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Tokens, Power, Non-Jobs and Debasement: The case for strategic allocation to tokens

This essay considers the role of tokens and crypto assets as investments. However, rather than just address this question within the narrow confines of investment theory, we approach it via the broader social and political role of tokens. Their growing acceptance raises questions on how the nature of money is changing. This in turn has implications for politics, geopolitics and contemporary debates about the nature of work. The specific role of tokens in investment portfolios is linked to two separate features of the strategic investment outlook. First, developed economies find themselves with a level of public debt which, as a proportion of GDP, is unprecedented outside times of existential conflict. Second, significant growth in the need for real assets and greater liquidity will continue. Non-fiat currencies and tokenized assets form a part of the potential response to both of these phenomena.

We conclude this essay with a vision for investment management that ends the false dichotomy between public and private investments and subverts the asset class as a discrete unit for investment allocation. This is an important step in freeing strategic asset allocation from the silos imposed on it by the historical development of the investment industry. A world of lower real returns and less diversification between asset classes needs this tokenization as an engine to free up the methodology of asset allocation.

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In this essay, we cover four key topics at the nexus of the changing role of money and what that change means:

- What is money and how is it changing?
- Public debt and the risk of currency debasement
- Tokens and their role in the changing nature of work
- The role of tokens in investment portfolios

These topics in turn span very different areas of study: philosophical, political, social and investing viewpoints are all at work. Above all of them are questions about the nature of power; we end this essay on the relationship between tokens and power's changing nature. Rather than attempting to be comprehensive on each of these topics (which would require a book-length essay), we just focus on the aspects where a change is taking place that is a key part of contemporary debate, ultimately with a view on what this means for those tasked with making long-run investment decisions.

We start this essay with the broader political and social issues prompted by tokens and crypto assets, because this larger picture really frames the role of these assets—it would be missed if one started from a more blinkered focus only on investment. We then turn to the role of cryptocurrencies followed by tokens more broadly in investment portfolios. This is not just a case of a new technology emerging, but of its role being inextricably linked to the economic and political outlook at large.

The investment case for cryptocurrencies that we make is not about the technology per se, but instead the consequences of the levering up of economies via the growth of public debt and other mega forces that imply higher inflation. Likewise, the role of tokenized assets in portfolios is driven by investors' need for real assets and concerns about liquidity. The sociopolitical role of crypto is part of the debate about the future of work and the relative power of the individual versus corporations and the state.

You know what money is right? Hobbes vs Hayek

What is money and what sets it apart from non-money? This question has a long history, but we argue it has new relevance, not only because of the emergence of cryptocurrencies but also because of a host of other forces that have nothing to do with the advent of blockchain technology. These forces are: the weaponization of USD access; a growing group of workers with precarious job protections; a more intense debate about the role of the state and how that relates to the freedom of the individual; and the giant levering up of the system by the expansion of government debt over the last 40 years. All these forces challenge accepted notions of money, its status and what it represents. The emergence of crypto against the backdrop of these forces prompts fundamental questioning of the status of money—questioning that reflects key disagreements about what has constituted money through history.

As with so many other topics, there is a good claim to be made that the study of money begins with Aristotle. In *Nicomachean Ethics* Book V,¹ Aristotle teaches us that money exists to make the incommensurable commensurable. He describes the social interaction required between a shoemaker and a builder for the shoemaker to acquire a house from the latter. The ability to effect an exchange between two such assets with different values is aided by the existence of money. On this view, the primary function of money is as a medium of exchange.

Graeber espoused a somewhat different view in his magisterial history of debt. This account places credit as the source of money, with barter being regarded as more of an origin myth than a historic reality. On this basis, monetary denominations are primarily a unit of account. There is a fascinating discussion on this point of how Charlemagne's coin values were still used for hundreds of years in the Middle Ages after his empire effectively collapsed and the coins were no longer in circulation. People accounted in units of coins that they had never seen. It's a wonderful example of money being used for accounting but with no inherent physical value in the units being used.

Looking up the basis for money in economics textbooks will tell one about the need for money to fulfill functions such as unit of account, medium of exchange and store of value. Whether it's needed for exchange or as a unit of account is all well and good,

¹ Aristotle., *Nicomachean Ethics*, Loeb Classical Library, 1926

but we think contemporary issues in the changing nature of money reflect a more fundamental issue—the nature of power. Specifically, the issue is the relative power of the individual, the nation state and corporations.

Money derives its value by virtue of social agreement, even metallic-based currencies: gold only has value by virtue of agreement that it has a value, given its limited industrial use and lack of income. But money is also a key means for the propagation of power. This is true both within countries (e.g. the contrast between the banked and unbanked) and between countries (the weaponization of access to currencies). The move away from currencies that were exchangeable for precious metals gives greater precedence to an alternative basis for the value of money. In contemporary economies, we would argue that one of the most potent arguments for the basis of money having value is that governments demand that taxes be paid in a given currency. Governments, in turn, have a monopoly on the use of force to ensure the collection of taxes, or at least it has long been generally accepted that they have such a monopoly.

This point raises interesting questions on the emergence of potentially competing means of payment. There is a long history of attempts to issue alternative means of payment, from pre-central-bank coinage to “local” tokens for shops in the “circular economy.” This becomes germane to our discussion here with the attempt to launch such payment systems via digital tokens from non-sovereign entities. Facebook tried to launch Diem (formally Libra) in 2020, but the strong opposition of US and European governments forced the company to abandon the project. The possibility that corporations might acquire the ability to issue currency was a step too far in terms of the risks to sovereignty. Although Diem didn't work out, we will explore below the ways that tokens can generally be issued by private entities and used in ways that very much look like money.

Another interesting example of an alternative token-as-currency is the QQ coin launched by the Chinese conglomerate Tencent in 2005, predating Bitcoin by three years. The intent was for QQ to be used within the Tencent ecosystem to pay for online services and in-game purchases. However, in 2006 its use spread beyond Tencent and achieved a level of acceptance as an alternative means of payment for small online purchases on other websites and for online gambling. QQ was not based on blockchain technology and was not supposed to be redeemable back to physical currency, so it's not directly comparable to cryptocurrencies. Nevertheless, because of its growing popularity at the time, China's central bank declared multiple crackdowns on its use. This happened notably in 2007 and 2009, when the government declared that virtual currencies could not be used for purchase of physical goods and outlawed redemptions of QQ coins for more than their purchase price. We see the political economy of this episode as being very similar to the case of Diem.

There is a fundamental divergence of views that one could describe as a tension between the world views of Hobbes and Hayek. The Leviathan as the all-powerful nation state surely requires a monopoly of money control. This view has been in ascendance for at least a century. For Hayek, however, government control of money is dangerous and gives way to exploitation. Instead, his view would be that it is desirable to have a competition between different forms of money. Hayek's seminal text on this topic, *Denationalisation of Money*, offers an absorbing problem set on this topic in the spirit of any good text book (*Display 1*). We encourage readers to consider the questions.

DISPLAY 1: HAYEK'S QUESTIONS FOR DISCUSSION

QUESTIONS FOR DISCUSSION

1. Examine the long-held view that there should be only one currency in a country and that it should be controlled by government. Illustrate your discussion with examples from remote and recent history.
2. What are the origins of legal tender? Argue for and against it as the necessary basis of a monetary system.
3. Define money. How is it distinguished from non-money? Argue for and against the concept of a 'quantity' of money. Apply the argument to the 'quantity' theory of money.
4. 'It is desirable for government to control money so that it can vary its supply according to the needs of the economy.' 'People have been losing confidence in money because it has been controlled by government.' Discuss.
5. History shows that there has sometimes been lack of confidence in 'legal tender' paper currencies. How could a régime of competing paper currencies maintain the confidence of the public?
6. 'To be trusted, paper money must be convertible into valuable goods or precious metals.' Do you agree? Discuss the condition in which convertibility is and is not essential.
7. Discuss the view that inflation and deflation would be difficult or impossible if the quantity of money were not controlled by government. Illustrate your answer from the 1929-32 Great Depression and the 1972-75 'Great Inflation'.
8. Boom and slump are associated with 'capitalism'. Are they found in non-capitalist economies? Are they the result of capitalism or other causes?
9. 'It is politically impossible for a monetary authority subject or exposed to severe sectional pressures to avoid increasing the quantity of money to increase employment, thus creating inflation. The gold standard, fixed exchange rates and other restraints in the way of monetary expansion have been found inadequate.' Discuss.
10. How would you remove the power of national government to control the international movement of currency? Would international agreement suffice? How could competition in currency be more effective?

For illustrative purposes only.

Source: F.A. Hayek, *Denationalisation of Money*, Institute of Economic Affairs, 1976

Indeed, Hayek asserts that money is a commodity like any other. Gold and silver are usually the examples that people turn to when they think of commodities as money. More recently, we have heard a client express the view that Bitcoin is in fact a commodity too—just one that we haven't found a use for yet. Must a "thing" have a use to be a commodity? Does the Ethereum blockchain being used as the basis for smart contracts constitute a use case for its native currency?

In his book *Cryptocommunism*, Alizart offers the striking image of Satoshi Nakamoto as Luther. Just as Luther urged the populace in 1517 to reject clerical authority and offered the possibility of convening directly with God, Satoshi's Bitcoin white paper created the possibility of convening directly with money without the intermediation of the banking system, or indeed the state. In the process, Alizart declares that Bitcoin is primarily a political technology before it is an economic one. We strongly agree. After all, what is the process of forming society-wide consensus if not politics? Crypto also becomes political in the way its acceptance alters the power of the state. The particular political angle that Alizart takes is to assert that a Marxist economy really should seek to end the privatization of money rather than abolishing private property. This is in contrast to capitalist systems that require money creation to support growth. This distinction is instructive in the context that central bank digital currencies pose a risk to fractional reserve banking and credit creation. Also, in contrast to fiat currencies, Bitcoin is deflationary given its fixed supply.

We should note a huge distinction here between crypto/tokens overall and Bitcoin, Ethereum and a handful of more accepted tokens. Whereas the supply of Bitcoin is limited, the supply of cryptocurrencies and tokens in general is very clearly not. The CEO of Coinbase recently stated on X that approximately one million tokens are currently being created EVERY WEEK. The argument that, in theory at least, some cryptocurrencies could be a hedge against debt monetization only applies to a small number of tokens. When we turn to the question of institutional allocation to crypto, this is not too much of a problem—realistically, only a very small number of cryptocurrencies would be potentially considered for such allocations.

What this leads to is a realization that the perception of money is changed by the emergence of cryptocurrencies.² Our assumption is that cryptocurrencies do have many of the attributes of money. The caveat is that if their role becomes so large that it interferes with the workings of a sovereign state, then presumably states would seek to suppress them. For example, if Bitcoin ever gained a significant enough share of transactions such that prices were set in bitcoin, then it could interfere with the ability to implement monetary policy. If cross-border coins were used to try to dislodge the role of the dollar in international payments, the US might choose to respond. Also, if one takes the view that fiat currencies receive their value by virtue of governments demanding that they be used to pay taxes and that governments have a monopoly on the use of force, then crypto might not share equal status with fiat money.

