	9055	21658	30713	-9	-416	-424	9046	21242	30288
Limit of additional liabilities							9300	21500	30800

Source: MOF, Wind; CNBS.

According to an NBS announcement on September 16, additional special liabilities for the next year would be raised in advance in this year of 2019. With the NPC's approval, from early 2019 to the end of 2022, additional local government liabilities for the following year may be raised in advance as long as such liabilities do not exceed 60% of the quota for the current year. Our data suggest that from October 1 to 27, the issuance of local government bonds amounted to 574.25 billion yuan. Yet due to the maturity of some bonds, the balance of local government bonds reduced by 34.23 billion yuan. Change in local government leverage ratio in Q4 2019 depends on the amount of bonds issued in advance in Q4 2019.

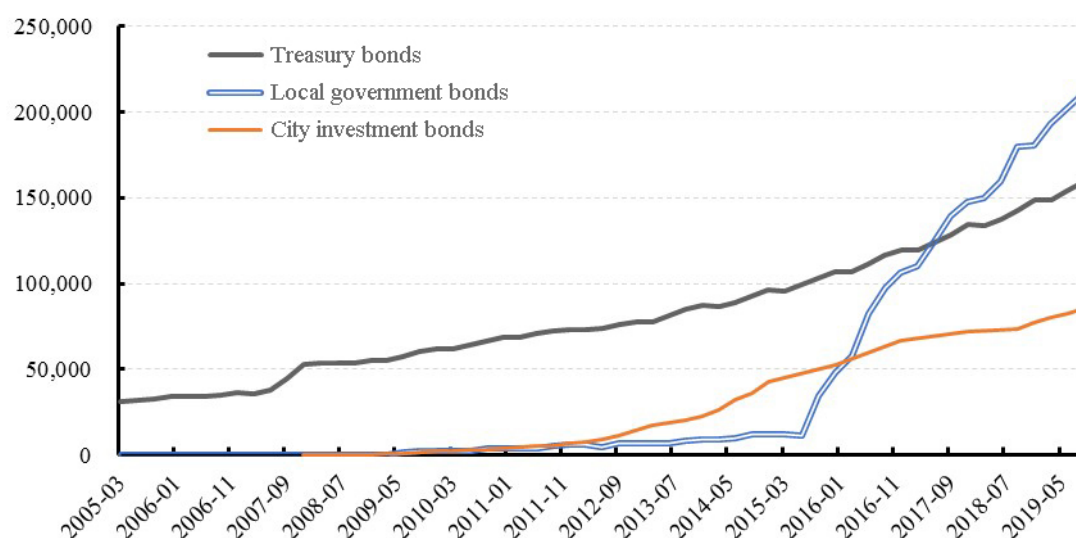


Figure 13: Size of China's Government Bonds (in 100 Million Yuan)

Source: Wind; CNBS.

Bond repayment will not peak in a recent couple of years (2019-2020). By the end of Q3 2019, the total amount of local government bonds reached 21.1 trillion yuan, including bonds worth 2.3 trillion yuan to mature in a recent couple of years, or 11%, and bonds to mature from 2021 to 2022 accounting for 26%. Bond repayment will peak during 2023 and 2024, when 29% of current bonds are expected to mature. At the end of Q3 2019, the balance of city investment bonds reached 8.5 trillion yuan, including bonds to mature in a recent couple of years, from 2021 to 2022, and from 2023 to 2024 accounting for 23%, 39% and 30%, respectively. Most city investment bonds will mature before 2024.

Table 2: Maturity of Local Government Bonds and City Investment Bonds and Share

	Local government bonds		City investment bonds		Total	
	Size (in 100 Million Yuan)	Share	Size (in 100 Million Yuan)	Share	Size (in 100 Million Yuan)	Share
Total	211424	100%	85224	100%	296648	100%
Mature during 2019-2020	22790	11%	19624	23%	42414	14%
Mature during 2021-2022	53934	26%	33002	39%	86935	29%
Mature during 2023-2024	60461	29%	25145	30%	85606	29%
Mature during 2025-2030	66471	31%	6810	8%	73281	25%
Mature during 2031-2050	7768	4%	643	1%	8411	3%

Source: Wind; CNBS.

