International Monetary Monitor

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# Kevin Warsh and Divergent Money Growth Trends

by John Greenwood

## Introduction and Overview

- The outbreak of inflation following the Covid pandemic was not caused by supply chain disruptions or by the war in Ukraine, but by the excessive growth of broad money, itself the direct result of the response by most central banks to the Covid crisis starting in March 2020.
- In his address at the Kansas Fed's Jackson Hole Symposium on August 28, 2026, Fed Chair Kevin Warsh enumerated seven key principles that guided his thinking on "*the appropriate conduct of monetary policy*".
- The sixth of these was: *"...**Money matters**. It's not fashionable these days, but my view is that **money** has something important to do with monetary policy. We should pay attention to **money** created by the central bank and **money** that comes from the banking and financial systems. It's true that financial innovations and other factors alter the mechanics that link the monetary base, the velocity of money, and the broader economy. But that is scarcely a reason to ignore the ultimate effects of **money** on financial conditions and prices."* (Emphasis added.)
- In that spirit this article first assesses the amount of broad money growth generated by the Fed and by US commercial banks since February 2020.
- Next, I examine the likely impact of recent broad money growth on nominal GDP (i.e. nominal spending) in the US and four other leading economies: China, Japan, the Euro Area, and the UK.
- My conclusion is that, except for the US and arguably the UK, in all these other economies broad money growth is on the low side relative to their real GDP growth rate, the propensity in each economy to build up money balances, and the relevant inflation targets.

## International Monetary Monitor

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## The United States

Warsh's conception, as quoted in the Introduction, is correct: money can be created either by the central bank or by the commercial banks.

