

# Analysis of the Mechanisms Behind the "China Money Mystery"

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**Abstract:** The growth rate of China's broad money supply (M2) significantly exceeds the combined rates of economic growth and inflation, leading to a continuous rise in the ratio of M2 to GDP. This phenomenon is referred to as the "China Money Mystery." The explanation for this phenomenon involves several factors. Firstly, interest rate and exchange rate controls in the financial market lead to excessive increases in money demand. Secondly, financial repression results in excessive use of indirect financing and a lack of investment channels, further distorting money supply. Thirdly, the financial hoarding theory suggests that a large amount of money flows in the virtual economy rather than being invested in the real economy, thus failing to induce noticeable inflation. Finally, the applicability of traditional quantity theory of money in the modern credit money system is gradually diminishing, failing to explain the relationship between money supply and prices. By integrating these factors, a better understanding of the abnormal monetary supply phenomenon in China and its implications can be achieved.

**Keywords:** Money Supply, Financial Repression, Financial Hoarding, Interest Rate and Exchange Rate Controls, Quantity Theory of Money.

## 1. Introduction

For a long time, China's money supply growth rate has been significantly higher than the combined rate of economic growth and inflation, leading to a continual increase in the ratio of M2 money supply to Gross Domestic Product (GDP). This phenomenon, referred to by McKinnon as the "China Money Mystery," arises because persistent monetary overexpansion has not led to sustained high inflation. This situation is mainly reflected in the inconsistency between the growth of M2 and price indices (such as Consumer Price Index (CPI) and Producer Price Index (PPI), sometimes even showing a decline in price indices despite an increase in M2. From a horizontal comparison, China's ratio of money supply to GDP (M2/GDP) has consistently remained at a high level.

## 2. Causes of the China Money Mystery

### 2.1. Financial Market Prices: Interest Rates and Exchange Rates

In financial markets, interest rates and exchange rates are two core price indicators. For China, which is in a transitional phase, a notable feature of its financial sector is the regulation of these two indicators. Although China has promoted market-based interest rates and exchange rates, existing regulatory policies have effectively led to the undervaluation of these indicators, affecting money demand. On one hand, the undervaluation of interest rates reduces the cost of holding money, promoting an increase in money demand and investment, and indirectly affecting money holding behavior. On the other hand, the undervaluation of exchange rates encourages expectations of currency appreciation, increasing the amount of money held. The control over these price indicators directly impacts monetary policy, leading to a normalization of monetary overexpansion, and thus

maintaining a high M2 to GDP ratio.

The impact of interest rate regulation on money demand can be realized through two paths. First, interest rate regulation leads to an undervaluation of interest rates, directly reducing the cost of holding money, making individuals more willing to hold more money. Interest rates are the most direct indicator of the cost of holding money; an increase in nominal interest rates would encourage individuals to use their money for transactions rather than holding it, keeping the velocity of money unchanged. However, if interest rates are regulated below competitive market equilibrium levels, the cost of holding money decreases, and people are more willing to hold more money, even if it remains idle, without incurring losses. Increased money demand slows down its circulation. Additionally, lower interest rates lead to significant investment, indirectly affecting corporate and household money holding habits. Due to the undervaluation of interest rates, the impact on money demand has more significant indirect effects in China, defined here as the direct and indirect effects of interest rate undervaluation. The direct effect manifests as asset substitution behavior, while the indirect effect further impacts the scale of money demand through its influence on the real economy.

Similarly, the effects of exchange rate regulation include direct and indirect effects. The direct effect is that the undervalued Renminbi leads people to expect future appreciation, thus increasing the holding of money for preservation and appreciation. The indirect effect is that the undervalued exchange rate boosts China's import and export trade, increasing dependency on foreign trade, which requires a substantial amount of money to sustain its operations.

### 2.2. Financial Repression

Financial repression essentially refers to the failure of financial elements to perform their intended functions and

effects. It is characterized by an excessive proportion of indirect financing, credit discrimination among different enterprises, deposit and loan interest rate regulation, and capital account restrictions, all of which distort money costs and affect money supply.

In China, due to the imperfection of the financial market and the inadequacy of the credit system, enterprises prefer indirect financing (such as bank loans) over direct financing (such as issuing bonds or stocks). This results in an excessive proportion of indirect financing, limiting the development of financial markets. Additionally, banks often allocate credit to state-owned enterprises or government projects rather than to private or small and medium-sized enterprises, leading to a lack of investment channels and exacerbating financial repression. Furthermore, deposit and loan interest rate regulation, and higher savings rates: In China, deposit and loan interest rates are controlled by the government, with lower deposit rates and higher loan rates. This results in higher savings rates because people cannot get high returns on savings and are more inclined to deposit funds in banks rather than invest them. This further exacerbates financial repression. Lastly, capital account restrictions limit the free flow of funds and cross-border investment, restricting the development of financial markets and preventing them from performing their intended functions and effects.

Research shows that financial repression leads to a persistent increase in the M2/GDP ratio by limiting financing channels and investment opportunities. In this process, financing restrictions increase the demand for asset-based money, and the lack of investment channels heightens the demand for asset-based money among wealth holders. Consequently, residents often retain new savings in the form of bank deposits. This demonstrates a close internal connection between China's persistently high savings rate and financial repression, with financial repression being an external factor influencing the money demand of economic entities.

