

Global Perspective on the Scale and Structure of Non-Financial Sector Debt

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Keywords: GDD; non-financial sector; debt governance

Abstract: This article first introduces the indicators, statistical definitions, and data sources related to non-financial sector debt in the GDD dataset. It then analyzes the current size and regional distribution of global non-financial sector debt in 2021, and further examines the trends in global debt size, sectoral structure, and regional composition over a longer period preceding the outbreak of the COVID-19 pandemic. This article highlights that a critical concern for major economies across the globe is the substantial accumulation of debt burden weighing on the real economy. Consequently, there is an urgent need for countries to establish an alternative economic growth model that is not excessively reliant on credit creation. Effective management of debt size and optimization of debt structure have emerged as pressing imperatives to address this issue.

1. Introduction

On January 19, 2023, the United States government's debt reached the upper limit of \$31.4 trillion. After months of fierce battles between the Democratic and Republican parties, on June 3, local time, President Joe Biden officially signed a bill concerning the federal government's debt ceiling and budget, temporarily resolving the "crisis" of the U.S. government's debt default. However, the continuous increase in the debt ceiling by the U.S. Congress means that the government can excessively borrow against the future, continuing the cycle of borrowing to pay off existing debt. If it eventually spirals out of control, it will not only severely impact the U.S. economy but also cause a significant downturn in the global economy [1].

However, it is not only the U.S. government that is borrowing. Since the global financial crisis of 2007-2008, there has been no significant deleveraging at the global non-financial sector level. The problem of debt overhang has become a major issue in the current global economic development [2-9]. Therefore, gaining a clear understanding of the size and structure of non-financial sector debt from a global perspective is beneficial for countries to cooperate politically and economically. This will enable them to formulate coordinated and mutually agreed-upon debt governance and economic development policies. To achieve the aforementioned objectives, this article will analyze the trends in the size and structure of global non-financial sector debt based on the GDD database. The analysis will primarily focus on the period spanning over a decade since the outbreak of the global financial crisis in 2007-2008.

2. Data Source and Processing

The GDD (Global Debt Database) dataset, published by the International Monetary Fund (IMF), is a collection of non-financial sector debt and nominal GDP data from 1950 to 2021, covering 190 countries and regions worldwide. GDD defines debt as the total stock of all liabilities that serve as debt instruments. Under this definition, non-financial sector debt includes loans, debt securities, special drawing rights, other accounts payable, insurance, pension, and standardized guarantee schemes. However, when tracing back to before the 1990s, only a few countries had statistical data covering this broad scope. For most emerging market economies and low-income developing countries, debt data that fit this definition have not been included in the statistics even in recent years. Therefore, GDD defines a narrower category of private debt, which includes only loans and debt securities. The GDD dataset also provides separate statistical indicators based on the broad debt category for central government, general government, and non-government public sector [10].

Table 1 presents all the debt indicators in the GDD database. From Table 1, it can be observed that the IMF's Global Debt Database provides a total of 10 indicators for the non-financial sector debt-to-GDP ratio. It also offers nominal gross domestic product (GDP) in the respective currencies of the 190 member economies. However, the data is missing for two indicators, namely "Public Sector Debt" and "Debt of Non-Financial Public Sector," across all 190 economies.

Table 1: Indicators and statistical definitions in the GDD dataset, along with data sources

Indicators	Definitions (percent of GDP)	Dara Sources
Total private debt	1.Total private debt, all instruments 2.Total private debt, loans and debt securities	All Instruments: OECD (1950-2021) Domestic Loans: National Source (1950-2021) Cross-Border Loans: National Source (1950-2021) Securities: National Source (1950-2021)
Households debt	3. Household debt, all instruments 4. Household debt, loans and debt securities	All Instruments: OECD (1950-2021) Loans and Securities: National Source (1950-2021)
Non-financial corporations debt	5.Non-financial corporations debt, all instruments 6. Non-financial corporations debt, loans and debt securities	All Instruments: OECD (1950-2021) Loans and Securities: National Source (1950-2021)
Public sector debt	7. Public sector debt	Not available
Nonfinancial public sector debt	8. Nonfinancial public sector debt	Not available
General government debt	9. General government debt	National Source (1950-2021)
Central government debt	10. Central government debt	National Source (1950-2021)
Nominal gross domestic product	11. Nominal gross domestic product (billions)	WEO2022(195-2021)