**Figure 1. Contributors to US M2 Growth since February 2020.**

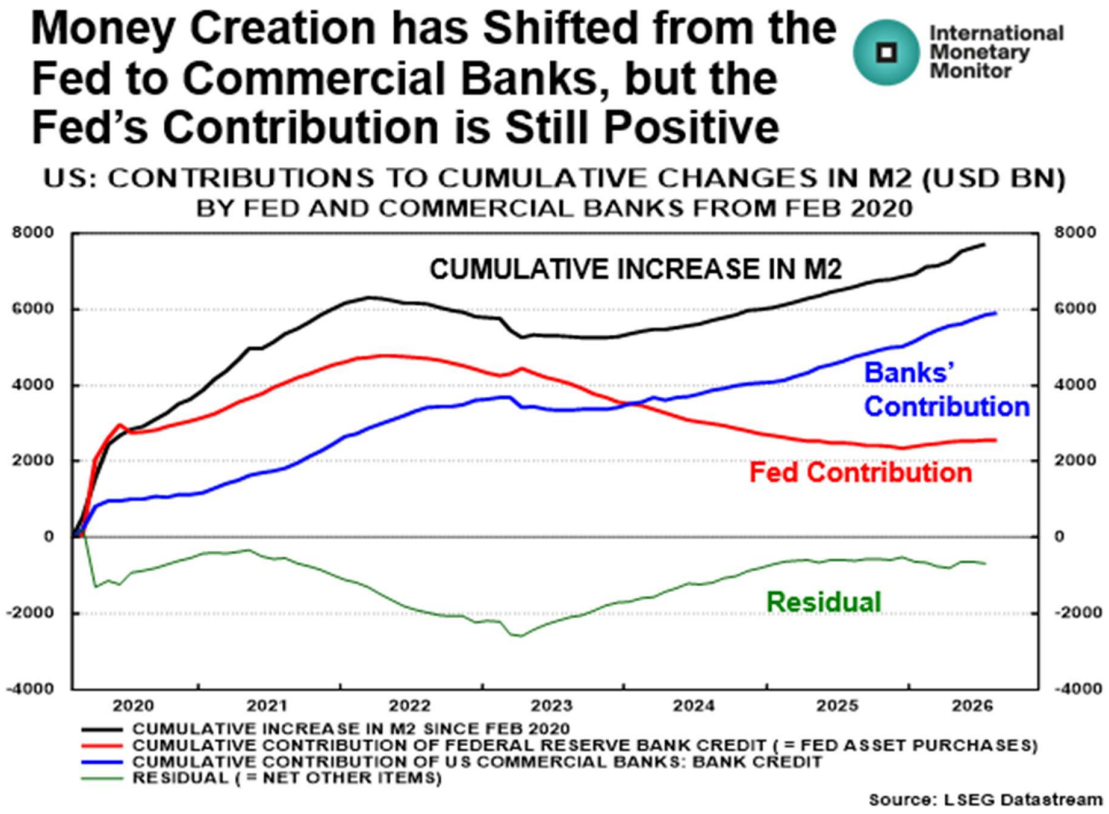



Figure 1 shows the total cumulative increase in US M2 since the onset of Covid in March 2020. The counterparts to the growth in the money supply are the assets created by banks. When a bank (or central bank) makes a loan or purchases a security, it credits the deposit account of the borrower (or issuer/seller), creating money.

Since 2020, contributions by the Fed to the increase in M2 have mainly consisted of asset purchases (QE operations), while contributions by the commercial banks have consisted of loans and purchases of investments (bank credit). Hence we can write:

Cumulative increase in M2 = Cumulative Asset Purchases and Loans by the Fed + Cumulative Loans and Investments by Commercial Banks +/- a Residual.

The reason why there is a residual is that both the Fed and the banks conduct numerous other operations on their balance sheets which do not necessarily contribute to money creation. For example, on the Fed's balance sheet, these include changes in the government's account (TGA) and repurchase operations, while at the

commercial banks non-money-creating operations include capital or bond issues by the banks themselves.

Also, because M2 is not a complete measure of broad money, there are transfers between M2 and wider forms of money (such as large time deposits) not captured in the cumulative M2 data. For example, the Fed bizarrely omits deposits in excess of $100,000 from M2. In my view, the Fed should immediately restore a broader version of money that captures **all** commercial bank deposits.[1]

Relying on M2, Figure 1 shows the dominant role of the Fed in money creation between 2020 and 2023. Since June 2022, the Fed has mostly been shrinking its assets (by allowing maturing assets to run off its balance sheet), enabling commercial banks to resume their normal dominant role in money creation. Table 1 below shows the same data in numerical form for April 2022, when the Fed's balance sheet was at its peak, and for the latest month available, July 2026.

**Table 1.**

| **Cumulative Contributions to Changes in M2 since February 2020. (US$ billion)** | | | | |
|---|---|---|---|---|
| | Federal Reserve | Commercial Banks | Residual | Change in M2 |
| To April 2022 | +4,771 | +3,000 | -1,495 | +6,276 |
| To July 2026 | +2,561 | +5,859 | -695 | +7,725 |

## Recent Broad Money Growth in the United States

After starting 2026 at only 2.4% year-on-year (in January and February) US headline consumer prices increased to 4.3% in May, driven largely by the jump in energy prices as President Trump went to war with Iran on February 28. Since then, crude oil prices have eased somewhat, although refined product prices (diesel, gasoline, jet fuel etc) have remained elevated. Even so, the CPI remained at 3.4% in July and is likely to remain above the 2% target for the rest of the year.