The growth rate of local government liabilities is in sync with economic performance. Under the effect of structural deleveraging, the year 2018 saw a plunge in the growth of infrastructure investment in China, down to a mere 1.8% for the whole year. Specifically, infrastructure investment - excluding electric power - grew by 3.8%. In 2019, both types of infrastructure investment recovered at a slow pace, up 3.4% and 4.5% respectively on a cumulative basis by the end of September. Such growth rates are low by historical standards. Government finance plays a vital role in the growth of infrastructure investment. Hence, government spending cuts have slowed overall economic growth through the multiplier effect.

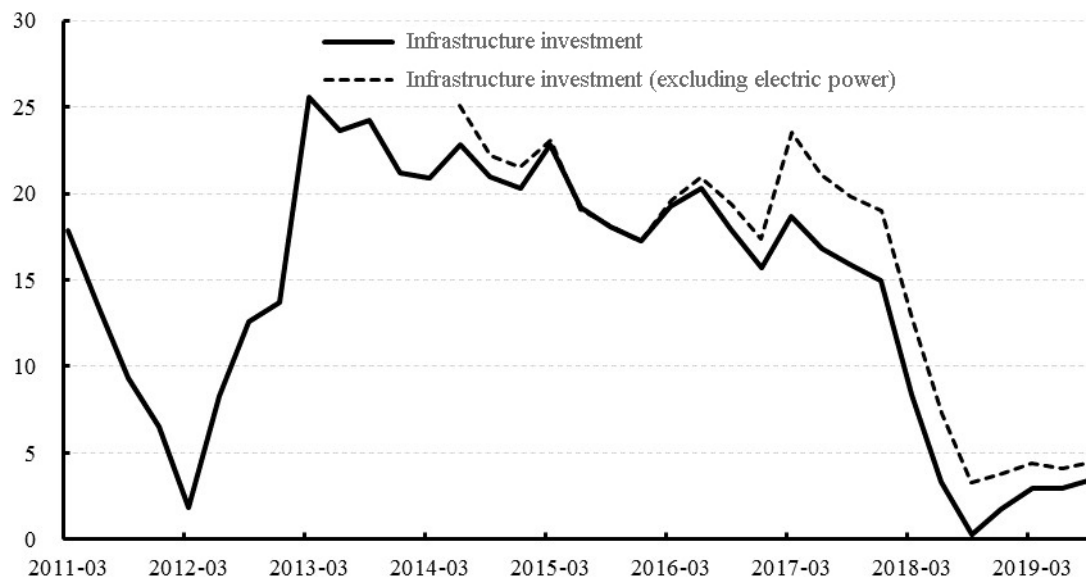


Figure 14: YoY Growth of Fixed Asset Investment (%)

Source: NBS, Wind; CNBS.

There is a significant cyclical pattern in the development and regulation of China's local government liabilities. Local government liabilities surged after the eruption of the global financial crisis in 2008. In 2009, the central government took over the power of issuing local government bonds, which have been increasing by 200 billion yuan each year since then. Such bonds represent the revealed portion of local government liabilities. More importantly, the rise of local government financing vehicles (LGFVs) since 2009 has given rise to implicit local government liabilities. Risk accumulation from rising indebtedness has received increasing attention. In 2018, local government implicit liabilities were initially brought under control.

Yet recently, the regulation of local government liabilities has shown signs of marginal relaxation. Held at the end of 2018, the Central Economic Working Conference called for "a stronger and more potent proactive fiscal policy, broader reductions of tax and fees, and more significant increases of local government special bonds in 2019", highlighting the countercyclical function of macroeconomic policy. Recognizing the magnitude of local government implicit liabilities and significant debt service pressures, the government has launched a new round of implicit debt swaps and permitted the use of special bonds as capital funds to ward off systemic financial risks arising from debt defaults.