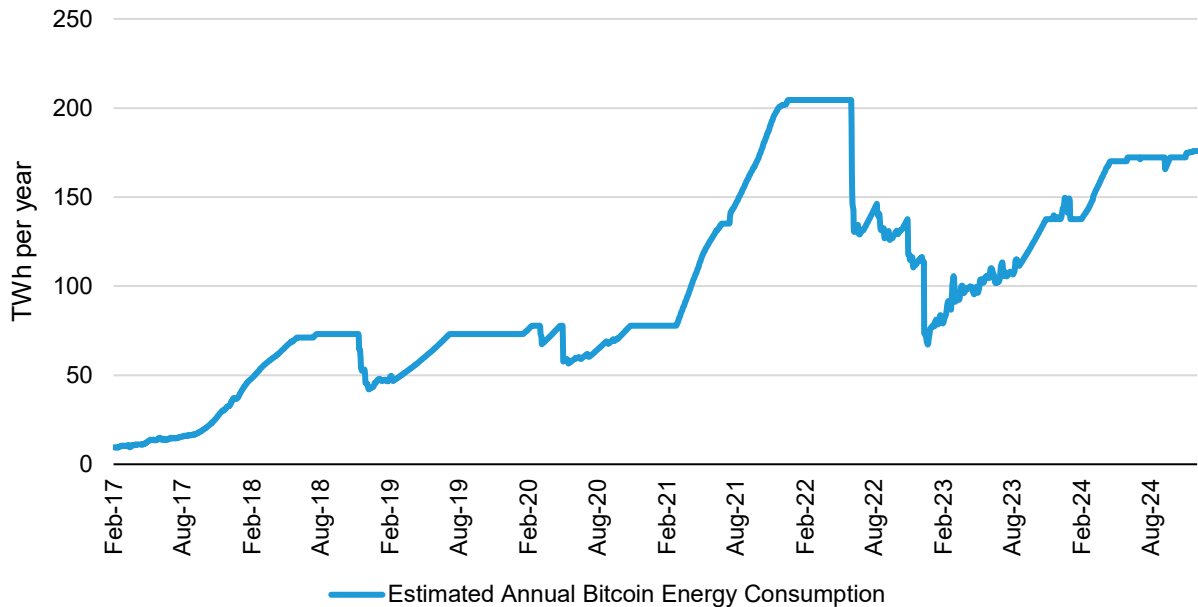
One particular aspect of Bitcoin that discussions of money have not had to previously consider is power consumption and planetary limits. The environmental impact of Bitcoin mining is well known, so there is no need to belabor that point here. According to recent estimates, Bitcoin annual energy consumption is currently around 175 TWh (*Display 2*). To put this into context, this draw is roughly equal to the annual energy consumption of Poland.

The extra “hook” for this point is in the context of the very rapid increase in power demand for data centers serving artificial intelligence (AI). When one tallies up current data center use plus the projected usage for 2025–26 and the power demand for bitcoin mining, we get to a level of more than 1,000 TWh in a high-demand scenario, equivalent to the power demand of Japan.³ We suggest various implications from this energy intensity. First, it implies that the combined power demand of crypto mining and AI will receive additional focus when discussing these trends, reminding us of potential limits, although it is unclear where those limits lie given a wave of investment in this area. Second, it implies that a rapid energy transition will be very hard to achieve and that investors need to consider the ramifications of a transition that takes far longer, and indeed raises the question of whether the transition can happen at all. Our view discussed in our recent note on a slower energy transition makes the case that this likely increases the volatility of inflation. Third, investors who have profited from the rise of a US stock market built in no small part on the hope of AI cannot really, with straight faces, complain about the power consumption of Bitcoin.

² See our previous note on this: *A Dialogue concerning Cryptocurrencies, Inflation and the Shape of Portfolios* AllianceBernstein, May 2021

³ Inigo Fraser Jenkins et al., *Can the Energy Transition Happen?* AllianceBernstein, November 2024

DISPLAY 2: ESTIMATED BITCOIN ANNUAL ENERGY CONSUMPTION



Current analysis and forecasts do not guarantee future results.

As of December 11, 2024

Source: Digiconomist.net and AllianceBernstein (AB)

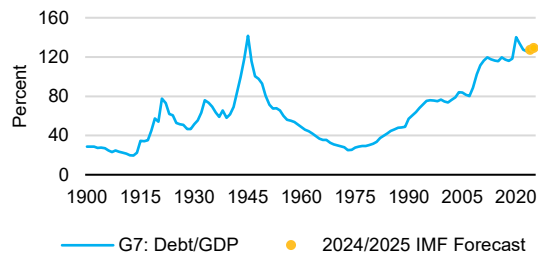
De-Dollarization and Monetization: The Current State of the Politics and Geopolitics of Money

Any change in the nature of money is necessarily political. There are many strands to this point, but we wish to draw out two particular aspects in this section. First, the level of public debt to gross domestic product (GDP) is at the top end of its range in the modern era: What does this imply for the risk of debasement, and does it create demand for other forms of non-sovereign money? Second, the ongoing attempt by some countries (primarily China and Russia) to de-dollarize introduces a geopolitical impetus to shake up the current accepted status of money, in particular the role of the dollar.

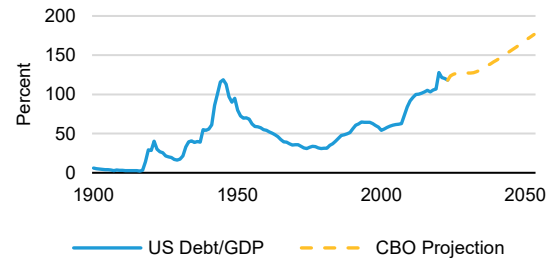
Public debt has risen to its highest level relative to GDP since the end of WWII across developed economies (*Display 3, upper left*). The Congressional Budget Office (CBO) project for US government spending shows that the country is on a path for government debt to reach 170% of GDP by 2050 (*Display 3, upper right*). The stock of debt alone might not have practical consequences, because it's possible to kick that can down the road for an unspecified amount of time. However, the same CBO projections show that US debt service as a proportion of government expenditure is expected to rise from around 3% currently to more than 6% by 2050 (*Display 3, lower left*) and would overtake Social Security spending (*Display 3, lower right*). A global comparison of this trend reveals advantages and disadvantages. The US fiscal balance is rising faster than in other countries, but it has the (huge) advantage of the dollar's reserve-currency status. In Europe, the fiscal balance is not (at the moment, at least) expected to deteriorate as quickly. However, the needs to quickly increase defense spending and support a rapidly aging population imply other fiscal constraints, with no reserve currency to fall back on.

DISPLAY 3: I STILL OWE MONEY TO THE MONEY TO THE MONEY I OWE... GOVERNMENT DEBT LEVELS LAST SEEN IN WWII

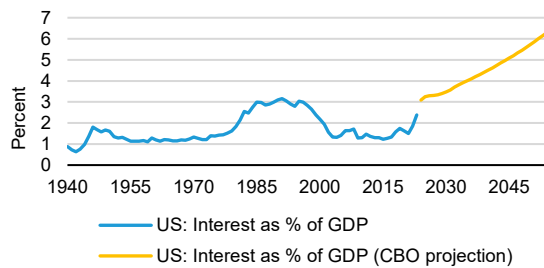
G7 Government Debt to GDP (GDP-Weighted)



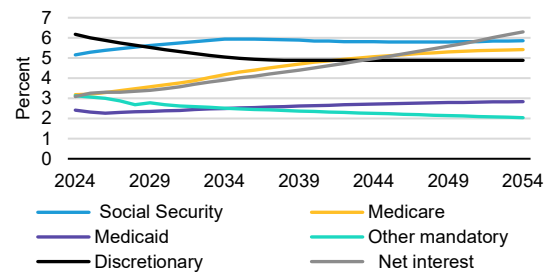
US Government Debt to GDP



US Interest Expense as % of GDP Projection



CBO Spending Projections



Current analysis and forecasts do not guarantee future results.

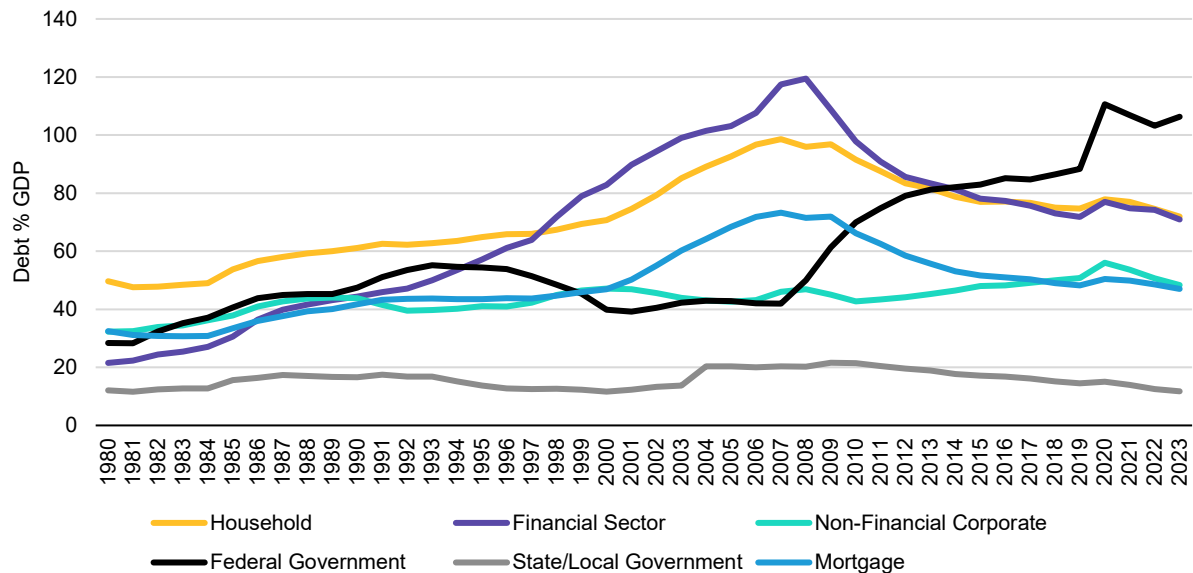
Chart 1 shows Government Debt/GDP for G7 countries weighted by nominal GDP denominated in USD. Data from 1900–2023 is from Global Financial Data. 2024/2025 forecast is from the International Monetary Fund. Chart 2, 3 & 4: The Congressional Budget Office (CBO) projection presents data that supplement the CBO's March 2024 report, *The Long-Term Budget Outlook: 2024 to 2054*.

