

# Comparative Analysis of China-US Debt Structures: Physical Asset Backing, Financial Risks, and Policy Implications

Linna Liu

School of Economics and Management, Nanjing University of Science and Technology, Nanjing, China

**Abstract.** The COVID-19 pandemic has led to a surge in global debt and intensified the trade-offs associated with sovereign debt accumulation. Based on data from the IMF, World Bank, IIF and other international institutions, this paper conducts a comparative analysis of the debt scale and structure between China and the United States. Unlike the U.S., where debt is primarily driven by consumption and financial activities, China's debt is largely backed by physical assets in the secondary sector, such as infrastructure and engineering projects, which support long-term growth and returns. However, these urban investment debts have also increased fiscal pressure on local governments. To address these implicit liabilities, this paper proposes enhanced central government oversight and the strategic use of local state-owned enterprise assets. Furthermore, while monitoring the impact of global debt risks on financial and real economies, China should prioritize building a domestic circulation - oriented growth model and proactively manage its debt challenges.

**Keywords:** China-U.S. debt comparison, debt governance, implicit debt.

## 1. Introduction

The scale of global debt has risen rapidly since the outbreak of the COVID-19 epidemic. In February 2024, the Institute of International Finance (IIF) released the "Global Debt Monitor" report stating that in 2023, global debt surged by over 15 trillion US dollars, reaching a record high of 313 trillion US dollars. Among them, the total debt of developed countries rose to \$208.3 trillion, and that of developing countries rose to \$104.6 trillion, with 55% of the increase coming from developed economies in Europe and the United States. (IIF, 2024).

The debt status of developed economies in European countries and American has sounded an alarm. In 2023, the UK Office for National Statistics (ONS) disclosed that the government's net debt reached 2.5 trillion pounds, and the ratio of government net debt to GDP reached 100.1%, which is the first time the ratio has exceeded 100% since 1961. Annual data released by the Institute of National Statistics and Economic of French (INSEE) indicate that French public debt exceeded 3 trillion euros for the first time in 2023, reaching 3.0134 billion euros, accounting for 112.5% of GDP, so that the French government increased its budget deficit to boost public finances, and this has caused Fitch Ratings subsequently downgraded France's sovereign credit rating to AA- from AA.

In terms of developing countries, the ratio of national debt to GDP in emerging market countries continues to rise. Among them, China, India, Argentina, Russia, Malaysia and South Africa are facing increasing debt repayment pressure. In December 2023, the World Bank's latest International Debt Report showed that global interest rates experienced the largest surge over the past 40 years in 2022, and developing countries' expenditures on repaying government and government-guaranteed debt reached a record \$443.5 billion. Developing economies such as Sri Lanka and Ghana have fallen into sovereign debt crises, and emerging economies such as Pakistan and Egypt are also facing greater debt pressure. (The World Bank, 2023)

The Central Financial Work Conference of China was held in October, 2023, which fully illustrated the high importance that decision-makers attach to China's debt issues. In 2024, China's economy will continue to undergo structural transformation, so that the proper handling of China's debt problem is a critical link for a dynamic economy development. What is the current situation of China in the widespread global debt crisis? How is the debt structure of China distinctive from other countries in the world? Should we take the same debt relief measures as developed countries? This essay will analyze the inducements and impacts of global debt problems from a global perspective,

then taking the US and China as contrasts, compare their differences in debt scale and debt structure to identify different debt problems between the two economic giants. Lastly, this essay proposes possible analysis and suggestions on dealing with China's debt on non-financial corporate sector, for a better economic structural transformation, a more robust financial development and a more sustainable economy and in China.