As can be seen from the cyclical pattern, China's local government debt problem bears great relevance to economic growth, financial stability and government debt sustainability. Three factors have contributed to local government debt growth:

First, a mismatch between local fiscal and administrative powers. The tax sharing reform of 1994 has led to a serious mismatch between local government income and spending. The share of local fiscal revenue dropped from 78% in 1993 to 44% in 1994, and remained in the range of 40% to 50% afterward. However, the share of local fiscal spending has stayed at a high level, reaching 85% in 2018. Local governments did not cut spending despite falling fiscal revenue. Instead, their fiscal spending has made up a growing share of both national fiscal spending and GDP. As the chart shows, the growing gap of local fiscal revenue has induced debt financing.

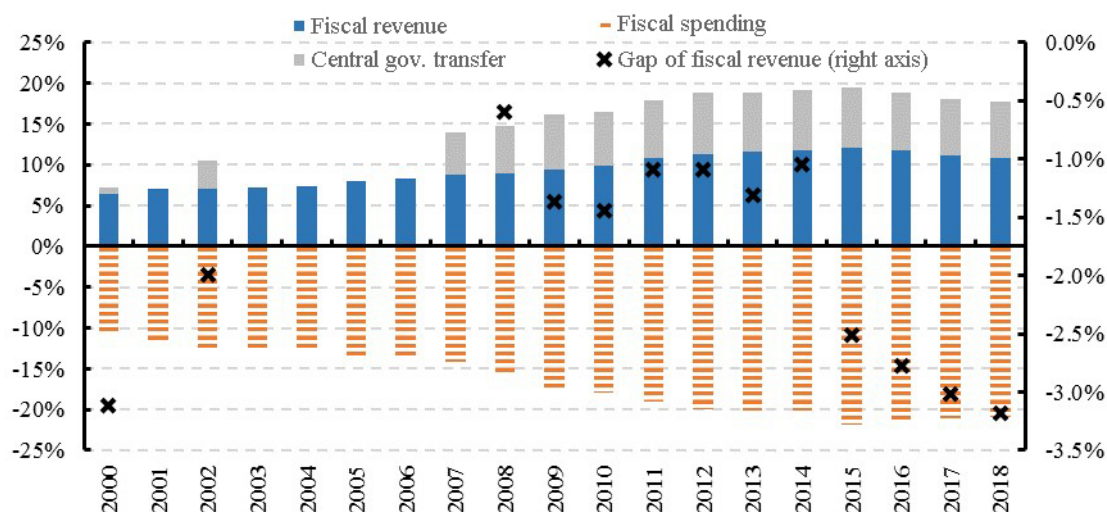


Figure 15: Local Government Fiscal Revenue, Spending and Gap As a Share of Nominal GDP

Source: CEIC; CNBS.

Note: Data of central government transfer payment and local revenue gap are missing for some years.

Second, local governments play a pivotal role in economic development. Aside from offering public services, local governments in China play a quasi-company role in spurring economic growth through public investments. Debt-financed local government investments contributed to local economic growth, fiscal revenue, and job growth. China's swift economic recovery in the wake of the global financial crisis has been made possible by the hefty fiscal stimulus financed by local government debt. Empirical studies identify local government competition as a key contributor to China's economic growth miracle. Despite central government measures to rein in local debt since 2014, local governments have continued to incur various forms of implicit liabilities to shore up growth.

Third, China's local governments are also responsible for macroeconomic regulation. Whenever countercyclical regulation was required to boost the economy, local governments always played a pivotal role. **About 40% of tens of trillions of local government liabilities were passively incurred by the need to support macroeconomic regulation - most typically through LGFVs.** Countercyclical regulation is the key to stabilizing growth while keeping risks at bay. In his speech on financial supply-side structural reforms in February 2019, General Secretary Xi Jinping noted that "healthy real-economy development is the foundation for risk prevention. We should mitigate risks through stable economic growth, ramp up the countercyclical regulatory function of fiscal and monetary policies to maintain economic growth within a reasonable range, and prevent and resolve risks through high-quality development." Risks will be more likely to surface if the economy slows too fast. Local governments, therefore, resorted to debt financing to offset the impact of a downward economic cycle.

