

Post 3/3 on Crypto

Systemic dangers of wide adoption of cryptocurrencies.

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In my [first post](#) on the possible challenges of using public blockchains as coins and tokens I pointed to the lack of fungibility of these assets due to “path dependency”. Additionally, I also argued that by using “public” assets such as bitcoin, a social credit system where all our transactions are monitored and controlled, could be *easily* implemented. My [second post](#) was more abstract and discussed the use of public and private cryptocurrencies in the context of “good” versus “corrupt” political systems.

In this third and final post, I’ll go a step further and discuss some systemic concerns of using cryptocurrencies. Again, these posts are not meant to be exhaustive but a means to provide “food for thought” in order to have higher level conversations on these issues, which will affect all of us.

1. Concentration of assets.

One of the “promises” of the adoption bitcoin and other cryptocurrencies was the possibility of any individual having access to a store of wealth and medium of exchange, bypassing the banking system. This would ultimately allow for individuals being free from the stranglehold of excessively regulated banks and possibly also lead to a more equitable distribution of wealth. Adopting cryptocurrencies, would be akin to return to holding digital gold which would protect individuals’ wealth from systemic inflation.

Bitcoin is getting close to its 17th anniversary¹ and it has passed the test of time proving to be a viable technology. Even though still not widely adopted, its market cap on was already \$1.9Tn on 2025/02/25. This still represented only about 1.9% of global M2 that stood close to \$100Tn.

It is therefore an interesting time to investigate if Bitcoin has lived up to its hope of a currency of the “people”. Table 1 shows the distribution of bitcoins per account as of 2025/02/25, retrieved from bitinfocharts.com.

Balance, BTC	Addresses	% Addresses (Total)	BTC	USD	USD Share, %
[0 - 0.00001]	6227247	11.42% (100%)	35.82 BTC	\$3,444,697	0.000%
[0.00001 - 0.0001]	11251152	20.63% (88.58%)	473.24 BTC	\$45,507,377	0.002%
[0.0001 - 0.001]	13137717	24.09% (67.95%)	4,976 BTC	\$478,453,165	0.025%
[0.001 - 0.01]	11542579	21.16% (43.87%)	42,489 BTC	\$4,085,745,231	0.214%
[0.01 - 0.1]	7911948	14.51% (22.7%)	267,750 BTC	\$25,746,965,741	1.351%
[0.1 - 1]	3477911	6.38% (8.2%)	1,073,458 BTC	\$103,224,387,182	5.415%
[1 - 10]	840723	1.54% (1.82%)	2,086,985 BTC	\$200,685,774,330	10.527%
[10 - 100]	134474	0.25% (0.28%)	4,320,579 BTC	\$415,469,640,386	21.793%
[100 - 1,000]	15997	0.03% (0.03%)	4,600,344 BTC	\$442,371,957,529	23.204%
[1,000 - 10,000]	1961	0% (0%)	4,528,314 BTC	\$435,445,525,415	22.841%
[10,000 - 100,000]	91	0% (0%)	2,245,116 BTC	\$215,891,783,745	11.325%
[100,000 - 1,000,000]	4	0% (0%)	654,768 BTC	\$62,962,950,967	3.303%

Table 1 - Distribution of bitcoin address on 2025-02-25. Source: <https://bitinfocharts.com/top-100-richest-bitcoin-addresses.html>

We can observe that **top 4** addresses (of 54.5 million) held 3.3% of all assets. Moreover, the **top 95** addresses held 14.6% and the **top 2056** addresses held 37.5% of all assets. At first glance, the distribution of bitcoin assets looks extremely concentrated.

How does this concentration compare to the distribution of wealth in other assets?

¹ Bitcoin was initiated on the 3rd of January of 2009.

To answer this question, Table 2 compares the distribution of bitcoin with the distribution of financial assets and real estate assets using US data². The comparison is not perfect but allows us to have an approximation to answer the question.

For the computation of the distribution of bitcoin assets, shown in Table 2, the two levels with lowest amount of assets were removed. This was done due to the fact that these wallets held an average amount of bitcoin of about 0.5\$ and 4\$ respectively, which are likely residual amounts from prior transactions. These wallets correspond to about 32% of all addresses.