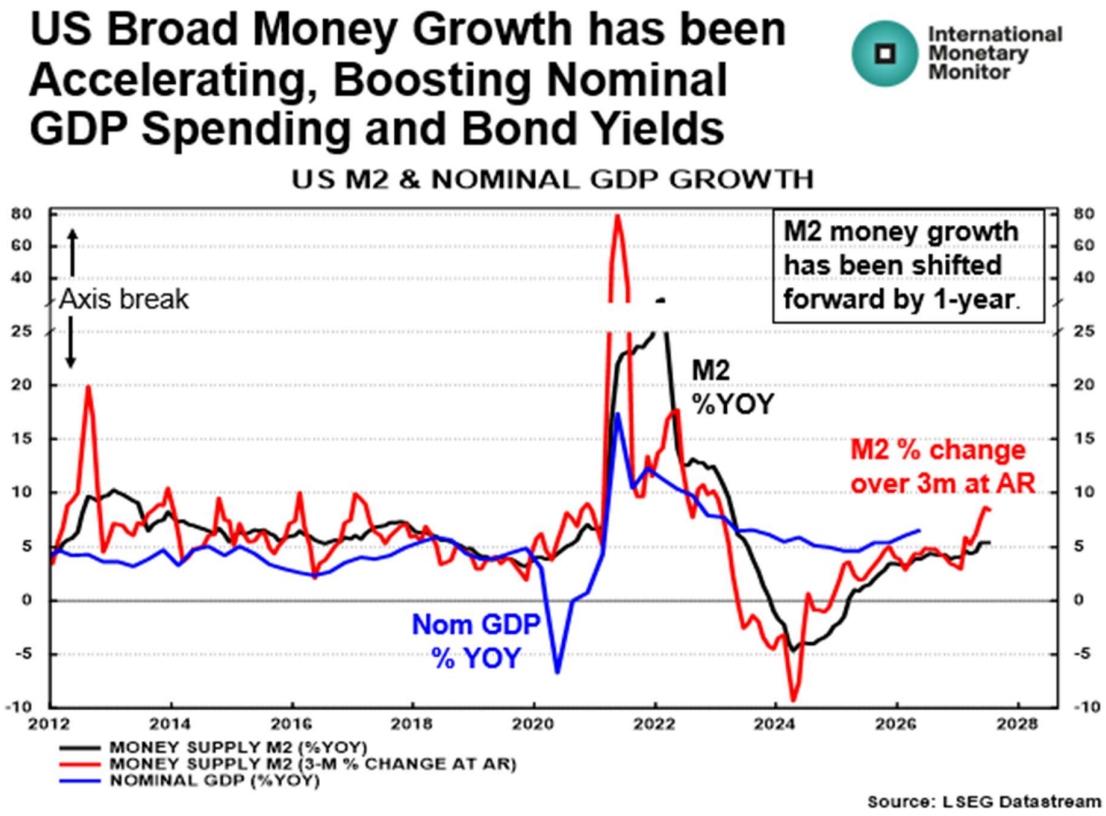
This implies that the Fed will have failed to achieve its 2% target for six successive years. Why has it failed? Primarily because it has allowed excess money growth.

Nobody can accurately forecast prices on a month-to-month basis. There are far too many random events occurring at any time to be confident that any prediction will be successful. The best that can be achieved is a forecast for an inflation range over a period based on a sensible model of the inflation process. For me, the best model is a monetary one linking broad money to nominal spending and hence to inflation. The reason is that there is a reliable hypothesis (the Quantity Theory of Money or QTM) that provides a strong theoretical basis for such a relationship. Moreover, empirically, all significant episodes of inflation have been preceded by excess money

[1] This would be a good topic for one of Kevin Warsh's task forces.

growth while all significant episodes of deflation have been preceded by declines in money growth or very low rates of money growth.
Research shows that a strong relationship exists between broad money growth and nominal spending, or nominal GDP, about a year later. In Figure 2, nominal spending (in blue) consistently grew at a rate slightly less than the rate of growth of M2 in the period 2012-18[2]. Then in 2020, the economy was hit by the Covid lockdowns, causing spending to tumble. However, once vaccines were available and the lockdowns were eased, nominal spending bounced back very strongly, boosted by the huge growth of money in 2020-21. Subsequently, spending steadily slowed until mid-2025, even though money growth had plunged in 2022-23.

**Figure 2. US M2 Growth and Nominal GDP**




The explanation was that so much money had been created in 2020-21 that consumers and businesses held an overhang of excess money balances which were able to support aggregate nominal spending in 2023-24 despite the temporary contraction in broad money.

Since mid-2025 money growth has recovered and accelerated to over 8% at a 3-month annualised rate. Even though excess money balances may have been largely used up, nominal spending (shown in blue) has been accelerating in line with faster

[2] This is due to the downward trend of income velocity, or the gradual build-up of money balances relative to income.

money growth over the past year. Arguably real growth is slower due to immigration restrictions, but AI may partly offset that handicap. Either way, inflation is sticky.