## **2. A global vision: inducement and influence of global debt crisis**

Since the outbreak of the Covid-19, multiple factors have driven the continuous expansion of global debt. Firstly, the epidemic, inflation and regional conflicts have led to a significant increase in government spending. In response to the impact of the epidemic, governments around the world have increased expenditures in areas such as medical care and social welfare, and implemented stimulus policies to promote post-epidemic economic recovery. After the Russia-Ukraine conflict, global energy prices soared, and major European economies implemented energy subsidies for businesses and households, which became the main reason for the sudden increase in fiscal expenditures. Secondly, global economic growth lack powerful momentum, affecting government revenue. The imbalance between global supply and demand is an important factor causing weak economic growth. On the supply side, countries around the world have overcapacity, resulting in oversupply of products, falling prices, and lower profits; On the demand side, global consumer demand is weak with low consumer confidence, and consumer spending is reduced further suppressing economic growth. At the same time, the trends of anti-globalization are on the way of rising, the same as unilateralism and protectionism. Resource and energy shortages are worsening and natural disasters occur frequently. All these factors are restricting the pace of world economic growth. Third, central banks in major economies represented by the United States have raised interest rates, so that now comes the raising pressure on debt interest payments. To cope with the impact of higher interest rates, many economies may have to follow suit Intentionally or compulsively, which could increase the risk of their own economy recessions. Especially in economies such as the Euro area and the United Kingdom, following interest rate hikes could further lead to slower economic growth and increased debt risks. Historically, interest payments have been a small share of fiscal spending in advanced economies, but as interest rates have risen rapidly over the past two years, financial assets of those economies have depreciated sharply, triggering sweeping balance sheet imbalances.

Debt itself is not a bad thing, but what's critical lies in whether the scale of debt exceeds the threshold. Under normal circumstances, government debt can not only help residents smooth consumption, but also provide liquidity to alleviate the credit constraints faced by residents and enterprises, and promote consumption and investment growth of residents; on the other hand, the government can also lead the construction of infrastructure, and through the enhancement of investment in engineering and construction to enhance the DGP, to ensure high-speed economic growth, so it can be seen that the appropriate amount of debt is conducive to economic growth. However, rising debt levels usually mean increased pressure to repay principal and interest, and excessive borrowing will bring greater risks. For advanced economies, high debt creates fiscal problems. One of the problems caused by the high debt problem is that the operation of domestic institutions and mechanisms is hindered: Since 2023, the United States has experienced financial crises such as debt hitting the ceiling and insufficient federal funds, which has triggered market concerns about debt defaults, government shutdowns and other issues. Therefore, both Fitch and Moody's lowered the US credit rating or rating outlook during 2023. Secondly, the effectiveness for fiscal policy to play a role has been squeezed. In particular, major developed economies in Europe, such as the UK and Germany, are still in the stage of slow recovery and need expansionary fiscal policies to promote economic growth. However, under the pressure of sovereign debt, expansionary fiscal policies such as tax cuts and fiscal expenditure increases are difficult to implement. Debt service payment pressures on developing economies have increased. According to the International Debt Report released by the World Bank, debt service expenditures in developing economies will increase

by 5 percent year on year in 2022, seriously crowding out funds for education, health care, environment and other livelihood areas, and developing economies with high debt have fewer financing options (WB, 2023).

### 3. China and the US: Actuality and comparison of debt problems

#### 3.1. Debt scale

According to data from the International Monetary Fund (IMF), China's general government debt-to-GDP ratio in 2023 reach 77.1%, lower than the world average ratio of 83.3%, lower than that of the United States at 121.38%, and also lower than Japan 261.29% and the Eurozone 98.4%. We can see from the contrast that China's debt ratio of government sector is relatively low, especially for the central government debt. Treasury bonds account for a low proportion of China's debt structure, which means the government's debt burden is relatively light. Exactly, this reflects the Chinese government's prudence and effectiveness in debt management.

In the contrast, the huge debt of the United States, has always been one of the focuses of the global economy. Always relying on borrowing to promote economic growth, has faced increasingly serious fiscal challenges. In January 2024, the U.S. Treasury Department released a report stating that the U.S. federal government debt reached \$34 trillion for the first time. Reaching nearly 140% of GDP. The U.S.'s debt expenditure is also getting higher and higher. Since the interest rate hike in 2023, the Federal Reserve has raised interest rates from 0% to more than 5%. The increasing debt expenditure will lead to further fiscal deficits and expand the risk of debt default.