As of November 18, 2024

Source: Congressional Budget Office (CBO), Federal Reserve Bank of St. Louis (FRED), Global Financial Data, International Monetary Fund (IMF), Thomson Reuters Datastream and AB

The increase in public debt since the 1970s amounts to a leveraging up of the system that in the past has been associated with not just wars but periods of existential conflict. Examples include UK debt during the Napoleonic wars, US debt during the Civil War and the debt of many nations in WWI. The disconcerting observation is that a similar debt level has now been reached with no such profound proximate cause. It is hard to avoid the conclusion that the motivation is to keep consumers and investors happy. Investors of a more positive disposition would note that the total economy is not necessarily more levered. For instance, households and corporations are no more levered than they were two decades ago, but the share of the total debt burden accounted for by the state has increased (*Display 4*).

DISPLAY 4: LEVERAGE IN KEY SECTORS OF THE US ECONOMY



Current analysis does not guarantee future results.

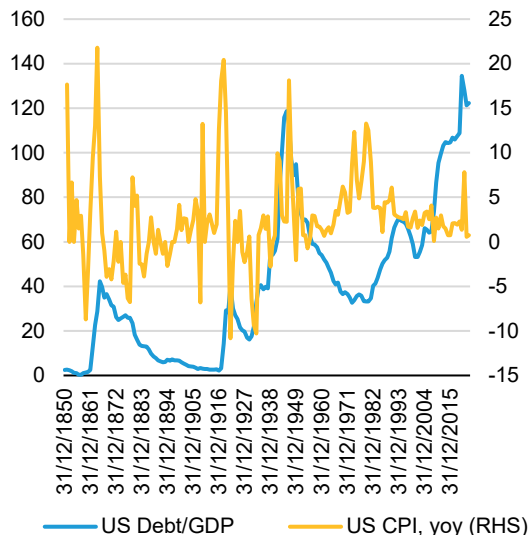
As of May 31, 2020

Source: Thomson Reuters Datastream and AB

If the financialization of the US economy had driven a trend increase in productivity growth, then this might not be a problem. The unfortunate conclusion is that this has not happened. We have discussed in recent research⁴ how there has been very little sign of a trend increase in productivity growth over the last 20 years, despite significant investment in automation. There is an active debate around the extent to which AI can change this, but we think the change is unlikely to be sufficient to offset the quantum of downward pressures on growth from demographic changes, deglobalization and climate risks. The other challenge is that the benefits of this period of financialization have not been shared equally, implying a social and political challenge to letting austerity provide a route out. In the absence of sufficient growth or austerity as likely exit paths, we are left with inflation as the least politically painful strategy for reducing the real value of public debt.

What does this situation imply about future policy options? It raises the risk of “financial repression,” keeping the yield on government debt below the level of nominal GDP growth to shrink the value of debt relative to GDP. In pursuing this, policymakers (treasury departments, not central bankers) would find it awfully convenient if inflation was on the higher side of neutral. There is indeed historic evidence of bursts of inflation around some previous episodes when government debt rose quickly, such as the case of the UK during the Napoleonic wars, the US during its Civil War and both nations around WWII (*Displays 5 and 6*).

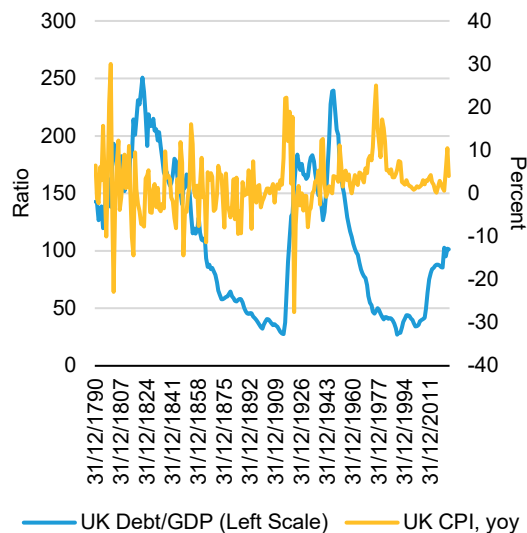
⁴ See Inigo Fraser Jenkins et al., “Productivity, Democracy, Power and Truth: The Influence of AI on Markets and Investing” in [A Preliminary Language for a Post-Global World](#) AllianceBernstein, May 2024

DISPLAY 5: US DEBT/GDP AND US CPI, YOY

Current analysis does not guarantee future results.

As of December 31, 2023

Source: Global Financial Data and AB

DISPLAY 6: UK DEBT/GDP AND UK CPI, YOY

Current analysis does not guarantee future results.

As of December 31, 2023

Source: Global Financial Data and AB

Therefore, the key question here is whether central banks can retain the same degree of independence as they have in recent years. We would argue that the gradual build up of debt in the US and other developed economies makes it more likely that central banks indeed become somewhat less independent. The likely fractious relationship between the new US administration and the Federal Reserve is a case in point. Public attempts to pressure the Fed during Donald Trump's first administration are arguably not that different from the longer history of presidential attempts to influence the Fed. After all, former Fed Chair Paul Volcker recounted (more than 30 years after the event) that in 1984, President Ronald Reagan and Chief of Staff James Baker ordered him not to raise interest rates in 1981.⁵ The difference in examining this issue today is that, in recent decades, an assumption has been baked into investors' worldview that the Fed is independent in a way that was not the case in earlier periods.

Of course, it is always possible that this can will be kicked down the road, as has been the case so far. There is no theoretical limit to the level of public debt that a country can sustain; Japan passed 200% of GDP back in 2009. However, we think that investors cannot be complacent about debt burdens. Questions about fiscal sustainability and central-bank independence have come up in a high proportion of our more strategically oriented meetings with investors over the last year. Also, we can point to specific recent examples when concerns about fiscal sustainability have become acute, with political consequences. One example would be the UK liability-driven-investing crisis in 2022. Long-term gilt yields rose by 1.5% in six days and contributed to the resignation of prime minister Liz Truss, making her the shortest-serving prime minister in the country's history. Likewise, concerns about French fiscal sustainability led to significant widening in French bond spreads in the run-up to the 2024 election and again late in the same year, leading to the collapse of Michel Barnier's government. Clearly, the scale of these incidents is smaller than the US, but we see them as canaries in the coalmine for G7 economies at large and for market concerns about sovereign debt.

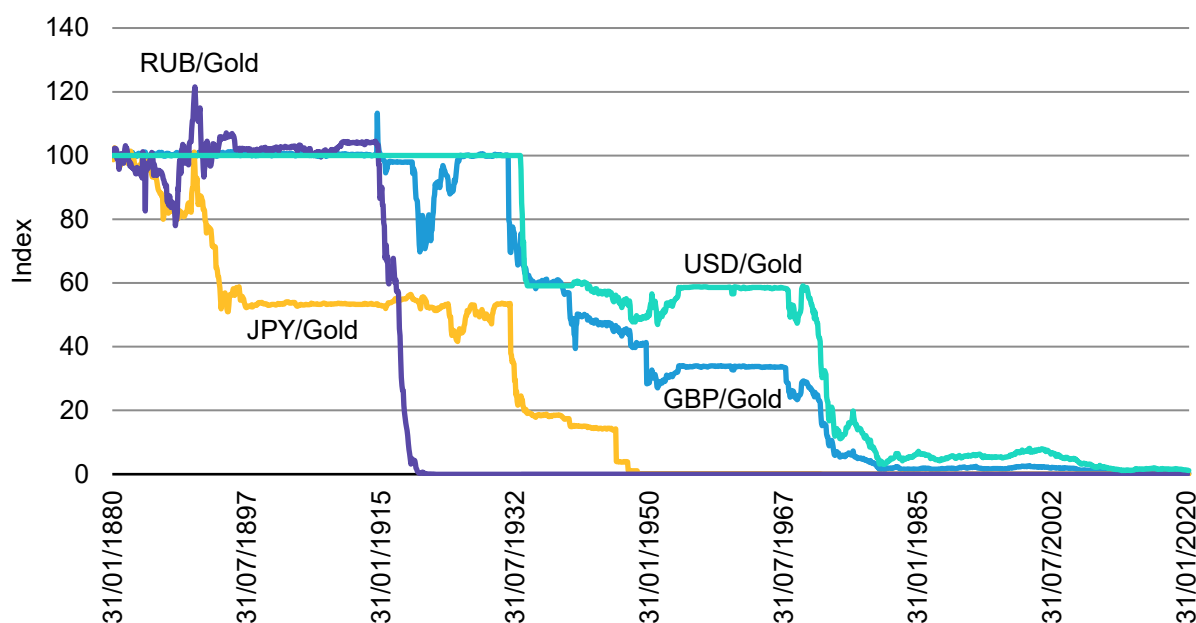
Hayek, ever looming over discussions of debasement risks for fiat currencies, helpfully lists⁶ those that fell the most in value through the mid-1970s. While the list includes many emerging economies—Argentina and South Korea both saw 99% declines in purchasing power—many developed-market currencies are on the list, such as the UK and Japan (both –78%) as well as the US (–57%).

⁵ See Philipp Carlsson-Szlezak, U.S. Economics Weekend Blast: How a dozen Presidents have pressured the Fed (or not) and why Trump is still different, Bernstein Research

⁶ F.A. Hayek, Denationalisation of Money, Institute of Economic Affairs, 1976

A longer-term perspective shows that, over time, all currencies decline against gold, either through revolution, war or inflation (*Display 7*). It goes without saying that many assets priced in these currencies manage to deliver returns that more than compensate for their depreciation (US equities being just one example). However, it does beg the question of whether investors might find exposure to assets not impacted by this trend attractive. Bitcoin, in contrast to fiat money, is deflationary given its fixed supply. Therefore, it could become more attractive to investors who worry about debasement, as long as there is regulatory clarity.

DISPLAY 7: SINKING WITHOUT A TRACE? MAJOR CURRENCIES AGAINST GOLD SINCE 1880



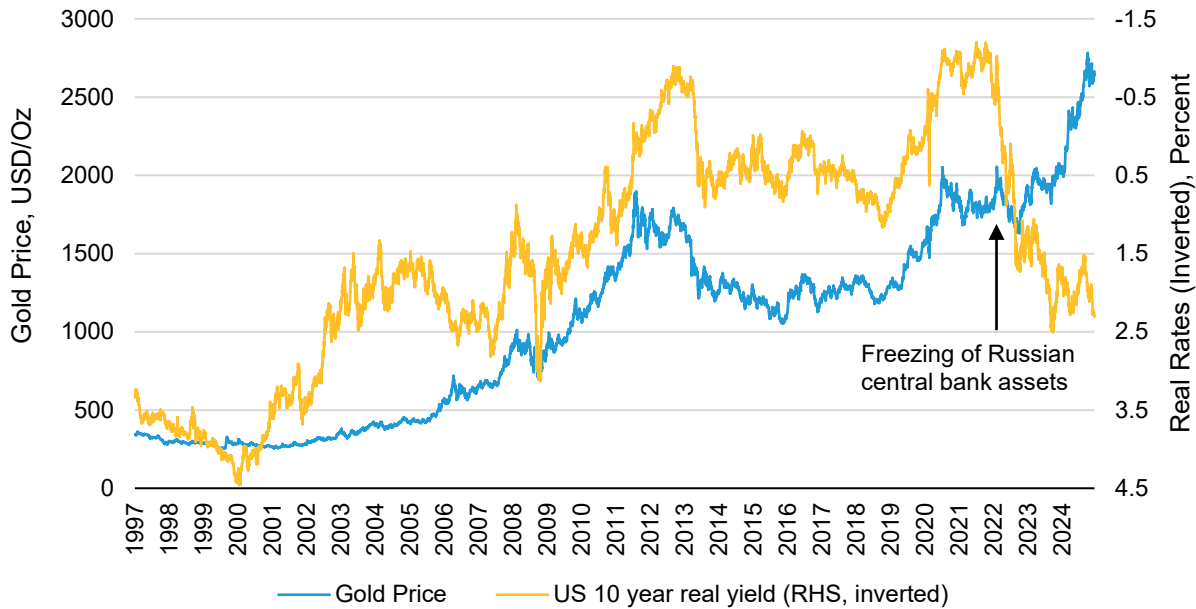
Current analysis does not guarantee future results.