The above three problems are the root cause of local government debt risks. Blocking the sources of government financing is not the answer to local government debt problems. While keeping debt risks under control, reasonable financing sources should be made available to local governments. **On the liability side, there should be more formal channels for local governments to raise debt; on the asset side, there should be more efficiency in the use of capital.**

First, the central government should moderately raise the fiscal deficit and leverage ratio. According to our estimate, LGFVs have to pay 3 trillion yuan in interests each year, and additional local government liabilities also amount to around 3 trillion yuan, which is obviously insufficient. In the short run, implicit local government liabilities incur significant pressures on debt service in principal and interest, depriving local governments of resources to invest in infrastructure and giving rise to the default risks of city investment bonds. The central government may raise liabilities to ease this contradiction.

With its sovereign debt rating, the central government will find it cheaper to raise debt. Besides, the right to issue money also helps reduce debt risks. Notably, the central bank should coordinate with fiscal authorities to lessen capital market shocks arising from the central government's increasing leverage ratio. Such a necessity for coordination can be interpreted from the structure of Treasury bond holders and the central bank's balance sheet.

By the end of Q3 2019, central government bonds reached 15.9 trillion yuan, including 1.5 trillion yuan held by the central bank, or 10% of the total size of Treasury bonds, as Figure 16 shows. According to the Chinabond Pricing Center, the balance of book-entry Treasury bonds reached 14.6 trillion yuan by the end of Q3 2019, of which 64% were held by commercial banks. Obviously, commercial banks are the primary holders of Treasury bonds, while the central bank makes up a small share. In a stable liquidity environment, commercial banks will find it hard to allocate more funds to buy Treasury bond assets. Swapping local government implicit liabilities with Treasury bonds will increase the supply of Treasury bonds and disrupt bond market stability. To solve this problem, the central bank should provide additional demand for Treasury bonds to stabilize the financial system.

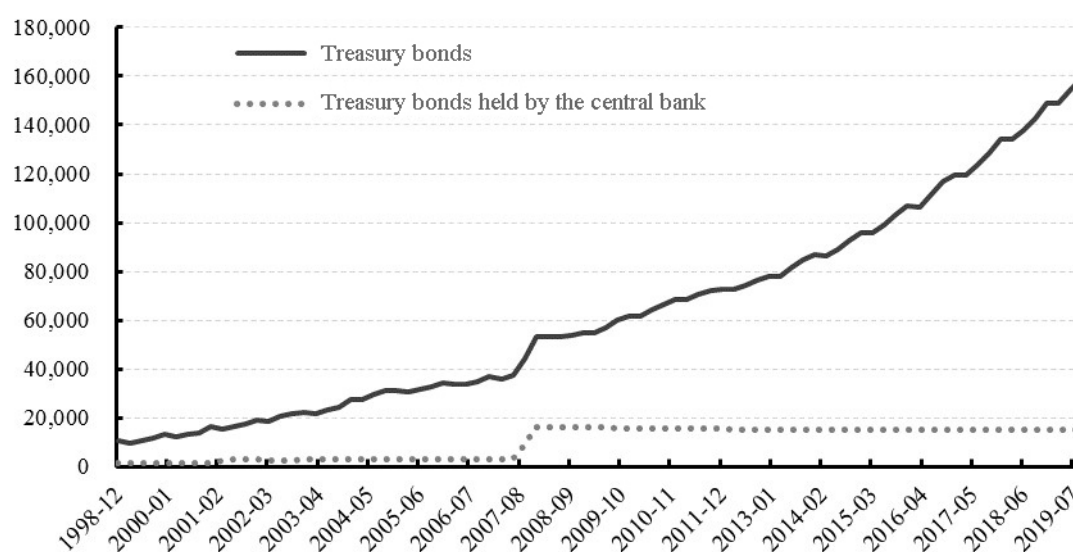


Figure 16: Size of Treasury Bonds and the Amount Held by the Central Bank (in Trillion Yuan)

Source: PBoC, Wind; CNBS.