In fact, the United States has already defaulted on its debt. On July 30, 2023, a U.S. Treasury bond worth US\$284.2 billion held by Japan was failed to be paid in time after maturity, which shook the world's confidence in U.S. Treasury bonds as the safest haven. Fitch Ratings, one of the world's three major international rating agencies, downgraded the long-term U.S. dollar debt rating to AA+ from AAA, which is the first time since 1994 that Fitch has downgraded the U.S. credit rating. (Fitch, 2023). Another event can reflect US's sever debt crisis is that these days, from April 4 to 9, 2024, U.S. Treasury Secretary Yellen visited China, intending to let the Chinese government purchase U.S. dollar bonds in order to maintain the U.S. dollar exchange rate during the Fed's interest rate cut cycle and prevent the U.S. dollar index from plummeting and massive capital outflows. This illustrates its The seriousness of the debt problem.

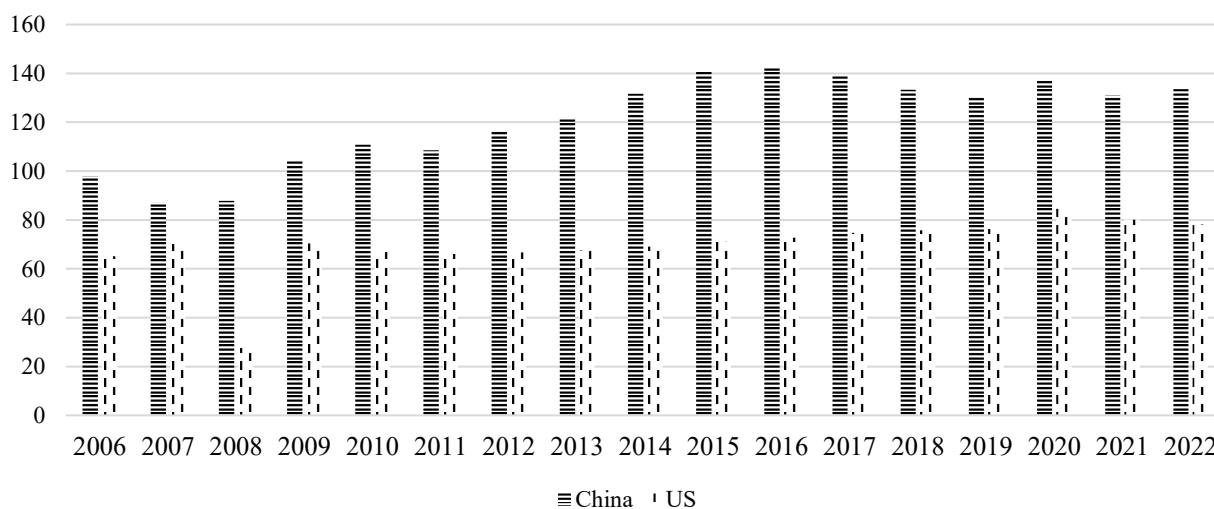
#### 3.2. Debt structure



**Fig. 1** The Underlying Assets of China and the US

Figure 1 shows the underlying assets of debt. The secondary industry is stronger among the underlying assets corresponding to China's debt, and China's debt-backed assets correspond to a large number of investments in physical projects, such as infrastructure construction (including major projects such as airports, high-speed railways, tunnels, etc.), public service projects, etc., they are all physical assets that can bring long-term economic returns. These investments not only improve the country's infrastructure level, but also provide strong support for rapid economic growth. However, it is the liabilities of the non-financial corporate sector that need to be vigilant, that is, China's local implicit debts, especially the liabilities of local urban investment companies. These hidden debts may not be included in government bonds and local bonds, but they still pose potential risks to China's fiscal stability.