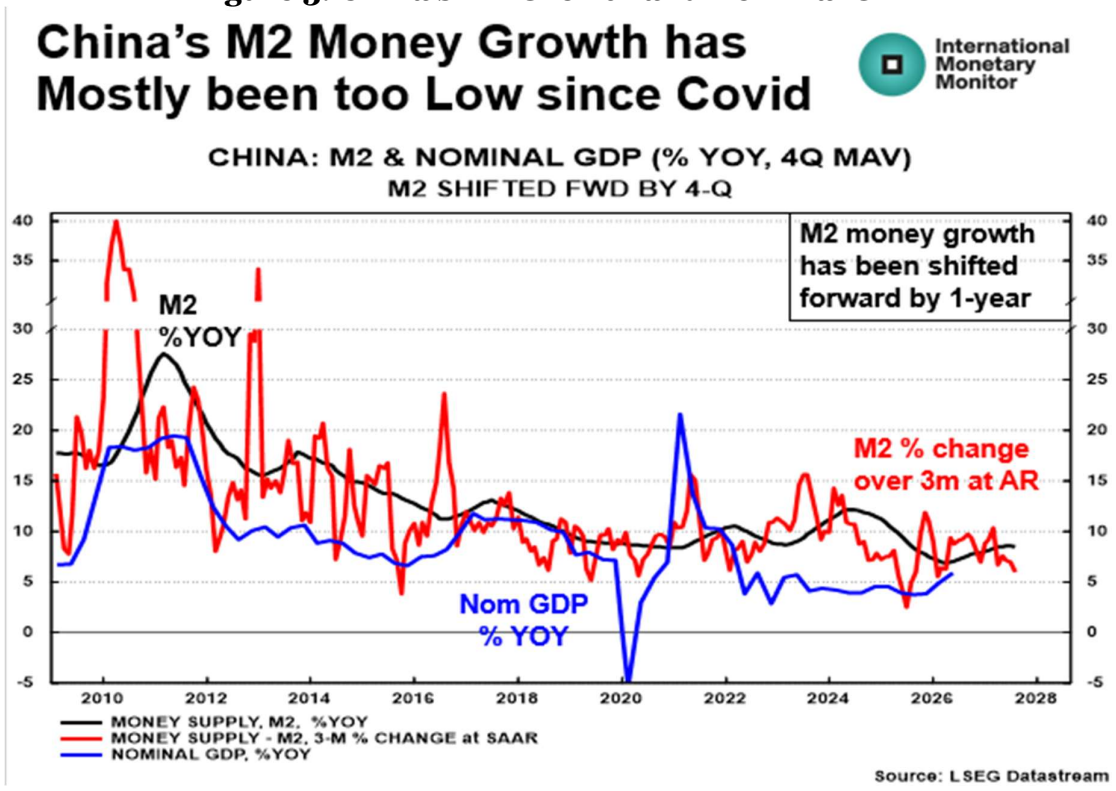
In short, faster money growth is responsible for the buoyant spending in America, and it will likely keep inflation in the 3-5% range instead of in the 1-3% range required by the Fed's 2% target.

## Recent Broad Money Growth in China

In China, the picture is dramatically different from the United States. Instead of accelerating, broad money (M2) growth has been decelerating. In my view M2 is now growing at a rate which is below that required to reach the PBOC's CPI inflation target of 3%.

Using the quantity theory of money (QTM), which is best[3] expressed as MV = yP (where M is broad money, V is income velocity, y is real income, and P is the price level that corresponds to the GDP), it is a simple matter to calculate the optimum growth rate of broad money. With some simple algebra and re-arranging the terms, we can derive:
Optimum money growth = trend real GDP growth + target inflation rate + growth of money holdings (the inverse of velocity).

**Figure 3. China's M2 Growth and Nominal GDP**




[3] Best because this format correctly reflects the order in which the variables typically change, starting with money and ending with prices for goods and services.