As of May 31, 2020

Source: Global Financial Data and AB

The second theme of this section is geopolitical. The weaponization of access to the dollar in the wake of the Russian invasion of Ukraine has accelerated the desire by some countries to de-dollarize. This urge has manifested itself in the jump in central bank gold buying over the last two years. The consequence of this can also be seen in the observation that gold rallied despite much of this period seeing a rise in real US rates (*Displays 8 and 9*).

DISPLAY 8: WEAPONIZATION OF USD ACCESS CHANGED THE GOLD/REAL-YIELD RELATIONSHIP

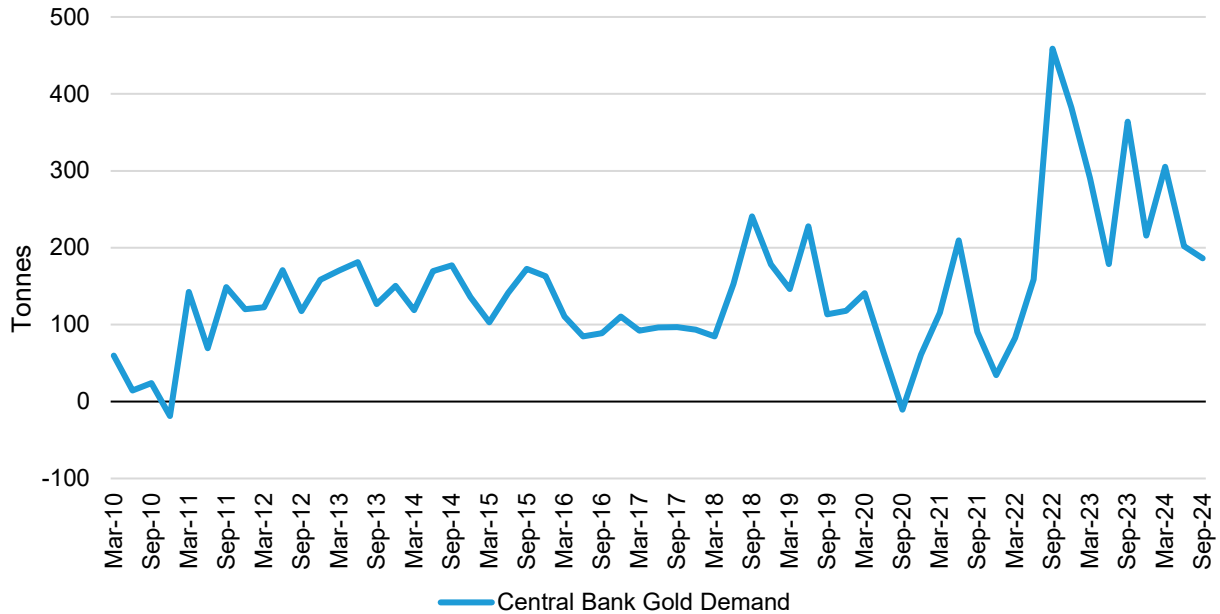


Current analysis and forecasts do not guarantee future results.

As of January 8, 2025

Source: Thomson Reuters Datastream and AB

DISPLAY 9: CENTRAL BANK GOLD PURCHASES



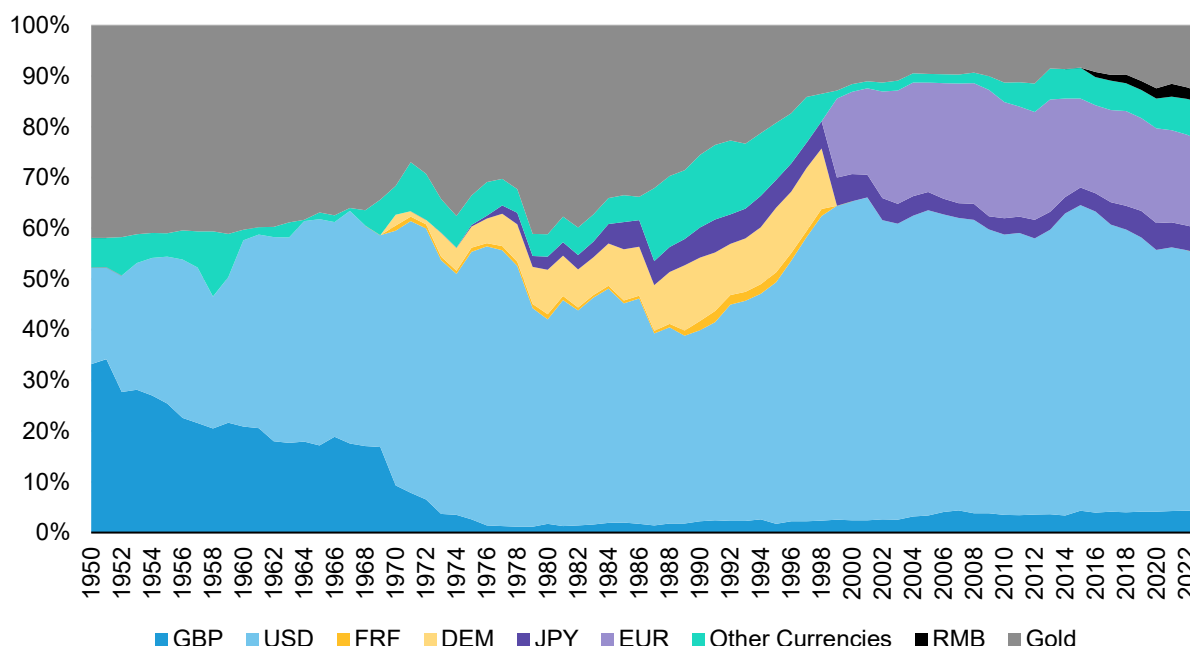
Current analysis does not guarantee future results.

As of September 30, 2024

Source: World Gold Council and AB

Despite the desire of China et al to de-dollarize, it is not at all obvious that this is possible. China will not be willing to make its currency fully convertible for fear of capital flight, and other attempts to launch dollar alternatives seem remote (e.g. the lackluster interest in the topic at the recent BRICS summit). In fact, despite attempts to de-dollarize, the role of the dollar has continued to grow. The euro's share of global foreign-exchange (FX) reserves has declined by 1.5 percentage points over the last 10 years; the share is now under 20% while the renminbi's FX reserve share is stagnant. When The Bank of International Settlements (BIS) Special Drawing Rights were rebalanced in 2016 to make space for the renminbi (now 12.3%), it was at the expense of non-USD currencies; the weight of the dollar in the BIS basket has increased since 2016⁷.

DISPLAY 10: GLOBAL INTERNATIONAL RESERVE COMPOSITION



Current analysis does not guarantee future results.

From 1950 through to 2023

Source: Barry Eichengreen, IMF, Thompson Reuters Datastream and AB

There is an interesting open question on this topic: Does the status of the dollar depend on continued US growth “exceptionalism”, and does that still stand? On balance, we think it does. The country has advantages on several of the key mega-forces that seem set to shape the investment outlook. On demographics, the US rate of growth in working-age population is set to be slower than in recent decades, but it will likely continue to grow in absolute terms. This is a far cry from Europe and China, where the working-age population is shrinking. The home-market scale gives the US a degree of cushion against risks that deglobalization is a harsher process than currently assumed. The regional risks to growth from climate change are hotly debated, but several forecasts, notably those of the Network for Greening the Financial System,⁸ forecast a smaller impact on growth for North America than for other regions. We acknowledge the case for US exceptionalism in our recommendation to overweight US equities, where the key limiting factor is valuation rather than “fundamentals.”

Cutting against this is the question of whether the role of the dollar depends on US willingness to enforce the “US-led order.” Investors we speak with are split on this topic; it hasn’t been tested before, so we can’t know the answer. It does mean that any increase in US insularity might bring challenges for the dollar’s role. Perhaps a nod to this point is behind Trump’s statement about threatening tariffs on countries that tried to move away from the dollar as the basis for cross-border payments.

⁷ <https://www.imf.org/en/News/Articles/2016/09/30/AM16-PR16440-IMF-Launches-New-SDR-Basket-Including-Chinese-Renminbi>

⁸ [NGFS Climate Scenarios for central banks and supervisors phase_iv.pdf](#)

The conclusion of this section is that there is a case to be made that the political and geopolitical context of money is changing, and that the dynamics of the next five to 10 years look set to differ from the context of the last 40 years. Questions of fiscal sustainability will linger. Likewise, the geopolitics of money are set to become more intense, given the likelihood of a Cold-War-like state of affairs between the US and China. Both of these dynamics imply a potentially more positive case for non-fiat assets, primarily gold. As we discuss below, this raises the question as to whether it creates enough demand for non fiat zero-duration assets that crypto assets can benefit too.

This case has to be balanced with potential limits, as well. Despite crypto-positive indications from the new US administration, regulatory risks do remain. So far, a lack of regulatory clarity has been a key limiting factor in institutional adoption of crypto and tokenized assets. There are other potential limits, including the long-running concern about crypto's use for illicit activity. But the real limit, we think, is that if crypto ever gains a significant enough share of transaction volume, then it could attenuate the efficacy of monetary policy. It is the very attraction of such assets not being subject to the constraints of "money" that make them potential targets of regulatory limits.

Money, tokens and the future of work: The social role of money and crypto

There is already a major debate about the future of work and how it is changing. Probably the most acute concern is the possibility that AI could create mass joblessness through automation. There is currently no consensus on this matter. On the one hand is the observation that two centuries of rapid technological progress and automation since the Industrial Revolution has not created a trend increase in long-term unemployment.⁹ Set against this is the observation that many of the jobs most at risk of automation by AI are in the least-unionized sectors. There is also the view that, even if past waves of automation have not increased the level of unemployment, a legitimate concern exists about how the benefits of productivity improvements have been shared.¹⁰

There is a separate debate about the *nature* of work. For example, does the creation of social-media content by individuals without remuneration count as work in the Marxist value theory sense? (Our view is that it definitely does.) What does this say about the bargaining power of labor versus capital in the contemporary economy?