US Household Percentile	Share of US Real Estate	Share of US Financial Assets	Share of Bitcoin
Bottom 50%	10.1%	2.6%	0.025%
[50% - 90%]	46.0%	25.6%	1.565%
Top [1% - 10%]	30.5%	37.2%	5.415%
Top [0.1% - 1%]	9.4%	18.6%	10.527%
Top 0.1%	4.0%	16.1%	82.468%

Table 2 - Comparison of the distribution of different assets.

We can observe that the share of bitcoin for the bottom 50% of addresses (even after removing the 32% smallest addresses) amounts to only 0.025% of total bitcoin in circulation. By comparison, the share of financial assets for the bottom 50% of US households is 2.6% and the share of real estate is 10.1%.

When looking at the share of assets going to the top 0.1%, we can observe that about 82.5% of bitcoin assets are owned by those accounts. By comparison, 16.1% of financial assets are owned by the top 0.1% within US households. Interestingly, the top 0.1% own “only” 4% of real estate in the US.

Table 2 shows that contrary to common perception, bitcoin is not a “people’s asset” but appears to be the exact opposite. It should be noted that bitcoin addresses can and are owned by corporations, investment funds and governments, and consequently the analysis above is far from an accurate representation of the distribution of bitcoin within the population. However, it does provide us some insights of the nature of the bitcoin market.

2. Supply of money.

One of the metrics to estimate the possible limit value/price of bitcoin is based on the global money supply. The rationale is that if bitcoin was 100% adopted globally based on global M2 (cash savings and short-term deposits) then it could possibly reach a valuation around 50x its current value (from adoption rising from about 2% to 100%). I tend to find holes in this rationale, but for now, let’s assume it is plausible.

This gives rise to a question: *Where does global money supply come from?*

Figure 1 shows the distribution of M2 money supply in international currency units (USD), for the major countries/region of the world on 6-2025, representing about 90% of global money supply.

Interestingly, on 6-2025, China had about 43.6% of the money supply, with the US money supply corresponding to only about 21%, about half of China’s. This fact is not widely appreciated, and leads to further questions and has systemic implications, which we will discuss in the sections below.

At first glance, it makes sense that due to China’s economic growth rate and its sheer size, it would have a large impact on overall money supply. Consequently, it would be natural that Chinese citizens and institutions would eventually own 43.6% of bitcoin if 100% global adoption was accomplished.

² I use the **Distributional Financial Accounts** published by the Board of Governors of the Federal Reserve System (US) which provide the distribution of different assets and liabilities for US households.
<https://www.federalreserve.gov/releases/efa/efa-distributional-financial-accounts.htm>

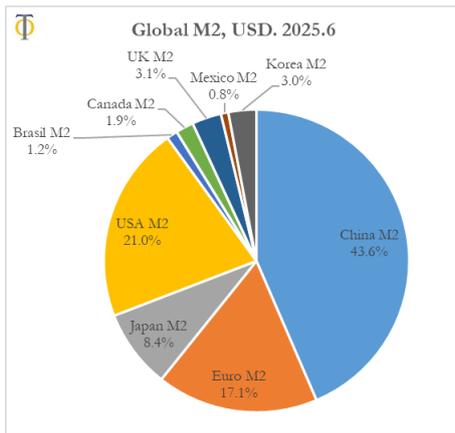


Figure 1 - Distribution of global M2 (in USD), 6-2025

However, at closer examination, we observe that this is not the case, as I'll explain in the next section. China has a disproportionate expansion in its money supply relative to its GDP, which is related to its “mercantilist” economic model.

The problem get's worse when we look at the growth in money supply over time. Figure 2 shows the yearly growth in M2 (in billion USD) for the four main economic regions of the world. We observe that since 2012, China was the main engine of M2 growth, with the exception for the 2020 to 2022 period. However, since 2023, China was responsible for almost all of global M2 growth. In 6-2025 China's M2 growth was above \$4Tn, the same as all other regions combined.

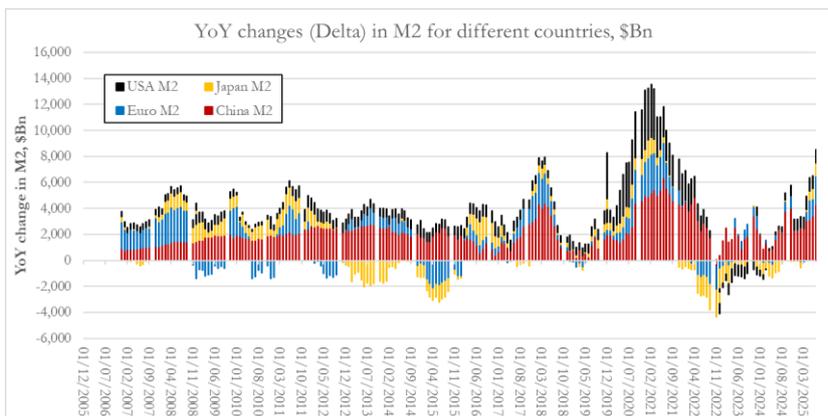


Figure 2 - Year-on-Year growth in M2 (in Billion USD) for the main global regions.