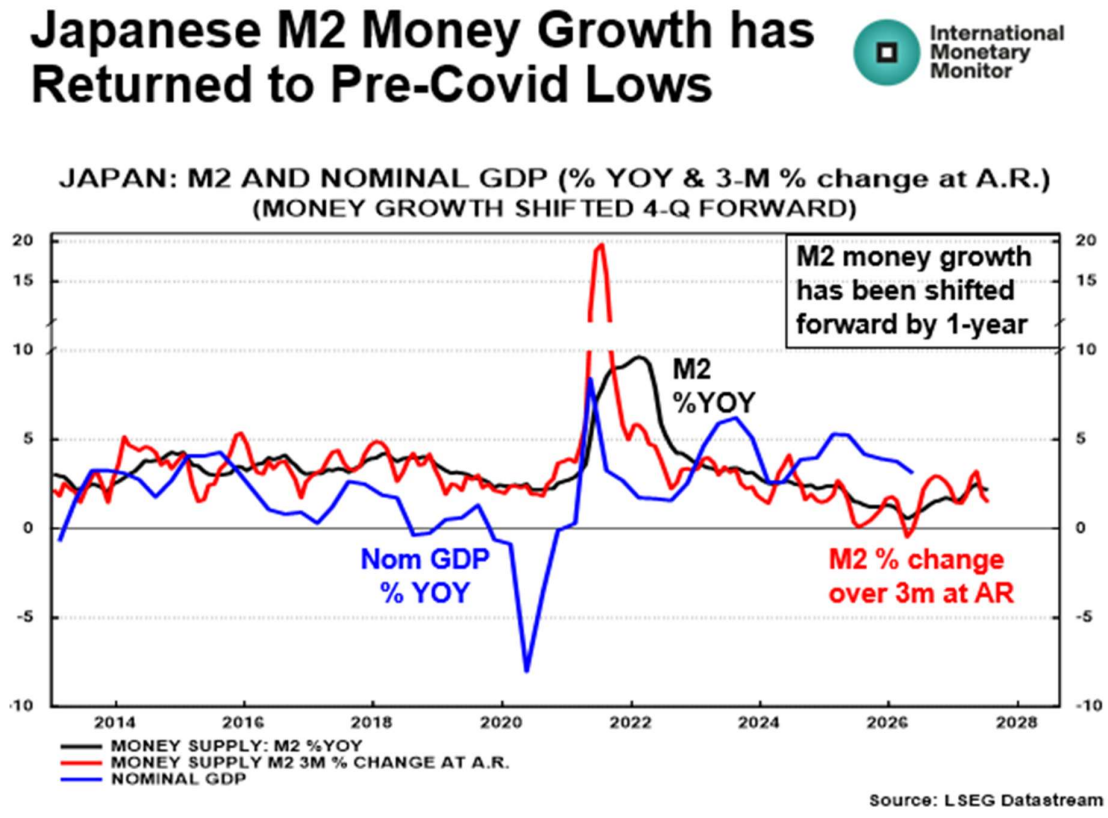
For China this works out currently as follows: 4.5% + 3.0% + 2.8% = 10.3%
Note the comparatively high figure for annual growth in money holdings (+2.8% p.a.) which is normal for a rapidly growing, emerging economy.

In other words, to maintain 4.5% trend real GDP growth and meet the 3% inflation target, China needs just over 10% broad money (M2) growth.

But in July the M2 growth rate slowed to 7.7%. This suggests that, if continued at this rate, in about a year from now China will have virtually zero inflation (7.7% - 4.5% - 2.8% = -0.4%). Given the variability of relative prices – especially food and energy – China could well be experiencing a mild deflation again. (China's CPI inflation rate was at +0.5% in July 2026, while the PPI rate was at +3.5%.)

## Recent Broad Money Growth in Japan

**Figure 4. Japan's M2 Growth and Nominal GDP**




For the two decades to 2020 Japanese broad money growth was too low to reach Japan's 2% annual CPI target. The reason was that M2 (which is the same as the old M2+CDs) averaged only 2.6% p.a. Given the BOJ's 2% inflation target, Japan required a broad money growth rate of about 5% p.a.