The debt of the United States is mainly composed of consumption, financial services and the huge war expenditures, such as the financial aid provided by the United States to Ukraine and Israel, the huge war expenditures in Iraq and Afghanistan, and the enormous annual military expenditures of their own. Especially during the response to the COVID-19 epidemic, the U.S. government adopted a policy of printing dollars and providing cash subsidies to residents and businesses. Although these policies helped stabilize the economy in the short term, they did not create corresponding fixed assets. By comparing the economic structure corresponding to debt, we can see that the debt problem in the United States is more serious and the quality of debt is poor. Some people believes that the current debt situation in the United States is very similar to that of Evergrande Group before the collapse - huge debt balance, continuous deposits at high interest rates (interest rates exceeding 5% are terrible), and insufficient profitability (Feng, 2024). If the United States does not change its economic structure, does not reduce its military and war expenditures, and does not make great efforts to reduce its fiscal expenditures, it will only be a matter of time before the United States encounters the risk of debt default and an economic crisis.



**Fig. 2** Nonfinancial Corporate Debt, Loans and Debt Securities of China and the US (% GDP)  
Source: Global Debt database, IMF

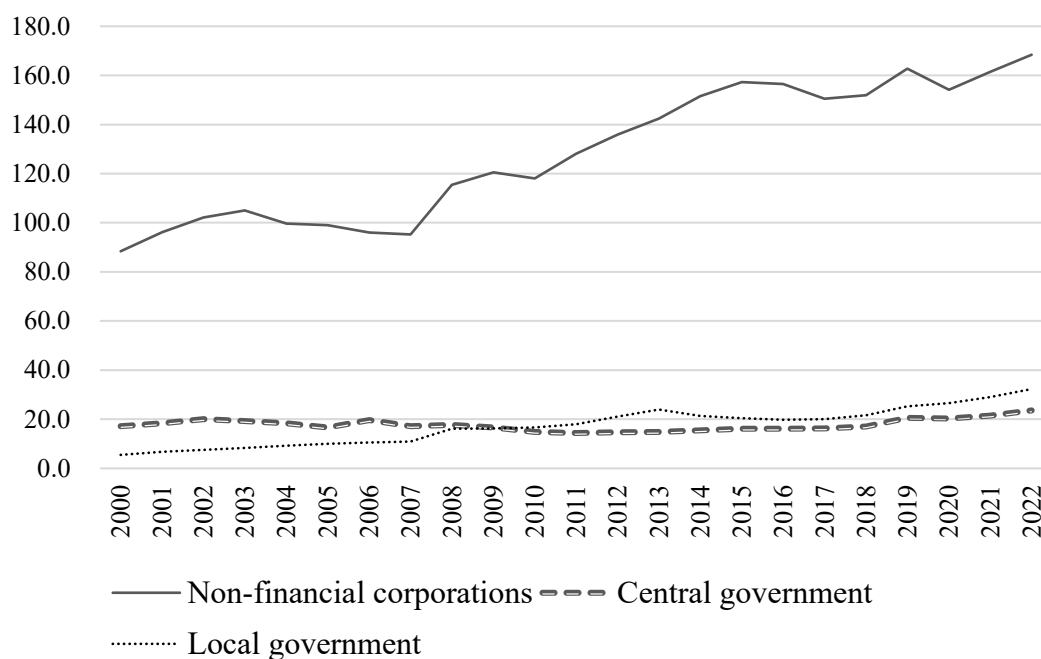
## 4. Dealing with China's debt problem

### 4.1. Increasing city investment debt

The leverage ratio data of China's non-financial sector has grown rapidly since 2008. One of the important reasons is that local financing companies have issued a large number of urban investment bonds. If urban investment bonds are excluded, the total ratio of China's non-financial corporate sector debt to GDP may be the same as that of the United States, or even lower than that of the United States. Although the debt of local government departments in our country is not very high, however,

urban investment bonds issued by local financing companies can be seen as a part of the invisible debt of local governments theoretically. Although the main borrowers are urban investment companies, they still rely on the credit endorsement of local governments to complete financing. In the end It still has to be repaid by the local government.