The growth in global money supply, driven by China, not only affects demand for bitcoin, but also real and financial assets across the world.

3. Economic systems.

To understand why China's money supply came to dominate global money supply, we need to take a short foray³ into the differences between consumer-driven economic systems (such as the US and UK) with “managed” economies such as that of Japan and China.

China's economic model was modelled on Japan's, which was adopted for its reconstruction after World War II, and achieved rapid economic growth. Japan's economic success was such that by 1990, the acquisition of international assets abroad became a topic of national security concern in western economies. The subsequent 2

³ In this short post I only skim the surface of this topic. For a deeper dive into China's economy, it's demographic-led slowdown and real estate crisis, and a comparison of different countries economic systems, at Phinance Technologies we produced an [extensive report on China's economy](#). The report is targeted at institutions.

lost decades of economic growth due to Japan’s demographic decline quelled the fears for Japan’s world domination at the time.

In 2020, China reached a similar situation to Japan’s in 1990 as it started its own demographic decline, of which the ongoing real estate crisis is a consequence⁴. China’s managed economic model, replicated on Japan’s targets strategic export-driven industries for growth through credit allocation and subsidies. After its rise in secondary sector industries, China has since 2015 transitioned to exports in higher value-added products in high-tech industries (tertiary sector), such as automobiles and electronic products. This led to ever rising trade surpluses. At the same time, its economic model is generating ever increasing amounts of cash that remains stagnant within corporations and wealthy individuals. Even with capital controls in place, individuals and corporations have incentives to purchase real assets abroad (at any price), which is akin to the Japanese carry trade, but on steroids due to the size of China’s M2 supply.⁵

To illustrate the problem I described above, in Figure 3 I compare the nominal GDP and M2 of the main economic regions of the world. We observe that from about 2010, China’s M2 overtook that of the US and Europe, and the gap has been growing steadily over time. By 2025, China’s M2 was about \$45Tn while that of the US was only about \$22Tn and \$18Tn in Europe (Figure 3 - Right). However, China’s GDP growth did not grow as fast as its money supply. In fact, since 2020, China’s GDP in USD has declined about 20% relative US GDP.

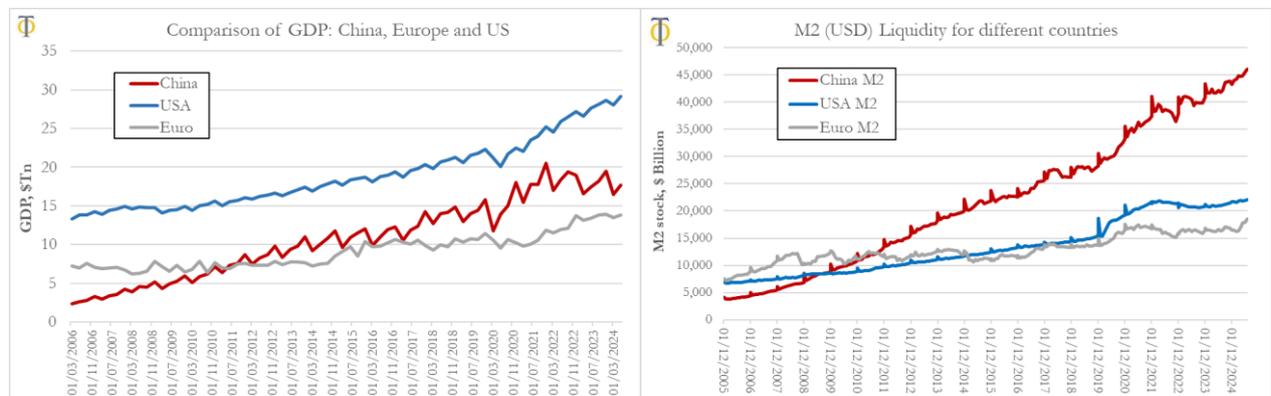


Figure 3 - Comparison of GDP and M2 (in USD) for the 3 main global economic regions. Left: GDP. Right: M2 supply

How can one make sense of these charts?