The possible increased role of tokens has a bearing on both of these debates. O'Dwyer¹¹ alludes to the ambiguous role of tokens as money by referring to them as "money-ish." This is a handy categorization, because when tokens are used to compensate for work performed, it implies that the work in question is really work-ish. Her work discusses the grey area between a salary and tips or "donations" as pay. There is already a very live debate about the precarity of labour in the face of technological change and platform capitalism, which becomes even more acute if payment is not even in cash. Her work on tokens includes a fascinating discussion of the history of people who are paid in kind, often the marginalized. For example, people who are paid in Amazon vouchers, a token that counts as money-ish and is widely accepted in most countries, but without quite being money.

If individuals are paid in tokens rather than cash, in some cases the issuer of the token can simply create more of them. To the extent that tokens are created by corporations, this again raises questions about the power of corporations as opposed to individuals of government. It recalls the categorization by Varoufakis¹² of large tech platforms as entities that survive on rent, not profit. Hence the claim that the emergence of platform capitalism has already brought about an end of capitalism as it is traditionally understood, with the role of profit and competition usurped by a mechanism more closely resembling pre-modern feudalism.

There is another side to the use of tokens in lieu of cash for payment. Just as access to a currency can be weaponized in conflict between countries, access to traditional cash can sometimes be hard for certain groups, in many cases some of the most marginalized groups. Examples include people living in extreme poverty in parts of the world lacking well-established or easy-to-access banking systems. Other examples are women in Afghanistan, who find it particularly hard to access banking

⁹ David H. Autor, Why Are There So Many Jobs? The History and Future of Workplace Automation, Journal of Economic Perspectives, Vol 29, No 3, Summer 2015

¹⁰ Daron Acemoglu and Simon Johnson, Power and Progress: Our Thousand-Year Struggle Over Technology and Prosperity, Public Affairs, 2023

¹¹ Rachel O'Dwyer, Tokens: The Future of Money in the Age of the Platform, Verso Books, 2023

¹² Yanis Varoufakis, Technofeudalism: What Killed Capitalism, Vintage, 2024

services.¹³ Also, sex industry workers in many developed economies are at risk of being de-banked, such as banking access for OnlyFans workers.¹⁴

De-banking is a way to impose one view of morality on others who don't accept it. There is extra urgency to de-banking if the use of physical cash comes to an end or is more restricted, forcing a reliance on the banking system. Thus, in this case tokens can perform a crucial social function. Of course, this use of tokens also has to be balanced against their ability to enable illegal activity.

Thus, on the one hand, the extension of the use of tokens in a digital world can entrench power structures and is highly relevant when there is already concern about the precarity of work. On the other hand, tokens can also be useful to counter attempts to impose the morality of one group on another via the banking system, a use that on balance can help the marginalized. This points to the role of tokens as an important element in a discussion about power and who wields it, a theme that runs through this essay. Related to this, it raises questions about freedom and how its definition may shift in a digital world. This point is central to the debate about the distributional effects of any productivity increase from AI.

Tokens as investments part I: Non-fiat zero-duration assets

The investment angle of this essay is to discuss the role of digital tokens in portfolios. We have argued for some time that crypto should at some point have such a role, given our view that we are witnessing a change in the investment regime.¹⁵ More recently, we have argued that asset owners should explicitly hold a strategic weight in crypto.¹⁶

We do not make these recommendations lightly. We are very much alive to the counter arguments. We often hear the views that crypto has no role in institutional portfolios because: 1) it has no inherent value, which makes a return target impossible; 2) there is regulatory uncertainty; 3) it is an asset with a 40% standard deviation of annual returns, thus too “risky” and; 4) it is simply hard for many investors to understand. There are other potential concerns, but we think that these are the main constraints for institutional allocation.

These objections cannot be lightly dismissed, as they all point to concerns that are very valid. We lay out in this section why we think it is right for institutions to have exposure to zero-duration non-fiat assets that can include crypto. In short, our responses to the above are: 1) gold also has no (or little) inherent value; 2) the regulatory backdrop is changing, so investors might not have the luxury of waiting for full clarity before at least putting plans in place to respond as regulations evolve; 3) investors need to enter any allocation with eyes wide open to the volatility, but a given level of volatility does not per se preclude an asset from being useful in an overall asset allocation and; 4) this is an investor-specific point—we suspect that familiarity will lead to somewhat greater understanding.

For us, the real basis for the crypto argument lies not with crypto itself, but rather with where a potential allocation fits within an overall approach to strategic asset allocation (SAA). Clearly, this all hinges on the target or liability an investor sets, hence it starts with governance more than anything else. Our view¹⁷ is that the awareness of the risk of higher equilibrium inflation will lead more investors to ultimately recognize that they need to generate a certain level of real return over inflation. Implicit in this is a tension between risk defined as expected volatility and the risk of a loss of purchasing power. Our view is that purchasing power is a more “hard” limit and that, in general, allocations will hence gravitate more toward real assets, even at the expense of total portfolio volatility.

¹³ See *A pathway to financial inclusion in Afghanistan*, World Bank Blogs, <https://blogs.worldbank.org/en/endpovertyinsouthasia/pathway-financial-inclusion-afghanistan#:~:text=Special%20efforts%20will%20be%20made,institution%2C%20including%20mobile%20money%20institutions>.

¹⁴ See Easterbrook-Smith (2022) OnlyFans as gig-economy work: a nexus of precarity and stigma <https://www.tandfonline.com/doi/abs/10.1080/23268743.2022.2096682>

¹⁵ Inigo Fraser Jenkins et al., Portfolio Strategy: Cryptocurrencies in asset allocation – I have changed my mind, November 30, 2020, Bernstein Research

¹⁶ Inigo Fraser Jenkins et al., [Five Themes for '25 and their SAA Implications for US Equities, TIPS and Crypto](#) AllianceBernstein, December 2024

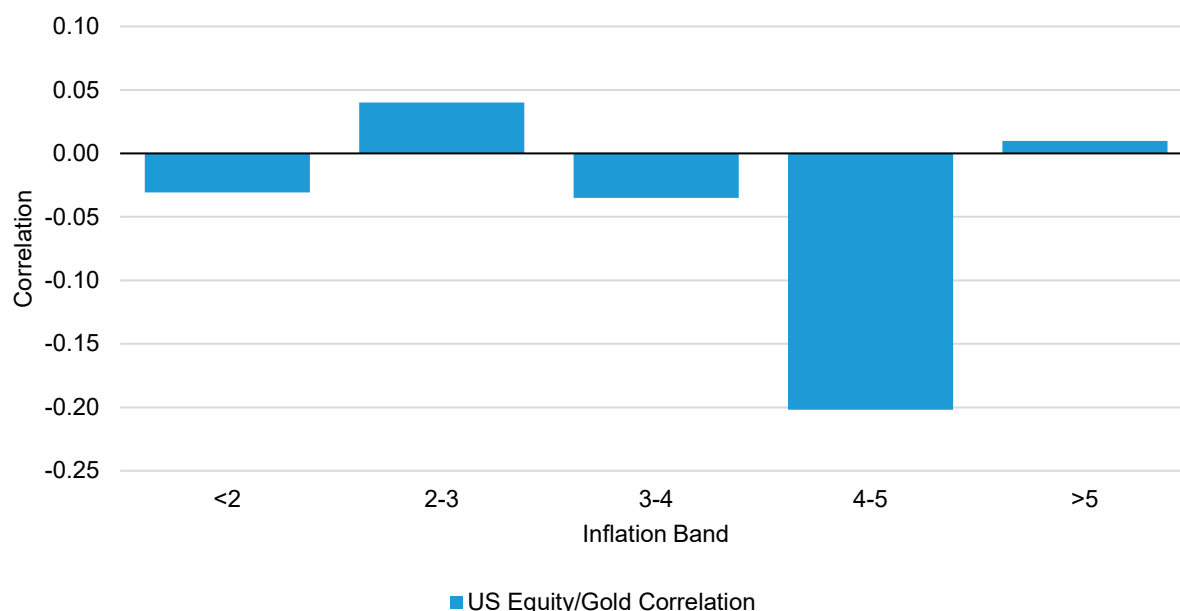
¹⁷ Inigo Fraser Jenkins et al., [A Preliminary Language for a Post-Global World](#) AllianceBernstein, May 2024

We think the result of this situation is that many investor types, such as defined contribution plans, sovereign wealth funds, and endowments, will need to hold a significant allocation to public equity as the largest and most liquid real asset class available. In a world of lower returns, we think that equity returns—even if lower than they have been historically—become a key source of positive real returns. The question is then what assets to hold *around* this core allocation to achieve an attractive trade-off of real returns against diversification.

In the past, holding a position in long-duration government bonds was the obvious diversifying asset. However, we think bonds are less likely to be able to fulfill that role, with a correlation with equities that is likely to be positive, higher volatility more in line with the longer-term trend than the suppressed GFC/pre-COVID era, and a real return that might not be sufficient. Instead, a range of other return streams are needed. We have discussed the range of options, including private and real assets, factors and active strategies, in detail in other research.

Another of these return streams is that of non-fiat zero-duration assets. With uncertainties about fiscal sustainability and hence risk of debasement and term premia, there is a potential role for such assets. This is primarily a case for gold before any other non-fiat asset. One way to approach this is to consider how the correlation of gold with equities is invariant to the inflation level (*Display 11*), an observation that is most definitely not the case for bonds.

DISPLAY 11: GOLD AND EQUITY CORRELATION IN DIFFERENT INFLATION REGIMES



Past performance does not guarantee future results.

Note: The chart shows 12m rolling correlation from Jan 1969 through to October 2024 bucketed by inflation band

Source: Datastream, Global Financial Data and AB

Granted, the long-term return prospects of gold are not high. Over the last 170 years, its real return has been positive but close to zero, at 0.2% annualized. We see its role in a portfolio as a diversifier rather than for return *per se*. Arguably, the return SHOULD be close to zero for an asset that is probably the closest thing to a “risk free asset”,¹⁸ produces no income, is not strictly needed aside from a small number of industrial uses, and has value only by virtue of a social agreement that it does.

The very strong gold rally over the last year, with the asset outperforming global equities, might put off investors. To that reaction, our main response is that the reason to buy gold is for diversification rather than for near-term returns. Our second response is that gold also has to be seen in the context of an environment where most assets are, we would argue, expensive. One famously can’t value gold, but one can value (nearly) everything else. From today’s level of starting Shiller price/earnings

¹⁸ We have long held the view that there is actually no such thing as a risk-free asset.

(PE) ratio and 10-year bond yield, based on history gold would be expected to outperform the 60:40 portfolio 10 years forward (*Display 12*). To be consistent with our equity view, we don't think that a full mean-reversion of Shiller PE levels is likely. However, even ignoring equity valuations and conditioning on bond yields alone, we would expect gold to perform in line with the 60:40 (*Display 12, bottom row*).