Due to the tax system in China, local government tax revenue is limited, and the pressure of special debts on local government special debts is also rising. In the past, local governments relied heavily on land financing revenue, which is about the land transactions. With the recession in the real estate industry in recent years, local government debt has reached a point where turnover is difficult or even unsustainable. Therefore, how to deal with local debt is crucial to the future development of our country's economy. Since 2022, the solvency of local governments has weakened, the refinancing ability of urban investment companies has declined, and it is the non-standard defaults by urban investment companies and overdue commercial bills that occurred frequently. Entering 2023, defaults by urban investment companies became more and more intense: January to November 2023, There were 116 defaults month in total, a record high especially for provinces like Shandong, Guizhou and Yunnan with weak fiscal strength, high debt pressure, or provinces whose debt control capacity is not strong. So urban investment bonds have become an important hidden danger of local government debt management. And the market is generally worried about the credit risks of urban investment bonds, accordingly, how to resolve these hidden dangers is related to the country's economic security and financial stability.



**Fig. 3** Macro Leverage Ratio of Non-financial Corporate, Central Government and Local Government Sectors in China (%)

On the other hand, local government debt is a powerful tool to promote economic development. A consensus in modern economics is that the modern economy is driven by debt (Barseghyan & Battaglini, 2016). After urban investment companies obtain funds, they can not only invest in real estate, but also benefit social development by promoting infrastructure construction. If local governments do not borrow money and can only slowly save money and slowly build infrastructure such as railways, local economic development will also progress slowly, and China will no longer be known as the infrastructure giant. By increasing leverage, improving infrastructure improves the efficiency of inter-regional exchanges and accelerates the speed at which people create wealth. In this way, various industries can promote each other and achieve a blowout economic development. To sum up, the trade-off between the scale of local government urban investment bonds and economic development has become a key issue that needs to be considered.

## 4.2. Trade off between growth and financial stability

After being stable at around 88% of GDP prior to 2008, Chinese Non-financial corporate debt has since increased sharply to over 130% of GDP (Graph 1). China's rapid growth prior to 2009 was driven by high levels of debt-funded investment, but because this investment earned high returns, income levels increased as fast as debt levels so the debt-to-GDP ratio did not increase. Since 2009, however, the returns on Chinese investment have declined due to decreasing returns to investment (e.g. building high-speed rail lines in increasingly remote places), excess capacity in several key industries (e.g. steel) and increasing use of debt for speculative investment on stocks and, particularly, real estate. Despite these lower returns, borrowing and investment has remained high which has led to a sharply rising debt to GDP ratio.

As investment returns decline, more investment is required to maintain growth. If this investment is funded by debt, the ratio of debt-to-GDP will increase. If, instead, the goal is to stabilize the debt-to-GDP ratio, then borrowing and investment must decrease, which leads to slower growth. In short, declining investment returns create a tradeoff: either growth must slow or debt-to-GDP ratios must increase. (Paul, 2016)

We can see this trade off in the policy changes of the Chinese government. Although it realizes the risk of rising debt, the government seems unwilling to accept the slowdown in growth that is needed to address it. Rough calculations suggest that growth must slow to 3-4% to stabilize the real debt-to-GDP ratio, but it's better for government to maintain the growth rate above 5%. From a Quarterly report by National Institution for Finance and Development, NIFD, though there is a high debt in the city investment sector, the reporter suggest that at the current point, it is still necessary for government departments to vigorously increase leverage and raise the nominal growth rate of infrastructure investment to at least 10% in the short term to stabilize economic growth and macro leverage ratio. (Zhang, 2024)

Easing this kind of trade off requires an increased return on investment. Assuming the return investment remain low, the trade off between growth debt must eventually be addressed.

## 4.3. Options for dealing with debt problem

### 4.3.1. Control implicit debt of local government

Containing the city investment debt increase is a fundamental issue. If the increase is not contained, a vicious cycle that old debts not being paid off and new debts being incurred will emerge. Local governments should improve the normalized coordination and supervision of various government departments. For central government, strengthening budget management, financial supervision, and penetrating monitoring of special bond projects should be implemented. Simultaneously, the central should consolidate local government territorial responsibilities, enhance implicit debt accountability, and prohibit all disguised forms of supervision.

The central government's urban investment debt restrictions on local governments have initially begun to be implemented. In February 2024, the central government claimed that 12 provinces and municipalities with high debt risk to postpone or stop the construction of infrastructure projects, including the renovation of public transportation, municipal administration, and industrial estates. Except for livelihood projects such as schools, hospitals, water supply, power supply, and heating, no new projects are allowed to appear in 2024.