Judging by the central bank's balance sheet, foreign exchange served as the basic assets for the money supply during a long period of time. The central bank supplied basic money through the purchase of foreign exchange. With the equilibrium of the international capital account after 2014, China's foreign exchange reserves ceased to grow, and the central bank also modified its money supply mechanism. The central bank adopted a multitude of innovative instruments to increase its claims against commercial banks and supply basic money. However, the share of Treasury bonds in the central bank's balance sheet has remained low. We suggest that the central bank adjust its money supply mechanism by reducing the use of lending facilities as money supply instruments and shifting to Treasury bonds as a way to form basic assets. Treasury bonds may replace foreign exchange as the basis for the central bank's money supply. **The specific operational mechanism should be worked out to prevent the central bank from passively paying for the monetization of fiscal deficit. The central bank must develop effective institutional constraints before buying more Treasury bonds.**

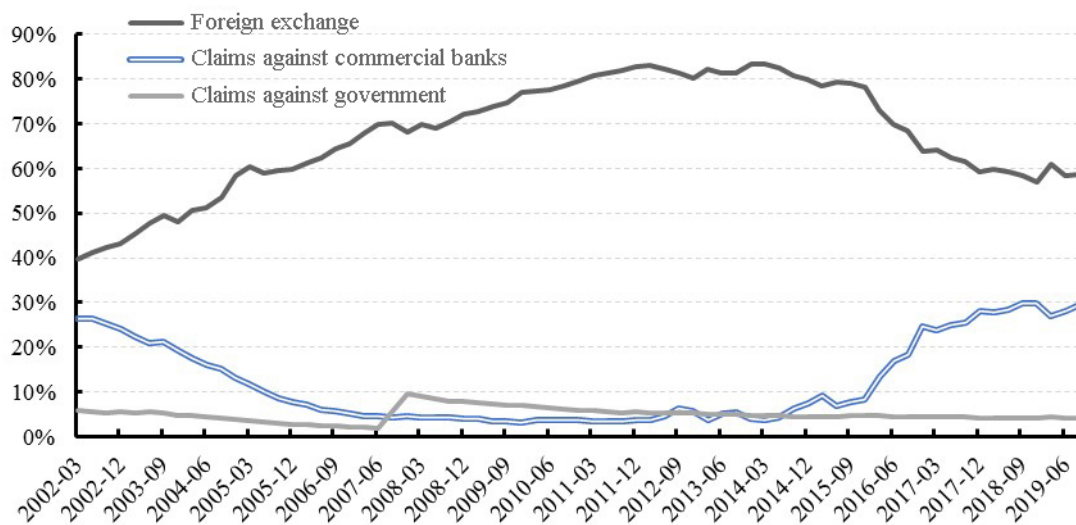


Figure 17: Categories of Assets As a Share of the Central Bank's Total Assets

Source: PBoC, Wind; CNBS.

Second, there should be more efficiency in the use of government assets. Over the past few years, the rising government debt ratio has been accompanied by a spike in government deposits. By the end of Q3 2019, China's government deposits reached 35.7 trillion yuan, including fiscal deposits worth 4.9 trillion yuan and the deposits of government agencies and organizations worth 30.8 trillion yuan, which jointly accounted for 37.5% of China's nominal GDP. In the first three quarters of 2019, China's government deposits increased by 3.0 trillion yuan, including fiscal deposits up 0.8 trillion yuan and the deposits of government agencies and organizations up 2.2 trillion yuan. The increase of government deposits (3.0 trillion yuan) made up the lion's share of additional government debt (4.0 trillion yuan). Both government liabilities and deposits have increased by a similar margin.

Figure 18 creates a concept of net government debt, which is expressed by government liabilities minus deposits (including fiscal deposits and deposits of government agencies and organizations). The ratio of net government debt to nominal GDP is calculated as well. As the chart shows, there has been a substantial reduction in the ratio between net government debt and nominal GDP since 2011. In other words, despite the rising government leverage ratio after 2011, government liabilities are matched by growing government deposits rather than spending. From 2015 to 2018, the ratio of net government debt to GDP continued to fall. Most of the time, the net government debt was smaller than zero, i.e., debt was smaller than deposits. While the

government sector issued bonds to make up for the shortfall of funds, a portion of government funds was left idle in the form of deposits. Despite an improvement in 2019, the use of government funds remains inefficient.