DISPLAY 12: GOLD VS. 60:40: AVERAGE (ANNUALIZED) RETURN CONDITIONED ON EQUITY VALUATION AND BOND YIELD

Gold: 60/40 (10-Year Return)

← Gold less of a drag when starting bond yields low

		BY Low					BY High	
		1	2	3	4	5		Average
Shiller Cheap	1			(3.2)	(5.2)	(15.7)		-12.3
	2	(6.1)	(5.5)	4.0	(11.9)	(16.7)		-8.2
	3	(6.1)	(0.3)	(8.0)	(12.1)	(16.0)		-6.6
Shiller Expensive	4		1.9	(4.8)				0.5
	5		10.7	6.4				8.1
	Average	(6.1)	3.1	(0.1)	(9.8)	(15.9)		

↓ Gold enhances return when starting equity valuations high

Past performance does not guarantee future result.

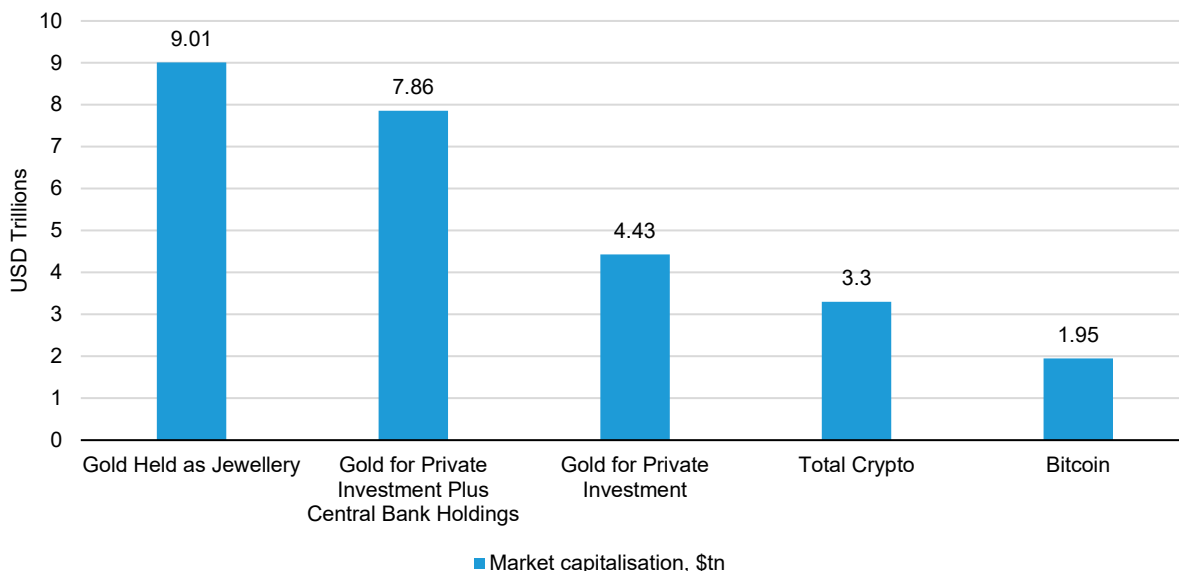
Data from January 1972 through April 30, 2020

Source: Robert Shiller's database, Thomson Reuters Datastream and AB

The other support for gold is central bank buying in the geopolitical context of attempted de-dollarization, as discussed earlier in this note, which likely adds demand over the medium term. This all begs the question about whether the demand for non-fiat zero-duration assets is sufficient to increase demand for other assets that could plausibly fit into that category. Other precious metals, such as silver, are one option, but we also think that there is space for crypto assets.

We do not believe that it is possible to value crypto, and we remain highly suspicious of any claims to be able to do so as the basis for an investment case. As opposed to valuing crypto, one can instead conduct a scaling exercise. In *Display 13*, we compare the size of gold held for investment and the total size of all crypto. There is no necessary reason why one needs to be larger than the other (a topic that can be debated at length!); we merely make the point that as demand for zero-duration non-fiat assets rises and supply is limited, the value of both should rise in tandem. At current prices, the market cap of all crypto is still \$1 trillion less than the value of gold held for private investment—even before central bank holdings are taken into account.

DISPLAY 13: RELATIVE SCALE OF GOLD AND CRYPTO ASSETS



Current analysis does not guarantee future results.

Note: Gold statistics use end of 2023 value for gold stocks and latest gold price

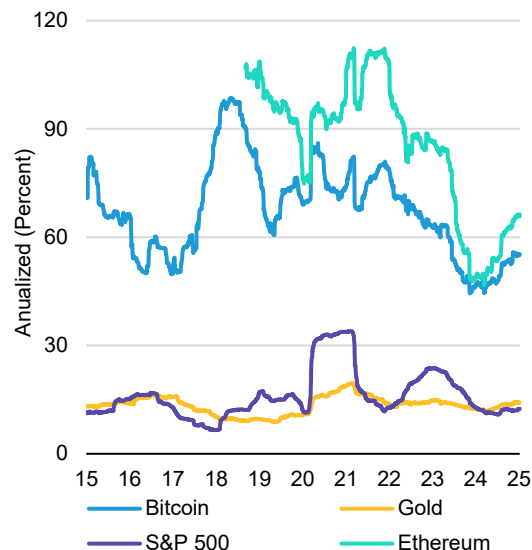
As of November 21, 2024

Source: Thomson Reuters Datastream, World Gold Council, www.coinmarketcap.com and AB

A problem with adding Bitcoin and Ethereum into portfolios is their high volatility and uncertain correlation with risk assets. We think volatility will continue to decline in step with regulatory clarity and greater institutional involvement. The standard deviation of Bitcoin's annualized daily price move over the last 12 months has been 55% (*Display 14*). By comparison, gold has exhibited an average annualized volatility of daily returns over the last decade of less than 14%. That presents a lower possible floor for the volatility of Bitcoin, but we think volatility will remain well above that level for the medium to long term.

The correlation of crypto with other assets is more nuanced. To be clear, it has mainly behaved like a procyclical asset with a significantly positive correlation with equities over the post-COVID era (*Display 15*). There have been tentative signs that crypto's correlation with equities is falling, and its correlation with gold has been rising more recently.

DISPLAY 14: 12-MONTH TRAILING VOLATILITY OF CRYPTO, GOLD AND EQUITIES

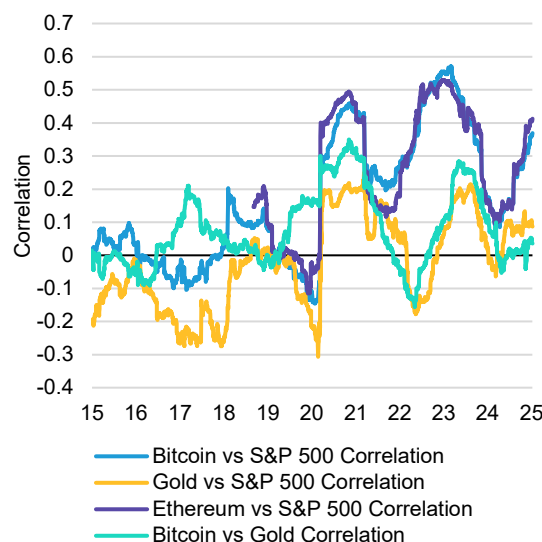


Past performance does not guarantee future results.

As of January 7, 2025

Source: Thomson Reuters Datastream and AB

DISPLAY 15: 12-MONTH ROLLING CORRELATION OF CRYPTO, GOLD AND EQUITIES



Past performance does not guarantee future results.

As of January 7, 2025

Source: Thomson Reuters Datastream and AB

Our view on institutional holding of crypto has evolved. Pre-COVID, we did not think crypto had a role to play in asset allocation. The expansion of central bank balance sheets and fiscal policy during the pandemic led us to a very public change of heart,¹⁹ acknowledging that crypto was actually an asset worthy of consideration. More recently, we made the case that crypto could have a specific role as part of a diversification of debasement risk. However, regulatory uncertainty, the high share of retail involvement and volatility meant that its role, while relevant, was only for a future when regulatory clarity was more likely.²⁰ Trump's election victory prompts a re-examination of that position in two ways. First, it makes the question of fiscal sustainability and possible inflationary consequences more acute. Second, given Trump's crypto-friendly statements on the campaign trail, it brings forward potential regulatory clarity.

Trump's second term is expected to usher in the first expressly pro-crypto administration after he courted digital-asset enthusiasts during the campaign and vowed to enact an array of industry-friendly changes. On Capitol Hill, crypto allies will likely be elevated to key committee leadership posts. Taken together, it all but ensures that Washington will soon overhaul an array of financial regulations in ways that align with the crypto industry's biggest asks.

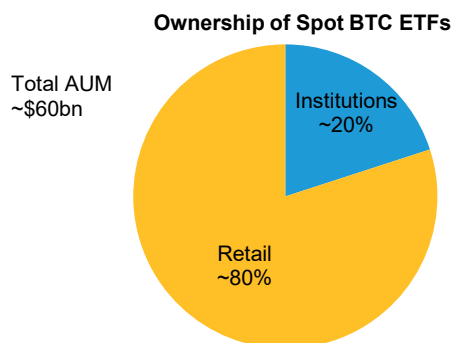
The industry's wish list includes legislation that would carve out a bespoke path to legitimacy among regulators who have, for much of crypto's existence, put a strong emphasis on reining in its potential risks to consumers and the financial system. A key target for the industry would be to change the influence of the Securities and Exchange Commission in this regard.

The bottom line: we think that crypto assets deserve a non-zero weight in institutional strategic asset allocation. Crypto allocations in institutional portfolios have started but are still limited, with ownership of crypto ETFs dominated by retail investors. Even where institutional allocations are in place, they are dominated by hedge-fund positions as opposed to asset owners, implying that the exposure might be more tactical than strategic (*Displays 16 and 17*).

¹⁹ Inigo Fraser Jenkins et al., Portfolio Strategy: Cryptocurrencies in asset allocation – I have changed my mind!, Bernstein Research, November 30, 2020

²⁰ See Chapter 9: The Role of Digital Assets in Portfolios in [A Painful Epiphany](#) AllianceBernstein, March 2023

DISPLAY 16: INSTITUTIONAL OWNERSHIP RISING IN BITCOIN, OWNING >20% OF SPOT BITCOIN ETF

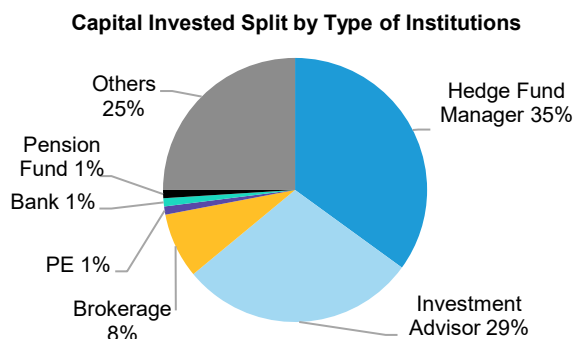


Past performance does not guarantee future results.

As of December 31, 2023

Source: Gautam Chhugani et al., From Coin to Compute: The Bitcoin Investing Guide, Bernstein Research, October22, 2024 and AB

DISPLAY 17: HEDGE FUNDS AND INVESTMENT ADVISORS LEAD INSTITUTIONAL INVESTMENT IN SPOT BITCOIN ETFS



Past performance does not guarantee future results.

