

# The Trend of China's Money Supply under the New Situation and the Study of Its Implications

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**Abstract:** In the past few years, China's economy has encountered a series of intricate internal and external challenges, encompassing the impact of COVID-19, shifts in the global economic landscape, and domestic economic structural adjustments. During the period from 2021 to 2023, several significant changes occurred in the domestic and international economic and financial situations, such as escalating global inflationary pressures, interest rate hikes by the Federal Reserve, and heightened fluctuations in the RMB exchange rate, all of which exerted an influence on the domestic money supply. This study conducts an analysis of the variations in narrow money (M1) and broad money (M2) during the period from 2021 to 2023, delving into the underlying capital flows and their deep-seated reasons.

**Key words:** Chinese economy; narrow money; broad money; capital flow

## 1. Introduction

From 2021 to 2023, the balance of broad money (M2) showed a steady growth trend. In 2021, the balance of M2 was 238.29 trillion yuan, a year-on-year growth of 9 percent; in 2022, the balance of M2 reached 266.43 trillion yuan, a year-on-year growth of 11.8 percent; and in 2023, the balance of M2 further grew to 292.27 trillion yuan, a year-on-year growth of 9.7 percent.

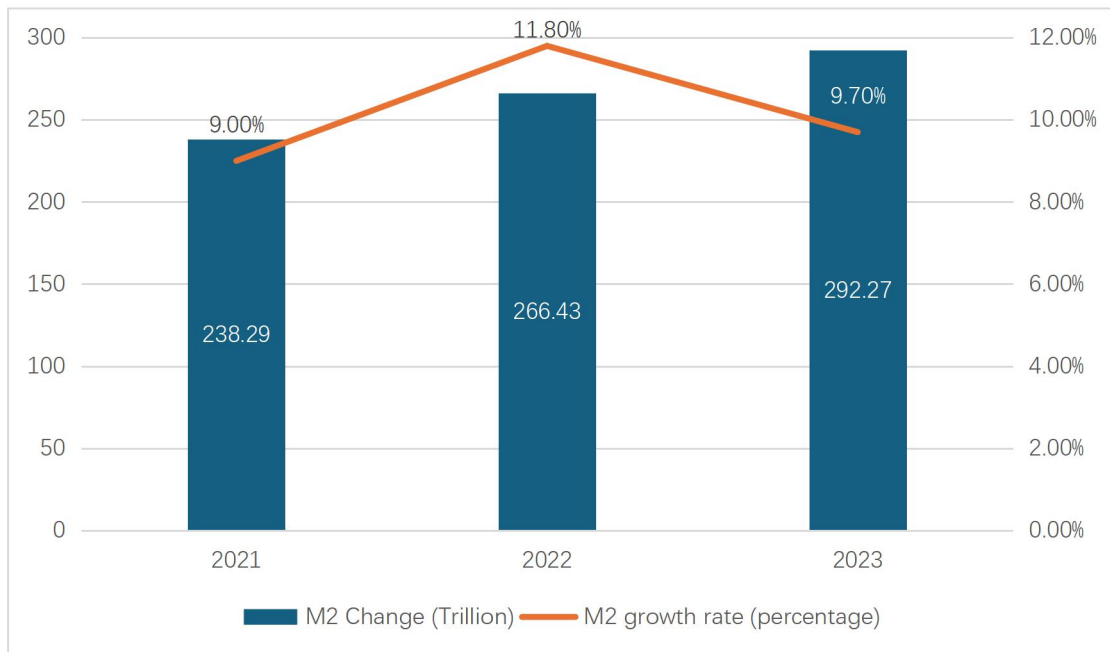


Figure 1 Growth trend of M2 from 2021 to 2023  
 Data source: official website of the People's Bank of China

In contrast, narrow money (M1) grew at a slower pace. In 2021, the M1 balance stood at 64.74 trillion yuan, up 3.5 percent year-on-year; in 2022, the M1 balance increased to 67.17 trillion yuan, up 3.7 percent year-on-year; and in 2023, the M1 balance stood at 68.05 trillion yuan, up only 1.3 percent year-on-year.