3. Global Debt Scale and Structure

Due to the gradual economic recovery and the withdrawal of fiscal support measures implemented to combat the COVID-19 pandemic, the global economy experienced a 10-percentage-point decrease in the global debt-to-GDP ratio in 2021. However, the scale still remains high at \$235 trillion, approximately 2.5 times the global GDP. As depicted in Figure 1, the global public debt-to-GDP ratio declined from 99.8% in 2020 to 95.7% in 2021. At the same time, the global non-financial private

debt-to-GDP ratio decreased from 159.5% in the previous year to 153.5%. Overall, the current global non-financial sector debt has increased by approximately 30 percentage points relative to GDP compared to the pre-financial crisis levels of 2007. This increase includes a 60-percentage-point rise in public sector debt and a roughly 10-percentage-point increase in non-financial private sector debt. These findings indicate that over the past decade since the financial crisis, there has been no significant deleveraging in the global real economy.

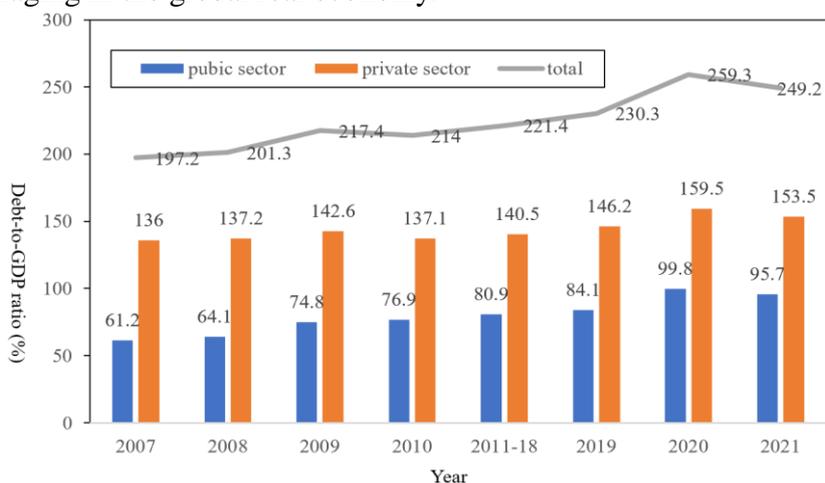


Figure 1: Changes in global non-financial sector debt

Figure 2 shows that, compared to 2020, the average debt-to-GDP ratio of advanced economies in 2021 decreased by 10.2 percentage points to 294%. This decline was driven by a joint decrease of 5.1 percentage points in both public and private debt. However, compared to the pre-financial crisis levels of 2007, the average debt-to-GDP ratio of the non-financial sector in advanced economies has increased by 20 percentage points. Private sector debt-to-GDP ratio has grown by approximately 10 percentage points, while government debt-to-GDP ratio has surged by 70 percentage points. This indicates that, following the financial crisis, debt in advanced economies started shifting from the private sector to the public sector.

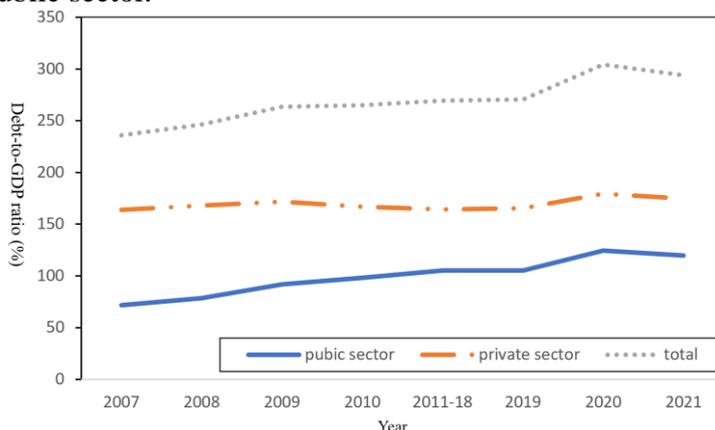


Figure 2: Non-financial sector debt in Advanced Economies from 2007 to 2021

Figure 3 illustrates the changes in non-financial sector debt in emerging economies and low-income developing countries from 2007 to 2021. In 2021, the average debt-to-GDP ratio of emerging economies decreased by 7 percentage points to 194.1%. On average, in 2007, the non-financial sector debt of emerging economies was roughly equivalent to their GDP, with an average debt-to-GDP ratio of 102.6%. However, due to the impact of the COVID-19 pandemic, this ratio surpassed 200% in 2020, reaching 201.1%. This indicates that over the course of 14 years, the debt of the real economy

in emerging economies has doubled.