As of December 31, 2023

Source: Gautam Chhugani et al., From Coin to Compute: The Bitcoin Investing Guide, Bernstein Research, October22, 2024 and AB

DISPLAY 18: LEADING INSTITUTIONS INVESTED IN SPOT BITCOIN ETFS

Institutions	Investment in Spot BTC ETFs (\$mn)	Number of Spot BTC ETFs Held
Digital Currency Group Inc	1,880	1
Millennium Management LLC/NY	1,245	5
SIG Holding LLC	937	10
Horizon Kinetics LLC	808	3
Jane Street Group LLC	773	11
Capula Management Ltd	508	2
Goldman Sachs Group Inc/The	455	7
Avenir Tech Ltd/Hong Kong	420	2
Schonfeld Strategic Advisors LLC	397	3
Boothbay Fund Management LLC	229	4

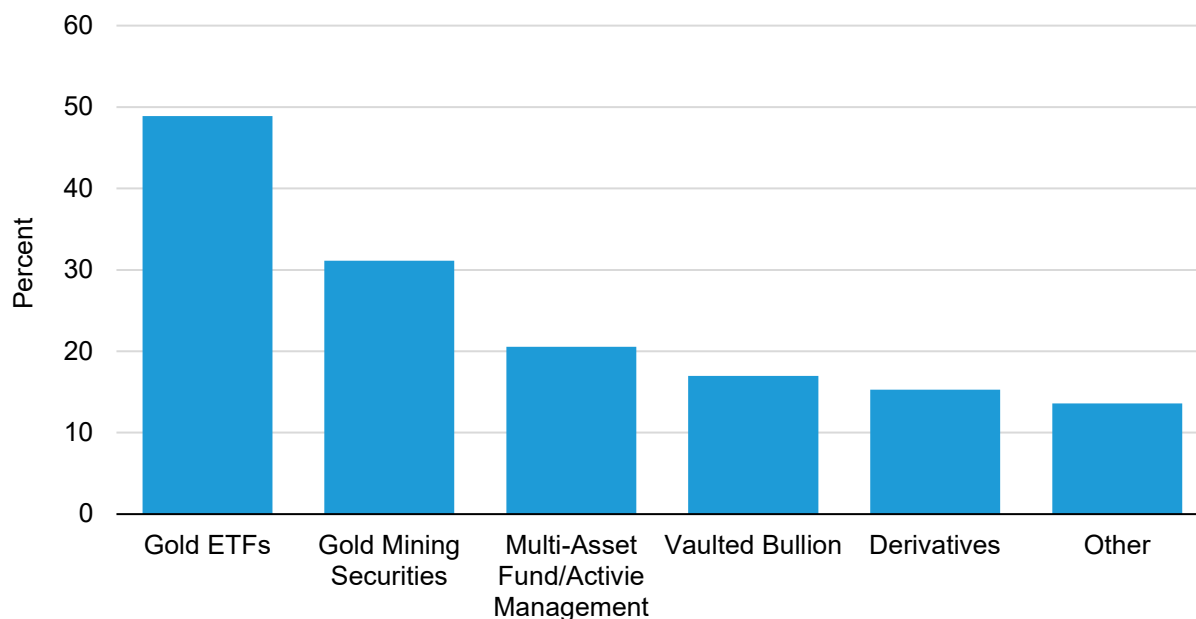
Current analysis and forecasts do not guarantee future results.

As of September 30, 2024

Source: Gautam Chhugani et al., From Coin to Compute: The Bitcoin Investing Guide, Bernstein Research, October22, 2024 and AB

The question arises of the mechanics of adding crypto exposure. Given current fund structures, it is highly unlikely that mainstream institutional assets would take direct access to crypto in their own wallets—at least not for the foreseeable future. Our approach to this issue is to start with our rationale for investing in crypto as really being an offshoot of a case for gold. Thus, the investment process should, we think, be similar, at least initially. The majority of institutional holding in gold is indirect, via gold ETFs or gold-related equities (*Display 19*).

**DISPLAY 19: GOLD ETFs ARE THE PRIMARY VEHICLE FOR ALLOCATING TO GOLD
RESPONDENTS SELECTING EACH INSTRUMENT**



Current analysis and forecasts do not guarantee future results.

As of October 5, 2022

Source: Coalition Greenwich, World Gold Council and AB

It should be pointed out that the institutional allocation to gold is small. The majority of investors to whom we speak, particularly pension funds, have zero exposure. We can understand this; historically, gold would not have been as attractive as public and private financial assets and it does not pay income, which many investors find valuable.

In aggregate, ownership of gold among institutional investors remains relatively low. According to the World Gold Council's survey, only 15% of institutions had specific gold positions in their portfolios.²¹ Allocations are higher in EMEA and APAC (18% of respondents in each region). But despite modest overall participation by institutional investors, the average allocation to gold is a relatively healthy 4%. We also note a marked pickup in questions about gold in our meetings with investors over the last year, compared with the previous five years.

ETFs on cryptocurrencies are now available, and have attracted more than \$40bn of inflows (*Display 20*). Separately, Coinbase holds \$270Bn in institutional crypto assets,²² another example of a potential route to crypto exposure. Dedicated crypto hedge funds are a small subset of the overall hedge fund universe, currently comprising about 2% of total hedge fund assets under management (AUM), but a rapidly growing one.²³

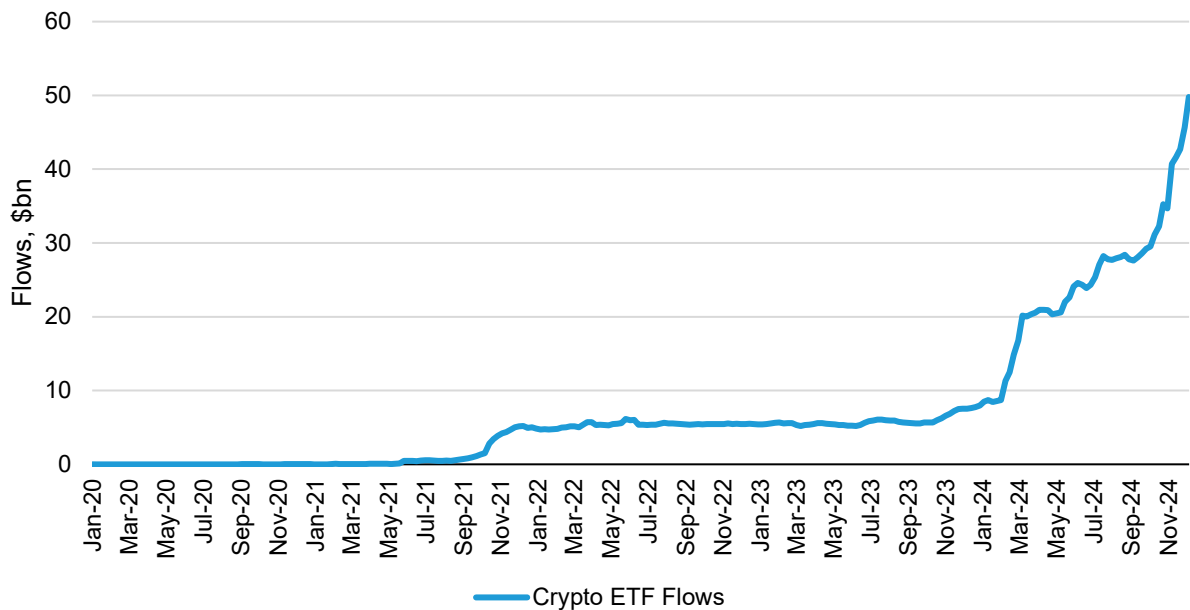
Among big institutional investors, there have been notable early adopters. For example, Houston Firefighters Relief & Retirement Fund added exposure to Bitcoin and Ethereum through a crypto investment firm as early as October 2021. More recently, the State of Wisconsin Investment Board added Bitcoin ETF exposure from January to April 2024. And in August 2024, the South Korean National Pension Service increased its indirect exposure to Bitcoin through an investment in MicroStrategy equity, which holds the most Bitcoin of any publicly traded company.

²¹ <https://www.gold.org/goldhub/research/use-gold-institutional-portfolios>

²² <https://www.coinbase.com/institutional>

²³ <https://www.coinbase.com/en-gb/institutional/research-insights/research/market-intelligence/asset-allocators-guide-to-digital-asset-hedge-funds-2024>

DISPLAY 20: CRYPTOCURRENCY ETF FLOWS



Current analysis and forecasts do not guarantee future results.

As of December 12, 2024

Source: EPFR and AB

Tokens as investments part II: Tokenized real assets

Institutional ownership of crypto assets is, however, just the first step in the likely future role of tokens in investment portfolios. In due course, we think that there could be a case for a much more significant allocation to tokenized real assets. At the moment, they are very niche and it is not possible to implement an allocation at sufficient scale to make it a core part of our investment advice. But if we look forward five years, we think the industry will be spending a lot more time talking about this.

Tokenization of real assets is the process of converting the ownership rights to an asset into a digital token on a blockchain. The issuers choose an underlying blockchain (e.g. Ethereum) and establish a token issuance plan. Usually, tokens are initially created through a security token offering (STO), which is similar to an initial public offering (IPO) in equity markets but can also involve a private placement. The tokens represent an ownership interest in an asset and can include voting rights relating to matters of the underlying physical asset, such as the sale of tokenized real estate or the decision to renew a lease.