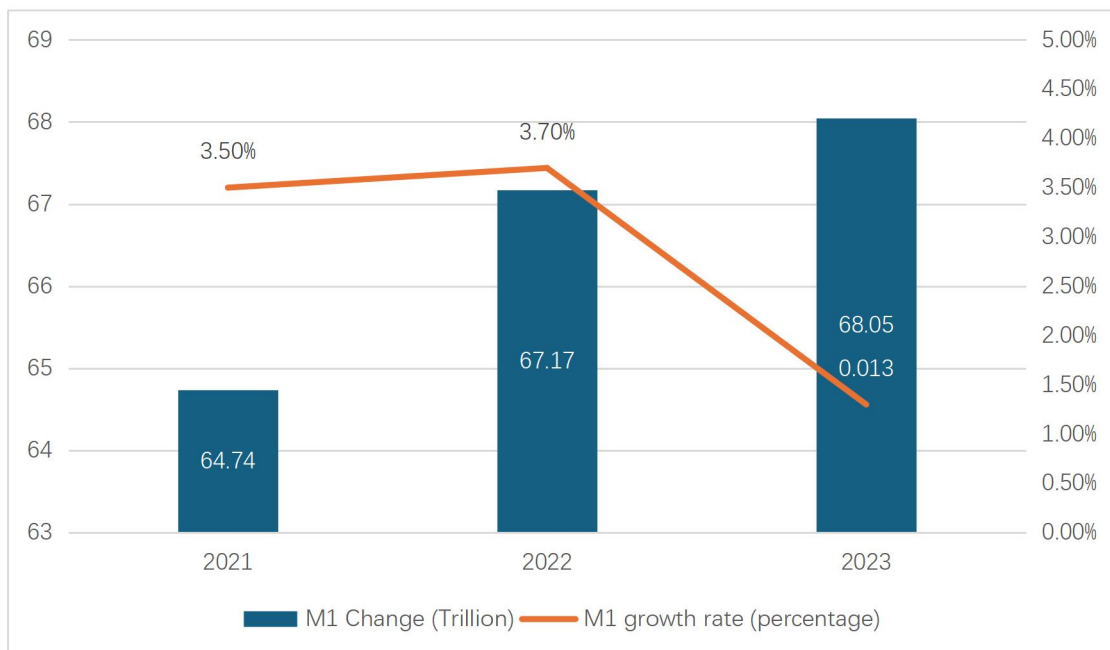


Figure 2 Growth trend of M1 from 2021 to 2023  
 Data source: official website of the People's Bank of China

The growth rate of money in circulation (M0) has fluctuated considerably in these three years: in 2021, the M0 balance was 9.08 trillion yuan, a year-on-year increase of 7.7 percent; in 2022, the M0 balance increased sharply to 10.47 trillion yuan, a year-on-year increase of 15.3 percent; and in 2023, it stood at 11.34 trillion yuan, a year-on-year increase of 8.3 percent. Therefore, this paper provides an in-depth analysis of the changes in narrow money (M1) and broad money (M2) from 2021 to 2023, and explores the financial structural problems behind these changes, as well as the intentions of the central bank and the government's macroeconomic policies, with a view to better understanding the operation mechanism of China's monetary policy and its impact on the economy, as well as the policies that should be adopted to deal with the complex economic situation in the midst of the unprecedented changes of the past hundred years. The following is an overview of China's monetary policy and its impact on the economy.

## **2. Reasons for Changes in Narrow Currency (M1) from 2021 to 2023**

The balance of narrow money (M1) in China steadily grew from 64.74 trillion yuan in 2021 to 69.05 trillion yuan in 2023, reflecting a significant trend of stable development in the country's economic market. However, in-depth market research and detailed data analysis reveal that, despite the overall growth of M1, the year-on-year growth rate did not show a continuous upward trend between 2021 and 2023. Specifically, the year-on-year growth rate of M1 was 3.5% in 2021, slightly increased to 3.7% in 2022, but significantly decreased to only 1.3% in 2023.

Based on the data analysis from 2021 to 2023, the development of China's M1 during this period can be divided into two stages. The first stage, from 2021 to 2022, saw a stable growth in M1 balance with a steady upward trend in the year-on-year growth rate. However, when M1 development entered the second stage (from 2022 to 2023), the growth of M1 began to face obstacles, and the year-on-year growth rate experienced a significant decline. This shift may indicate potential structural adjustments in economic activities, the impact of changes in macroeconomic policies, or new challenges and risks facing the economic market. Although the overall growth of M1 reflects the resilience of China's economic market in the face of external shocks such as the COVID-19 pandemic, the fluctuation of its year-on-year growth rate exposes the uncertainty in the development of the financial market. At this historical juncture where the global political and economic landscape is undergoing profound changes, it is even more necessary to seize the opportunities for national development in this once-in-a-century major transformation. It requires a deeper analysis of the internal structure of the economic market and the dynamic relationship between money supply and economic growth, in order to provide accurate data support and scientific research basis for future policy formulation. Such analysis and research, are expected to better identify and respond to potential risks in China's economic market, ensure the stability and sustainability of the financial market, and further promote the healthy development of the national economy.

Firstly, a deep analysis of the stable growth trend of M1 from 2021 to 2022 reveals that its balance continued to increase, with a year-on-year growth rate showing a rising trend year by year. This reflects the robustness of China's economic market in the face of external challenges such as the COVID-19 pandemic. By reviewing the data, it is clear that M1 consists mainly of cash in circulation, corporate