From Figure 3, it can be observed that prior to the COVID-19 pandemic, the debt-to-GDP ratio of the public sector in emerging economies was consistently maintained between 35% and 40%. However, during the pandemic, it surged to 64%, which is 1.8 times the level in 2007. On the other hand, private sector debt experienced a significant expansion starting from 2011, and on average, it has now reached 130.6% of GDP, which is 1.9 times the level in 2007. Therefore, both public and private sector debt expansions have influenced the debt expansion trend in the real economy of emerging economies. However, in terms of scale, the private sector has been the dominant driving force behind the debt expansion.

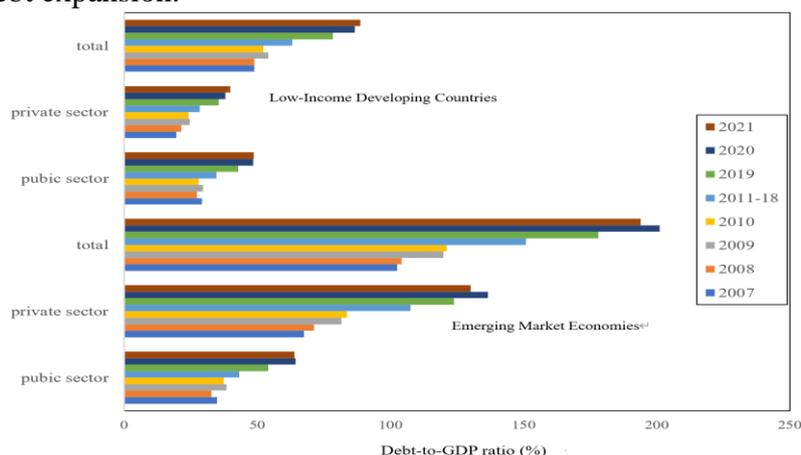


Figure 3: Non-financial sector debt in EMEs and LIDC

In 2021, the debt-to-GDP ratio of the non-financial sector in low-income developing countries reached 88.7%, compared to 48.9% in 2007. This signifies that since the financial crisis, the debt of the real economy in low-income developing countries has nearly doubled. From Figure 3, it can be observed that during the period from 2007 to 2021, public sector and private sector debts increased by 70% and 100.03% respectively. Therefore, it can be stated that both public and private sector debt expansions have jointly driven the debt expansion in low-income developing countries.

The United States, China, and Japan, which are the world's top three economies in terms of size, are also the three largest countries in terms of debt. Their non-financial sector debt accounts for over half of the global debt. Figure 4 illustrates the debt trends in these three countries, as well as the Eurozone and emerging economies excluding China, since the financial crisis.

From Figure 4, it can be observed that Japan has consistently maintained a significantly higher non-financial sector debt-to-GDP ratio compared to other major economies. Currently, this ratio stands at a staggering 449.6%, which is 1.57 times higher than the corresponding level in the United States and 1.7 times higher than that in China. China initially had a much lower debt level than the United States, Japan, and the Eurozone during the financial crisis. However, starting from 2010, China's overall debt size began to grow rapidly. By 2019, China's non-financial sector debt-to-GDP ratio had become comparable to the average levels of the United States, the United Kingdom, and the Eurozone. Currently, this ratio is significantly higher than the average level in other emerging economies, standing at 2.01 times higher than the average debt-to-GDP ratio in those economies.