It comes down to the differences in the economic system I described above. China’s economy is a “mercantilist”⁶ economy, where trade surpluses are policy targets (through targeted credit and subsidies) and real assets are accumulated (including gold, silver, copper and other industrial materials).

The difference between the economic structures of western economies and China (and Japan) is manifested through the elusive quantity called the velocity of money. The velocity of money is the speed at which the money supply moves from hand to hand in the economy, and is the ratio of GDP (Figure 3-Left) and M2 (Figure 3-Right), as shown in the equation of exchange below.

$$GDP = M \cdot V \quad (1)$$

China’s velocity of money in 2025 was below 0.5 while that of the US was close to 1.4. China’s money velocity is roughly 3 times smaller than that of the US. This means that for every unit of nominal GDP, China needs to produce 3 times more money when compared to the US. Stated in other words as a practical example, China

⁴ My book “[Economic Cycles, Debt and Demographics](#)” explains how demographics are intimately related to economic growth and economic transitions to a low growth reality, typically followed by a real estate crisis.

⁵ This is only a brief, incomplete explanation of the impact of China’s economic system and as previously mentioned, an in-depth analysis is beyond the scope of this short post.

⁶ The term mercantilism generates some controversy as it is associated to the exploitation of western colonies. I refer to the term “mercantilist” in the sense of a managed economy targeting exports and the accumulation of real assets.

needs to expand its money supply at a rate of 15% per year, to maintain the current GDP growth rate of 5% per year.

Consequently, the divergence of China's money supply versus the US and Europe will only increase over time. The situation cannot be corrected by depreciation of China currency, as this leads to even greater trade surpluses that ultimately lead to trade conflicts. In this context, we can now understand that the "only" solution appears to be the US enacting trade tariffs ([Trump tariffs](#))⁷ on China and not allow its integration into global financial markets (capital controls).

China's clamping down⁸ on Bitcoin and other cryptocurrencies since 2021 could be a reflection of international coordination to avoid [capital flight from China](#), a necessary measure in light of the situation described above.

4. Implications

One of the implications is that China's economic model poses a national security risk for all open (consumer-based) economies. The accumulation of trade surpluses resulted in China being a net creditor with growing International Investment Position (IIP). The accumulated surpluses (in USD, EUR, JPY...) need then to be invested in assets in those respective currencies, in bonds, equities or real assets such as farmland, mines and other critical infrastructure.

However, the danger from the accumulation of international reserves pales in comparison to the danger of the huge unused money supply within China. Furthermore, its money supply keeps growing with China generating \$4Tn in new M2 in 2025 alone, which is much larger than the \$1Tn trade surplus. These can be (and are) deployed by private individuals and corporations to buy real assets abroad "at any price". This is the second geopolitical risk as through private means, China could slowly gain control of strategic resources over the world.

China's money expansion has a side effect that is akin to the Yen carry trade: it boosts asset prices worldwide. This poses another risk for open consumer-based economies by China "exporting" its monetary policy abroad by boosting asset prices and bringing down consumer prices (deflation). Ultimately, consumer-based economies need to bring down velocity of money and expand money supply to keep up with China, in essence, to replicate China's economic model and monetary policy.

Bitcoin and other cryptocurrencies (both public and private) can be purchased and held by anyone and consequently are exposed to China's economic model (particularly its M2 growth). If these assets were allowed to be used as medium of exchange or stores of value so that they could be used to purchase physical assets and business in open economies, then these countries would be directly exposed to China's economic model.

The same occurs with claims on gold, silver or other physical assets. However, the advantage is that these assets, contrary to cryptocurrencies, need to be physically moved for effective control to take place. Customs limitations of the movement of physical assets can be enacted and **enforced**.

5. How could cryptocurrencies be used?

This is the million-dollar question, for which the answer just got more complex in light of these two new considerations discussed above. I'll try to outline top-level ideas for the adoption of cryptocurrencies.

1a) **In the absence of global coordination** between economic regions, crypto currencies should be local currency (backed by government securities) or indexed to gold (backed by physical gold or silver). There should coexist both public and private versions of these cryptocurrencies. The mining of these crypto currencies could be centralised or decentralised.