demand deposits, deposits of government agencies and organizations, rural deposits, and individual-held credit card deposits. These components are all funds with high liquidity and flexibility in the economic system. Data released by the central bank shows that by the end of November 2022, the balance of domestic deposits in deposit-taking financial institutions reached 261.11 trillion yuan, an increase of 10.74% compared to the end of 2021. Specifically, household deposit balances were 118.34 trillion yuan, up 14.55% year-on-year; non-financial corporate deposit balances were 77.86 trillion yuan, up 6.89% year-on-year; government agency and organization deposit balances were 33.50 trillion yuan, up 7.43% year-on-year; fiscal deposit balances were 6.11 trillion yuan, up 20.73% year-on-year; and non-deposit financial institution deposit balances were 25.30 trillion yuan, up 8.13% year-on-year. Therefore, the stable growth of M1 in this stage actually reflects important indicators of economic activity, demonstrating good adaptability and robust expansion of core economic elements such as cash in circulation and corporate demand deposits. This growth trend indicates that under external challenges such as the COVID-19 pandemic, China’s economic market has shown strong anti-risk capabilities, providing solid support for sustained and healthy economic development. This phenomenon, occurring against the backdrop of a stable period of the pandemic achieved through strong policy regulation and the united efforts of people from all walks of life, is the result of residents seeking fund safety and liquidity amidst economic uncertainty (Kim et al., 2023). After experiencing the initial impact of the pandemic from 2019 to 2021, Chinese urban and rural residents tended to deposit funds in banks to earn demand interest and set aside funds for various possible emergencies rather than invest in the consumer market from 2021 to 2022. The “China Statistical Yearbook 2021” shows that the balance of RMB household deposits in China increased by 9.9 trillion yuan in 2021, up 11.07% year-on-year. This growth trend continued in 2022, with further increases in household savings deposits, indicating the heightened importance Chinese urban and rural residents placed on fund safety during the pandemic. This trend of increased savings to some extent reflects residents’ precautionary savings in anticipation of future economic uncertainties. The increase in the scale of savings not only affects the size of bank deposits but also reflects the potential for consumption among Chinese residents. When the national economic environment stabilizes and consumer confidence is restored, this portion of savings can be converted into consumption expenditure, thereby stimulating economic growth. Taking 2023 as an example, as the impact of the pandemic gradually weakened, China’s economy gradually recovered, and the consumer confidence index also gradually rose. According to data from the National Bureau of Statistics of China, in the first quarter of 2023, the per capita consumption expenditure of national residents was 6,738 yuan, up 5.4% year-on-year in nominal terms, and up 4.0% in real terms after adjusting for price factors.

Table 2-1 Cumulative Value and Cumulative Growth of Per Capita Consumption Expenditure of Residents in the First to Fourth Quarters of 2022-2023

Index	2023 Q4	2023 Q3	2023 Q2	2023 Q1	2022 Q4	2022 Q3	2022 Q2	2022 Q1
Accumulated per capita consumption	26796	19530	12739	6738	24538	17878	11756	6393

expenditure of residents (yuan)								
Cumulative growth of per capita consumption expenditure of residents (%)	9	8.8	7.6	4	-0.2	1.5	0.8	5.7

(Note: The growth rate of per capita consumption expenditure is the actual growth rate after deducting price factors, and the rest of the growth rates are nominal growth rates. Data source: National Bureau of Statistics of China)

This growth is, to some extent, attributed to the increase in residents’ savings. Moreover, according to market survey data, the growth rate of urban and rural residents’ consumption expenditure in China slowed down from 2021 to 2022, with some consumers choosing to reduce spending on non-essential items and increase savings for future needs. This phenomenon was particularly evident in industries such as catering, tourism, and entertainment, which were significantly impacted during the pandemic, and where consumer confidence and willingness to spend recovered slowly (Yao et al., 2023). Therefore, during this period, the increase in urban and rural residents’ deposits became the main driving force for the growth of M1.

In summary, the stable growth of M1 from 2021 to 2022 not only reflects the overall stability of China’s economic system in the face of the challenges posed by the COVID-19 pandemic but also reveals the adjustment of urban and rural residents’ consumption and savings strategies during extraordinary times. The increase in residents’ demand deposits to cope with future uncertainties, while reducing immediate consumption, provides key insights for analyzing and predicting future economic trends and is of great importance for formulating policies that adapt to economic changes.

To deeply analyze the development trend of M1, it is essential to focus on the key economic indicator of corporate demand deposits. The changes in corporate demand deposits reflect the liquidity and investment activities at the enterprise level and are a significant component of M1. Market research and data analysis clearly show that from 2021 to 2022, corporate demand deposits in China exhibited a trend of stable growth. According to the “Financial Statistical Data Report for the First Three Quarters of 2021,” by the end of September 2021, the balance of RMB deposits in China reached 229.18 trillion yuan, an increase of 8.6% compared to the same period last year. In the first three quarters, the total RMB deposits increased by 16.61 trillion yuan, with non-financial enterprise deposits increasing by 2.02 trillion yuan. In the following fiscal year, this growth trend became even more pronounced. This growth trend is closely related to the concurrent growth rate of M1, indicating an increase in the activity and liquidity of market funds.

Further analysis reveals a significant positive correlation between the growth rate of M1 and corporate profitability. Specifically, when the growth rate of M1 increases, it often means that the growth rate of corporate demand deposits is also increasing correspondingly, reflecting the enhanced activity

and liquidity of market funds. In a favorable economic climate, the profit levels of enterprises are typically boosted. As production inputs accelerate, the cash conversion cycle of enterprises also speeds up, naturally increasing the demand for liquidity. At the same time, with the increase in investment opportunities, corporate investment enthusiasm also rises, further prompting enterprises to convert time deposits into demand deposits to meet investment needs. According to data from the China Association of Automobile Manufacturers, over the course of one year from 2021 to 2022, as the global economy gradually recovered from the COVID-19 pandemic and domestic demand for new energy vehicles remained strong, the Chinese automobile industry experienced significant growth. Many new energy vehicle companies saw a substantial increase in sales revenue, which corresponded positively with their demand deposits in banks. This phenomenon clearly demonstrates the correlation between improved corporate profitability and the growth of demand deposits, reflecting the role of industry prosperity and increased market demand in promoting corporate liquidity. Additionally, according to data released by the China Federation of Logistics and Purchasing, from 2021 to 2022, the Purchasing Managers' Index (PMI) of China's manufacturing industry remained above the boom-bust line, indicating a relatively stable overall operating situation in the manufacturing sector. This stability has contributed to the growth of M1, further promoting stable economic development.