This is derived from the same formula discussed in relation to China:

Optimum money growth = trend real GDP growth + target inflation rate + growth of money holdings (the inverse of velocity).
In Japan's case the numbers for the pre-Covid years 2000-2020 were: 0.85% + 2.0% + 2.0% = 4.85% (which we can round up to 5%).

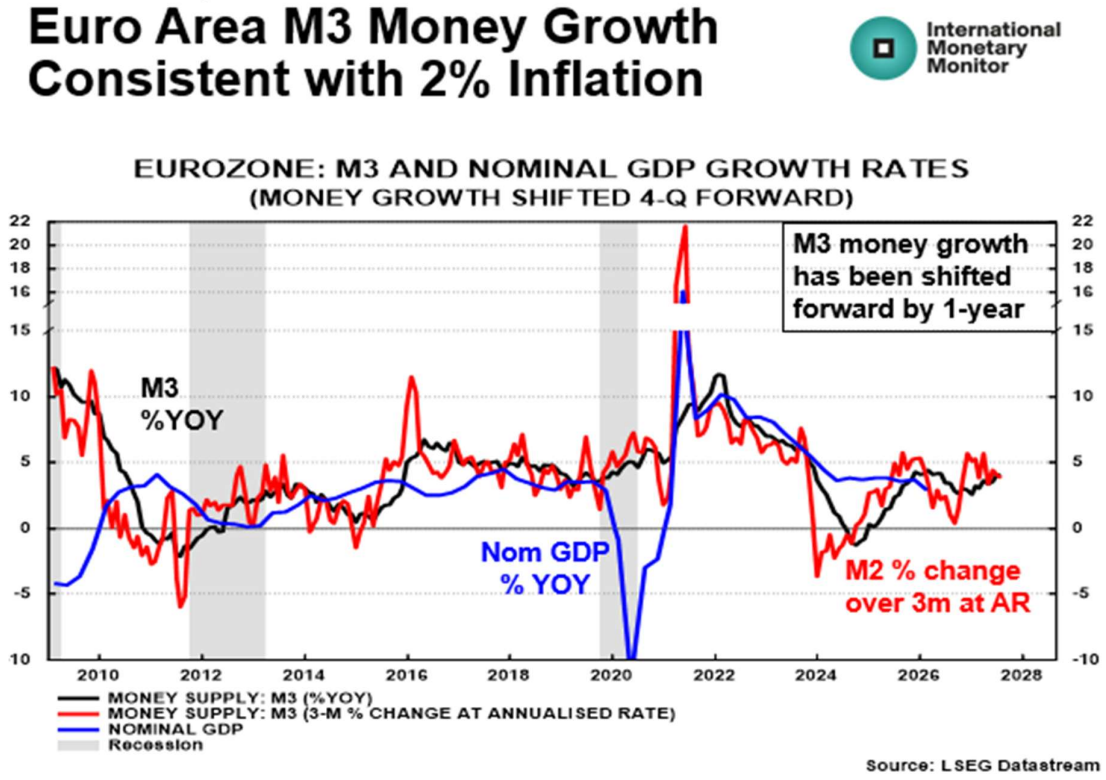
In other words, to reach 2% inflation, Japan needed 5% p.a. M2 growth, but because money growth was consistently too low, Japan was regularly experiencing deflation. During Covid, as the chart shows, M2 growth temporarily surged. This was based on the BOJ's lending scheme, not on QQE or YCC, but those schemes have now been closed down, and money growth has reverted to its pre-Covid growth rates. In July 2026, M2 slowed to 2.2% year-on-year growth.

In summary, and in contrast to consensus views, my analysis is that far from normalising to macroeconomic settings that are compatible with 2% inflation, Japan is headed back to its pre-Covid "low equilibrium" of very low nominal GDP growth with near-deflationary price trends.