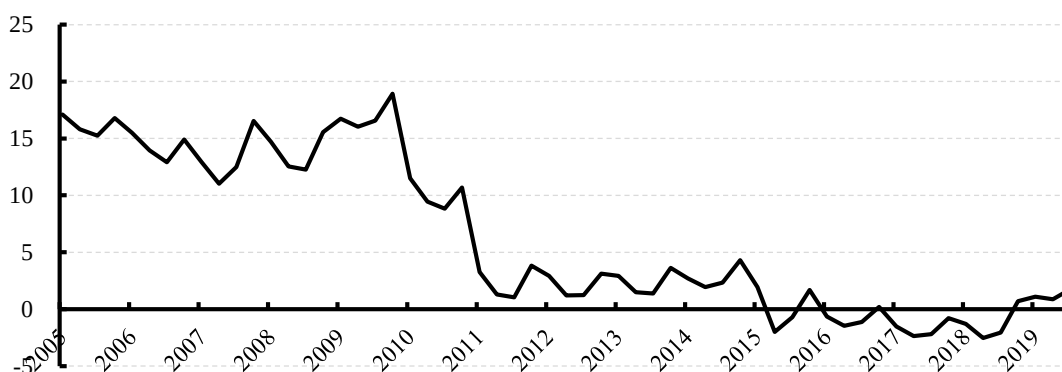


Figure 18: Ratio of Net Government Debt to GDP (%)

Source: PBoC, NBS, MOF, Wind; CNBS.

Government agencies and organizations account for the bulk of such deposits, which are not directly at the central government's disposal. Yet project progress evaluation can be enhanced to raise the efficiency in the use of such funds. Effective use of deposits will allow the government to increase spending to shore up growth without raising leverage ratio.

(4) Financial Sector Leverage Ratio Continued to Fall

Financial sector leverage ratio depicts the internal asset-liability relationship of the financial sector, and is a reflection of the financial sector's operational efficiency. The asset-side leverage ratio of the financial sector continued to fall from 58.7% at the end of Q2 2019 to 55.8%, down 2.9 percentage points. The liability-side leverage ratio of the financial sector grew from 58.7% at the end of Q2 2019 to 59.4%, up 0.7 percentage points. In the first three quarters of 2019, the asset-side leverage ratio of the financial sector dropped by 4.8 percentage points, and the liability-side leverage ratio fell by 1.5 percentage points. The speed of financial deleveraging has slowed.

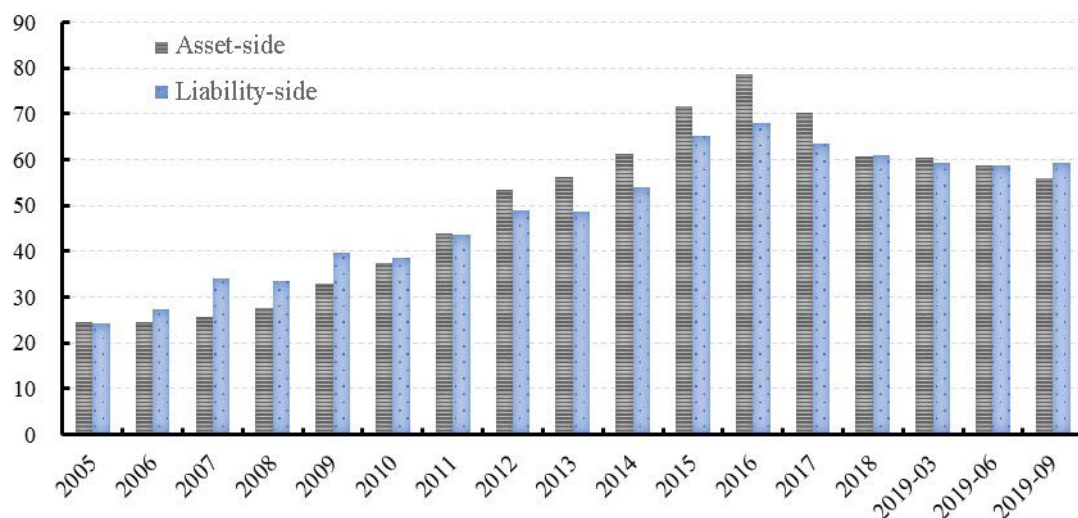


Figure 19: Leverage Ratio of the Financial Sector by the Broad Scope (%)

Source: PBoC, NBS, MOF, Wind; CNBS.