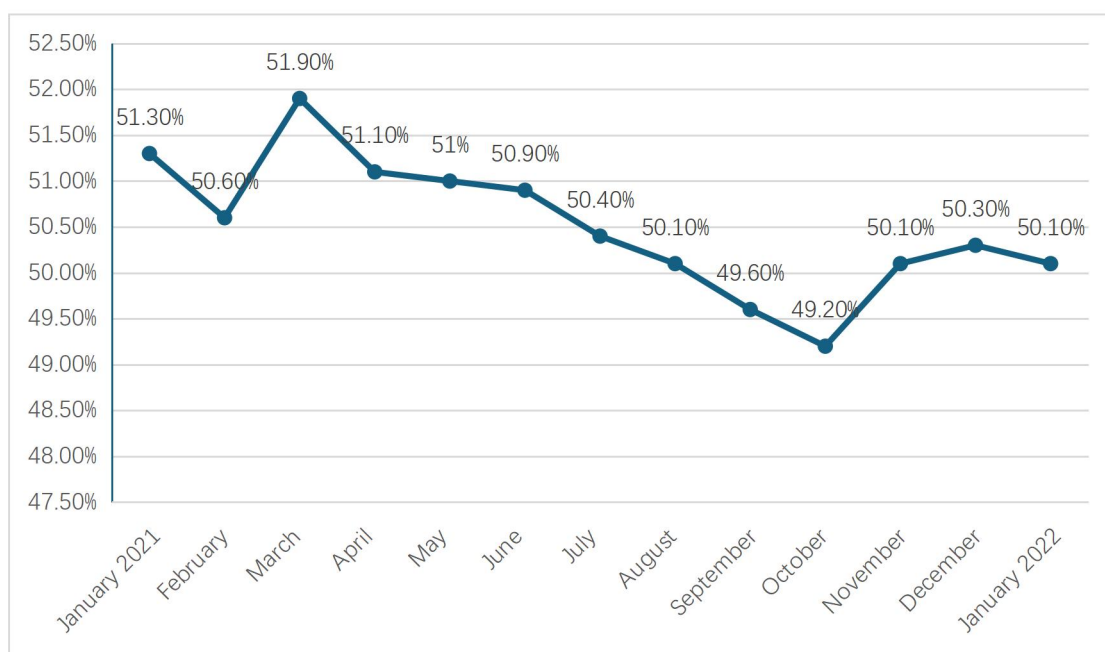


Figure 3 Manufacturing PMI Index (seasonally adjusted)  
Data source: official website of the People's Bank of China

During the special period from 2021 to 2022, China's economy showed a relatively stable development trend against the backdrop of pandemic stabilization. Similarly, corporate development during this period also exhibited stability. Consequently, the steady growth of M1 also reflects, to some extent, the stability of corporate development during this time. This finding not only helps in understanding the intrinsic link between M1 and corporate development but also provides an important reference for predicting future economic trends.

Certainly, during this crucial year, China resolutely adopted a series of policies and measures to promote economic growth and financial market stability. These policies had a significant impact on the demand deposits of both enterprises and residents, contributing indispensably to the steady growth of M1. Since 2021, the People's Bank of China has adjusted the reserve requirement ratio multiple times, including across-the-board reductions and targeted cuts to lower reserve requirements. The policy of reducing reserve requirements enabled banks to provide more credit resources, particularly to small and medium-sized enterprises and key areas of the real economy. This helped reduce corporate financing costs and increased corporate demand deposits.

Combining various data sources, it is clear that despite the global economic challenges faced in 2021 and 2022, the Chinese economy demonstrated strong resilience and growth potential. These factors collectively influenced the development of M1, contributing to its steady upward trend during this period.

Next, it is necessary to deeply analyze the phenomenon of M1's growth slowdown from 2022 to 2023. During this period, the global economy was in a period of adjustment following the opening up after the pandemic. In this era of great change, China was no exception. The residual impact of the pandemic caused the year-on-year growth rate of M1 in 2023 to show a continuous downward trend.