The urban investment companies can be reorganized and integrated. Through mergers and reorganizations, asset transfers, equity transfers and other methods, superior resources are concentrated to form strong credit entities with better financial conditions. After restructuring and integration, it can help urban investment companies with weak credit to resolve debt risks and more. What's important is that the credit rating, asset quality, profitability and solvency of urban investment companies can be comprehensively improved, the market recognition of financing entities and the platform's ability to resist risks being strengthened, and financing costs being reduced.

**Table 1.** National Local Government Debt Level of 2017-2023

Year	Explicit debt balance of local government (1)	City investment interest-bearing debt balance (2)	Wide caliber debt balance of local government(3)=(1)+(2)	Wide caliber local government debt ratio
2017	16.47	29.29	45.76	204.447%
2018	18.39	25.28	53.67	212.81%
2019	21.31	40.96	62.27	225.62%
2020	25.66	48.15	73.81	247.44%
2021	30.47	52.82	83.29	280.44%
2022	35.06	57.48	92.54	316.48%
2023	40.74			

#### 4.3.2. Resort to local state-owned enterprises (SOEs)

Local state-owned enterprises are also of great significance to resolving urban investment debt risks. SOEs can bring tax revenue and state-owned capital operating income to local governments, enriching the two accounts of local government fiscal revenue. Specifically, in addition to provinces such as Guangdong, Jiangsu, Shanghai, Shandong, Anhui and Fujian, which have strong economic and financial strength, regions with large and high-quality state-owned enterprises in the provinces are often able to obtain higher levels of state-owned capital operating income, such as Shanxi, Yunnan and Guizhou. Historically, Guizhou Province and Yunnan Province used the equity of Moutai and Yunnan Baiyao respectively to resolve debts problems. Through allocating the equity of listed SOEs to the urban investment platform for free, through dividends, pledges and reductions, thereby alleviating debt pressure and at the same time providing high-quality listings, meanwhile the company's equity can also add credit to the urban investment platform.

#### 4.3.3. Give priority to domestic circulation

From a macro perspective, China should strive to build a new development pattern with domestic circulation as the mainstay, focus on increasing residents' income, stimulate consumer demand, and promote high-quality development. China must pay close attention to the impact of the U.S. debt crisis on the global financial market and real economy, and take timely and effective measures to stabilize the RMB exchange rate, prevent capital flow fluctuations, ensure the security of foreign exchange reserves, and maintain financial stability. Optimize the foreign exchange reserve structure and investment strategy. Moreover, China should adjust the proportion of foreign exchange reserve allocation based on market changes and risk-return ratios, appropriately increase physical assets such as gold, crude oil, industrial raw materials, and other financial assets such as sovereign bonds, and gradually reduce over-reliance on U.S. dollar assets.

## 5. Conclusion

In terms of debt scale, China's central and local government debt is much lower than that of the United States as well as Japan. In terms of debt structure, the underlying assets corresponding to China's debt are mainly secondary industries, while the United States rely on ultra strong debt in consumption and financial sector. The real economy is more robust, so the possibility of a systemic debt crisis in China is much lower than that in the United States. However, China's debt-to-GDP and leverage ratio in the non-financial corporate sector are much higher than the US and world averages. The super high balance of government-endorsed urban investment bonds can be the main reason, which is the invisible debt of local governments. In recent years, the investment return rate of urban investment bonds has been getting less profitable. Coupled with the recession in the real estate industry, it has become an urgent transition for local governments not to rely on these low-return

investments to drive economic growth. By prudential regulation from central government, the balance of low quality and unnecessary city investment debt can be controlled. For those local governments who already caught in the urban investment bond crisis, they can survive the crisis by trading the assets of local state-owned enterprises.

For some time to come, it is not so optimistic global economic growth and international trade growth to increase in a steady state. Solving the debt problem, paying attention to the major domestic cycle and finding new drivers of economic growth will be the key way out of the dilemma of low economic growth for China.

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