After peaking at the end of 2016, the financial sector's leverage ratio has reduced sharply over recent years. Strong regulatory policies have led to a contraction in the off-balance-sheet businesses of banks, redirected capital from the virtual economy to the real economy, and achieved initial progress in financial deleveraging. In Q3 2019, **the pace of financial deleveraging slowed. In particular, there was an uptick in the financial leverage on the liability side, which implies an increase in the internal lending of the financial system and a policy change to shore up growth.**

In Q3 2019, the total assets of commercial banks in China grew by 8.2% YoY, up 1.4 percentage points over the end of 2018. The rebound reflects an improving financial regulatory environment. Yet interbank assets and liabilities as a share of total bank assets and liabilities continued to fall. The share of interbank assets dropped from 20.5% at the end of 2018 to 18.7%, and the share of interbank liabilities reduced from 20.6% to 19.9%. Over the six years from 2010 to 2016, interbank assets and liabilities made up growing shares of total assets and liabilities. As a result, unreasonable asset-liability chains within financial institutions have become extended, giving rise to regulatory and policy arbitrage. With increasing regulatory intensity, interbank assets and liabilities started to contract simultaneously in 2017. The quality of banking sector assets remained stable, prompting the financial sector to restore its function of serving the real economy more effectively.

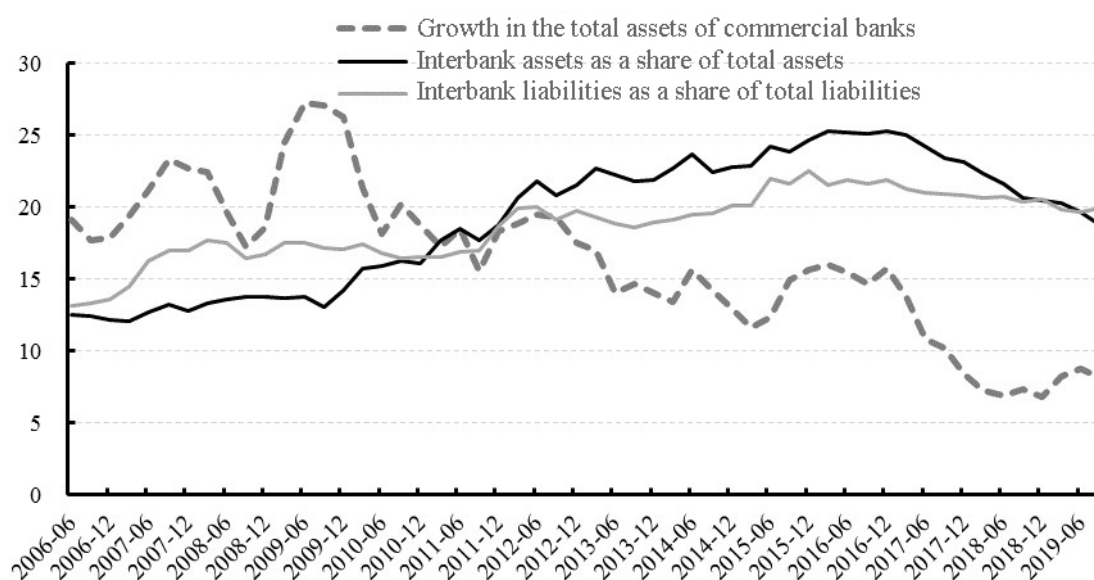


Figure 20: Growth in the Total Assets of Commercial Banks and Interbank Assets and Liabilities As a Share of Total Assets and Liabilities (%)

Source: PBoC, Wind; CNBS.