In the earlier analysis of the stable rise from 2021 to 2022, it was concluded that the decrease in consumer desire led to an increase in demand deposits. Although this phenomenon still prevails from 2022 to 2023, the year-on-year growth rate of M1 shows a continuous downward trend. This phenomenon suggests that we must deeply analyze the role of corporate demand deposits in this process. Data released by the People's Bank of China shows that in the first half of 2023, the growth rate of M1 has shown a downward trend for six consecutive months. Further investigation found that according to the composition data of new M1 from April to October 2023, the contribution of cash, corporate demand deposits, and other demand deposits to M1 were 54%, -122%, and 168% respectively. This data clearly indicates that in the past six months, the decline in the growth rate of M1 was mainly due to the decrease in corporate demand deposits. Specifically, the year-on-year growth rate of corporate demand deposits dropped significantly from 4.65% in January 2023 to -3.02% in October. Behind this significant change, it is essentially the impact of various challenges faced by large, medium, small, and micro enterprises in China, such as a sluggish sales market, deteriorating business conditions, and limited financing channels. According to data from the National Bureau of Statistics, China's GDP growth rate decreased from 8.4% in 2021 to 3.0% in 2022, reflecting the sluggish sales market. Meanwhile, according to a report released by the China Entrepreneur Survey System, more than 60% of the surveyed enterprises indicated that their business conditions had worsened compared to the same period last year, mainly manifested in reduced orders, increased costs, and decreased profits. Taking a manufacturing enterprise as an example, due to the adjustment period of the market after the pandemic, the economy was even more sluggish than last year, leading to a significant reduction in market demand. The order volume of the enterprise decreased by 30% compared to the same period last year, while the cost of raw materials increased by 20%. In the face of the same severe market environment, the enterprise, in order not to be driven out of the market, still dare not raise prices significantly and can only struggle for survival within a limited price range, which inevitably leads to a significant decline in

corporate profits and a serious impact on its cash flow. At the same time, in order to ensure its own operation, the enterprise has to reduce investment and inventory and use more funds to deal with possible business risks. This has further led to a significant reduction in the enterprise's demand deposits. In addition, due to the bank's concern about the market risks faced by the enterprise and doubts about its ability to cope with the complex market situation, the bank's requirements for the enterprise's loan amount, interest rate, and guarantee conditions are more stringent when considering lending, making it more difficult for enterprises to obtain a large amount of credit support in a short time, resulting in a decrease in their financing willingness. Therefore, enterprises have to use more cash to meet daily operating expenses instead of depositing funds in banks. This further indicates the inevitability of the decrease in corporate demand deposits during this period, which in turn affects the overall growth rate of M1.

Additionally, attention must be paid to the important factor of corporate borrowing relationships. In the daily operations of enterprises, corporate funds may be used extensively for repaying interest to banks and financial institutions or converting cash flow to time deposits due to pessimistic considerations about market prospects and compressing investments, thus not being deposited in demand deposits. Although loan interest rates were lowered in 2023, given the large stock of corporate credit and the rigid nature of interest rates, enterprises still face high interest costs. According to data from the People's Bank of China, as of the first quarter of 2023, the total debt of the non-financial corporate sector reached 85 trillion yuan, a year-on-year increase of 5.6%. In this context, enterprises may be more inclined to use cash flow to repay interest rather than engage in further investment expansion. Since funds used to repay interest are not included in the statistics of M1, this behavior pattern of enterprises has led to a decline in the growth rate of M1. According to data from the National Bureau of Statistics, the year-on-year growth rate of M1 decreased from 3.7% to 1.3% between 2022 and 2023. Therefore, the interest payment burden of the corporate credit stock has had a significant negative impact on the growth rate of M1, further exacerbating the downward trend of M1 growth rate. In summary, a more accurate conclusion can be drawn: the main reason for the continuous decline of M1 from 2022 to 2023 is the decrease in corporate demand deposits and the change in the use of corporate funds. This conclusion provides an important analytical.

### **3. Reasons for changes in broad money (M2) from 2021 to 2023**

In addition to the three-year development trend of M1, which is worth examining and pondering, the change trend of broad money (M2) and the various factors causing this change also need to be considered. After in-depth analysis and comparison of the data on broad money (M2), it is not difficult to find that there is a certain similarity between broad money (M2) and M1 in the overall development trend. Specifically, both showed a stable upward trend during the period from 2021 to 2022. However, entering 2023, the year-on-year growth rate of both decreased. Further data comparison can clearly show that the decline in broad money (M2) is relatively smaller compared to M1. According to data released by the People's Bank of China: compared to 2022, the year-on-year growth rate of M2 decreased by 2.1% in 2023, while the decline in M1 reached 2.4%. It can be known that the slowdown in the growth of broad money (M2) has a relatively lighter impact on the economy and society compared to M1.



Since the composition of broad money (M2) includes M1 as well as time deposits and savings deposits, the influence of M1 cannot be ignored when discussing the change trend of broad money (M2). Given the high consistency in the development trends of both, it can be inferred that there is a strong positive correlation between the overall change trend of broad money (M2) and the movement of M1. Therefore, the overview of the causes of the two stages in M1 is also applicable to the analysis of broad money (M2). Hence, it is necessary to fully consider the impact of M1 on broad money (M2) in order to further delineate and discuss the two development stages of broad money (M2). The first stage is from 2021 to 2022, during which broad money (M2) maintained a stable upward trend, reflecting the overall robustness of the economic system at the macro level. In this stage, the growth trajectory of M2 represented the recovery momentum of economic activities and the positive role of monetary policy in promoting reasonable liquidity abundance. The maintenance of this trend provided a stable monetary environment for the domestic market, supporting the positive recovery and steady upward development of China's real economy. The second stage is from 2022 to 2023, during which the growth of broad money (M2) showed signs of obstruction, likely closely related to the dynamic changes in China's economic market, adjustments in domestic policies, and the complexity of the global economic environment, among other factors. In this stage, although monetary policy remained moderately loose, the growth rate of broad money (M2) still slowed down due to internal and external influences. This phenomenon indicates that in the new economic situation, more attention needs to be paid to the adaptability of monetary policy and the macroeconomic environment to ensure that the implementation of monetary policy can effectively support stable economic growth (Chen et al., 2001).