Financial repression distorts money costs, making money supply unable to effectively meet economic demand. Due to the imperfection of the financial market and the inadequacy of the credit system, enterprises are more inclined towards indirect financing, resulting in an excessive proportion of indirect financing and further distorting money supply. Simultaneously, the lack of investment channels and deposit and loan interest rate regulation mean that a substantial amount of deposits cannot be converted into investments, aggravating the inadequacy of money supply.

### 2.3. Financial Hoarding

In 1997, Binswanger introduced the theory of financial hoarding in a paper on the new interpretation of financial accumulation. This theory explains the phenomenon of financial hoarding, where funds invested in financial assets are not used for real economy financing. In market economies and modern credit systems, such funds circulate only within the financial sector, leading to a separation between the virtual economy and the real economy. By the end of 2014, the scale of financial hoarding in China reached 90.6 trillion yuan, accounting for 74% of M2, and has been on the rise. This indicates that a large amount of broad money has been converted into near-money, with excess liquidity stored in the virtual economy rather than being invested in the real economy, hence the lack of significant inflation. Researchers have delved into this view and proposed theories on the

concentration of money in the virtual economy. They point out that as the virtual economy centered around financial activities becomes the core of the modern economy, more money flows from the real economy into the virtual economy and serves as the main trading tool for virtual assets. This transition leads to rising asset prices and an imbalance in the money structure, distorting the relationship between money supply and prices.

The financial sector does not channel all the money it absorbs from the market into household and non-financial sector real economy investments but retains some of it within the financial market for transactions involving financial assets among various financial institutions. This portion of money effectively exits the money circulation system, creating financial hoarding. Furthermore, these hoarded funds are intentionally guided towards areas prone to bubbles in pursuit of excessive returns.

### 2.4. Neglect of the Value Storage Function of Money

Existing research largely relies on traditional Western economic quantity theory of money, which mainly follows two paths: one is to slightly modify variables in the traditional quantity theory of money or introduce new variables; the other is to innovate traditional monetary theory by modifying its theoretical assumptions to incorporate new sectors like the virtual economy. However, the key to explaining the "China Money Mystery" is to clarify whether there is an inevitable direct relationship between money supply and prices, whereas traditional Western economic quantity theory directly acknowledges this implicit premise.

According to traditional quantity theory of money, there is a direct relationship between money supply and prices, i.e., an increase in money supply leads to price increases both in the long and short term. In the early 1960s, scholars began empirical analysis to study the relationship between commodity movement and money movement, deriving the formula money supply: prices = 1:8 to assess whether China's money supply was adequate. This empirical formula has been followed for a long time, but as economic and financial conditions have changed, this formula has become invalid. Consequently, scholars proposed an alternative money supply formula, but the calculated money amount still differed significantly from the actual money amount, leading to the conclusion that China's money supply was excessively high, causing severe inflationary pressure. However, based on this method, excess money supply has persisted since the reform and opening up but has not led to severe inflation, instead showing a trend towards deflation.

In Friedman's classic monetary theory equation  $MV=PY$ , if the velocity of money ( $V$ ) is a constant or a stable function, then there is a one-to-one correspondence between the growth rate of money supply ( $M$ ) and the nominal GDP growth rate ( $PY$ ). As shown in Figure 1, when the broad money supply M2 grows rapidly, it does not correspondingly drive economic growth. It must be acknowledged that the applicability of this relationship in the modern credit money era is gradually declining, and over-reliance on it can mislead our understanding of practice and future trends.

In the modern credit money system, the traditional monetary exchange rate formula is no longer applicable, and the M2/GDP ratio gradually loses its validity. First,  $M$  is no longer limited to transaction money. According to Keynesian money demand theory, money demand includes transaction

demand, precautionary demand, and speculative demand, with precautionary and investment (or speculative) demands occupying a significant portion of public money demand. Second, the velocity of money  $V$  is no longer constant but shows a decreasing trend over the years. It should be noted that some scholars use the decline in money turnover to explain the high M2/GDP ratio in China, which has an unavoidable suspicion of using A to prove A. Therefore, using money turnover to explain the high money supply mystery in China is unreasonable. Moreover, PY no longer refers solely to the production sector; it includes both the production and non-production sectors (real and virtual).

### 3. Conclusion and Outlook

#### 3.1. Conclusion

China's persistent high M2/GDP ratio, despite substantial monetary expansion, highlights the complex interplay between monetary policy and economic conditions. Factors such as interest rate and exchange rate undervaluation, financial repression, financial hoarding, and the neglect of money's value storage function contribute to the "China Money Mystery." The low cost of holding money due to interest rate regulation and the undervaluation of the Renminbi encourage excess money holding and financial hoarding. Financial repression distorts money supply by favoring indirect financing and limiting investment channels. Additionally, the traditional quantity theory of money fails to account for the modern dynamics of credit money and virtual economies. These elements together create a situation where high money supply does not directly translate into inflation, as seen in the relatively stable inflation rates despite significant monetary growth.

#### 3.2. Outlook

During the process of the digital economy empowering hi Future research should delve deeper into the modern credit money system and its interactions with virtual economies to better understand the implications for monetary policy. The role of financial innovation and evolving economic structures should be incorporated into theoretical frameworks to address the limitations of traditional monetary theories. Policymakers

need to consider the impact of financial market reforms on money supply and inflation, focusing on reducing distortions and improving the effectiveness of monetary policy. As China's economy continues to evolve, maintaining a balance between monetary expansion and economic stability will be c.

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