## Recent Broad Money Growth in the Euro Area

Like many other developed economies, the eurozone suffered a wholly unnecessary episode of inflation during and immediately after the Covid pandemic. As with other economies, the source of the inflation was excess growth of broad money (M3, or money in the hands of the public, as opposed to money on the books of the central bank). As with the Japanese case, the underlying source of the surge in broad money

**Figure 5. Euro Area M3 Growth and Nominal GDP**



growth was not so much the Pandemic Emergency Purchase Programme (PEPP) -- purchases of securities by the ECB -- but rather the lending programmes of the ECB. The central bank lent directly to banks through its Targeted Long-Term Refinancing Operations (TLTROs) provided that the banks on-lent the funds to firms. As Figure 5 shows, the 3-month annualised rate of growth of M3 reached over 20%. However, the expansion of M3 growth has now subsided and returned to normal. In July 2026 the year-on-year growth rate of M3 was 4.0%.

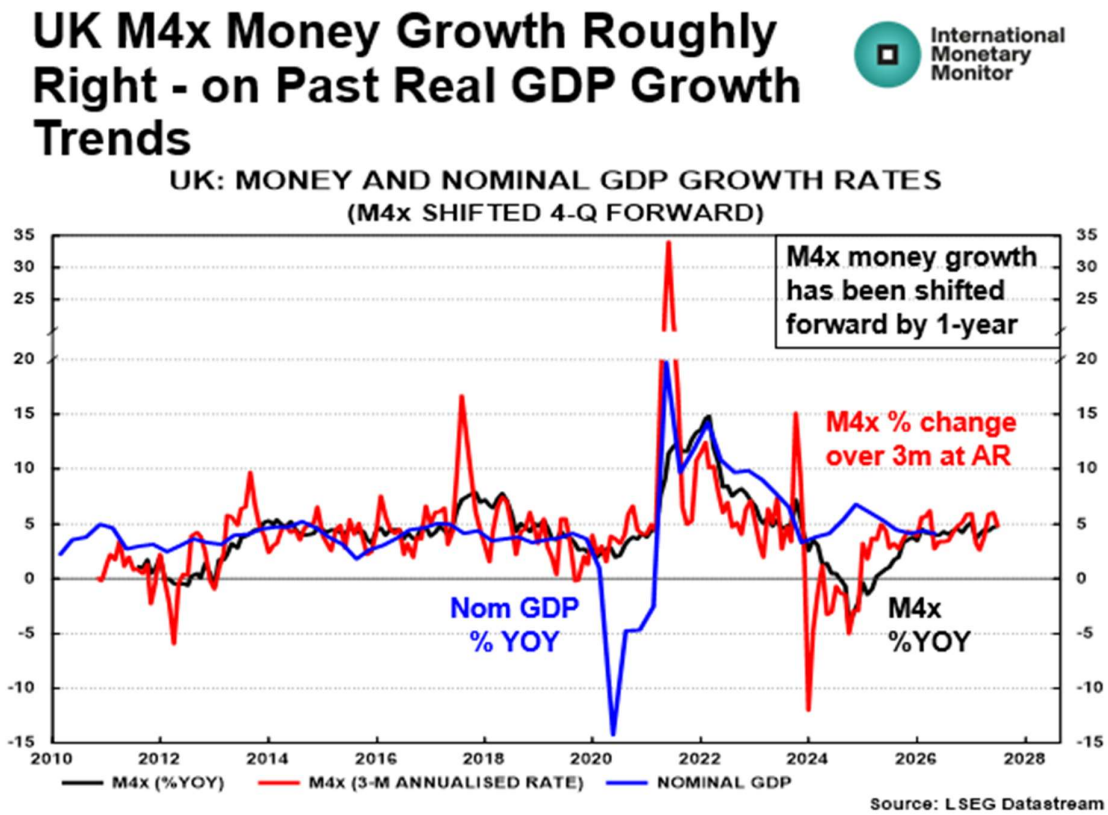
Although the ECB no longer claims to manage or target broad money growth, it happens that the present 4% growth rate is just about correct for the eurozone's 2% inflation target.