Firstly, focusing on the first stage, the stable growth phase of broad money (M2) from 2021 to 2022. As an important indicator reflecting the total money supply, the growth trend of broad money (M2) directly indicates the changes in monetary components such as cash, household savings deposits, and corporate deposits. According to the "2022 Financial Statistics Report" released by the People's Bank of China, the total RMB deposits increased by 26.26 trillion yuan in 2022, with household deposits increasing by 17.84 trillion yuan, setting a historical high. In the fourth quarter of 2022, the proportion of residents inclined towards "more savings" reached 61.8%, the highest since statistics began. Dong Ximiao, chief researcher at China Merchants Bank, pointed out that the higher level of M2 growth rate means abundant market liquidity, and it is relatively easier for companies and individuals to obtain loans. Therefore, during this special period of pandemic stabilization from 2021 to 2022, the enhanced loan capabilities of major Chinese enterprises and individuals significantly boosted the rapid growth of broad money (M2). This growth trend created a favorable monetary and financial environment for the recovery and development of the macro economy. During this period, many companies faced cash flow shortages due to the impact of the pandemic. However, the Chinese Communist Party's Central Committee and the State Council introduced a large number of loan policies to support the resumption of work and production of enterprises, prompting many companies with high-quality production resources to successfully obtain low-interest loans from banks, helping a large number of companies on the brink of bankruptcy to overcome difficulties. At the same time, many individual consumers also obtained housing or car loans due to relaxed loan conditions, timely making up for the lack of income sources caused by the pandemic-induced production suspension, thus significantly promoting the

vitality of the consumer market. The increase in these loans directly contributed to the growth of M2. Dong Ximiao's market research further confirmed this point, summarizing that the rise in the M2 growth rate was mainly attributed to the expansion of the loan scale, the active role of fiscal policy, the improvement of banks' money creation ability, and the significant increase in RMB deposits, especially household savings deposits. This reflects the enhanced effectiveness of monetary policy, abundant market liquidity, and increased financial support for the real economy. In summary, the growth of broad money (M2) is the result of the effective guidance of China's party and government under the pandemic background and the increased loan opportunities provided by banks, laying a solid foundation for China's economic stability and recovery.

Turning our attention to the second stage, the period from 2022 to 2023 when the growth of M2 was obstructed. The downward trend in the growth rate of broad money (M2) was mainly affected by two factors. On the one hand, the accelerated issuance of government bonds had a drainage effect on broad money (M2). According to a report by Sina Finance, in 2023, bond financing accounted for 31.6% of the incremental scale of social financing, an increase of 2.9 percentage points from 2022. This indicates that the importance of the bond market in financing the real economy is continuously increasing. In 2023, a total of 71.0 trillion yuan of various bonds were issued in the bond market, a year-on-year increase of 14.8%. Among them, national debt issuance was 11.0 trillion yuan, local government bond issuance was 9.3 trillion yuan, financial bond issuance was 10.2 trillion yuan, and corporate credit bond issuance was 14.0 trillion yuan. Since the deposits formed by government debt financing are not included in the statistical caliber of broad money (M2), they will have a restrictive effect on the growth of broad money (M2) when revenue exceeds expenditures. On the other hand, the significant decrease in the growth rate of household deposits also had an impact on the growth rate of broad money (M2). According to data released by the central bank, the total RMB deposits increased by 25.74 trillion yuan throughout the year in 2023, a decrease of 5101 billion yuan from the previous year. The proportion of residents inclined towards savings also decreased from 61.8% in the previous quarter to 58.0%, indicating a decrease in residents' willingness to save. When comparing the data between 2021-2022 and 2022-2023, it is clearly observed that the growth rate of household savings deposits significantly slowed down during the period from 2022 to 2023, further exacerbating the downward trend in the growth rate of broad money (M2). Therefore, during this special period of pandemic opening, the decline in the growth rate of broad money (M2) is closely related to the continuous decline trend of M1, and both jointly reflect the complexity and uncertainty of economic operation during this period. The change in the growth rate of the money supply reveals the potential risks and challenges in the economic environment, putting forward higher requirements for the formulation and implementation of monetary policy.

In summary, it is evident that despite the similarity in the development trends between broad money (M2) and M1, there are certain differences in their specific manifestations and impacts. Therefore, in the process of monetary policy formulation and economic analysis, it is necessary to comprehensively consider the changes in both to more accurately grasp the pulse of economic operations.

#### **4. Exploring China's macroeconomic regulation through the changes in M1 and M2**

In the management of China's macroeconomy, the Communist Party of China, the government, and

the People's Bank of China all play crucial roles. They regulate the money supply through policy formulation and the use of monetary policy tools to achieve goals such as stabilizing prices, promoting employment, and economic growth. Taking the data from 2021 to 2023 as an example, it is evident how the government and the central bank adjust monetary policy in response to changes in the economic situation.