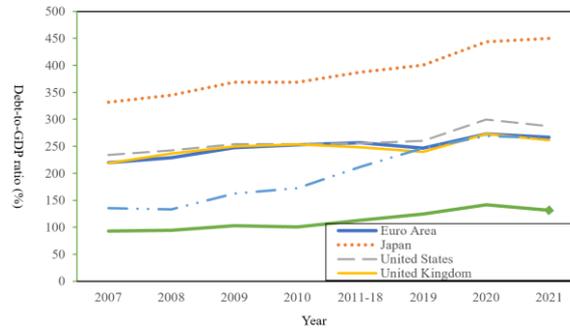


Figure 4: Trends in non-financial sector debt in major economies

Compared to 2007, Japan and the Eurozone experienced a 50-percentage-point increase in the public debt-to-GDP ratio. Emerging economies, excluding China, saw an average increase of 60 percentage points in their public debt-to-GDP ratio. The United States witnessed a doubling of its public debt-to-GDP ratio, while China and the United Kingdom saw a 140% increase. During the same period, the rate of increase in private sector debt-to-GDP ratio was significantly lower than that of public debt expansion in these major economies. This reflects the consequences of the widespread use of fiscal policy to stimulate economic growth since the financial crisis. However, in terms of absolute scale, private sector debt is much higher than public sector debt. According to Figure 5, on average from 2007 to 2021, private sector debt in China's real economy is 3.5 times higher than public sector debt. In other emerging economies excluding China, this ratio is 1.5, while it is 2.5 for the United Kingdom, 1.7 for the United States, and 2 for the Eurozone. Japan is an exception, as its private sector debt is significantly lower than public sector debt, with a ratio of approximately 0.8.

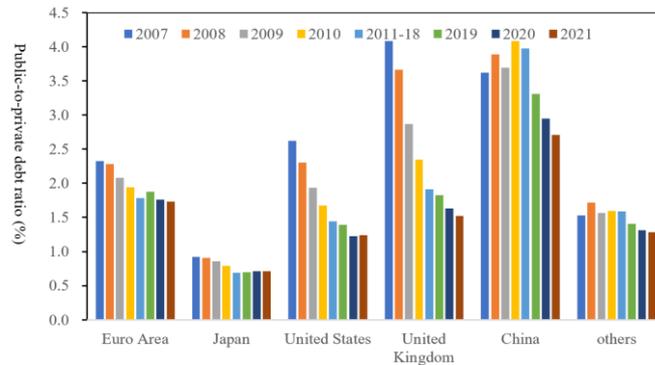


Figure 5: Changes in the public-to-private debt ratio in major economies

Therefore, regardless of the global perspective, the level of economic development, or the different sectors of the real economy, the common conclusion is that debt has skyrocketed at an unprecedented pace. Since the outbreak of the 2007-2008 financial crisis, Western developed economies have had to increase public expenditure and fiscal transfers, along with long-term quantitative easing monetary policies, in order to stimulate economic growth while private enterprise and household sectors deleveraged. In the case of China, facing a contraction in external demand, it initiated large-scale proactive fiscal policies to stimulate the economy. While these policies have to some extent boosted economic growth and facilitated economic recovery, they have also led to a continuous rise in the accumulation of debt in the global real economy. The outbreak of the COVID-19 pandemic in December 2019 has exacerbated this trend.

4. Conclusion and Discussion

Although we are discussing debt in the "non-financial sector," the demand for debt from

households and corporate sectors corresponds to the debt supply from the financial sector, and many government bonds issued are also held by financial institutions. Therefore, the persistently high level of debt in the non-financial sector may be attributed to the rapid expansion of the financial sector. Statistics shows that from 1865 to 2008, the average annual growth rate of the financial industry in the UK was 4.4%, compared to the economic growth rate of 2.1% during the same period. Between 1850 and 2009, the share of the financial industry in national income increased from 2% to 6%, indicating that since the rise of modern capitalism in the 19th century, the financial industry has grown significantly faster than the real economy.

Financial industry has created a significant amount of money by providing loans to the real economy, especially the household sector. Additionally, the asset management activities of financial institutions have contributed to the development of large-scale trading, market-making, and financing businesses. The accelerated growth of the financial industry since the 1970s is not only the result of increased usage of financial services by households and corporate sectors, but also notable is the fact that the financial system itself needs to engage in more complex and extensive activities for every unit of financial services enjoyed by the real economy.

In short, the modern financial system has created excessive credit. For its own benefit, the financial sector must sell these credits. In a lax regulatory environment, financial practitioners do not need to consider the impact of these credits on economic development, while the disastrous consequences are borne by society as a whole. The most significant issue for economic growth in major economies today is the heavy burden of debt on the real economy. The historical and current records of socioeconomic development in various countries clearly demonstrate the severe predicament caused by debt accumulation and the significant economic losses resulting from economic recessions and weak recoveries in the post-crisis period. Therefore, it is urgent for countries to establish an economic growth model that does not rely on excessive credit creation, and managing the size of debt and optimizing debt structure have become immediate priorities.

Acknowledgement

This work was supported by Humanities and Social Sciences Projects in Universities of Anhui Province (SK2020A0018).

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