Using the same formula as discussed in relation to China and Japan:
Optimum money growth = trend real GDP growth + target inflation rate + growth of money holdings (the inverse of velocity).

In the eurozone's case the numbers for the pre-Covid years 2010-2020 are:
1.3% + 2.0% + 0.8% = 4.1% (which we can round down to 4%).

**Recent Broad Money Growth in the UK**

**Figure 6. Growth of M4x and Nominal GDP in the UK**




The UK was one of those economies that suffered double-digit inflation during the Covid period, primarily as a result of the Bank of England's excessive purchases of

gilts under its Asset Purchase Programme. Broad money (M4x) surged to 14.9% year-on-year in February 2021 – far higher than was justified by the brief "dash-for-cash" in March 2020.

A more appropriate plan would have been to have provided ample short-term liquidity, and then to have started withdrawing the excess after 3-6 months. (For a discussion of how this would have operated, see IMM Newsletter #8, Nov 2022, p. 7: https://internationalmonetarymonitor.co.uk/us-and-global-outlook/ )

Using the same formula as discussed in relation to China, Japan and the Euro area, we can again calculate the optimum broad money growth rate for the UK:
Optimum money growth = trend real GDP growth + target inflation rate + growth of money holdings (the inverse of velocity).

In the UK's case the numbers for the pre-Covid years 2010-2020 are: 1.9% + 2.0% + 0.9% = 4.8% (which we can round up to 5%).

However, the problem for the UK is whether the underlying real GDP growth rate is as strong as the average 1.9% p.a. achieved between 2010 and the end of 2019. Since the start of 2023, the real GDP growth rate has averaged only 0.9%, suggesting that the optimum M4x growth rate may be nearer 3.8%, not 4.8%.

The annual growth rate of M4x in the year to June 2026 was 4.8%, which would have been perfect during the pre-Covid years, but may now be marginally on the high side if the real potential GDP growth rate has in fact declined somewhat since Covid. On this kind of data and given all the uncertainties involved, one cannot be too dogmatic but only stay watchful.

**Conclusions**

- Fed Chair Kevin Warsh is correct to emphasise the role of money created by the central bank and money created by commercial banks in monetary policy. He needs now to persuade his colleagues on the FOMC of its importance.
- Between February 2020 and April 2022, the Fed was responsible for creating three quarters of the excessive cumulative increase in M2, while the banks created nearly half, and there was a substantial negative residual (see Table 1).
- However, since then the Fed's role in money creation has declined to a cumulative contribution of just one third of the cumulative increase, while commercial banks have stepped up their role, creating three quarters of the cumulative increase since 2020.
- Barring any crisis, going forward the Fed's role should be confined to RMPs (Reserve Management Purchases of T-Bills), while the bulk of money creation will likely be done – as was normal historically – by commercial banks.
- The Fed's reduced role in money creation does not mean the Fed should have any less responsibility for managing broad money growth to ensure it remains compatible with the needs of the economy – (1) to finance real GDP growth, (2) to ensure 2% inflation, and (3) to provide enough money to satisfy the

demand of households and firms to build up money balances relative to income as they get richer.

- Currently, US broad money growth at 6-8% annualised has been too high over the first seven months of 2026, which explains why inflation is proving so sticky in the 3-4% range. To discourage the commercial banks from creating continued excess money growth (resulting from the growth of bank credit), the FOMC is likely to need to raise rates in the second half of 2026.
- Elsewhere, broad money growth rates are much more subdued, particularly in China and Japan. In both these economies there is a risk of ***deflation*** over the next year or two, regardless of the price of oil and gas.
- In the Euro Area, M3 growth is approximately in line with achieving the 2% inflation target and should be maintained at current rates.
- In the UK, growth of M4x is reasonable when compared with the pre-Covid period. However, if real GDP growth does not resume its pre-Covid growth rate, then it is possible that even at 4.5% year-on-year, M4x growth may need to be tightened marginally.
- The investment implications of these findings are clear: switch from US Treasuries or UK gilts to Chinese or Japanese government bonds.

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