In 2021, facing the impact of the COVID-19 pandemic, China's central bank adopted a moderately loose monetary policy to stabilize the economic foundation and support the resumption of work and production for enterprises. During that year, broad money M2 increased by 9% year-on-year, showing the central bank's efforts to increase the money supply, aiming to reduce the financing costs of the real economy and stimulate economic activity. At the same time, narrow money M1 increased by 3.5% year-on-year, indicating that although liquidity had increased, the demand for cash from enterprises and residents was still relatively moderate. Over the same period, the growth rate of broad money (M2) was significantly higher than that of M1, suggesting that the growth in cash holdings by enterprises and residents was relatively slow. This may reflect that during the economic recovery, enterprises and residents were more inclined to use funds for investment and consumption rather than holding large amounts of cash. Meanwhile, with the development of financial technology, especially the popularization of digital payments and electronic transactions, the demand for traditional cash transactions decreased, which may also have been a factor in the slowdown in M1 growth (Pang et al., 2024a; Pang et al., 2024b). In addition, since M1 includes cash in circulation and corporate demand deposits, the slowdown in its growth rate may also imply changes in corporate liquidity management strategies, with enterprises possibly preferring to use electronic payment methods for transactions. As M1 is mainly composed of cash in circulation (M0) and demand deposits of enterprises and residents, the frequency of cash usage among the general public has also decreased, which similarly limits the growth rate of M1. Furthermore, enterprises and residents may be more cautious in a highly uncertain economic environment, choosing to hold more financial assets with lower liquidity instead of cash and demand deposits, which will also affect the growth of M1. These behaviors will have a certain impact on the growth of M1.

Certainly, during this crucial year, China adopted a series of policy measures to promote economic growth and financial market stability, which also had a significant impact on the demand deposits of enterprises and residents, contributing to the steady growth of M1. Since 2021, the People's Bank of China has adjusted the reserve requirement ratio multiple times, including a general reduction in the reserve ratio and targeted reductions for specific sectors. These policies have enabled banks to provide more credit resources, particularly to SMEs and key areas of the real economy, helping to reduce financing costs for enterprises and increase their demand deposits.

Entering 2022, as the global economy gradually recovered but also faced increased inflationary pressures and supply chain bottlenecks, China maintained stable monetary policy while paying more attention to the flexibility and forward-looking nature of its policies. In 2022, M2 increased by 11.8% year-on-year, with the growth rate higher than the previous year, reflecting the central bank's efforts to maintain reasonable liquidity while guarding against external risks and internal economic downside pressures. M1 increased by 3.7% year-on-year, with a slight increase in growth rate but still lower than

that of M2, indicating that more funds were flowing into investments and consumption rather than simply remaining in cash and demand deposits. In 2022, the balance of M2 further increased to 266.43 trillion yuan, with a year-on-year growth rate of 11.8%, which exceeded the economic growth rate of that year. This was due to the central bank adopting a more relaxed monetary policy to counteract the economic downturn, including reducing commercial banks' demand and time deposits, excess reserve ratios, and the interest rates on rediscounting and relending, as well as encouraging banks to lower lending rates, further increasing the money multiplier.

According to the multiplier model in modern monetary theory, it is represented as

$$M_s = B \times K$$

$$\left\{ \begin{array}{l} M_s: \text{money supply} \\ B: \text{Base currency} \\ K: \text{Money multiplier} \end{array} \right\}$$

$$K = \frac{c' + 1}{c' + e + r_d + r_t \cdot t}$$

$$\left\{ \begin{array}{l} c': \text{cash leakage rate} \\ e: \text{Excess reserve} \\ r_d: \text{Statutory reserve ratio for current deposits} \\ r_t: \text{Statutory reserve ratio for fixed deposits} \\ t: \text{The ratio of fixed deposits to current deposits} \end{array} \right\}$$

As a result, the money supply has increased significantly. At the same time, the continuous development of the financial market promoted by policy regulation during this period has also had a significant impact on the change of China's money supply. The deepening and expansion of the financial market have not only improved the liquidity and efficiency of funds between financial institutions but also changed the composition of broad money (M2), making it include a wider range of financial assets. With the innovation and diversification of the financial market, investors have gained more investment channels and tools, all of which contribute to the growth of M2. Driven by the financial market, the growth of M2 not only reflects the funding needs of the real economy but also includes the transaction and investment activities in the financial market. For example, with the development of financial derivatives, bonds, stocks, and other financial products, the increase in these financial assets will also be included in the statistical category of M2. In addition, operations such as interbank lending and repurchase agreements between financial institutions will also lead to the growth of M2.