III. Outlook of Future Leverage Ratio and Policy Recommendations

In Q3 2019, China's economic growth slowed to 6.0%, adding to concerns over growth dipping below 6.0%. Despite some progress in China-US trade talks, which appear to have led to a first-stage agreement, uncertainty still looms. With only five quarters remaining, China is racing to accomplish the goal of building a moderately prosperous society in all respects by 2020. In this context, shoring up growth has become an unequivocal priority and requires macro leverage support. However, an increase in macro leverage ratio inevitably entails risks. There is a delicate balance to be struck between shoring up growth and stabilizing the leverage ratio.

On a quarterly basis, China's leverage growth was too fast in Q1 and contracted too much in Q2, but the change was relatively moderate in Q3. In Q1 Report, we underscored the risk of an excessive increase in the leverage ratio, pointing out that an increase above five percentage points in Q1 2019 could cause annual growth to near 10 percentage points. We also cautioned that leverage growth in Q2 2019 by a mere 0.7 percentage points was insufficient to keep the economy growing at a steady pace. Unsurprisingly, China's economic growth slowed to 6% in Q3 2019, with macro leverage ratio up to 1.6 percentage points. Compared with Q2 2019, the increase in China's macro leverage ratio has stabilized but could be insufficient to undergird growth. On the other hand, rising macro leverage ratio implies continuous risk accumulation. **Instead of cranking up the leverage ratio, therefore, we should improve the internal structure of macro leverage ratio. Moreover, other forces should also be employed to stabilize growth. Notably, we should propel supply-side structural reforms, boost confidence, and promote the initiative of various sides.**

Household leverage ratio should remain stable. China's household leverage increased by 3.5 percentage points on an annual average basis from 2008 to 2018, and one percentage point in each of the first three quarters of 2019. Both are relatively high growth rates. Under the policy priority to stabilize the leverage ratio, the increase of household leverage ratio remains in a relatively reasonable range. Given the correlation between household leverage ratio and housing price (as elaborated in detail in our previous leverage ratio reports), a stable household leverage ratio is essential to stable housing price. Considering the potential chain effect, it is unwise to adopt the much-touted "household deleveraging" policy.

Corporate deleveraging should be more targeted. In the 10 quarters since Q2 2017, the leverage ratio of non-financial corporations had been falling except in two quarters (including an increase by 3.3 percentage points in Q1 2019), down from 161.4% in Q1 2017 to 155.6% in Q3 2019, down a total of 5.8 percentage points, which marks a significant achievement of deleveraging. Notably, however, deleveraging occurred primarily among private companies. The share of SOE liabilities has been rising, and now accounts for over 60%. Given the correlation between corporate leverage ratio and economic climate cycles, particularly PPI, corporate deleveraging should be carried out in a more targeted manner. In our view, corporate deleveraging should focus on SOEs, particularly zombie SOEs and LGFVs (since the enactment of the new *Budget Law* in 2015, LGFV liabilities have been transferred from local governments to the corporate sector).

Government leverage requires institutional support. In our leverage reports, we have been calling for the central government to raise leverage. Yet the specific pathway of implementation needs to be carefully deliberated and supported by institutional arrangements. First, the central government may need to tolerate a higher deficit ratio in the budget process at the beginning of the year if it is to increase leverage. Second, an increase in the central government's leverage means the issuance of more Treasury bonds (some experts suggested issuing "special Treasury bonds") to be held by the central bank. Yet institutional constraints should be in place to prevent the "monetization of fiscal deficit." Third, the intention of the central government in raising its leverage ratio is to swap implicit local liabilities. Proper institutional arrangements must be in place to ensure more effective swap of implicit local government liabilities and mitigate moral hazard.

Lastly, **we need to improve the internal structure of leverage ratio and propel supply-side structural reforms to strike a balance between shoring up growth and warding off risks. Indiscriminately cranking up leverage is not the answer.** We must carry out reforms to boost confidence and promote the initiative of all sides, particularly the private sector of economy by relaxing market access; adjust income distribution to unleash consumption potentials; and open up wider to reap new dividends of globalization.