In effect, this is what regulated stable coins attempt to do.

⁷ https://www.linkedin.com/posts/carlos-alegria-b68878a_impact-of-the-us-trade-tariffs-activity-7317485827574415361-RfuV

⁸ <https://www.reuters.com/sustainability/boards-policy-regulation/chinas-central-bank-vows-crackdown-virtual-currency-flags-stablecoin-concerns-2025-11-29/>

1b) **If global coordination occurs** (which is unlikely), then bitcoin and other **public** cryptocurrencies could be used as mechanisms to settle global trade, in addition to other existent mechanisms (USD, EUR, Gold and Silver). In this scenario, to foster global coordination, local currencies could be linked to precious metals, such as gold and silver.

Both these solutions are opposite to the original idea of bitcoin being a decentralised, unregulated, global cryptocurrency. Interestingly, both these solutions would benefit from indexing local currencies to physical real assets such as gold and silver.

2 – Private or public?

Even if the hurdles above are addressed the other question regarding using cryptocurrencies is: Private or public? As alluded to in my previous posts, I believe there should exist a balance between privacy, security and law enforcement. There are no perfect solutions, but I believe that there should coexist different versions of stable coins that provide solutions to achieving the desired balance.

Some (tentative) ideas to achieve such a balance are:

- ➔ The usage of public blockchains by governments, large corporations or to settle large commercial trade between countries. Critical infrastructure or “too big to fail” (systemic) companies could be required to use public blockchains for full transparency.
- ➔ Private blockchains used as means of exchange by individuals.
- ➔ Incentives to using different cryptocurrencies (tax-exemption) tied to small projects that foster decentralised farming, energy production, communication grids, etc. This would allow the flourishing of local (or national) grids and communities; that is, enabling possible escape mechanisms from centralised (automated) decision-making that could lead to systemic harm.
- ➔ One global problem that is close to my heart is the issue of biodiversity and access to ancient (and non-GMO) plant seeds for organic farming. Projects that foster the trading of such seeds by local farmers could be tied to a cryptocurrency to allow a community to develop organically.

6. Final note.

The impact of the widespread adoption of blockchain technology and the usage of cryptocurrencies as stores of value and medium of exchange is a complex subject that touches many critical topics. Understanding and discussing these topics is the first step towards using these technologies to add prosperity, safety, privacy and freedom to individuals. However, these same tools can be easily used (either deliberately or by misguided policies) to foster further concentration of assets in a small controlling elite and authoritarian structures of population control.

These three posts do not cover all aspects of crypto currency technologies but instead focus on issues that are not widely discussed and debated. For instance, other technical aspects that bitcoin and other cryptocurrencies need to address is the centralisation of bitcoin miners in a few large server pools and power consumption. These technical issues, I believe can be solved, and indeed different crypto projects already address such problems.

I also make deliberate attempts to avoid going into directions that could be deemed too controversial, such as the bitcoin origins and the meaning of “Satoshi Nakamoto”, and the logical implications that follow suit. This is to keep an un-emotional discussion regarding the possibilities and possible pitfalls and unintended consequences of widespread adoption of bitcoin and other cryptocurrencies.

Main Conclusions:

The main conclusion from these posts is that widespread adoption of cryptocurrencies as mediums of exchange and stores of value is a **very dangerous proposition**.



On the top-most level, differences between economic and political systems of “open” societies and “managed” societies lead to national security risks from using cryptocurrencies on a wide scale. These differences can only be resolved through international coordination, which could entail the implementation of a new global “gold standard”. The physical (and not digital) control of the underlying assets by different nations would allow for time for settling disputes through diplomacy.

Additionally, concentration of digital assets appears to already be geared towards the ultra-wealthy, more so than traditional financial assets and real estate. If these digital assets are allowed to make claims on physical products, assets, and services, wealth inequality would become even more pronounced, possibly leading to social upheaval.

Cryptocurrencies have proved to be a viable technology. We are now at the stage of discovering how they could be used as a tool for improving the human experience. I hope that taking in consideration the thoughts discussed in these posts is essential to avoid systemic mistakes that could lead to inevitable future conflicts.

A possible avenue of using cryptocurrencies for improving systemic diversity and resilience is through small, decentralized grids (small eco-systems) that connect to essential physical goods such as energy (small power generation projects), food (bio-farming), natural medicines and healthcare, among others.

Thank you for your interest and attention in reading these posts.