By 2023, facing a complex domestic and international economic environment, the central bank continued to implement a prudent monetary policy, emphasizing the avoidance of "flooding" and focusing on improving the transmission mechanism of monetary policy to enhance the precision and effectiveness of policies. The year-on-year growth rate of M2 was 9.7%, which was a slowdown from the previous year but still remained at a high level. The balance of M2 continued to grow to 292.27 trillion yuan, indicating that while maintaining the stability of monetary policy, the central bank was also moderately increasing the money supply to support economic growth. At the same time, the Chinese government implemented a series of fiscal stimulus measures to support economic recovery and development. These measures included supporting business entities to overcome difficulties and develop, expanding domestic effective demand, and accelerating the construction of a modern industrial system, aiming to increase the cash flow of enterprises and residents, improve the profitability of enterprises, and thus increase corporate demand deposits. In addition, the government also

strengthened the regulation of shadow banking and internet finance, promoted the healthy development of the financial market, increased the confidence of market participants, and encouraged funds to flow to more efficient areas, thereby promoting more frequent deposit behavior of enterprises and residents. The implementation of these measures not only directly increased the cash flow of enterprises and residents and improved the profitability of enterprises but also enhanced the efficiency of capital use and strengthened national major strategies and key livelihood guarantees by optimizing the structure of fiscal expenditures (Morris & Shin, 2008).

## **5. The international factors and capital flows behind the changes in M1 and M2**

International trade and capital flows are important external factors affecting the domestic money supply (Rose & Van Wincoop, 2001). As the world's second-largest economy, China's trade and capital flows have a certain impact on its domestic money supply. The trade surplus is one of the main sources of the increase in China's foreign exchange reserves. When China's exports of goods and services exceed imports, a trade surplus is generated, leading to an increase in domestic foreign exchange reserves. These increased foreign exchange reserves are transformed into domestic money supply through the central bank's currency issuance mechanism, thereby affecting the size of M2. During the period from 2021 to 2023, China maintained a large trade surplus, which helped increase foreign exchange reserves and had a positive impact on the growth of M2. Although China's foreign exchange reserves experienced fluctuations during this period, they remained relatively stable as a whole, reflecting China's cautious approach to capital account management. Regarding capital flows, in 2021, broad money M2 increased by 9% year-on-year, while narrow money M1 increased by 3.5% year-on-year. During this period, despite the impact of the COVID-19 pandemic on the Chinese economy, the central bank adopted a moderately loose monetary policy to support economic growth. Despite pressure on capital outflows, the overall impact of capital inflows and outflows may have been relatively small, resulting in M1's growth rate being lower than that of M2. Entering 2022, the balance of broad money M2 increased to 266.43 trillion yuan, a year-on-year increase of 11.8%, while the balance of narrow money M1 increased to 67.17 trillion yuan, a year-on-year increase of 3.7%. In this year, despite the continued uncertainty in the global economic environment, the Chinese economy gradually recovered, and capital inflows may have increased, thereby promoting the growth of M2. At the same time, the growth rate of M1 increased slightly, reflecting the gradual recovery of economic activity. By 2023, the balance of broad money M2 further increased to 292.27 trillion yuan, a year-on-year increase of 9.7%, while the balance of narrow money M1 increased to 68.05 trillion yuan, a year-on-year increase of 1.3%. In this year, despite the slowdown in China's economic growth, the central bank still maintained a moderately loose monetary policy to support economic stability. The impact of capital inflows and outflows may have been relatively small, so the growth rate of M1 continued to be lower than that of M2.

Combining these data, it is clear that in these three years, capital inflows and outflows have had a certain impact on the ratio of M1 to M2, but overall, the growth rate of M1 is still lower than that of M2. This reflects the moderately loose monetary policy measures adopted by the central bank to support economic growth. At the same time, it also indicates that despite the impact of capital inflows and outflows, the changes in the ratio of M1 to M2 are more influenced by domestic economic conditions and

policies. Of course, the differences in the growth rates of M1 and M2, as well as the changes in foreign exchange reserves, reflected in the above data analysis, collectively map out China's strategic choices in monetary policy and its adaptation to changes in the internal and external economic environment.

## 6. Conclusion

By analyzing the changes in narrow money (M1) and broad money (M2) from 2021 to 2023, we can observe that the dynamics of China's money supply are influenced by a variety of factors. These changes not only reflect the demands of economic growth and the state of financial market development but also demonstrate the central bank's intentions in policy control. Over these three years, the growth rate of broad money M2 has been relatively stable, indicating that while the central bank has maintained a moderate increase in money supply, it has also sought to balance economic growth with inflation risks. The slower growth rate of narrow money M1 may indicate certain structural issues within the economy, such as a decline in corporate investment willingness and cautious consumer spending. In the coming period, it is necessary to continue monitoring the impact of these factors on money supply and their potential effects on economic growth and inflation. With the deepening of global economic integration, changes in capital flows and international trade will have an even greater impact on the domestic money supply. Additionally, with the continuous development of financial markets and advancements in financial technology, the management of money supply will face new challenges.

Therefore, the central bank needs to continue using various monetary policy tools, including reserve requirements, interest rates, and open market operations, to regulate the money supply, promote monetary equilibrium, and balance social aggregate supply to achieve the ultimate goals of monetary policy. The central bank must continuously monitor the dynamics of the financial market to maintain financial stability and prevent systemic risks. Additionally, we should strengthen the supervision and risk management of the financial market to ensure its robust and sustainable development. As the financial market continues to deepen and innovate, the financial risks faced are also gradually increasing. Therefore, regulatory agencies such as the National Financial Supervision and Management Bureau need to adjust their regulatory strategies in a timely manner to adapt to the trends in the financial market.

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