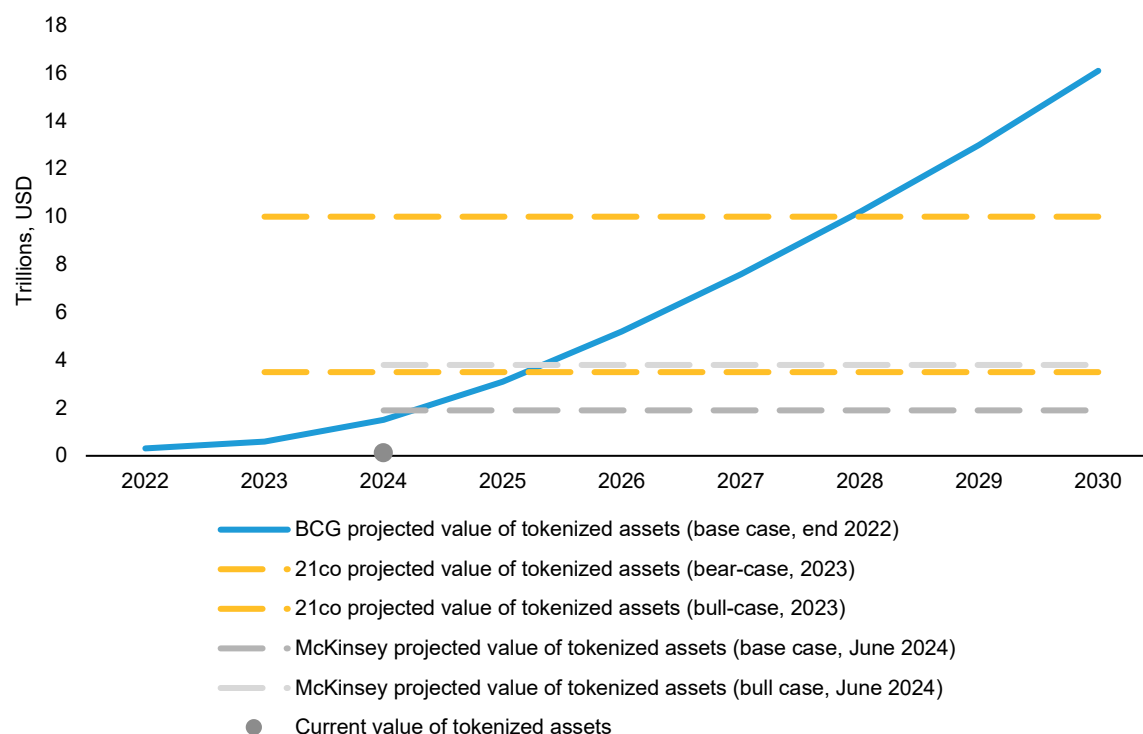
Tokens are then listed on compliant digital asset exchanges, where they can be traded on the secondary market. The process can be performed for assets that have a readily observed price, such as an asset already trading in other markets or for which the price has to be assessed by a verified third party. While the STO process is generally faster and cheaper than an IPO, it still involves costs and needs a large support ecosystem, including legal support to certify asset authenticity, broker dealers to provide liquidity for secondary trading, and asset custodians.

How large can and will this market be? Various attempts have been made to enumerate this, so far without much success. Boston Consulting Group was one of the earliest and among the most optimistic companies to issue a forecast for the potential size of the market of tokenized assets. At the end of 2022, the consultant forecast a potential \$16tn market by 2030 (*Display 21*). Notably, this was considered a conservative estimate; the bull-case projection was significantly higher. Since then, optimism about the potential addressable market appears to have been tempered. Another oft-cited estimate by the digital asset manager 21co projects a range of \$3.5tn to \$10tn. And a recent McKinsey report arrived at an even lower estimate of

around \$2tn by 2030 as a base case. We show these latter forecasts as horizontal dashed lines, starting from when the forecast was made and terminating at the end of the forecast horizon.

However, the actual current value of tokenized assets is nowhere near where it should be, even by the most conservative estimates. Excluding stablecoins, it's just over \$2bn.²⁴ The biggest share of the total comes from government debt securities, followed by commodities and asset-based finance. Another recent BCG report puts the estimate of real-world tokenized assets at a slightly higher \$12bn.²⁵ Stablecoins have been the most successful application of asset tokenization so far, but even including stablecoin AUM, the total value of tokenized assets would rise to only about \$200bn.

DISPLAY 21: THE OPTIMISM ABOUT HOW QUICKLY TOKENIZED ASSETS CAN GROW HAS BEEN ATTENUATED



Current analysis and forecasts do not guarantee future results.

Note: Current value of tokenized assets is as of end of July, 2024

As of July 30, 2024

Source: 21co, BCG, Dune, McKinsey, World Economic Forum and AB

We think two elements need to fall into place for this market to grow: regulatory clarity and the solidification of investor demand. Regulatory clarity is still absent at the time of writing, but the Trump administration could accelerate the process. However, we claim no special insight into the regulatory path.

We think it is easier to sketch out a path for investor demand. For us, this is not about the technology of the blockchain per se. In our view, the key motivation for structural demand in growth for such assets will be the broader investment landscape. Specifically, our take on what will drive demand is the confluence of:

- 1) Sustained higher demand for real assets

²⁴ <https://dune.com/21co/tokenization-overview>

²⁵ BCG report 3rd asset management revolution

- 2) A structural shift in how capital is raised in the economy—from public to private markets
- 3) Elevated concern about liquidity being more fragile
- 4) An ongoing desire to drive down fees

This list might be a surprise. Most papers making the case for tokenized assets talk about the technology. We think larger macro forces are even more compelling.

The intersection of real and private assets will likely continue to form a larger part of institutional allocation. If our view that inflation is likely to be more elevated is correct, then investors still have a long way to go in allocating to real assets. Likewise, the way that capital is raised in the contemporary economy has shifted: more of it is in private markets, as private equity has gained share from public equity and private credit has gained share from (listed) banks. At the same time, the stock of public equity is shrinking on absolute terms. All this points to a higher allocation to private assets.

However, there are constraints on this allocation. In our view, the binding one is not really a limit imposed by an asset allocation committee or consultant, as such targets are contingent. Instead, we think that a much harder limit is a continued elevated need for liquidity (or, rather, the risk of a liquidity shock) because of three different factors:

1. the ongoing attempt by central banks to pivot from quantitative easing to quantitative tightening
2. the observation that investor portfolios are markedly more illiquid than in the past
3. the liquidity that does exist in public equities and fixed income is more fragile due to changes in market microstructure (e.g. more trading happening at the close, more liquidity being provided by high-frequency traders and a shift in market participants)

This all means that anything that can create greater liquidity is going to be in high demand.

Secondary markets in fractionalized real assets do not have to require a blockchain, in theory. However, in practice they will likely be easier to achieve on a blockchain. This point provides a powerful incentive for growth in tokenized assets, once the regulatory landscape is clearer. Our view is that the demand for private assets and the parallel uneasiness about liquidity risk will be key features of the asset-allocation discussion over the next five years. Thus, we expect demand for tokenized real assets will rise. The market for tokenized assets is still small; real estate assets have led the way in terms of private asset exposure.²⁶ There are also examples of tokenized private credit.²⁷

Tokenized access to funds has also started to grow. These are not necessarily real assets at all. For example, there have been recent launches of short-duration fixed-income funds, tokenized on the Ethereum blockchain, with the ability to buy access to the funds either by stablecoin or fiat currencies. We note that funds do not have to be listed on a single blockchain. For example, money market funds are being initiated on Ethereum and now expanding access to other blockchains. So, in a sense, this is analogous to the different share classes of mutual funds.

Yet another emerging example is the tokenization of insurance-linked securities (ILS). There have been a number of separate commercial launches in this area. One such example is the tokenization of catastrophe bonds. To the extent that ILS assets fit under the “alternative” umbrella, they can be seen as an extension to tokenize this growing share of investment portfolios.

These examples are not taking full potential of fractionalized ownership of real assets to make active allocations across the segments, but we see them as building blocks that are steps in that direction.

Tokenization, subverting asset classes and a vision

How to think about tokenization in SAA models? Tokenized real assets play a potentially very different role than crypto. We see gold and crypto as forming a distinct part of a portfolio allocation, as a non-fiat zero-duration bucket with a specific role in

²⁶ <https://www.aspentimes.com/trending/in-18-million-deal-nearly-one-fifth-of-st-regis-aspen-sells-through-digital-tokens/>

²⁷ https://app.rwa.xyz/private_credit

diversifying equity risk in a world of higher and more volatile inflation. They also serve as a hedge against debasement of fiat currency.

The tokenization of real assets, by contrast, fits in a very different part of the allocation. If one takes a fundamental risk-factor approach to SAA in the spirit of a Total Portfolio Approach, then these would most naturally sit within the inflation-hedging/real-return part of the allocation. If one is taking a more traditional asset-class approach, then it would form part of the allocation to “alternative assets”, i.e. within an allocation to real estate, infrastructure or assets that deliver some form of contractual income.

However, we contend that it would be myopic to think of tokenized assets as fitting into asset-class buckets in this way. Or, at least, such a viewpoint would betray a woeful lack of ambition. The real point about tokenization is that it subverts asset classes. The combined effects of fractionalization, the potential financialization of assets that are otherwise hard to invest in, and increased transparency blur the boundaries of what constitutes an asset class. Fractionalization begets liquidity. It is already apparent that there is a broad spectrum of liquidity under the guise of “illiquid assets.” For example, there are private-debt vehicles contracted to pay pre-determined amounts over a period of two to three years and interval funds with liquidity at pre-determined periods, e.g. quarterly. At the opposite end of the scale are private-equity investments with the aim of selling the position on a 10- to 12-year horizon. This spectrum of liquidity could evolve further. An encroachment of tokenization into these areas makes a mockery of the term “alternative asset,” revealing that there are just “assets.”

This vision enables asset owners to target very specific types of asset or return stream and be very specific in how to allocate across them to best meet any given liability or objective. The liquidity created by fractionalization will also likely create some ability to shift exposures to real assets over the course of the business cycle. We stress that this development is not predicated on the technology of the blockchain alone. Instead, it is driven from a viewpoint of investment: the need for a more precise way to allocate to assets and attack the liquid/illiquid dichotomy that stands in the path of efficient allocation.

The real endpoint of this vision is that it removes the distinction between public and private markets and subverts asset classes, an important step in freeing up SAA from the silos that have been imposed on it by the structure of the investment industry. This is crucial in the context of a lower-real-return world where diversification between asset classes is impaired.

Conclusion: power, money and tokens

The growth of cryptocurrencies and other tokens raises political and social questions that are given an extra impetus by other independent aspects of our current situation. Political questions arise from the growth of public debt and geopolitical questions from the attempt to challenge the reserve-currency status of the dollar. There are also social questions arising from the ongoing evolution of what is meant by a “job” and from the power of labor versus capital.

The interleaved issues of the nature of money and the nature of work in the contemporary economy point to a three-way pull on where power lies, between the state, the corporation and the individual. In this context, the purest expression of the social power of the individual via work would be the case where individuals are paid for work that they perform in a universally accepted currency that is not debased by the fiscal policy of the state. By contrast, a world where the corporation grabs more of the power in this money/jobs dynamic would see corporations issue tokens to pay workers; these tokens may be acceptable in most countries, but corporate ownership of the means of monetary production implies huge power beyond what is currently meant by the term “gig economy.”

The third leg of this power dynamic is an example where the state takes more power in the context of an AI-infused economy that brings the risk of mass job losses. This is most clearly expressed by an implementation of universal basic income (UBI) as a potential response to mass joblessness. In such a society, the individual potentially loses economic agency while the notion of wage inflation and retirement become arbitrary. We would note that some literature on the political left has called for rapid automation and UBI as a means to “liberate” people from work, thereby inverting the causality of automation and loss of jobs.²⁸ But whatever the driving animus, be it capitalist or Marxist, this third potential strand implies increased power to the state. These are all topics that ultimately address questions of freedom and power; the future of tokens is bound up with these concepts. At face value, a populist tilt would imply a shift in power in favor of individuals, but the twin forces of AI-based automation and growing government debt perhaps suggest that a different path is more likely.

²⁸ Srnicek, N and Williams, A. *Inventing the Future*, Verso Books, 2015

All these are key macro issues that will determine the evolution of the economy, financial markets and the meaning of money in coming decades. Tokens, in various forms, have a role to play in all of them.

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